

# NORFOLK HARBOR NAVIGATION IMPROVEMENTS

## THE PORT OF VIRGINIA

CONNECTING THE COMMONWEALTH  
TO THE GLOBAL MARKET

Zac Canody, P.E.  
Director, Engineering  
October 18, 2018



*Stewards of Tomorrow*



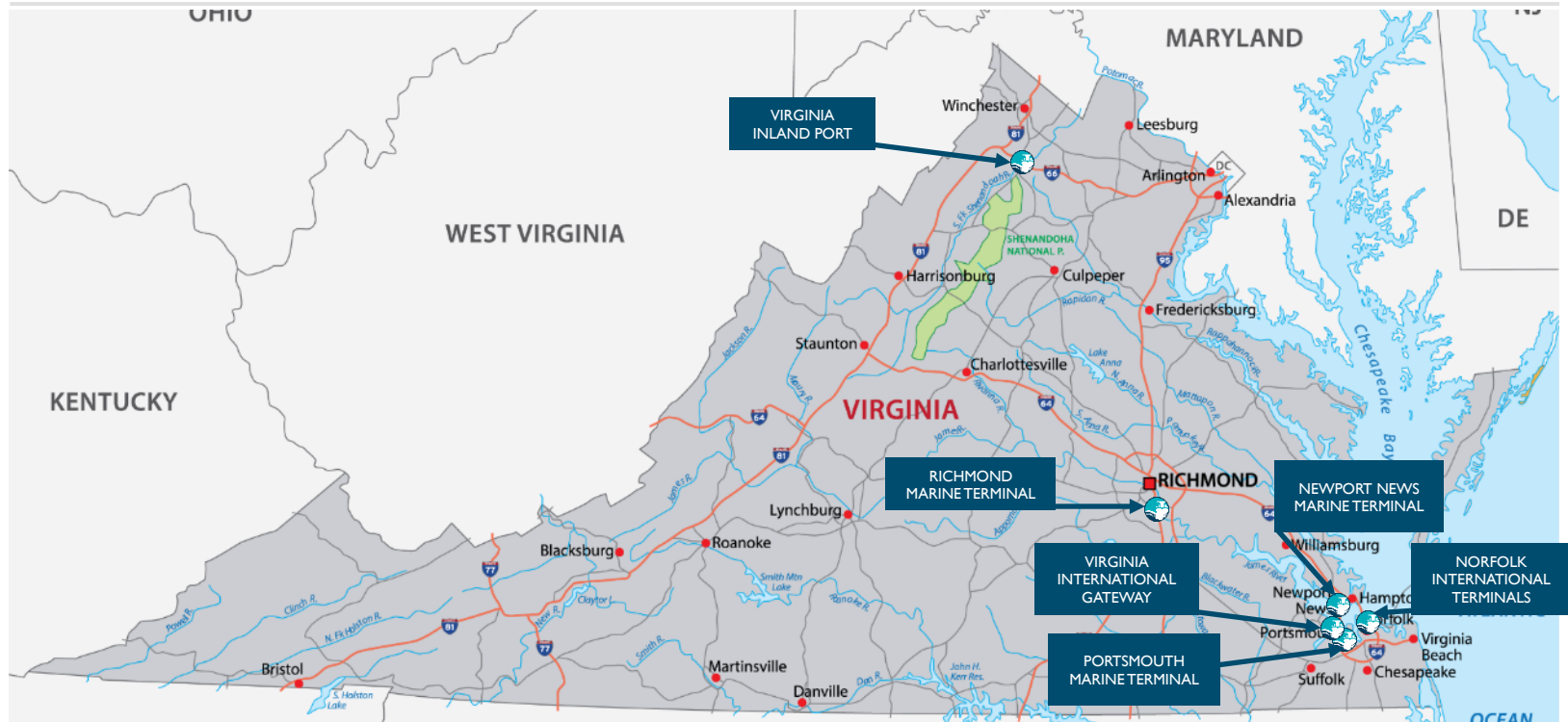
# The Port Of Virginia Is A Gateway For Global Commerce



