

Oakland Beach Resilience

Warwick, Rhode Island

URI Landscape Architecture Junior Class

Professor Richard Sheridan

Fall 2015

Historical Analysis

Oakland Beach: Warwick, Rhode Island

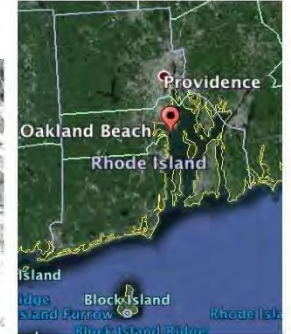
Oakland Beach hotel Built 1870



Oakland Beach View From The Water



Oakland Beach Aerial Photo, 1962



Oakland Beach Aerial Photo, 1981



Oakland Beach Re-Design (model)



Artificial Pond, 1880



Oakland Beach Aerial Photo, 1939



Oakland Beach Aerial Photo, 1911



Oakland Beach Aerial Photo, 2015



1880 1911 1920 1930 1938 1940 1941 1945 1950 1954 1960 1970 1980 1990 2000 2010 2020

Known as a "little Newport"

Known for its speakeasies and bootleggers

Known for inexpensive housing

Hurricane of 1938

WWII begins

WWII ends

Hurricane Carol

Carousel sold

Beach and Parking fee discontinued

EXISTING CONDITIONS

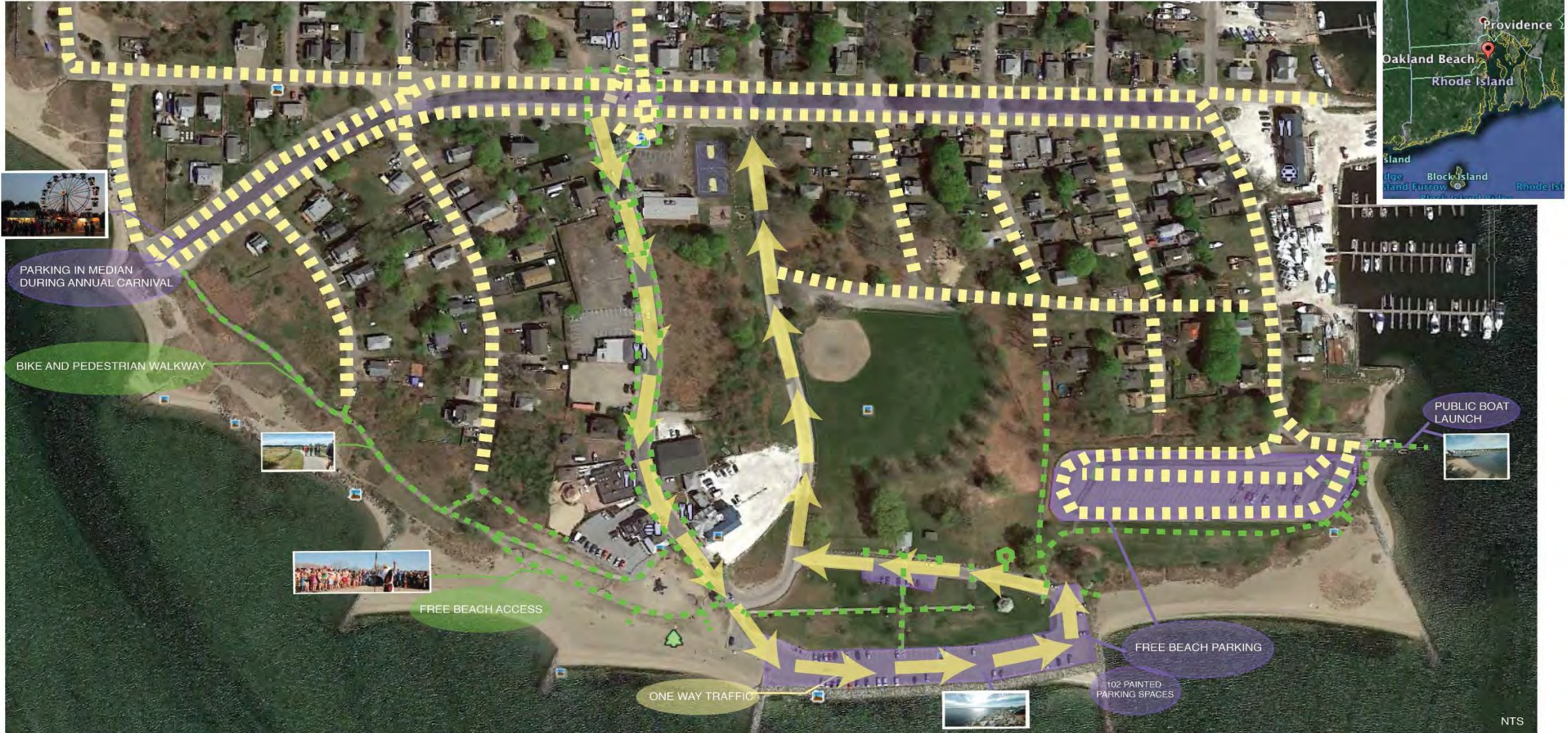
OAKLAND BEACH, WARWICK, RI



- BOAT RAMPS
- BASEBALL FIELD
- THE CAROUSEL GRILLE (RESTAURANT)
- EXISTING TREES
- MARLEY'S ON THE BEACH (RESTAURANT)
- BOAT/TRAILER PARKING LOT
- TOP OF THE BAY (RESTAURANT)
- PUBLIC RESTROOMS
- IGGY'S DOUGHBOYS & CHOWDER HOUSE (RESTAURANT)
- GAZEBO
- EXISTING PARKING LOT (102 SPACES)
- GRANITE STONE WALL
- GROINS

