



# Bradley Beach Maritime Forest Bradley Beach, NJ

Prepared by Capt. Al Modjeski AECOM

# OUTLINE

- Introduction and Purpose
- Partners
- Process
- Plans
- Schedule
- Benefits

# Introduction



- 0.4 Acre hard-packed lot
- Multiple Uses
- Nuisance Species
- Stormwater runoff/water quality
- Town Meetings
- Pre – Hurricane Sandy



# Post Hurricane Sandy

## Fletcher Lake

- ~ Flooding
- ~ Damaged homes and businesses
  - ~ Loss of revenue
  - ~ Sand accretion
    - ~ Gazebo
    - ~ Aerators
- ~ Flume Operation
  - ~ Debris



# Purpose

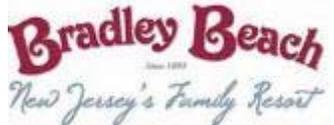
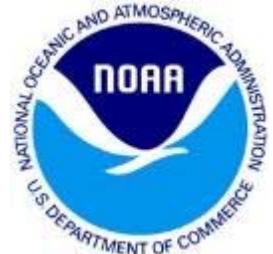


- Promote Resiliency and Protect Community
- Improve Storm Protection/Reduce Sheeting
- Buffer Lake Fletcher
- Improve Biodiversity and Water Quality
- Environmental Outreach/Stewardship
- Monmouth County Master Plan

# Partners and Thanks



- Coastal America
- NJ Corporate Wetlands Restoration Partnership
- AECOM
- United States Army Corps
- US Fish and Wildlife Service
- NOAA
- Environmental Protection Agency
- American Littoral Society
- New Jersey Department of Environmental Protection
- Monmouth County Department of Public Works and Engineering
- Bradley Beach Environmental Commission
- Bradley Beach Shade Tree Commission
- Bradley Beach Department of Public Works
- Borough of Bradley Beach
- Pinelands Nursery and Supply
- PS&S
- Fletcher Lake Commission
- Bradley Beach Elementary School Eco-Club
- Sylvan Lake Commission
- Avon Environmental Commission
- Rutgers Cooperative Extension
- Volunteers
- Chris Benosky, Chris Syrett, John Wright, Jim Shissias, Julie Shrek, Gary Engelsted, Joyce Wilkins, Rich Bianchi



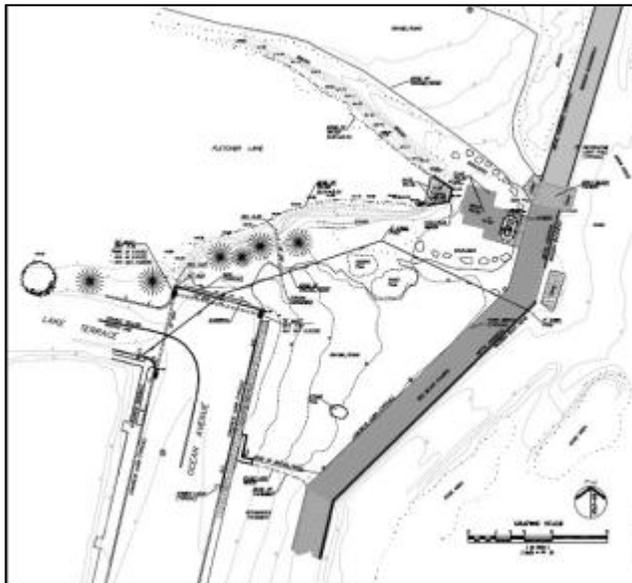
# The Process



- Identification of 501(c)(3)
- Partnership Creations
- Obtain Local Support
- Municipal Organizations, Commissions, and Boards
- Obtain Funding
  - Franklin Parker small grant
  - Sustainable NJ grant
  - NJCWRP funding