# Port of Virginia

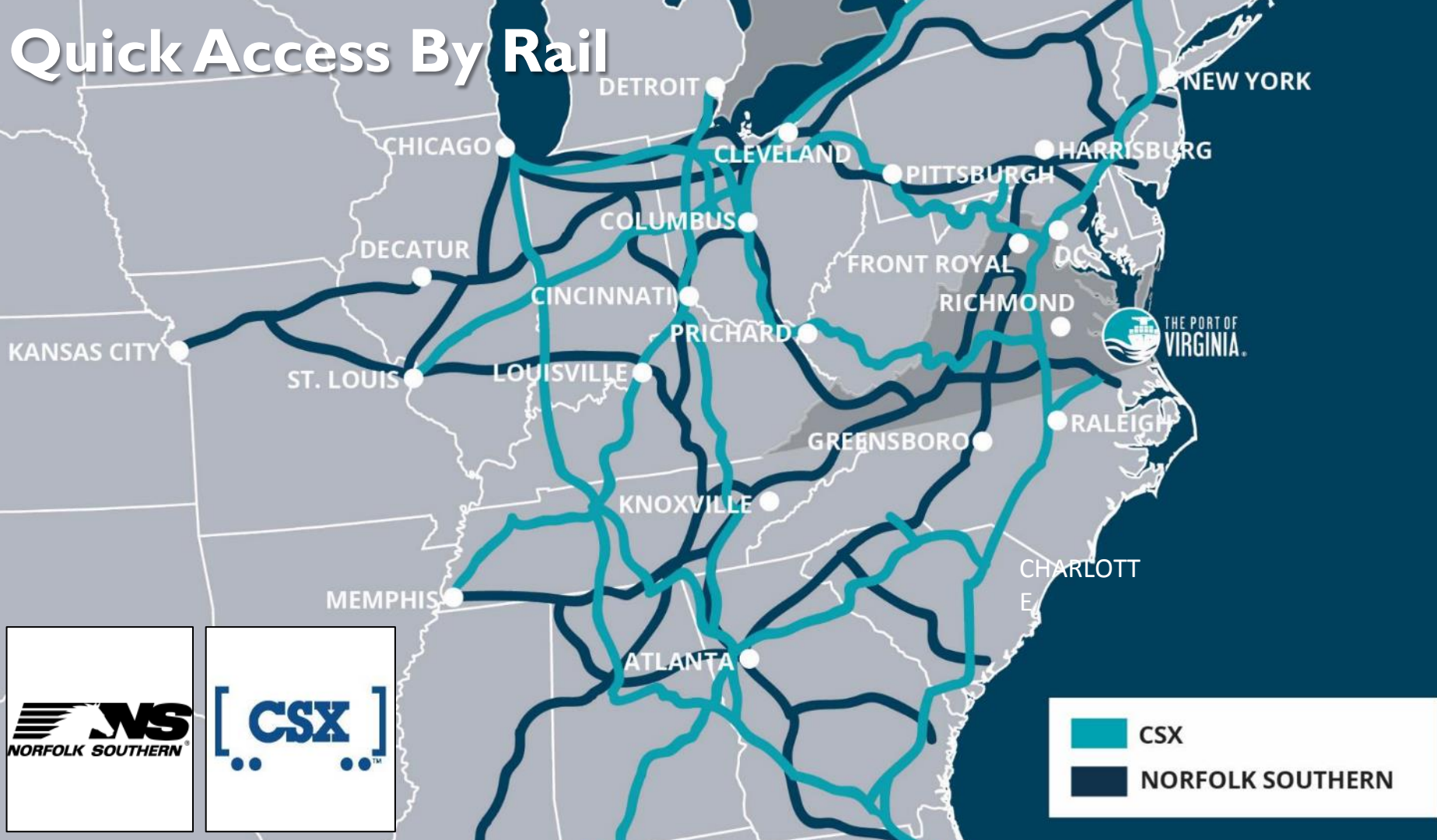


# Port Of Virginia Terminal Locations





# Quick Access By Rail



# MARKET SIZE/PORT POSITIONING



The Port's location and primary market size positions us perfectly to serve the American Heartland.

Source: Colliers, population categories defined by R K Johns

# The Port's Contribution to the Container Shipping Industry

---



**79,000,000**  
TONS OF CARGO MOVED



**530,800**  
JOBS IN VIRGINIA



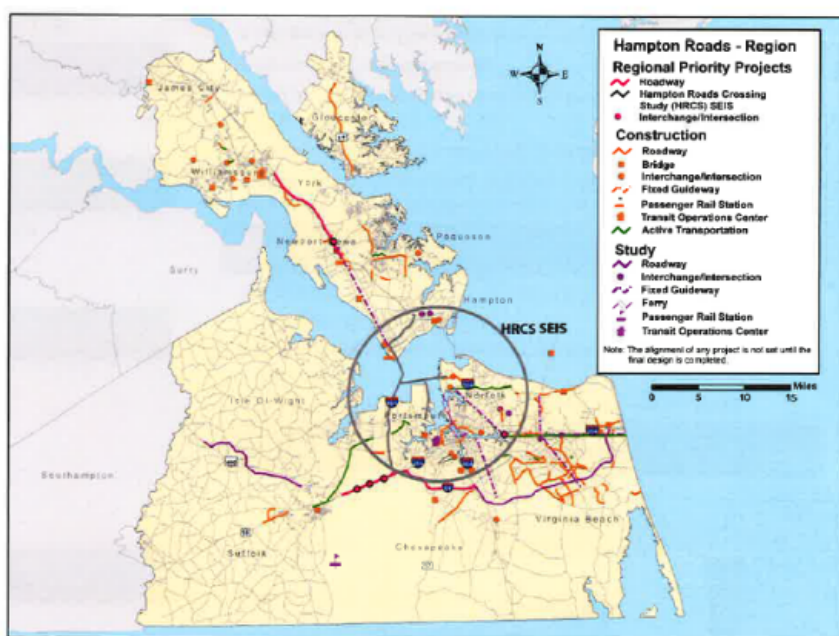
**\$88.4 BILLION**  
IN SPENDING



**10.1%**  
OF VA GSP

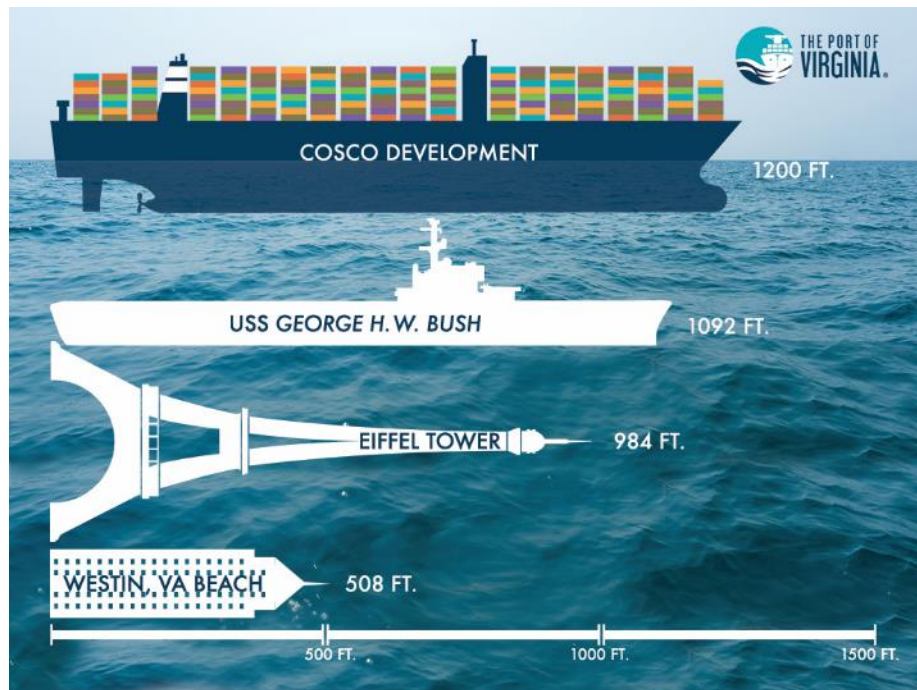
Source: *Economic Impacts of Virginia's Maritime Industry, 2013*, Raymond A. Mason School of Business, William & Mary

