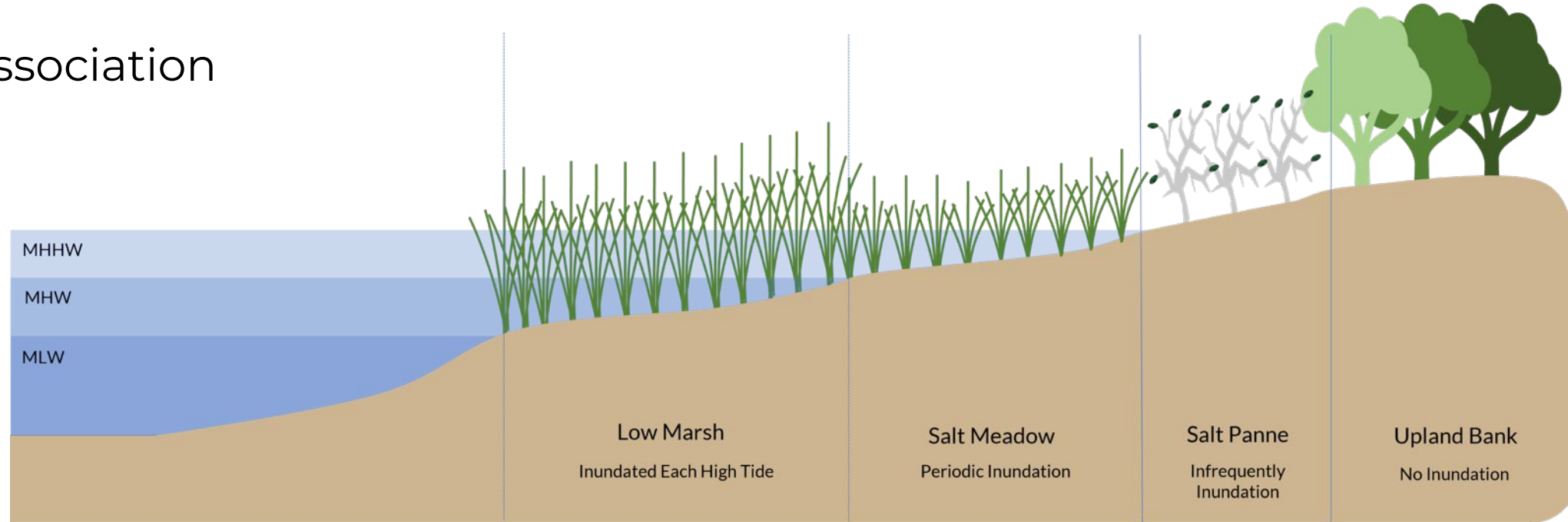


Professional Best Practices for Permit Drawings

Ryan Walsh



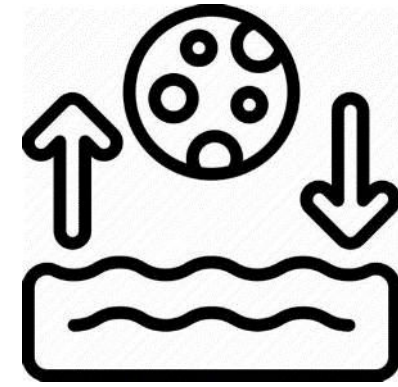
James River Association



Elements to Include in Design

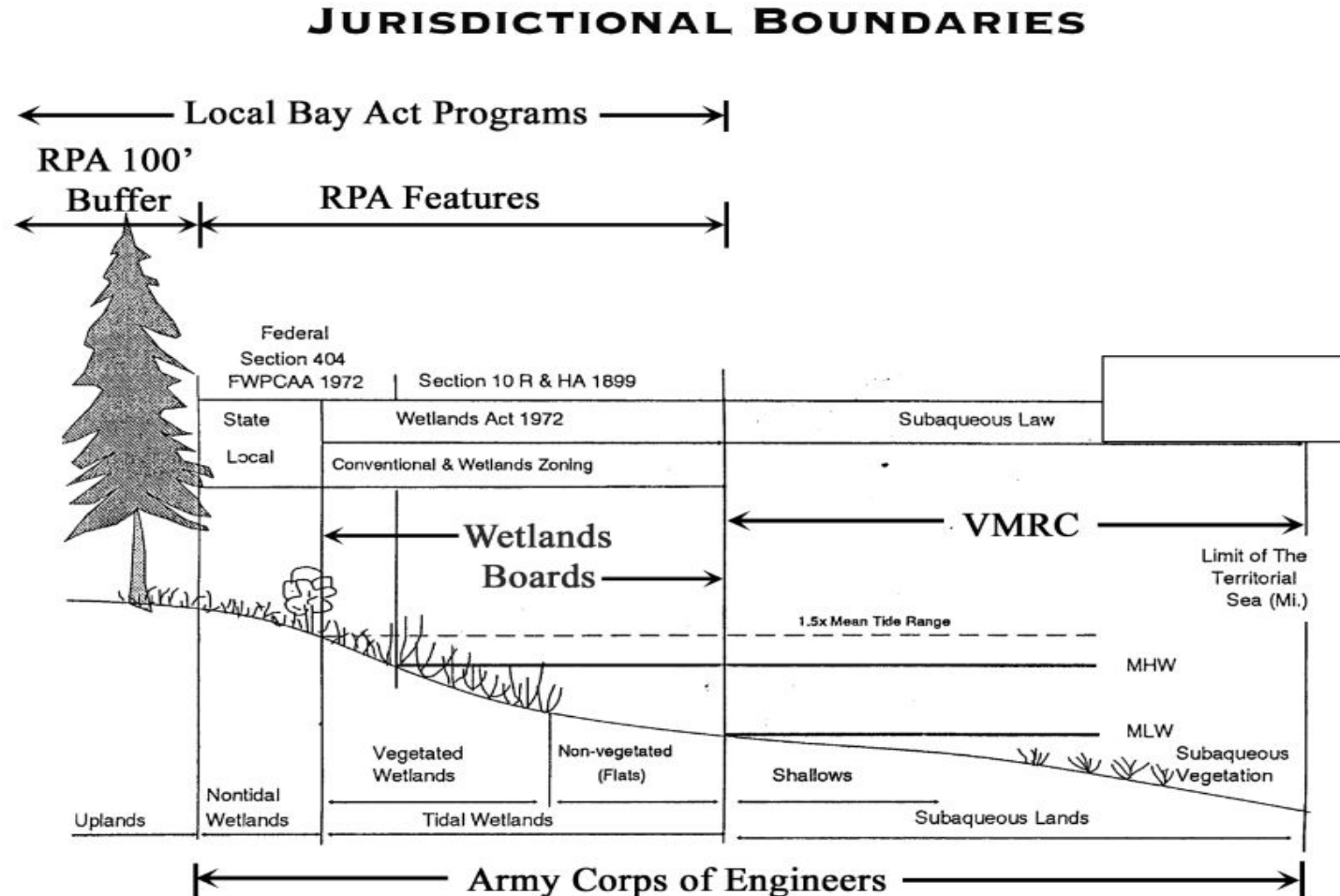
What are the regulators looking for?

- ☐ Coordinates and Address
- ☐ Tidal info (MLW, MHW)
- ☐ Direction of EBB and Flood)
- ☐ Name of body of water
- ☐ Length of fetch
- ☐ Property Boundaries
- ☐ Length of sill (if needed)
- ☐ Material for toe or sill
- ☐ Encroachment
- ☐ Area of sand fill and material quantities
- ☐ Distance to a landmark (benchmark)
- ☐ North arrow
- ☐ Cross Section & bank height
- ☐ Linear feet of project & Width of project
- ☐ Total Wetland Conversion



Jurisdictional Boundaries

Wetlands Boards,
VMRC, and the US
Army Corps of Engineers



and DEQ (including isolated wetlands)

Site Visit

Elizabeth River Project Homeowner Located In Norfolk

Limiting Factors

- Access
- Muddy sediments
- Surrounding vegetation- Invasives
- Trees and Shade
- Elevation and Scour
- Outfalls or Dredged Canals
- Riparian Ownership
- Neighboring properties

Advantages

- Existing marsh
- Moderate to minimal erosion and wave activity
- Shallow water depth near the shoreline
- Abundant sunlight
- Sandy bottom
- Existing Oyster and Ribbed Mussel recruitment



Ribbed Mussels
(*Geukensia demissa*)

Do you have a Survey?

