

# CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT



# Hampton Roads Tunnels

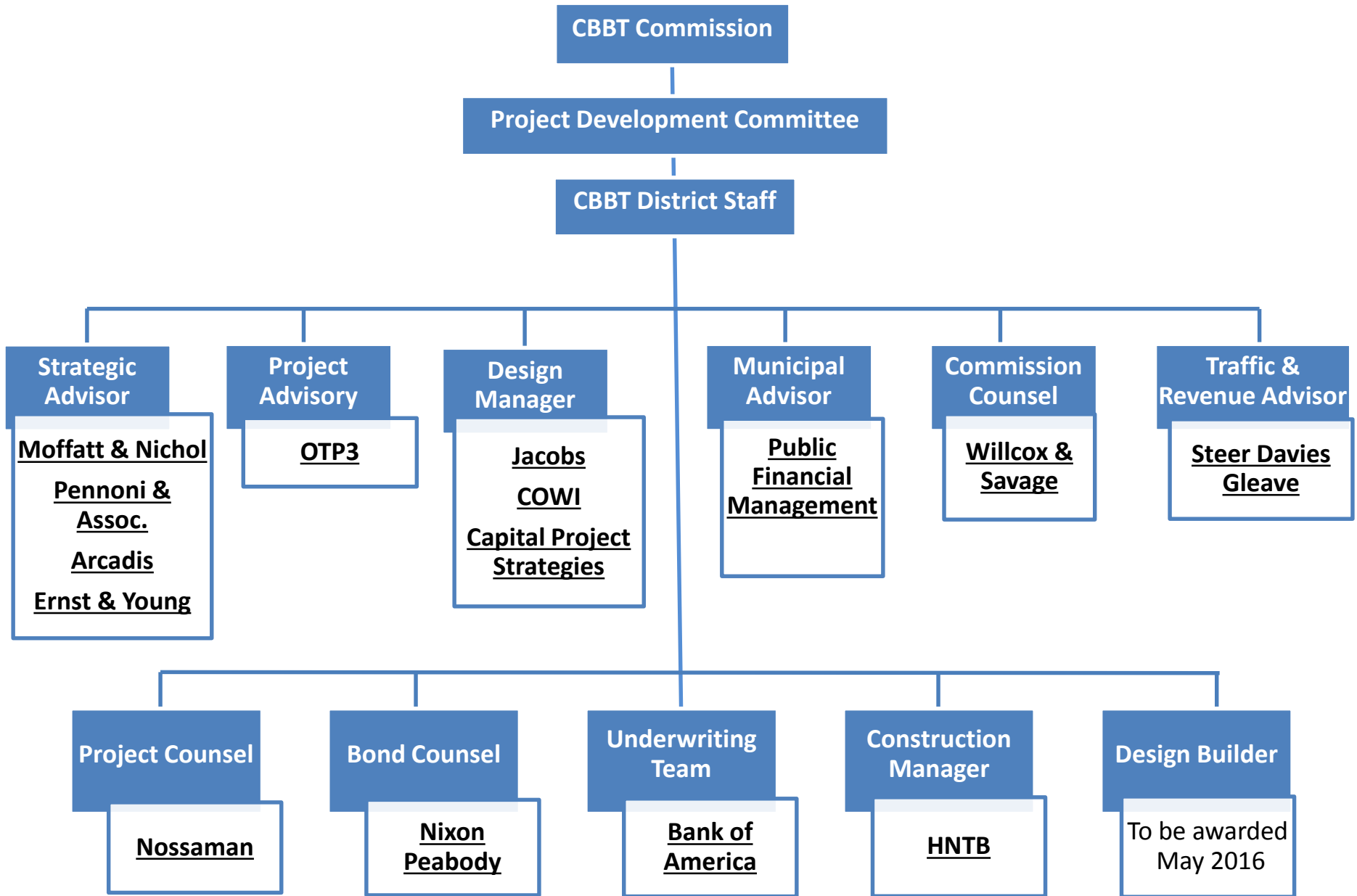
- Downtown Tunnel
  - Original – 1952
  - Parallel - 1987
- Hampton Roads Tunnel
  - Original – 1957
  - Parallel - 1976
- Mid-Town Tunnel
  - Original – 1962
  - Parallel – 2016
- Chesapeake Bay Bridge Tunnel(s) 1964
- Monitor Merrimac Tunnel - 1992

# **CBBT District Overview**

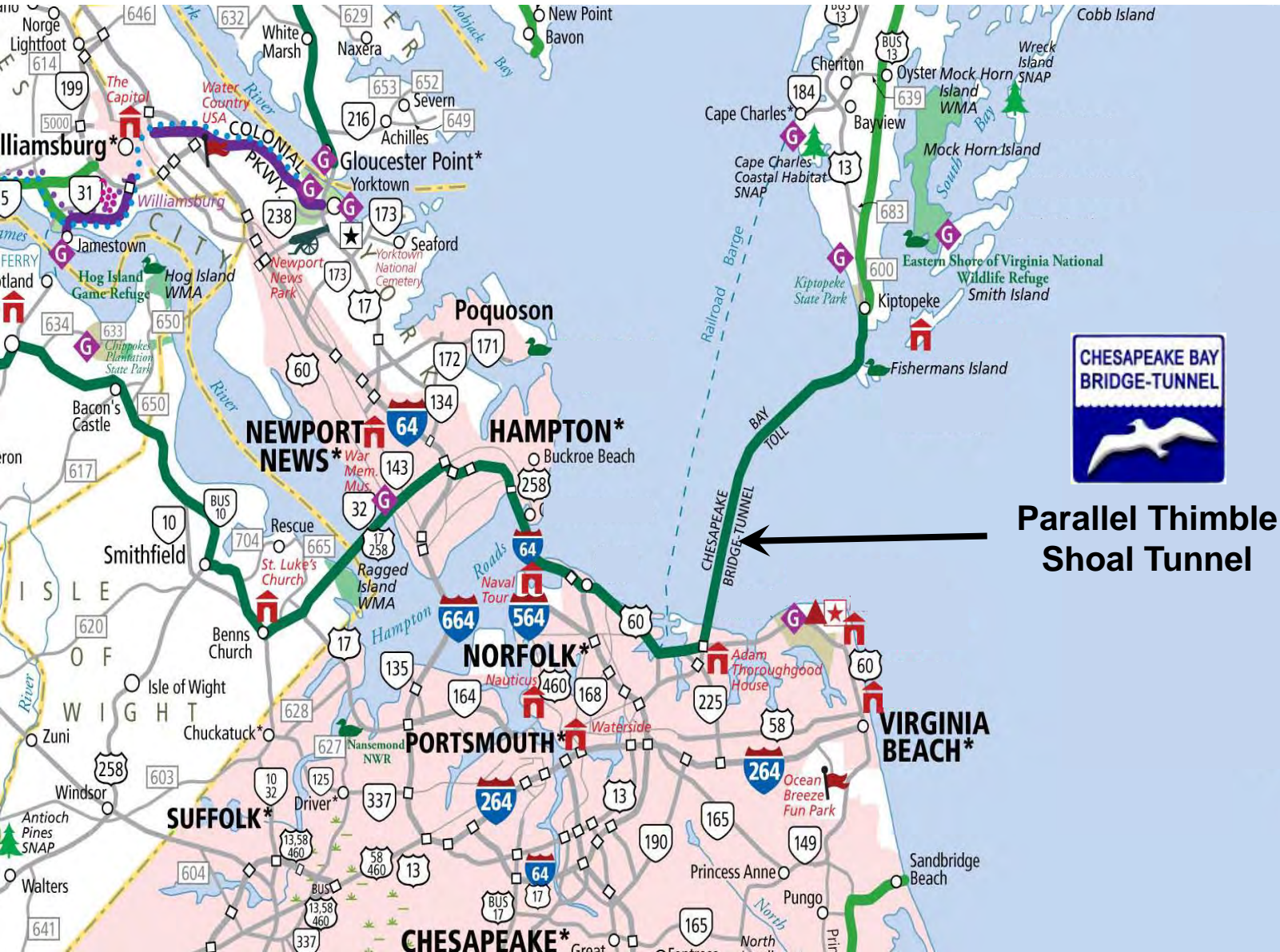
- Political Subdivision of the Commonwealth
- 150 Full Time Employees
- Comprised of 4 divisions
  - Administration
  - Finance
  - Maintenance
  - Operations
- No Federal, State or Local Tax Monies used to construct or operate



