

NEW YORK-NEW JERSEY HARBOR DEEPENING CHANNEL IMPROVEMENTS NAVIGATION FEASIBILITY STUDY

NEPA Public Information Meeting

December 3, 2020
New York District

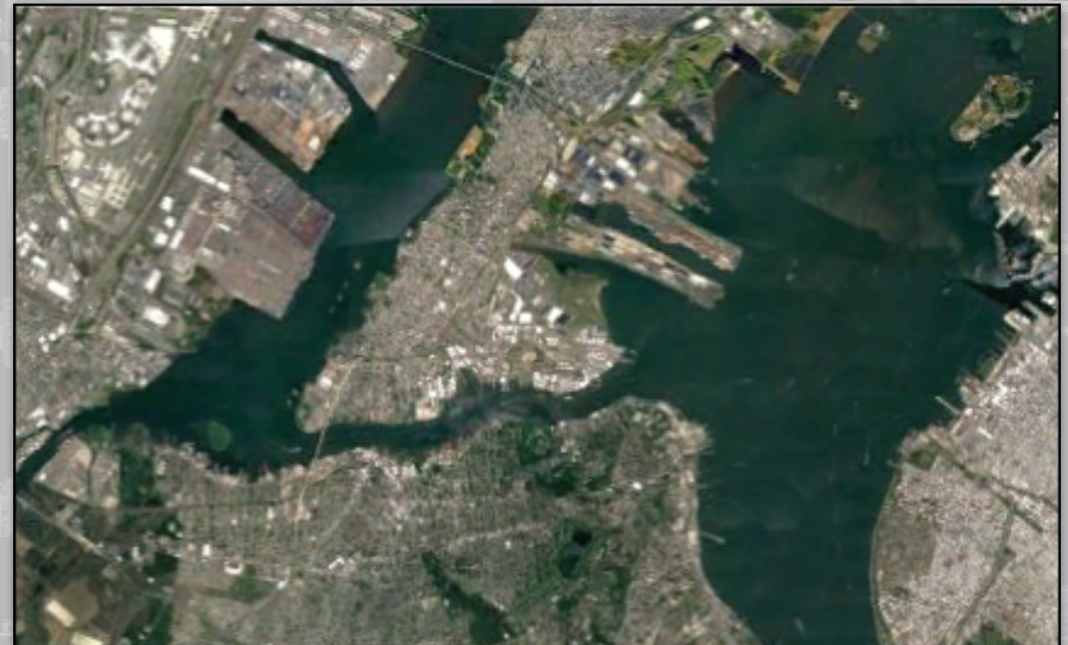


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NY NJ**
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MEETING PURPOSE AND AGENDA



Purpose: Inform the public, obtain feedback, and answer questions regarding the New York New Jersey Harbor Deepening Channel Improvements Draft Integrated Feasibility Report and Environmental Assessment.

Introductions

Study Background

Existing Conditions and Trends

Plan Formulation

The Tentatively Selected Plan

Frequently Asked Questions

Contact Information

Questions and Answers



INTRODUCTIONS



Clifford S. Jones, III, Chief of Planning Division, New York District, USACE

Beth Rooney, Deputy Director, Port Department, Port Authority of New York and New Jersey

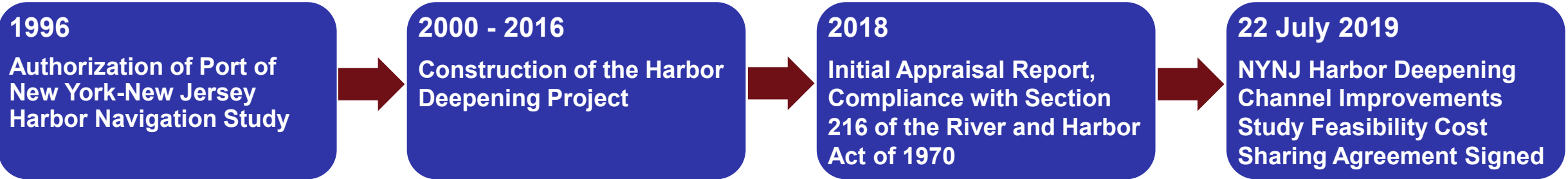
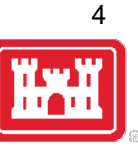
Karen Baumert, Plan Formulator, Planning Division, New York District, USACE

Jesse Miller, Project Biologist, Planning Division, New York District, USACE

Carissa Scarpa, Project Archaeologist, Planning Division, New York District, USACE



STUDY BACKGROUND AND PURPOSE



This NYNJHDCI study's purpose is to determine if there is a technically feasible, economically justified, and environmentally acceptable recommendation for federal participation in a navigation improvements project in the New York and New Jersey Harbor.

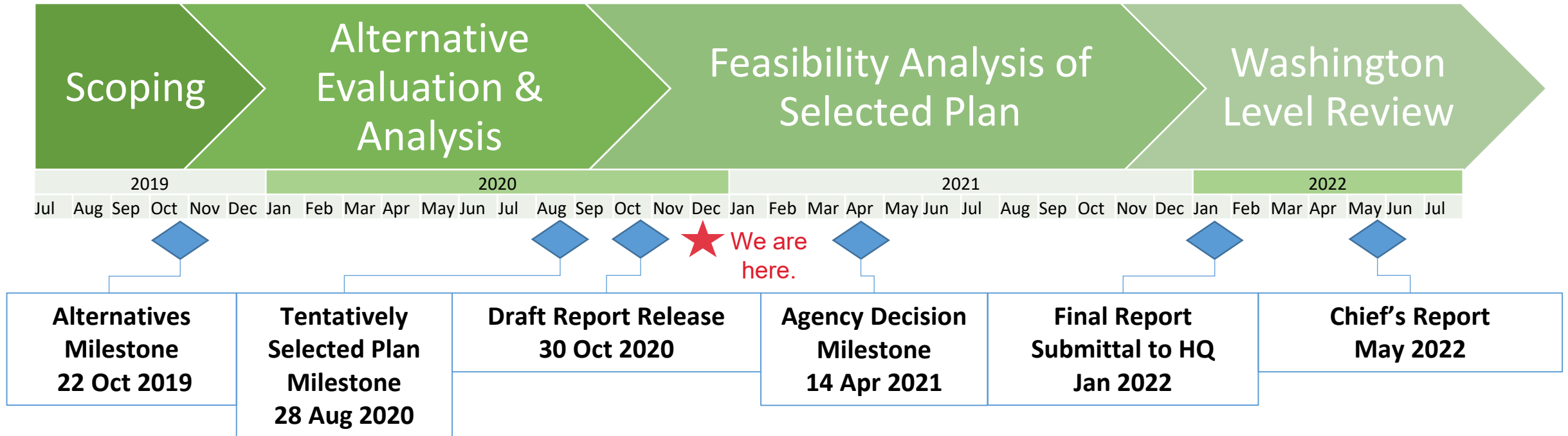
The study follows SMART planning and our new feasibility process.

- The study will be completed in 3 years with \$3 million.
- The study uses existing information.
- The study makes risk-informed decisions.
- Additional information and more details will be obtained during the Preconstruction Engineering and Design phase.