Norfolk Air for Property Search

<https://air.norfolk.gov/#/>

Chesapeake Property Search

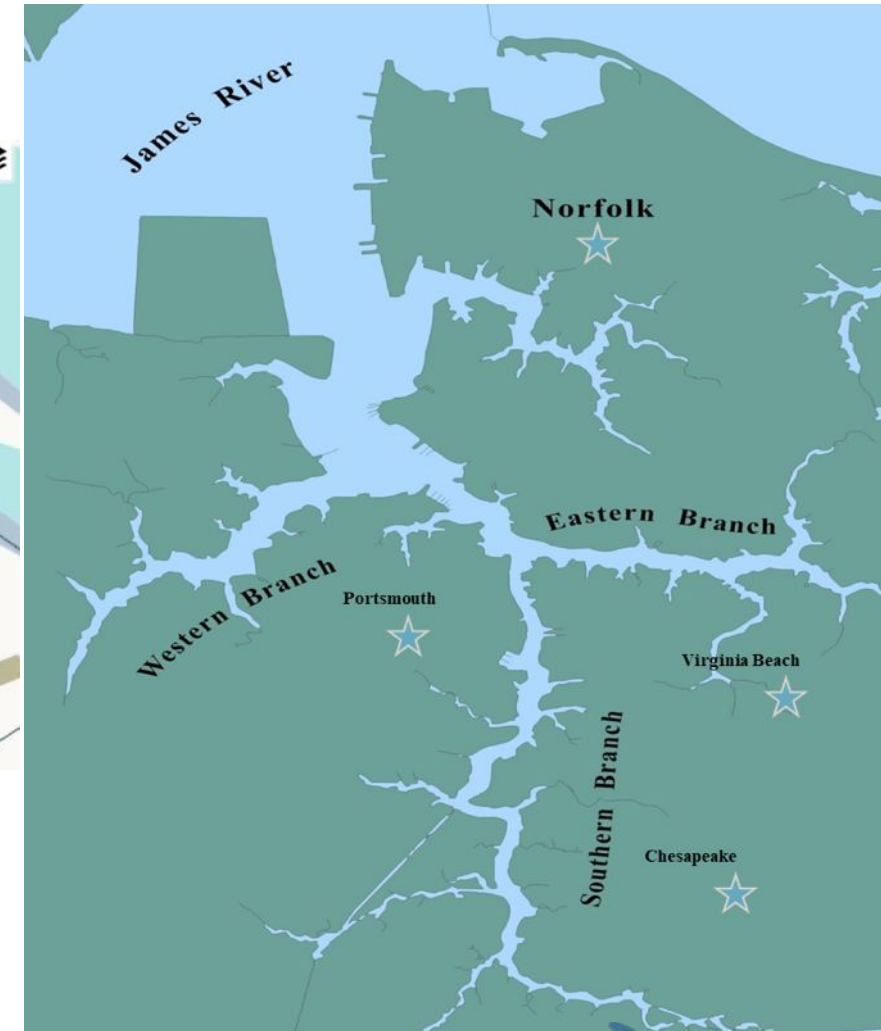
<https://parcelviewer.geodecisions.com/Chesapeake/>