# Over \$4 Billion Being Invested





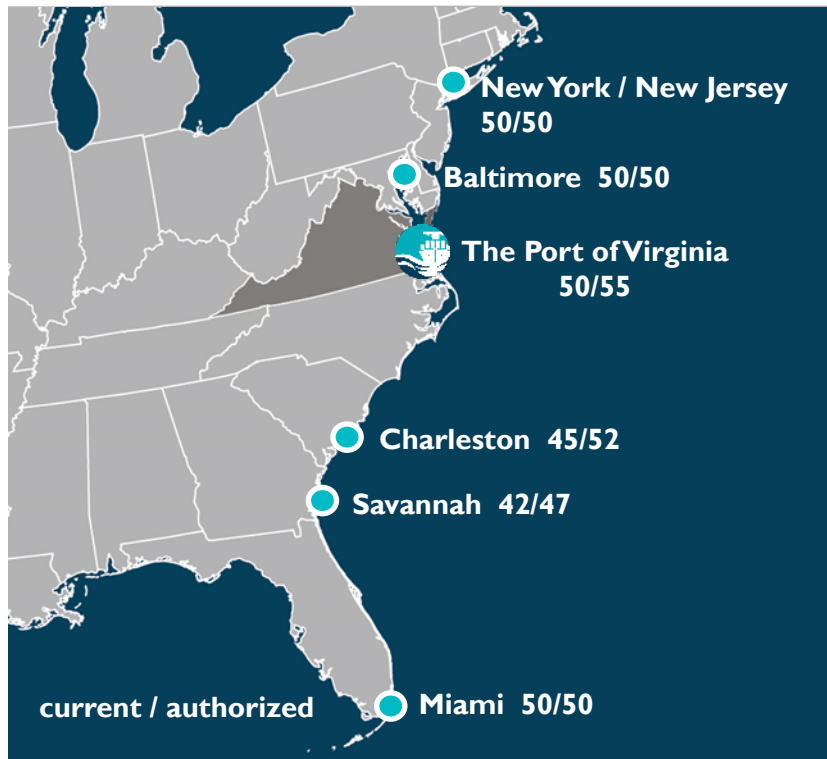
# A History Of Welcoming Big Ships



## Vessel Capacity (TEUs)



# East Coast Port Depths



## **New York/New Jersey - 50' deepening completed September 2016**

- \$2.1B total cost (roughly 54% federal/46% local cost share)
- Bayonne Bridge lift from 151' to 215' completed June 2017
- \$1.3B total cost

## **Baltimore - Constructed to 50'**

- LRR underway to consider widening

## **Charleston - 52' authorized in WIIN 2016**

- \$494M total cost (\$224M federal/\$269M local)
- SC appropriated \$300M in 2012
- Approvals complete. \$17.5M included in USACE FY17 and \$49M in FY18 Work Plans for construction.
- Construction began March 2018

## **Savannah - 47' authorized in WRRDA 2014**

- \$973M total cost (roughly 60% federal /40% state)
- GA appropriated \$266M through bonds
- Outer harbor construction began in 2015 and scheduled through 2018

## **Miami - 50' deepening complete in September 2015**

- \$220M total cost (\$112M FL/\$108 Miami-Dade)

# Big Ship Calls

- First 13k TEU vessel arrived May 2017 followed by first 14k+ TEU vessel in August 2017.
- Port now receives about 3 ultra large container vessels (ULCVs) per week.
- Special navigation rules implemented to manage traffic
- Unable to maximize cargo capacity due to draft constraints



# Vessel Delays

- One ultra-large container vessel at a time in channel – one-way traffic
- Large Navy or ultra-large ships close channel to all other traffic
- Daily event (~6 times per week)
- Vessels queue for their turn or wait at dock
- Will become even more frequent in near future as more large vessels call at Norfolk