# Parallel Thimble Shoal Tunnel



# Location Map



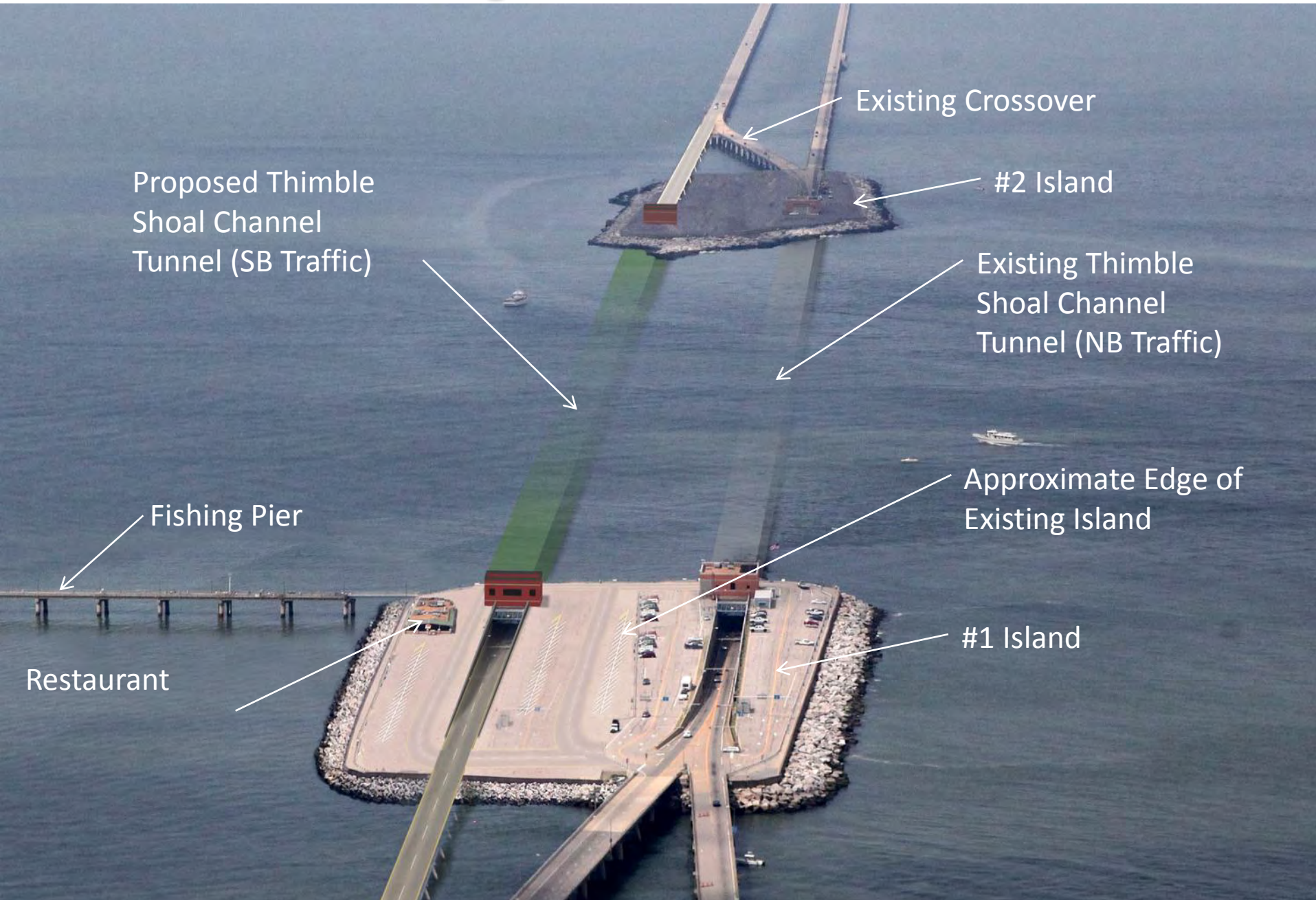
# Alignment for Parallel Tunnel



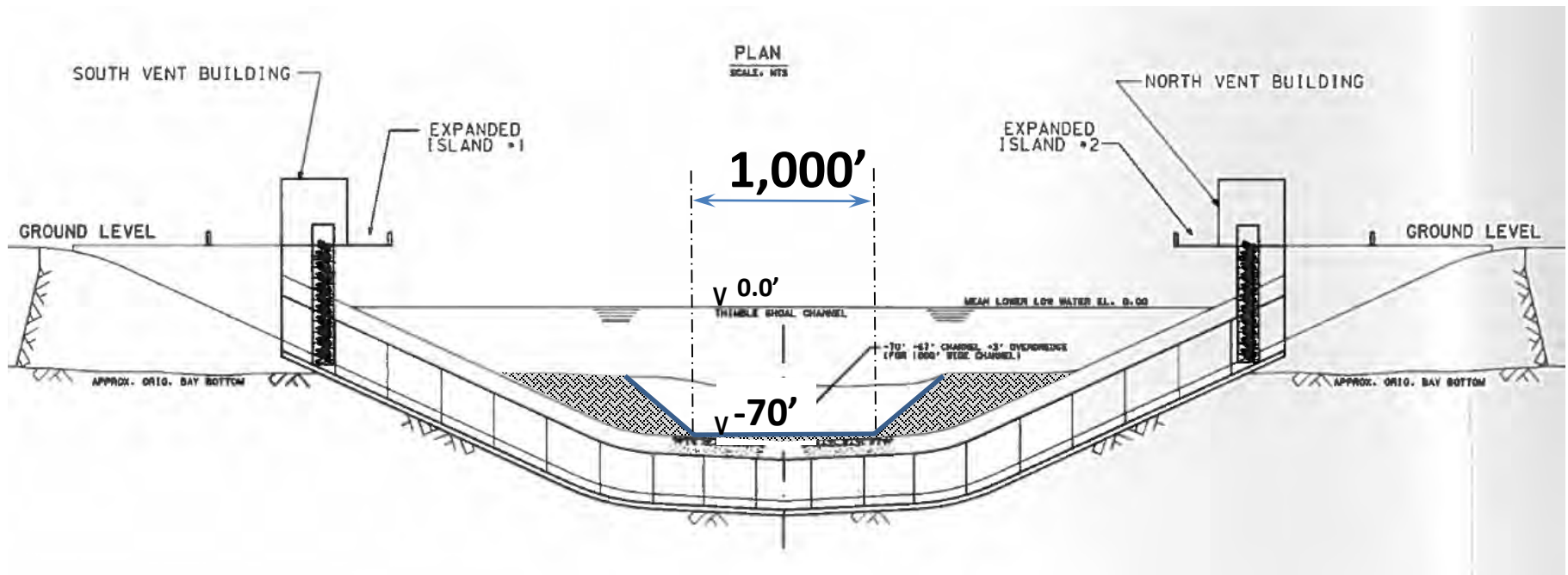
- No Right of Way Acquisition
- No Large-Scale Utility Relocation