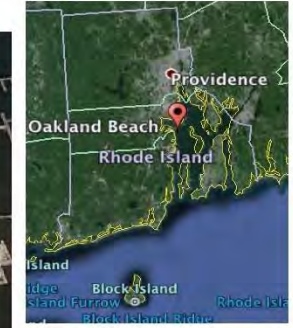
CIRCULATION

OAKLAND BEACH, WARWICK RI



UTILITIES

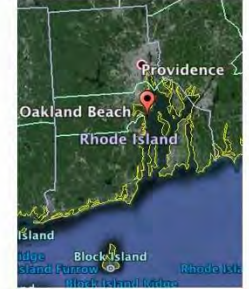
OAKLAND BEACH, WARWICK RI



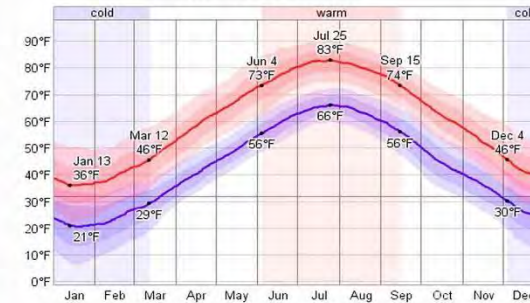
WEATHER ANALYSIS

OAKLAND BEACH WARWICK, RI

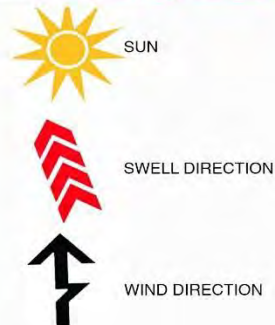
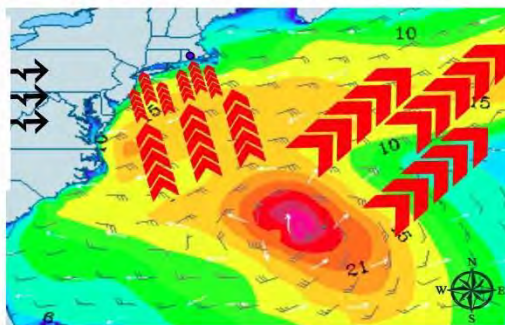
PROFESSOR SHERIDAN LAR 343



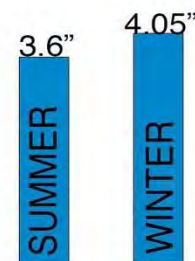
AVERAGE TEMPERATURES



-Highest temperatures occur in July and August (AVG- 83F)
 -Lowest temperatures occur in January and February (AVG- 21F)

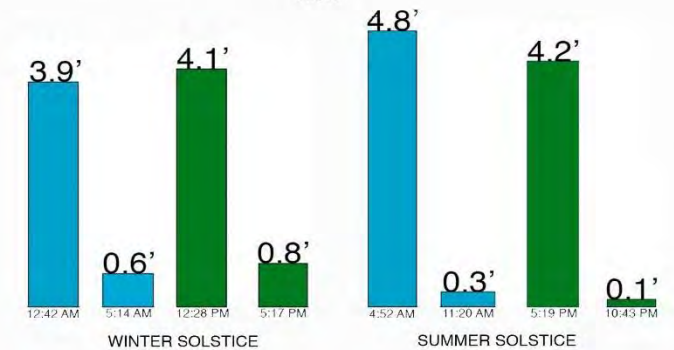


AVERAGE PRECIPITATION



-The most precipitation occurs during Fall, Winter, and Spring
 -These factors tell us that the summer will be the most active time of year showing the most suitable conditions for leisure

TIDES



Wind/Swell

-The most frequent winds come out of the west throughout the year. While the most prevailing winds come from the south/south east. Normally from storms including tropical storms and hurricanes
 -Hurricane season last from June 1st-November 30th. Expect high damage to the site during this time of year, which may mean rebuilding all year around.

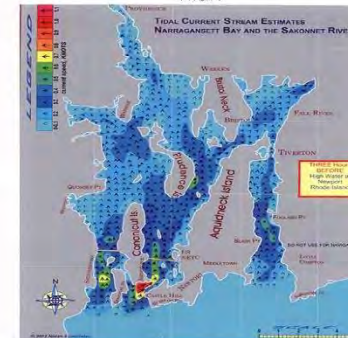
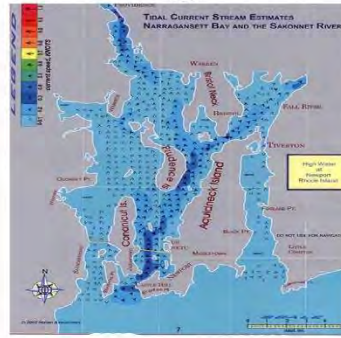
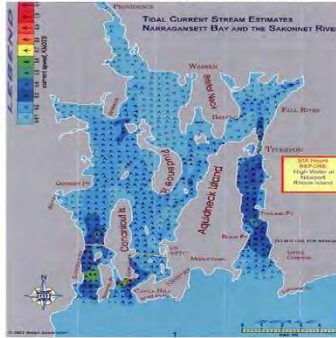
Sun/Shade

-Sunrise/Sunsets are shown as a sun with low opacity.
 -Mid day is shown with the highest opacity and is located generally in the middle of the map

TOPOGRAPHY, BATHYMETRICS, AND WATER ISSUE ANALYSIS

OAKLAND BEACH, WARWICK, RI.

