

Sediment Control at Wreck Pond

Monmouth County Pilot Project
Dredging and Construction of Scour Trench
Wreck Pond West of State Route 71

Date: August 18, 2010

Presented by:

Monmouth County Division of Engineering & Traffic Safety

John Tobia – Director, Public Works & Engineering

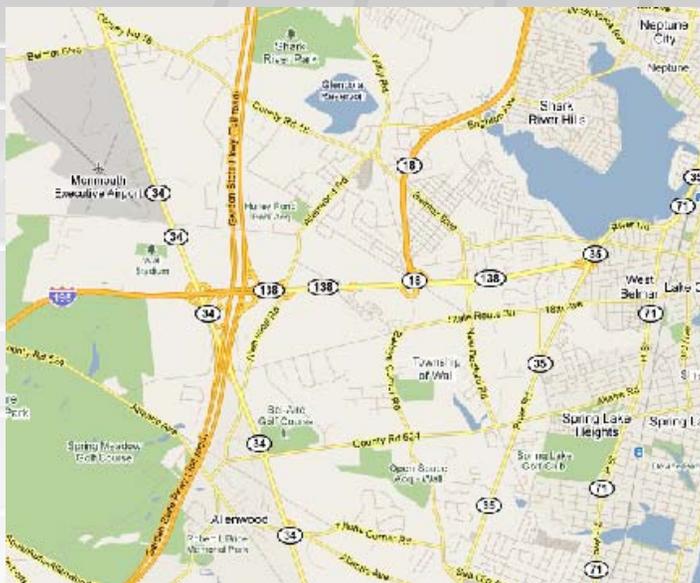
Sayed Moafi, P.E. – Chief Engineer

Matthew Rutkowski – Senior Environmental Engineer



The County Proposes to Undertake a Sediment Control Pilot Project

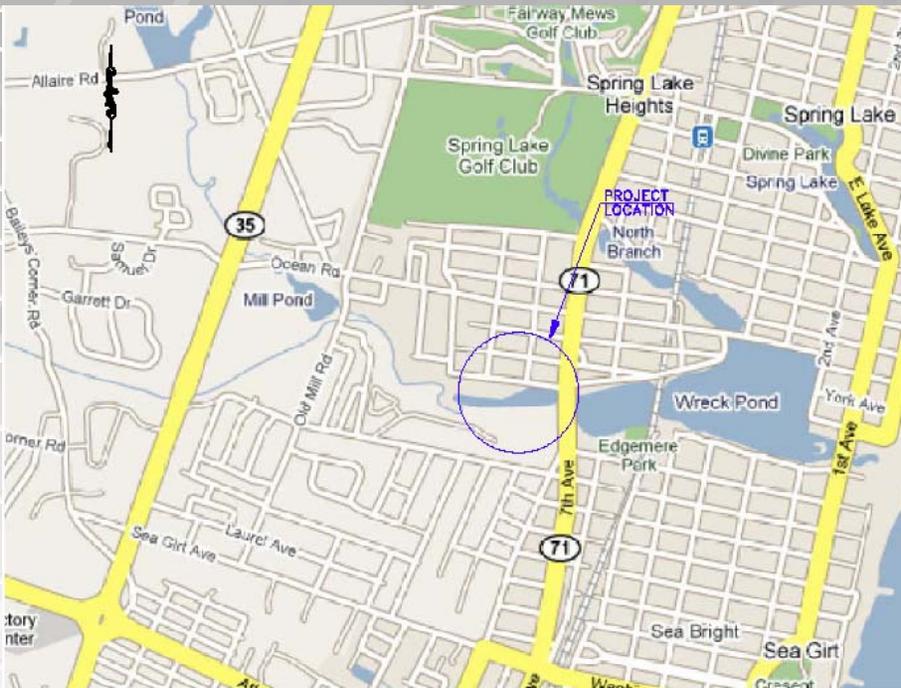
- In October of 2008 the Wreck Pond Brook Watershed Regional Stormwater Management Plan Committee completed a Regional Stormwater Management Plan for the Wreck Pond Brook Watershed (RSWMP).
- Volume II of the RSWMP identified a number of potential projects that would aid in restoring the water quality and aesthetics of the watershed. These projects include:



- Restoration of various headwaters and environmental areas.
- Shoreline stabilization.
- Installation of Rain Gardens.
- Installation/construction of sediment control structures.
- Dredging of various ponds throughout the watershed.