# Project Overview



# Proposed Channel Dimensions



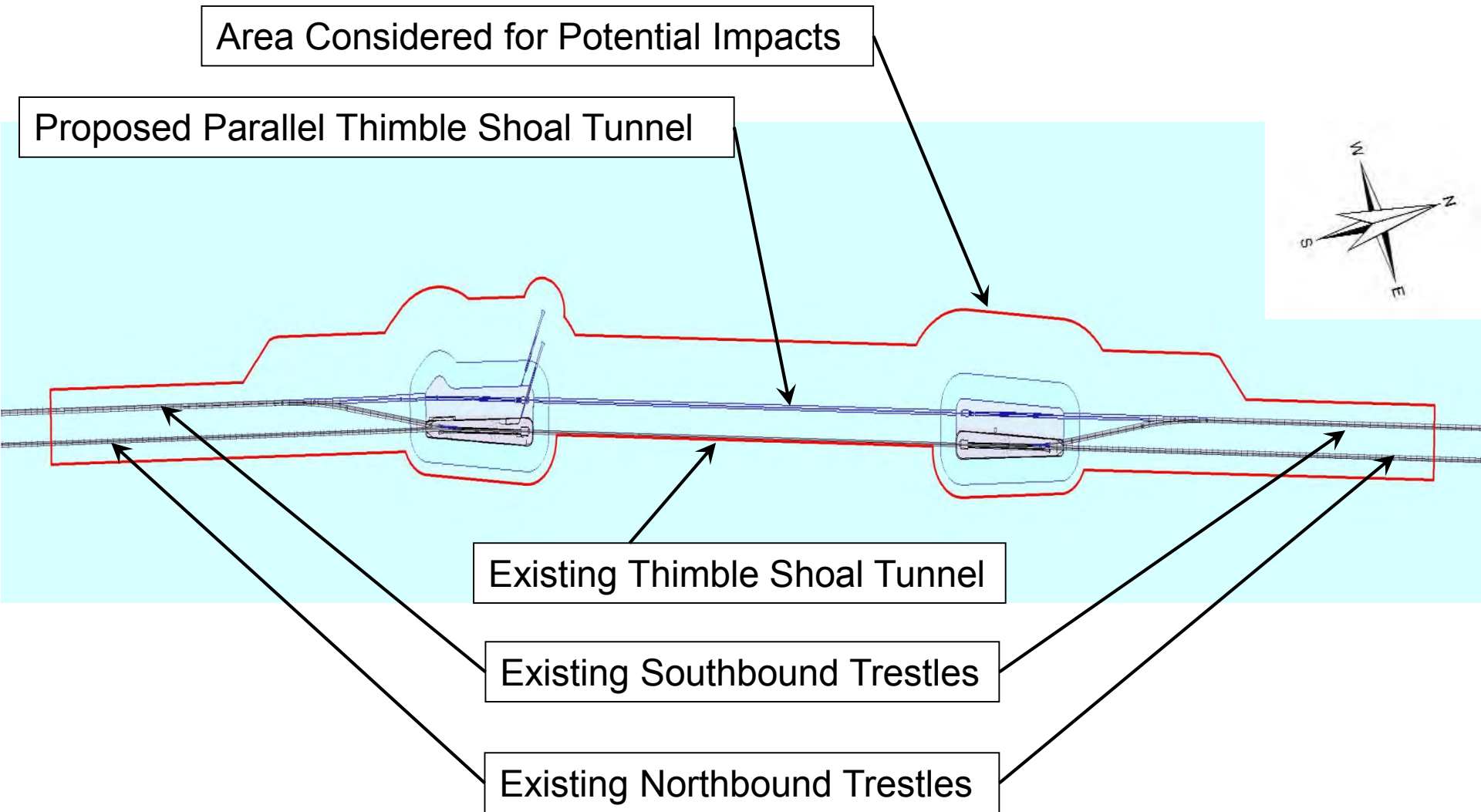
- 67' (+3') deep channel
- 1,000' Wide at the bottom



# **National Environmental Policy Act (NEPA)**

- Environmental Assessment (EA)
- FHWA is the lead federal agency
- Multiple agencies involved
- Purpose is to identify potentially significant impacts
- Draft EA signed December 2014
- Finding of No Significant Impact (FONSI) signed July 31, 2015

# National Environmental Policy Act (NEPA)





# Permitting

- Contractor will obtain permits and clearances
- District is a partner with contractors to obtain the permits and clearances
- Work to facilitate permitting was initiated during NEPA process
  - Navigation/Maritime coordination
  - Identification of possible permit conditions
  - Dredge material disposal
- Information made available through DB process

# **Geotechnical Investigation**

- Geotechnical Ground Investigation
  - 38 Seabed CPTs
  - 20 Marine Sample Borings
- Geotechnical Data Report (GDR)
- Geotechnical Baseline Report (GBR)
- Geophysical Survey
  - Multibeam, hydrographic survey
  - Side scan sonar imaging
  - Sub-bottom profiling using a chirp system
  - Sub-seafloor, seismic reflection survey
- Laboratory Testing on Representative Soil Samples



# Geotechnical Investigation

Jacobs Engineering Group  
Project No. 04-81140001

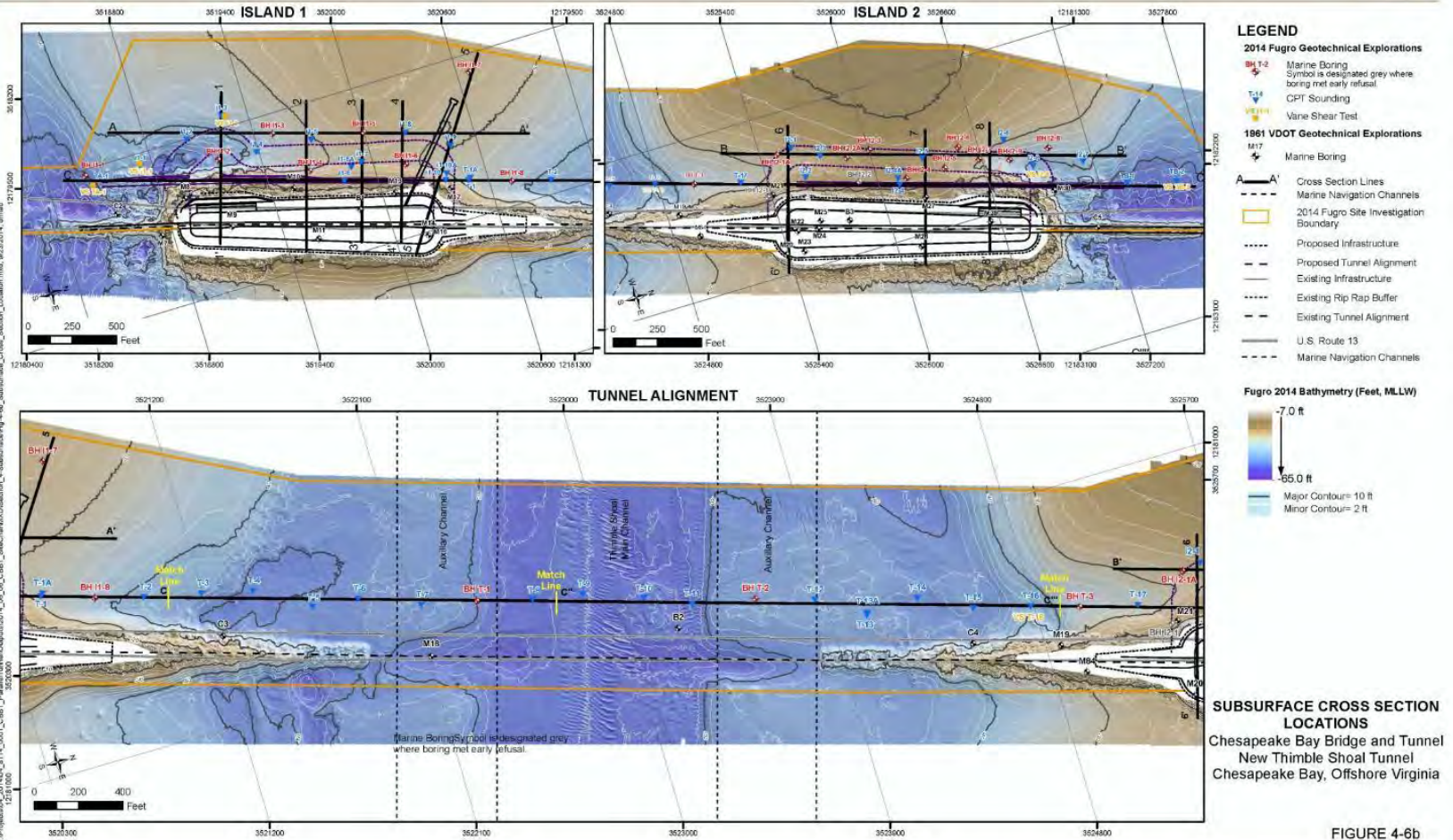
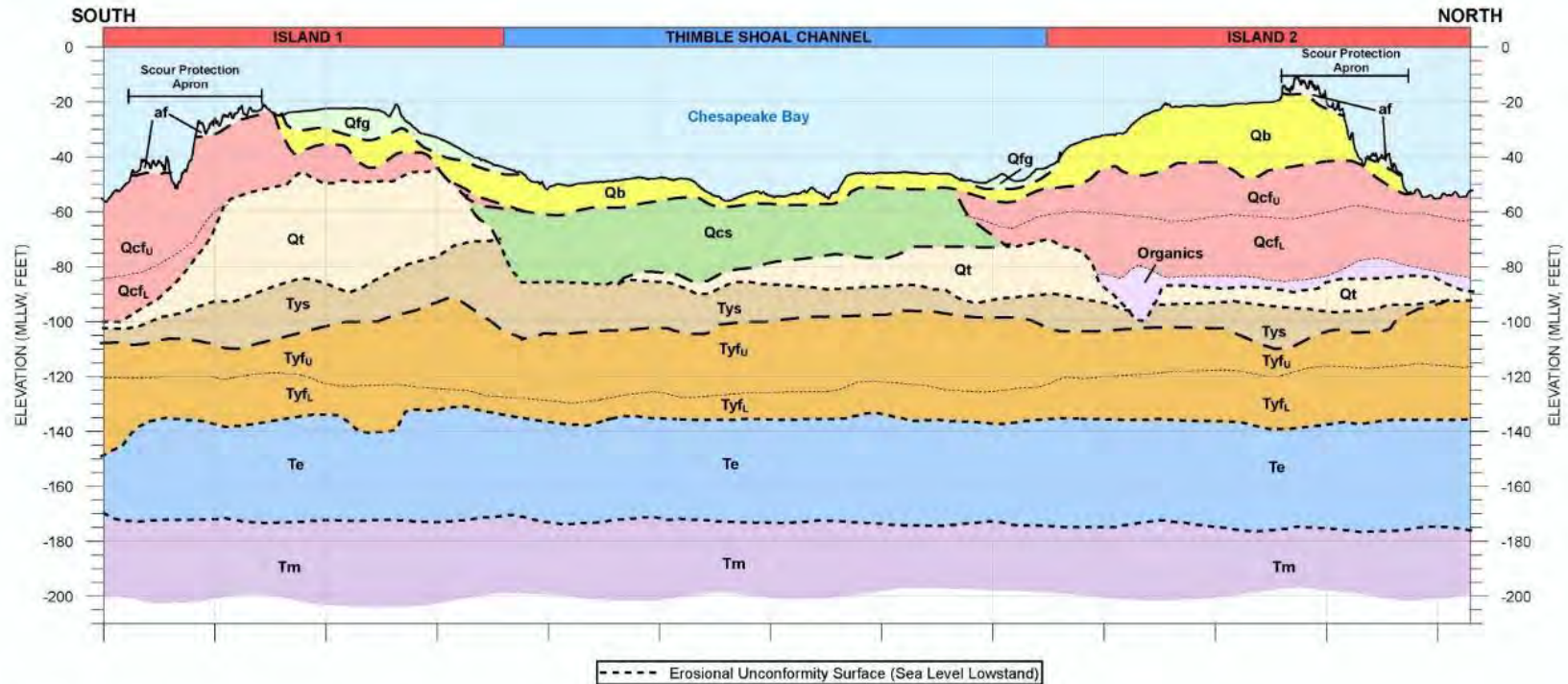


