SCOPE OF WORK

Point Pleasant (WMA) Boat Ramp & Fishing Access

Point Pleasant Wildlife Management Area
Borough of Point Pleasant, Ocean County, N.J.

Project No. P1225-00

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Sheila Y. Oliver, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Christopher Chianese, Director

Date: June 23, 2020

Document Format Revision 9-4-18

TABLE OF CONTENTS

SECTION **PAGE**

I. OBJECTIVE

The objective of this project is to improve the Point Pleasant Wildlife Management Area Fishing Access and Boat Ramp. This project scope includes repairing/replacing the fence along the canal, reclaiming upland area within the lagoon and enhancing fishing access, reinforcing a single-lane boat launch, creating a living shoreline, controlling erosion caused by runoff from onsite pond, and parking improvements in two locations.

II. CONSULTANT QUALIFICATIONS

A. CONSULTANT & SUB-CONSULTANT PRE-QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the following discipline(s):

- **P012 Marine Engineering**

The Consultant shall also have in-house capabilities or Sub-Consultants pre-qualified with DPMC in:

- **P011 Environmental Engineering**
- **P015 Land Surveying**
- **P017 Hydrographic Surveying**
- **P025 Estimating/ Cost Analysis**

As well as, **any and all** other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial Construction Cost Estimate (CCE) for this project is $1,410,000.00

The Consultant shall review this Scope of Work and provide a narrative evaluation and analysis of the accuracy of the proposed project CCE in their technical proposal based on their professional experience and opinion.

B. CURRENT WORKING ESTIMATE (CWE)

The Current Working Estimate (CWE) for this project is $1,993,958.00

The CWE includes the construction cost estimate and all consulting, permitting and administrative fees.
The CWE is the Client Agency's financial budget based on this project Scope of Work and shall not be exceeded during the design and construction phases of the project unless DPMC approves the change in Scope of Work through a Contract amendment.

C. CONSULTANT'S FEES

The construction cost estimate for this project ***shall not*** be used as a basis for the Consultant's design and construction administration fees. The Consultant's fees shall be based on the information contained in this Scope of Work document and the observations made and/or the additional information received during the pre-proposal meeting.

IV. PROJECT SCHEDULE

A. SCOPE OF WORK DESIGN & CONSTRUCTION SCHEDULE

The following schedule identifies the estimated design and construction phases for this project and the estimated durations.

PROJECT PHASE	ESTIMATED DURATION (Calendar Days)
1. Site Access Approvals & Schedule Design Kick-off Meeting	**14**
2. Schematic Design Phase 25% (Minimum)	**42**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
3. Design Development Phase 50% (Minimum)	**42**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
4. Final Design Phase 100%	**42**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
5. Final Design Re-Submission to Address Comments	**7**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
6. Permit Application Phase	**7**
• *Issue Plan Release*	
7. Bid Phase	**42**
8. Award Phase	**28**

9. Construction Phase 180

B. CONSULTANT'S PROPOSED DESIGN & CONSTRUCTION SCHEDULE

The Consultant shall submit a project design and construction bar chart schedule with their technical proposal that is similar in format and detail to the schedule depicted in **Exhibit 'A'**. The bar chart schedule developed by the Consultant shall reflect their recommended project phases, phase activities, activity durations.

The Consultant shall estimate the duration of the project Close-Out Phase based on the anticipated time required to complete each deliverable identified in Section XIV of this document entitled "Contract Deliverables - Project Close-Out Phase" and include this information in the bar chart schedule submitted.

A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Consultant.

This schedule and narrative will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with clarity and comprehensiveness of the submission.

C. CONSULTANT DESIGN SCHEDULE

Based on the Notice to Proceed, Consultant shall update their approved schedule and shall distribute it at the design kickoff meeting. Note that this schedule shall be submitted in both paper format and on compact disk in a format compatible with *Microsoft Project*. This schedule will be binding for the Consultant's activities and will include the start and completion dates for each design activity. The Consultant and Project Team members shall use this schedule to ensure that all design milestone dates are being met for the project. The Consultant shall update the schedule to reflect performance periodically (minimally at each design phase) for the Project Team review and approval. Any recommendations for deviations from the approved design schedule must be explained in detail as to the causes for the deviation(s) and impact to the schedule.

D. BID DOCUMENT CONSTRUCTION SCHEDULE

The Consultant shall include a construction schedule in Division 1 of the specification bid document. This schedule shall contain, at minimum, the major activities and their durations for each trade specified for the project. This schedule shall be in "bar chart" format and will be used by the Contractors as an aid in determining their bid price. It shall reflect special sequencing or

phased construction requirements including, but not limited to: special hours for building access, weather restrictions, imposed constraints caused by Client Agency program schedules, security needs, lead times for materials and equipment, anticipated delivery dates for critical items, utility interruption and shut-down constraints, and concurrent construction activities of other projects at the site and any other item identified by the Consultant during the design phases of the project.

E. CONTRACTOR CONSTRUCTION PROGRESS SCHEDULE

The Contractor shall be responsible for preparing a coordinated combined progress schedule with the Sub-Contractors after the award of the contract. This schedule shall meet all of the requirements identified in the Consultant's construction schedule. The construction schedule shall be completed in accordance with the latest edition of the Instructions to Bidders and General Conditions and Bulletins that may be issued on the project.

The Consultant must review and analyze this progress schedule and recommend approval/disapproval to the Project Team until a satisfactory version is approved by the Project Team. The Project Team must approve the baseline schedule prior to the start of construction and prior to the Contractor submitting invoices for payment.

The Consultant shall note in Division 1 of the specification that the State will not accept the progress schedule until it meets the project contract requirements and any delays to the start of the construction work will be against the Contractor until the date of acceptance by the State.

The construction progress schedule shall be reviewed, approved, and updated by the Contractor, Consultant, and Project Team members at each regularly scheduled construction job meeting and the Consultant shall note the date and trade(s) responsible for project delays (as applicable).

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project site is:

Point Pleasant Wildlife Management Area (WMA) Fishing Access & Boat Ramp
1915 Beach Blvd.,
Point Pleasant, NJ 08742

GPS Coordinates: (40.069365, -74.059610)

See **Exhibit 'B'** for the project site location map.

B. PROJECT TEAM MEMBER DIRECTORY

The following are the names, addresses, and phone numbers of the Project Team members.

1. DPMC Representative:

Name:	Edwin Hedger, Design Project Manager
Address:	Division Property Management & Construction
	20 West State Street, 3rd Floor
	Trenton, NJ 08608-1206
Phone No:	(609)203-2584
E-Mail No:	edwin.hedger@treas.nj.gov

2. Client Agency Representative:

Name:	Larry Tutela, Project Manager
Address:	Department of Environmental Protection
	275 Freehold-Englishtown Rd
	Englishtown NJ 07726
Phone No:	(609)273-1866
E-Mail No:	larry.tutela@dep.nj.gov

VI. PROJECT DEFINITION

A. BACKGROUND

1. The Point Pleasant Fishing Access Wildlife Management Area:

The New Jersey Department of Environmental Protection (NJDEP) Natural and Historic Resources, Office of Resource Development commissioned LAN Associates, Engineering, Planning, Architecture, Surveying, Inc. (LAN) to develop a feasibility study and establish a project budgetary Construction Cost Estimate (CCE) and Current Working Estimate (CWE) for the proposed improvements at the Point Pleasant Fishing Access Wildlife Management Area. The final study reports by LAN, dated August 9, 2018, is included as **Exhibit 'D'.**

The site is owned by the State of New Jersey and managed by the New Jersey Division of Fish and Wildlife, a division of the New Jersey Department of Environmental Protection. It is located at 1915 Beach Boulevard in the Borough of Point Pleasant, Ocean County, New Jersey and is known as Block 287, Lot 1 on the Borough of Point Pleasant tax map, see **Exhibit 'D' Figure 1.**

The site is bordered by the NJ State Police (NJSP) Point Pleasant Marine Police Station; the Bayhead Manasquan (aka Point Pleasant) Canal; by Rue Lafayette Road and residential dwellings; and by Beach Boulevard and residential dwellings. A copy of the USGS topographic map with the subject site indicated in red is included as part of the attached Study Report (see **Exhibit 'D'** (Figure 2 Local Street Map and Figure 3). The USGS depicts the location of the subject site in relation to the surrounding neighborhood including the Point Pleasant Canal/Intercoastal Waterway.

2. The Point Pleasant Canal:

The United States Army Corps of Engineers (USACE) constructed the canal from 1916 until the Canal became navigable in 1929. The Canal connects the Manasquan River and Barnegat Bay. The Canal is owned by the USACE, which has a right-of-way width approximately 10 feet from the bulkhead. Bulkheads through its entire length channelize the Canal in this section.

B. FUNCTIONAL DESCRIPTION OF THE EXISTING SITE

The Point Pleasant Fishing Access Wildlife Management Area is approximately 6.6-acre site, which consists of a pond, lagoon, natural bottom boat ramp, and public fishing access. The public actively uses the area. The land between the Canal's bulkhead and the lagoon has been lost to erosion. Due to this erosion, a chain link fence adjacent to the bulkhead collapsed. The fence has failed because of the land loss into which it was anchored. The onsite pond located to the northwest of the lagoon receives storm water runoff from the adjacent NJSP Point Pleasant Marine Station property. When the water level in the pond rises, it overflows at a low point along the east bank of the pond. This overflow erodes material from the access driveway prior to discharging into the lagoon near the existing natural boat ramp. See **Exhibit 'C'** for an aerial view of the site.

VII. CONSULTANT DESIGN RESPONSIBILITIES

A. POINT PLEASANT WILDLIFE MANAGEMENT AREA (WMA) FISHING ACCESS & BOAT RAMP IMPROVEMENT

1. General:

The Consultant shall provide the Design, Construction Administration, Permitting and Bid/ Award services to improve the Point Pleasant Fishing Access Wildlife Management Area (WMA), and build a new concrete boat ramp to replace the existing natural bottom ramp, based on the requirements set by the New Jersey Department of Environmental Protection (DEP). The design of all components of this project shall comply with the ADA Accessibility Guidelines.

The Consultant shall refer to the study research prepared by LAN regarding any of the following subjects, Wetlands and Tidelands, Flood Hazard Areas, Soils and shall follow their conclusions and recommendations as approved by NJDEP.

2. Functional Design Requirements

The Consultant shall meet and coordinate with NJ Department of Environmental Protection Natural & Historic Resources Office of Resource Development Staff and Point Pleasant WMA Staff to outline all functional requirements necessary for the design of the Point Pleasant Fishing Access Wildlife Management Area Site Improvement. The Consultant shall document interviews with DEP and WMA Staff to identify their requirements and needs.

Below are some specific components and essential items of this project scope, which are required by the Client Agency, and shall be incorporated in the design.

- Repair /Replace the fence and guiderail along the bulkhead of the canal.
- Replace bulkhead return and timber bulkhead.
- Reclaim formerly filled area.
- Build a new reinforced concrete boat ramp to replace existing natural ramp.
- Build a new A.D.A. accessible dock.
- Enhance existing fishing areas for fishing in the canal.
- Create a living shoreline.
- Improve parking area adjacent to the canal.
- Improve the parking area near Beach Boulevard.
- Control erosion caused by overland runoff from the pond to the northwest of the boat ramp.

The improvements described above are illustrated on a concept plan entitled “Boat Launch Concept Sketch” (see Plate 1) as part of **Exhibit ‘D’.**

3. Demolition:

The Consultant shall include within the design documents all necessary required select demolition. A note shall be added that states all materials including fixtures, debris, rubbish, etc. shall be removed as it accumulates and not stored on the site.

The Consultant shall provide a site location map on the drawing cover sheet that identifies the vehicular travel routes from major highways to the project construction site and the approved access roads to the contractor’s worksite staging area.

Drawings shall identify the approved location of the dumpster(s), vehicle parking, material storage trailers, construction equipment, etc. and specify any safety and or security measures

required in those areas. Identify any required construction barriers or other measures to be taken to protect equipment and personnel from construction dirt, dust and provide safety during any demolition and construction work.

4. Fixed Dock:

The Consultant shall investigate using a fixed dock foundation in the lagoon, if possible. If a new fixed dock foundation is not structurally feasible due to the existing strong canal water current, provide a design for a new floating dock. Provide all fasteners, railings, supports and waler system as necessary. Consultant to specify type/material of fasteners and cleats to be used. The new dock area shall be "Barrier Free" compliant.

5. Boat Ramp:

The Consultant shall provide the design to build a new reinforced concrete boat ramp to replace the existing natural bottom ramp. Provide a calculation to confirm the correct degree of inclination needed for the new concrete ramp. It is necessary to determine the foundation and depth of the new ramp. The construction documents shall be in compliance with the Bureau of Coastal Engineering Requirements, A.D.A. Guidelines and any other regulations that do apply. See below for suggested regulatory requirements and permit applications.

6. Trailer Parking and Car Parking:

The Consultant shall provide a design to improve the parking on the site in two locations. The Client Agency desires a Trailer Parking along Beach Boulevard and a separate car parking off Rue Lafayette. All design shall comply with A.D.A. Accessibility Guidelines. See **Exhibit 'D'**- Plate 1 and 2 for proposed parking locations.

7. Chain Link Fence & Bulk Head Returns Replace/Repair (Re-fence):

The land between the Canal's bulkhead and the lagoon has been lost to erosion. Due to this erosion, the chain link fence adjacent to the bulkhead collapsed. The fence has failed because of the land loss into which it was anchored. See **Exhibit 'D'** (Appendix C) for photos of existing conditions of collapsed fence and submerged wood bulkhead returns.

The Consultant shall provide a design to repair/replace the collapsed fence and bulkhead returns from the canal in the lagoon. It is necessary for the consultant to determine the foundation and the depth of the proposed bulkhead repairs. Provide all fasteners, railings, supports and waler system as necessary. Consultant to specify type/material of fasteners and cleats to be used. The new fishing area shall be "Barrier Free" compliant.

B. SURVEY REQUIREMENTS

The Consultant shall survey the site area and determine site property lines meets and bounds, as well as the site topography. The survey shall include surroundings in the Point Pleasant Canal, as required; to complete the design and permit applications required to successfully complete the Point Pleasant WMA Fishing Access Site Improvement and New Boat Ramp Project.

C. PERMIT APPLICATIONS

The Consultant is responsible to prepare permit application packages for all State and Federal Agencies that are required to complete the project. The Consultant shall identify any and all approvals needed, and any other costs associated with the new design and construction. The Consultant shall also develop a detailed estimate of construction costs.

D. REGULATORY REQUIREMENTS

1. US Army Corps of Engineers:

Portions of the project including the bulkhead removal and/or replacement, reclamation of formerly filled area, and fence replacement adjacent to the Canal's bulkhead would likely take place on USACE owned property.

2. NJ Department of Environmental Protection:

The project is located within the CAFRA area and proposes activities water-ward of the mean high-water line. The site is located within a tidal flood hazard area having a base flood elevation of 8 feet. Wetlands and mapped threatened and endangered species habitat is identified onsite.

Below is a summary of regulations that could be applicable to this project:

1. U.S. Army Corps of Engineers (USACE) pursuant to Pursuant to 33 USC 408;
2. U.S. Army Corps of Engineers (USACE) Authorization pursuant to Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act;
3. NJDEP Division of Land Use Regulation (DLUR) pursuant to the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A;
4. NJDEP Division of Land Use Regulation (DLUR) pursuant to the Flood Hazard Area Control Act Rules N.J.A.C. at 7:13;
5. NJDEP Division of Land Use Regulation (DLUR) pursuant to the Coastal Zone Management Rules N.J.A.C. at 7:7;
6. NJ Natural Heritage Program pursuant to the Office of Natural Lands Management protocols; and

7. Ocean County Soil Conservation District pursuant to the Soil Erosion and Sediment Control Act at N.J.A.C. 2:90.

It is the Consultant's responsibility to identify and obtain all other State Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work.

E. GENERAL DESIGN OVERVIEW

1. Design Detail:

Section VII of this Scope of Work is intended as a guide for the Consultant to understand the overall basic design requirements of the project and is not intended to identify each specific design component related to code and construction items. The Consultant shall provide those details during the design phase of the project ensuring that they comply with all applicable codes, regulating authorities, and the guidelines established in the DPMC Procedures for Architects and Engineers Manual.

The Consultant shall understand that construction documents submitted to DPMC shall go beyond the basic requirements set forth by the Uniform Construction Code N.J.A.C. 5:23-2.15(f). Drawings and specifications shall provide detail beyond that required to merely show the nature and character of the work to be performed. The construction documents shall provide sufficient information and detail to illustrate, describe and clearly delineate the design intent of the Consultant and enable all Contractors to uniformly bid the project.

The Consultant shall review and comply with the DPMC "Plan Review Instructions" which can be found on DPMC's web site at:

http://www.state.nj.us/treasury/dpmc/lists_and_publications.shtml

The Consultant shall ensure that all of the design items described in this scope of work are addressed and included in the project drawings and specification sections where appropriate.

It shall be the Consultant's responsibility to provide all of the design elements for this project. Under no circumstance may they delegate the responsibility of the design; or portions thereof, to the Contractor unless specifically allowed in this Scope of Work.

2. Specification Format:

The Consultant shall prepare the construction specifications in the Construction Specifications Institute (CSI) format entitled MasterFormat©, latest edition.

The project construction specifications shall include only those CSI MasterFormat© specification sections and divisions applicable to this specific project.

3. Submittal Schedule:

The Consultant shall include a submittal schedule in Division 1 of the specifications. The schedule (list of required submittals) shall identify the general conditions and/or specification section (number and name) and the type of submittal required (material data, product data, test results, calculations, etc.). The submittal schedule is a compilation of the submittals required on the project and is provided as an aid to the contractor.

4. Construction Cost Estimates:

The Consultant shall include with each design submittal phase identified in Paragraph IV.A, including the Permit Application Phase and Bid Phase, a detailed construction cost estimate itemized and summarized by the divisions and sections of the Construction Specification Institute (CSI) MasterFormat© latest edition applicable to the project.

The detailed breakdown of each work item shall include labor, equipment, material and total costs.

The construction estimate shall include all alternate bid items and all unit price items itemized and summarized by the divisions and sections of the specifications.