The County Proposes to Undertake a Sediment Control Pilot Project

- The portion of Wreck Pond west of Route 71 was identified as a suitable location.



- Manageable size for a pilot project, can be performed entirely by County forces.

- Vacant area to the south offered excellent set-up and staging area.

- Sediment tests did not identify elevated pollutant levels.

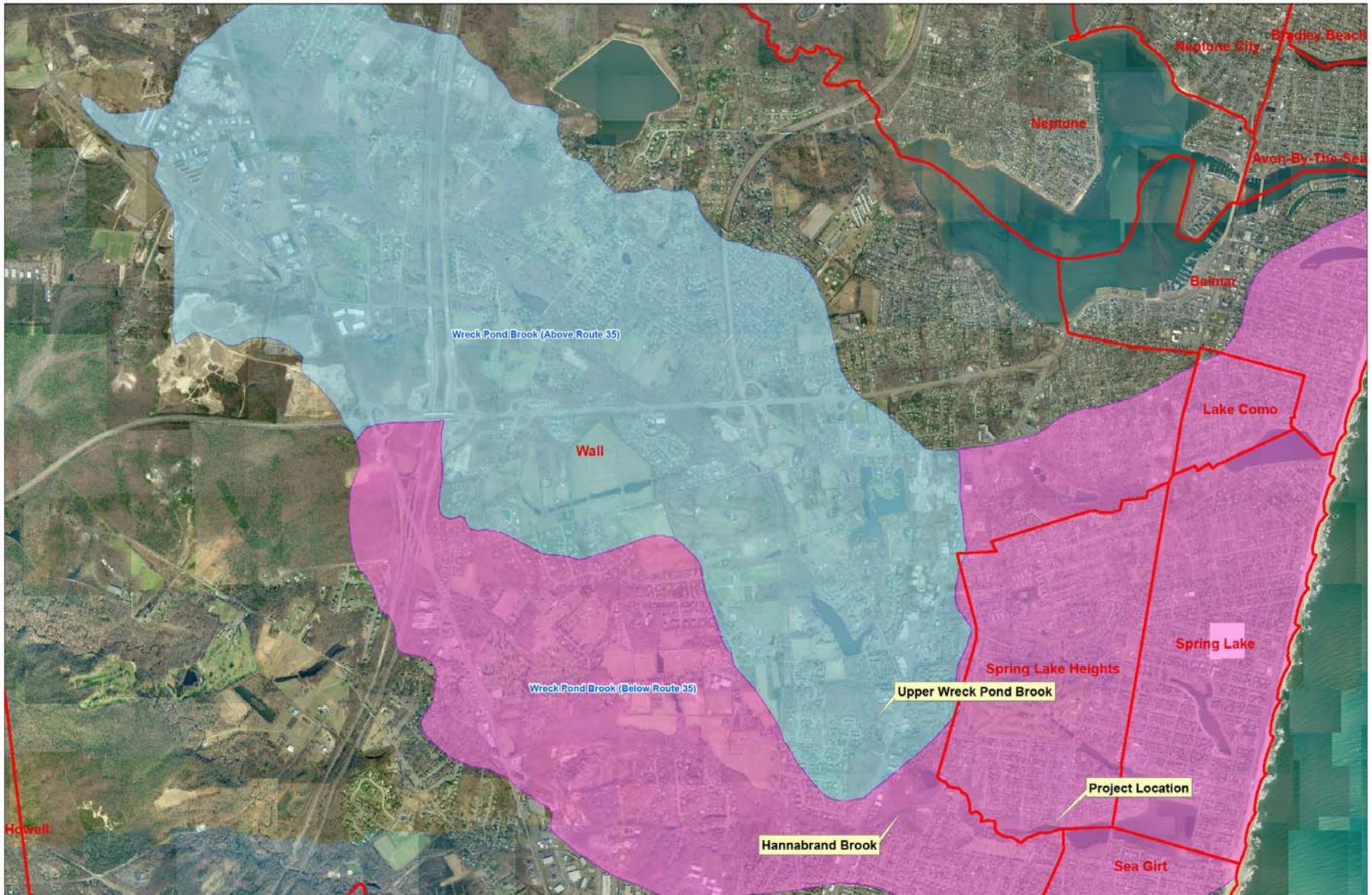
- A significant portion of the watershed is tributary to this portion of the pond.

- Survey with soundings was available.