FIGURE 4-6b

# Geotechnical Investigation

Jacobs Engineering Group  
Project No. 04.81140001



## NOTES:

- 1) Bathymetric data (solid black line) from 2014 multibeam survey.
- 2) Bathymetric elevation reference to mean lower low water (MLLW).
- 3) Stratigraphic contacts are approximate, and interpreted from borings and CPT soundings. Conditions vary both along and perpendicular to the section line.
- 4) Material descriptions are generalized. Materials may vary within the stratigraphic units.

## Stratigraphic Units

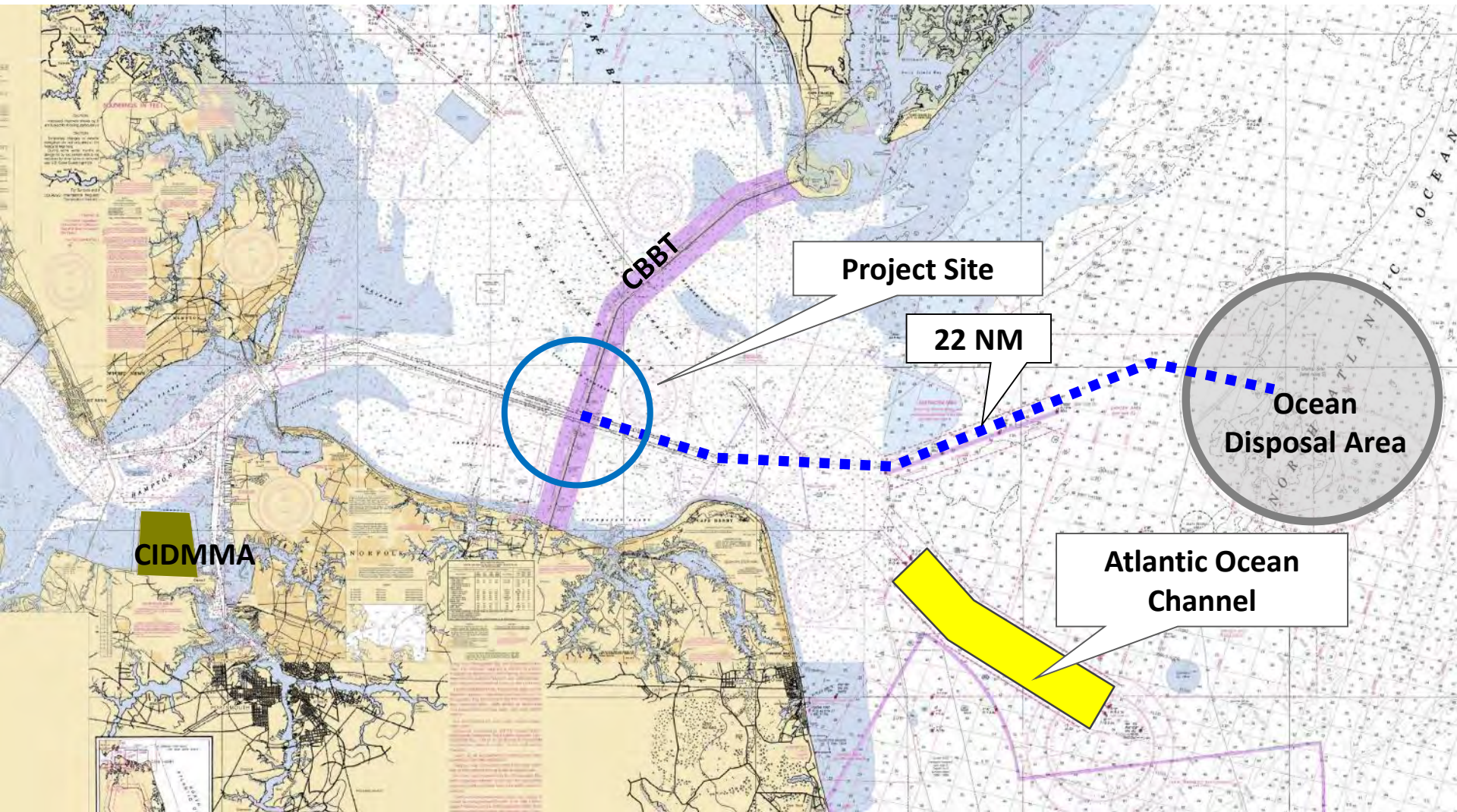
af	Artificial Fill	Qt	Tab Formation
Qfg	Baymouth Fine-Grained Deposits	Tys	Yorktown Formation- Predominately Coarse-Grained
Qb	Baymouth Shoal Deposits	Tyfu	Yorktown Formation- Predominately Fine-Grained
Qcfu	Channel Fill Deposits- Predominately Fine-Grained	Te	Eastover Formation
Qcfi	Channel Fill Deposits- Predominately Coarse-Grained	Tm	St. Marys Formation
Qcs	Yorktown Formation- Predominately Coarse-Grained		

40 ft  
800 ft  
Horizontal and Vertical Scale in Feet  
Vertical exaggeration is 20x.