All cost estimates shall be adjusted for regional location, site factors, construction phasing, premium time, building use group, location of work within the building, temporary swing space, security issues, and inflation factors based on the year in which the work is to be performed.

The cost estimate shall include descriptions of all allowances and contingencies noted in the estimate.

All cost estimates must be submitted on a DPMC-38 Project Cost Analysis form at each design phase of the project supported by the detailed construction cost estimate. The Project Manager will provide cost figures for those items which may be in addition to the CCE such as art inclusion, CM services, etc. and must be included as part of the CWE. This cost analysis must be submitted for all projects regardless of the Construction Cost Estimate amount.

F. PROJECT COMMENCEMENT

A pre-design meeting shall be scheduled with the Consultant and the Project Team members at the commencement of the project to obtain and/or coordinate the following information:

1. Project Directory:

Develop a project directory that identifies the name and phone number of key designated representatives who may be contacted during the design and construction phases of this project.

2. Site Access:

Develop procedures to access the project site and provide the names and phone numbers of approved escorts when needed. Obtain copies of special security and policy procedures that must be followed during all work conducted at the facility and include this information in Division 1 of the specification.

3. Project Coordination:

Review and become familiar with any current and/or future projects at the site that may impact the design, construction, and scheduling requirements of this project. Incorporate all appropriate information and coordination requirements in Division 1 of the specification.

4. Existing Documentation:

Review any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation shall be returned to the provider at the completion of the project.

5. Scope of Work:

Review the design and construction administration responsibilities and the submission requirements identified in this Scope of Work with the Project Team members. Items such as: contract deliverables, special sequencing or phased construction requirements, special hours for construction based on Client Agency programs or building occupancy, security needs, delivery dates of critical and long lead items, utility interruptions or shut down constraints for tie-ins, weather restrictions, and coordination with other project construction activities at the site shall be addressed.

This information and all general administrative information; including a narrative summary of the work for this project, ***shall be included in Division 1*** of the specification. The Consultant

shall assure that there are no conflicts between the information contained in Division 1 of the specification and the DPMC General Conditions.

6. Project Schedule:

Review and update the project design and construction schedule with the Project Team members.

G. BUILDING & SITE INFORMATION

The following information shall be included in the project design documents.

1. Building Classification:

Provide the building Use Group Classification and Construction Type on the appropriate design drawing.

2. Building Block & Lot Number:

Provide the site Block and Lot Number on the appropriate design drawing.

3. Building Site Plan:

Only when the project scope involves site work, or when the design triggers code issues that require site information to show code compliance, shall a site plan be provided that is drawn in accordance with an accurate boundary line survey. The site plan shall include, but not be limited to, the following as may be applicable:

- The size and location of new and existing buildings and additions as well as other structures.
- The distance between buildings and structures and to lot lines.
- Established and new site grades and contours as well as building finished floor elevations.
- New and existing site utilities, site vehicular and pedestrian roads, walkways and parking areas.

4. Site Location Map:

Provide a site location map on the drawing cover sheet that identifies the vehicular travel routes from major roadways to the project construction site and the approved access roads to the Contractor’s worksite staging area.

H. DESIGN MEETINGS & PRESENTATIONS

1. Design Meetings:

Conduct the appropriate number of review meetings with the Project Team members during each design phase of the project so they may determine if the project meets their requirements, question any aspect of the contract deliverables, and make changes where appropriate. The Consultant shall describe the philosophy and process used in the development of the design criteria and the various alternatives considered to meet the project objectives. Selected studies, sketches, cost estimates, schedules, and other relevant information shall be presented to support the design solutions proposed. Special considerations shall also be addressed such as: Contractor site access limitations, utility shutdowns and switchover coordination, phased construction and schedule requirements, security restrictions, available swing space, material and equipment delivery dates, etc.

It shall also be the responsibility of the Consultant to arrange and require all critical Sub-Consultants to be in attendance at the design review meetings.

Record the minutes of each design meeting and distribute within seven (7) calendar days to all attendees and those persons specified to be on the distribution list by the Project Manager.

2. Design Presentations:

The minimum number of design presentations required for each phase of this project is identified below for reference:

Schematic Phase: One (1) oral presentation at phase completion.

Design Development Phase: One (1) oral presentation at phase completion.

Final Design Phase: One (1) oral presentation at phase completion.

I. CONSTRUCTION BID DOCUMENT SUBMITTAL

In addition to submitting construction bid documents as defined in Section XIV Contract Deliverables, Consultant shall submit both specifications and drawings on compact disk (CD) in *Adobe Portable Document Format (.pdf).*

VIII. CONSULTANT CONSTRUCTION RESPONSIBILITIES

A. GENERAL CONSTRUCTION ADMINISTRATION OVERVIEW

This section of the Scope of Work is intended as a guide for the Consultant to understand their overall basic construction administration responsibilities for the project and does not attempt to identify each specific activity or deliverable required during this phase. The Consultant shall obtain that information from the current publication of the DPMC Procedures for Architects and Engineers Manual and any additional information provided during the Consultant Selection Process.

B. PRE-BID MEETING

The Consultant shall attend, chair, record and distribute minutes of the Contractor pre-bid meetings. When bidders ask questions that may affect the bid price of the project, the Consultant shall develop a Bulletin(s) to clarify the bid documents in the format described in the Procedures for Architects and Engineers Manual, Section 9.2 entitled "Bulletins." These Bulletins must be sent to DPMC at least seven (7) calendar days prior to the bid opening date. DPMC will then distribute the document to all bidders.

C. POST BID REVIEW MEETING, RECOMMENDATION FOR AWARD

The Consultant; in conjunction with the Project Manager, shall review the bid proposals submitted by the various Contractors to determine the low responsible bid for the project. The Consultant; in conjunction with the Project Manager and Project Team members, shall develop a post bid questionnaire based on the requirements below and schedule a post bid review meeting with the Contractor's representative to review the construction costs and schedule, staffing, and other pertinent information to ensure they understand the Scope of the Work and that their bid proposal is complete and inclusive of all requirements necessary to deliver the project in strict accordance with the plans and specifications.

1. Post Bid Review:

Review the project bid proposals including the alternates, unit prices, and allowances within seven (7) calendar days from the bid due date. Provide a bid tabulation matrix comparing all bids submitted and make a statement about the high, low, and average bids received. Include a comparison of the submitted bids to the approved current construction cost estimate. When applicable, provide an analysis with supporting data, detailing why the bids did not meet the construction cost estimate.

2. Review Meeting:

Arrange a meeting with the apparent low bid Contractor to discuss their bid proposal and other issues regarding the award of the contract. Remind the Contractor that this is a Lump Sum bid. Request the Contractor to confirm that their bid proposal does not contain errors. Review and confirm Alternate pricing and Unit pricing and document acceptance or rejection as appropriate.

Comment on all omissions, qualifications and unsolicited statements appearing in the proposals. Review any special circumstances of the project. Ensure the Contractor's signature appears on all post bid review documents.

3. Substitutions:

Inquire about any potential substitutions being contemplated by the Contractor and advise them of the State's guidelines for the approval of substitutions and the documentation required. Review the deadline and advise the Contractor that partial submissions are not acceptable. Submission after the deadline may be rejected by the State.

Equal substitutions that are proposed by the Contractor that are of lesser value must have a credit change order attached with the submittal (See Article 4.7.5 "Substitutions" of the General Conditions). The State has the right to reject the submission if there is no agreement on the proposed credit. Contractor will be responsible to submit a specified item.

4. Schedule:

Confirm that the Contractor is aware of the number of calendar days listed in the contract documents for the project duration and that the Contractor's bid includes compliance with the schedule duration and completion dates. Particular attention shall be given to special working conditions, long lead items and projected delivery dates, etc. Review project milestones (if applicable). This could give an indication of Contractor performance, but not allow a rejection of the bid.

Review the submittal timeframes per the Contract documents. Ask the Contractor to identify what products will take over twenty-eight (28) calendar days to deliver from the point of submittal approval.

If a CPM Schedule is required, review the provisions and have Contractor acknowledge the responsibility. Ask for the name of the CPM Scheduler and the "ballpark" costs.

5. Performance:

Investigate the past performance of Contractor by contacting Architects and owners (generally three of each) that were listed in their DPMC pre-qualification package or other references that

may have been provided. Inquire how the Contractor performed with workmanship, schedule, project management, change orders, cooperation, paper work, etc.

6. Letter of Recommendation:

The Consultant shall prepare a Letter of Recommendation for contract award to the Contractor submitting the lowest responsible bid within three (3) calendar days from the post bid review meeting. The document shall contain the project title, DPMC project number, bid due date and expiration date of the proposal. It shall include a detailed narrative describing each post bid meeting agenda item identified above and a recommendation to award the contract to the apparent low bid Contractor based on the information obtained during that meeting. Describe any acceptance or rejection of Alternate pricing and Unit pricing.

Comment on any discussion with the Contractor that provides a sense of their understanding of the project and any special difficulties that they see, and how they might approach those problems.

Attach all minutes of the Post bid meeting and any other relevant correspondence with the Letter of Recommendation and submit them to the Project Manager.

7. Conformed Drawings:

The Consultant shall prepare and distribute two (2) sets of drawings stamped "Conformed Drawings" to the Project Manager that reflect all Bulletins and/or required changes, additions, and deletions to the pertinent drawings within fourteen (14) calendar days of the construction contract award date.

Any changes made in Bulletins, meeting minutes, post bid review requirements shall also be reflected in the specification.

D. DIRECTOR'S HEARING

The Consultant must attend any Director's hearing(s) if a Contractor submits a bid protest. The Consultant shall be present to interpret the intent of the design documents and answer any technical questions that may result from the meeting. In cases where the bid protest is upheld, the Consultant shall submit a new "Letter of Recommendation" for contract award. The hours required to attend the potential hearings and to document the findings shall be estimated by the Consultant and the costs will be included in the base bid of their fee proposal.

E. CONSTRUCTION JOB MEETINGS, SCHEDULES, LOGS

The Consultant shall conduct all of the construction job meetings, to be held bi-weekly for the duration of construction, in accordance with the procedures identified in the A/E manual and those listed below.

1. Meetings:

The Consultant and Sub-Consultant(s) shall attend the pre-construction meeting and all construction job meetings during the construction phase of the project. The Consultant shall chair the meeting, transcribe and distribute the job-meeting minutes for every job meeting to all attendees and to those persons specified to be on the distribution list by the Project Manager. The Agenda for the meeting shall include, but not be limited to the items identified in the Procedures for Architects and Engineers Manual, Section 10.3.1, entitled "Agenda." Also, the Consultant is responsible for the preparation and distribution of minutes within three (3) calendar days of the meeting. The format to be used for the minutes shall comply with those identified in the "Procedures for Architects and Engineers Manual," Section 10.3.4, entitled, "Format of Minutes." All meeting minutes are to have an "action" column indicating the party that is responsible for the action indicated and a deadline to accomplish the assigned task. These tasks must be reviewed at each job progress meeting until it is completed and the completion date of each task shall be noted in the minutes of the meeting following the task completion.

2. Schedules:

The Consultant; with the input from the Client Agency Representative and Project Manager, shall review and recommend approval of the project construction schedule prepared by the Contractor. The schedule shall identify all necessary start and completion dates of construction, construction activities, submittal process activities, material deliveries and other milestones required to give a complete review of the project.

The Consultant shall record any schedule delays, the party responsible for the delay, the schedule activity affected, and the original and new date for reference.

The Consultant shall ensure that the Contractor provides a two (2) week "look ahead" construction schedule based upon the current monthly updated schedule as approved at the bi-weekly job meetings and that identifies the daily planned activities for that period. This Contractor requirement must also be included in Division 1 of the specification for reference.

3. Submittal Log:

Based on the Submittal Schedule in Division 1 of the specifications, the Consultant shall develop and implement a submittal log that includes all of the required project submittals as identified in the general conditions and technical specifications. The submittal log shall be provided to the

contractor at the pre-construction meeting. The dates of submission shall be determined and approved by all affected parties during the pre-construction meeting.

Examples of the submissions to be reviewed and approved by the Consultant and Sub-Consultant (if required) include: project schedule, schedule of values, shop drawings, equipment and material catalog cuts, spec sheets, product data sheets, MSDS material safety data sheets, specification procedures, color charts, material samples, mock-ups, etc. The submittal review process must be conducted at each job progress meeting and shall include the Consultant, Sub-Consultant, Contractor, Project Manager, and designated representatives of the Client Agency.

The Consultant shall provide an updated submittal log at each job meeting that highlights the status of all required submissions.

F. CONSTRUCTION SITE ADMINISTRATION SERVICES

The Consultant and Sub-Consultant(s) shall provide construction site administration services during the duration of the project. The Consultant and Sub-Consultant(s) do not necessarily have to be on site concurrently if there are no critical activities taking place that require the Sub-Consultant's participation.

The services required shall include, but not be limited to; field observations sufficient to verify the quality and progress of construction work, conformance and compliance with the contract documents, and to attend/chair meetings as may be required by the Project Manager to resolve special issues.

Consultant and Sub-Consultant(s) shall conduct weekly site inspection/field observation visits. Site inspection/field observation visits may be conducted in conjunction with regularly scheduled bi-weekly construction job meetings, depending on the progress of work, for weeks that construction job meetings are scheduled. The Consultant and their Sub-Consultant(s) shall submit a field observation report for each site inspection to the Project Manager within three (3) calendar days of the site visit. Also, they shall conduct inspections during major construction activities including, but not limited to the following examples: concrete pours, steel and truss installations, code inspections, final testing of systems, achievement of each major milestone required on the construction schedule, and requests from the Project Manager. The assignment of a full time on-site Sub-Consultant does not relieve the Consultant of their site visit obligation.

The Consultant shall refer to Section XIV. Contract Deliverables of this Scope of Work subsection entitled "Construction Phase" to determine the extent of services and deliverables required during this phase of the project.

G. SUB-CONSULTANT PARTICIPATION

It is the responsibility of the Consultant to ensure that they have provided adequate hours and/or time allotted in their technical proposal so that their Sub-Consultants may participate in all appropriate phases and activities of this project or whenever requested by the Project Manager. This includes the pre-proposal site visit and the various design meetings and construction job meetings, site visits, and close-out activities described in this Scope of Work. Field observation reports and/or meeting minutes are required to be submitted to the Project Manager within three (3) calendar days of the site visit or meeting. All costs associated with such services shall be included in the base bid of the Consultant's fee proposal.

H. DRAWINGS

1. Shop Drawings:

Each Contractor shall review the specifications and determine the numbers and nature of each shop drawing submittal. Five (5) sets of the documents shall be submitted with reference made to the appropriate section of the specification. The Consultant shall review the Contractor's shop drawing submissions for conformity with the construction documents within seven (7) calendar days of receipt. The Consultant shall return each shop drawing submittal stamped with the appropriate action, i.e. "Approved", "Approved as Noted", "Approved as Noted Resubmit for Records", "Rejected", etc.

2. As-Built & Record Set Drawings:

The Contractor(s) shall keep the contract drawings up-to-date at all times during construction and upon completion of the project, submit their AS-BUILT drawings to the Consultant with the Contractor(s) certification as to the accuracy of the information prior to final payment. All AS-BUILT drawings submitted shall be entitled AS-BUILT above the title block and dated.

The Consultant shall review the Contractor(s)' AS-BUILT drawings at each job progress meeting to ensure that they are up-to-date. Any deficiencies shall be noted in the progress meeting minutes.

The Consultant shall acknowledge acceptance of the AS-BUILT drawings by signing a transmittal indicating they have reviewed them and that they reflect the AS-BUILT conditions as they exist.

Upon receipt of the AS-BUILT drawings from the Contractor(s), the Consultant shall obtain the original reproducible drawings from DPMC and transfer the AS-BUILT conditions to the original full sized signed reproducible drawings to reflect RECORD conditions within fourteen (14) calendar days of receipt of the AS-BUILT information.

The Consultant shall note the following statement on the original RECORD-SET drawings. "The AS-BUILT information added to this drawing(s) has been supplied by the Contractor(s). The Architect/Engineer does not assume the responsibility for its accuracy other than conformity with the design concept and general adequacy of the AS-BUILT information to the best of the Architect's/Engineer's knowledge."

Upon completion, The Consultant shall deliver the RECORD-SET original reproducible drawings to DPMC who will acknowledge their receipt in writing. This hard copy set of drawings and two (2) sets of current release AUTO CAD discs shall be submitted to DPMC. The discs shall contain all AS-BUILT drawings in both ".dwg" (native file format for AUTO CAD) and ".pdf" (*Adobe* portable document format) file formats.

I. CONSTRUCTION DEFICIENCY LIST

The Consultant shall prepare, maintain and continuously distribute an on-going deficiency list to the Contractor, Project Manager, and Client Agency Representative during the construction phase of the project. This list shall be separate correspondence from the field observation reports and shall not be considered as a punch list.

J. INSPECTIONS: SUBSTANTIAL & FINAL COMPLETION

The Consultant and their Sub-Consultant(s) accompanied by the Project Manager, Code Inspection Group, Client Agency Representative and Contractor shall conduct site inspections to determine the dates of substantial and final completion. The Project Manager will issue the only recognized official notice of substantial completion. The Consultant shall prepare and distribute the coordinated punch list, written warranties and other related DPMC forms and documents, supplied by the Contractor, to the Project Manager for review and certification of final contract acceptance.

If applicable, the punch list shall include a list of attic stock and spare parts.

K. CLOSE-OUT DOCUMENTS

The Consultant shall review all project close-out documents as submitted by the Contractors to ensure that they comply with the requirements listed in the "Procedure for Architects and Engineers' Manual." The Consultant shall forward the package to the Project Manager within fourteen (14) calendar days from the date the Certificate of Occupancy/Certificate of Approval is issued. The Consultant shall also submit a letter certifying that the project was completed in accordance with the contract documents, etc.

L. CLOSE-OUT ACTIVITY TIME

The Consultant shall provide all activities and deliverables associated with the "Close-Out Phase" of this project as part of their Lump Sum base bid. The Consultant and/or Sub-Consultant(s) may not use this time for additional job meetings or extended administrative services during the Construction Phase of the project.