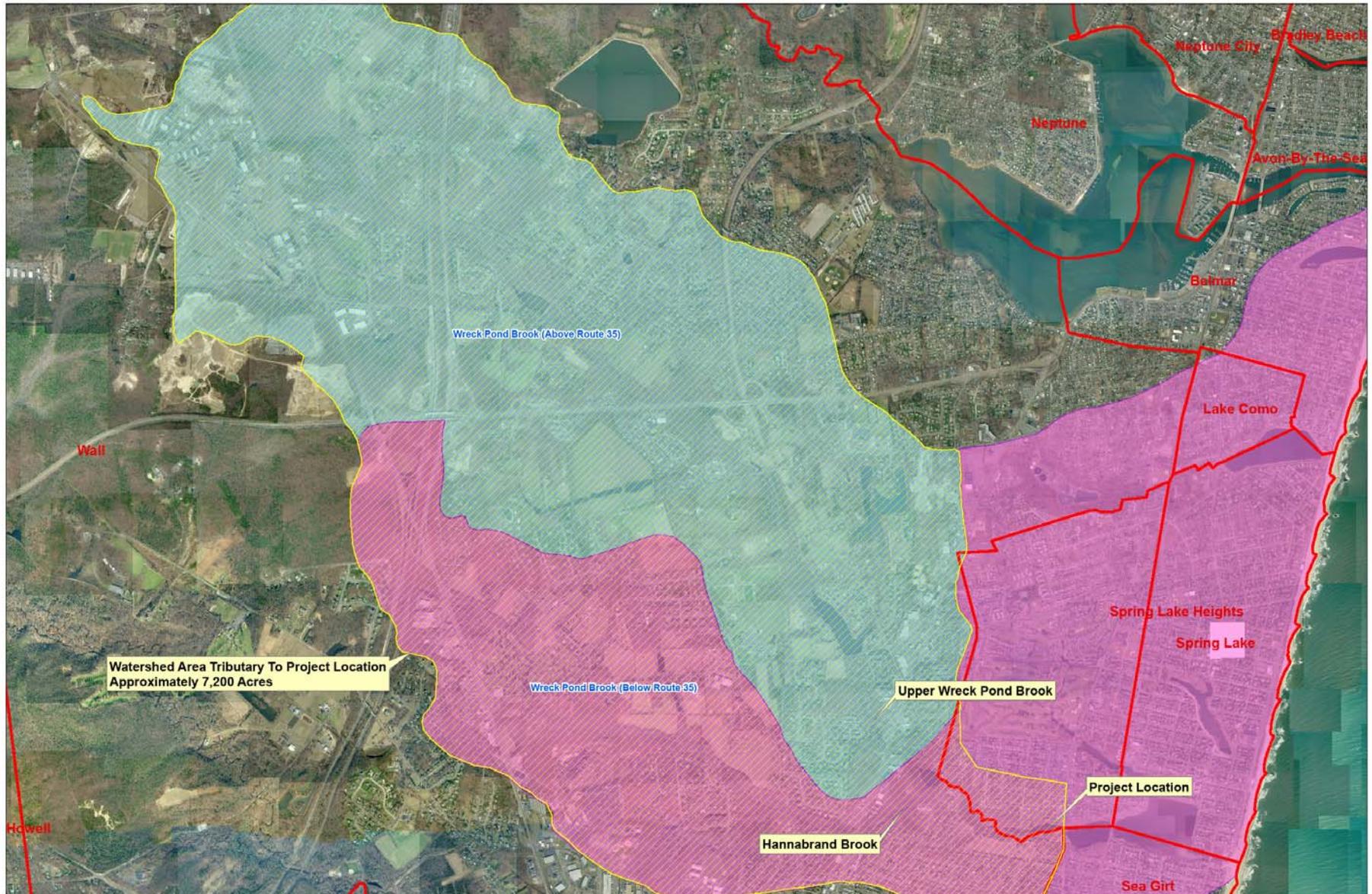
- Identified in RSWMP Volume II Section 6.2.1 as a potential sediment control structure location.

- High visibility area with obvious need for sediment control.