# The Process

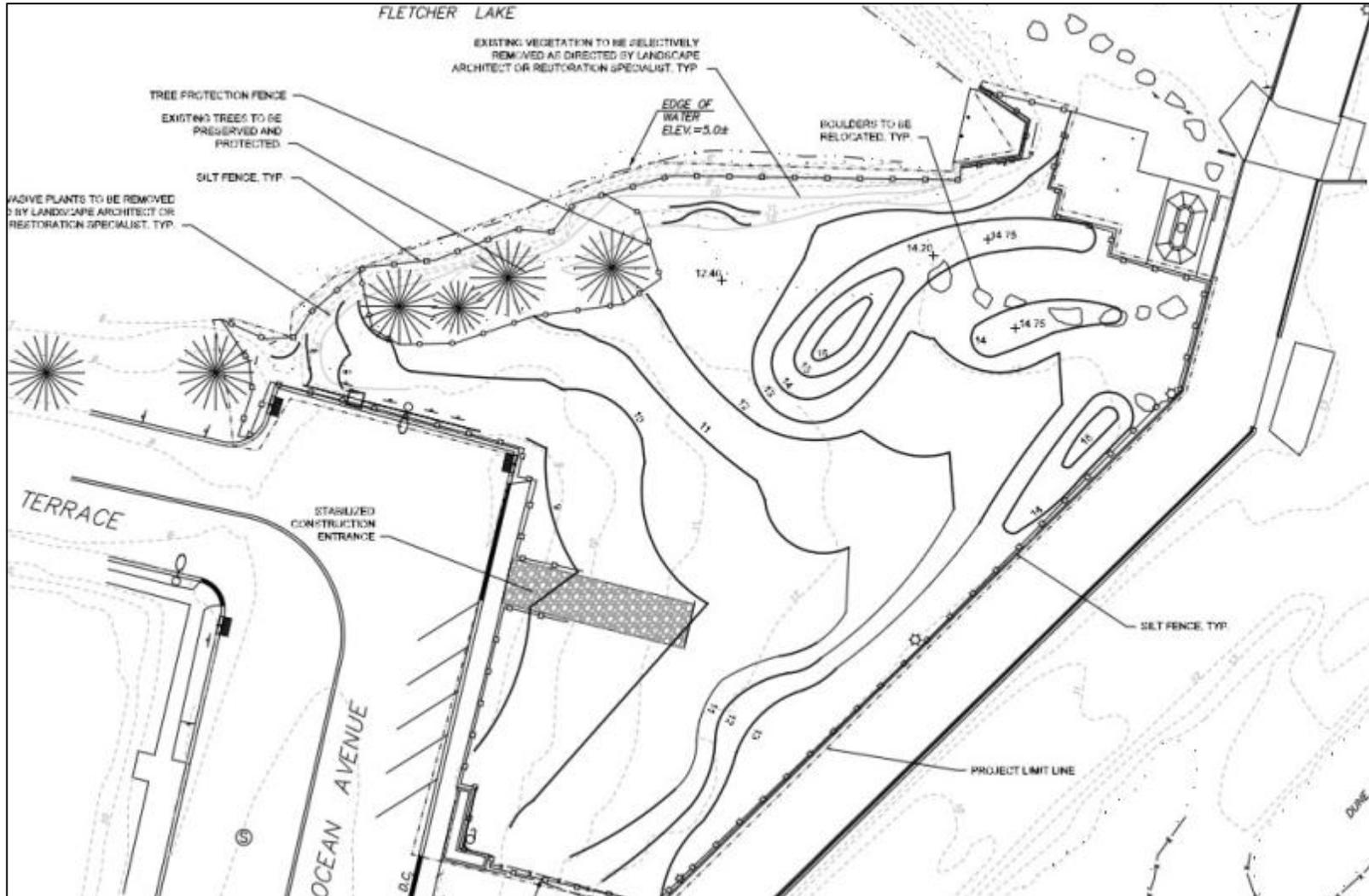
- In-Kind Services
- Site Surveys
- Conceptual Design