Portsmouth Property Search

<https://www2.portsmouthva.gov/portsmap/?CPN=07840030>

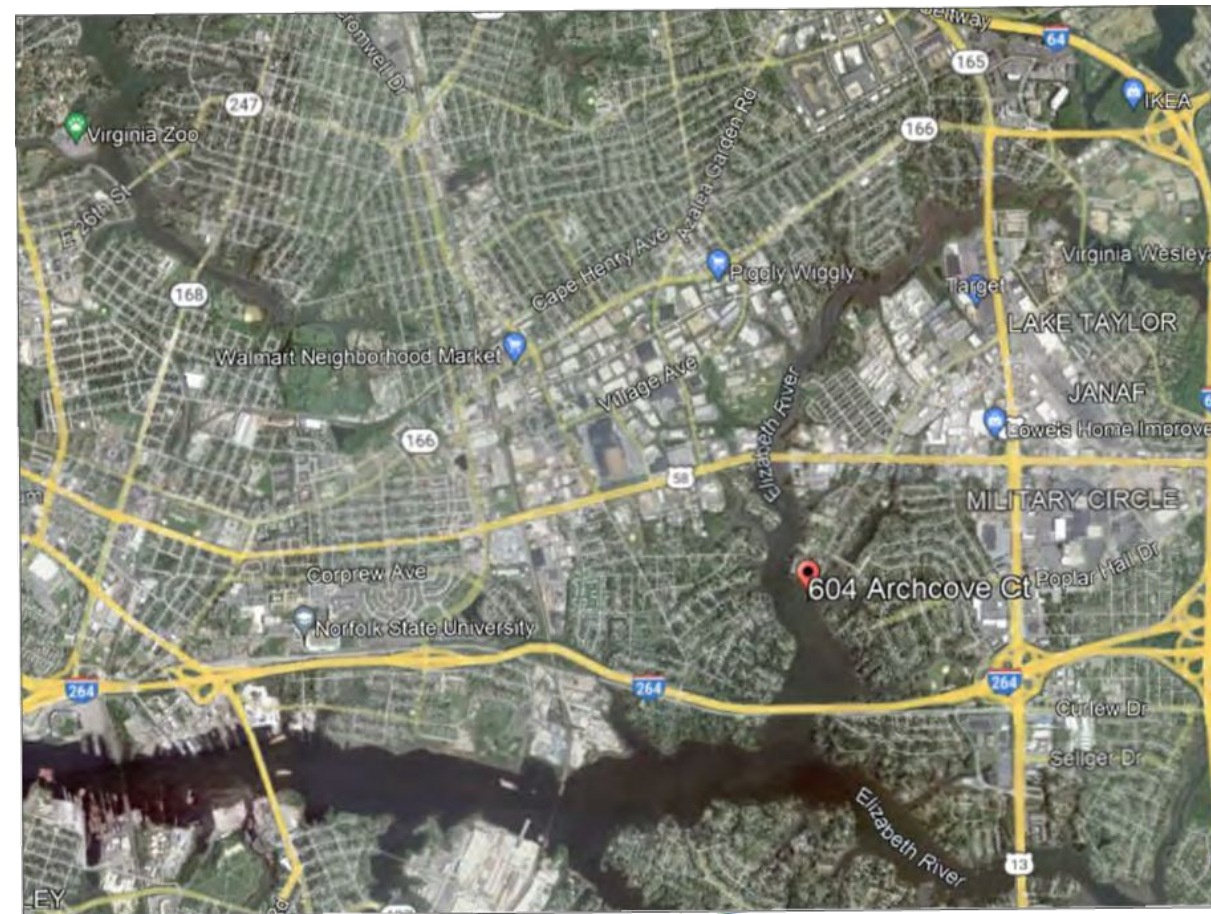
VB Property Search

<https://www.vbgov.com/property-search>



Professional Best Practices for Permit Drawings

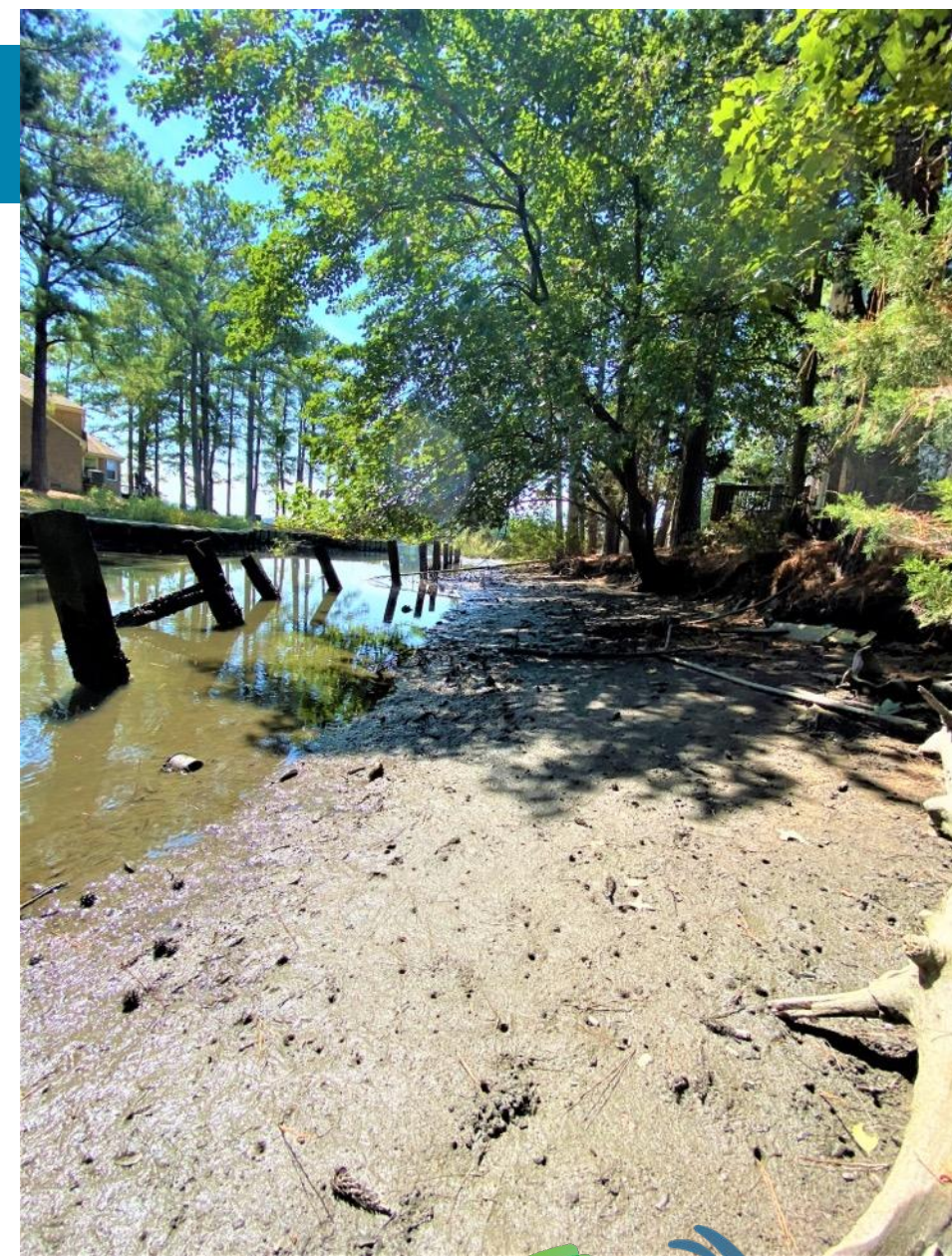
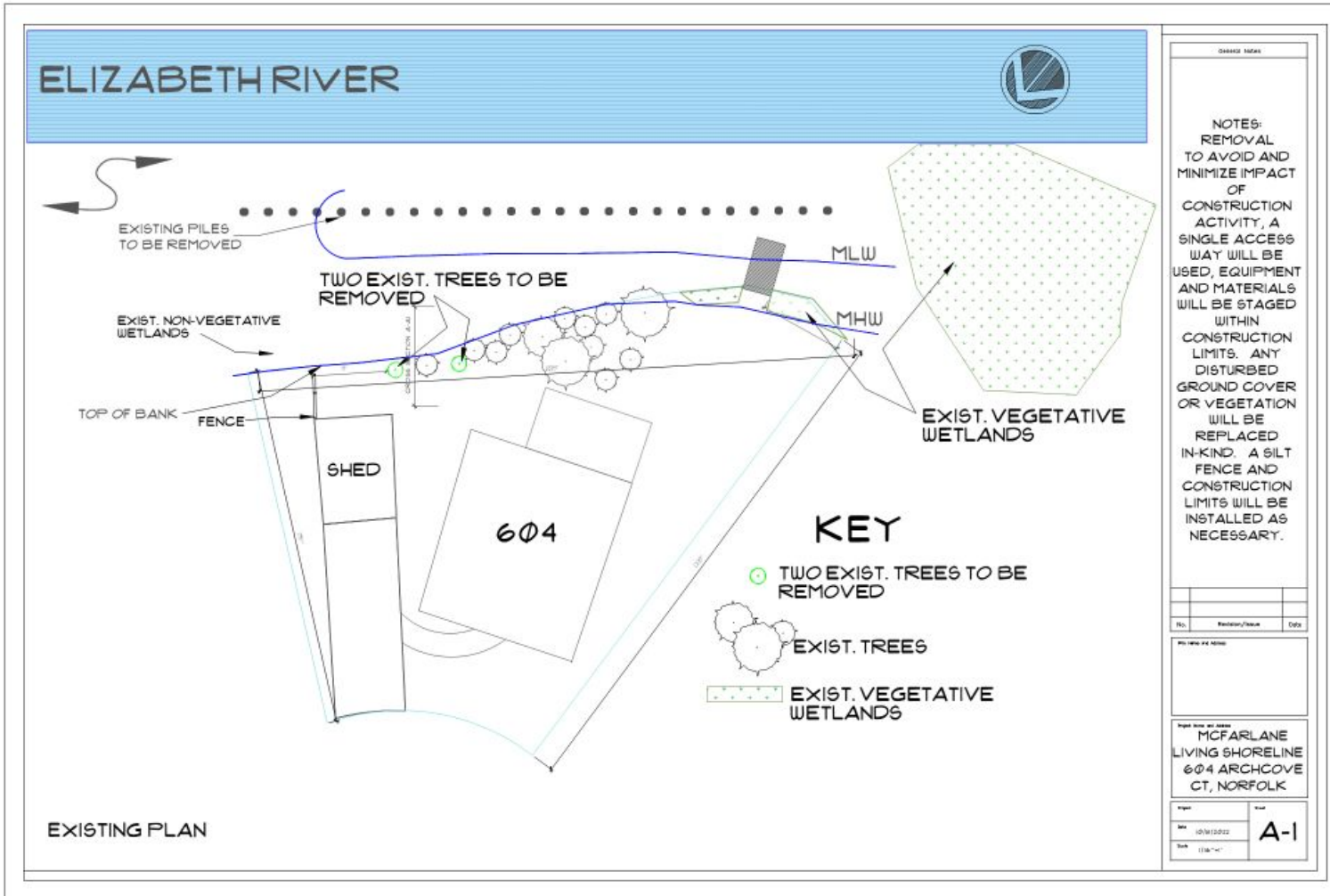
Aerial photo