Wreck Pond Watershed



Project Tributary Area



Overview

Recommended	By:	Date:	Construction:	Date:
	Reviewed:	Date:	Survey:	Date:



Sediment Control Project Wreck Pond West of State Route 71		
	Phase 1	Phase 2
Total Excise Volume	Dredging of Accumulated Sediment	Construct Wall/Scour Trench
Estimate # of trips	200 Trucks	120 Trucks
Excise Transportation	200 Cans	120 Cans
Excise Trench Duration	45 Days	20 Days
Excise Access Road Setup - Stone	500 CY	500 CY
Excise # of delivery trips	44 Trucks	44 Trucks
Excise Access Road Setup - Gravel	10,500 SF	6,500 SF
Excise Access Road Setup - Temporary	200 CY	200 CY
Excise Access Road Setup - Permanent	100 CY	100 CY
Excise # of delivery trips	20 Trucks	44 Trucks
Excise Access Road Removal	50 Trucks	24 Trucks
Additional Considerations	<p>Anticipated to be an standard dredging project.</p> <p>May also require 15000' Steamer Encasement project.</p> <p>Consider dredging for: catchment of fish and debris.</p>	<p>In addition to dredging permits, may also require Permit to Install and operate.</p> <p>May also require 15000' Steamer Encasement project.</p> <p>Consider dredging for: catchment of fish and debris.</p>



GRAPHIC SCALE

1 inch = 40 feet

no.	revisions	date

COUNTY OF MONMOUTH
 DIVISION OF ENGINEERING
 JOSEPH M. ETTORE, COUNTY ENGINEER

SEDIMENT CONTROL PROJECT
 WRECK POND
 LOT 25 BLOCK 277
 TOWNSHIP OF WALL

MONMOUTH COUNTY NEW JERSEY

AERIAL—PHASE LIMITS PLAN

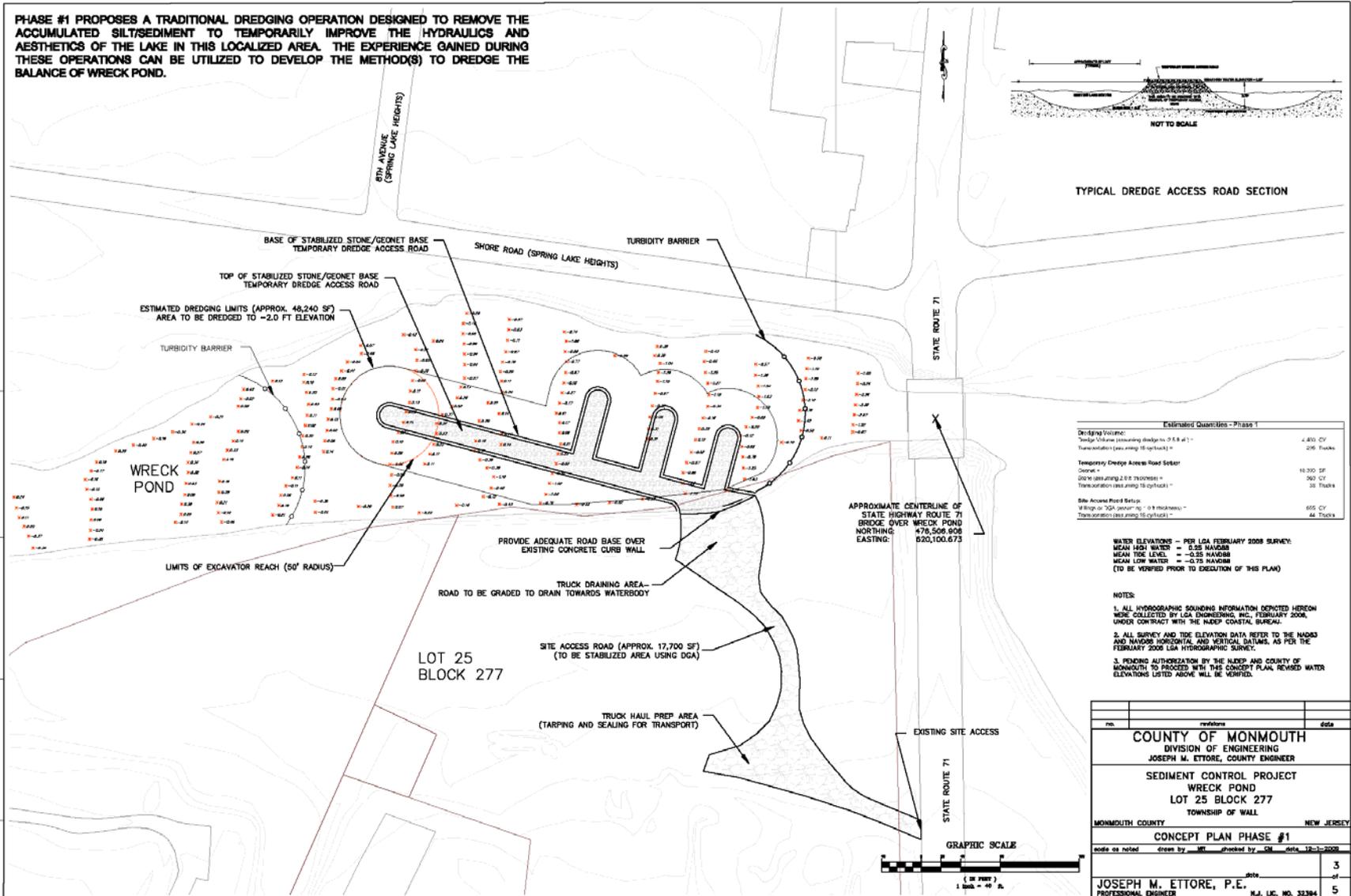
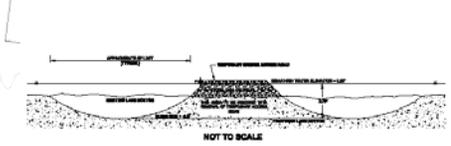
scale as noted drawn by MEI checked by JME date 12-1-2008