RESULTS OF TIDES IN GREENWICH BAY. THE DARKER BLUE REPRESENTS THE RISE IN SEA LEVEL WHILE THE LIGHT BLUE REPRESENTS THE EXISTING LOW



AFFECTS OF THE 5 FOOT SEA LEVEL RISE. THE AREA THAT IS LIGHTER BLUE IS THE AREA OF LAND WHERE WATER WILL BE WHEN THE SEA LEVEL RISES BY 5 FEET.



NOAA BATHYMETRIC LAYOUT OF THE BAY

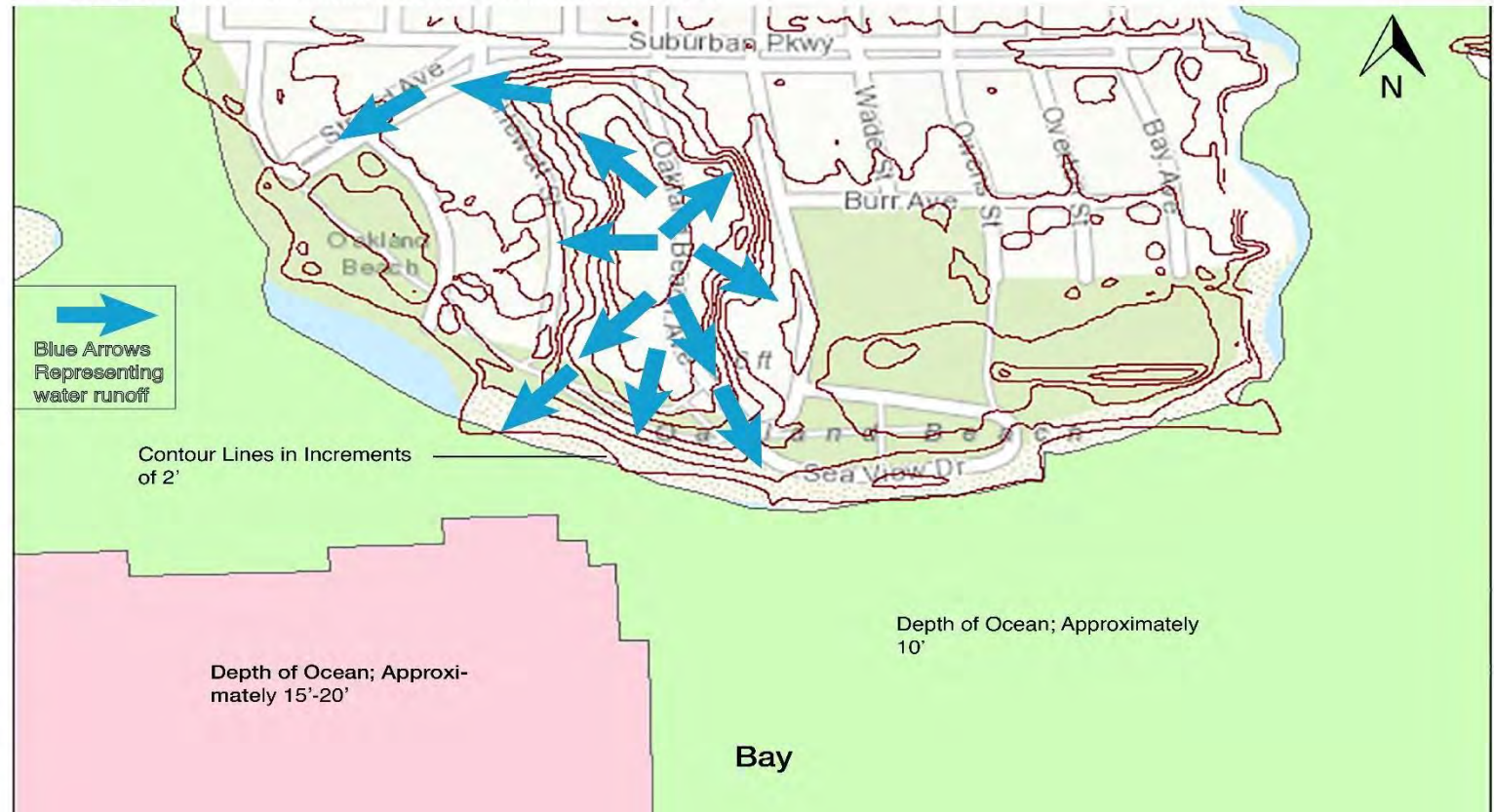
HOW USING CONTOUR LINES WILL HELP MAKE FURTHER DECISIONS:

- HELP GAUGE WHERE PROBLEM RUNOFF AREAS WILL EXIST.
- ASSIST WITH PLACEMENTS OF BIOSWALES OR OTHER FILTRATION SYSTEMS FOR RUNOFF
- UNDERSTAND HOW THE WATER LEVELS WILL AFFECT THE SIZE OF POTENTIAL WAVES.