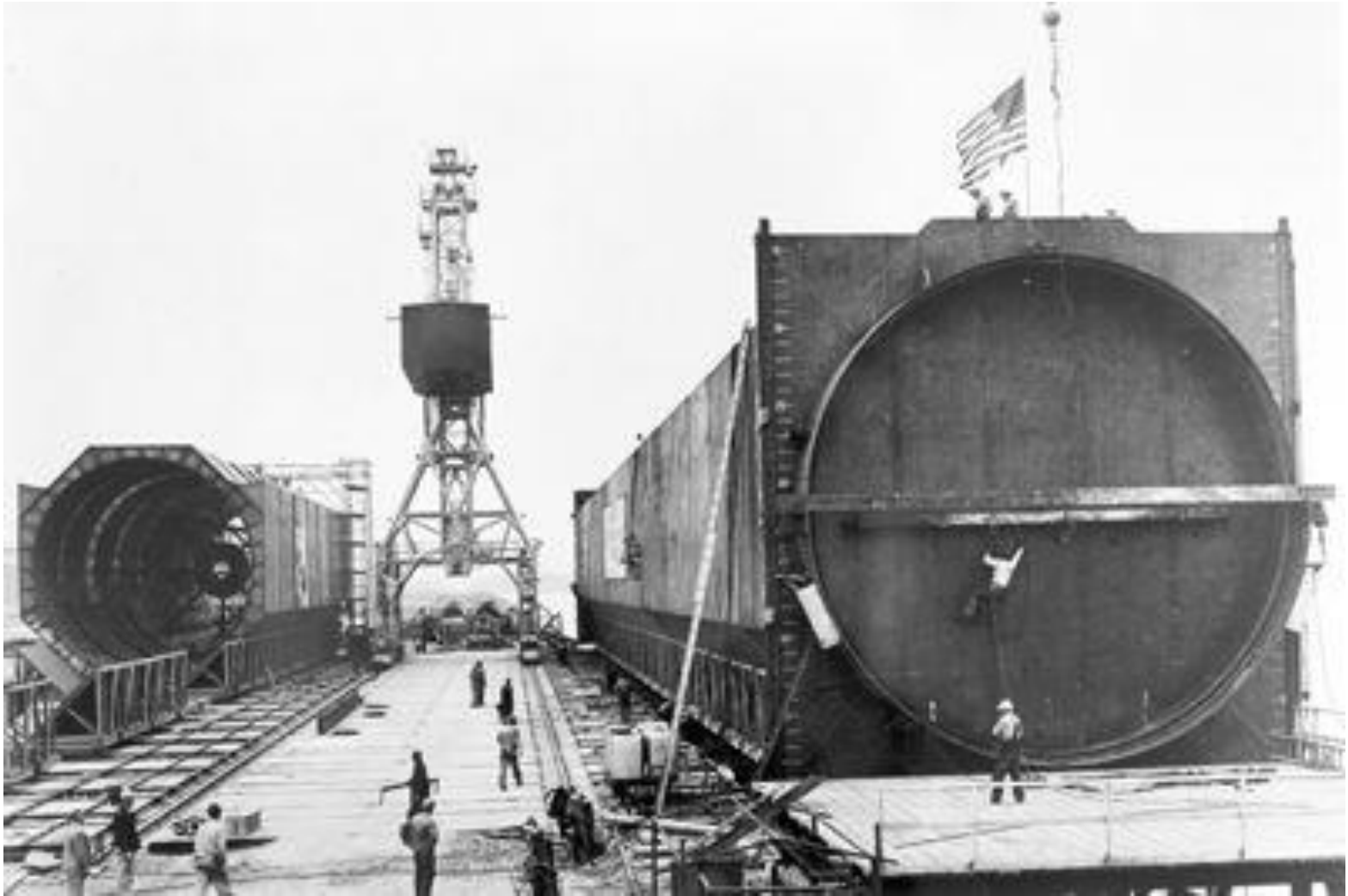
**SUBSURFACE SCHEMATIC CROSS SECTION C-C'**  
Chesapeake Bay Bridge and Tunnel  
Chesapeake Bay, Offshore Virginia