JOSEPH M. ETTORE, P.E. PROFESSIONAL ENGINEER	date	2
	of	5

H.J. LIC. NO. 32394

Phase 1 – Traditional Dredging

PHASE #1 PROPOSES A TRADITIONAL DREDGING OPERATION DESIGNED TO REMOVE THE ACCUMULATED SILT/SEDIMENT TO TEMPORARILY IMPROVE THE HYDRAULICS AND AESTHETICS OF THE LAKE IN THIS LOCALIZED AREA. THE EXPERIENCE GAINED DURING THESE OPERATIONS CAN BE UTILIZED TO DEVELOP THE METHOD(S) TO DREDGE THE BALANCE OF WRECK POND.



Estimated Quantities - Phase 1

Dredging Volume:	4,831 CY
Dredge Volume (assuming dredging to 0.8 ft) =	4,831 CY
Transportation (see page 10 of plan) =	236 Trucks
Temporary Dredge Access Road Section:	
Gravel =	18,300 SF
DGA (see page 10 of plan) =	360 CY
Transportation (see page 10 of plan) =	31 Trucks
Site Access Road Section:	
18" (or "24" (shown) = 0" thickness) =	655 CY
Transportation (see page 10 of plan) =	41 Trucks

WATER ELEVATIONS - PER LGA FEBRUARY 2008 SURVEY:
 MEAN HIGH WATER = 0.25 HAU88B
 MEAN TIDE LEVEL = -0.25 HAU88B
 MEAN LOW WATER = -0.75 HAU88B
 (TO BE VERIFIED PRIOR TO EXECUTION OF THIS PLAN)

- NOTES:**
1. ALL HYDROGRAPHIC SOUNDING INFORMATION DEPICTED HEREON WERE COLLECTED BY LGA ENGINEERING, INC., FEBRUARY 2008, UNDER CONTRACT WITH THE INDEP. COASTAL BUREAU.
 2. ALL SURVEY AND TIDE ELEVATION DATA REFER TO THE MADD3 AND NAVD83 HORIZONTAL AND VERTICAL DATUMS, AS PER THE FEBRUARY 2008 LGA HYDROGRAPHIC SURVEY.
 3. PENDING AUTHORIZATION BY THE INDEP. AND COUNTY OF MONMOUTH TO PROCEED WITH THIS CONCEPT PLAN, REVISED WATER ELEVATIONS LISTED ABOVE WILL BE VERIFIED.