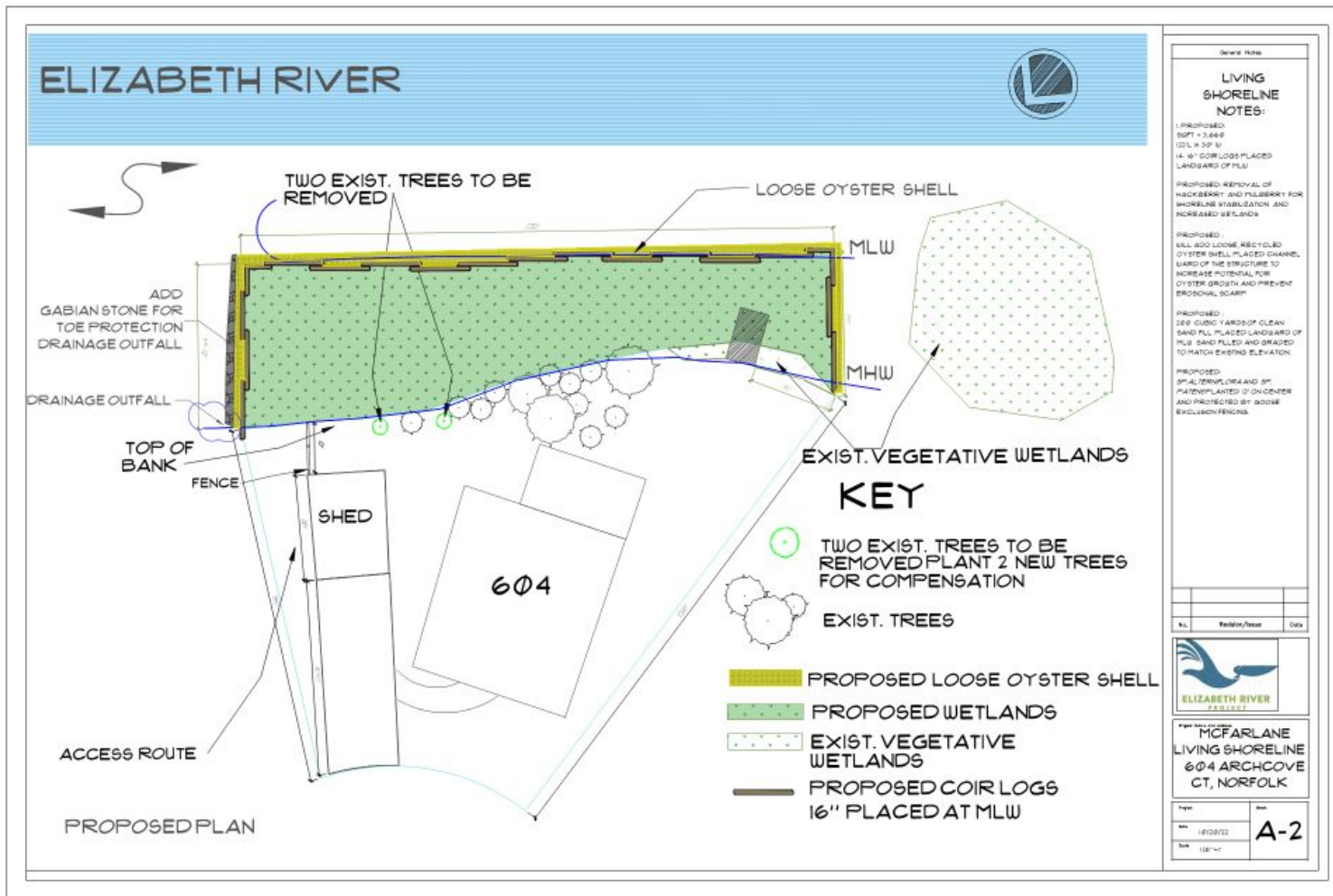
Initial Site Visit Continued



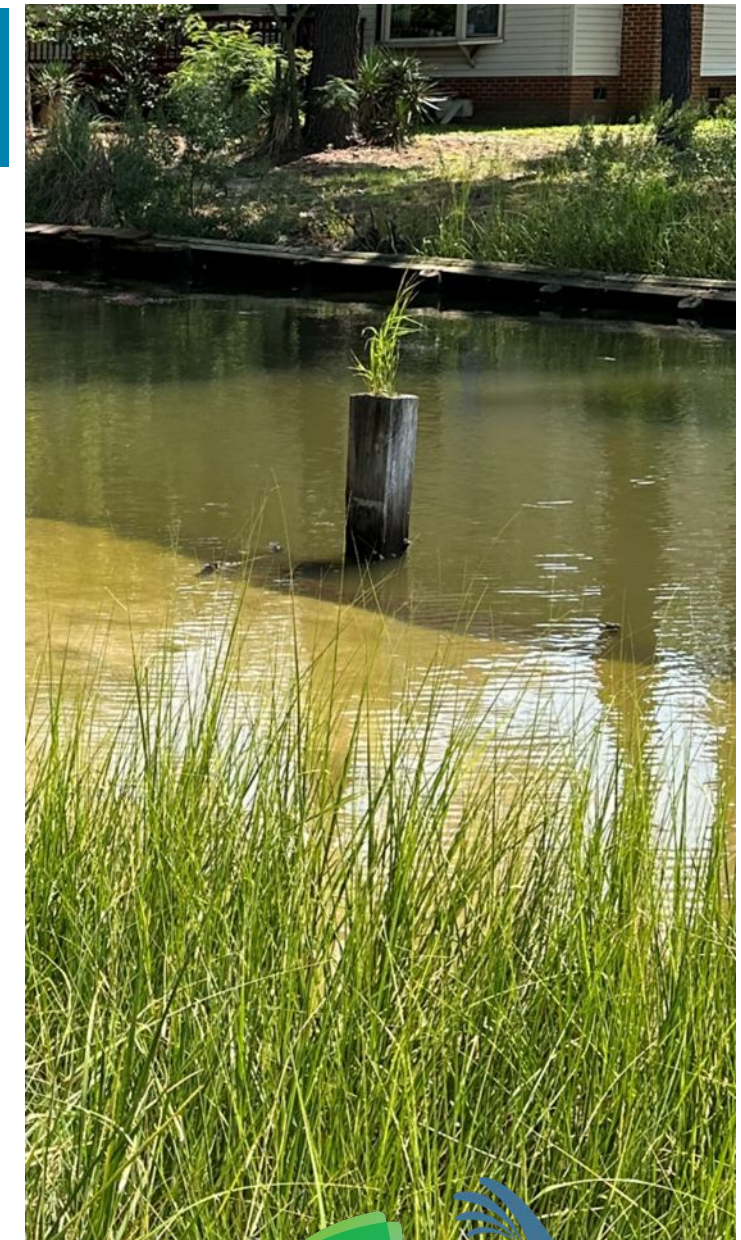
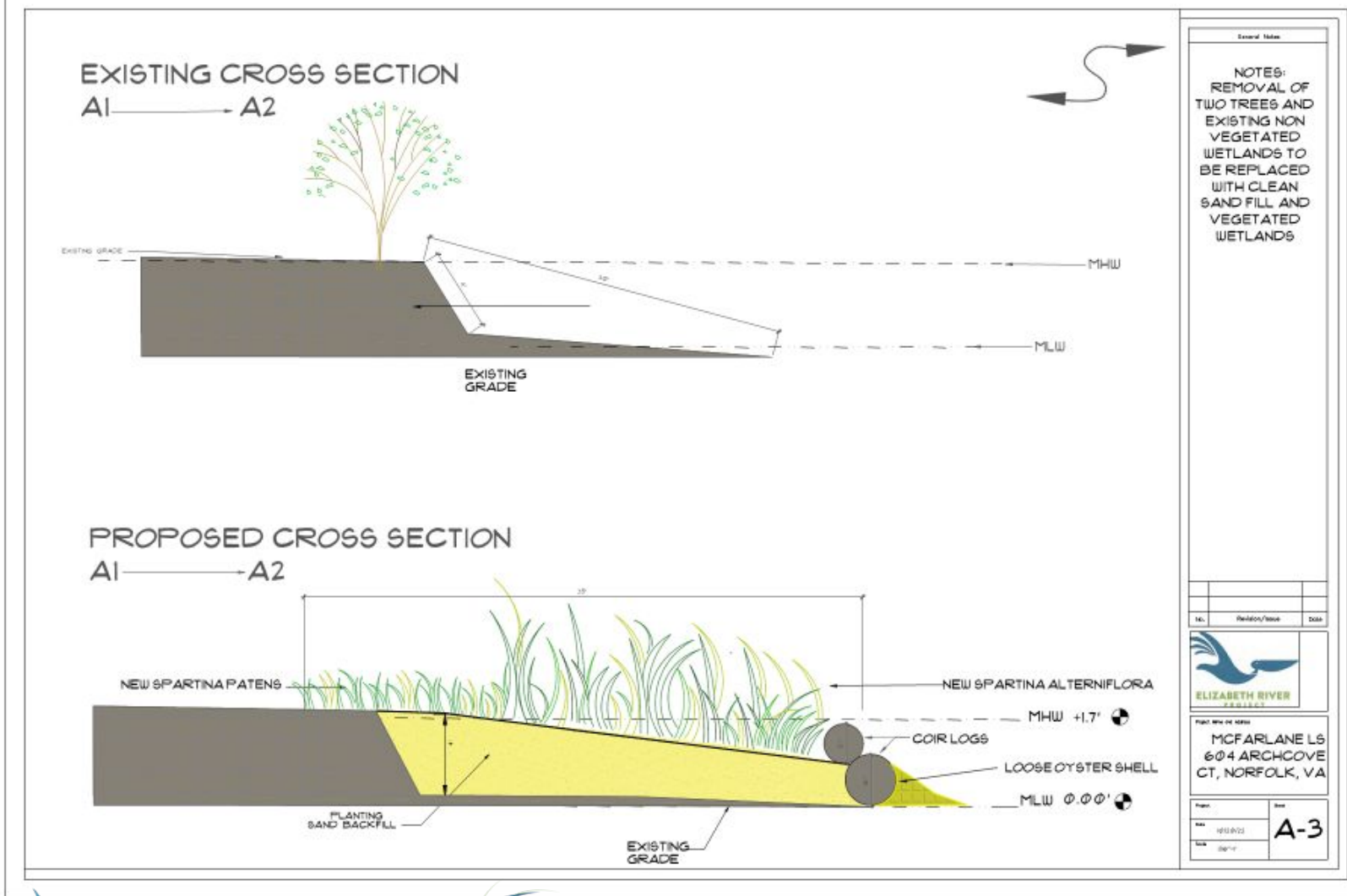
Existing and Proposed Design