M. TESTING, TRAINING, MANUALS AND ATTIC STOCK

The Consultant shall ensure that all equipment testing, training sessions and equipment manuals required for this project comply with the requirements identified below.

1. Testing:

All equipment and product testing conducted during the course of construction is the responsibility of the Contractor. However, the Consultant shall ensure the testing procedures comply with manufacturers recommendations. The Consultant shall review the final test reports and provide a written recommendation of the acceptance/rejection of the material, products or equipment tested within seven (7) calendar days of receipt of the report.

2. Training:

The Consultant shall include in the specification that the Contractor shall schedule and coordinate all equipment training with the Project Manager and Client Agency representatives. It shall state that the Contractor shall submit the Operation and Maintenance (O&M) manuals, training plan contents, and training durations to the Consultant, Project Manager and Client Agency Representative for review and approval prior to the training session.

The Consultant shall ensure that the training session is video recorded by the Contractor. A copy of the recording shall be transmitted to the Project Manager on compact disk who will forward the material to the Client Agency for future reference.

All costs associated with the training sessions shall be borne by the Contractor installing the equipment. A signed letter shall be prepared stating when the training was completed and must be accompanied with the training session sign-in sheet as part of the project close-out package.

3. Operation & Maintenance Manuals:

The Consultant shall coordinate and review the preparation and issuance of the equipment manuals provided by the Contractor(s) ensuring that they contain the operating procedures, maintenance procedures and frequency, cut sheets, parts lists, warranties, guarantees, and detailed drawings for all equipment installed at the facility.

A troubleshooting guide shall be included that lists problems that may arise, possible causes with solutions, and criteria for deciding when equipment shall be repaired and when it must be replaced.

Include a list of the manufacturer's recommended spare parts for all equipment being supplied for this project.

A list of names, addresses and telephone numbers of the Contractors involved in the installations and firms capable of performing services for each mechanical item shall be included. The content of the manuals shall be reviewed and approved by the Project Manager and Client Agency Representative.

The Consultant shall include in the specification that the Contractor must provide a minimum of ten (10) "throwaway" copies of the manual for use at the training seminar and seven (7) hardbound copies as part of the project close-out package.

4. Attic Stock:

The Consultant shall determine and recommend whether "attic stock" should be included for all aspects of the project. If required, the Consultant shall specify attic stock items to be included in the project.

Prior to project close-out, the Consultant must prepare a comprehensive listing of all items for delivery by the Contractor to the Owner and in accordance with the appropriate specification/plan section. Items shall include, but not be limited to: training sessions, O&M manuals, as-built drawings, itemized attic stock requirements, and manufacturer guarantees/warranties.

N. CHANGE ORDERS

The Consultant shall review and process all change orders in accordance with the contract documents and procedures described below.

1. Consultant:

The Consultant shall prepare a detailed request for Change Order including a detailed description of the change(s) along with appropriate drawings, specifications, and related documentation and submit the information to the Contractor for the change order request submission. This will require the use of the current DPMC 9b form.

2. Contractor:

The Contractor shall submit a DPMC 9b Change Order Request form to the Project Manager within seven (7) calendar days after receiving the Change Order from the Consultant. The

document shall identify the changed work in a manner that will allow a clear understanding of the necessity for the change. Copies of the original design drawings, sketches, etc. and specification pages shall be highlighted to clarify and show entitlement to the Change Order.

Copies shall be provided of job minutes or correspondence with all relative information highlighted to show the origin of the Change Order. Supplementary drawings from the Consultant shall be included if applicable that indicate the manner to be used to complete the changed work. A detailed breakdown of all costs associated with the change, i.e. material, labor, equipment, overhead, Sub-Contractor work, profit and bond, and certification of increased bond shall be provided.

If the Change Order will impact the time of the project, the Contractor shall include a request for an extension of time. This request shall include a copy of the original approved project schedule and a proposed revised schedule that reflects the impact on the project completion date. Documentation to account for the added time requested shall be included to support entitlement of the request such as additional work, weather, other Contractors, etc. This documentation shall contain dates, weather data and all other relative information.

3. Recommendation for Approval:

The Consultant shall evaluate the reason for the change in work and provide a detailed written recommendation for approval or disapproval of the Change Order Request including backup documentation of costs in CSI format and all other considerations to substantiate that decision.

4. Code Review:

The Consultant shall determine if the Change Order request will require Code review and shall submit six (6) sets of signed and sealed modified drawings and specifications to the DPMC Plan & Code Review Unit for approval, if required. The Consultant must also determine and produce a permit amendment request if required.

5. Cost Estimate:

The Consultant shall provide a detailed cost estimate of the proposed Change Order Request, as submitted by the Contractor, in CSI format (latest edition) for all appropriate divisions and sub-divisions using a recognized estimating formula. The estimate shall then be compared with that of the Contractor’s estimate. If any line item in the Consultant’s estimate is lower than the corresponding line item in the Contractor’s estimate, the Consultant in conjunction with the Project Manager is to contact the Contractor by telephone and negotiate the cost differences. The Consultant shall document the negotiated agreement on the Change Order Request form. If the Contractor’s total dollar value changes based on the negotiations, the Consultant shall identify the changes on the Change Order Request form accordingly.

When recommending approval or disapproval of the change order, the Consultant shall be required to prepare and process a Change Order package that contains at a minimum the following documents:

- DPMC 9b Change Order Request
- DPMC 10 Consultant's Evaluation of Contractor's Change Order Request
- Consultant's Independent Detailed Cost Estimate
- Notes of Negotiations

6. Time Extension:

When a Change Order Request is submitted with both cost and time factors, the Consultant's independent cost estimate is to take into consideration time factors associated with the changed work. The Consultant is to compare their time element with that of the Contractor's time request and if there is a significant difference, the Consultant in conjunction with the Project Manager is to contact the Contractor by telephone and negotiate the difference.

When a Change Order Request is submitted for time only, the Consultant is to do an independent evaluation of the time extension request using a recognized scheduling formula.

Requests for extension of contract time must be done in accordance with the General Conditions Article 10.1 "Changes in the Work".

7. Submission:

The Consultant shall complete all of the DPMC Change Order Request forms provided and submit a completed package to the Project Manager with all appropriate backup documentation within seven (7) calendar days from receipt of the Contractor's change order request. The Consultant shall resubmit the package at no cost to the State if the change order package contents are deemed insufficient by the Project Manager.

8. Meetings:

The Consultant shall attend and actively participate at all administrative hearings or settlement conferences as may be called by Project Manager in connection with such Change Orders and provide minutes of those meetings to the Project Manager for distribution.

9. Consultant Fee:

All costs associated with the potential Contractor Change Order Requests shall be anticipated by the Consultant and included in the base bid of their fee proposal.

If the Client Agency Representative requests a scope change; and it is approved by the Project Manager, the Consultant may be entitled to be reimbursed through an amendment and in accordance with the requirements stated in paragraph 10.01 of this Scope of Work.

IX. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PERMIT

The project construction documents must comply with the latest adopted edition of the NJ Uniform Construction Code (NJUCC).

The latest NJUCC Adopted Codes and Standards can be found at:

http://www.state.nj.us/dca/divisions/codes/codreg/

The Consultant shall complete the NJUCC permit application and all applicable technical sub-code sections with all technical site data required. The Agent section of the application and certification section of the building sub-code section shall be signed. These documents shall be forwarded to the DPMC Project Manager.

The Consultant may obtain copies of all NJUCC permit applications at the following website:

http://www.state.nj.us/dca/divisions/codes/forms/

All other required project permits shall be obtained and paid for by the Consultant in accordance with the procedures described in Paragraph IX.B.

1. Prior Approval Certification Letters:

The issuance of a construction permit for this project may be contingent upon acquiring various "prior approvals" as defined by N.J.A.C. 5:23-1.4. It is the Consultant's responsibility to determine which prior approvals, if any, are required. The Consultant shall submit a general certification letter to the DPMC Plan & Code Review Unit Manager during the Permit Phase of this project that certifies all required prior approvals have been obtained.

In addition to the general certification letter discussed above, the following specific prior approval certification letters, where applicable, shall be submitted by the Consultant to the DPMC Plan & Code Review Unit Manager: Soil Erosion & Sediment Control, Water & Sewer Treatment Works Approval, Coastal Areas Facilities Review, Compliance of Underground Storage Tank Systems with N.J.A.C. 7:14B, Pinelands Commission, Highlands Council, Well Construction and Maintenance; Sealing of Abandoned Wells with N.J.A.C. 7:9D, Certification that all utilities have been disconnected from structures to be demolished, Board of Health

Approval for Potable Water Wells, Health Department Approval for Septic Systems. It shall be noted that in accordance with N.J.A.C. 5:23-2.15(a)5, a permit cannot be issued until the letter(s) of certification is received.

2. Multi-building or Multi-site Permits:

A project that involves many buildings and/or sites requires that a separate permit shall be issued for each building or site. The Consultant must determine the construction cost estimate for *each* building and/or site location and submit that amount where indicated on the permit application.

3. Special Inspections:

In accordance with the requirements of the New Jersey Uniform Construction Code N.J.A.C. 5:23-2.20(b), Bulletin 03-5 and Chapter 17 of the International Building Code, the Consultant shall be responsible for the coordination of all special inspections during the construction phase of the project.

Bulletin 03-5 can be found at:
http://www.state.nj.us/dca/divisions/codes/publications/pdf_bulletins/b_03_5.pdf

a. Definition:

Special inspections are defined as an independent verification by a certified Special Inspector for **Class I buildings and smoke control systems in any class building**. The special inspector is to be independent from the Contractor and responsible to the Consultant so that there is no possible conflict of interest.

Special inspectors shall be certified in accordance with the requirements in the New Jersey Uniform Construction Code.

b. Responsibilities:

The Consultant shall submit with the permit application, a list of special inspections and the agencies or special inspectors that will be responsible to carry out the inspections required for the project. The list shall be a separate document, on letter head, signed and sealed.

B. OTHER REGULATORY AGENCY PERMITS, CERTIFICATES AND APPROVALS

The Consultant shall identify and obtain all other State Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work. An itemized list of these permits, certificates, and approvals shall be included with the Consultant's Technical Proposal and the total amount of the application fees should be entered in the Fee Proposal line item entitled, **"Permit Fee Allowance."**

The Consultant may refer to the Division of Property Management and Construction "Procedures for Architects and Engineers Manual", Section 6.4.8, which presents a compendium of State permits, certificates, and approvals that may be required for this project.

The Consultant shall determine the appropriate phase of the project to submit the permit application(s) in order to meet the approved project milestone dates.

Where reference to an established industry standard is made, it shall be understood to mean the most recent edition of the standard unless otherwise noted. If an industry standard is found to be revoked, or should the standard have undergone substantial change or revision from the time that the Scope of Work was developed, the Consultant shall comply with the most recent edition of the standard.

C. STATE INSURANCE APPROVAL

The Consultant shall respond in writing to the FM Global Insurance Underwriter plan review comments through the DPMC Plan & Code Review Unit Manager as applicable. The Consultant shall review all the comments and, with agreement of the Project Team, modify the documents while adhering to the project's SOW requirements, State code requirements, schedule, budget, and Consultant fee.

D. PUBLIC EMPLOYEES OCCUPATIONAL SAFETY & HEALTH PROGRAM

A paragraph shall be included in the design documents, if applicable to this project that states: The Contractor shall comply with all the requirements stipulated in the Public Employees Occupational Safety & Health Program (PEOSHA) document, paragraph 12:100-13.5 entitled "Air quality during renovation and remodeling". The Contractor shall submit a plan demonstrating the measures to be utilized to confine the dust, debris, and air contaminants in the renovation or construction area of the project site to the Project Team prior to the start of construction.

The link to the document is:

http://www.nj.gov/health/workplacehealthandsafety/peosh/peosh-health-standards/iaq.shtml

E. PERMIT MEETINGS

The Consultant shall attend and chair all meetings with Permitting Agencies necessary to explain and obtain the required permits.

F. MANDATORY NOTIFICATIONS

The Consultant shall include language in Division 1 of the specification that states the Contractor shall assure compliance with the New Jersey "One Call" Program (1-800-272-1000) if any excavation is to occur at the project site.

The One Call Program is known as the "New Jersey Underground Facility Protection Act", refer to N.J.A.C. 14:2.

G. CONSULTANT FEE

The Consultant shall determine the efforts required to complete and submit all permit applications, obtain and prepare supporting documentation, attend meetings, etc., and include the total cost in the base bid of their fee proposal under the "Permit Phase".

X. GENERAL REQUIREMENTS

A. SCOPE CHANGES

The Consultant must request any changes to this Scope of Work in writing. An approved DPMC 9c Consultant Amendment Request form reflecting authorized scope changes must be received by the Consultant prior to undertaking any additional work. The DPMC 9c form must be approved and signed by the Director of DPMC and written authorization issued from the Project Manager prior to any work being performed by the Consultant. Any work performed without the executed DPMC 9c form is done at the Consultant's own financial risk.

B. ERRORS AND OMISSIONS

The errors and omissions curve and the corresponding sections of the "Procedures for Architects and Engineers Manual" are eliminated. All claims for errors and omissions will be pursued by the State on an individual basis. The State will review each error or omission with the Consultant and determine the actual amount of damages, if any, resulting from each negligent act, error or omission.

C. ENERGY INCENTIVE PROGRAM

The Consultant shall review the programs described on the "New Jersey's Clean Energy Program" website at: http://www.njcleanenergy.com to determine if any proposed upgrades to the mechanical and/or electrical equipment and systems for this project qualify for "New Jersey Clean Energy Program" rebates and incentives such as SmartStart, Pay4Performance, Direct Install or any other incentives.

The Consultant shall be responsible to complete the appropriate registration forms and applications, provide any applicable worksheets, manufacturer's specification sheets, calculations, attend meetings, and participate in all activities with designated representatives of the programs and utility companies to obtain the entitled financial incentives and rebates for this project. All costs associated with this work shall be estimated by the Consultant and the amount included in the base bid of their fee proposal.

XI. ALLOWANCES

A. PERMIT FEE ALLOWANCE

The Consultant shall obtain and pay for all of the project permits in accordance with the guidelines identified below.

1. Permits:

The Consultant shall determine the various permits, certificates, and approvals required to complete this project.

2. Permit Costs:

The Consultant shall estimate the application fee costs for all of the required project permits, certificates, and approvals (excluding the NJ Uniform Construction Code permit) and include that amount in their fee proposal line item entitled **"Permit Fee Allowance"**, refer to Paragraph IX.A. A breakdown of each permit and application fee shall be attached to the fee proposal for reference.

NOTE: The NJ Uniform Construction Code permit is excluded since it will be paid for by the State.

3. Applications:

The Consultant shall complete and submit all permit applications to the appropriate permitting authorities and the costs shall be paid from the Consultant's permit fee allowance. A copy of the application(s) and the original permit(s) obtained by the Consultant shall be given to the DPMC Project Manager for distribution during construction.

4. Consultant Fee:

The Consultant shall determine what is required to complete and submit the permit applications, obtain supporting documentation, attend meetings, etc., and include the total cost in the base bid of their fee proposal under the "Permit Phase" column.

Any funds remaining in the permit allowance will be returned to the State at the close of the project.

XII. SUBMITTAL REQUIREMENTS

A. CONTRACT DELIVERABLES

All submissions shall include the Contract Deliverables identified in Section XIV of this Scope of Work and described in the DPMC Procedures for Architects and Engineers Manual.

B. CATALOG CUTS

The Consultant shall provide catalog cuts as required by the DPMC Plan & Code Review Unit during the design document review submissions. Examples of catalog cuts include, but are not limited to: mechanical equipment, hardware devices, plumbing fixtures, fire suppression and alarm components, specialized building materials, electrical devices, etc.

C. PROJECT DOCUMENT BOOKLET

The Consultant shall submit all of the required Contract Deliverables to the Project Manager at the completion of each phase of the project. All reports, meeting minutes, plan review comments, project schedule, cost estimate in CSI format (latest edition), correspondence, calculations, and other appropriate items identified on the Submission Checklist form provided in the A/E Manual shall be presented in an 8½" x 11" bound "booklet" format.

D. DESIGN DOCUMENT CHANGES

Any corrections, additions, or omissions made to the submitted drawings and specifications at the Permit Phase of the project must be submitted to DPMC Plan & Code Review Unit as a complete document. Corrected pages or drawings may not be submitted separately unless the Consultant inserts the changed page or drawing in the original documents. No Addendums or Bulletins will be accepted as a substitution to the original specification page or drawing.

E. SINGLE-PRIME CONTRACT

All references to "separate contracts" in the Procedures for Architects and Engineers Manual, Chapter 8, shall be deleted since this project will be advertised as a "Single Bid" (Lump Sum All Trades) contract. The single prime Contractor will be responsible for all work identified in the drawings and specifications.

The drawings shall have the required prefix designations and the specification sections shall have the color codes as specified for each trade in the DPMC Procedure for Architects and Engineers Manual.

The Consultant must still develop the Construction Cost Estimate (CCE) for each trade and the amount shall be included on the DPMC-38 Project Cost Analysis form where indicated. This document shall be submitted at each design phase of the project and updated immediately prior to the advertisement to bid.

XIII. SOW SIGNATURE APPROVAL SHEET

This Scope of Work shall not be considered a valid document unless all signatures appear in each designated area below.

The Client Agency approval signature on this page indicates that they have reviewed the design criteria and construction schedule described in this project Scope of Work and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

SOW PREPARED BY: 6/23/2020

DOAA ABOUELELA, PROJECT MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: 6/24/2020

JAMES WRIGHT, MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: 6/24/2020

LARRY TUTELA, PROJECT MANAGER DATE
NJ DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOW APPROVED BY: 6/24/2020

EDWIN HEDGER, DESIGN PROJECT MANAGER DATE
DPMC PROJECT MANAGEMENT GROUP

SOW APPROVED BY: 6/24/2020

RICHARD FLODMAND, DEPUTY DIRECTOR DATE
DIV PROPERTY MGT & CONSTRUCTION

XIV. CONTRACT DELIVERABLES

The following is a listing of Contract Deliverables that are required at the completion of each phase of this project. The Consultant shall refer to the DPMC publication entitled, "Procedures for Architects and Engineers," Volumes I and II, 2nd Edition, dated January, 1991 to obtain a more detailed description of the deliverables required for each item listed below.