STUDY BACKGROUND AND PURPOSE

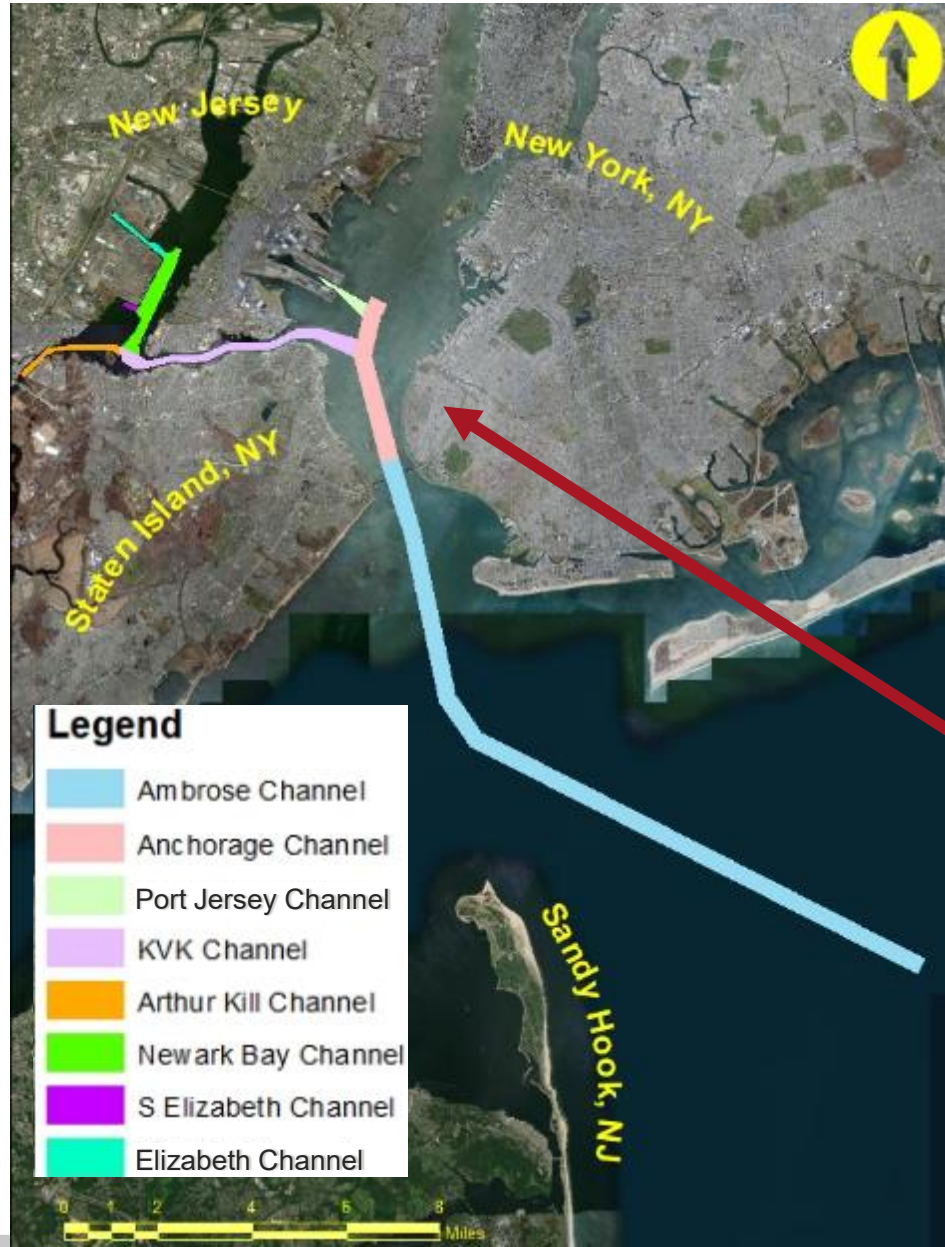
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The Draft Integrated Feasibility Report and Environmental Assessment was released on October 30, 2020. The public comment period is ongoing and closes January 19, 2021.

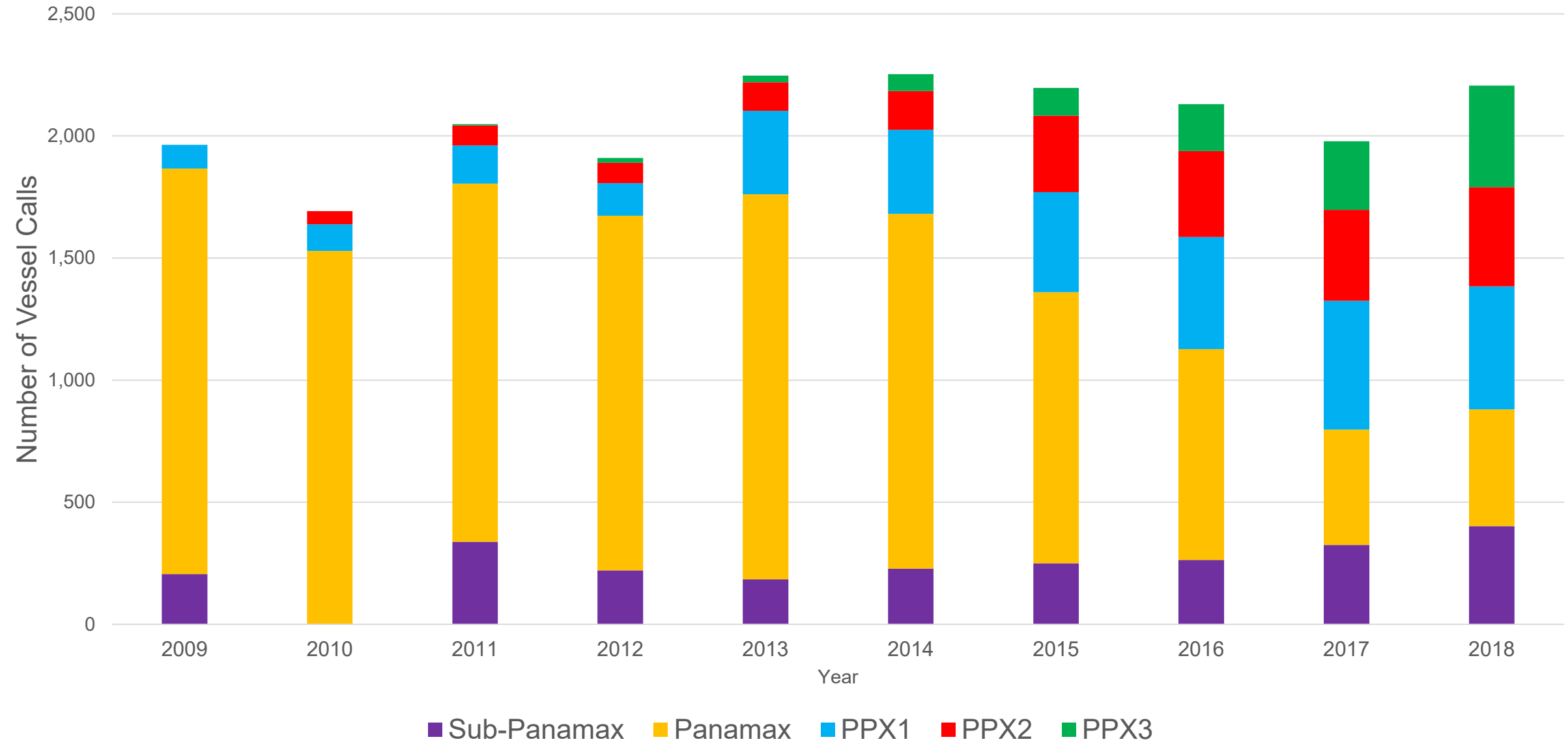
THE STUDY AREA AND SCOPE

The Study Area is the completed Harbor Deepening Project channels, including Ambrose and Anchorage Channels, and immediately surrounding areas.



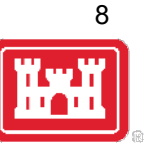


CONTAINERSHIP VESSEL TRENDS IN PONYNJ





FUTURE WITHOUT-PROJECT CONDITION



Total container cargo tonnage is expected to continue increasing in the future. As tonnage increases over time, more annual vessel calls can be expected.

