

# Suffolk County Department of Health Services

## **Peconic Estuary Conceptual Habitat Restoration Design Planning Services**

Contract #: 003-4410-4560-00-00007

Land Use Ecological Services  
570 Expressway Drive South, Suite 2F  
Medford, NY 11763  
(631)727-2400

Contact: William Bowman  
[wbowman@landuse.us](mailto:wbowman@landuse.us)



**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

**KICK-OFF MEETING TIMELINE**

9:30 AM            Lake Montauk Alewife Access and Habitat Enhancement

11:00 AM        Narrow River Wetland Restoration

12:30 PM        Lunch Break

1:30 PM           Iron Point Wetland Restoration

2:30 PM           Main Road- Riverhead Wetland Construction/Restoration

3:30 PM           Adjourn



## **PROJECT SUB-CONTRACTORS**

### **•Inter-Fluve Inc:**

*Experience:* River Restoration, Fish Passage, Stormwater Management

*Focus:* Big Reed Pond/Stepping Stones Pond, Narrow River, Main Road

Nick Nelson (Fluvial Geomorphologist)

Mike Burke, PE (Water Resources Engineer)



### **•Sustainable Solutions LLC:**

*Experience:* Prescribed Fire

*Focus:* Feasibility and Burn Planning at Narrow River

James Remuzzi (NWCG Certified Burn Boss)



### **•LVBrown Studio LLC:**

*Experience:* Graphic Design

*Focus:* Projects requiring high-quality visual representations of ecological improvements for developing stakeholder consensus and procurement of implementation funding.

**LVBrown Studio LLC**

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **KICK-OFF MEETING OBJECTIVES**

1. Summary of Scope of Work and Technical Approach for the Evaluation of Habitat Restoration Options at Each Project Site
  - County, Project Partners, Local Stakeholders, Contractor on Same Page
2. Needed Background/Historical Information for each Project. Status of Information Acquisition
  - Suggestions from Partners and Stakeholders for Sources of Outstanding Information
3. Fundamental Questions for Each Project



## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

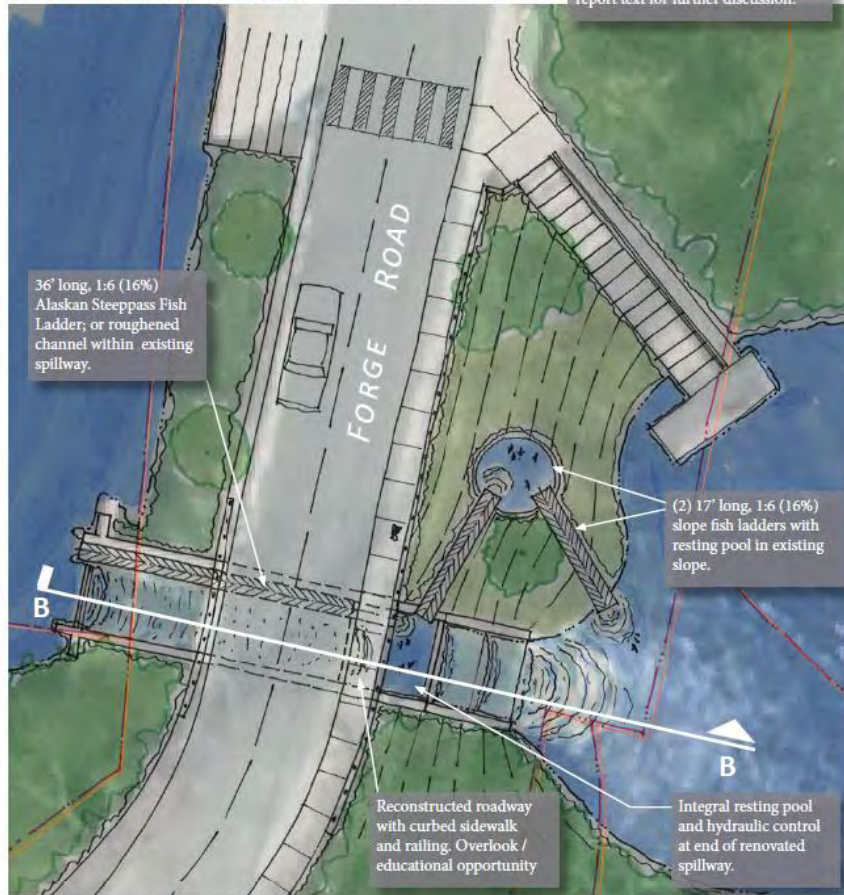
### **Conceptual Planning Objectives**

1. Evaluate if it is possible/feasible to fulfill restoration objectives
2. Provide visual illustrations of the strategy for ecological restoration
3. Confirm that the strategy for restoration is constructable/buildable
4. Provide preliminary cost estimates for implementation
5. Assess the benefits and risks of restoration alternatives
6. Provide a realistic sense for the possibilities and limitations of restoration.

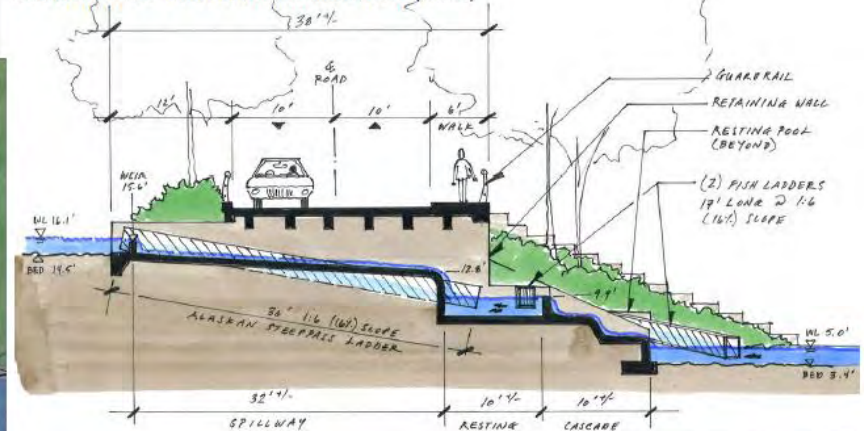


# Conceptual Planning Examples: Peconic River (Forge Road)

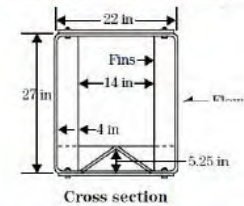
## CONCEPT PLAN: FISH LADDER WITH RESTING POOLS