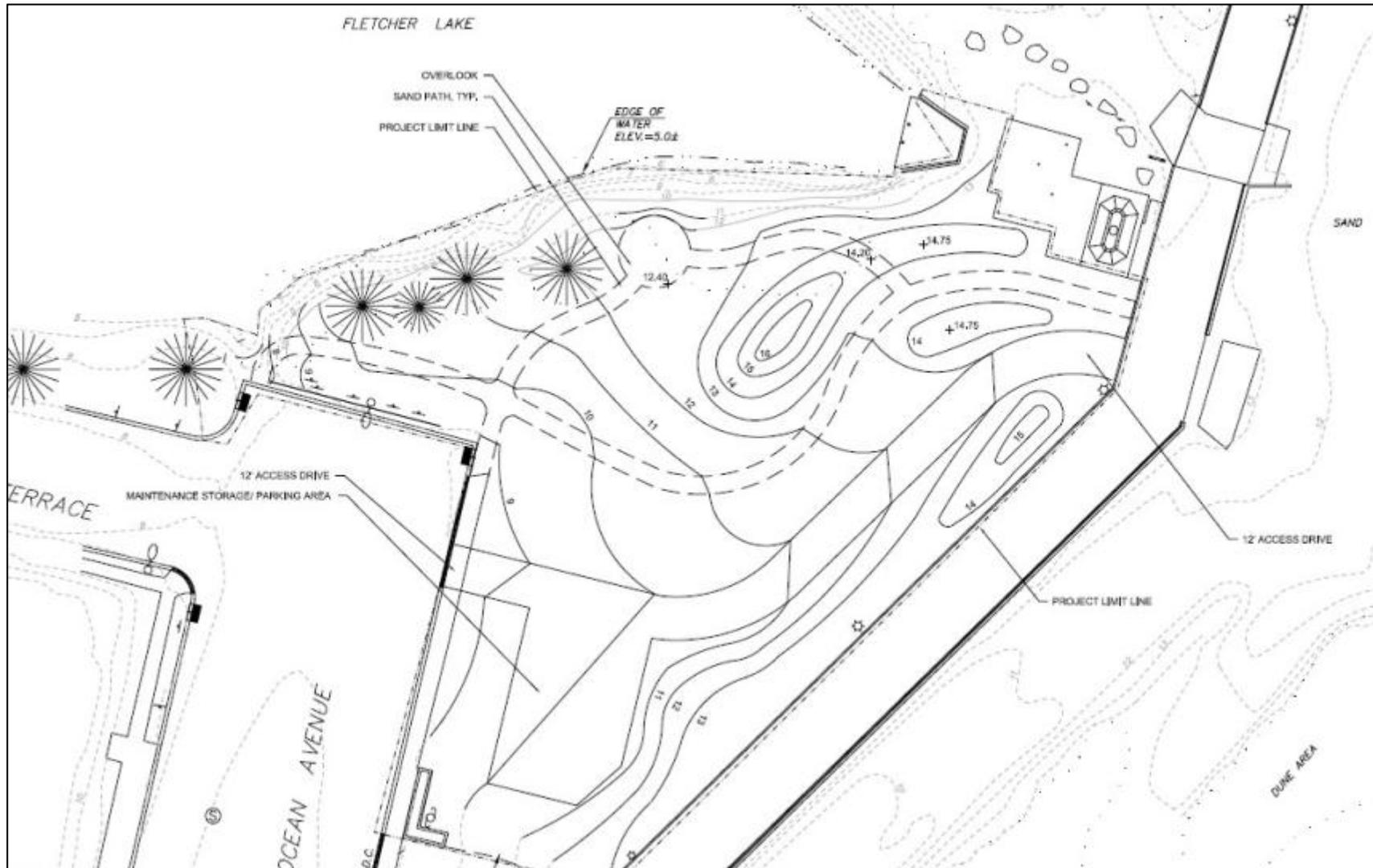
# Permits and Approvals

- Jurisdictional Assessment
- CAFRA Permit Pre-application (Stormwater)
- Soil Conservation District
- Municipal Organizations, Commissions, and Boards
- Mayor and Council Approval
- Commitment Letters
- Grant Allocations