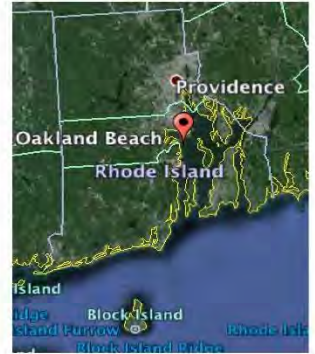
BATHYMETRIC, TOPOGRAPHIC AND WATER RUNOFF FLOW:

-THE BLUE ARROWS SHOW HOW THE WATER FLOWS ON THE MAIN AREA OF THE SITE.

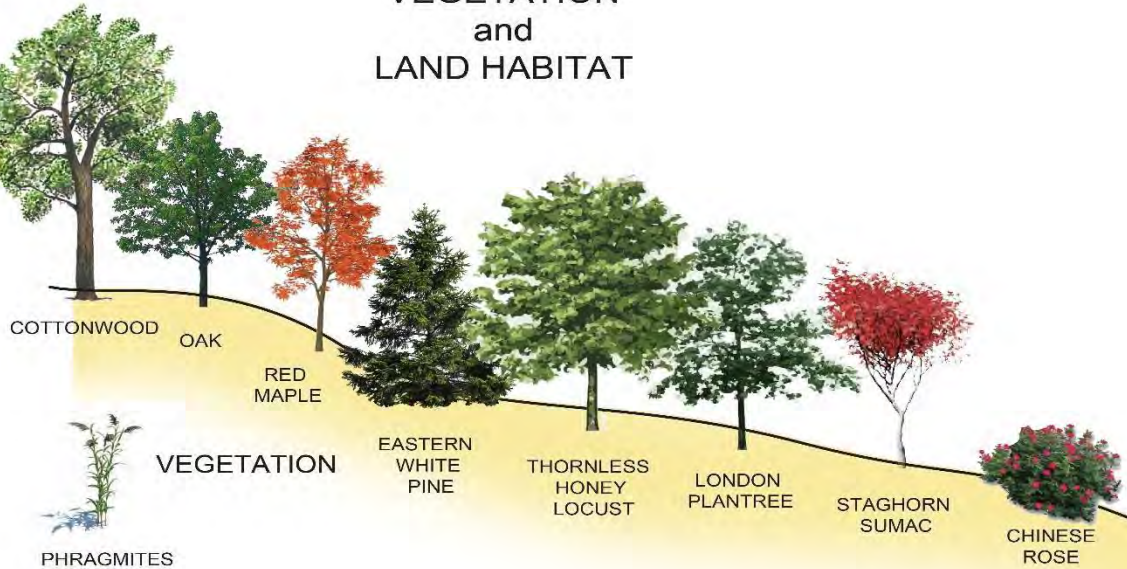


VEGETATION AND HABITAT

OAKLAND BEACH, WARWICK RI



VEGETATION and LAND HABITAT



MAMMALS



BIRDS

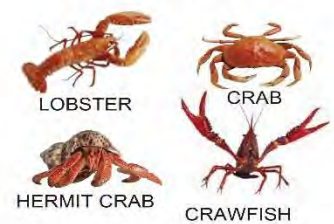


AQUATIC HABITAT

SHELL FISH



CRUSTACEANS



FISH



COMMUNITY'S OBJECTIVES

OAKLAND BEACH, WARWICK RI





Oakland Beach Site Designs

Warwick, Rhode Island

URI Landscape Architecture Junior Class

The Carousel Professor Richard Sheridan

LAR 343

Fall 2015

Iggy's Doughboys & Chowder House
Top of the Bay

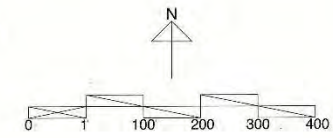
MASTER PLAN

OAKLAND BEACH, WARWICK RI

DESIGNED BY: BRYNN ARMSTRONG
PREPARED FOR: PROFESSOR RICHARD SHERIDAN



(B) NORTH PERSPECTIVE OF THE BEACH RULES AND BIKE & PEDESTRIAN PATH DURING THE SUMMER SEASON



Oakland Beach Master Plan

Warwick, RI.

Illustration/ Cross Section of Proposed Dunes and Bio Swales

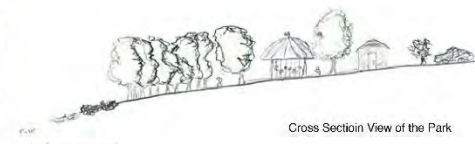


The Bio Swales Function from the heavily degraded with the backwash of waves and sand. This is the most important element of the plan. On Top of 1' Dunes to Allow Proper Filtration. The Grasses Filter Out the Sand and the Bio Swales Filter Out the Pollutants. The Boardwalk Allows People to Enjoy the entire Site. It is Just Above the Ground to Allow Water to Flow Underneath During High Tide of Coastal Storms.