## SECTION B-B: FISH LADDER SPILLWAY (N.T.S.)



Cross-section: Alaskan Steeppass Ladder



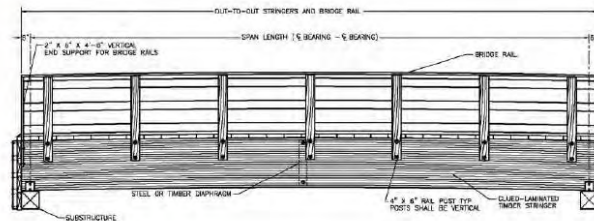
# Kick-Off Meeting (Peconic Estuary Habitat Restoration Conceptual Design Planning Services)

## Conceptual Planning Examples: Ligonee Brook

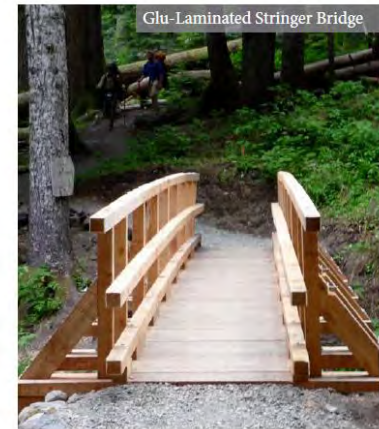
Pre-fabricated steel truss bridge with wooden deck



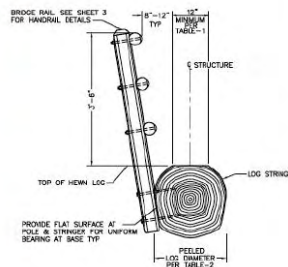
Constructed and Pre-Fabricated Bridge Structures can be used to connect paved paths and to span wider stream crossings, or for crossings with greater foot traffic and accessibility needs. Bridge options include prefabricated steel truss bridges, glu-laminated truss stringer bridges, stringer log bridges with railings, and boardwalk bridge design with wooden curbs.



Glu-laminated stringer bridge



Wood deck pedestrian bridge with wooden curb



Stringer log bridge

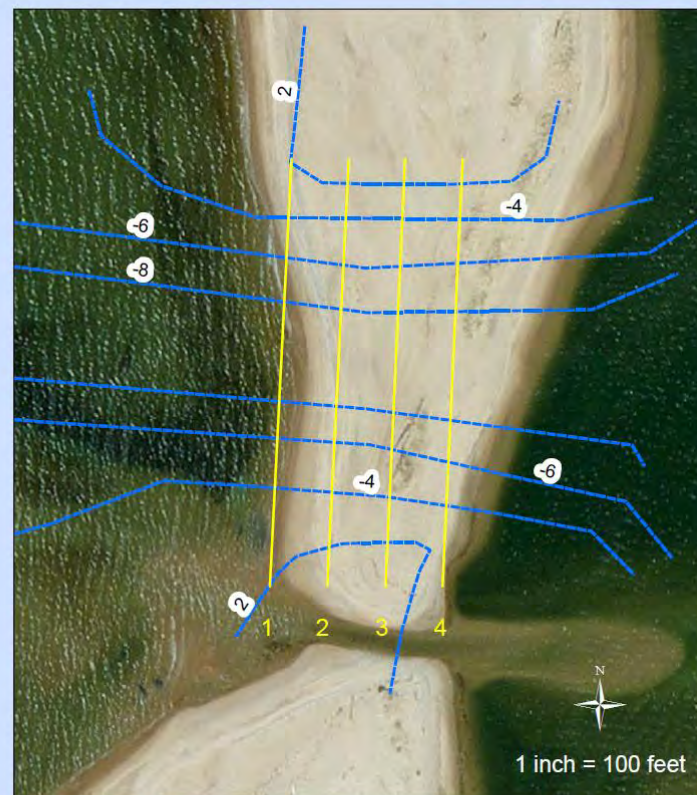
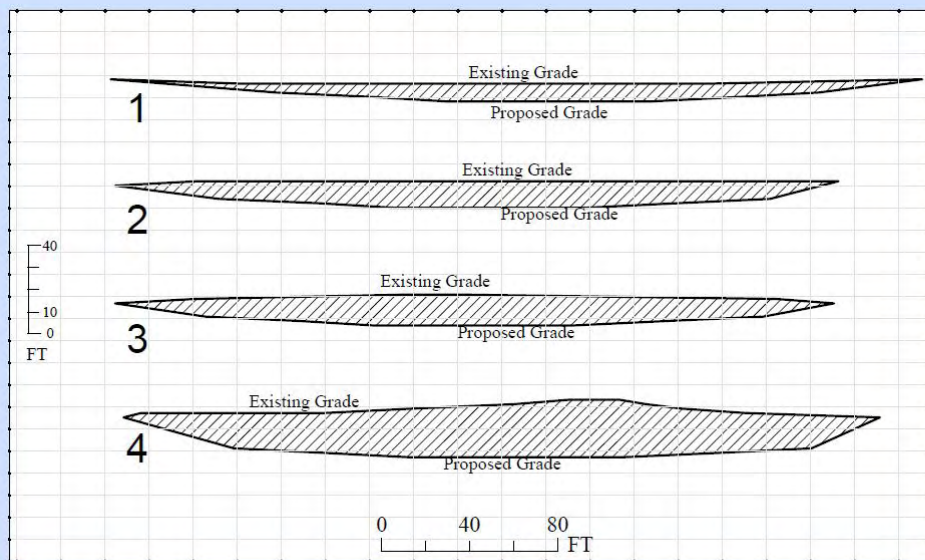
Stringer log bridge with railing



## Conceptual Planning Examples: Napeague Harbor

Figure 17. Conceptual Profile for a Proposed East Inlet

Napeague Harbor, Town of East Hampton



----- Proposed East Inlet Contour

**NOTES:**

1. Elevation data collected by Land Use Ecological Services, Inc. in May 2012 in accordance with the Quality Assurance Plan adopted by USEPA and Suffolk County Dept. of Health Services.
2. Total estimated dredge and excavation volume is 60,600 cubic yards.
3. Elevations referenced to NGVD 1929.
4. Base Map: 2010 Orthoimage (NYSOCS)
5. Coordinate System: NAD 1983 UTM Zone 18N (equivalent to Long Island State Plane coordinate system)



Prepared By: Land Use Ecological Services, Inc.  
570 Expressway Drive South, Suite 2F  
Medford, NY 11763  
Drawn By: K. Risotto  
Date: 12/17/2012

Project: Napeague Harbor  
Suffolk County Peconic Estuary Program  
For: Conceptual Habitat Restoration Project  
Scale: As Noted  
Revisions: 2/22/2013



**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

## **Lake Montauk: Summary of Contracted Work and Technical Approach**

*Introduction:* According to RFP, the purpose of the project is to restore alewife access to Stepping Stones Pond on the southwestern end of Lake Montauk and restore the historic flow in and out of Big Reed Pond by replacing an undersized impassible culvert and/or *Phragmites* removal.