# Offshore Disposal

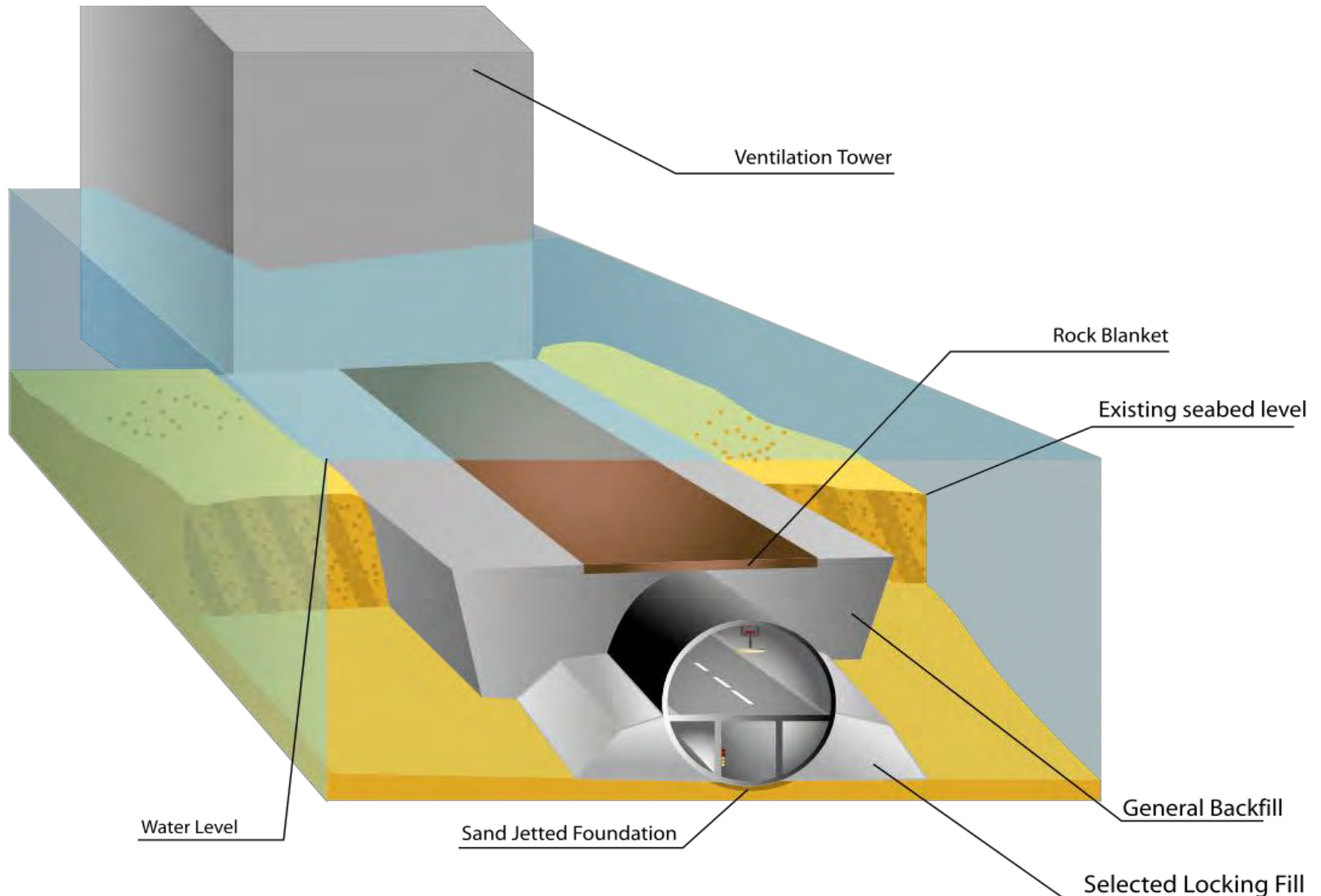


# Immersed Tube Tunnel Construction

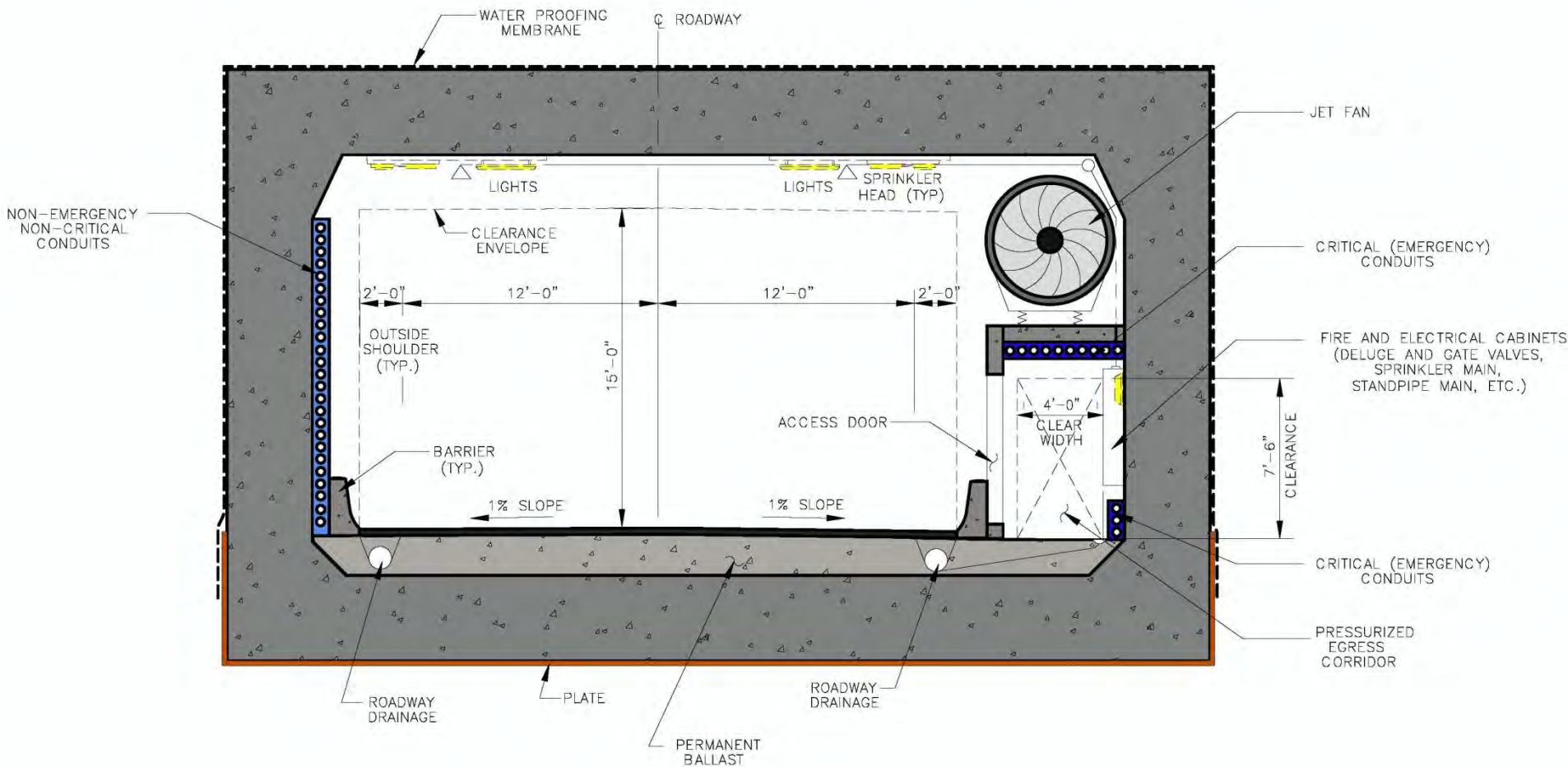




# Immersed Tube Tunnel Construction

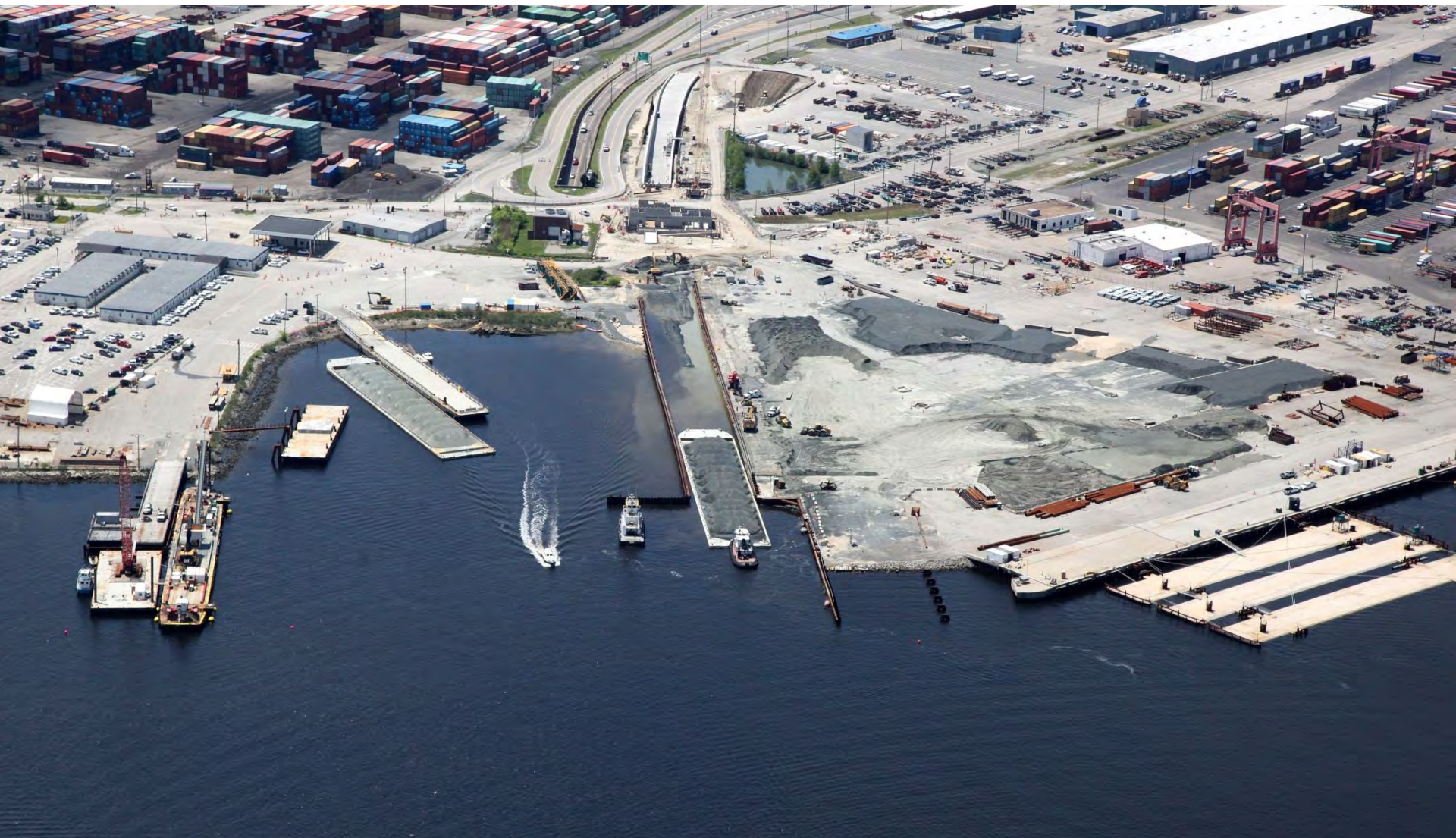


# Modern Immersed Tube Tunnel





# Midtown Tunnel





# Midtown Tunnel





# Immersed Tube Tunnel



# Immersed Tube Tunnel

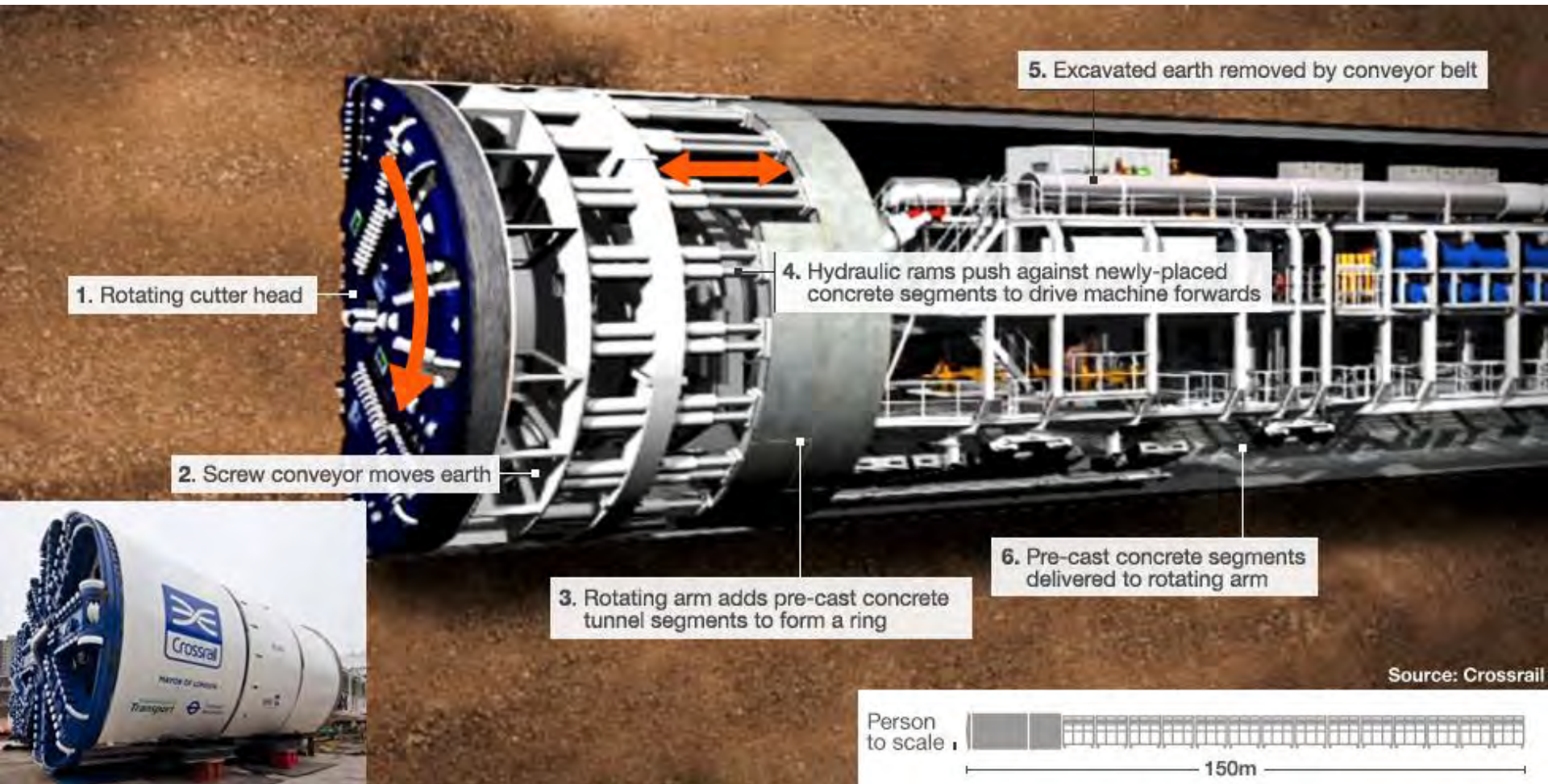