Illustration of Dog Park, Boardwalk, and the Bay



Prepared For Richard Sheridan By Brian Bieszard



Cross Section View of the Park



OAKLAND BEACH

WARWICK, RI

PREPARED FOR RICHARD SHERIDAN BY ROMEO D'ANDREA



Perspective A:



Illustration showing farmer's market looking North from parking lot

Scale: NTS

Perspective B:



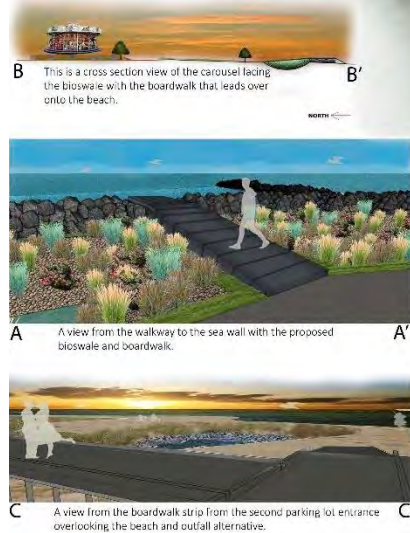
Illustration showing the allee, carousel and parking lot looking East along the path

Scale: NTS

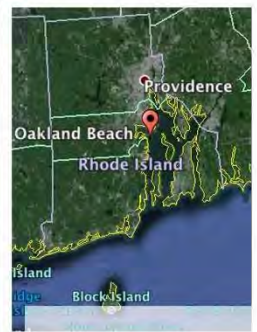
Master Plan

Oakland Beach, Warwick RI

Gabriella D'Angelis
Professor Sheridan
LAR 343



Overall Summary:
Added Hardscapes= 39%
Added Softscapes= 61%
Parking Increase= 40%

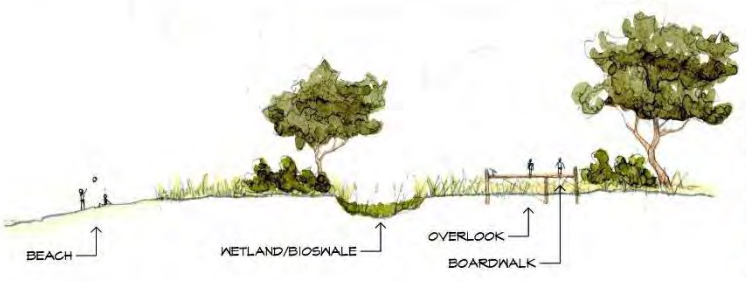


PARKING LOTS

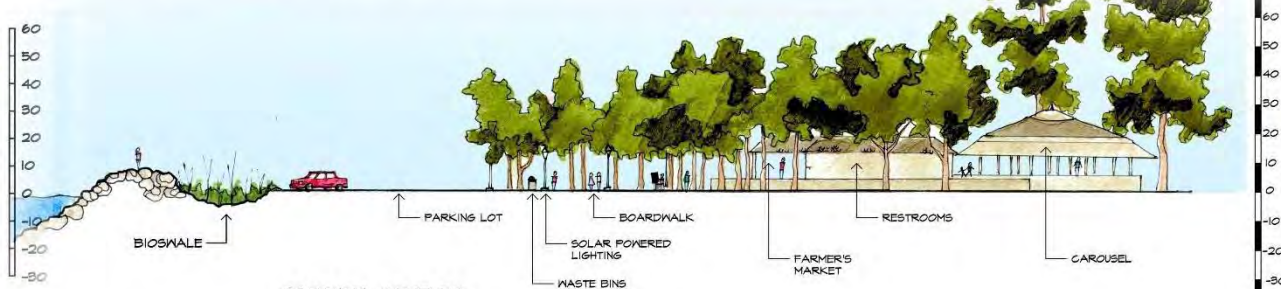
- RELOCATED EXISTING PARKING TO PROVIDE ROOM FOR BIOSWALES
- REDUCED THE AMOUNT OF PAVEMENT BY 20%
- ADDED 19 SPACES, 12 TOTAL

VEGETATION

- MOSTLY NATIVE
- ALL SALT TOLERANT
- LOW MAINTENANCE
- TREES:
 - SLEDITSIA TRIACANTHOS var. ENERMIS
 - QUERCUS BICOLOR
 - ACER RUBRUM
 - PLATANUS ACERIFOLIA
 - RHUS TYPHINA
 - PINUS SILVESTRIS
 - JUNIPERUS VIRGINIANA
- SHRUBS:
 - MYRTICA PENNSYLVANICA
 - ROSA RAGOSA
 - ILEX VERTICILLATA
 - RHODODENDRON MAXIMUM



BOARDWALK OVERLOOK
Scale: 1" = 20' - 0"



CAROUSEL COMPLEX
Scale: 1" = 20' - 0"

MASTERPLAN

OAKLAND BEACH, WARWICK RI

PREPARED FOR RICHARD SHERIDAN BY PABEL FERNANDEZ



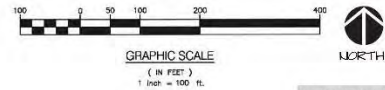
BIOSWALE HELPS CAPTURE AND FILTER STORM WATER