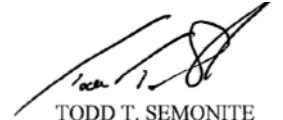




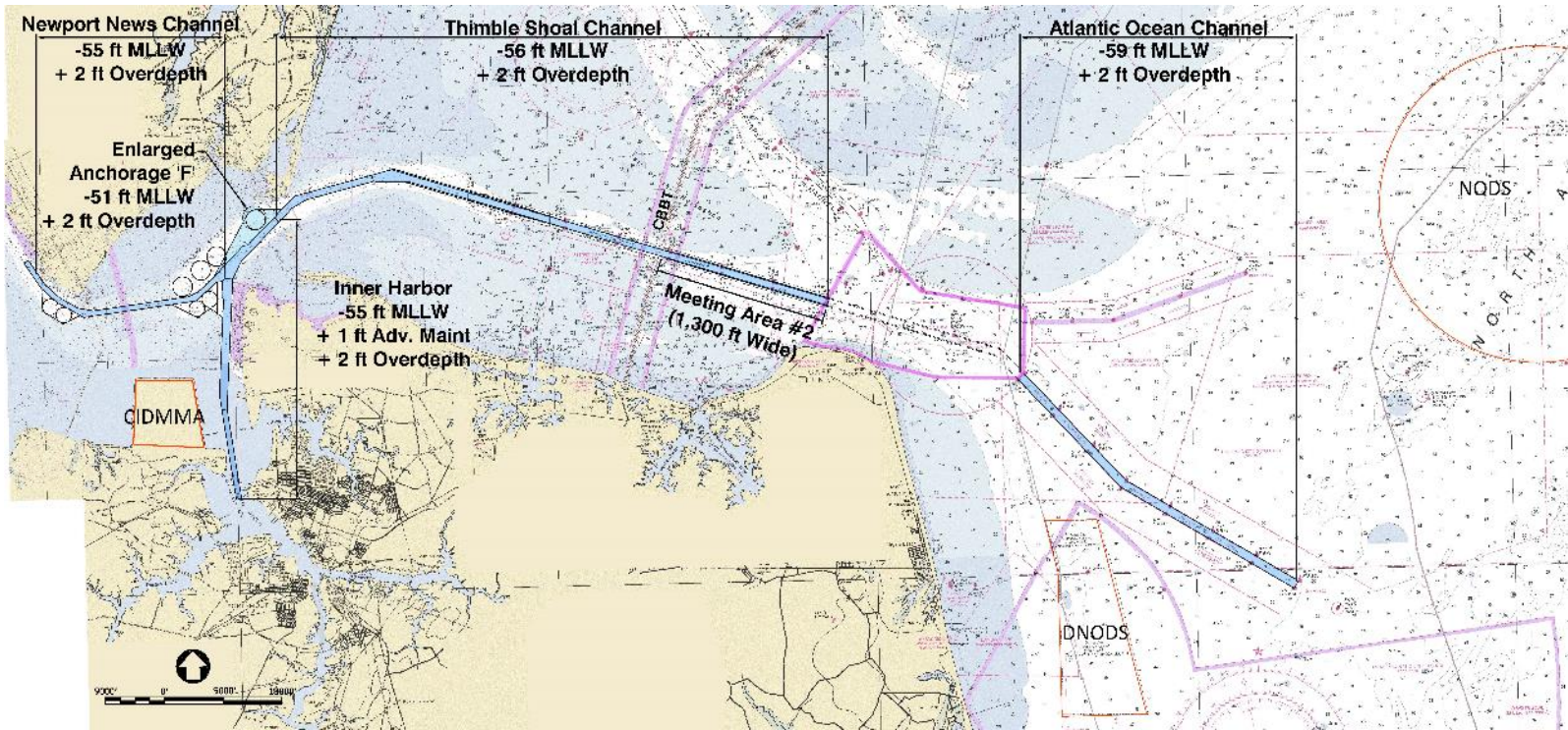
# Norfolk Harbor Navigation Improvements

- Completed the GRR 6 Months Ahead of Schedule
- Chief's Report Signed (June 2018)
- Preconstruction Engineering and Design (PED) has Started
- Accelerated Construction Start  
- Response to Industry Needs

STRONGLY ENDORSE  
THIS CRITICAL PROJECT -  
GREAT PROJECT FOR "ENERGIZING  
THE ECONOMY" AND PROTECTING  
MARITIME RESOURCES - WHILE PROTECTING  
THE ENVIRONMENT!! STANDING  
BY TO BEGIN CONSTRUCTION!!  
REPORT IS 6 MONTHS AHEAD OF  
SCHEDULE.