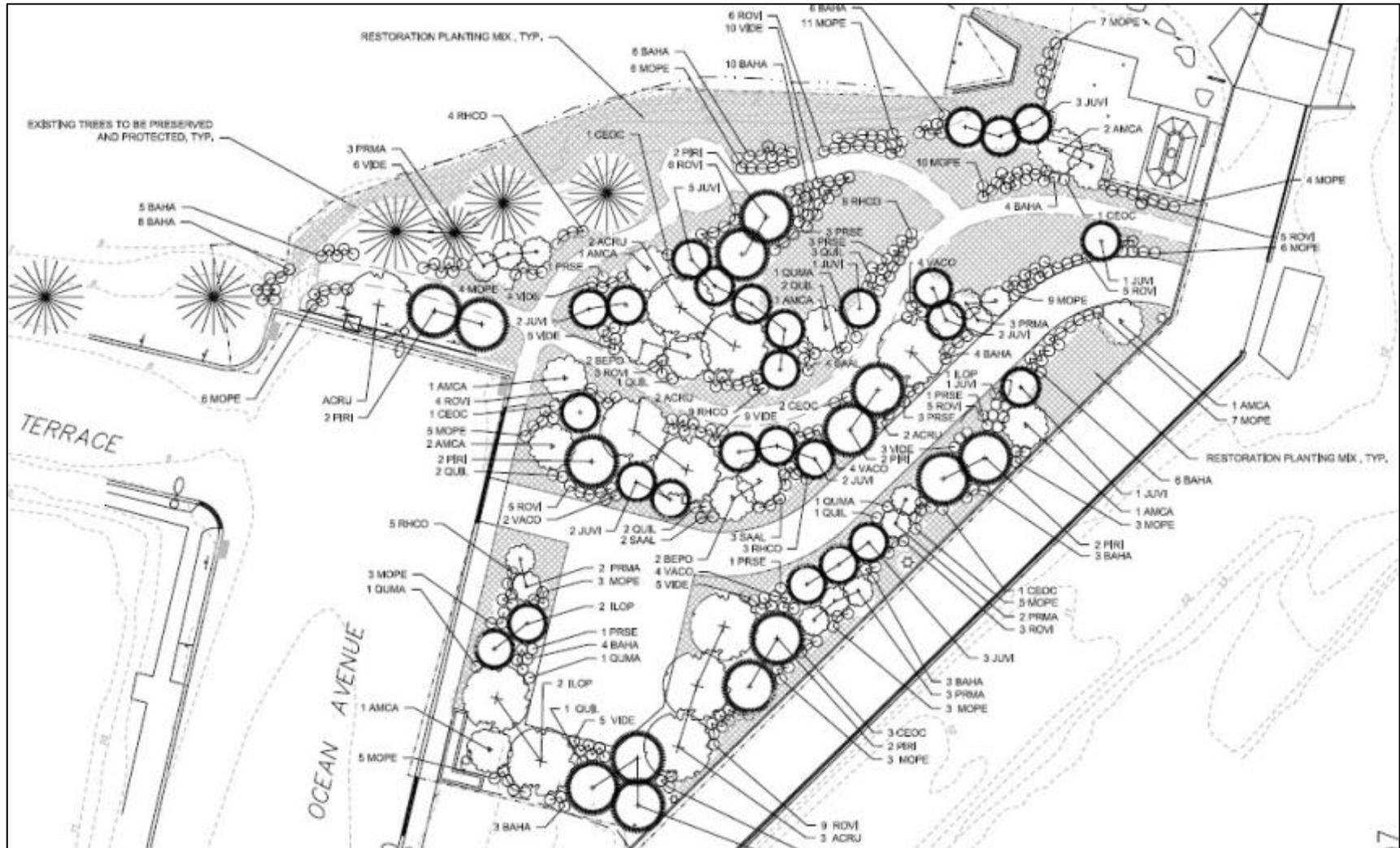
# Approved Plans (SESC)