INFO KIOSK REGARDING BEACH RULES AND PASSES

TEMP. FARMERS MARKET WHERE TENTS CAN BE SET UP AND REMOVED WHEN NOT IN USE WITH ADA ACCESS

RAIN GARDEN HELPS FILTER RAIN WATER RUN OFF FROM PARKING

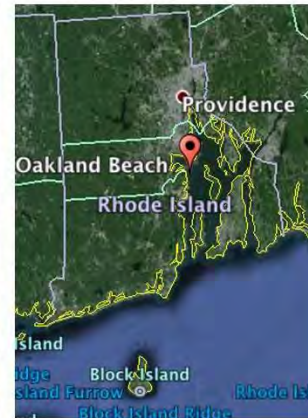
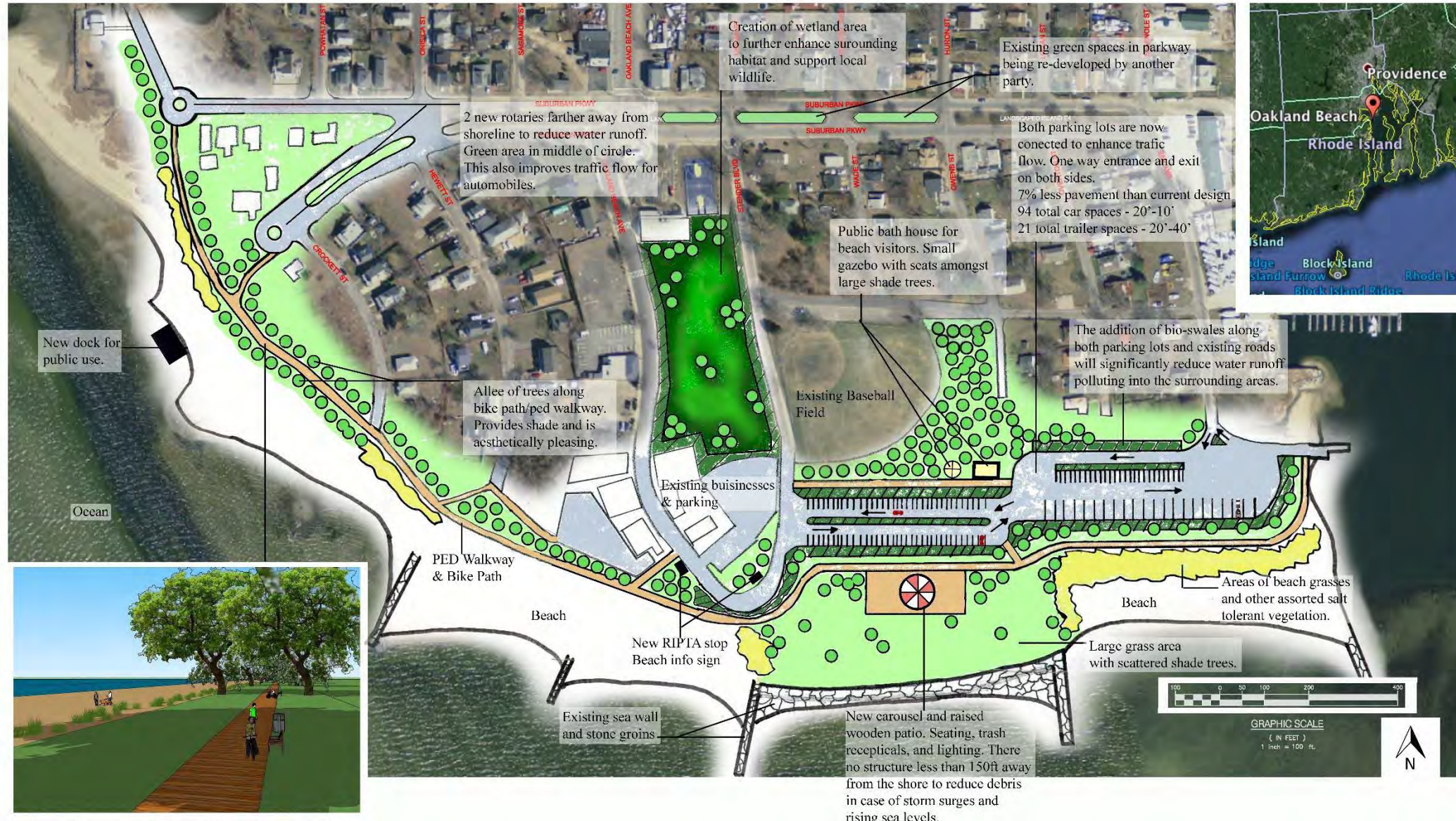
MINI PARK AWAY FROM THE MAIN PARK SO USERS CAN HAVE A QUIET AREA THEN CAN ESCAPE TO



Oakland Beach Master Plan

Warwick, Rhode Island

Cam Frecker - LAR 343 - Richard Sheridan



Elevated wooden PED walkway/bike path that borders beach area with large shade trees.

Master Plan

OAKLAND BEACH, WARWICK, RHODE ISLAND

Casey Harrington
FALL 2015



BIKE TURN AROUND
-Design prevents bicyclist from riding off into vehicular traffic.

PARKING
-7 Parking spaces located at turn around

DUNES
-Implementation of dunes will help absorb storm surge

BIO SWALES
-One of five bio swales absorbing storm runoff preventing beach closers

IGGYS RESTAURANT

BIKE/PEDESTAL PATH
-Improved 10' wide path for bikers and pedestrians

EXISTING GROINS
-Sand removal and maintenance should be practiced improving effectiveness

TRASH DISPOSAL
-Solar powered trash compactors improving trash management

PARK DESIGN
-Proposed design including removal of parking, added open space and shade, optional farmers market area, carousel, trash cans, seating lighting and runoff absorbing rain garden.

ROAD SWALES
-collecting and directing runoff water to Bio Swales

CAROUSEL
-Reconstructed historical element

SEATING

FARMERS MARKET

LIGHTING
-Solar powered

TICKET BOOTH
-Automatic ticketing machines

PARKING LOT
-Crushed shells replacing asphalt, helping absorb automobile fluids
-One-way traffic flow

EXISTING TREES
TREES
-Processed trees providing filtration and an alley effect while improving aesthetics.
ROCK WALL



ILLUSTRATION
CONSTRUCTING DUNES ALONG THE WESTERN PART OF THE BEACH WILL HELP ABSORB A POSSIBLE STORM SURGE WHILE PROTECTING AND MINIMIZING OCEAN FRONT PROPERTY DAMAGE.



