

# **Living Shoreline Professional Workshop**

## **Lynnhaven River Success Story**

**Presented January 13, 2015**

**By:**

**Jim Cahoon, VA PWD**





So you want to build a shoreline, huh?





It is probably going to be a little sloppy







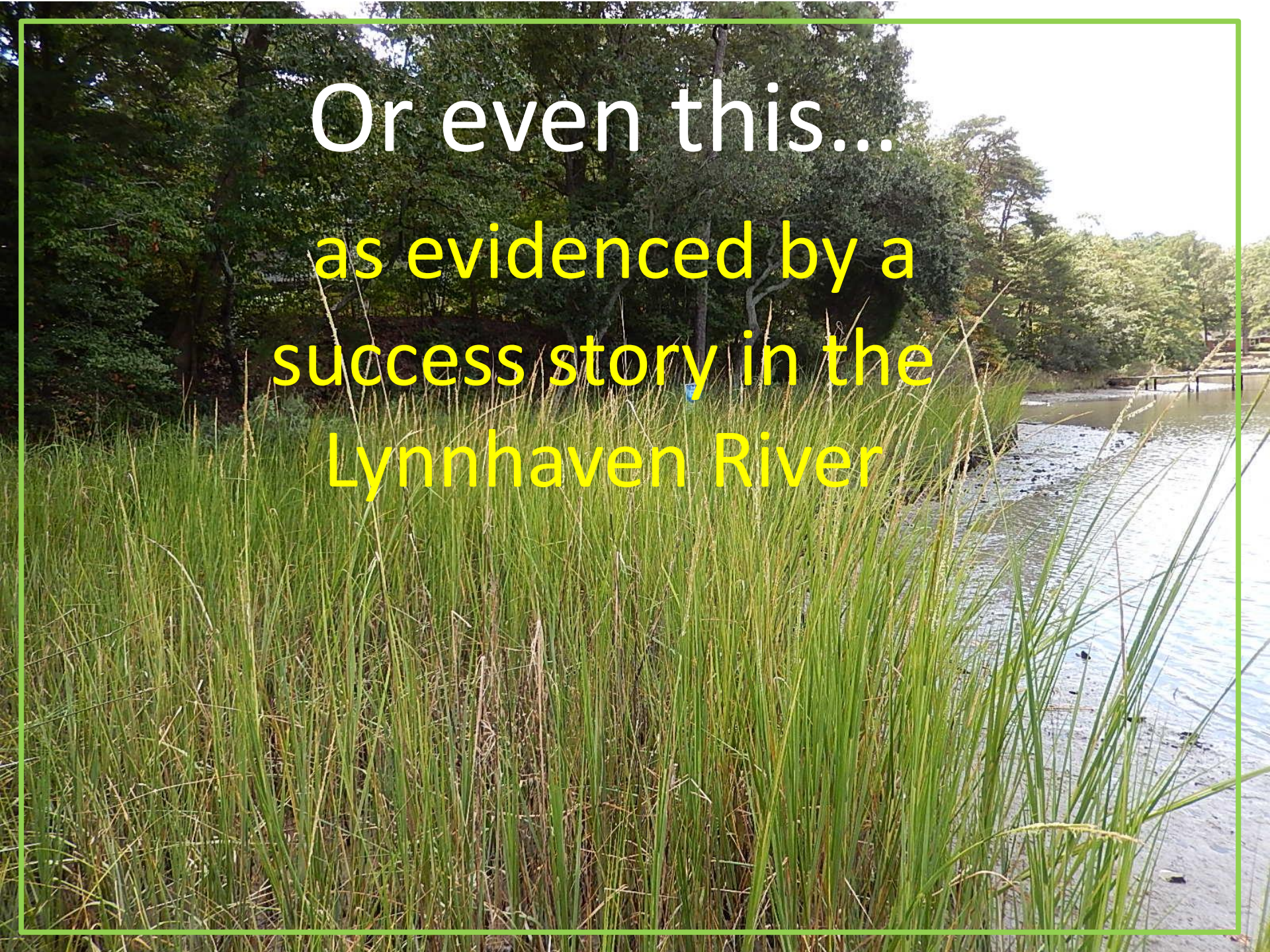
It might even get a little ugly



If done correctly, however,  
you might get this

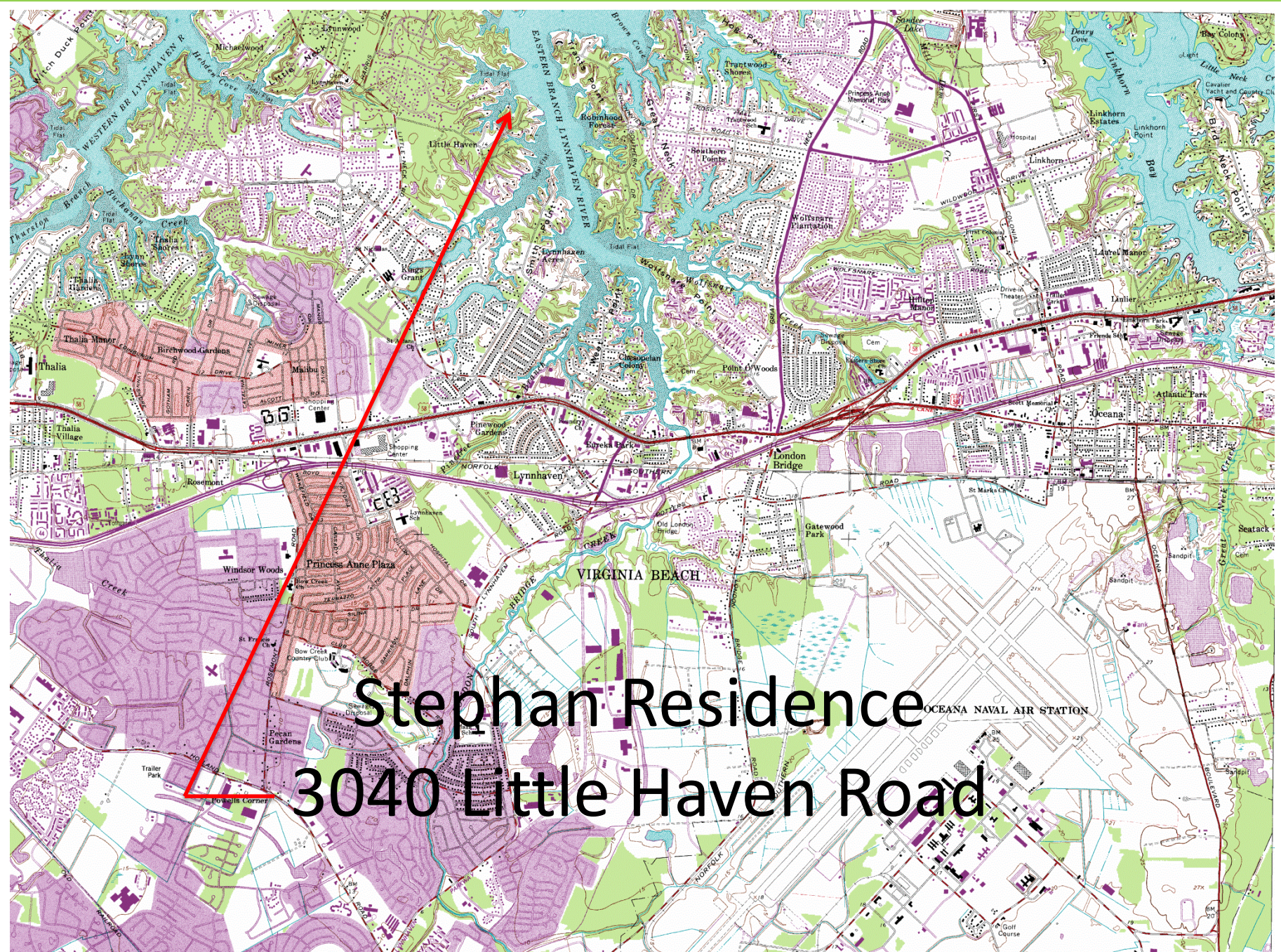






Or even this...  
as evidenced by a  
success story in the  
Lynnhaven River





Stephan Residence  
3040 Little Haven Road



SITE





# Pre-existing conditions





POSED COIR LOG  
(95 FT)

POSED SAND FILL  
PLANTING AREA  
(1,580 SF)

EXISTING MARSH  
(TO REMAIN)

POLE 1  
POLE 2  
POLE 3  
POLE 4  
POLE 5  
POLE 6

MLW -1.1  
MHW -0.71  
ULW -1.6

BAY  
ENVIRONMENTAL, INC.

EXISTING MARSH  
(TO REMAIN)

ENVIRONMENTAL, INC.  
Environmental Consulting Services



# Challenges

- Access
- Shading
- Permitting



# Challenges Overcome!

- Access – moved to water based construction
- Shading – worked with homeowner to selectively prune existing trees
- Permitting – worked intimately with City of Virginia Beach staff to get through the system



# Construction

- Coir logs installed
- Correct sand installed and graded
- Planting
- Goose protection fencing installed



























# September 2013 15 months post-construction





# September 2014

## 27 months post-construction





# September 2015

## 39 months post-construction





# Why successful?

- Location, location, location
- Right attitude
- Right maintenance
- Right project partners
- Knowledgeable team



Photo credit: The'N. Pham/The Virginian-Pilot





## Keys to remember for constructing a successful living shoreline:

- Accessibility
- Geotechnical considerations
- Planting seasons
- Plan for maintenance
- Qualifications of contractor



# **Accessibility**

How will you build it – water based or land based?

Where are your access points with relation to your material laydown area?

What size equipment will you need for reach and will that equipment fit where you want it to?



# Geotechnical considerations

Will the shoreline sink?

How will it be stabilized – fabric or overload with sand?

How will the mudwave be controlled?





# Planting seasons

Grasses

Shrubs/Trees

Contractual considerations



# Maintenance

Erosion and sediment control considerations during construction

Who is responsible?

Who monitors the site?

Recognize and accept some failures



# Contractor qualification

Have they built living shorelines before?

Do they have a wetland scientist on staff or on their team?

Do they clearly understand the goals of the project?

Consider qualified bids – low bid is not always the best option for living shoreline construction



# Questions?

Contact information:

Jim Cahoon, VA PWD



648 Independence Parkway, Suite 100  
Chesapeake, Virginia 23320  
(757) 436-5900 office