Our contract specifies the evaluation of barriers to fish passage and development of schematic and conceptual designs and recommendations for fish passage improvements at Big Reed Pond and Stepping Stones Pond.

Subsequent discussions with Peconic Estuary Program and Suffolk County Parks have indicated that actions to correct a well-documented harmful blue-green algae (*Aphanacapsa*) bloom in Big Reed Pond are also an important priority.



## Summarized Scope of Work and Deliverables for Lake Montauk Project

### *1. Evaluate Fish Passage Conditions and Prepare Schematic Designs*

- Determine actual barriers to fish passage by evaluating physical and hydraulic conditions at potential barriers.
- Collect ecological information on wetland and ecological community boundaries, significant ecological communities & habitats for rare species, potential site access routes.
- Utilize available GIS data including LIDAR/DEM, aerials, and property ownership.
- Prepare schematic design for each observed fish barrier. Schematic designs will likely be drawn on existing aerial photographs with sufficient detail to promote discussion and a thorough understanding of the proposed approach, but not the finished, presentation quality of the final concept drawings.

Findings shall be presented at *Interim Presentation on Existing Conditions and Schematic Designs* to fulfill requirements of Tasks 2 (*Research & Site Analysis*) and Task 3 (*Visioning & Schematic Design*). This meeting is aimed at discussing existing conditions, assessing preliminary restoration options, and obtaining feedback from project stakeholders.

## Summarized Scope of Work and Deliverables for Lake Montauk Project

### 2. *Prepare Final Recommendations and Conceptual Plans*

a. Existing Conditions: Formal report on field observations and data analysis

b. Recommended Solutions: Enhancement recommendations for each identified fish obstruction, reasoning for recommendations, expected obstacles and advantages, and prioritization of barrier removal.

c. Design and Construction Consideration: The final report shall present

- Preliminary cost estimates for design & construction of each fish passage project
- Identification of access routes and work staging areas
- Environmental permitting requirements
- Qualitative assessment of impacts of fish passage improvements to flow of floodwaters

d. Project Concept Drawings: Produce concept drawings for each fish barrier site observed.

Sheet 1 – Overview aerial of entire project area noting individual site location

Sheets 2-5– Close-up of each site showing existing and proposed conditions including infrastructure, access routes, potential remediation work areas, work limits, sensitive ecological resources, and property boundaries

Findings shall be included in *Final Report on Recommendations and Conceptual Plans* and presented at *Final Presentation*

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Questions for/Guidance Needed from PEP and Stakeholders:**

1. Stepping Stones Pond appears to be a high quality freshwater wetland habitat supporting rare plant species. Our team is assuming that enhancing alewife access at Stepping Stones Pond should not increase tidal flow into Stepping Stones to maintain existing hydrology and salinity.
2. What is the priority concern for PEP and SC Parks at Big Reed Pond?  
Improving alewife access or improving water quality?
3. Would manipulation of the fish community of Big Reed Pond be authorized under the Capital Project under Resolution 1147?
4. Big Reed Pond is a high quality freshwater wetland habitat supporting rare plant species and identified as a significant habitat type (coastal plain pond). Our team is assuming that enhancing alewife access at Big Reed Pond should increase salinity.

# Background Information:



## Big Reed Pond: Harmful Blue-Green Algae Bloom



Photos from Third House Nature Center

# Big Reed Pond: Trophic Cascade--another explanation for the algae bloom?

## Bioremediation Study of a Shallow Lake in South-Central Maine:

Combining top-down and bottom-up approaches to improve water quality

Haliwell and Evers (2010)



Figure 1. Nuisance blue-green algal bloom on East Pond (Alden Camps) during late summer 2006 (photo credit: Dave Halliwell, Maine DEP).

### Warmwater Shallow Lake Trophic Cascade

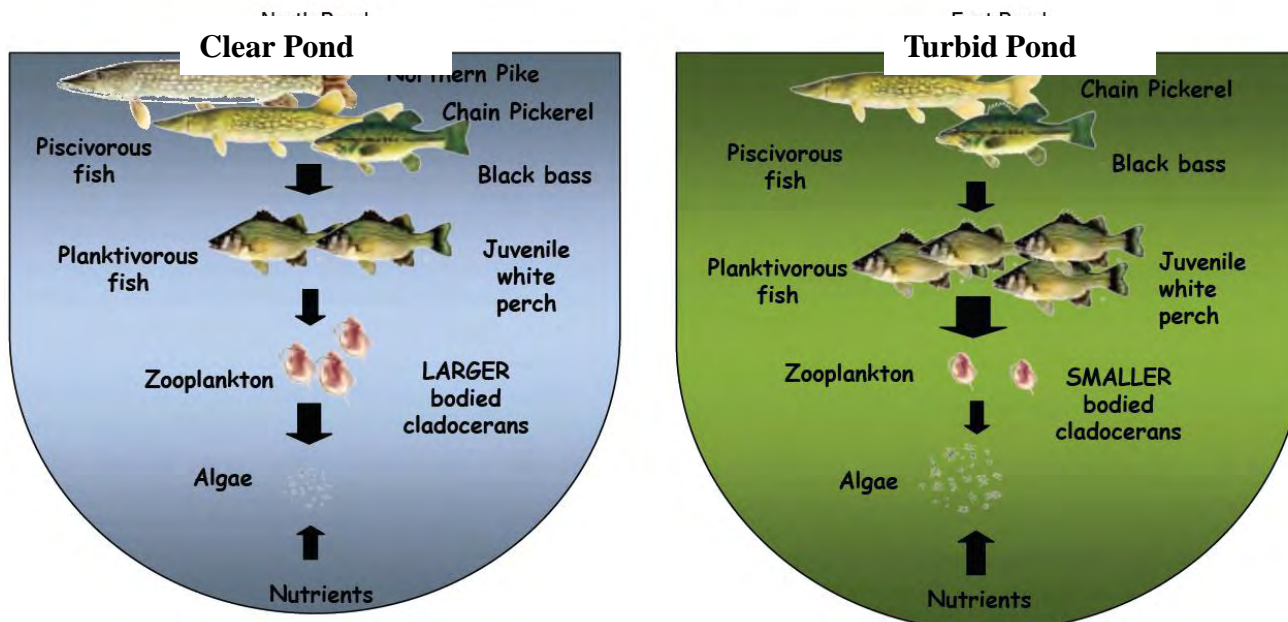


Figure 2. Boatload of adult white perch captured by trap-netting and removed from East Pond during the early spring of 2007 (photo credit: Ryan Burton, Maine DEP).