The numbering system used in this "Contract Deliverables" section of the scope of work corresponds to the numbering system used in the "Procedures for Architects and Engineers" manual and some may have been deleted if they do not apply to this project.

SCHEMATIC DESIGN PHASE: 25% Complete Design Documents (Minimum)

6.1 Project Schedule (Update Bar Chart Schedule)

6.2 Meetings & Minutes (Minutes within seven (7) calendar days of meeting)

6.3 Correspondence

6.4 Submission Requirements

- 6.4.1 A/E Statement of Site Visit, As-Built Drawing Verification (if available)
- 6.4.2 Space Analysis & Program Requirements
- 6.4.3 Special Features Description: communications, security, fire protection, special structural features, etc.
- 6.4.4 Site Evaluation
- 6.4.5 Borings, Surveys, and Soils Analysis (provided with plan submission)
- 6.4.6 Fine Arts Inclusion (all new construction projects regardless of CCE)
- 6.4.8 Regulatory Agency Approvals
  - 6.4.8.2 NJ Department of Community Affairs
    - (a) UCC Permit for Building Construction
  - 6.4.8.3 NJ Department of Environmental Protection
    - (a) Equipment Emissions
    - (b) Coastal Development (CAFRA)
    - (c) Environmental Assessment Statement (CCE in excess of $1m)
    - (d) Environmental Impact Statement (CCE in excess of $5 m & 5 acres)
    - (e) Waterfront Development (RIPARIAN)
    - (f) Wetlands Development Permit
    - (g) Stream Encroachment
    - (h) Divert Surface Water
    - (i) Water Lowering

(j) Construction Water Cross Connection
(k) Dredge and Fill

6.4.8.10 Army Corps of Engineers
(a) Corps of Engineers (Dredge and Fill)

6.4.10 Drawings: 6 sets
Cover Sheet (See A/E Manual for format)
Site Plan
Floor Plans
Elevations
Sections/Details
Structural Narrative

6.4.11 Specifications: 6 sets (See A/E Manual for format, include Division 1 and edit to describe the administrative and general requirements of the project)

6.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form

6.4.13 Bar Chart of Design and Construction Schedule

6.4.14 Oral Presentation of Submission to Project Team

6.4.15 SOW Compliance Statement

6.4.16 This Submission Checklist (See A/E Manual, Figure 6.4.16 for format)

6.4.17 Deliverables Submission in Booklet Form: 6 sets

6.5 Approval

6.5.1 Respond to Submission Comments

6.6 Submission Forms

Figure 6.4.10 Plan Review Record Sheet
Figure 6.4.12 Current Working Estimate/Cost Analysis
Figure 6.4.16 Submission Checklist

DESIGN DEVELOPMENT PHASE: 50% Complete Design Documents (Minimum)

7.1 Project Schedule (Update Bar Chart Schedule)

7.2 Meetings & Minutes (Minutes within seven (7) calendar days of meeting)

7.3 Correspondence

7.4 Submission Requirements

7.4.1 A/E Statement of Site Visit, As-Built Drawing Verification (if available)

7.4.2 Space Analysis & Program Requirements (if changed from Schematic Phase)

7.4.3 Special Features Description: special structural features, etc.
7.4.4 Site Evaluation
7.4.5 Borings, Surveys, and Soils Analysis (provided with plan submission)
7.4.6 Fine Arts Inclusion (all new construction projects regardless of CCE)
7.4.7 Design Rendering/Sketches
7.4.8 Regulatory Agency Approvals (See Section 6.4.8 for listing)
7.4.9 Confirm Utility Availability (On Site & Public)
Sanitary Service
Storm Water
Domestic Water
Gas Service
Fire Service
Electric Service
Telephone Service
Cable Service
Tank Locations & Sizes
7.4.10 Drawings: 6 sets
Cover Sheet (See A/E Manual for format)
Site Plan
Site Utility Plan
Floor Plans
Elevations
Sections/Details
Structural Drawings, Seismic Design Load Criteria
7.4.11 Specifications: 6 sets (See A/E Manual for format, include Division 1 and edit to describe the administrative and general requirements of the project)
7.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form
7.4.13 Bar Chart of Design and Construction Schedule
7.4.14 Oral Presentation of Submission to Project Team
7.4.15 SOW Compliance Statement
7.4.16 This Submission Checklist (See A/E Manual, Figure 6.4.16 for format)
7.4.17 Deliverables Submission in Booklet Form: 7 sets

7.5 Approval

7.5.1 Respond to Submission Comments

7.6 Submission Forms

Figure 7.4.12 Current Working Estimate/Cost Analysis
Figure 7.4.16 Submission Checklist

FINAL DESIGN PHASE 100% Complete Construction Documents

This Final Design Phase may require more than one submission based on the technical quality and code conformance of the design documents.

8.1 Schedule (Update Bar Chart Schedule)

8.2 Meeting & Minutes (Minutes within seven (7) calendar days of meeting)

8.3 Correspondence

8.4 Submission Requirements

8.4.1 A/E Statement of Site Visit
8.4.2 Site Analysis
8.4.3 Special Features Description: e.g. special structural features.
8.4.4 Site Evaluation
8.4.5 Borings, Surveys, Soils Analysis (provided with plan submission)
8.4.8 Regulatory Agency Approvals (Include itemized list specific to this project)
8.4.10 Drawings: 6 sets
8.4.11 Specifications: 6 sets
8.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form
8.4.13 Bar Chart of Design and Construction Schedule
8.4.14 Oral Presentation of this Submission to Project Team
8.4.15 Plan Review/SOW Compliance Statement
8.4.16 This Submission Checklist
8.4.17 Deliverables Submission in Booklet Form: 6 sets

8.5 Approvals

8.5.1 Respond to Submission Comments

PERMIT APPLICATION PHASE

This Permit Application Phase should not include any additional design issues. Design documents shall be 100% complete at the Final Design Phase.

8.6 Permit Application Submission Requirements

8.6.1 - 8.6.7: If all of the deliverables of these sections have been previously submitted to DPMC and approved there are no further deliverables due at this time
8.6.8 Regulatory Agency Approvals
(a) UCC Permit Application & Technical Sub-codes completed by A/E
8.6.9 Utility Availability Confirmation

8.6.10 Signed and Sealed Drawings: 6 sets
8.6.11 Signed and Sealed Specifications: 6 sets
8.6.12 Current Working Estimate/Cost Analysis
8.6.13 Bar Chart Schedule
8.6.14 Project Presentation (N/A this Project)
8.6.15 Plan Review/SOW Compliance Statement
8/6.16 Submission Checklist

8.7 Approvals

8.8 Submission Forms

Figure 8.4.12 Current Working Estimate/Cost Analysis
Figure 8.4.16 Submission Checklist (Final Review Phase)
Figure 8.6.12-b Bid Proposal Form (Form DPMC -3)
Figure 8.6.12-c Notice of Advertising (Form DPMC -31)
Figure 8.6.16 Submission Checklist (Permit Phase)
Figure 8.7 Bid Clearance Form (Form DPMC -601)

BIDDING AND CONTRACT AWARD

9.0 Bidding Phase Requirements

9.01 Original Drawings signed & sealed by A/E and drawings on compact disk (CD) in *Adobe Portable Document Format (*.pdf)
9.02 One Unbound Specification Color Coded per A/E Manual Section 8.4.11 and specifications on compact disk (CD) in *Adobe Portable Document Format (*.pdf)
` 9.03 Bid Documents Checklist
9.04 Bid Proposal Form
9.05 Notice for Advertising

9.1 Chair Pre-Bid Conference/Mandatory Site Visit

9.2 Prepare Bulletins

9.3 Attend Bid Opening

9.4 Recommendation for Contract Award

9.4.1 Prepare Letter(s) of Recommendation for Award & Cost Analysis

9.5 Attend Post Bid Review Meeting(s)

CONSTRUCTION PHASE

10.15 Submit Field Observation Reports

10.16 Submission Forms

Figure 10.3.4-a Job Meeting Format of Minutes
Figure 10.3.4-b Field Report
Figure 10.6 DPMC Insurance Form-24
Figure 10.6-a Unit Schedule Breakdown
Figure 10.6-b Monthly Estimate for Payment to Contractor DPMC 11-2
Figure 10.6-c Monthly Estimate for Payment to Contractor DPMC 11-2A
Figure 10.6-d Invoice DPMC 11
Figure 10.6-e Prime Contractor Summary of Stored Materials DPMC 11-3
Figure 10.6-f Agreement & Bill of Sale certificate for Stored Materials DPMC 3A
Figure 10.7-a Approval Form for Subs, Samples & Materials DPMC 12
Figure 10.7-b Request for Change Order DPMC 9b
Figure 10.9 Transmittal Form DPMC 13
Figure 10.10 Submission Checklist

PROJECT CLOSE-OUT PHASE

11.1 Responsibilities: Plan, Schedule and Execute Close-Out Activities

11.2 Commencement: Initiate Close-Out w/DPMC 20A Project Close-Out Form

11.3 Develop Punch List & Inspection Reports

11.4 Verify Correction of Punch List Items

11.5 Determination of Substantial Completion

11.6 Ensure Issuance of "Temporary Certificate of Occupancy or Approval"

11.7 Initiation of Final Contract Acceptance Process

11.8 Submission of Close-Out Documentation

11.8.1 As-Built & Record Set Drawings, 3 sets AUTOCAD Discs Delivered to DPMC
11.8.2 (a) Maintenance and Operating manuals, Warranties, etc.: 7 sets each
(b) Guarantees
(c) Shop Drawings
(d) Letter of Contract Performance
11.8.3 Final Cost Analysis-Insurance Transfer DPMC 25
11.8.4 This Submission Checklist

11.9 Final Payment

11.9.1 Contractors Final Payment
11.9.2 A/E Invoice and Close-Out Forms for Final Payment

11.10 Final Performance Evaluation of the A/E and the Contractors

11.11 Ensure Issuance of a "Certificate of Occupancy or Approval"

11.12 Submission Forms

Figure 11.2	Project Close-Out Documentation List DPMC 20A
Figure 11.3-a	Certificate of Substantial Completion DPMC 20D
Figure 11.3-b	Final Acceptance of Consultant Contract DPMC 20C
Figure 11.5	Request for Contract Transition Close-Out DPMC 20X
Figure 11.7	Final Contract Acceptance Form DPMC 20
Figure 11.8.3-a	Final Cost Analysis
Figure 11.8.3-b	Insurance Transfer Form DPMC 25
Figure 11.8.4	Submission Checklist

XV. EXHIBITS

The attached exhibits in this section will include a sample project schedule, and any supporting documentation to assist the Consultant in the design of the project such as maps, drawings, photographs, floor plans, studies, reports, etc.

END OF SCOPE OF WORK

February 7, 1997
Rev.: January 29, 2002

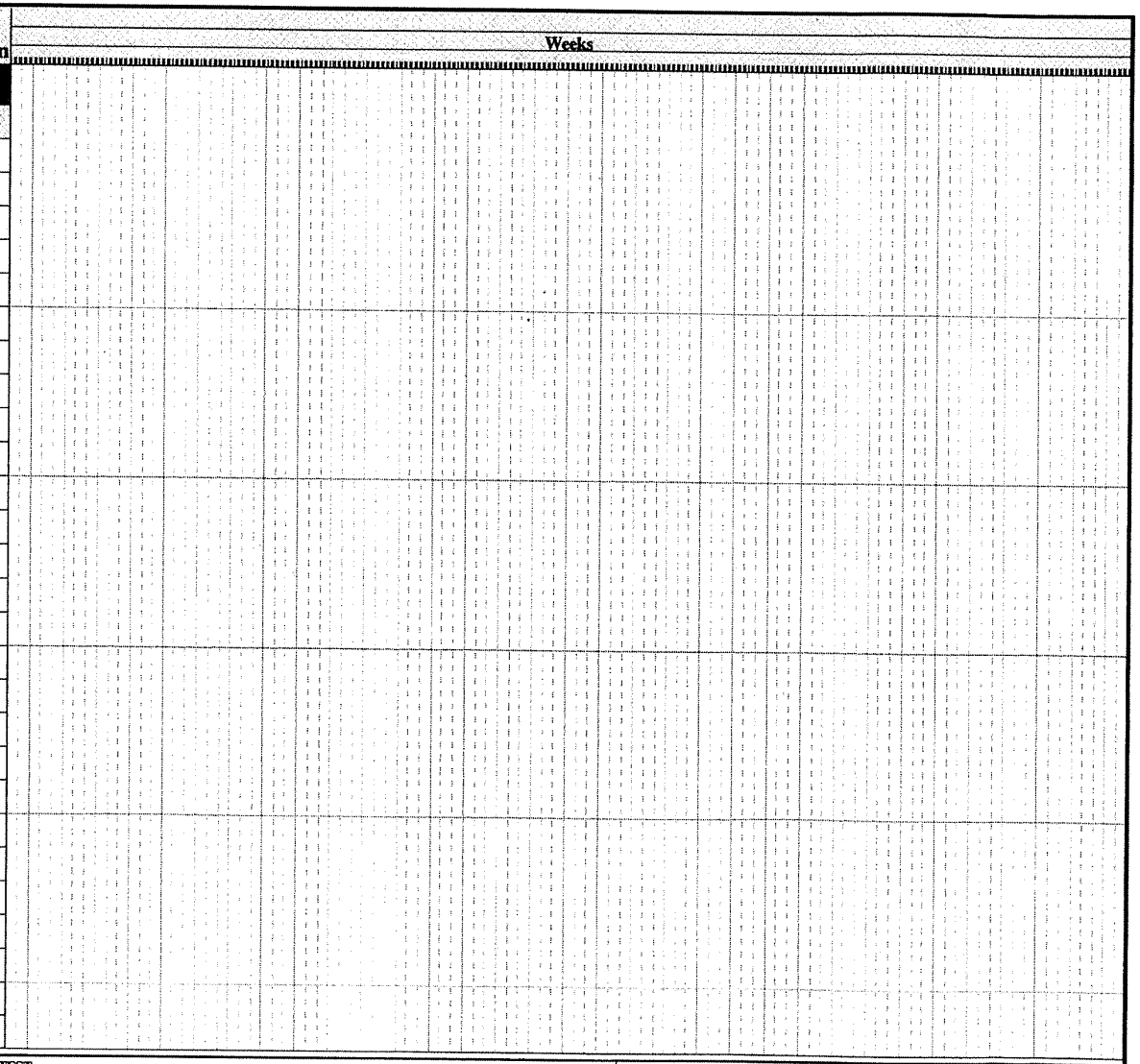
Responsible Group Code Table

The codes below are used in the schedule field "GRP" that identifies the group responsible for the activity. The table consists of groups in the Division of Property Management & Construction (DPMC), as well as groups outside of the DPMC that have responsibility for specific activities on a project that could delay the project if not completed in the time specified. For reporting purposes, the groups within the DPMC have been defined to the supervisory level of management (i.e., third level of management, the level below the Associate Director) to identify the "functional group" responsible for the activity.

CODE	DESCRIPTION	REPORTS TO ASSOCIATE DIRECTOR OF:
CM	Contract Management Group	Contract Management
CA	Client Agency	N/A
CSP	Consultant Selection and Prequalification Group	Technical Services
A/E	Architect/Engineer	N/A
PR	Plan Review Group	Technical Services
CP	Construction Procurement	Planning & Administration
CON	Construction Contractor	N/A
FM	Financial Management Group	Planning & Administration
OEU	Office of Energy and Utility Management	N/A
PD	Project Development Group	Planning & Administration

EXHIBIT 'A'

Activity ID	Description	Rspn
<PROJ>		
Design		
CV3001	Schedule/Conduct Predesign/Project Kick-Off Mtg.	CM
CV3020	Prepare Program Phase Submittal	AE
CV3021	Distribute Program Submittal for Review	CM
CV3027	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3022	Review & Approve Program Submittal	CA
CV3023	Review & Approve Program Submittal	PR
CV3024	Review & Approve Program Submittal	CM
CV3025	Consolidate & Return Program Submittal Comments	CM
CV3030	Prepare Schematic Phase Submittal	AE
CV3031	Distribute Schematic Submittal for Review	CM
CV3037	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3032	Review & Approve Schematic Submittal	CA
CV3033	Review & Approve Schematic Submittal	PR
CV3034	Review & Approve Schematic Submittal	CM
CV3035	Consolidate & Return Schematic Submittal Comment	CM
CV3040	Prepare Design Development Phase Submittal	AE
CV3041	Distribute D. D. Submittal for Review	CM
CV3047	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3042	Review & Approve Design Development Submittal	CA
CV3043	Review & Approve Design Development Submittal	PR
CV3044	Review & Approve Design Development Submittal	CM
CV3045	Consolidate & Return D.D. Submittal Comments	CM
CV3050	Prepare Final Design Phase Submittal	AE
CV3051	Distribute Final Design Submittal for Review	CM
CV3052	Review & Approve Final Design Submittal	CA
CV3053	Review & Approve Final Design Submittal	PR
CV3054	Review Final Design Submitl for Constructability	OCS



NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

© Primavera Systems, Inc.

DBCA - TEST

Sheet 1 of 3

Bureau of Design & Construction Services
Routine Project

Exhibit "A"

Activity ID	Description	Rspn	Weeks
CV3055	Review & Approve Final Design Submittal	CM	
CV3056	Consolidate & Return Final Design Comments	CM	
CV3060	Prepare & Submit Permit Application Documents	AE	
CV3068	Prepare & Submit Bidding Cost Analysis (DPMC-38)	CM	
Plan Review-Permit Acquisition			
CV4001	Review Constr. Documents & Secure UCC Permit	PR	
CV4010	Provide Funding for Construction Contracts	CA	
CV4020	Secure Bid Clearance	CM	
Advertise-Bid-Award			
CV5001	Advertise Project & Bid Construction Contracts	CP	
CV5010	Open Construction Bids	CP	
CV5011	Evaluate Bids & Prep. Recommendation for Award	CM	
CV5012	Evaluate Bids & Prep. Recommendation for Award	AE	
CV5014	Complete Recommendation for Award	CP	
CV5020	Award Construction Contracts/Issue NTP	CP	
Construction			
CV6000	Project Construction Start/Issue NTP	CM	
CV6001	Contract Start/Contract Work (25%) Complete	CON	
CV6002	Preconstruction Meeting	CM	
CV6003	Begin Preconstruction Submittals	CON	
CV6004	Longest Lead Procurement Item Ordered	CON	
CV6005	Lead Time for Longest Lead Procurement Item	CON	
CV6006	Prepare & Submit Shop Drawings	CON	
CV6007	Complete Construction Submittals	CON	
CV6011	Roughing Work Start	CON	
CV6012	Perform Roughing Work	CON	
CV6010	Contract Work (50%+) Complete	CON	
CV6013	Longest Lead Procurement Item Delivered	CON	
CV6020	Contract Work (75%) Complete	CON	

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

© Primavera Systems, Inc.