The vessel fleet is **persistently transitioning toward larger vessels.**

Existing vessel fleet experiences operational inefficiencies due to current channel configurations. These **inefficiencies are projected to continue and increase** in the future as vessel sizes are expected to increase.



THE DESIGN VESSEL IS THE *MAERSK TRIPLE E*



Maersk Triple E ULCV Class

- 1,308' length overall
- 193.5' beam
- 52.5' design draft

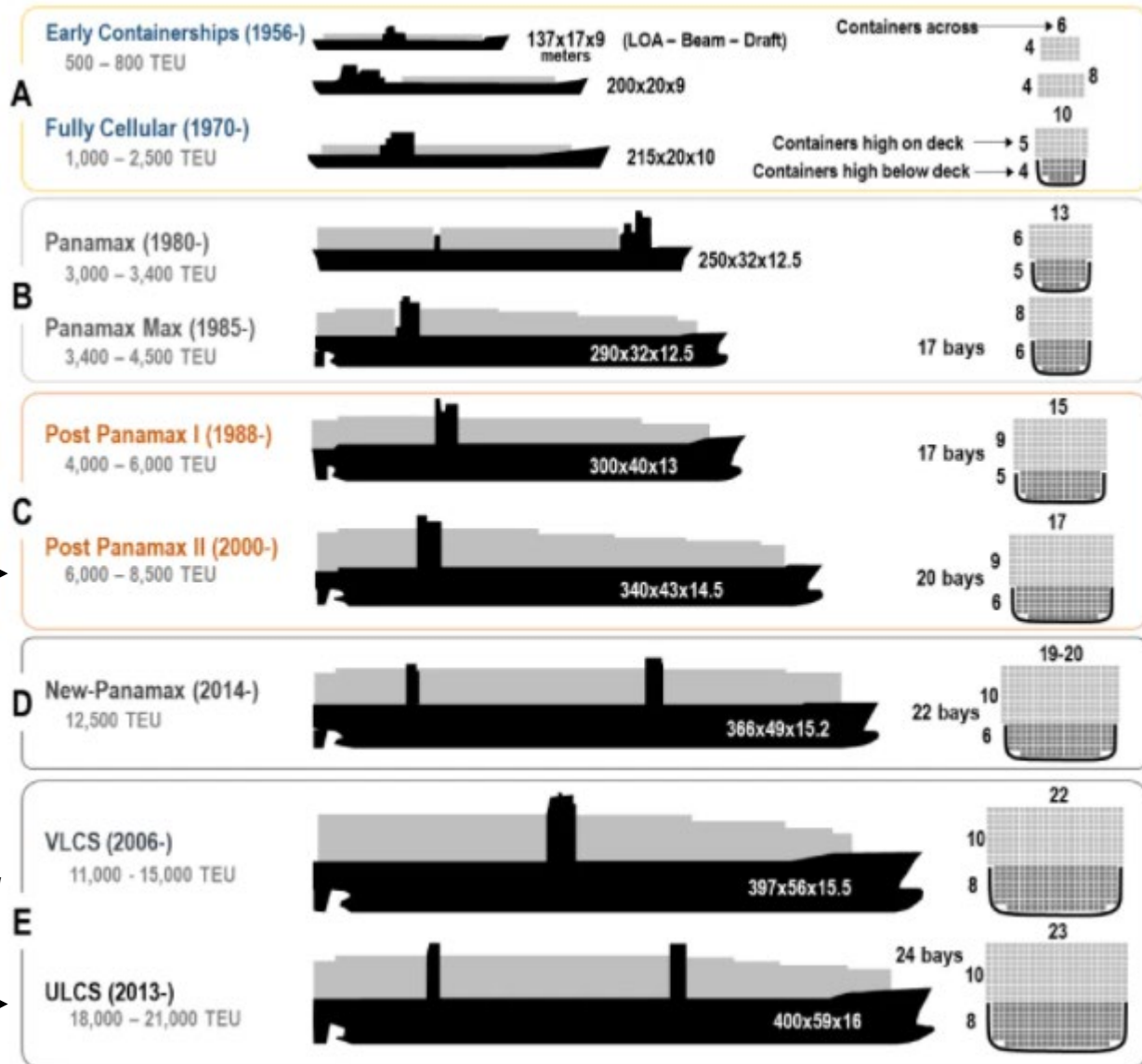


CGA CMA Brazil, arriving NY
12 Sep 2020; 15,600 TEUs

*The existing
channels are
designed for this
size vessel*



*The current study
is anticipating and
designing for this
size vessel*





PROBLEMS, OPPORTUNITIES, OBJECTIVES, CONSTRAINTS, & CONSIDERATIONS...THE CORPS' ANALYSIS PROCESS...

PROBLEMS

- Navigation inefficiencies due to channel width limitations
- Navigation inefficiencies due to channel depth limitations

OPPORTUNITIES

- Increase navigation efficiencies
- Benefit the economy and realize economies of scale
- Beneficially use dredged material
- Increase navigation safety for all vessels

OBJECTIVES

- Improve the efficiency of operations of containerhips within the harbor
- Allow more efficient use of containerhips

CONSTRAINTS

- Impacts to the piers of the Bayonne Bridge

CONSIDERATIONS

- Impacts to structures/bulkheading/on-land facilities
- Impacts to environmental and cultural/historic resources
- Impacts to existing utilities
- Impacts to the other navigation traffic in the harbor
- Environmental Operating Procedures