Survey: 116012

Author: O'Riordan

Date: 2/28/2017

Survey Type: Community Survey

FIN: BIS-P763

Water

Figure 1 June 1994 Survey Species Length Frequencies

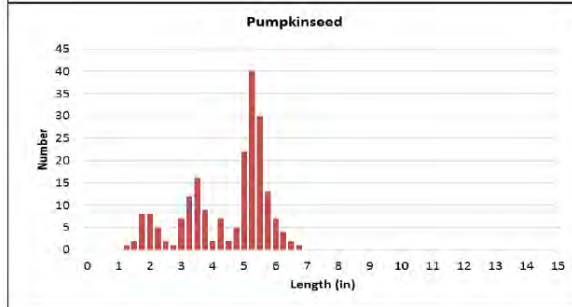
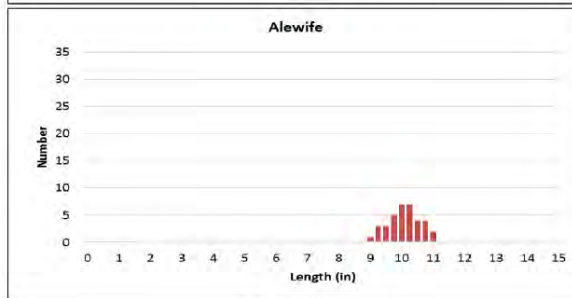
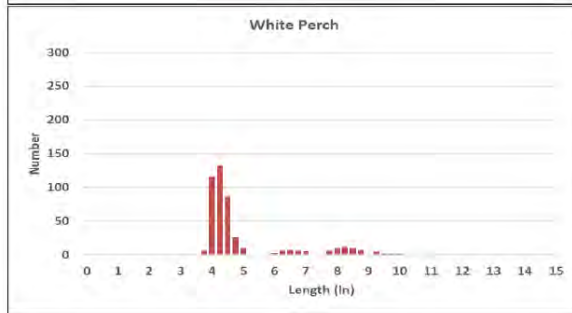
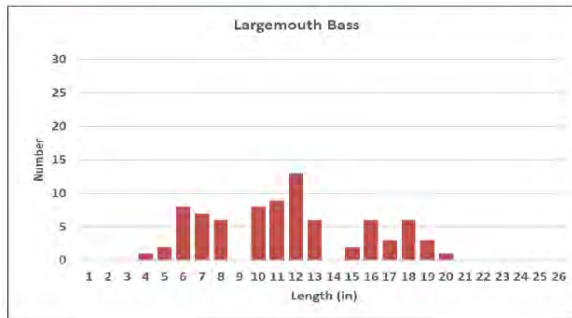
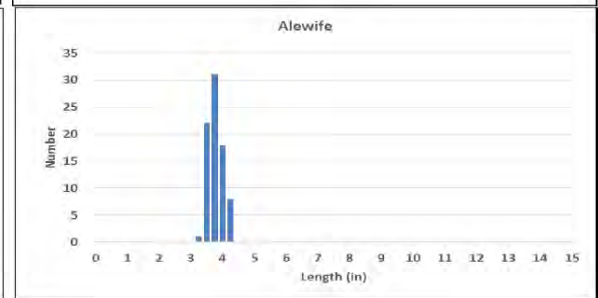
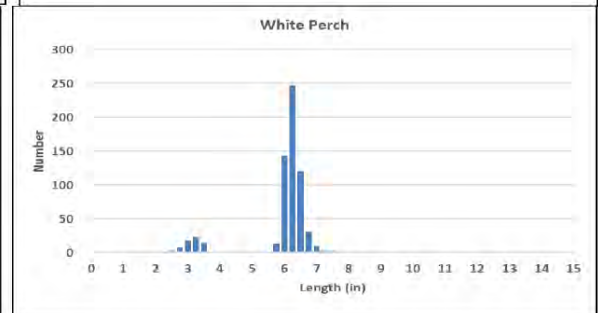
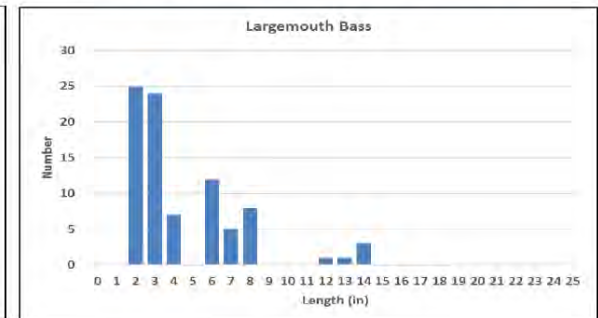


Figure 2 Sept 2016 Survey Species Length Frequencies





## Background Information: Stepping Stone Pond



## **Outflow of Stepping Stones Pond to Lake Montauk:**



## Culvert at Stepping Stones Pond:



## Looking Upstream into Stepping Stones Pond:



## Kick-Off Meeting (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### Lake Montauk: Background/Historical Information

| Information/Data  | Obtained/ Still Needed  | Source  |
|---|---|---|
| Fish survey data for Big Reed Pond. Aquatic vegetation and planktonic assemblages would be helpful.                                   | Freshwater fisheries and all existing biological data has been obtained.        | NYSDEC records from Chart Guthrie and Heidi O’Riordan |
| Blue-green algae ( <i>Aphanocapsa</i> ) blooms - Big Reed Pond  | Obtained  | Gobler and Harke, Stony Brook SOMAS                   |
| Recent Alewife Monitoring Survey data from Big Reed Pond or Stepping Stones Pond  | Needed. Third House volunteer reported alewife scales downstream of Little Reed | .   |
| NYNHP Data on Big/Little Reed Ponds and Stepping Stones Pond  | Requested   |   |
| Historical info on alewife run in Big Reed Pond or Stepping Stones Pond   | Needed, if available  |   |
| Land surveys/engineering plans for East Lake Drive culvert (Little/Big Reed Ponds) and Old West Lake Drive (Stepping Stones) culvert. | Needed, if available  |   |

## Kick-Off Meeting (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### Project Timeline

| <i>Task</i>   | <i>Completion Date</i>                   |
|---|--|
| Kick-off Meeting<br>(Task 5)  | April 18, 2018                           |
| QAPP Approval Procurement<br>(Task 1)                                       | Submit April 2018                        |
| Research and Site Analysis<br>(Task 2)                                      | June 1 - August 31, 2018                 |
| Visioning and Schematic Design (Task 3)                                     | September 1 - October 31, 2018           |
| Interim Progress Meeting<br>(Task 5)  | November 15, 2018                        |
| Recommendations and Conceptual Restoration Plans<br>(Task 4)                | November 15, 2018 –<br>February 15, 2019 |
| Presentation of <i>Draft Final Report</i> at Final Wrap-up Meeting (Task 5) | March 1, 2019                            |
| Submission of <i>Final Report</i><br>(Task 6)                               | April 1, 2019                            |

**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

## **Narrow River: Summary of Contracted Work and Technical Approach**

*Introduction:* According to RFP, the purpose of the project is to improve tidal flow within Broad Meadows Marsh and assess feasibility of using prescribed fire to control *Phragmites* in Broad Meadows Marsh (and Whitcomb Marsh).