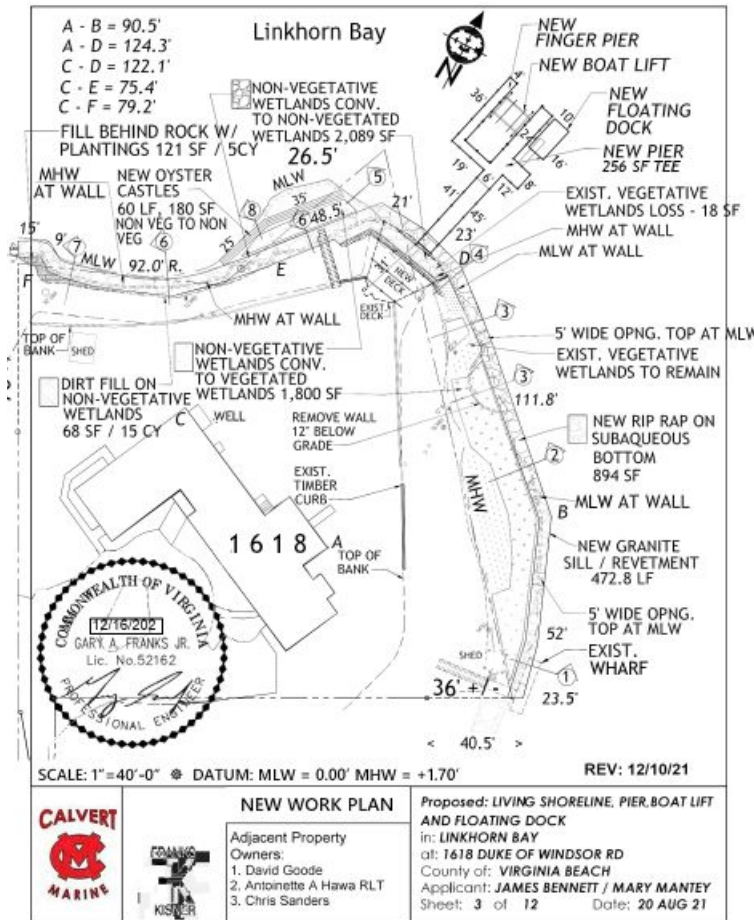
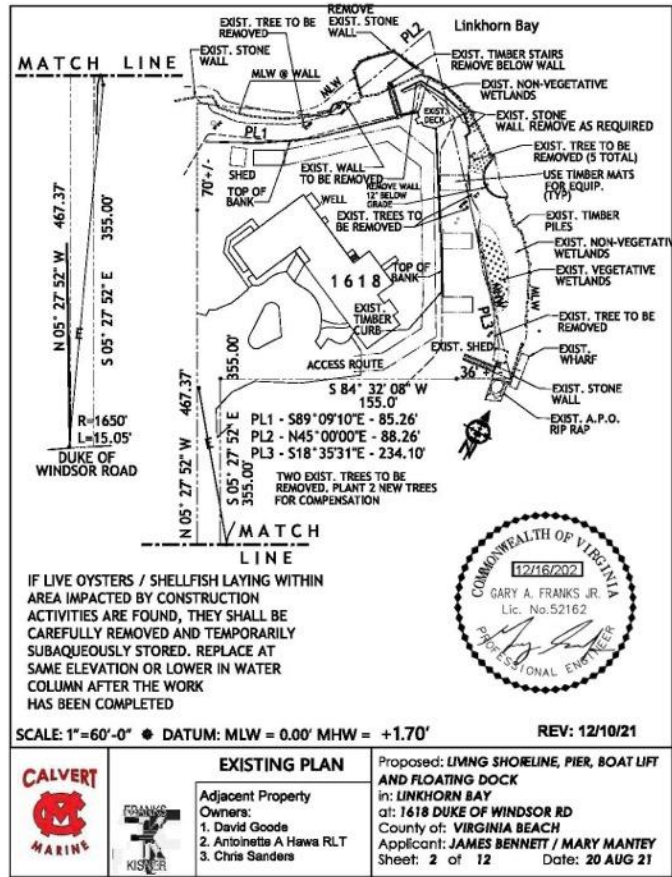
Existing and Proposed Design



Cross-section & Elevation



Other Examples: Rip Rap Sill Virginia Beach



- ✓ *Constructability must be determined EARLY in planning process*
- ✓ Site Access Route by land or water?
- ✓ Erosion Control Measures
- ✓ Professional Engineer Stamp necessary in Virginia Beach projects
- ✓ Additional Building Permits Required in Virginia Beach
- ✓ CBPA and Wetland Board Approval

**CITY OF VIRGINIA BEACH, VIRGINIA
WETLANDS BOARD PERMIT**

TO: Construct a rip rap and oyster castles and plant vegetation impacting wetlands as shown on the plans titled: "Proposed: Living Shoreline, Pier, Boat Lift, and Floating Dock" Sealed December 16, 2021, Sheets 1 through 12.

AT: 1618 Duke of Windsor Road, Virginia Beach, Virginia 23454

PERMITEE: James Bennett & Mary Mantey

ADDRESS OF PERMITEE: Same

DATE APPROVED: November 15, 2021

DATE EXPIRE: November 15, 2024

PERMIT NO: 2021-WTRA-00301

Chairperson of the Board or an authorized representative: Cole S. Fisher, Environmental Planner

IN THE CITY OF VIRGINIA BEACH, COMMONWEALTH OF VIRGINIA, THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 15th DAY OF JULY, 2022 BY Cole S. Fisher.