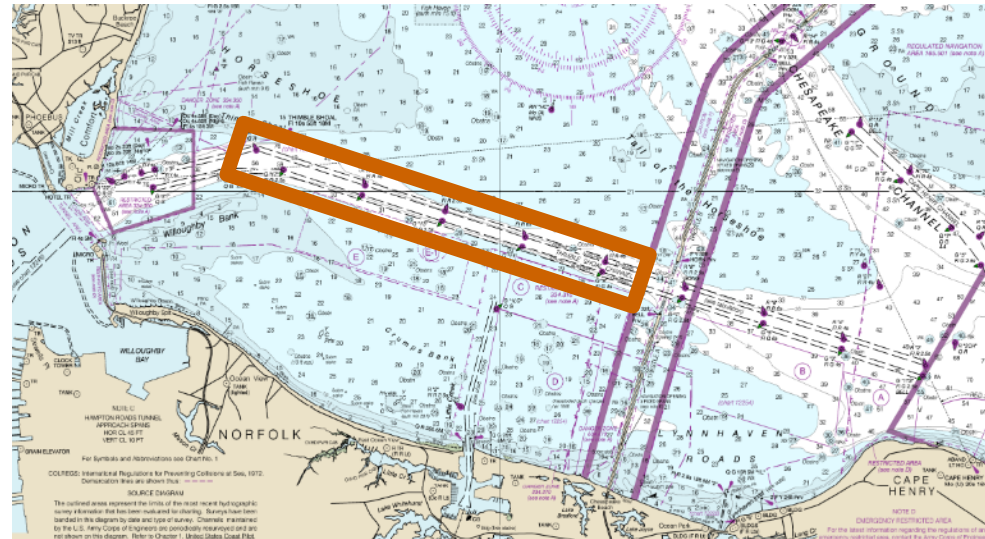
  
TODD T. SEMONITE  
Lieutenant General, USA  
Chief of Engineers

# Chief's Report/NED Plan



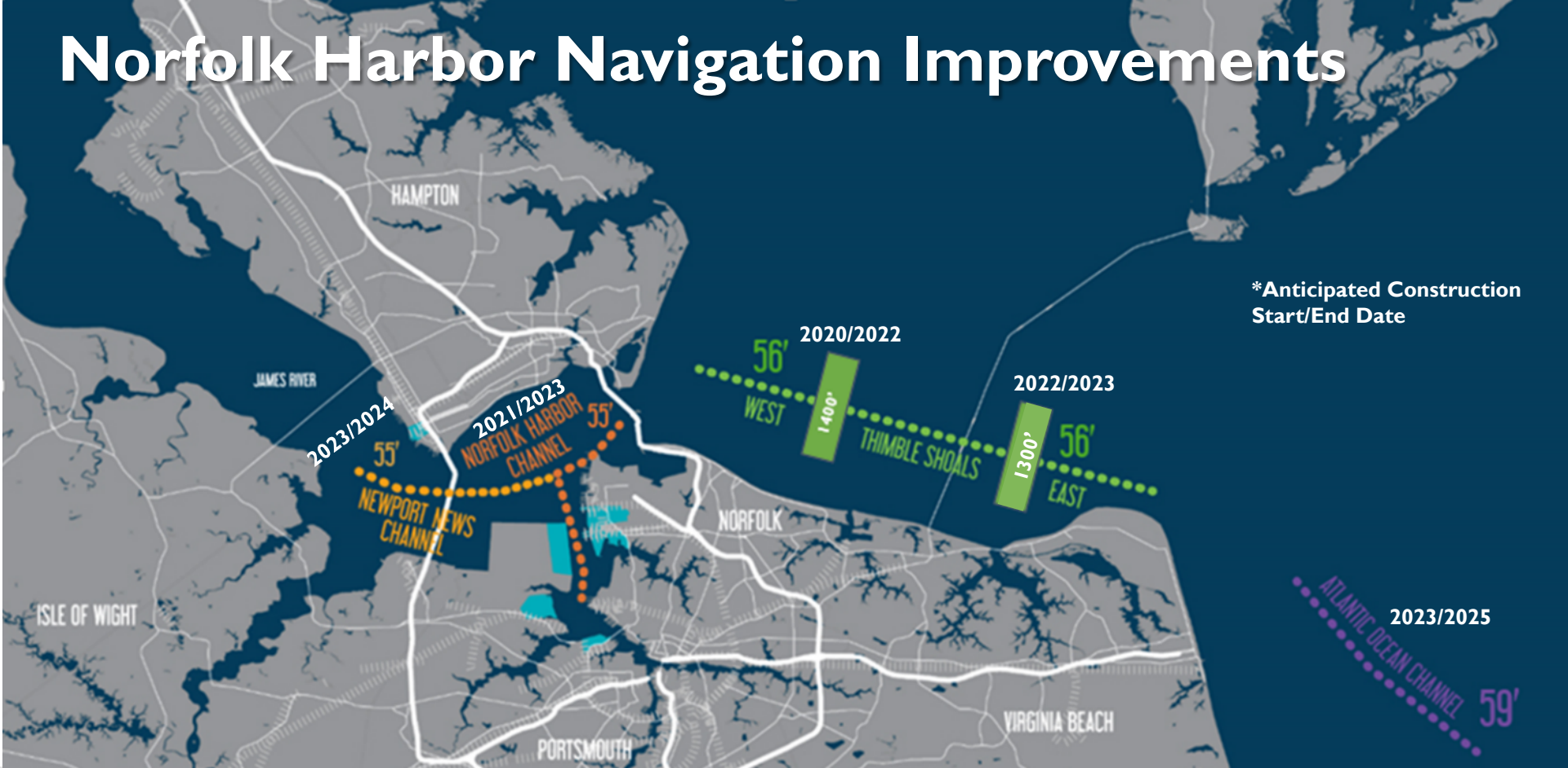
# Project Phasing - Accelerated Execution

- Start Construction with Thimble Shoal Channel – West of the CBBT
- Opportunity for Beneficial Use of Sandier Material from TSC East and AOC
- Additional Time for CIDMMA Readiness





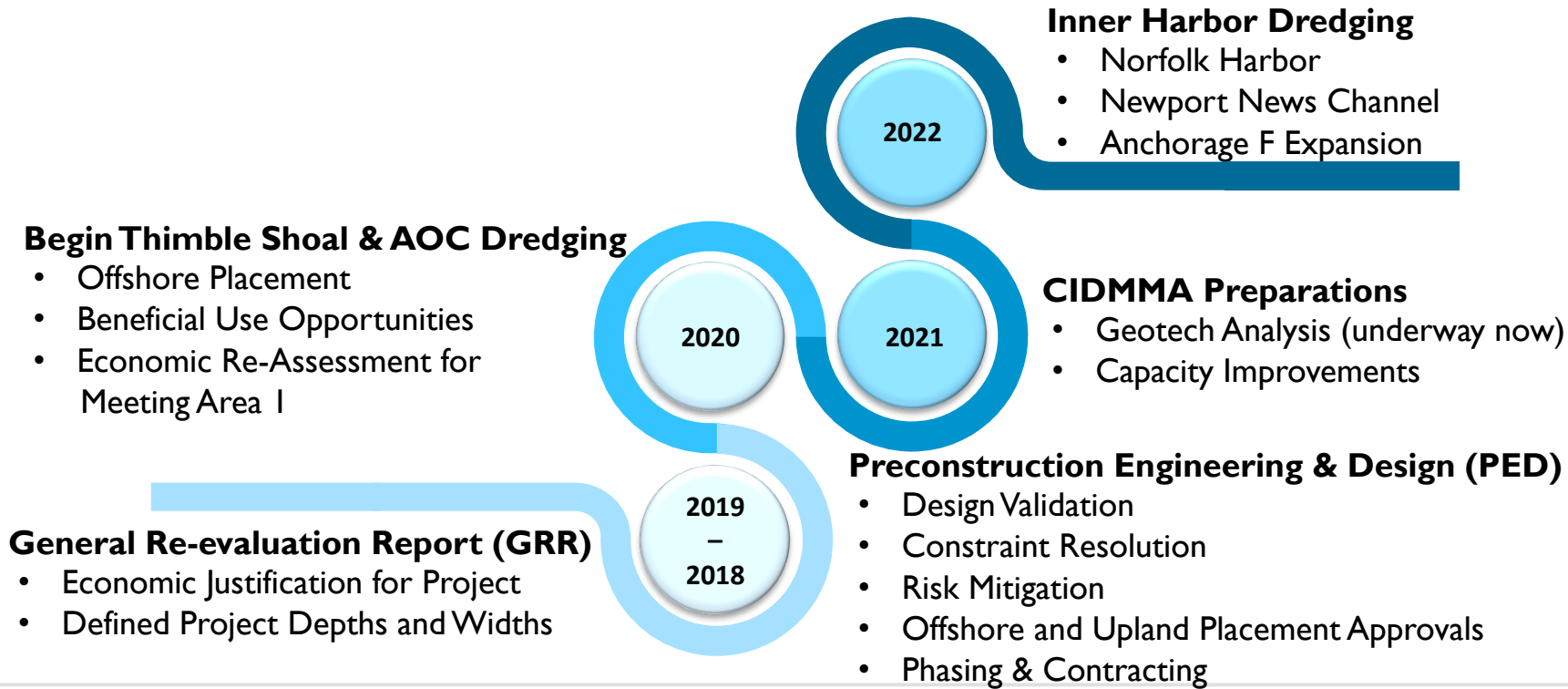
# Norfolk Harbor Navigation Improvements