SCALE: NTS



ROAD SWALES WILL HELP COLLECT, FILTRATE, AND DIVERT RUNOFF WATER TO BIO SWALES LOCATED AT THE BOTTOM OF ROADS ON SITE. IMPLEMENTING THESE FILTRATION SYSTEMS WILL REDUCE BAY POLLUTIONS AND MINIMIZE BEACH CLOSERS (size of swale will vary 5'-10')



SCALE: NTS



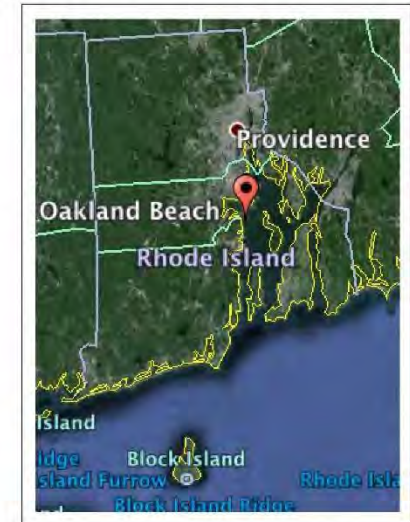
OAKLAND BEACH

WARWICK, RI

MASTER PLAN

LAR 343 PROFESSOR SHERIDAN

DESIGNED BY KELVIN HUANG



VEGETATIVE RECOMMENDATION

- ACER RUBRUM
 - AMELANCHIER CANADENSIS
 - BETULA ALLEGHANIENSIS (LUTEA)
 - FRAXINUS AMERICANA
 - GLEDITSIA TRIACANTHOS VAR. INERMIS
 - NYSSA SYLVATICA
 - PLATANUS X ACERIFOLIA
 - JUNIPERUS VIRGINIANA
 - PICEA GLAUCA
 - PICEA PUNGENS
 - PINUS MUGO
 - CLETHRA ALNIFOLIA
 - JUNIPERUS HORIZONTALIS
 - RHODODENDRON MAXIMUM
 - PANICUM VIRGATUM
 - SPOROBOLUS WRIGHTII
 - ETC.
- MINUS 2 TREES DUE TO PARKING LOT CONSTRUCTION, BUT INCREASED OVERALL SITE VEGETATION BY 50%*
 - PROPOSING NATIVE SALT TOLERANT VEGETATION*



MASTER PLAN

OAKLAND BEACH, WARWICK RI

PREPARED BY: BRIAN MALES
PREPARED FOR: RICHARD SHERIDAN



OAKLAND BEACH

WARWICK RI

PROJECT BY: KATIE MEEGAN
PREPARED FOR: PROFESSOR RICHARD SHERIDAN



Section View of Carousel Park



Perspective View from Parking Lot of Bay

- Potential Plants List:**
- | | | |
|--|--|--|
| <p>Rain Garden Plants:</p> <ul style="list-style-type: none"> <i>Amelanchier canadensis</i> <i>Clethra alnifolia</i> <i>Cornus racemosa</i> <i>Hibiscus moscheutos</i> <i>Ilex glabra</i> <i>Ilex verticillata</i> <i>Photinia melanocarpa</i> <i>Photinia pyrifolia</i> <i>Vaccinium corymbosum</i> <i>Viburnum dentatum</i> | <p>Dune Plants:</p> <ul style="list-style-type: none"> <i>Amelanchier canadensis</i> <i>Distichlis spicata</i> <i>Hierochloa odorata</i> <i>Juncus gerardii</i> <i>Rosa carolina</i> <i>Schoenoplectus americanus</i> <i>Schoenoplectus robustus</i> <i>Spartina patens</i> <i>Symphitrichum tenuifolius</i> | <p>Tree Plantings:</p> <ul style="list-style-type: none"> <i>Amelanchier arborea</i> <i>Amelanchier bevis</i> <i>Chamaecyparis thyoides</i> <i>Cornus alterniflora</i> <i>Crataegus crus-galli</i> <i>Juniperus virginiana</i> <i>Prunus serotina</i> <i>Prunus virginiana</i> <i>Quercus prinus</i> <i>Quercus stellata</i> <i>Quercus velutina</i> <i>Sassafras albidum</i> |
|--|--|--|

MASTER PLAN

OAKLAND BEACH, WARWICK RI

PREPARED FOR: PROF. RICHARD SHERIDAN

BY: KYLE SAVASTANO

PROJECT OVERVIEW

- 1 Establish a pedestrian boardwalk that connects the entire site.
- 2 Use bioswales (dark green) to filter pollution from nearby restaurants and residential areas. Redirect stormwater outfalls into bioswales.
- 3 Use angled parking to reduce parking lot size and implement plant buffers in space saved.
- 4 Use signs, pamphlets, and info booths at heavily trafficked areas to inform visitors about proper treatment of the site.
- 5 Create farmers market focused around reintroduced carousel - use structures that can be removed during storms and winter months.
- 6 Build viewing towers on grassy knoll to give a bird's eye view of the area. Interactive displays at the top of each tower educate visitors about the surrounding plants and wildlife.