ADDITIONAL INFORMATION/REVISIONS Received by VMRC December 17, 2021 /bth

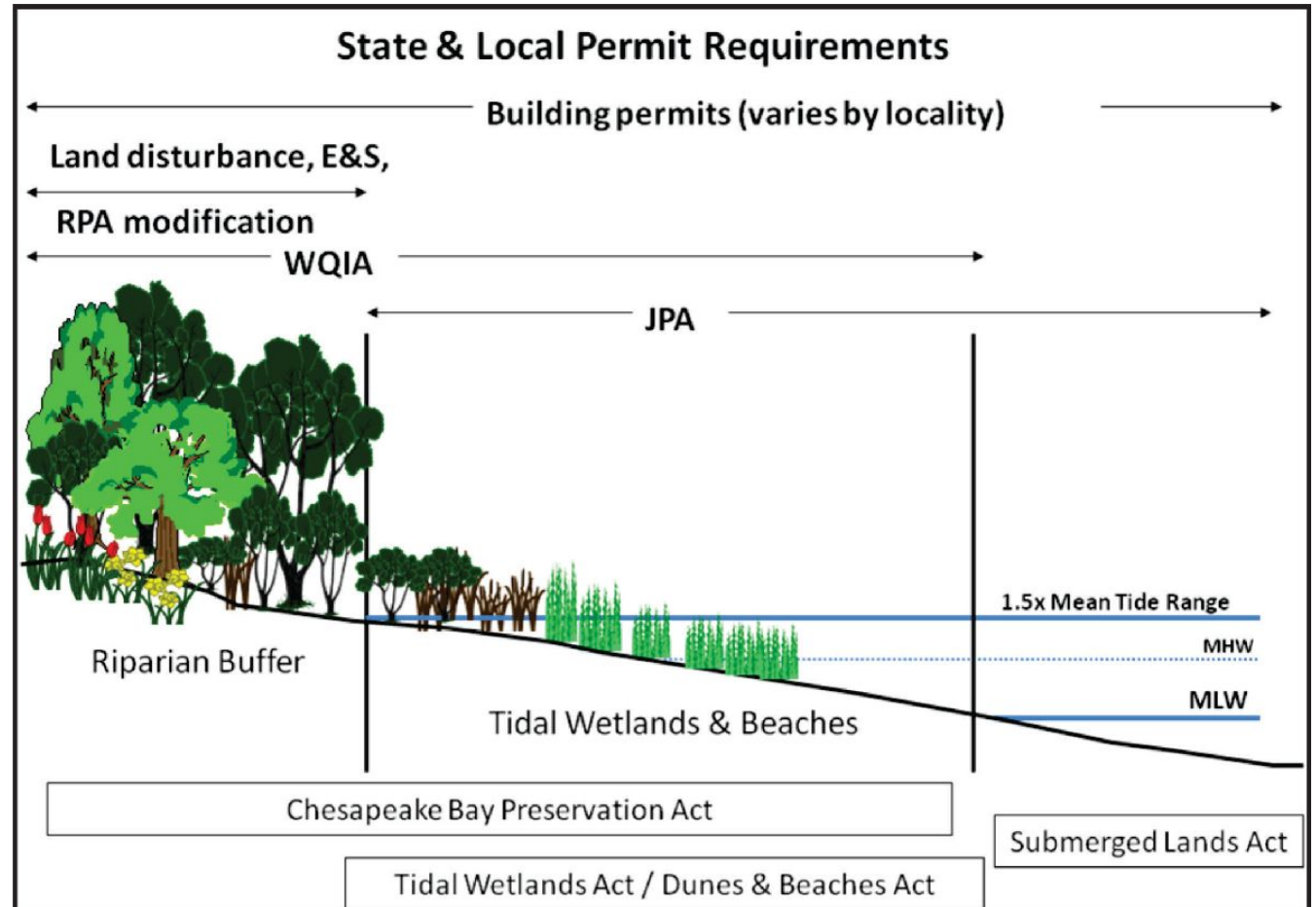
Encroachment & Construction Notes

NOTES:

1. THE CONSTRUCTION ACCESS ROUTE USED FOR THE CONSTRUCTION TRAFFIC & MATERIALS SHALL BE DELINEATED WITH SAFETY FENCE.
2. ALL EROSION AND SEDIMENT CONTROLS SHALL BE CONSTRUCTED AND MAINTAINED AS REQUIRED BY THE CITY OF VIRGINIA BEACH.
3. THE PROPERTY OWNERS ARE IDENTIFIED ON THE PROPERTY MAP, SHEET 1.
4. ALL SILT FENCES SHALL BE WIRE REINFORCED, EMBEDDED 4" BELOW GRADE & SHALL BE 36" TALL.
5. CONTRACTOR SHALL VERIFY THE PROPERTY LINES IN THE FIELD TO ASSURE THAT THE IMPROVEMENTS SHOWN ARE WITHIN THE OWNER'S PROPERTY, THE CONTRACTOR SHALL ALSO VERIFY THE LAYOUT, ALIGNMENT AND GRADES PRIOR TO THE START OF WORK.
6. GRANITE SHALL BE CLASS 1 GRANITE MIXED WITH CLASS A1, THE CONTRACTOR CAN USE RECYCLED CONCRETE OR THE EXISTING RIP RAP FOR THE BASE COURSE OF THE NEW REVETEMENT BUT THIS MATERIAL SHALL NOT BE EXPOSED. THE RECYCLED CONCRETE SHALL BE OF THE SAME SIZE AND WEIGHT AS THE GRANITE SPECIED.
7. FILTER CLOTH SHALL BE PLACED UNDER GRANITE AS SHOWN.
8. ANY EXCESS CONCRETE RIP RAP AND OR DEBRIS SHALL BE LEGALLY DISPOSED OFF SITE.
9. THESE PLANS ARE FOR PERMIT PURPOSES ONLY, NO GEOTECHNICAL OR STRUCTURAL BORINGS HAVE TAKEN PLACE AT THIS SITE, THE CONTRACTOR SHALL VERIFY THE SOIL CONDITIONS TO BE SUITABLE.
10. IF UNSUITABLE SOILS ARE ENCOUNTERED CONTRACTOR SHALL CONTACT THE OWNER AND CALVERT MARINE.

Construction Notes

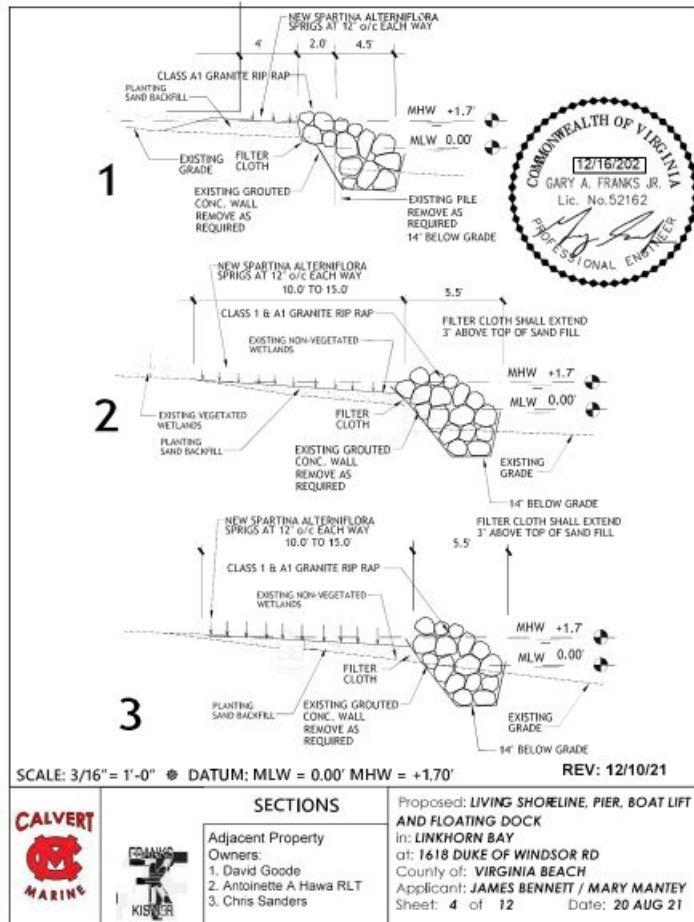
- 1. Wetlands grasses will be installed on 12-inch centers.
- 2. Plant mortality will be addressed by replacing plants during the next available growing season.
- 3. Wetland planting will achieve an 85% coverage within two full growing seasons to be considered successful.
- 4. Oyster castles shall be stacked three high.
- 5. Sand shall be Vulcan White Sand # 31152.
- 6. Construction access route will be protected by timber mats and will be reseeded following construction.
- 7. All existing oysters will be hand harvested and placed in front of castles.