DBCA - TEST

Sheet 2 of 3

Bureau of Design & Construction Services
Routine Project

Exhibit "A"

Activity ID	Description	Rspn	Weeks
CV6014	Roughing Work Complete	CON	
CV6021	Interior Finishes Start	CON	
CV6022	Install Interior Finishes	CON	
CV6030	Contract Work to Substantial Completion	CON	
CV6031	Substantial Completion Declared	CM	
CV6075	Complete Deferred Punch List/Seasonal Activities	CON	
CV6079	Project Construction Complete	CM	
CV6080	Close Out Construction Contracts	CM	
CV6089	Construction Contracts Complete	CM	
CV6090	Close Out A/E Contract	CM	
CV6092	Project Completion Declared	CM	

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

© Primavera Systems, Inc.

DBCA - TEST

Sheet 3 of 3

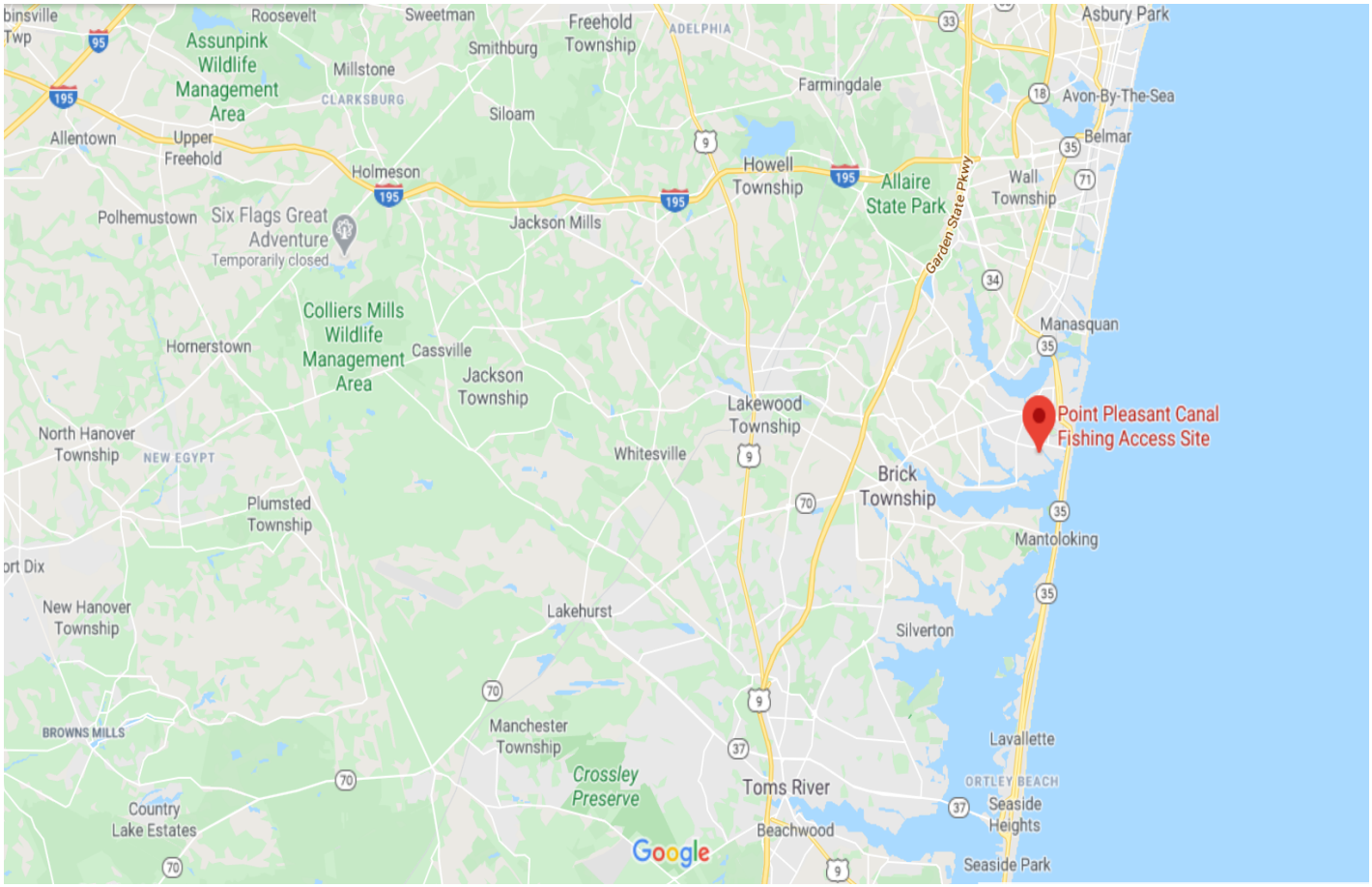
Bureau of Design & Construction Services
Routine Project

Exhibit "A"

DPMC
Project # P1225-00
Point Pleasant WMA
Boat ramp & fishing
Access

Location:
1915 Beach Blvd.,
Point Pleasant, NJ 08742

GPS Coordinates
(40.069365, -74.059610)



Point Pleasant WMA Boat Ramp & Fishing
Access Site Location Map

EXHIBIT 'B'

Directions:
Follow I-195 E to Lakewood Farmingdale Rd in Howell Township. Take exit 31A from I-195 E. Take exit 31A for County Rd 547 S toward County Rd 524/Lakewood . Take Herbertsville Rd to Beach Blvd in Point Pleasant.

Aerial View

DPMC Project P1225-00

Point Pleasant WMA Fishing Access & Boat Ramp

1915 Beach Blvd., Point Pleasant, NJ 08742
GPS Coordinates
(40.069365, -74.059610)

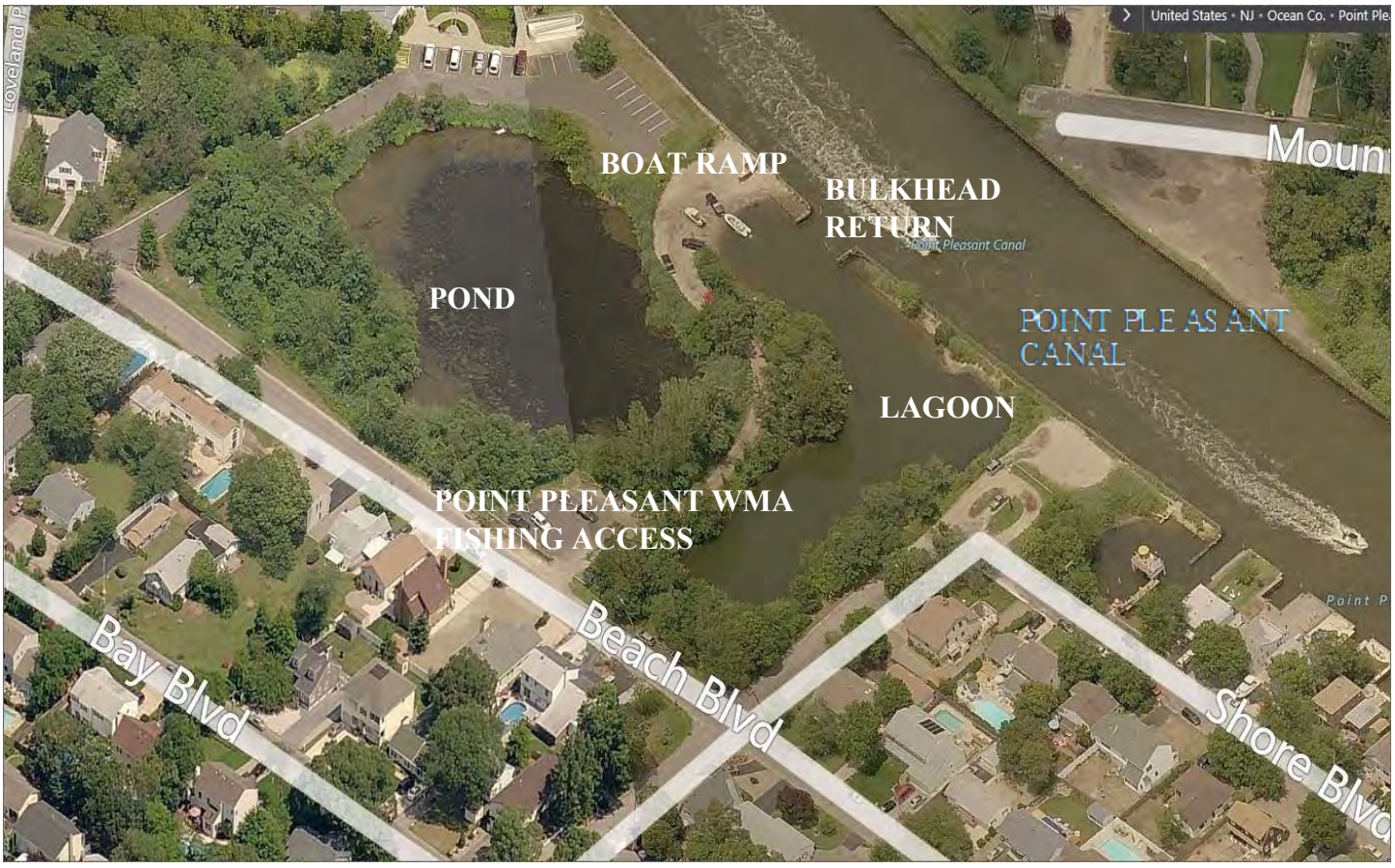


EXHIBIT 'C'

Point Pleasant Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1
Beach Boulevard
Borough of Point Pleasant
Ocean County, New Jersey

Submitted to:
NJ Department of Environmental Protection
Natural & Historic Resources
Office of Resource Development
275 Freehold-Englishtown Road
Englishtown, NJ 07726-8813
Attn: Mr. Edward Mulvan

LAN Job #2.3397.164
August 9, 2018

EXHIBIT 'D'

TABLE OF CONTENTS

TITLE

LIST OF FIGURES

LIST OF APPENDICES

PLATES

EXHIBIT 'D'

1.0 Introduction

The New Jersey Department of Environmental Protection (NJDEP) Natural and Historic Resources, Office of Resource Development has commissioned LAN Associates, Engineering, Planning, Architecture, Surveying, Inc. (LAN) to develop a feasibility study and establish a project budgetary Construction Cost Estimate (CCE) and Current Working Estimate (CWE) for the proposed improvements at the Point Pleasant Fishing Access Wildlife Management Area.

2.0 Background

The Point Pleasant Fishing Access Wildlife Management Area (hereinafter referred to as the "site") is located at 1915 Beach Boulevard in the Borough of Point Pleasant, Ocean County, New Jersey and is known as Block 287, Lot 1 on the Borough of Point Pleasant tax map (see Figure 1). The site is bordered on the northwest by the NJ State Police (NJSP) Point Pleasant Marine Police Station; on the northeast by the Bayhead Manasquan (aka Point Pleasant) Canal (hereinafter referred to as the "Canal"); on the southeast by Rue Lafayette Road and residential dwellings; and on the southwest by Beach Boulevard and residential dwellings (see Figure 2 Local Street Map). Figure 3 is a copy of the USGS topographic map with the subject site indicated in red. The USGS depicts the location of the subject site in relation to the surrounding neighborhood including the Point Pleasant Canal/Intercoastal Waterway.

The United States Army Corps of Engineers (USACE) constructed the canal from 1916 until the Canal became navigable in 1929. The Canal connects the Manasquan River and Barnegat Bay. The Canal is owned by the USACE which has a right-of-way width approximately 10 feet from the bulkhead. The Canal in this section is channelized by bulkheads through its entire length.

The site is owned by the State of New Jersey and managed by the New Jersey Division of Fish and Wildlife, a division of the New Jersey Department of Environmental Protection. The approximately 6.6-acre site consists of a pond, lagoon, natural bottom boat ramp, and public fishing access. The area is actively used by the public including fisherman and boating enthusiasts.

Over the past several years it appears that some of the land between the Canal's bulkhead and the lagoon has been lost to erosion. The erosion is evidenced by the collapse of a chain link fence adjacent to the bulkhead. It appears the fence has failed due to the loss of land into which it was anchored.

There is an onsite pond located to the northwest of the lagoon which receives stormwater runoff from the adjacent NJSP Point Pleasant Marine Station property. During precipitation events the water level in the pond rises and eventually overflows at a low point along the east bank of the pond. This overflow erodes material from the access driveway prior to discharging into the lagoon near the existing boat ramp.

The State of New Jersey is considering the following improvements at the site:

- Repair the fence and guiderail along the bulkhead of the canal;
- Replace bulkhead return and timber bulkhead;
- Reclaim formerly filled area;
- Reinforce the boat ramp in the lagoon;
- Enhance existing fishing areas for fishing in the canal;
- Create a living shoreline;
- Improve parking area adjacent to the canal;
- Improve the parking area near Beach Boulevard; and
- Control erosion caused by overland runoff from the pond to the northwest of the boat ramp.

The improvements described above are illustrated on a concept plan entitled "Boat Launch Concept Sketch" (see Plate 1).

3.0 Research

LAN utilized NJDEP's GeoWeb interactive Geographic Information System (GIS) and the Bureau of GIS's shapefiles to obtain a variety of information about the subject parcel. The information acquired includes, but is not limited to, mapped wetland areas, upper wetlands boundary, regulated streams, claimed and

EXHIBIT 'D'

unclaimed tidelands, and threatened and endangered species via Landscape version 3.3 present within or in the vicinity of the project area. LAN also utilized the United States Department of Agriculture (USDA) Natural Resource Conservation Service's (NRCS) Web Soil Survey to obtain information regarding the soil series located within the site as well as the NRCS Protected Areas Database (PAD-US) version 1.4. PAD-US is an official national inventory of U.S.'s terrestrial and marine protected areas. LAN utilized FEMA Flood Mapping Service Center to determine if the site is in a flood hazard area. Lastly, LAN utilized the Open Public Records Act to obtain Borough of Point Pleasant records pertaining to the site.

Below is a summary of our research:

Wetlands & Tidelands:

The site contains mapped wetland areas as shown on the NJDEP Wetlands (2012) Map (see Figure 4). NJDEP regulates activities within wetlands and their transition areas (buffers) under the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A). The width of a transition area varies depending on the resource value of its associated wetland. The resource value of a wetland is determined by the classification of the water the wetland discharges to, as well as the presence of existing or documented habitat for threatened or endangered species.

According to GeoWeb, the project area is located within the Atlantic Coastal Landscape region. The site is located in an area mapped as rank-2, rank-3, and rank 4 for the following:

Rank 2:

Caspian Tern (*Hydroprogne caspia*)
Snowy Egret (*Egretta thula*)
Great blue heron (*Ardea Herodias*)
Common Tern (*Sterna hirundo*)
Little blue heron (*Egretta caerulea*)
Tricolored heron (*Egretta tricolor*)

Rank 3:

Osprey (*Pandion haliaetus*)
Black-crowned night-heron (*Nycticoras nycticorax*)

Rank 4:

Least Tern (*Sternula antillarum*)

The Natural Heritage (plants) grid has identified Awl-leaf Mudwort (*Limosella subulata*) Endangered State Element rank S1 (G4G5). The S1 ranking system means that the flora is critically imperiled in New Jersey. The G4 and G5 are global ranking systems and essentially identify the listed species as apparently and demonstrably secure globally.

Further, the site is located within the Barnegat Bay Tributary System (Overall System). Wetlands within this system are considered priority wetlands by the Environmental Protection Agency (see Appendix A). This designation may affect the requirements for an individual wetlands permit, the types of general permit available for the property, and any modification available through a transition area waiver.

According to Figure 5 the site contains U.S. terrestrial and marine protected areas however, it does not appear that the site contains any claimed tidelands.

The Point Pleasant Canal adjacent to the site has a surface water quality classification (see Figure 6) of both a non-trout freshwater (not designated as FW1 or Pinelands waters) and saline waters of estuaries (FW2-NT/SE1).

Based on the above, it is LAN's opinion that the onsite wetlands could be considered of exceptional resource value which would result in a 150-foot-wide wetland transition area. The official resource classification is established by the NJDEP. The presence of threatened and/or endangered species

EXHIBIT 'D'

habitat may limit the time period when construction activities could take place and, thus, may delay the construction schedule.

Flood Hazard Areas:

In addition to regulating wetlands and transition areas, NJDEP also regulates activities within streams, riparian zones (buffers), and flood hazard areas pursuant to the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13).

The site is shown on the effective Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM) community panel number 34029C0208G, dated June 20, 2018 (see Figure 7). According to this FEMA map, the site is located within Zone AE having a base flood elevation of five (5) feet in relation to the North American Vertical Datum of 1988 (NAVD88). Zone AE is the area subject to inundation by the 1-percent annual chance flood event (100-year flood).

LAN has also reviewed the site on FEMA's preliminary flood maps which are subject to change. According to the preliminary map (see Figure 8), the site is in Zone AE having a base flood elevation of eight (8) feet (NAVD 88). Although the preliminary map is subject to change, it is considered the best information available at this time. Ultimately, the flood hazard area regulated by the NJDEP will reflect the highest flood elevation and widest floodway shown on available flood mapping.

Based on the above and subject to NJDEP verification, it is LAN's opinion that the New Jersey design flood elevation at the subject site is eight (8) feet (NAVD 88).