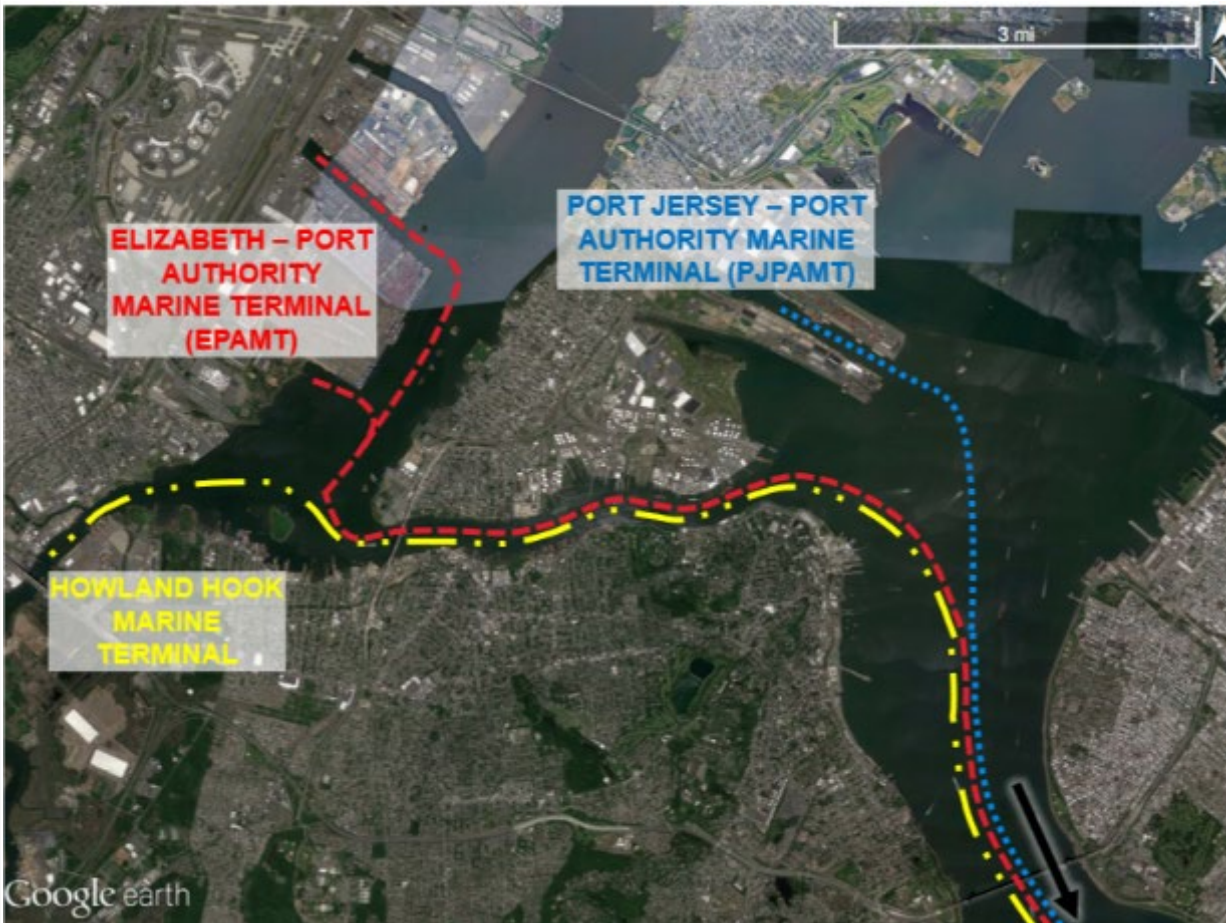


MEASURES CONSIDERED



PROBLEM	OBJECTIVE	ASSOCIATED MEASURES
Inefficiencies due to depth limitations	Allow more efficient use of containerships	✓ Deepening
Inefficiencies due to width limitations	Improve the efficiency of operations of containerships in port	✓ Channel widening ✓ Bend easing ✓ Channel straightening ✓ Meeting and Passing Zones × Nonstructural/operational changes

PATHWAYS USED IN ANALYSIS



The pathway from sea to Howland Hook Marine Terminal was removed from analysis because an analysis indicated limited economic benefits associated with channel improvements.



The pathways to Elizabeth - Port Authority Marine Terminal and Port Jersey - Port Authority Marine Terminal were incrementally evaluated for deepening by 2 to 7 feet (to a maintained -57 feet MLLW)



PLAN FORMULATION STRATEGY



Incrementally evaluate the individual navigation pathways for deepening *and associated widening*, and then evaluate additional efficiency components for improved navigability.

Measure and Pathway Screening:

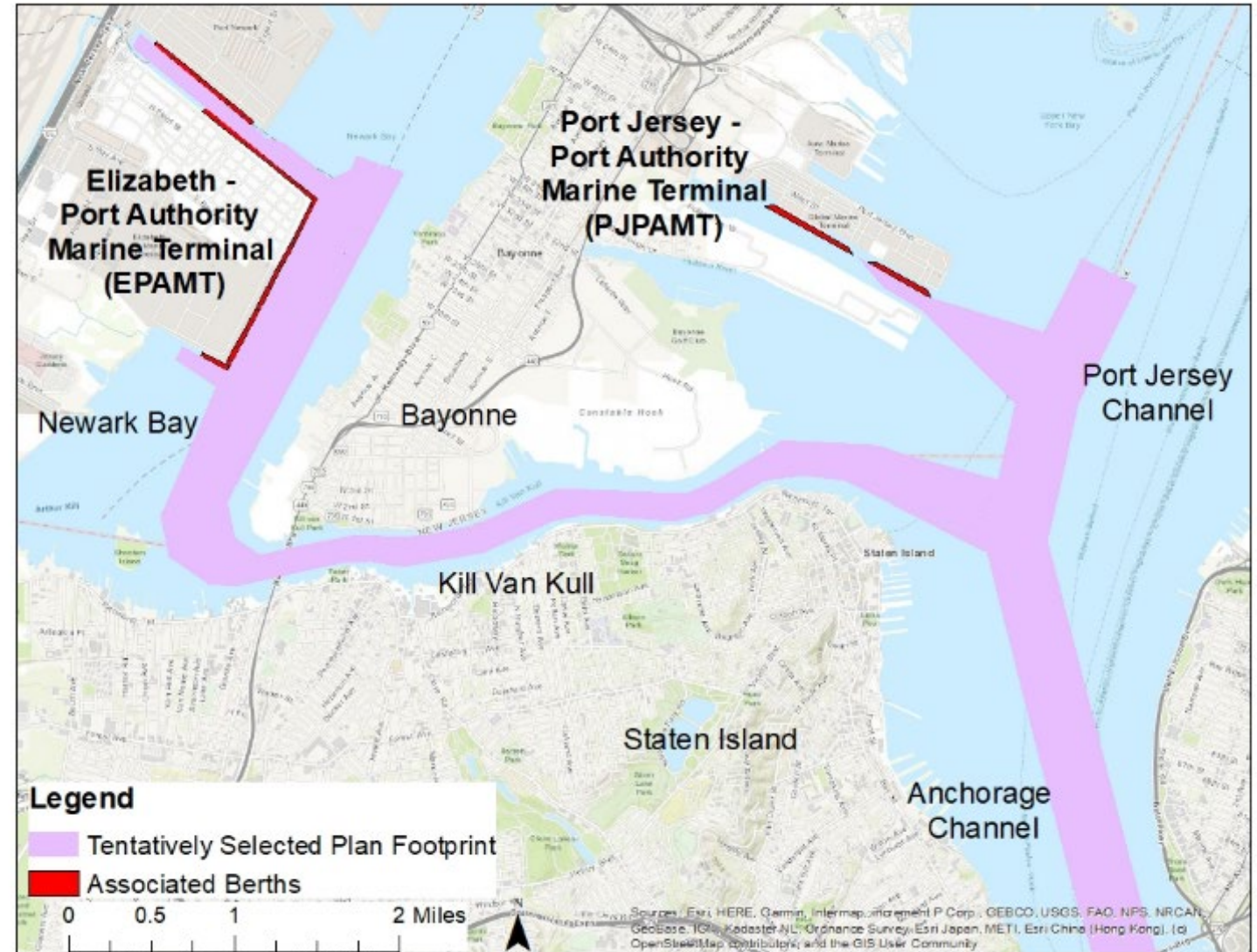
- Meet objectives and avoid constraints
- Technically feasible
- Environmentally acceptable
- Economically justified

Alternative Screening:

- Completeness
- Effectiveness
- Efficiency
- Acceptability



THE TENTATIVELY SELECTED PLAN IS DEEPENING THE PATHWAYS TO ELIZABETH – PORT AUTHORITY MARINE TERMINAL AND PORT JERSEY – PORT AUTHORITY MARINE TERMINAL BY UP TO 5 FEET, TO A MAINTAINED DEPTH OF -55 FEET MLLW.





THE TENTATIVELY SELECTED PLAN IS DEEPENING THE PATHWAYS TO ELIZABETH – PORT AUTHORITY MARINE TERMINAL AND PORT JERSEY – PORT AUTHORITY MARINE TERMINAL BY UP TO 5 FEET: BELOW SHOWS A 5-FOOT DEEPENING PLAN



	Proposed Maintained Channel Level ^a [ft MLLW]	Proposed Authorized Channel Level ^b [ft MLLW]	Total Depth ^c [ft MLLW]	Length of Improve- ment [ft]	Quantity to be Dredged (cy)	Channel Bottom Width	Predominant Side Slope	Predominant Channel Bottom Material Type
Ambrose Channel	-58	-58	-59	90,000	6,389,000	2,000	3:1	Sand
Anchorage Channel	-55	-55	-56.5	31,000	3,800,000	2,000	3:1	Sand
Port Jersey Channel	-55	-57	-58.5	6,000	3,003,000	450 to 2,313	3:1/1:1 against berths	Sand/sediment
Kill Van Kull	-55	-57	-58.5	28,000	4,451,000	800 to 2,313	3:1/1:1 through rock	HARS suitable material & moderately hard rock and till
Newark Bay	-55	-57	-58.5	13,000	14,148,000	1,740 to 2,008	3:1/1:1 through rock & against berths	Non-HARS suitable material & moderately hard rock and till
South Elizabeth Channel	-55	-57	-58.5	2,000	423,000	500 to 640	3:1/1:1 through rock & against berths	Non-HARS suitable material & moderately hard rock and till
Port Elizabeth Channel	-55	-57	-58.5	8,000	1,024,000	500 to 750	3:1/1:1 through rock & against berths	Non-HARS suitable material & moderately hard rock and till

^a Maintained channel level includes the summer salt water draft, squat, salinity, wave motion, and safety clearance. The channels will be maintained at this depth.