Left: Broad Meadows Marsh



Center: Culverts with Tide Gate



Right: Whitcomb Marsh



## **Narrow River: Summary of Contracted Work and Technical Approach**

### **Questions:**

1. Confirmation of extent of study area and critical locations is needed.
  - Following the RFP and addendums, our team shall develop a conceptual design document for the culvert repairs by compiling existing data and information previously collected by stakeholders, previously developed concept plans, and information from previous stakeholder meetings.
  - Collection of new data related to the culverts shall be limited to three sites the double culvert with malfunctioning tide gate, open culvert, and the remnant bridge crossing.
2. Are access easements present to Town-owned Whitcomb Marsh property?
3. It would be helpful for the project team to be aware of State and Town-priorities and grant requirements to Ducks Unlimited, Town of Southold, and PEP.
4. Please provide general site history and summary of post-Sandy construction and the role (if any) that neighboring property owners have had in previous discussions regarding modifications to culverts/earthen berms.



## **Narrow River: Summary of Contracted Work and Technical Approach**

### **Questions:**

4. Have any preliminary discussions with NYSDEC or Orient Fire Department been held regarding use of prescribed fire?
5. Can prescribed fire be safely and effectively introduced to Narrow River to manage *Phragmites* and remove accumulated biomass?



NOTES:  
 1. 2016 parcel data from Suffolk County Real Property Tax Service Agency.  
 2. 2016 orthorectified imagery from NYS GIS Clearinghouse (6th ed. gov).  
 3. 2016 aerial photography from NYS GIS Clearinghouse (6th ed. gov).

Proposed By: Land Use Ecological Services, Inc.  
 1000 Route 25, Suite 2F  
 Medford, NY 11763

Project: Narrows River - Town of Southold  
 For: Private Estuary Program

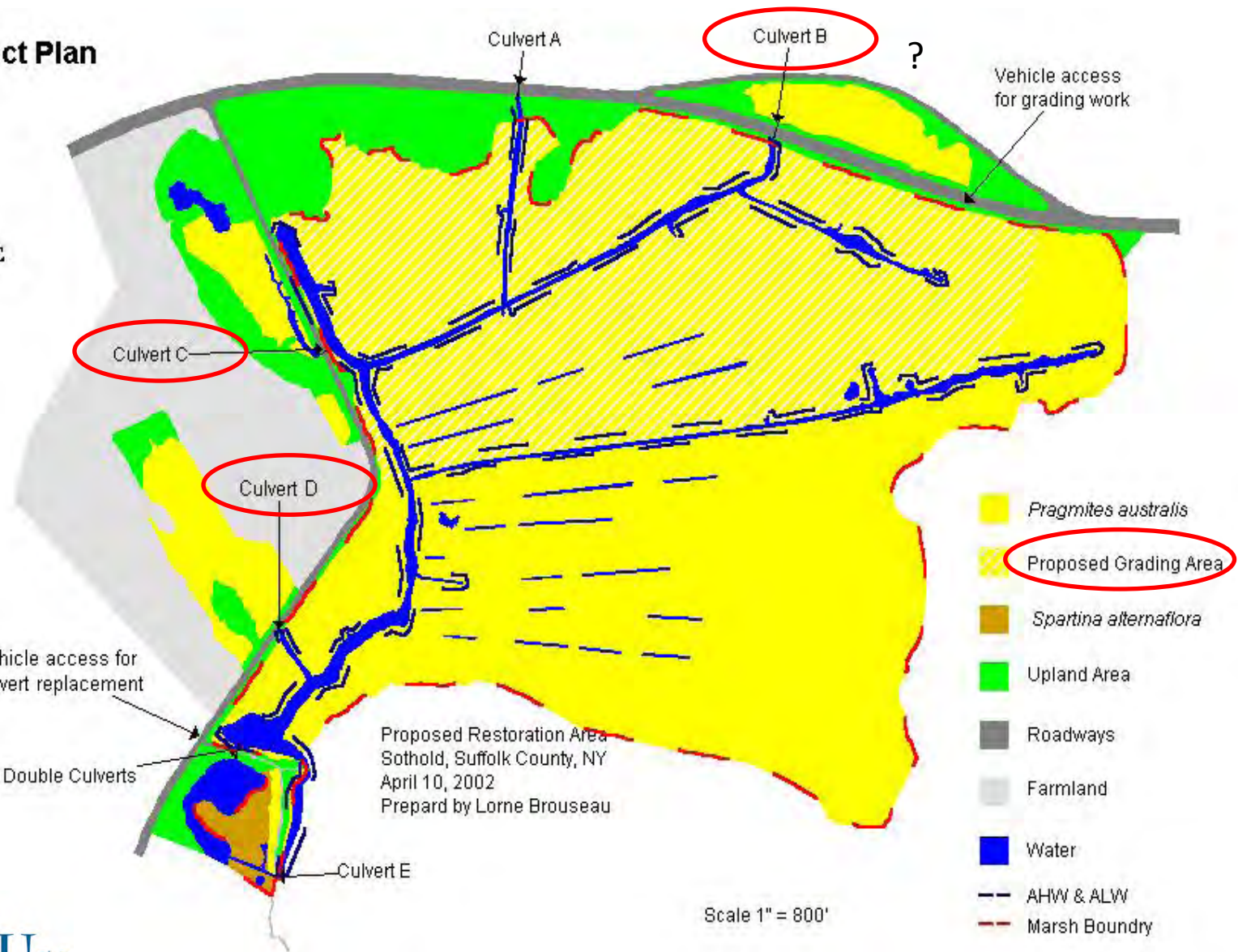
Date: 1/30/2018 | Revised: \_\_\_\_\_

Scale: As Noted

Sheet: 8 of 8

1 in = 100 ft  
 0 40 80 120 Feet

# Project Plan



**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

## **Narrow River: Summary of Contracted Work and Technical Approach**

*Introduction:* According to RFP, the purpose of the project is to improve tidal flow within Broad Meadows Marsh and assess feasibility of using prescribed fire to control *Phragmites* in Broad Meadows Marsh (and Whitcomb Marsh).