ADDITIONAL FEATURES

- Energy efficient solar light strips along boardwalk
- Boardwalk design limits pedestrian and vehicular crossing
- Central gazebo park improves upon existing design but maintains the same functions
- Bioswales on the west side also help to protect residents from storm surges
- Option to control entry into east side park and beach (entry fee/beach pass/local residents only) as a compromise between unrestricted free public access and a mandatory entry fee
- Frequent and easy access trash receptacles

PARKING

- Increased parking spaces in main lot from 102 to 146
- Decreased square footage of main parking lot from approximately 59,000 to 51,000
- 8 spots added at Strand Ave. turnaround
- 20 spots added across the street from the baseball field
- TOTAL: 72 more parking spaces (44 added to main lot) and roughly 13.5% less pavement

PLANT LIST Preferred native plants that are tolerant of water, salt and high winds

- Shadbush (Amelanchier canadensis)
- Sweet pepperbush (Clethra alnifolia)
- Highbush blueberry (Vaccinium corymbosum)
- Switchgrass (Panicum amarum)
- Indiangrass (Sorghastrum nutans)
- Arrowwood (Viburnum dentatum)
- Black Oak (Quercus velutina)
- Sassafras (Sassafras albidum)
- Gray dogwood (Cornus racemosa)
- Salt marsh hay (Spartina patens)



OAKLAND BEACH

WAKEFIELD, RI

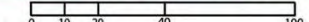
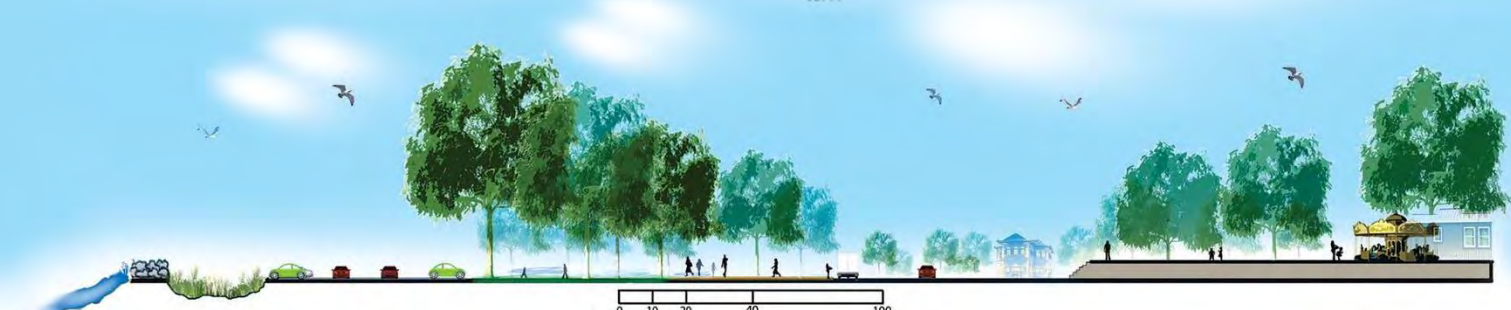
RICHARD SHERIDAN

LAR 343

DESIGNED BY: JOSEPH TRICARICO



- PLANT CHARACTERISTICS**
- NATIVE TO THE NEW ENGLAND REGION
 - SALT TOLERANT
 - LOW MAINTENANCE
- POSSIBLE TREE'S BUT NOT LIMITED TO:**
- OAKS
 - MAPLES
 - JUNIPERS
- POSSIBLE SHRUBS BUT NOT LIMITED TO:**
- RHODODENDRON'S
 - HOLLY'S
 - BOXWOOD'S

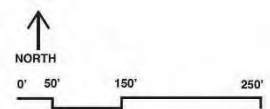


Master Plan

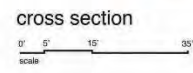
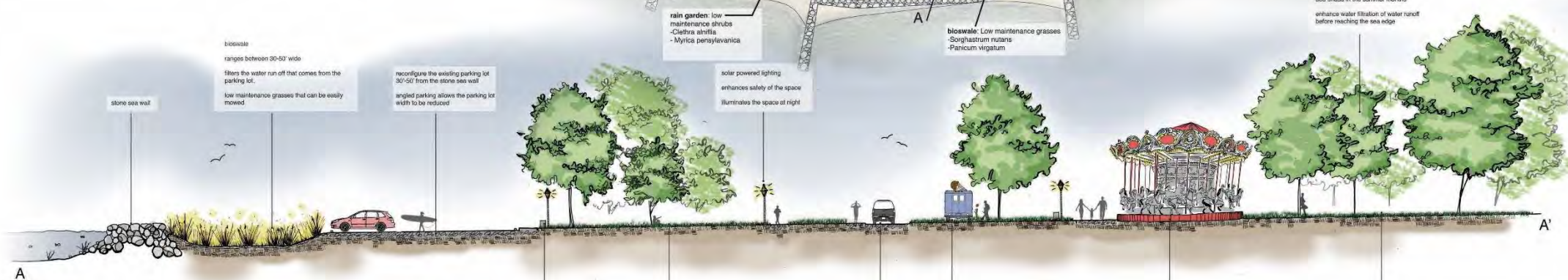
Oakland Beach, Warwick RI

Emma Winkler

PREPARED FOR:
PROF. SHERIDAN
LAR 343



- RIPTA bus stop
- solar powered lights
- bike racks
- handicap parking
- trash/ recycle receptacles



cross section

- scattered trash receptacles
- shady area created by adding more deciduous trees
- one way traffic, maintaining the existing one way loop that is known and loved by the community
- food truck reserved area
- historic Oakland Beach carousel, raised on a platform to aid sea surge protection
- recreation / barn area