^b The authorized channel level includes additional safety clearance needed for hard bottom.

^c The total depth includes an additional dredging tolerance (paid overdepth). This is the sum of the depths and specific to each plan.



TENTATIVELY SELECTED PLAN: DREDGED MATERIAL PLACEMENT



USACE is committed to beneficially using all dredged materials that may be produced as part of implementation of a navigation improvement project. For a common baseline for evaluating and comparing alternatives, the study used the least cost dredged material placement option. Potential placement options will be discussed in the final integrated report and will be coordinated and determined during the Preconstruction Engineering and Design phase. Possible placement options include:

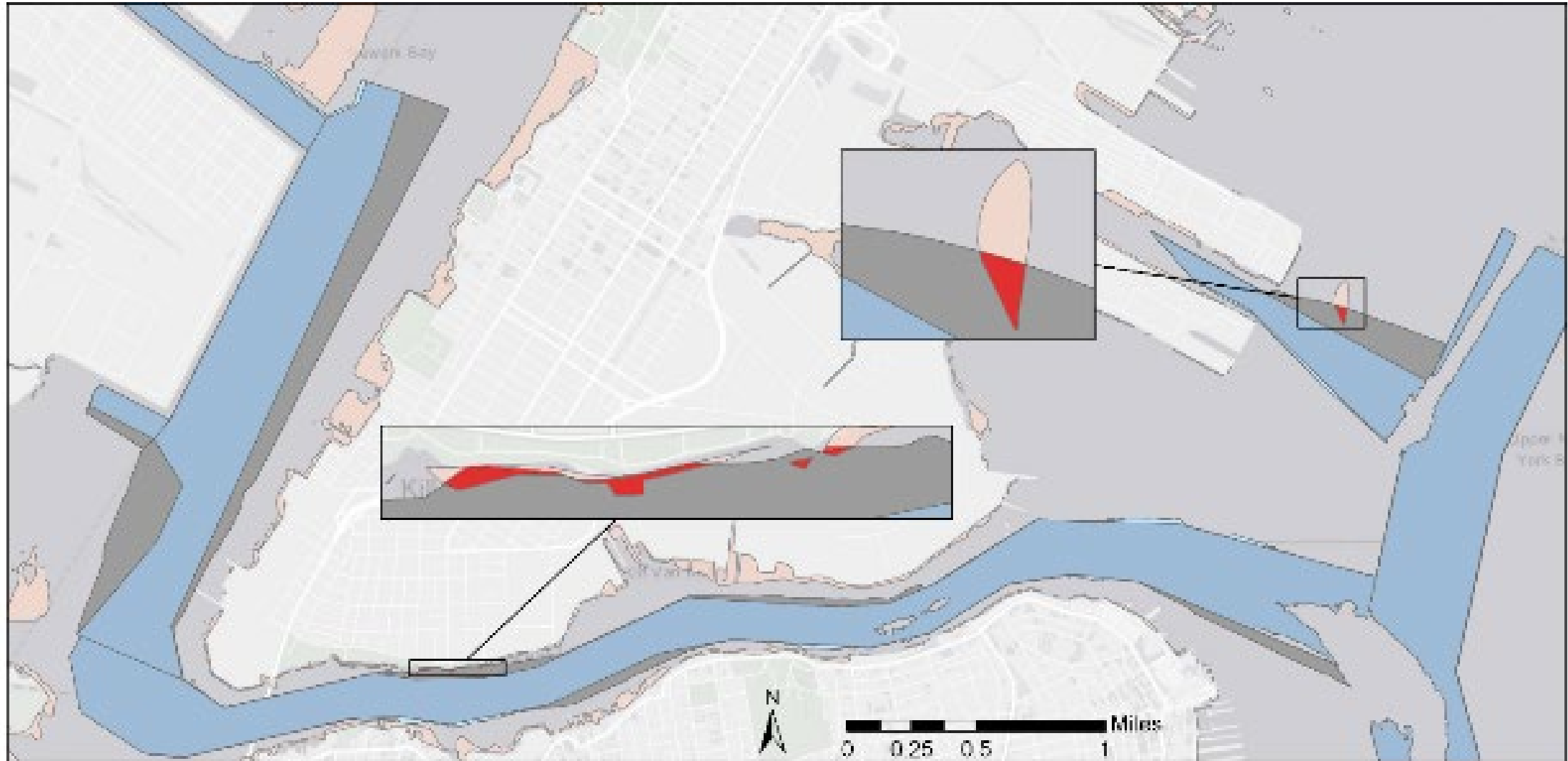
- Ecosystem restoration
- Coastal storm risk management measures
- Flood risk management measures
- Recreation
- Remediation

	DEEPEN PATHWAYS TO ELIZABETH-PORT AUTHORITY MARTINE TERMINAL AND PORT JERSEY-PORT AUTHORITY MARINE TERMINAL BY	
	4 FEET TO -54 FEET MLLW	5 FEET TO -55 FEET MLLW
Historic Area Remediation Site (HARS) suitable sand (HARS placement)	9,113,000 cy	12,840,000 cy
Non-HARS suitable sand/ sediment (upland placement)	7,818,000 cy	8,326,000 cy
Moderately Hard Rock/Till ¹ (HARS placement)	7,141,000 cy	8,330,000 cy
“Harder” Rock ² (HARS or reef placement)	612,000 cy	830,000 cy
“Hardest” Rock ³ (reef placement)	2,401,000 cy	2,910,000 cy
Total Quantity to be Dredged	27,084,000 cubic yards	33,238,000 cubic yards

Values may appear off due to rounding. ¹ Pleistocene silt, clay, sand, and gravel, ² Schist, serpentinite, ³ Diabase, sandstone, and other rock



TENTATIVELY SELECTED PLAN: POTENTIAL IMPACTS TO SHALLOW WATER HABITAT



Channel bottom to be deepened in blue, side slopes in light blue, and widenings in grey. Shallow subtidal habitat (6 feet MLLW or shallower) in tan, with impacted shallow subtidal habitat in red.

Potential impacted shallow water habitat is 1.80 acres for 4' deepening plan and 1.92 acres for a 5' deepening plan.



TENTATIVELY SELECTED PLAN: PLAN FOR MITIGATION



- Mitigation for unavoidable adverse impacts to approximately 1.92 acres of unvegetated shallow water subtidal habitat (regulated depth of 6 ft MLLW or shallower)
- A habitat assessment model is currently being reviewed by our National Ecosystem Planning Center of Expertise (based on model developed for Harbor Deepening Project, to assist in assessing the quality of habitat in impacted areas and potential mitigation sites)
- To mitigate unavoidable adverse impacts, USACE will create/enhance/restore an equal or greater quantity and quality of habitat to the region
 - Priority is to mitigate in-kind/in-place
 - If in-kind habitat is unavailable, out-of-kind/out-of-place mitigation will be identified
 - The Hudson Raritan Estuary Comprehensive Restoration Plan (CRP) will be used as the latest reference of potential sites within the Region



TENTATIVELY SELECTED PLAN: PLAN FOR MITIGATION



- The dredges and related equipment to construct the project will trigger General Conformity under the Clean Air Act (CAA) by emitting more than the current threshold of 50 tons NOx per calendar year in our NYNJLICT non-attainment area.
- Project will mitigate this impact through a program called a Marine Vessel Engine Replacement Program (MVERP).
- MVERP will replace older engines with cleaner burning engines on vessels that operate in our non-attainment area. As these cleaner burning engines operate in our area, they will generate “offsets” that will offset or mitigate the emissions
- There will be no significant impacts to air quality as a result of this mitigation.