# Approved Plans (Grading)



# Approved Plans (Planting)



# Planting List

## PLANT SCHEDULE

QTY.	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	FORM	NOTES
CALIPER TREES						
10	ACRU	ACER RUBRUM	RED MAPLE	1 - 1-1/2"	B & B	LOW BRANCHED
5	ILOP	ILEX OPACA	AMERICAN HOLLY	1 - 1-1/2"	B & B	LOW BRANCHED
EVERGREEN TREE						
23	JUVI	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6'-8' HT.	B & B	FULLY FORMED
14	PIRI	PINUS RIGIDA	PITCH PINE	8' - 10' HT.	B & B	FULLY FORMED
UNDERSTORY AND MULTI-STEMMED TREES						
10	AMCA	AMELANCHIER CANADENSIS	SHADBUSH	6'-8' HT.	B & B	3-STEM MINIMUM
4	BEPO	BETULA POPULIFOLIA	GREY BIRCH	6'-8 HT.	B & B	3-STEM MINIMUM
13	PRMA	PRUNUS MARITIMA	BEACH PLUM	4'-6 HT.	B & B	FULLY FORMED
CONTAINERIZED TREES						
4	ACRU	ACER RUBRA	RED MAPLE	3'-4' HT.	#2 CONT.	FULLY FORMED
9	CEOC	CELTIS OCCIDENTALIS	HACKBERRY	3'-4' HT.	#2 CONT.	FULLY FORMED
13	PRSE	PRUNUS SEROTINA	BLACK CHERRY	3'-4' HT.	#2 CONT.	FULLY FORMED
9	SAAL	SASSAFRAS ALBIDUM	SASSAFRAS	3'-4' HT.	#2 CONT.	FULLY FORMED
11	QUIL	QUERCUS ILICIFOLIA	BEAR OAK	3'-4' HT.	#2 CONT.	FULLY FORMED
5	QUMA	QUERCUS MARILANDICA	BLACKJACK OAK	3'-4' HT.	#2 CONT.	FULLY FORMED
SHRUBS						
62	BAHA	BACCHARIS HALIMIFOLIA	GROUNDSEL TREE	3'-4' HT.	#2 CONT.	MULTI-STEMMED
96	MOPE	MORELLA PENNSYLVANICA	BAYBERRY	3'-4' HT.	#2 CONT.	MULTI-STEMMED
30	RHCO	RHUS COPPOLINA	SHINING SUMAC	3'-4' HT.	#3 CONT.	MULTI-STEMMED
51	ROVI	ROSA VIRGINIANA	VIRGINIA ROSE	3'-4' HT.	#2 CONT.	MULTI-STEMMED
14	VACO	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	3'-4' HT.	#2 CONT.	MULTI-STEMMED
47	VIDE	VIBURNUM DENTATUM	ARROWWOOD	3'-4' HT.	#2 CONT.	MULTI-STEMMED

RESTORATION PLANTING MIX						
2800	AMBR	AMMOPHILIA BREVILIGULATA	BEACH GRASS		2" PLUG	18" ON CENTER
1200	PAAM	PANICUM AMARUM	BITTER PANIC GRASS		2" PLUG	18" ON CENTER
1000	ASTU	PANICUM VARIGATUM	SWITCH GRASS		2" PLUG	18" ON CENTER
1200	SCSC	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM		2" PLUG	18" ON CENTER
600	SOSE	SOLIDAGO SEMPERVIRENS	SEASIDE GOLDENROD		2" PLUG	18" ON CENTER





## Construction Schedule



2013 – Final Design approved by SCD (Valid until 12/19/2016)

- Meetings with DPW ongoing since 2012
- Tentative Test Dates for Soil – August 21 - 23
- SCD Notification – September 13
- SESC Implementation – September 9 - 13
- Excavation and Amendment - September 16 - 26
- Plant Delivery – September 27
- Planting Dates – September 28 and 29
  - 29<sup>th</sup> contingency
  - Rain dates October 5 and 6
- Monitor, Signage, and Replant – April 2014 (Earth Day?)
- Additional Grant Funding – Spring 2014





## Benefits

- Flooding
- Storm Protection
- Habitat/Biodiversity
- Improved Water Quality
- Recreation
- Stewardship
- Improved eco-economy
- Environmental Awareness



# Other Steps to Resiliency Fletcher and Sylvan Lakes



- Dredging
- Flume/Ocean-Beach Redesign-Repair
- Fish Passage
- Re-scaping of Shoreline/Revegetation
- Maritime Forest/Back Dune Plantings
- Flood Control/Storm Water Management
- Debris Removal
- Dunes

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- Pinelands Nursery and Supply
- PS&S
- Fletcher Lake Commission
- Bradley Beach Elementary School Ecology Club
- Volunteers



# Volunteers Needed

Contact Capt. Al Modjeski at

732-589-5116 or e-mail  
[aleksandr.modjeski@aecom.com](mailto:aleksandr.modjeski@aecom.com)



## How do we get there??



- Phased approach
- Prioritize
- Partnerships
- Outreach
- Funding
- Need Action