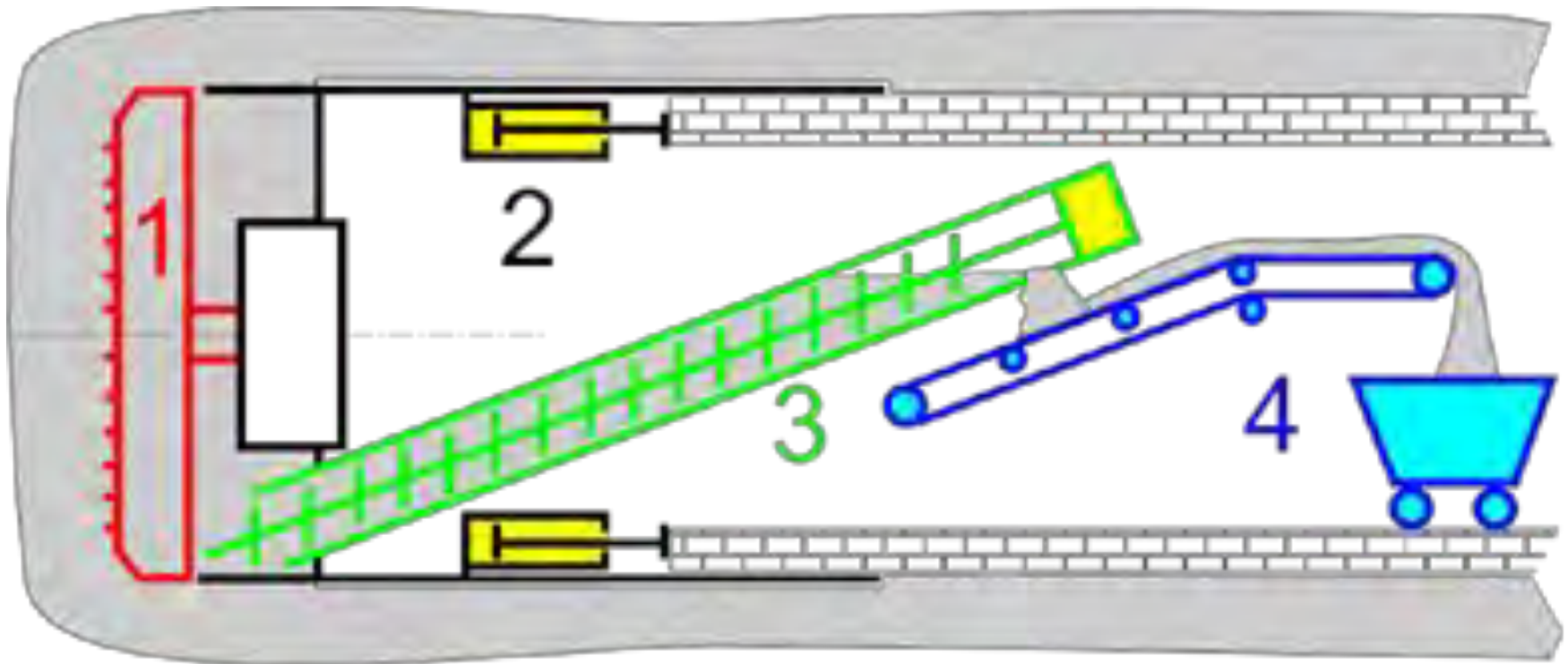
# Project Development

- November 2013 - Unsolicited proposal received
- District advertised for competing proposals – none received
- Strong industry interest
  - Design-Build
  - Bored Tunnel
- April 2014 - Commission rejects unsolicited proposal and directs staff to pursue a design-build project