TENTATIVELY SELECTED PLAN: POTENTIAL FOR BLASTING

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- Drilling and blasting required if removing hard rock
- Last resort, only if dredging cannot remove
- Seismographs are set up to monitor vibrations
- Pre- and post-construction structural surveys at nearby residences
- Compensation for impacts
- Some blasting is likely, locations TBD





TENTATIVELY SELECTED PLAN: POTENTIAL FOR BLASTING



- Corps follows US Bureau of Mines Guidelines
- Vibration from Blasting may not exceed certain limits
- For type of Structure within 1,500 of blast area: Peak Particle Velocity May not Exceed:
 - Historic Structures – 0.5 in/sec
 - Residential Structures – 1.0 in/sec
 - All Other Structures – 2.0 in/sec

NYC Noise Limits:

Day Time (7am to 10pm): Operations must not exceed 10 dB over normal background noise (average 65 dB)

Night (10pm to 7am): Operations cannot exceed 7 dB over normal background noise (average 55 dB)



ENVIRONMENTAL COMPLIANCE STATUS



TITLE OF LAW	U.S. CODE	COMPLIANCE STATUS
Abandoned Shipwreck Act of 1987	43 United States Code (U.S.C.) 2101	In Progress
Anadromous Fish Conservation Act of 1965	16 U.S.C. 757 a et seq.	In Progress
Archaeological and Historic Preservation Act of 1974	Public Law 93-291 and 16 U.S.C.469-469c	In Progress
Clean Air Act of 1972, as amended	42 U.S.C. 7401 et seq.	In Progress
Clean Water Act of 1972, as amended	33 U.S.C. 1251 et seq.	In Progress
Coastal Zone Management Act of 1972, as amended	16 U.S.C. 1451 et seq.	In Progress
Comprehensive Environmental Responses, Compensation and Liability Act of 1980	42 U.S.C. 9601	In Progress
Endangered Species Act of 1973	16 U.S.C. 1531	In Progress
Fish and Wildlife Coordination Act of 1958, as amended	16 U.S.C. 661	In Progress
Flood Control Act of 1970	33 U.S.C. 549	In Progress
Magnuson-Stevens Fishery Conservation and Management Act	16 U.S.C. 1801	In Progress
Marine Protection, Research, and Sanctuaries Act of 1972	33 U.S.C. 1401	In Progress
National Environmental Policy Act of 1969, as amended	42 U.S.C. 4321 et seq.	In Progress
National Historic Preservation Act of 1966, as amended	54 U.S.C. Section 300101	In Progress
Native American Graves Protection and Repatriation Act of 1990	25 U.S.C. 3001	In Progress

TITLE OF EXECUTIVE ORDER	EXECUTIVE ORDER NUMBER	COMPLIANCE STATUS
Protection and Enhancement of Environmental Quality	11514 / 11991	In Progress
Protection and Enhancement of the Cultural Environment	11593	In Progress
Federal Actions to Address Environmental Justice and Minority and Low-income Populations	12898	In Progress
Consultation and Coordination with Indian Tribal Governments	13175	In Progress



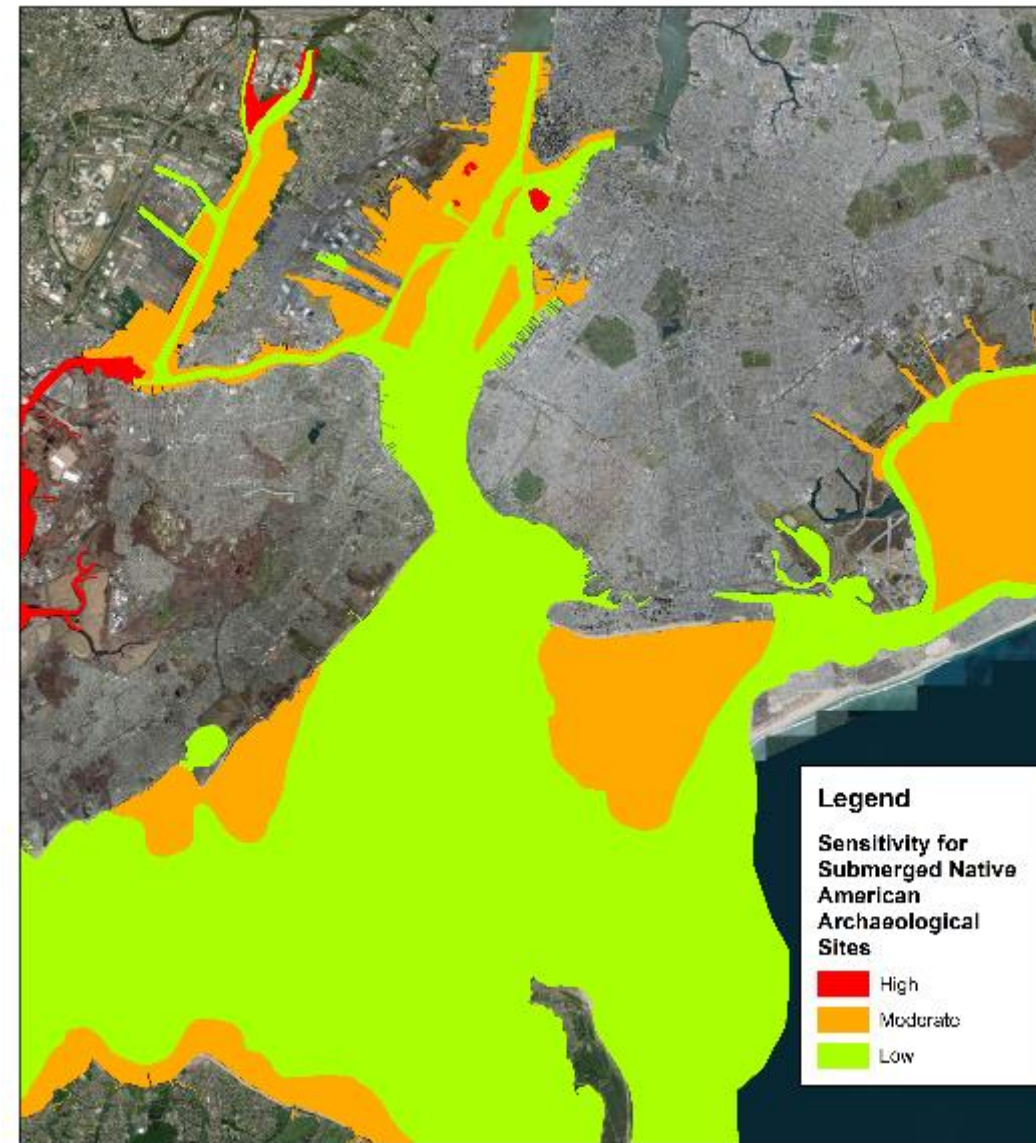
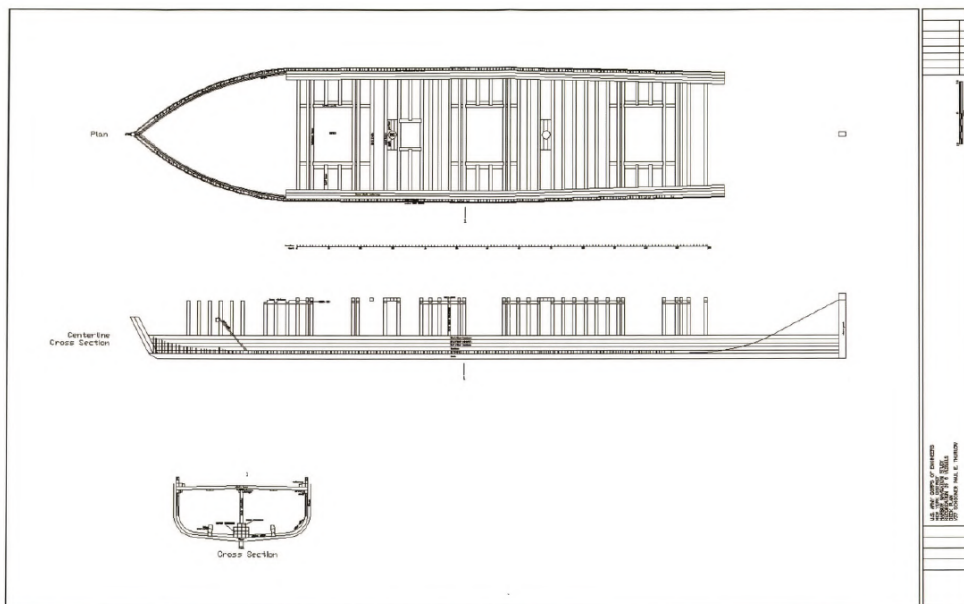
TENTATIVELY SELECTED PLAN: CULTURAL RESOURCES