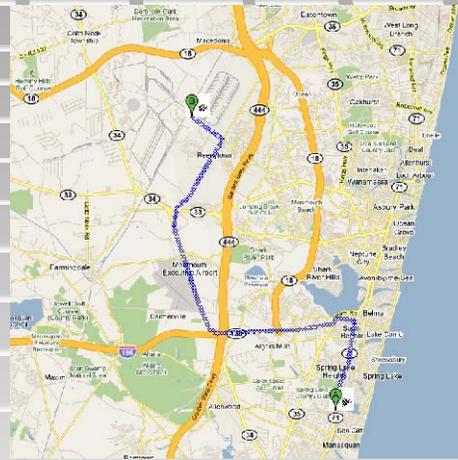
no.	revisions	date
COUNTY OF MONMOUTH DIVISION OF ENGINEERING JOSEPH M. ETTORE, COUNTY ENGINEER SEDIMENT CONTROL PROJECT WRECK POND LOT 25 BLOCK 277 TOWNSHIP OF WALL MONMOUTH COUNTY NEW JERSEY CONCEPT PLAN PHASE #1 made as noted drawn by MFT checked by CM date 12-1-2009		
		3
JOSEPH M. ETTORE, P.E. PROFESSIONAL ENGINEER		5

Construction	Date: _____	Date: _____
	Survey	Date: _____
Traffic	Date: _____	Date: _____
	Permits	Date: _____
Bridge	Date: _____	Date: _____
	Recovery	Date: _____
Recommended	Date: _____	Date: _____

Haul Routes

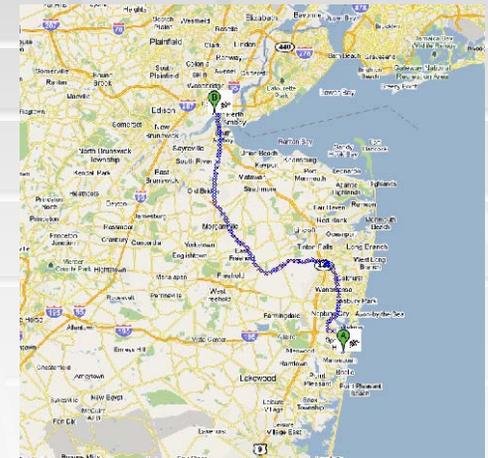
Monmouth County Reclamation Center Haul Route

Segment	Road	Direction	Distance
1	State Route 71 N	North	2.5 miles
2	County Route 18 (16th Avenue)	West	0.5 mile
3	State Route 35 S	South	0.1 mile
4	State Route 138 W	West	3.2 mile
5	State Route 34 N	North	3.3 miles
6	Wyckoff Road	North	0.5 miles
7	County Route 549 (Shafto Road)	North	2.4 miles
8	County Route 16 (Asbury Avenue)	West	0.6 miles
Total			13.1 miles



Bayshore Recycling Corporation Haul Route

Segment	Road	Direction	Distance
1	State Route 71 N	North	2.5 miles
2	County Route 18 (16th Avenue)	West	0.5 mile
3	State Route 35 S	South	0.1 mile
4	State Route 138 W	West	3.2 mile
5	State Route 18 N	North	24.9 miles
6	State Route 9 N	North	9.8 miles
7	Smith Street	E/W	1.9 miles
8	Crows Mill Road	South	0.2 miles
Total			43.1 miles



Project Summary

Sediment Control Project Wreck Pond West of State Route 71		
	Phase 1 Dredging of Accumulated Sediment	Phase 2 Construct Weir/Scour Trench
Total Dredge Volume	4,400 CY	1,880 CY
Estimated # of trips	295 Trucks	126 Trucks
Dredge Transportation*	28 Days	12 Days
Estimated Phase Duration	47 Days	25 Days
Site Access Road Set-Up - Stone	655 CY	
Estimated # of delivery trips	44 Trucks	
Dredge Access Road Set-Up - Geonet	10,390 SF	6,280 SF
Dredging Access Road Set-up - Temporary	580 CY	321 CY
Dredging Access Road Set-up - Permanent	0 CY	352 CY
Estimated # of delivery trips	38 Trucks	45 Trucks
Dredging Access Road Removal	N/A	22 Trucks
Additional Considerations	Anticipated to require standard dredging permits.	In addition to dredging permits, may also require Flood Hazard Area permits and analysis.
		May also require NJDEP Stream Encroachment impact analysis.
	Consider dredging date restrictions due to fish and wildlife.	Consider dredging date restrictions due to fish and wildlife.

* Assuming 5 trucks available at 2 trips per truck per day. This excludes days needed for equipment mobilization and dredge material consolidation/stockpiling to prepare material for trucking.

What We Hope To Gain

- General experience in dredging operations that will translate to larger projects.
- Permitting and other agency coordination.
- Potential beneficial uses of the dredged materials.
- Sedimentation rates and maintenance requirements of scour trench.

Questions ?