The following environmental data and available GIS-data may be collected to develop conceptual restoration plans for this site:

- Dimensions, elevation, materials, conditions at culverts (new data collection limited to three sites)
- Spring high water and tidal wetland boundary elevations downstream of culverts (3 sites)
- LIDAR-based topographic map of Broad Meadows marsh complex
- Quantify acreage of *Phragmites* and native marsh communities
- Site assessment for prescribed fire implementation including potential locations for fire lines, fuels assessment and mapping, identification of hazardous fuels needing pre-treatment prior to prescribed fire, identification of smoke sensitive targets proximal to project area, identification of access barriers for prescribed fire personnel and equipment.
- *Phragmites* thatch accumulation and underlying substrate composition
- GPS locations of significant resources, such as rare/protected wildlife & flora, within potential access routes/work areas.

## **Summarized Scope of Work and Deliverables for Narrow River**

### *1. Evaluate Existing Conditions and Prepare Schematic Designs*

Prepare schematic design for ecological restoration by enhancing tidal flow/prescribed fire. Schematic designs will likely be drawn on existing aerial photographs with sufficient detail to promote discussion and a thorough understanding of the proposed approach, but not the presentation quality of the final concept drawings, to include:

- Topographic contours from existing LIDAR data
- Potential culvert modification/removal sites
- Potential Site access routes
- Hazardous Fuel Accumulations
- Barriers to Site Access (ditches, channels that limit access by prescribed fire personnel)
- Smoke-sensitive targets proximal to the project area and existing infrastructure/land uses that may be impacted by prescribed fire or culvert modification
- Sensitive ecological resources that may be impacted
- Property ownership (s) at within and adjacent to project area; at tidal obstruction and potential access routes; and at critical site areas for prescribed fire implementation.

Findings shall be presented at *Interim Presentation on Existing Conditions and Schematic Designs* to fulfill requirements of Tasks 2 (*Research & Site Analysis*) and 3 (*Visioning & Schematic Design*). This meeting is aimed at discussing existing conditions, assessing preliminary restoration options, and obtaining feedback from project stakeholders.

## **Summarized Scope of Work and Deliverables for Narrow River**

### *2. Prepare Final Recommendations and Conceptual Plans*

Existing Conditions: Summary report on findings of field observations and data analysis discussed above.

Recommended Solutions: The team will develop conceptual narrative solutions for the culvert issues associated with three primary areas of concern identified by the RFP and addendum. Additional recommendations based on the data collection will be integrated into a compiled culvert reconstruction planning document. Potential impact to agricultural areas for the three key areas will be evaluated based on available LiDAR data.

Preparation of conceptual plans for use of prescribed fire to control *Phragmites* including the following:

- Visual illustration of the strategy for site restoration
- Plan view locations of safety zones, firelines, and no fire areas for fire restoration projects
- Plan-view locations of existing and proposed ecological habitat type
- Design and Construction Consideration:
- Preliminary cost estimates for primary culvert modifications and prescribed fire implementation
- Environmental permitting requirements

Findings shall be included in *Final Report on Recommendations and Conceptual Plans* and presented at *Final Presentation*

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Narrow River: Background/Historical Information Needed**

| <b>Information/Data</b>   | <b>Obtained/ Still Needed</b>    | <b>Source</b>                        |
|---|----------------------------------|--------------------------------------|
| Existing data and information related to culverts, previously developed concept plans, and information from previous stakeholder meetings (referenced in RFP and Addendum #3) | Needed. Except Cornell 2002 Map. | Information to date provided by PEP. |
| Plans and permits for previously issued NYSDEC and/or Town permits for corrective actions to culverts and/berms.  | Needed                           |                                      |
| Existing GIS Data from Town of Southold (referenced by John Sepenowski)   | Needed                           |                                      |

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Project Timeline**

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| Submission of <i>Final Report</i><br>(Task 6)                               | April 1, 2019                            |



## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Iron Point: Summary of Contracted Work and Technical Approach**

*Introduction:* According to RFP, the purpose of the project is to restore tidal flow and historical tidal wetlands landward of earthen dikes by excavating at least two (2) cuts within the dike to allow for tidal flow and flooding to the inland wetlands and dredging to the existing panne. Site investigations and conceptual designs should identify location, target elevations, and quantities associated with new cuts; determine potential sediment contamination and implications for dredge disposal; and avoid impacts to adjacent permeable reactive barrier pilot project.

Our team shall collect following environmental data and obtain the following available GIS-data:

- Mapping of existing marsh community boundaries, existing elevations of marsh communities, and quantification of relative area of existing marsh communities
- Existing berm gap and ditch dimensions
- Sediment contaminant analysis (2 locations) from sediment borings up to 5 feet in length
- ID access routes with minimum disturbance to high-quality plant communities
- LIDAR-based topographic map
- High-resolution orthoimagery and Suffolk County Real Property Data

**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

*Introduction:*

Low-resolution imagery from 1928-1930 (Suffolk County) shows the marshes at Iron Point were much larger historically. The western portions of the Iron Point marshes were either completely filled creating upland or were surrounded by earthen berms and use as dredge spoil sites.



## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### *Introduction:*

Currently, the western and northern margin of the existing Iron Point marsh is dominated by *Phragmites*. The central portion of the marsh features a large marsh pond/panne and the eastern portion is comprised of native high and intertidal marsh vegetation.. The native marsh is maintained by tidal exchange with the Peconic River through a gap in the earthen berm and ditches that enters the northeastern tip of the marsh and runs along its southern and northern margins nearly to the panne.



## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### *Introduction:*

Currently, the western and northern margin of the existing Iron Point marsh is dominated by *Phragmites*. The central portion of the marsh features a large marsh pond/panne and the eastern portion is comprised of native high and intertidal marsh vegetation.. The native marsh is maintained by tidal exchange with the Peconic River through a gap in the earthen berm and ditches that enters the northeastern tip of the marsh and runs along its southern and northern margins nearly to the panne.



Left: *Phragmites* at Western Margin with Marsh Pond in Foreground

Right: Marsh Panne in Central Portion of Marsh

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### *Introduction:*

Currently, the western and northern margin of the existing Iron Point marsh is dominated by *Phragmites*. The central portion of the marsh features a large marsh pond/panne and the eastern portion is comprised of native high and intertidal marsh vegetation.. The native marsh is maintained by tidal exchange with the Peconic River through a gap in the earthen berm and ditches that enters the northeastern tip of the marsh and runs along its southern and northern margins nearly to the panne.



Intertidal (Foreground) & High Marsh (Background) in Eastern Portion of Marsh

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### *Introduction:*

Currently, the western and northern margin of the existing Iron Point marsh is dominated by *Phragmites*. The central portion of the marsh features a large marsh pond/panne and the eastern portion is comprised of native high and intertidal marsh vegetation.. The native marsh is maintained by tidal exchange with the Peconic River through a gap in the earthen berm and ditches that enters the northeastern tip of the marsh and runs along its southern and northern margins nearly to the panne.