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Potential for Adverse Effects:

- Submerged Native American Sites
- Abandoned Historic Shipwrecks
- Vibration from Blasting
- Mitigation Sites/Activities





TENTATIVELY SELECTED PLAN: CULTURAL RESOURCES



Draft Programmatic Agreement

Coordinated with:

- Public
- NY and NJ SHPOs
- Delaware Tribe
- Delaware Nation
- Stockbridge Munsee Band of Mohican Indians
- New York City Landmarks Preservation Commission
- South Street Seaport Museum
- Intrepid Sea, Air, and Space Museum

DRAFT PROGRAMMATIC AGREEMENT
AMONG
THE U. S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT,
THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICER
AND
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER
REGARDING
NEW YORK AND NEW JERSEY HARBOR DEEPENING
CHANNEL IMPROVEMENTS PROJECT
ESSEX, HUDSON, MONMOUTH AND UNION COUNTIES, NEW JERSEY
KINGS, QUEENS AND RICHMOND COUNTIES, NEW YORK

WHEREAS, the U.S. Army Corps of Engineers, New York District, (New York District), was authorized to construct the New York and New Jersey Harbor Navigation Project by Section 1011(a)(2) of the Water Resources Development Act of 2000, which included deepening the federal navigation channel in the New York and New Jersey Harbor (the Harbor) to 50 feet. Construction of the 50 foot channel was completed in 2016. In March 2018, an Initial Appraisal Report, in compliance with Section 216 of WRDA 1970 was completed to determine if there was potential Federal interest to undertake modifications to the existing 50 foot Harbor Navigation Project.

WHEREAS, the Initial Appraisal Report made the recommendation to undertake a new feasibility study to determine if there is a Federal interest in deepening and/or widening the 50 foot channels to allow larger vessels to use the Harbor. This study, the New York and New Jersey Harbor Deepening Channel Improvements (HDCI) Study, is now being undertaken to address improvements, including deepening of existing channels up to 60 feet, and widening the width of the existing channels to accommodate larger vessels to use the channels (the design vessel is the 18,000 TEU Malaccamax). This Programmatic Agreement (PA) will be used to guide the Section 106 process for the HDCI project. The New York District is the responsible federal agency for this undertaking;

WHEREAS, the HDCI Feasibility Study is investigating navigation improvements to eight channels in the Harbor (Ambrose, Anchorage, Port Jersey Kill, Van Kull, Arthur Kill, Newark, South Elizabeth, and Elizabeth Channel) that comprise the three main pathways in the Harbor (Port Jersey, Port Elizabeth, and Howland Hook), which will permit access by larger, deeper-draft vessels to the four main container terminals (at Port Elizabeth: A.P. Moller and Mahat; at Port Jersey: Global Container Terminal New Jersey; at Howland Hook: Global Container Terminal New York). Navigation improvements consist of channel deepening, widening, and realignment;

WHEREAS, New York District is developing the designs for the project on a phased basis. This means that details of the recommended plan will be refined in the Preconstruction, Engineering and Design (PED) Phase and therefore the final APE cannot be determined at this time. In addition to this, the New York District has determined the need for additional surveys to complete the identification of historic properties that may be affected by the project. Because of



TENTATIVELY SELECTED PLAN: COSTS AND BENEFITS

	DEEPEN PATHWAYS TO ELIZABETH-PORT AUTHORITY MARTINE TERMINAL AND PORT JERSEY-PORT AUTHORITY MARINE TERMINAL BY	
	4 FEET TO -54 FEET MLLW	5 FEET TO -55 FEET MLLW
Total Project First Costs	\$3,810.0 million	\$4,052.3 million
Associated Costs	\$169.9 million	\$184.0 million
Total Economic Cost	\$3,979.9 million	\$4,236.3 million
Average Annual Equivalent Benefits	\$329.1 million	\$340.1 million
Total Average Annual Equivalent Costs	\$168.7 million	\$180.7 million
Average Annual Equivalent Net Benefits	\$160.4 million	\$159.3 million
Benefit Cost Ratio	2.0	1.9

Fiscal Year 2021 Price Level and discount rate of 2.5%



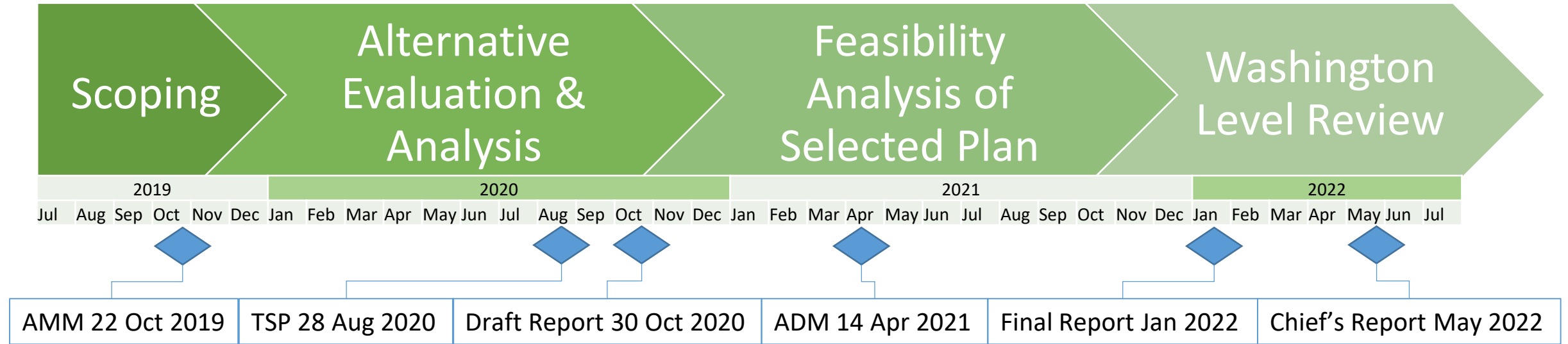
SUMMARY



- The Tentatively Selected Plan is deepening the pathways to Elizabeth – Port Authority Marine Terminal and Port Jersey – Port Authority Marine Terminal by up to 5 feet (up to a maintained depth of -55 feet MLLW).
- Release of the draft report will enable public and agency coordination to assist with defining and refining of stakeholders' concerns and needs. Additional analysis will be completed after the release of the draft report to confirm the national economic development plan. Additional input, data collection, synthesis, and analysis will continue to confirm whether the national economic development plan is a 4-foot deepening plan (to a maintained depth of -54 feet MLLW) or a 5-foot deepening plan (to a maintained depth of -55 feet MLLW).
- Environmental coordination is ongoing.
- The non-federal sponsor, The Port Authority of New York and New Jersey, supports this approach.