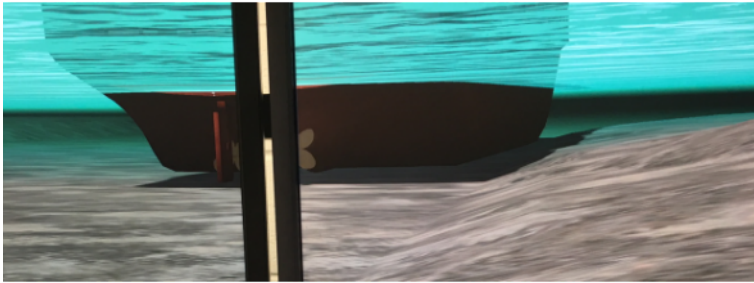
# Path to Construction

*Continued partnership with Norfolk District to move the project forward to construction*



# Design Validation (Ship Simulations)

- In progress
- Verifies Project Layout and Channel Meeting Areas



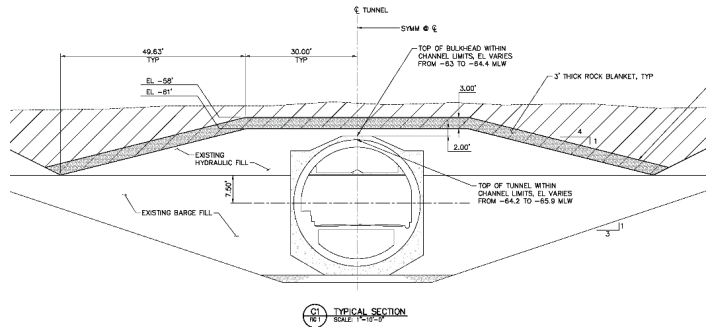
*Figure: Underwater Camera View of Simulated Ship*



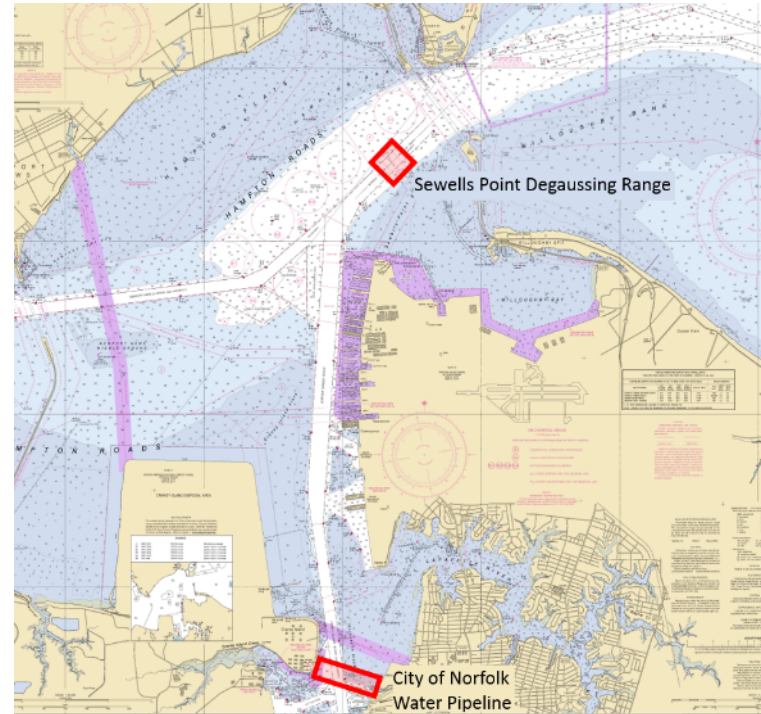
*Figure: Full-mission ship simulator at MITAGS*

# Constraint Resolution

- Utility Surveys
- CBBT Cover Modification
  - Analysis Ongoing to Validate GRR Concept