Left and Right: Existing ditches that maintain tidal flow to the Marsh

## Summarized Scope of Work and Deliverables for Iron Point

### *1. Evaluate Existing Conditions and Prepare Schematic Designs*

Prepare schematic design for wetland restoration by enhancing tidal flow. Schematic designs will likely be drawn on existing aerial photographs with sufficient detail to promote discussion and a thorough understanding of the proposed approach, but not the finished, presentation quality of the final concept drawings. Schematic designs developed for this presentation shall contain the following:

- Site Map
- Topographic contours from existing LIDAR data
- Ecological community mapping described above
- Location and dimensions of existing berm gap and ditches
- Potential site access routes with adequate physical separation from pilot permeable reactive barrier project
- Preliminary locations for new berm gaps and marsh channels for consideration by stakeholders

Findings shall be presented at *Interim Presentation on Existing Conditions and Schematic Designs* to fulfill requirements of Tasks 2 (*Research & Site Analysis*) and 3 (*Visioning & Schematic Design*). This meeting is aimed at discussing existing conditions, assessing preliminary restoration options, and obtaining feedback from project stakeholders.

## **Summarized Scope of Work and Deliverables for Iron Point**

### *2. Prepare Final Recommendations and Conceptual Plans*

- a. Existing Conditions: Formal report on findings of field observations and data analysis
- b. Recommended Solutions: Recommendations for tidal flow enhancement at Iron Point, reasoning for recommendations, and expected obstacles and advantages for implementation.
- c. Design and Construction Consideration: The final report shall present:
  - Preliminary cost estimates for the design and construction of each fish passage project
  - Identification of access routes and work staging areas
  - Environmental permitting requirements and additional sediment testing requirements for regulatory approval.
- d. Project Concept Drawings: Produce concept drawings for Iron Point site.
  - Sheet 1 – Overview aerial of entire project area noting existing proposed conditions
  - Sheets 2-3– Plan and section views of proposed condition including recommended berm gaps and marsh channels, access routes, work limits, sensitive ecological resources and infrastructure, and property boundaries
  - Sheet 4- Typical details of proposed work.

Findings shall be included in *Final Report on Recommendations and Conceptual Plans* and presented at *Final Presentation*



## **Iron Point: Summary of Contracted Work and Technical Approach**

### **Questions:**

The critical questions that should be addressed at the conceptual or feasibility phase of restoration planning for Iron Point are:

- What dimensions should new berm gaps and marsh channels be to enhance tidal exchange sufficiently to promote development of native marsh communities?
- Are the existing *Phragmites* stands at an elevation conducive to the establishment of native marsh communities if tidal flow was restored/enhanced?
- Are the existing sediments within this former dredge spoil area contaminated? Can sediments excavated from the marsh be re-used on site or would off-site/landfill disposal be necessary?
- Stakeholder Question: Are salt pond(s) an essential component of the desired restoration plan? Pond construction may increase construction costs significantly.

**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

**Iron Point: Background/Historical Information**

| <b>Information/Data</b>   | <b>Obtained/ Still Needed</b> | <b>Source</b> |
|---|-------------------------------|---------------|
| MHW Elevation Data from Shoreline Projects at Indian Island County Park or Other Nearby Project | Needed, if available          |               |

## Kick-Off Meeting (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### Project Timeline

| <i>Task</i>   | <i>Completion Date</i>                   |
|---|--|
| Kick-off Meeting<br>(Task 5)  | April 18, 2018                           |
| QAPP Approval Procurement<br>(Task 1)                                       | Submit April 2018                        |
| Research and Site Analysis<br>(Task 2)                                      | June 1 - August 31, 2018                 |
| Visioning and Schematic Design (Task 3)                                     | September 1 - October 31, 2018           |
| Interim Progress Meeting<br>(Task 5)  | November 15, 2018                        |
| Recommendations and Conceptual Restoration Plans<br>(Task 4)                | November 15, 2018 –<br>February 15, 2019 |
| Presentation of <i>Draft Final Report</i> at Final Wrap-up Meeting (Task 5) | March 1, 2019                            |
| Submission of <i>Final Report</i><br>(Task 6)                               | April 1, 2019                            |

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Meetinghouse Creek-Main Road : Summary of Contracted Work and Technical Approach**

*Introduction:* According to RFP, the purpose of the project is to provide a 0.6 acre stormwater treatment wetland to receive flow from an existing outlet structure. The wetland is proposed to treat the water quality volume from a 1.2 inch rainfall with flows exceeding this rain event will transverse an emergency spillway to the existing NYSDEC-regulated *Phragmites* marsh.

Our team shall collect following environmental data and obtain the following available GIS-data:

- Topographic data required to prepare conceptual plan for recommended sediment forebay
- GPS locations of existing stormwater drainage infrastructure;
- Location, dimensions, materials, and condition of existing stormwater outfall;
- Locations of existing utility infrastructure;
- GPS locations of freshwater wetland boundary;
- GPS locations of upland and wetland community boundaries and invasive plant stands to identify potential mitigation areas if forebay cannot be located within upland area adjacent to Route 24;
- High resolution orthoimagery;
- LIDAR or digital elevation model data to assess general site topography, and;
- Suffolk County real property records



# Kick-Off Meeting (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

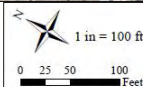
## Introduction:

The subject property consists of 2.6 acre *Phragmites* marsh with narrow borders of upland on the north, east, and west sides.



### NOTES:

1. 2016 orthoimage from NYS GIS Clearinghouse ([gis.ny.gov](http://gis.ny.gov)).



Prepared By: Land Use Ecological Services, Inc.  
570 Expressway Drive South, Suite 2F  
Medford, NY 11763

Date: 3/20/2018 | Revised:

Project: Main Road - Town of Riverhead  
For: Peconic Estuary Program

Scale: As Noted

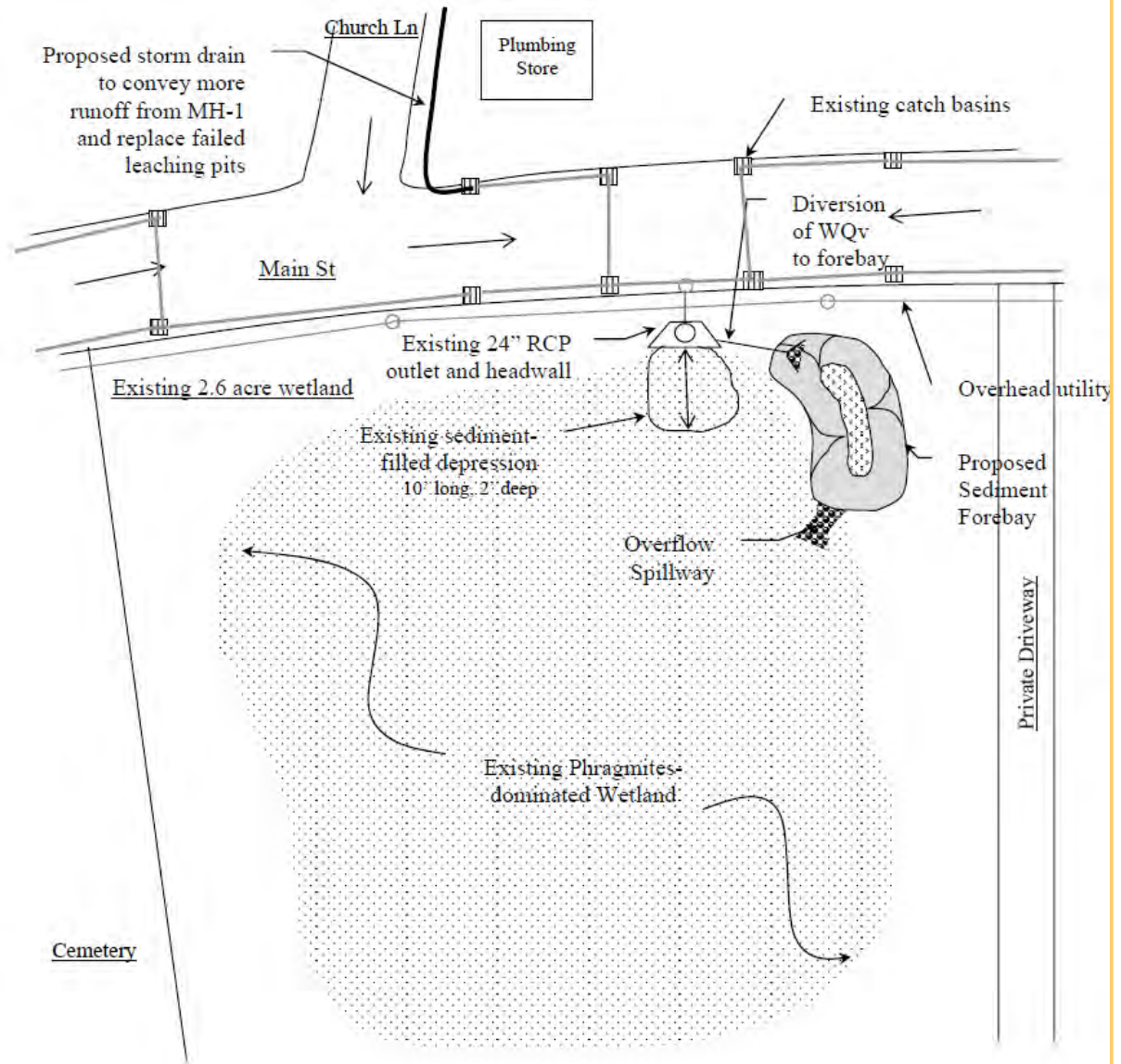
Sheet: Base Map

## Kick-Off Meeting (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### Introduction:

A schematic/concept plan for the forebay was included in the 2006 Meetinghouse Creek Watershed Management Plan (Horsely Whitten Group, 2006).

The forebay shown on this plan is approximately 0.05 acres.



## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Meetinghouse Creek-Main Road Wetland:**

#### **Questions:**

The critical questions that should be addressed at the conceptual or feasibility phase of restoration planning for Meetinghouse Creek- Main Road are:

- Is there sufficient upland area with adequate elevation to construct the recommended 0.6 acre sediment forebay? Does sufficient upland area with adequate elevation exist to increase the forebay area to treat the now required 1.4 inch rainfall event, per the New York State Stormwater Design Manual?
- If insufficient upland area exists, or if the required elevation/separation to groundwater cannot be met, can appropriate mitigation measures be developed to satisfy State and Federal regulatory agencies to authorize disturbance in a regulated freshwater wetland area?



# Summarized Scope of Work and Deliverables for Meetinghouse Creek-Main Road

## 1. *Evaluate Existing Conditions and Prepare Schematic Designs*

•Prepare schematic design for wetland restoration by enhancing tidal flow. Schematic designs will likely be drawn on existing aerial photographs with sufficient detail to promote discussion and a thorough understanding of the proposed approach, but not the finished, presentation quality of the final concept drawings. Schematic designs developed for this presentation shall contain the following:

- Location of existing stormwater drainage structures, utility(s), and road infrastructure;
- Pertinent elevation data from field data collection;
- Freshwater wetland boundary, ecological community boundaries, and stands of upland and wetland invasive plants;
- Potential location(s) and sizing for the recommended sediment forebay;
- Potential locations of mitigation areas to compensate for wetland impacts due to forebay construction.

Findings shall be presented at *Interim Presentation on Existing Conditions and Schematic Designs* to fulfill requirements of Tasks 2 (*Research & Site Analysis*) and 3 (*Visioning & Schematic Design*). This meeting is aimed at discussing existing conditions, assessing preliminary restoration options, and obtaining feedback from project stakeholders.



# Summarized Scope of Work and Deliverables for Meetinghouse Creek-Main Road

## 2. *Prepare Final Recommendations and Conceptual Plans*

a. Existing Conditions: Formal report on findings of field observations and data analysis

b. Recommended Solutions: Stormwater management and habitat enhancement recommendations, and expected obstacles and advantages for implementation.

c. Design and Construction Consideration: The final report shall present:

- Preliminary cost estimates for design and construction;
- Identification of construction staging areas and permanent access route to allow for periodic sediment removal;
- Environmental permitting requirements and sediment testing requirements (if any).

d. Project Concept Drawings: Produce concept drawings for Meetinghouse Creek site.

- Sheet 1 – Overview aerial of entire project area;
- Sheets 2-3– Existing and proposed conditions including infrastructure, forebay maintenance routes, freshwater wetland boundary, potential mitigation areas to compensate for wetland disturbance, and property boundaries;
- Sheet 4- Typical details of proposed work

Findings shall be included in *Final Report on Recommendations and Conceptual Plans* and presented at *Final Presentation*

**Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

**Meetinghouse Creek: Existing/Background Needed**

| <b>Information/Data</b>  | <b>Obtained/ Still Needed</b> | <b>Source</b> |
|--|-------------------------------|---------------|
| Record Plans for Existing Drainage Infrastructure; Any Recent Survey Data of Route 25 or Property. | Needed, if available          |               |

## **Kick-Off Meeting** (*Peconic Estuary Habitat Restoration Conceptual Design Planning Services*)

### **Project Timeline**

| <i>Task</i>   | <i>Completion Date</i>                   |
|---|--|
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**THANK YOU. QUESTIONS?**