Soils:

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey was consulted. A rough outline, an "Area of Interest", of the potential location of parcel boundary was created and a Soil Map was generated, see Appendix B. The USDA Soil Conservation Service *Soil Survey of Ocean County, 1980* was consulted as well as the USDA's *Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin*, *Handbook 29*6 were utilized for an understanding of the soils that exist on site.

Ocean County is located in Land Resource Region (LRR) "T"-Atlantic and Gulf Coast Lowland Forest and Crop Region, which is a region of coastal lowlands, coastal plains, drowned estuaries, tidal marshes, islands and beaches along the Atlantic Coast. The region is mostly level to gently sloping and has low relief. Further classification is the Major Land Resource Area (MLRA). The site is located in MLRA 153D Northern Tidewater Area. This area is in the Embayed Section of the Coastal Plain Province of the Atlantic Plain. It is a nearly level to gently sloping coastal plain with dunes and beaches on the ocean and bay sides. Large areas of tidally flooded marshes occur, particularly between the numerous barrier islands and the mainland along the Atlantic Coast and along the bays.

The Web Soil Survey indicates that there is one soil mapping unit and one anthropogenic feature on site. They are Psammaquents, sulfidic substratum, 0-3 percent slopes, frequently flooded (PstAt), and Dredge Channel, 1 to 4 meter water depth (WDC4). An interpretation of the soil unit was made utilizing the map unit descriptions located in the custom soil resource report for Ocean County, New Jersey located in Appendix B. A brief description of the mapping unit is provided below.

PstAt Psammequents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded

This soil consists of coarse sand to gravelly sand to mucky peat and is subject to frequent flooding and ponding. Found in flats, this soil is very poorly drained. The parent material is sandy lateral spread deposits over organic material.

Public Records Review:

LAN submitted an Open Public Records Act (OPRA) request to the Borough of Point Pleasant for stormwater systems or pipe connections to the two water bodies within Block 287, Lot 1 (see Figure 9). As can be seen, there are two connections to the pond. A ten foot 15" RCP and a thirty-four foot 18"

EXHIBIT 'D'

RCP. The ten-foot RCP has further connections, namely a twenty-three foot 15" RCP and another ten-foot 15" RCP.

4.0 Site Visit

Representatives from LAN conducted a site visit on July 26, 2017. Although a formal delineation was not performed, LAN observed potential wetland areas in addition to those mapped by the NJDEP. The approximate location of these wetland areas is included on the "Boat Launch Concept Sketch" (see Plate 1).

LAN also observed what appears to be remnants of a timber bulkhead parallel with and approximately 10-20 feet from the Canal's bulkhead. Some of the land between the Canal's bulkhead and the lagoon appears to have been lost to erosion. The erosion is evidenced by the collapse of a chain link fence adjacent to the bulkhead. It appears the fence has failed due to the loss of land into which it was anchored.

What appears to be a topographic depression between the pond and lagoon was observed.

Captioned photographs taken during the site visit and a photo location map are included as Appendix C.

5.0 Joint Permit Processing Meeting

A Joint Permit Processing Meeting (JPPM) was scheduled on September 13, 2017 at 11:00 AM. Prior to the meeting a JPPM Project Description Submission (see Appendix D) was sent to Mr. Lawrence M. Slavitter of the USACE, Philadelphia District.

Representatives from the USACE, NJDEP Division of Fish & Wildlife, NJDEP Division of Land Use Regulation (DLUR), U.S. Fish & Wildlife, NOAA Fisheries, U.S Environmental Protection Agency, NJDEP Office of Resource Development and LAN were present at the meeting. The JPPM attendance sheet is included as Appendix E.

Messrs. Guddemi and Wostbrock from LAN discussed the proposed project activities which include repairing the fence along the canal, reclaiming upland area within the lagoon and enhancing fishing access, reinforcing a single-lane boat launch, creating a living shoreline, controlling erosion caused by runoff from onsite pond, and parking improvements in two locations. The following guidance was provided by the attending agencies:

USACE representatives reported that it is possible compliance with Section 408 could be achieved through a Real Estate Instrument and provided certain conditions are met, compliance with Section 404 and Section 10 could be obtained through the issuance several nationwide permit authorizations.

NJDEP DLUR representatives reported that, provided certain conditions are met, compliance with NJDEP DLUR regulations could be obtained through a waterfront development individual permit, freshwater wetlands general permits and transition area waivers, and coastal general permits. However, NJDEP DLUR representatives raised concern regarding reclamation of land between the timber and Federal bulkhead. The representatives recommended that fill not be proposed above the mean high-water line. Representatives confirmed that there are no mapped coastal wetlands on the site.

Ms. Karen Green of NOAA Fisheries raised concerns regarding the potential for the lagoon to be winter flounder foraging habitat and the water quality of the pond, specifically if the pond if fresh or salt water. According to the regulatory representatives, if in fact the pond is salt water then the pond would need to be maintained as such. Moving forward, it was suggested that the salinity of the pond be tested for regulatory purposes.

Regulatory representatives suggested considering removal of the southern existing bulkhead however, since it is a Federal bulkhead USACE would need to decide whether to remove the bulkhead as part of the Section 408 process. Project representatives raised concern regarding the velocity of the waters in the canal and potential impacts on the lagoon and shoreline stability associated with removing the bulkhead.

EXHIBIT 'D'

USEPA representatives suggested considering dredging the pond to alleviate flooding.

A Memorandum for Record prepared by Ms. Genevieve Rybicki, USACE Biologist which summarizes the meeting discussion is included as Appendix F.

6.0 Conclusions and Recommendations

In summary, the State of New Jersey is considering the following improvements at the site:

- Repair the fence and guiderail along the bulkhead of the canal;
- Replace bulkhead return and timber bulkhead;
- Reclaim formerly filled area;
- Reinforce the boat ramp in the lagoon;
- Enhance existing fishing areas for fishing in the canal;
- Create a living shoreline;
- Improve parking area adjacent to the canal;
- Improve the parking area near Beach Boulevard; and
- Control erosion caused by overland runoff from the pond to the northwest of the boat ramp.

The improvements described above are illustrated on a concept plan entitled “Boat Ramp Feasibility Study” (see Plate 1). Ideas for the improvements and images of similar facilities which were prepared by others are also enclosed (see Plate 2).

Regulatory Requirements:

USACE

Portions of the project including the bulkhead removal and/or replacement, reclamation of formerly filled area, and fence replacement adjacent to the Canal’s bulkhead would likely take place on USACE owned property. As such, authorization pursuant to Sections 408, 404, and 10 is likely required.

Pursuant to 33 USC 408, USACE policy states that authorization is required from the Secretary of the Army to grant permission for the alteration or occupation or use of the project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

LAN has been in contact with Ms. Monica Chasten, USACE, regarding Section 408 authorization procedures. Ms. Chasten has indicated that depending on the project details, authorization could be obtained via a Real Estate Instrument rather than a formal Section 408 review. According to Ms. Chasten, compliance with USACE 33 USC 408 (Section 408) for the improvements proposed in the right-of-way of the Canal could be authorized through a “lease” agreement or real estate instrument. Since the Canal is an USACE Project, USACE policy states that authorization is required from the Secretary of the Army to grant permission for the alteration or occupation or use of the project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

According to Ms. Chasten, the USACE would require minimization of impacts on the Federal bulkhead, and that it may be necessary to demonstrate that any proposed structure adjacent to the bulkhead does not cause forces on the Federal bulkhead.

Authorization pursuant to Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act is anticipated. As mentioned above, USACE representatives reported that compliance with Section 404 and Section 10 could be obtained through the issuance several nationwide permit authorizations.

Consultation with NOAA Fisheries, US Fish & Wildlife, and possibly the US EPA is likely required as part of the USACE approval process. As mentioned above, representatives from these agencies either expressed concern or suggested project alternatives. Moving forward, LAN suggests addressing these items in the form of a follow-up JPPM or alternatives analysis as part of the USACE application.

EXHIBIT 'D'

NJDEP

Since the project is located within the CAFRA area and proposes activities water-ward of the mean high-water line a demonstration of compliance with the Coastal Zone Management Rules (N.J.A.C. 7:7) is anticipated. Although the lagoon appears to be mapped as coastal wetlands on the Coastal Wetland Map of 1970 (see Figure 3), during the JPPM, NJDEP DLUR representatives reported that there are no mapped coastal wetlands on the site. Based on the above, LAN anticipates the project may require a Waterfront Development Individual Permit and Coastal General Permit, however the project should not require a Coastal Wetlands Permit.

The site is located within a tidal flood hazard area having a base flood elevation of 8 feet (North American Vertical Datum of 1988) as shown on the Preliminary FEMA flood insurance map for the neighborhood (see Figure 7). The Flood Hazard Area Control Act Rules (FHACAR) at N.J.A.C. 7:13 govern activities in regulated waters, flood hazard areas, and riparian zones. As such, compliance with the FHACAR would be required and would be addressed as part of the Waterfront Development and Coastal applications.

Wetlands and mapped threatened and endangered species habitat is identified onsite. As such, the NJDEP may consider the wetlands of exceptional resource value and assign a 150-foot transition area. It appears that the project will be located within either wetlands or the wetland transition area. As such, LAN anticipates the project will be subject to the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A. LAN anticipates that activities within the previously disturbed transition area would require authorization under a Wetland Transition Area Waiver for Redevelopment. It is anticipated that activities which disturb wetlands, State open waters, and/or vegetated transition areas would require a Wetland General Permit and/or other type of Transition Area Waiver.

Below is a summary of regulations that could be applicable to this project:

1. U.S. Army Corps of Engineers (USACE) pursuant to Pursuant to 33 USC 408;
2. U.S. Army Corps of Engineers (USACE) Authorization pursuant to Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act;
3. NJDEP Division of Land Use Regulation (DLUR) pursuant to the Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A;
4. NJDEP Division of Land Use Regulation (DLUR) pursuant to the Flood Hazard Area Control Act Rules N.J.A.C. at 7:13;
5. NJDEP Division of Land Use Regulation (DLUR) pursuant to the Coastal Zone Management Rules N.J.A.C. at 7:7;
6. NJ Natural Heritage Program pursuant to the Office of Natural Lands Management protocols; and
7. Ocean County Soil Conservation District pursuant to the Soil Erosion and Sediment Control Act at N.J.A.C. 2:90.

As the project design evolves, LAN recommends further coordination with the above-mentioned agencies to address current and/or additional concerns they may have, and ensure the project is on the correct permitting path.

EXHIBIT 'D'

7.0 Budgetary Cost Estimate

	Item Description	Unit	Quantity	($)Cost/Unit	($)Subtotal
	Point Pleasant Fishing Access WMA Improvements				
A	**Construction Costs**				
1	Concrete Boat Ramp (20' X 100')	Unit	1	118,000	118,000
2	Floating dock along ramp (6'X100' plus gangway)	Unit	1	62,000	62,000
3	Bank stabilization and pipe culvert with backwater valve (80 LF of pipe, headwalls, valve plus 100' X 50" Reno mats)	Unit	1	175,000	175,000
4	Repair Fence along Canal (200' mounted to bulkhead or sonotubes)	Unit	1	32,000	32,000
5	Fishing platform on north side (6'X300') Sheet pile/whaler with fill material	Unit	1	360,000	360,000
6	Expanded trailer parking on north side	Unit	1	92,000	92,000
7	Parking on south side	Unit	1	18,000	18,000
8	Living shoreline on south side (large rip-rap and choke with soil for plantings)	Unit	1	85,000	85,000
9	Bulkhead replacement - lagoon entry wing walls (30 LF)	Unit	1	80,000	80,000
				Subtotal:	1,022,000
10	Bonds, Insurance, Mobilization/Demobilization	Allow		20%	1,226,400
11	Profit and Overhead	Allow		15%	1,410,360
12	Contingency	Allow		20%	1,692,432
				Budgetary Construction Cost Total:	**1,693,000**
B	**Professional Costs**				
1	Survey				56,433
2	Engineering				56,433
3	NJDEP Permit Application				56,433
4	USACE Permit Application				56,433
5	Bid and Contract				56,433
6	Construction Administration				56,433
				Subtotal:	338,600
7	Bonds, Insurance, Mobilization/Demobilization	Allow		20%	406,320
8	Profit and Overhead	Allow		15%	467,268
9	Contingency	Allow		20%	560,722
				Budgetary Construction Cost Total:	**561,000**

EXHIBIT 'D'

FIGURE 1

EXHIBIT 'D'

DATE	NAME	No.
FEB., 2007	THOMAS CRADER	21782
OCT., 2007	THOMAS CRADER	21782
JAN., 2009	CHARLES E. ADAMSON	42627
DEC., 2011	JOHN J. STEFANI	24271
NOV., 2013	CRAIG F. REMINGTON	23924
NOV., 2014	CHARLES E. ADAMSON	42627

Site Location

THIS SHEET IS A SCANNED COPY OF THE TAX MAP PREPARED BY MUNICIPAL REVALUATIONS, INC. MARCH 1959. THE ORIGINAL APPROVED MAP IS ON FILE AT SCHOOR DEPALMA.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

NEW JERSEY DEPARTMENT OF THE TREASURY
APPROVED AS A TAX MAP PURSUANT TO THE PROVISIONS OF CHAPTER 175 LAWS OF 1913
BY C.C. Barnes STATE SURVEYOR
DATE AUG 3 1959 SERIAL NO. 845

TAX MAP

BOROUGH OF POINT PLEASANT
OCEAN COUNTY, NEW JERSEY
SCALE: 1" = 100' OCTOBER, 2006

THOMAS CRADER. P.L.S. 21782
SCHOOR DEPALMA
940 CEDAR BRIDGE AVENUE – P.O. BOX 1429
BRICK, NEW JERSEY 08723

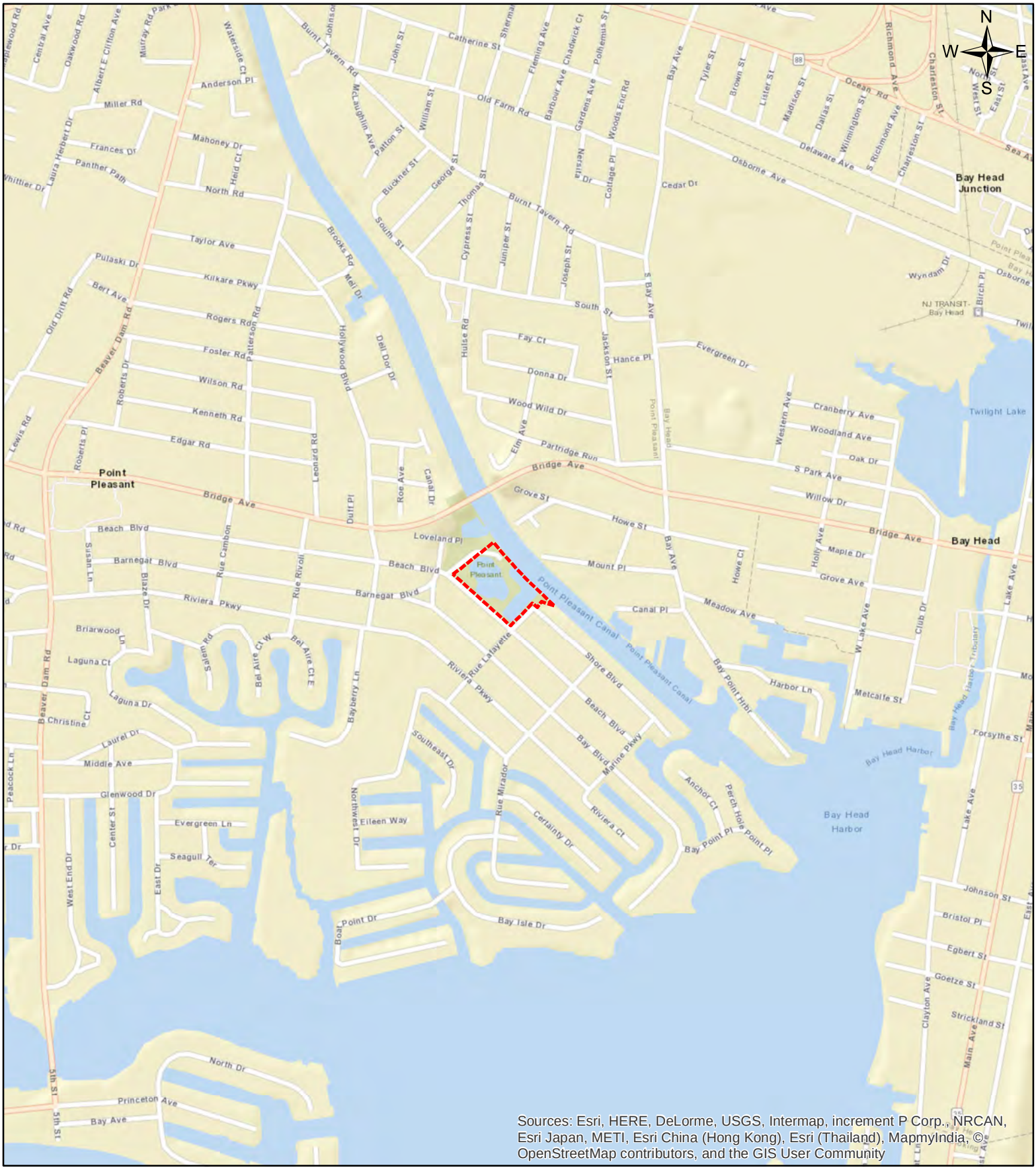
TO SHOW CONDITIONS AS OF JANUARY 10, 2015

EXHIBIT 'D' SHEET 22

Figure 1

FIGURE 2

EXHIBIT 'D'



0 500 1,000 2,000 Feet

1 in = 1,000 ft

Site Location

Figure 2 - Local Street Map
Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

EXHIBIT 'D'

LAN
LAN ASSOCIATES

FIGURE 3

EXHIBIT 'D'

Approximate Parcel Boundary

NJQuad

Easting (x):615,448
Northing (y): 450,858
Quad: NE Point Pleasant NJ

Figure 3 - Topographic Map
Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

EXHIBIT 'D'

LAN
LAN ASSOCIATES

FIGURE 4

EXHIBIT 'D'