Concept from GRR



# Risk Mitigation

- Cultural Resource Surveys Ongoing, Started 9/27
- UXO Mitigation

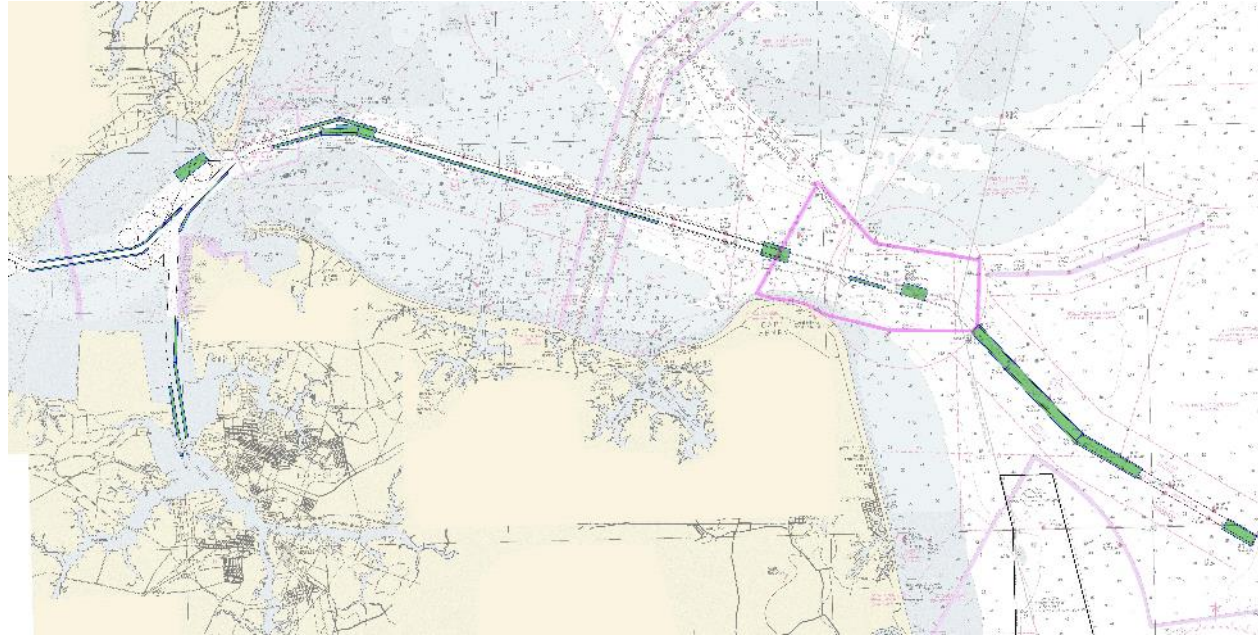


Figure: Comparison of survey areas w/ dredge limits



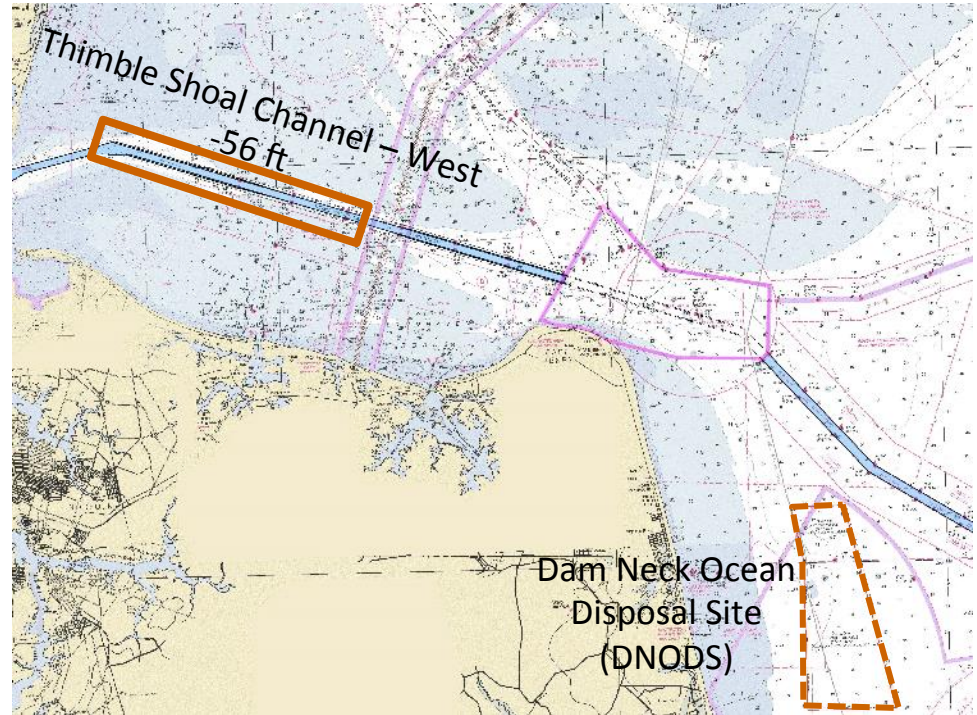
# Offshore Placement Approvals

- EPA Approval Needed for Offshore Placement
- TSC-West Sampling Scheduled for 10/25/18 to 11/16/18
- M/V Northstar Commander