Rip Rap Sill Virginia Beach

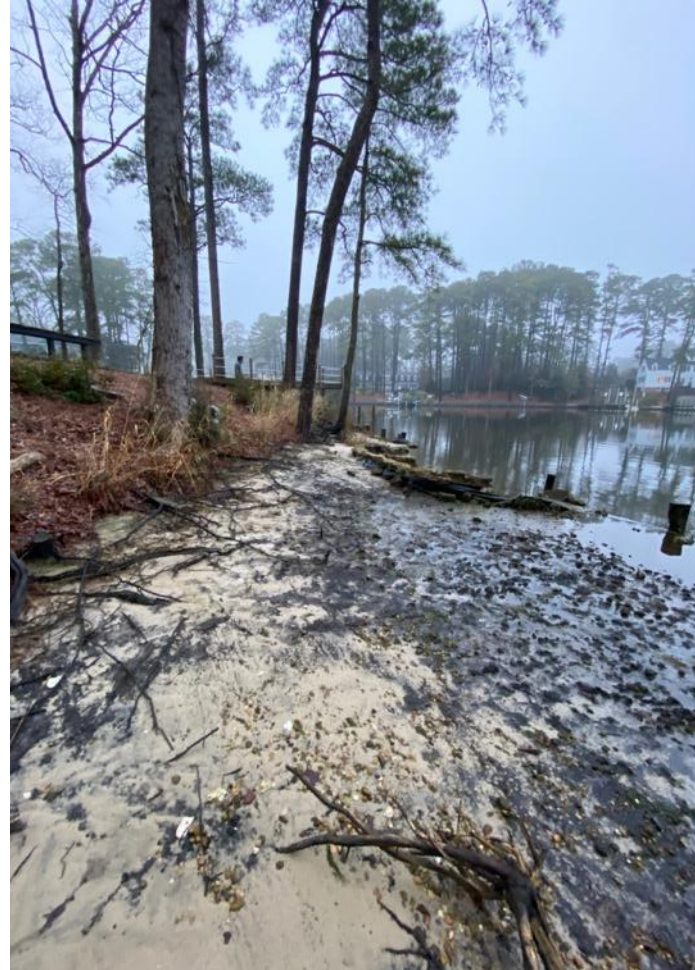


Cross-section cont'd



ADDITIONAL INFORMATION/REVISIONS Received by VMRC December 17, 2021 /blh

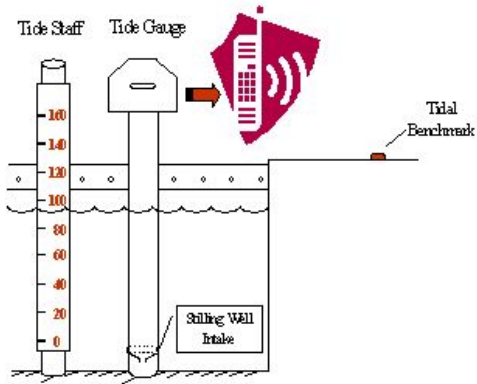
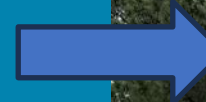
Before



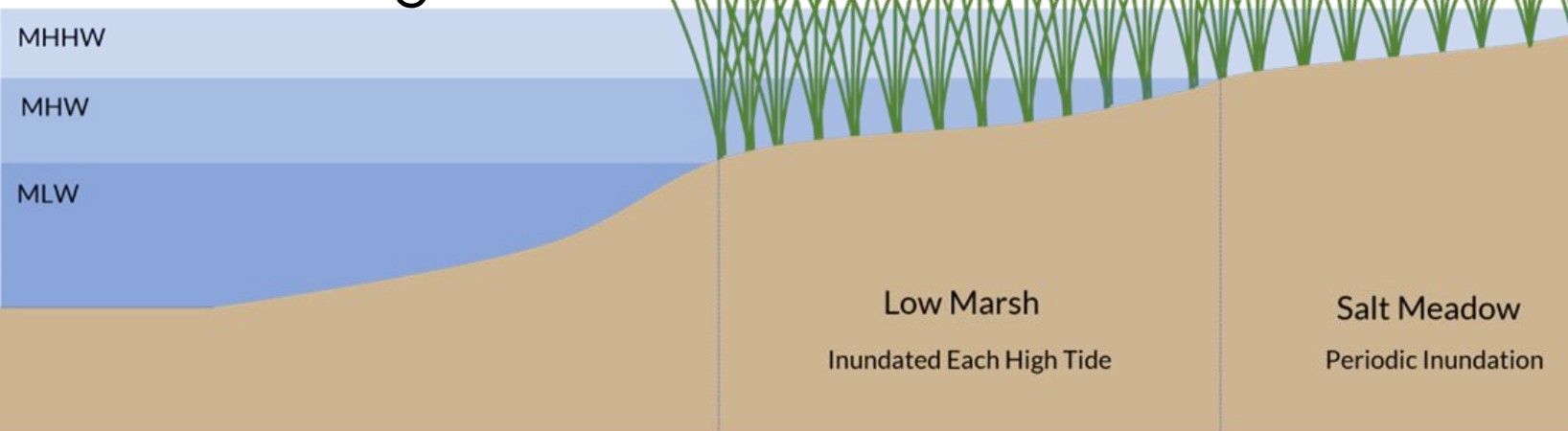
After



Where is MHW on this photo?



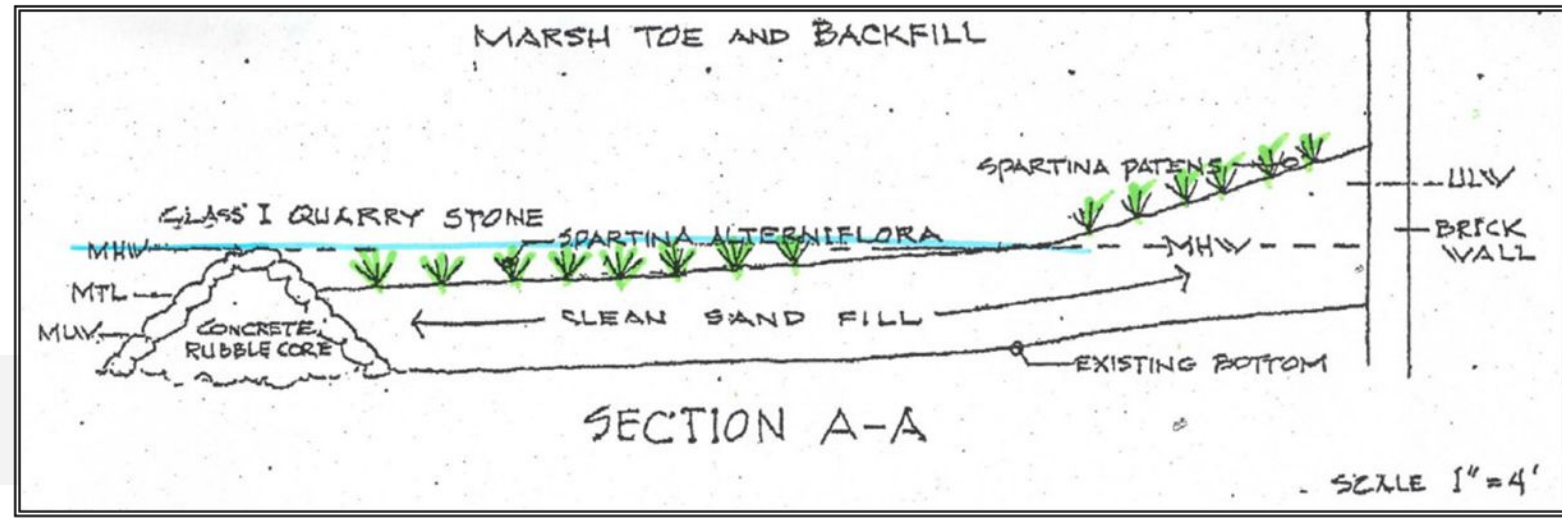
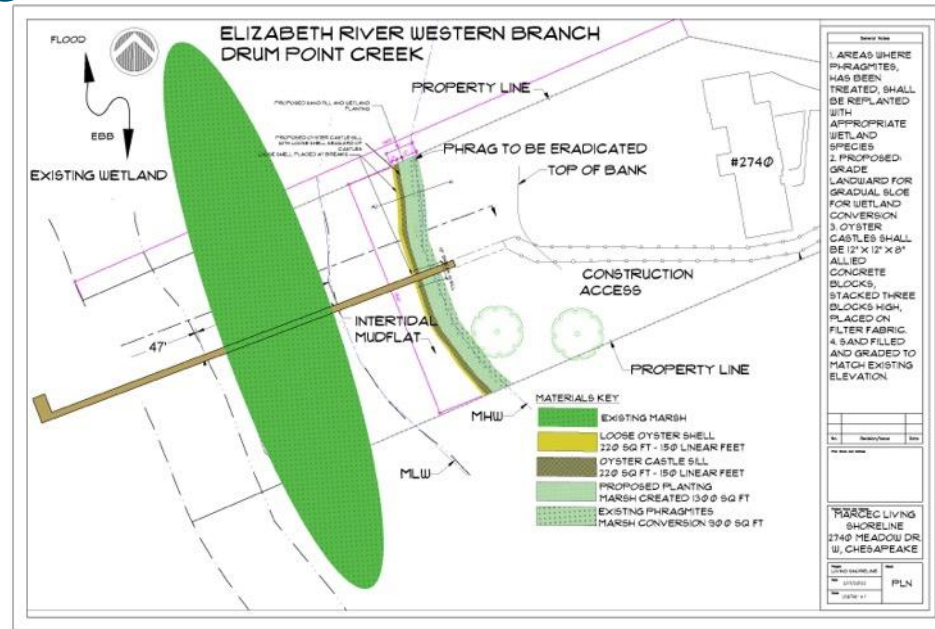
Tide Gauge