Landscape V3.3

RANK

- Rank 1 - Habitat specific requirements
- Rank 2 - Special Concern
- Rank 3 - State Threatened
- Rank 4 - State Endangered
- Rank 5 - Federal Listed

- Site Location
- NJDEP Mapped Wetlands
- NJDEP Mapped Coastal Wetland Boundary

Figure 4 - NJDEP Mapped Wetlands
Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

EXHIBIT 'D'

LAN
LAN ASSOCIATES

FIGURE 5

EXHIBIT 'D'

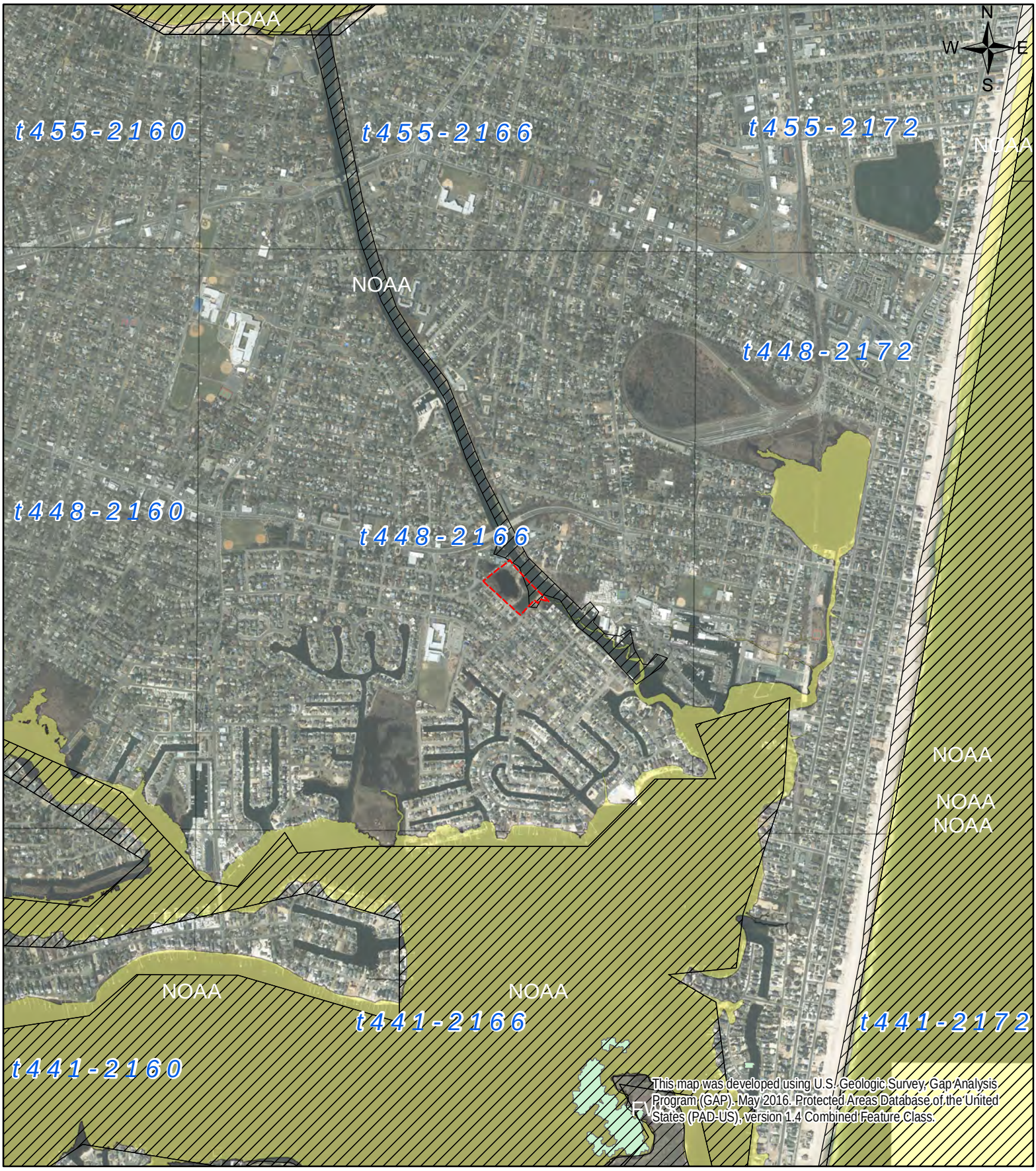


Figure 5 - Protected Areas of US/Tidelands
Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

EXHIBIT "D"

LAN
LAN ASSOCIATES

FIGURE 6

EXHIBIT 'D'

Special Flood Hazard Area
FLD_ZONE
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE
- OPEN WATER
- VE
- X

NJ Tidelands Atlantic North
STATUS
- CLAIMED
- UNCLAIMED
- Surface Water Quality Standards
- s_bfe
- Site Location

EXHIBIT 'D'

Figure 6 - Water Resources
FEMA FIRM Map No. 34029C0208G
Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

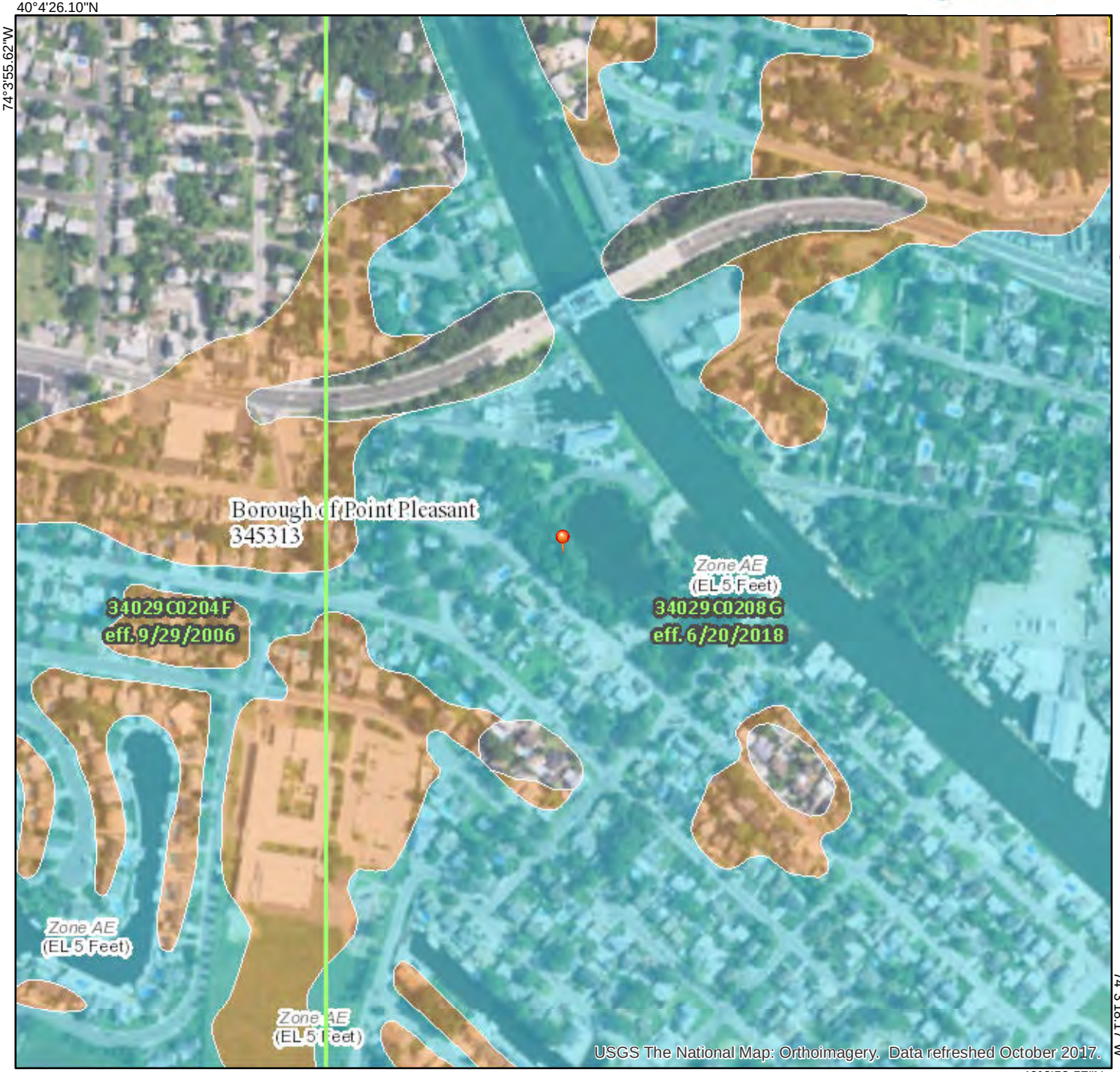
LAN
LAN ASSOCIATES

FIGURE 7

EXHIBIT 'D'

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/9/2018 at 8:09:04 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBIT 'D'

FIGURE 8

EXHIBIT 'D'

2.3397.164

FLD_ZONE

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- AE
- Site Location

Figure 8 - FEMA Preliminary 34029C0208G
Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

0 125 250 500 Feet

1 in = 250 ft

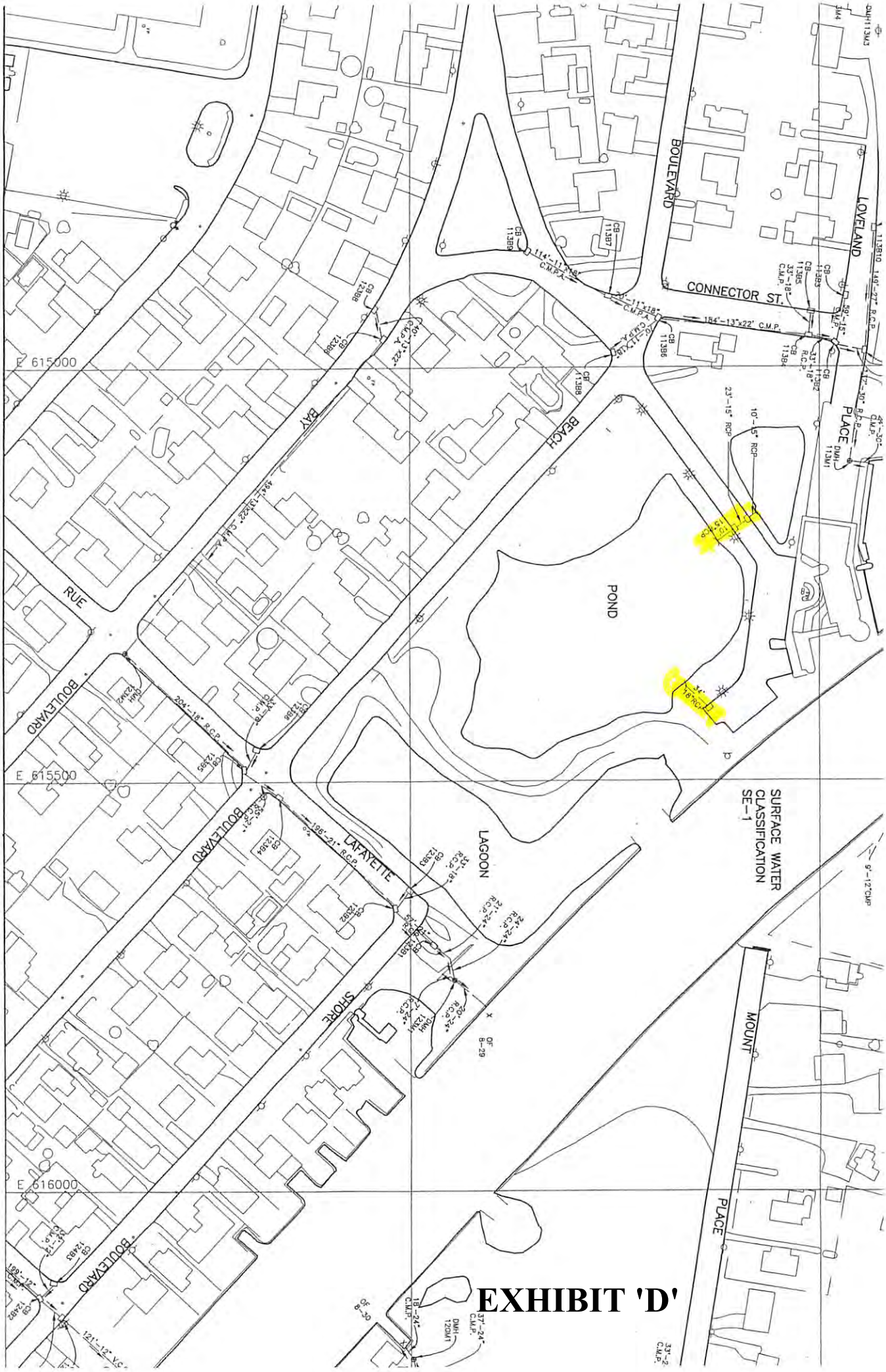
EXHIBIT 'D'

LAN LAN ASSOCIATES

FIGURE 9

EXHIBIT 'D'

Figure 9


BOULEVARD
LOVELAND
CONNECTOR ST.
PLACE
BEACH
BAY
RUE
POND
LAGOON
LAFAYETTE
SHORE
MOUNT
PLACE
SURFACE WATER CLASSIFICATION SE-1
E 615000
E 615500
E 616000
EXHIBIT 'D'

APPENDIX A

EXHIBIT 'D'

3397.164

Name: Barnegat Bay and its Tributaries (Overall System)

Category:	Specific Geographic Area
Location:	Burlington County, Bass River Twp., Monmouth County, Millstone Twp. and Howell Twp., Ocean County, various municipalities. From the Metedeconk River watershed south to Great Bay, including the barrier islands to the east.
U.S.G.S. Quadrangle(s):	Adelphia, Barnegat Light, Beach Haven, Brookville, Cassville, Farmingdale, Forked River, Keswick Grove, Lakehurst, Lakewood, Long Beach NE, New Gretna, Oswego Lake, Point Pleasant, Roosevelt, Seaside Park, Ship Bottom, Toms River, Tuckerton, West Creek, Whiting, Woodmansie
Resource Value:	o Fishery and nursery habitat. o Shellfish nursery and habitat. o Estuarine and palustrine wetlands. o Wildlife habitat for game and nongame species, including indigenous state listed herptiles (Pine Barrens treefrog, tiger salamander).
Known/Potential Threats to Resource:	o Intense pressure for dredge and fill due to the popularity of the area. o Has undergone rapid development, severely threatened by residential and commercial development.
Comments:	All wetlands which are a component of the Barnegat Bay tributary system are considered part of this priority listing. Much of the area of this listing is within CAFRA jurisdiction and is the subject of a watershed management plan. Note - The Manahawkin Swamp, Manahawkin Lake and Reedy Creek/Herring Point priority wetlands are located within the boundaries of the Barnegat Bay listing. See these listings for further information.

EPA PRIORITY WETLANDS

EXHIBIT 'D'


BURLINGTON
CAMDEN
ATLANTIC
OCEAN
Barnegat Bay and its Tributaries (Overall System)
146

EXHIBIT 'D'

APPENDIX B

EXHIBIT 'D'

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Ocean County, New Jersey

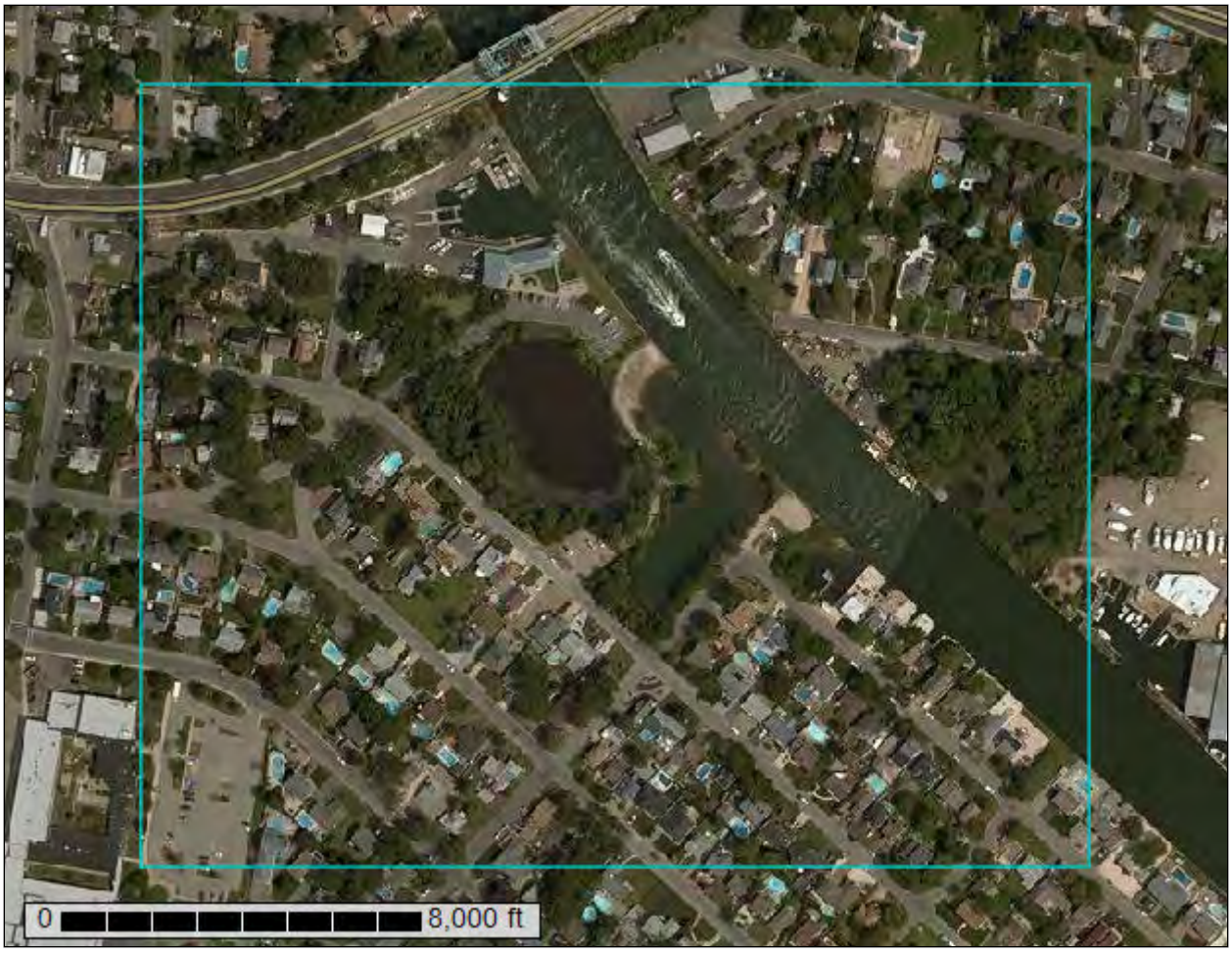


EXHIBIT 'D'