THREE-YEAR STUDY SCHEDULE



MILESTONE		COMPLETION DATE	
Feasibility Cost Sharing Agreement Execution		July 22, 2019	
Alternatives Milestone Meeting		October 22, 2019	
Tentatively Selected Plan Milestone Meeting		August 28, 2020	
Draft Report Transmittal		October 30, 2020	
Agency Decision Milestone Meeting		April 14, 2021	
Final Report Transmittal		January 31, 2022	
Policy and Legal Compliance Review		February 1 – March 2, 2022	
Approval to Release to State and Agency Review		March 22, 2022	
State and Agency Review		March 25 – April 25, 2022	
Chief's Report Signing		May 31, 2022	



TENTATIVE IMPLEMENTATION SCHEDULE



- The project would require congressional authorization for Preconstruction Engineering and Design and construction to begin.
- Additionally, USACE must sign a Design Agreement with a non-federal sponsor to cost share Preconstruction Engineering and Design and must sign a Project Partnership Agreement for construction.
- The Preconstruction Engineering and Design and construction phases are cost shared 50 percent federal and 50 percent non-federal. Implementation would then occur, provided that sufficient funds are appropriated to design and construct the project.
- The below schedule was estimated for study analysis purposes. The below schedule is very ambitious and dependent on congressional authorization, federal and non-federal budgeted funding, and agreement executions.

TASK	DRAFT DATE
Chief of Engineering Report Approval	May 2022
Design Agreement	July 2022
Pre-Construction Engineering & Design	July 2022 – September 2024
Project Partnership Agreement Execution	October 2024
Construction	October 2024 – October 2038



A FEW FREQUENTLY ASKED QUESTIONS



Will the project lead to more larger ships (that make more noise/larger impact) calling the port?

- The analysis assumes that the proposed improvements have no impact on the number of ultra large container ships calling the PONYNJ. Vessel orderbooks and current vessel deployment to the PONYNJ indicate carriers will use ultra large container vessels on services calling PONYNJ regardless of the project. Instead, the purpose of channel improvements is to increase the efficiency of the vessels that already call and that are expected to call the PONYNJ.
- The project would allow the current and future fleet of container vessels to draft deeper and load more cargo on each trip. Otherwise, these vessels will light-load, and carriers will require more vessel trips to transport the same amount of cargo. Overall, channel deepening allows (1) fewer vessels to transport the same cargo volume, (2) reduces tidal constraints and in-port transit restrictions, and (3) reduces overall port congestion.

Will the project make us more susceptible to storm surge?

- Previous deepening studies were not found to increase the risk of storm surge. Additional analyses will be conducted during Preconstruction Engineering and Design to ensure proper mitigation measures, if any, are properly implemented as a project cost.

Will the larger ships result in increased erosion of the shorelines?

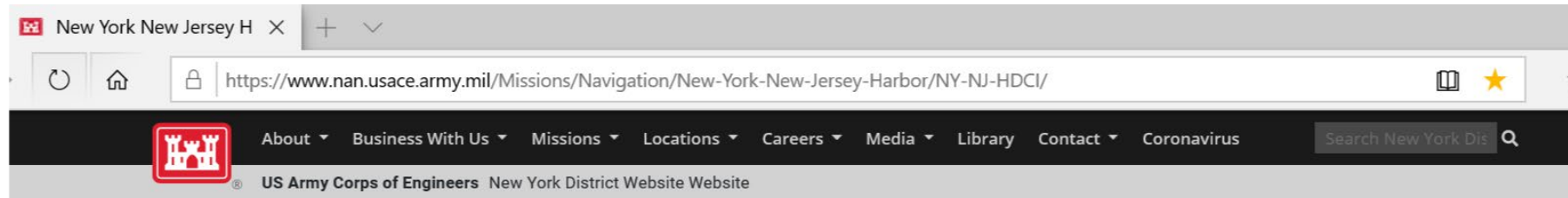
- Studies show that erosion is caused by the wake of a vessel and not the size of the vessel. Larger ships move slowly and create less wake than smaller, faster moving vessels. Additionally, a deeper channel is likely to result in a decrease in the number of vessels calling at the port. Additional analyses will be conducted during Preconstruction Engineering and Design to ensure proper mitigation measures, if any, are properly implemented as a project cost.



HOW CAN I ACCESS THE REPORT?



<https://www.nan.usace.army.mil/Missions/Navigation/New-York-New-Jersey-Harbor/NY-NJ-HDCI/>



Main Integrated Report

Study Report

[Draft Integrated Feasibility Report and Integrated Environmental Assessment](#)

Appendices

- A1: Endangered Species Act
- A2: Clean Water Act
- A3: Coastal Zone Management
- A4: Essential Fish Habitat
- A5: Clean Air Act
- A6: Hazardous, Toxic, and Radioactive Wastes
- A7: Fish and Wildlife Act
- A8: Environmental Coordination
- A9: Cultural Resources
- A10: Draft FONSI
- A11: Mitigation on Monitoring
- A12: Distribution List
- B1: Channel Design
- B1a: Design Attachments
- B2: Geotechnical
- B3: Structural
- B4: Cost Engineering
- C: Economics
- D: Real Estate

New York and New Jersey Harbor Deepening Channel Improvements (NYNJHDCI)



The New York and New Jersey Harbor Deepening Channel Improvements (NYNJHDCI) draft Integrated Feasibility Report and Environmental Assessment contains the U.S. Army Corps of Engineers (USACE) feasibility study planning process for channel improvements for the existing New York and New Jersey Harbor Deepening Project. This Report documents compliance with the National Environmental Policy Act (NEPA) as incorporated into the planning process. All Report documents are available under 'Study Report' on the left side of this page.

New York Harbor

The U.S. Army Corps of Engineers New York District has played a major role in the navigation, development and maintenance of water resource activities in the New York and New Jersey Harbor Estuary for more than 200 years. From maintenance and channel dredging to drift removal and environmental restoration, the New York District has been involved in many facets of port improvement plans.



The U.S. Army Corps of Engineers, in conjunction with sponsor agencies and stakeholders, such as The Port Authority of New York and New Jersey



REPORT LOCATION AND CONTACTS



Questions regarding the Draft Integrated Feasibility Report and Environmental Assessment should be directed to HDCI_FREA_Comments@usace.army.mil or either of the below contacts.

Ms. Karen Baumert, Study Planner
E-mail: Karen.L.Baumert@usace.army.mil

Mr. Jesse Miller, Project Biologist
E-mail: Jesse.L.Miller@usace.army.mil

Comments can also be mailed to:
Karen Baumert or Jesse Miller
New York District, U.S. Army Corps of Engineers
c/o PSC Mail Center
26 Federal Plaza
New York, NY 10278-0090

Comment Period:

November 4, 2020 – January 19, 2021

Documents are located:

<https://www.nan.usace.army.mil/Missions/Navigation/New-York-New-Jersey-Harbor/NY-NJ-HDCI/>