# Tunnel Boring Machine (TBM)



# Tunnel Boring Machine (TBM)





# Bored Tunnel









# Bored Tunnels – Soft Soils



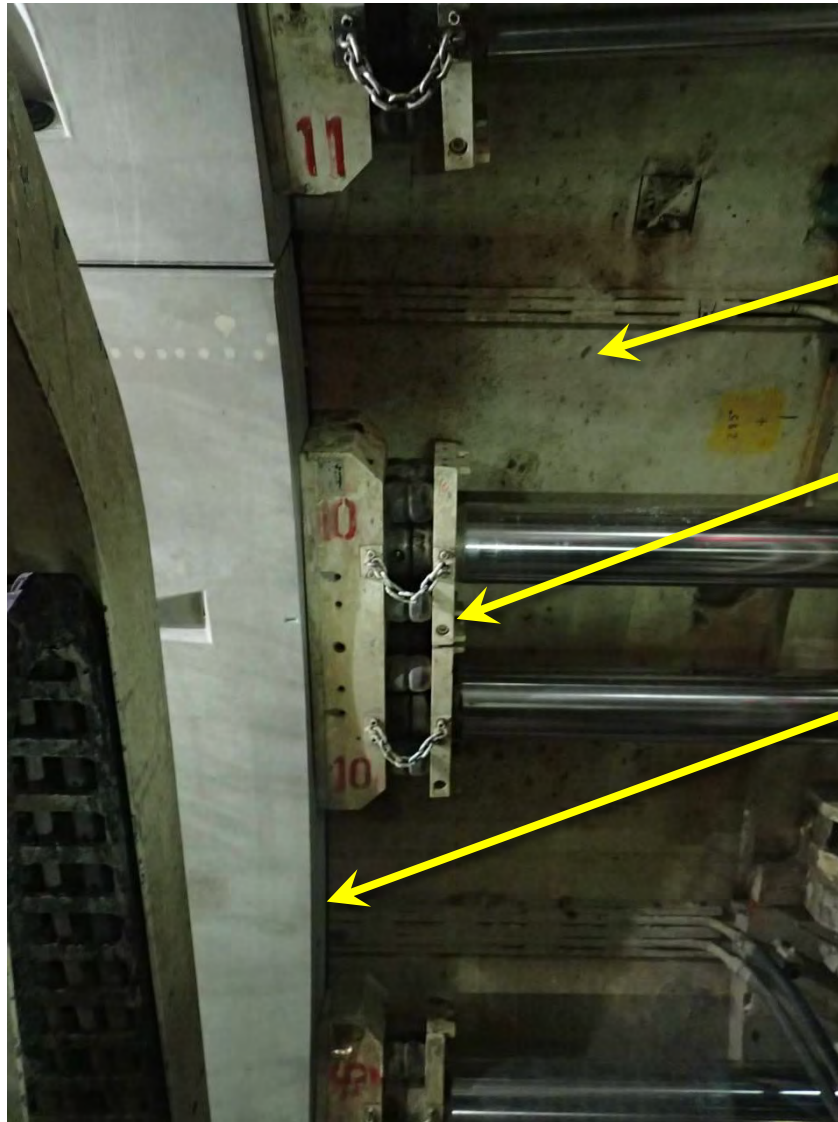


# MTR – Shatin to Central Link





# Tunnel Ring Placement

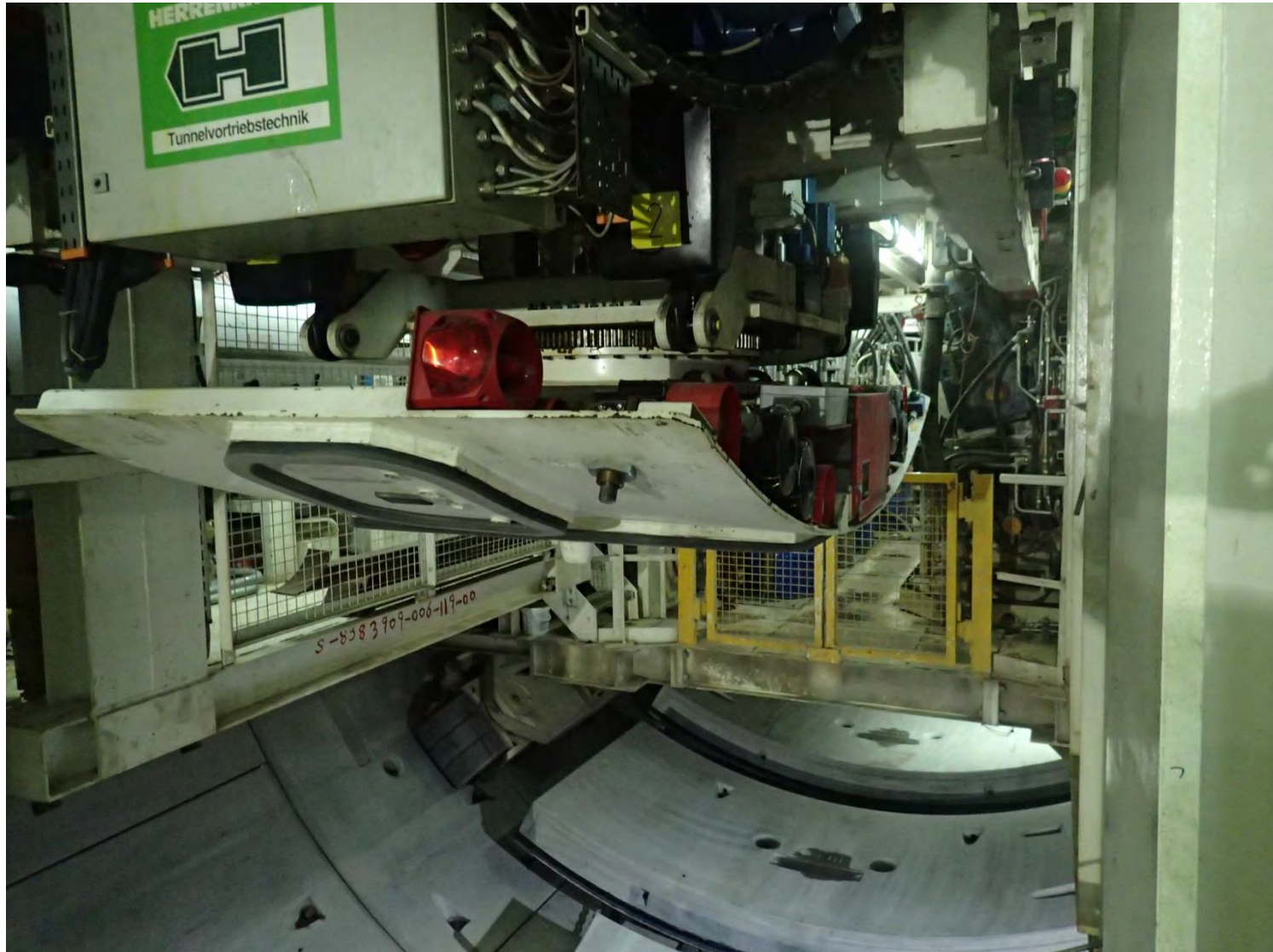


TBM Shield

Hydraulic Jacks

Tunnel Ring Element

# Tunnel Ring Placement



[illegible]



# Procurement Methodology

- April 2014 Commission authorizes a solicited Design-Build procurement
- Tunnel Method to be by Design-Build teams
- Two-Step Approach
  - Request For Qualifications
  - Request For Proposals
- Technically Acceptable – Low Price Selection
- Stipend to unsuccessful teams who submit compliant proposals

# Request for Qualifications

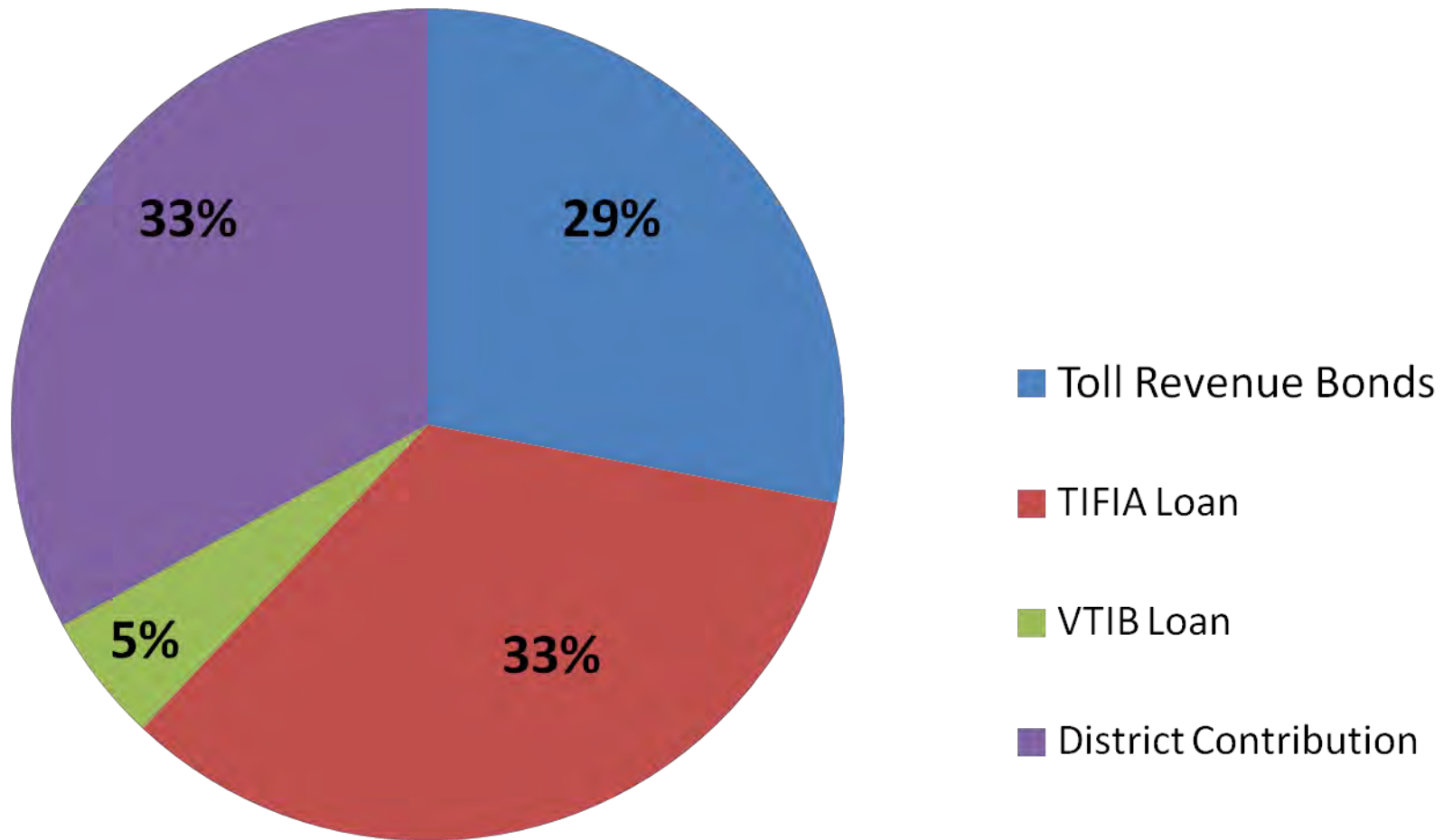
- Teams allowed to qualify for Bored, Immersed, or Both
- Scores independently evaluated
- Top four teams qualified
  - AWVC – ITT and Bored
  - BTM – ITT and Bored
  - Dragados – Bored
  - SKW - ITT

# Draft RFP

- Instructions to offerors
  - Comprehensive agreement
  - Technical requirements
  - Reference information
- 
- One-on-One proprietary meetings – confidential discussion of terms and Alternative Technical Concepts (ATC)



# Sources of Funding



# Procurement Schedule

	Activity	Schedule
✓	Issue DB RFQ	May, 2015
✓	RFQ due	July, 2015
✓	FONSI	August, 2015
✓	Short list DB teams	August, 2015
✓	Issue draft RFP	August, 2015
	Final RFP	February, 2016
	Technical Proposals due	March, 2016
	Technical proposal evaluation complete	April, 2016
	Pricing /Final technical proposals due	April, 2016
	Contract Award	May, 2016
	Start Construction	Summer 2017
	Substantial Completion	December, 2020