Tools For Design

Accepted drawings

- ✓ Software such as AutoCAD, ArcGIS, Morpholio Trace
- ✓ Google Earth Pro, Local Property Search, and Maps are great tools for measurements and parcel information
- ✓ No computer is needed, can be hand drawn!



Other things to consider:

Set yourself up for success!

Make sure that your permit and drawings match!

Create more light and consider *Juncus roemerianus*

Make sure stakes are correctly measured prior to site visit!

Protect your design from outfalls



Lessons Learned



Design Check List For JPA Drawings

- ✓ Coordinates and Address
- ✓ Tidal info (MLW, MHW)
- ✓ Direction of EBB and Flood)
- ✓ Name of body of water
- ✓ Length of fetch
- ✓ Property Boundaries and width of sill (if needed)
- ✓ Material for toe or sill
- ✓ Encroachment and Wetland Conversion
- ✓ Area of sand fill and material quantities
- ✓ Distance to a landmark (benchmark)
- ✓ North arrow
- ✓ Cross Section & bank height
- ✓ Linear feet of project & Width of project
- ✓ Total Wetland Conversion
- ✓ Revision & JPA consistency

APPLICANT VMRC # DATE

This application does not include the minimal information necessary for VIMS to provide relevant project-specific recommendations and is considered incomplete. This application will not be evaluated, nor a shoreline permit application report generated for this project, until VIMS receives the missing information indicated below. NOTE: This review does not serve to determine application completeness for local wetlands boards or other regulatory agencies or advisory authorities.

☐ Detailed description of project ☐ Not provided ☐ Not clear
Comments:

☐ Location of project (911-address or latitude/longitude) is not provided.
☐ Specific driving directions or detailed vicinity map not provided to locate vacant lot.

☐ The proposed estimated amount of wetland and/or sub-aqueous impacts not provided.
Comments:

☐ Plan View Drawings: ☐ Not provided ☐ Not to scale or dimensions not provided
☐ Not readable ☐ No MLW and/or MHW depicted ☐ Other
Comments:

☐ Cross Section Drawings: ☐ Not provided ☐ Not to scale or dimensions not provided
☐ Not readable ☐ No MLW and/or MHW depicted ☐ Other
Comments:

☐ Information provided is inconsistent: ☐ Drawings and impacts provided are inconsistent
☐ Drawings and project description are inconsistent
☐ Other
Comments:

☐ Benchmark distances: ☐ Not provided ☐ Not readable
☐ Permanent points of reference (i.e. building or tree) not used
Comments:

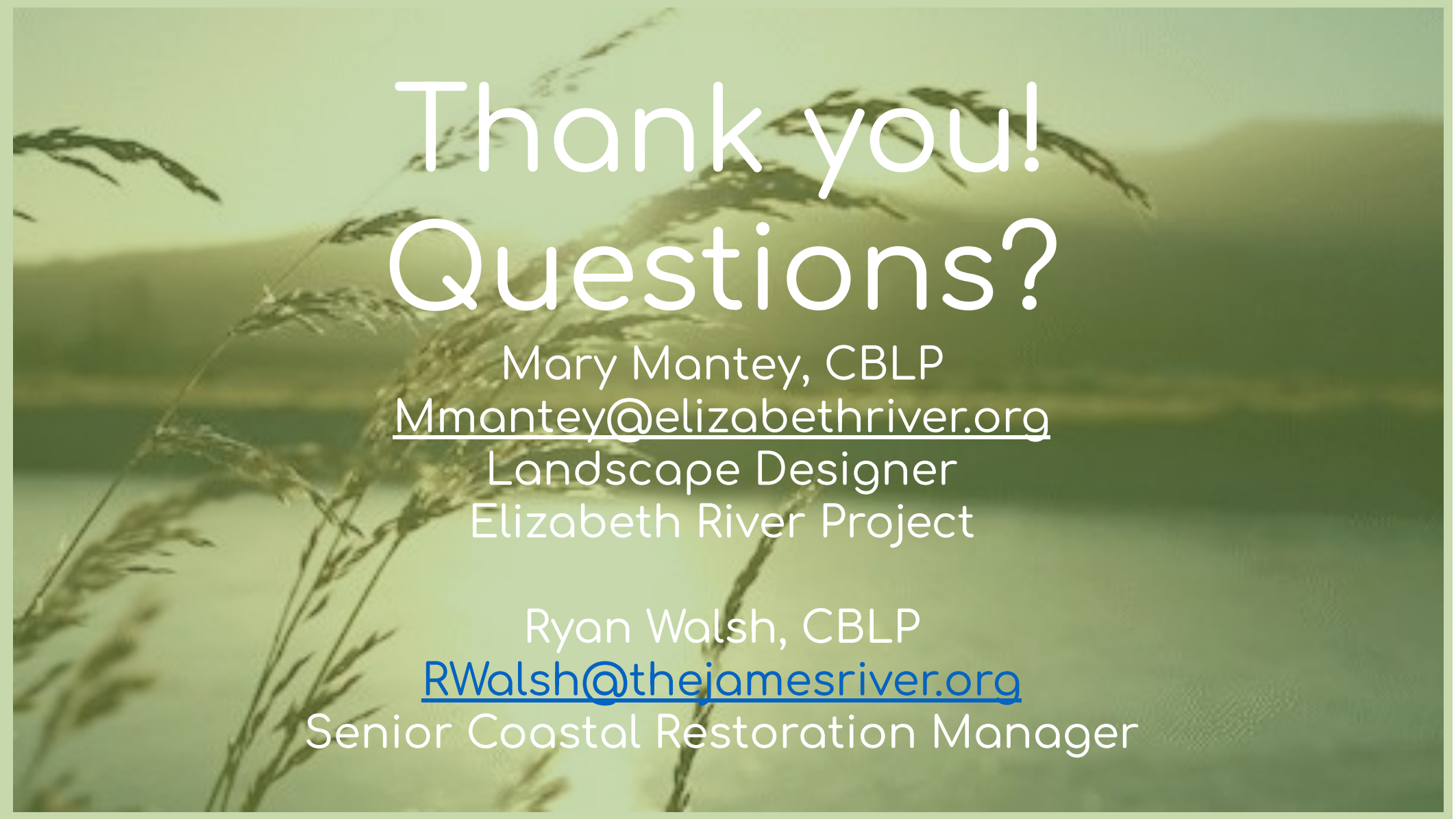
For more information on completing Joint Permit Applications (JPAs), visit
http://ccrm.vims.edu/permits_web/CompleteJPAInstructions.html

Wetlands Program
P.O. Box 1346
Gloucester Point, VA 23062-1346
Phone: (804) 684-7922 Fax: (804) 684-7179
wetlands@vims.edu

**Center for
Coastal
Resources
Management**
Virginia Institute of Marine Sciences



**ELIZABETH RIVER
PROJECT**



Thank you! Questions?

Mary Mantey, CBLP
Mmantey@elizabethriver.org
Landscape Designer
Elizabeth River Project

Ryan Walsh, CBLP
RWalsh@thejamesriver.org
Senior Coastal Restoration Manager