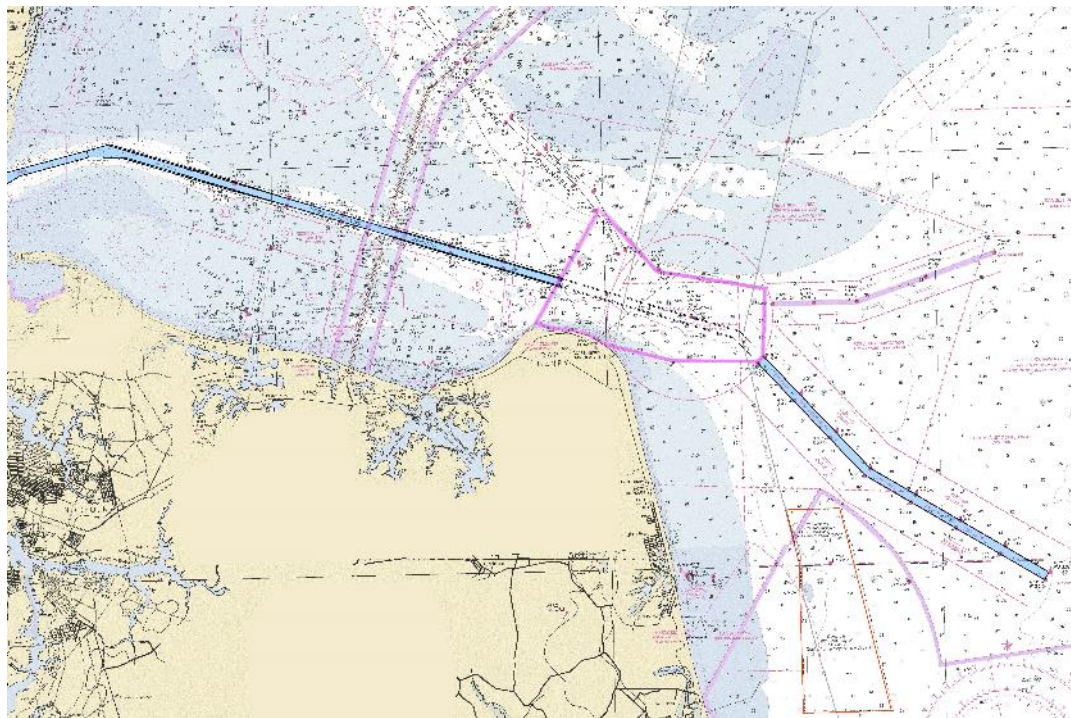
# First Contract

- Thimble Shoal Channel, West of CBBT
- ~6.7MCY (Req + Pay OD)
- Advertise Summer 2019
- Award/NTP Fall 2019
- Start by January 2020



# Subsequent Contracts – Ocean Channels

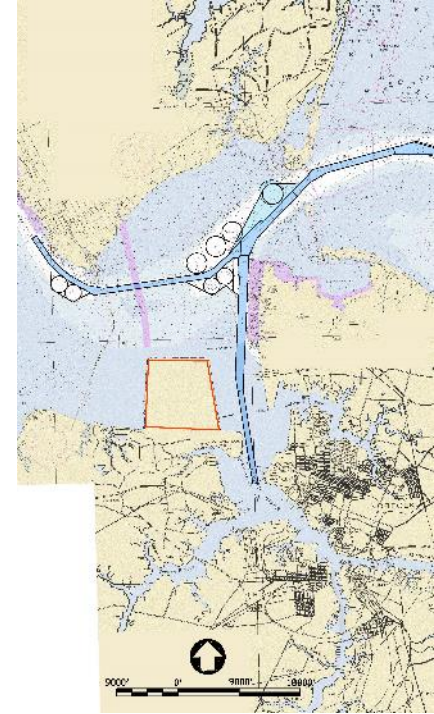
- Thimble Shoal Channel, East of CBBT
- Atlantic Ocean Channel
- Meeting Area 2
- ~10MCY Total





# Subsequent Contracts – Inner Harbor

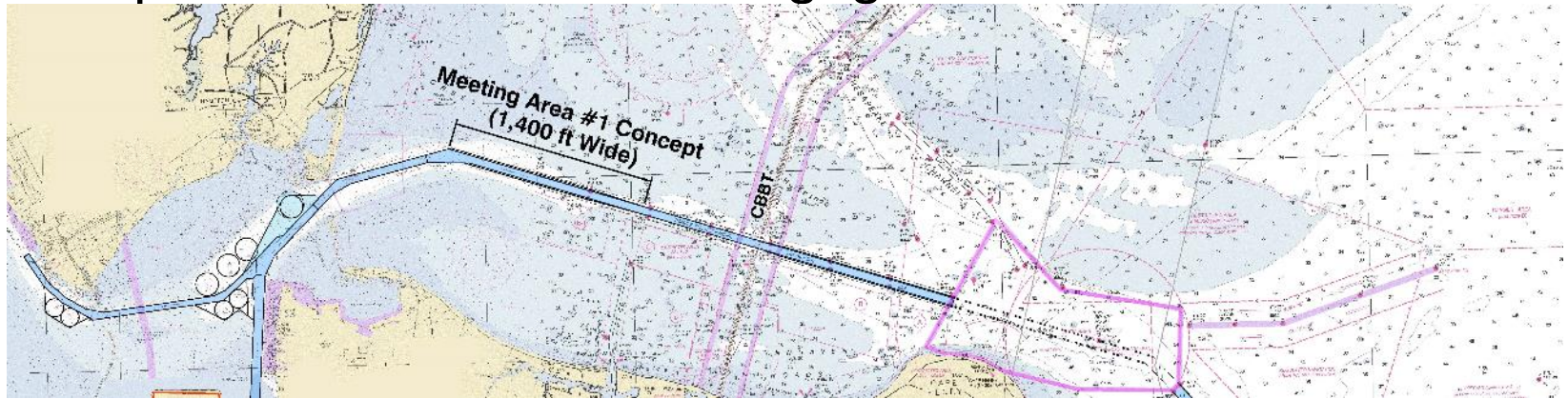
- Est. Start 2021 when CIDMMA ready
- ~10 MCY Total





# LRR – Meeting Area #I

- Meeting Area #I Width (West of CBBT) to be Confirmed via a Limited Re-evaluation Report
- Up to ~5 MCY additional dredging



# SUMMARY – Near Term

- PED Tasks Ongoing to Support Spring 2019 Review Process of First Contract
- First Construction Element, TSC-West
  - Advertise Summer 2019
  - Start Jan 2020



# SUMMARY – Long Term

---

- CIDMMA Readiness
- Beneficial Use of Sands – Continue Coordination Effort
- Continue Dredging



# Craney Island Eastward Expansion

## Purpose

- Increase Capacity of CIDMMA
- Provide Site for State Port





# CIEE - Continued Effort for SE Cell

## Cross Dikes:

- Raised dikes back to +7 Ft
- Completed: March 2018



# CIEE - Continued Effort for SE Cell

---

## Main Dike:

- Initial Pre-Dredging for Main Dike
- Upper Several Feet/Debris



# CIEE - Continue Main Dike Pre-Drege

- Pre-Dredge of SE Cell Main Dike
- Debris removal
- Upper 10 feet pump into CIDMMA
- Below 10 feet ocean placement with EPA concurrence



# CIEE SE Cell: Est. 5-10 years



Phase 1: SE Cell Fill & Ground Improvements



# Mitigation Projects

Tracks with CIEE

Construction

- CIEE Mitigation: ~17% Complete
- CIEE Construction: ~10% Complete



# CIEE Next Steps

---

- Continue Pre-dredge along Main Dike
- Continue effort to enclose SE Cell