February 24, 2017

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

EXHIBIT 'D'

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

EXHIBIT 'D'

Contents

EXHIBIT 'D'

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

EXHIBIT 'D'

Custom Soil Resource Report
Soil Map

EXHIBIT 'D'

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Ocean County, New Jersey
Survey Area Data: Version 14, Sep 28, 2016

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

Date(s) aerial images were photographed: Aug 8, 2014—Sep 2, 2014

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

EXHIBIT 'D'

Map Unit Legend

Ocean County, New Jersey (NJ029)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
LakB	Lakehurst sand, 0 to 5 percent slopes	22.3	41.9%
LasB	Lakewood sand, 0 to 5 percent slopes	13.9	26.2%
PssA	Psamments, 0 to 3 percent slopes	0.3	0.6%
PstAt	Psammaquents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded	10.5	19.8%
WDC4	Dredge Channel, 1 to 4 meter water depth	6.1	11.6%
Totals for Area of Interest		**53.2**	**100.0%**

Map Unit Descriptions

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

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

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

EXHIBIT 'D'

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

EXHIBIT 'D'

Ocean County, New Jersey

LakB—Lakehurst sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: rdtz
Elevation: 20 to 150 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Farmland of local importance

Map Unit Composition

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

Description of Lakehurst

Setting

Landform: Dunes, flats
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Sandy fluviomarine deposits

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 4 inches: sand
E - 4 to 18 inches: sand
Bh - 18 to 32 inches: sand
BC - 32 to 45 inches: sand
C - 45 to 54 inches: sand
Cg - 54 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): High to very high (2.00 to 19.98 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

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

Minor Components

Quakerbridge

Percent of map unit: 5 percent

EXHIBIT 'D'

Landform: Knolls, flats
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

Atsion, rarely flooded

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Berryland, rarely flooded

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

LasB—Lakewood sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: rdv1
Elevation: 20 to 150 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Farmland of local importance

Map Unit Composition

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

Description of Lakewood

Setting

Landform: Knolls, flats
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Sandy fluviomarine deposits

Typical profile

A - 0 to 3 inches: sand
E - 3 to 11 inches: sand

EXHIBIT 'D'

Bh - 11 to 13 inches: loamy sand
BC - 13 to 30 inches: sand
C1 - 30 to 46 inches: sand
C2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.3 inches)

Interpretive groups

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

Minor Components

Lakehurst

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Atsion, rarely flooded

Percent of map unit: 5 percent
Landform: Depressions, flats
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Quakerbridge

Percent of map unit: 5 percent
Landform: Knolls, flats
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

EXHIBIT 'D'

PssA—Psamments, 0 to 3 percent slopes

Map Unit Setting

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

Map Unit Composition

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

Description of Psamments, Nearly Level

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

EXHIBIT 'D'

Minor Components

Atsion

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

Berryland, rarely flooded

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

Mullica

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

PstAt—Psammaquents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2dvpy
Elevation: 20 to 30 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Not prime farmland

Map Unit Composition

Psammaquents, sulfidic substratum, frequently flooded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Psammaquents, Sulfidic Substratum, Frequently Flooded

Setting

Landform: Flats
Down-slope shape: Linear

EXHIBIT 'D'

Across-slope shape: Linear
Parent material: Sandy lateral spread deposits over organic material

Typical profile

A - 0 to 12 inches: coarse sand
C - 12 to 36 inches: gravelly sand
2Oe1 - 36 to 43 inches: mucky peat
2Oe2 - 43 to 80 inches: mucky peat

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.60 to 20.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Salinity, maximum in profile: Very slightly saline to strongly saline (2.0 to 32.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Appoquinimink, very frequently flooded

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Transquaking, very frequently flooded

Percent of map unit: 5 percent
Landform: Tidal marshes
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Pawcatuck, very frequently flooded

Percent of map unit: 5 percent
Landform: Tidal marshes
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

EXHIBIT 'D'

WDC4—Dredge Channel, 1 to 4 meter water depth

Map Unit Setting

National map unit symbol: 2thxw
Elevation: -20 to -10 feet
Mean annual precipitation: 41 to 49 inches
Mean annual air temperature: 53 to 60 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Water, dredge channel: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water, Dredge Channel

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Yes

EXHIBIT 'D'

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Hydrologic Soil Group and Surface Runoff (3397.164)

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

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 four hydrologic soil groups are:

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

EXHIBIT 'D'

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.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

Report—Hydrologic Soil Group and Surface Runoff (3397.164)

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

Hydrologic Soil Group and Surface Runoff–Ocean County, New Jersey			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
LakB—Lakehurst sand, 0 to 5 percent slopes			
Lakehurst	85	Very high	A
LasB—Lakewood sand, 0 to 5 percent slopes			
Lakewood	85	Very low	A
PssA—Psamments, 0 to 3 percent slopes			
Psamments, nearly level	85	Very low	A
PstAt—Psammaquents, sulfidic substratum, 0 to 3 percent slopes, frequently flooded			
Psammaquents, sulfidic substratum, frequently flooded	85	Negligible	A/D
WDC4—Dredge Channel, 1 to 4 meter water depth			
Water, dredge channel	95	—	D

EXHIBIT 'D'

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

EXHIBIT 'D'

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

EXHIBIT 'D'

APPENDIX C

EXHIBIT 'D'

0 37.5 75 150 Feet

1 in = 75 ft

Point Pleasant Fishing Access
Wildlife Management Area
Boat Ramp Feasibility Study
Block 287, Lot 1, Beach Boulevard
Borough of Point Pleasant, Ocean County, NJ

EXHIBIT 'D'

LAN
LAN ASSOCIATES

LAN Associates, EPAS, Inc.

LAN No.: **2.3397.164**
NJDEP/F&W/Point Pleasant Boat Ramp, Point Pleasant, New Jersey

Photos by: **CSG** on **7/26/17**

Photo No. 1

Facing northeast. View of lagoon/west side of canal entrance. Note fencing bent downward in towards lagoon where land has been eroded.

Photo No. 2

Facing southeast. View of shoreline opposite canal opening.

Photo No. 3

Facing northeast. View of lagoon and east side of canal entrance

EXHIBIT 'D'

© 2014

Photos by: **CSG** on **7/26/17**

Photo No. 4

Facing northeast. Continued view of lagoon.

Photo No. 5

Facing north. View of shoreline of lagoon. Anticipated wetlands in the background.

Photo No. 6

Facing east. View of fence. Note pilings on the right side of photo.

EXHIBIT 'D'

 © 2014

Photos by: **CSG** on **7/26/17**

Photo No. 7

Facing southeast. Photo showing pilings and submerged wood bulkhead within the lagoon.

Photo No. 8

Facing northwest. View of pond adjacent to lagoon.

Photo No. 9

Facing southeast. View of proposed parking area.

EXHIBIT 'D'

 © 2014

Photos by: **CSG** on **7/26/17**

Photo No. 10

Facing southeast. View of entrance to proposed parking area.

Photo No. 11

Facing southeast. Continued view of proposed parking area.

Photo No. 12

Facing northeast. View from Rue Lafayette. Entrance to proposed parking area.

EXHIBIT 'D'

 © 2014

Photos by: **CSG** on **7/26/17**

Photo No. 13

Facing northeast. View of east side of lagoon/entrance to parking area.

Photo No. 14

Facing north. View of lagoon.

Photo No. 15

Facing northeast. Continued views of lagoon

EXHIBIT 'D'

 © 2014

LAN Associates, EPAS, Inc.

LAN No.: **2.3397.164**
NJDEP/F&W/Point Pleasant Boat Ramp, Point Pleasant, New Jersey

Photos by: **CSG** on **7/26/17**

Photo No. 16

Facing northeast. Continued views of lagoon.

Photo No. 17

Facing northwest. View of pond in foreground and NJ State Police Point Pleasant Marine Station in the background.

cc: 2.3397.164

© 2014

APPENDIX D

EXHIBIT 'D'

LAN
LAN ASSOCIATES
SINCE 1965
ENGINEERING ▪ PLANNING ▪ ARCHITECTURE ▪ SURVEYING, INC.
445 GODWIN AVE. STE. 9, MIDLAND PARK, NEW JERSEY 07432
P. 201-447-6400 ▪ F. 201-447-1233 ▪ WWW.LAN-NJ.COM

PROJECT: NJDEP/Point Pleasant Wildlife Management Area/Boat Ramp Feasibility Study/Block 287/Lot 1/ Beach Boulevard, Borough of Point Pleasant, Ocean County, New Jersey

PROJECT NO: 2.3397.164

DATE: August 29, 2017

TO: US Army Corps of Engineers
Philadelphia District
Attn: CENAP-OP-R
100 Penn Square East
Philadelphia, PA 19107-3390

ATTN: Mr. Lawrence M. Slavitter

If enclosures are not as noted, please inform us immediately.

If checked below, please:
☐ Acknowledge receipt of enclosures.
☐ Return enclosures to us.

WE TRANSMIT:
☐ Herewith ☐ In accordance with your request
☒ **Via Email:** Lawrence.M.Slavitter@usace.army.mil

FOR YOUR:
☐ Approval ☐ Distribution to Parties ☐ Information
☐ Review & Comment ☒ Record
☒ Use ☐ Signature

THE FOLLOWING:
☐ Drawing(s) ☐ Shop Drawing Prints ☐ Samples
☐ Specifications ☐ Shop Drawing Reproducibles ☐ Product Literature
☐ Change Order ☒ Document(s)

COPIES	DATE	REV #	DESCRIPTION	ACTION
1	8/28/17		NJ JPP Meeting Project Description Submission	E

ACTION: A. Action indicated on item transmitted
B. No action required
C. For signature and return to this office
D. For signature and forwarding as noted below under REMARKS
E. See REMARKS below

REMARKS:

COPIES TO:
Karen Greene (Karen.Greene@noaa.gov)
Carlo Popolizio (Carlo_Popolizio@fws.gov)
Jan Arnett (Jan.Arnett@dep.nj.gov
Kelly Davis (kelly.davis@dep.nj.gov)
Bob Montgomerie (Montgomerie.Robert@epamail.epa.gov)
Jesse West-Rosenthal (Jesse.West-Rosenthal@dep.nj.gov)
Mark Davis (mark.davis@dep.nj.gov)
Pete Winkler (Peter.Winkler@dep.nj.gov)
Ed Mulvan (Edward.Mulvan@dep.nj.gov)
Larry Tutela (Larry.Tutela@dep.nj.gov)
File #2.3397.164, w/att.

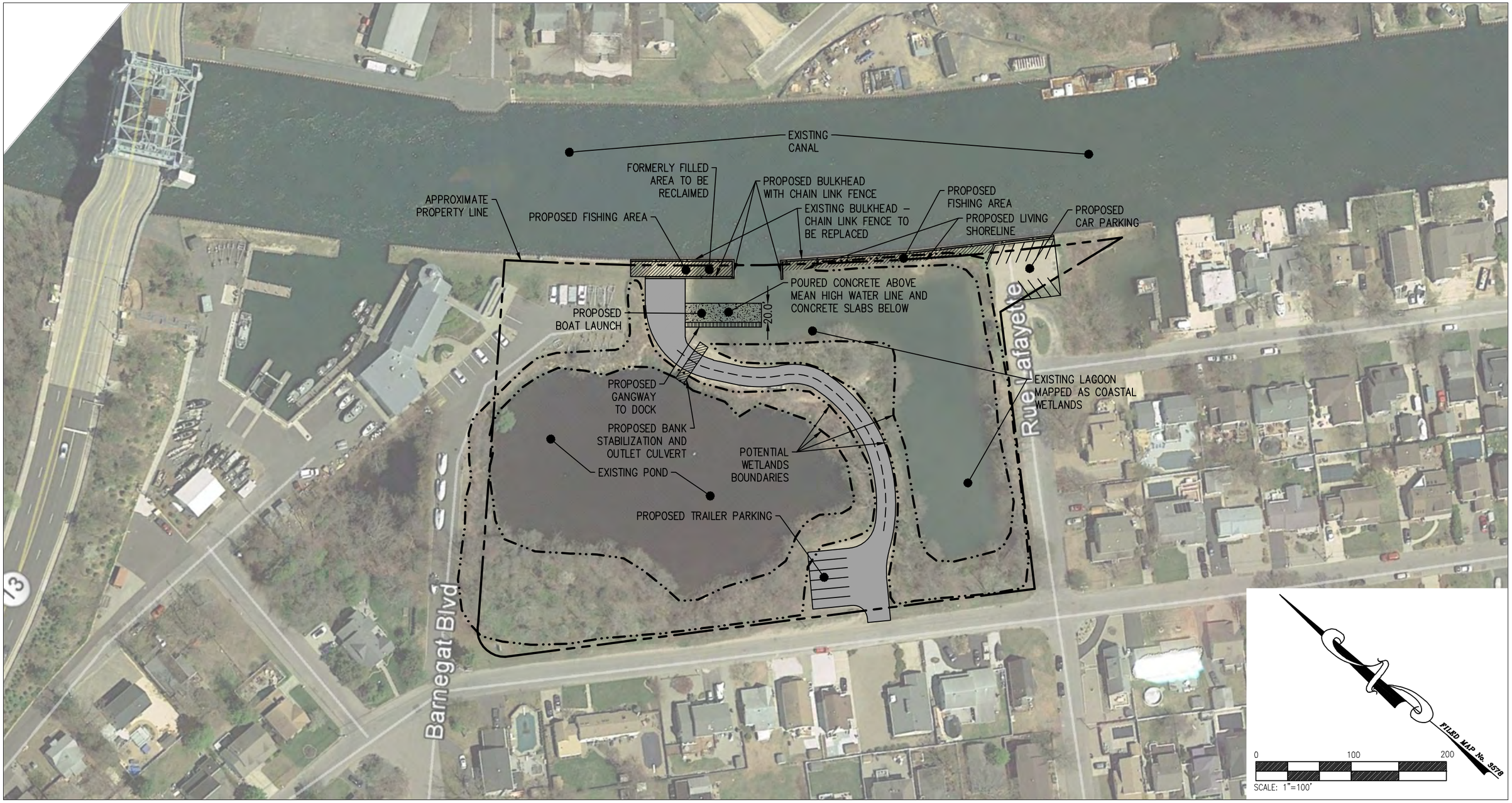
CSG:lm P:\300-EE\3300-3399\3397\3397.164\Admin\Transmittals\3397164LTSlavitter082917.docx

By: Christopher S. Guddemi, PLS

EXHIBIT 'D'

PLATE 1

EXHIBIT 'D'



file no. 3397.164

NEW JERSEY D.E.P.
POINT PLEASANT WILDLIFE MANAGEMENT AREA
POINT PLEASANT, NJ

Revisions:

Certificate of Authorization: 24GA27637500 | Eng'r. Nos. | Arch. Nos.: 21AC000124400

PROJECT: BOAT RAMP FEASIBILITY STUDY

DRAWING TITLE: BOAT LAUNCH CONCEPT SKETCH

LAN ASSOCIATES
engineering • planning • architecture • surveying
445 GODWIN AVENUE, MIDLAND PARK, N.J. 07432 (201) 447-6400

RICHARD A. WOSTBROCK, P.E.
Title: PROFESSIONAL ENGINEER License No. NJ24GE04111700

DWG. DATE	SCALE	DRAWING NO.
8/11/17	1"=100'	C.01
PROJECT NO. 3397.164	DWN. BY JJP	

EXHIBIT 'D'

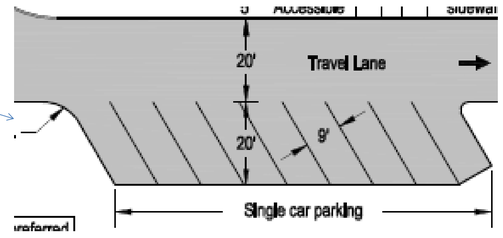
P:\300-EE\3300-3399\3397\3397.164\Cad\Dwgs\3397164Concept.dwg, 8/21/2017 2:52:21 PM, DWG To PDF.pc3

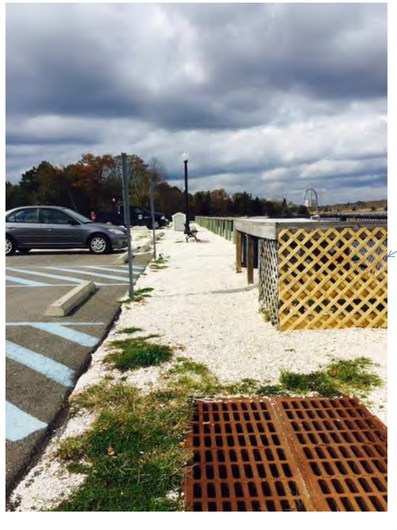
PLATE 2

EXHIBIT 'D'

Point Pleasant Fishing Access

Photo 3-10 Single-lane launch ramp with boarding floats. Lane width is 20 feet with cold joint centered on launch lane.





Existing Bulkhead & Ramp

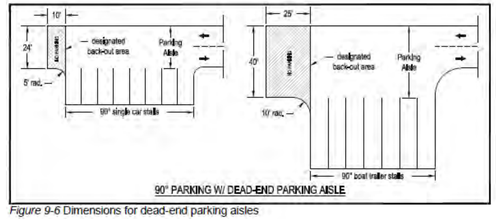


Figure 9-6 Dimensions for dead-end parking aisles

Photo 9-11 Typical one-way grid system parking area with angled stalls

EXHIBIT 'D'