

CANAVERAL HARBOR, FLORIDA

Integrated Navigation Study Report and Environmental Assessment

Section 203 (WRDA 1986)

Study of Deep Draft Navigation Improvements

Presented by Colonel Alan M. Dodd

U.S. Army Corps of Engineers, Jacksonville District

October 3, 2012



CANAVERAL HARBOR

SECTION 203 STUDY AUTHORITY

- **Section 203** studies authorized under WRDA 1986
- Allows for non-federal interests to undertake feasibility studies for subsequent submittal to the Secretary of the Army
- Provides for study costs to be applied toward project construction



CANAVERAL HARBOR HISTORY



- Completely manmade harbor
- 1945: authorized for national security and employment stabilization
- Today: serves cruise, cargo and military operations



CANAVERAL HARBOR SIGNIFICANCE



CRUISE

- 3rd busiest cruise port in world
- Home port to many of the largest cruise ships
- Most accessible port to Orlando, Disney World, and Space Coast



CARGO

- Dry and liquid bulk
- Break bulk
- Specialty
- Roll-on/Roll-off



MILITARY PRESENCE

- Army Transportation Wharf
- Cape Canaveral Air Force Station
- Navy
 - Trident Basin
 - Naval Ordnance Test Unit
 - Poseidon Wharf
- Coast Guard



CANAVERAL HARBOR SIGNIFICANCE



ECONOMIC

Overall

- \$1.1 billion in business revenue (Brevard County)

Cruise

- 8,900 jobs (1,100 in Brevard County)
- \$916 million in business revenue
- \$29 million in state and local taxes

Cargo

- 2,400 jobs (1,116 in Brevard County)
- \$126 million in business revenue
- \$13 million in state and local taxes

LOGISTICS

- Transportation nexus (highway, rail, water) for international, national, and regional access
- Strategic location for international freight and domestic distribution

CENTRAL FLORIDA: population (3.7 million) estimated to grow to 7.2 million by 2050; 14th most populous region in the U.S.



CANAVERAL HARBOR

STUDY PURPOSE

- To fulfill the authorized purposes of National Security and Stabilized Employment
- Restore the safety and efficiency of cargo vessel and cruise ship operations
- Accommodate the larger vessels **now** using the Federal Navigation Project at Port Canaveral



CANAVERAL HARBOR CHALLENGES

- The existing channels and turning basins are too small and vessels are getting larger, resulting in:
 - Safety issues
 - Economic inefficiencies

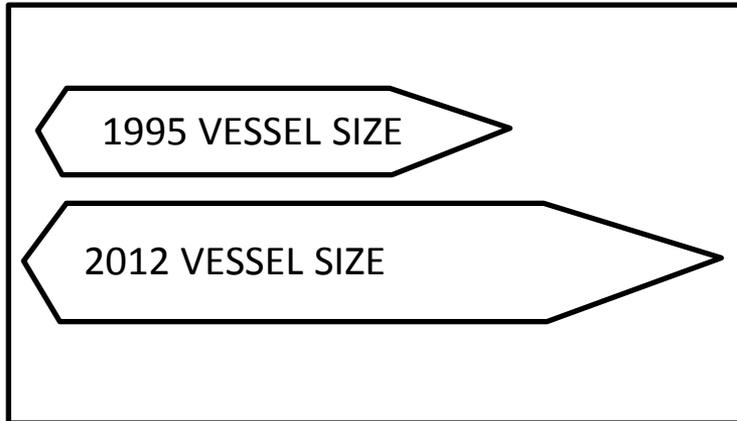


Tug assists to cruise ships and docked cargo vessels necessary under high wind conditions

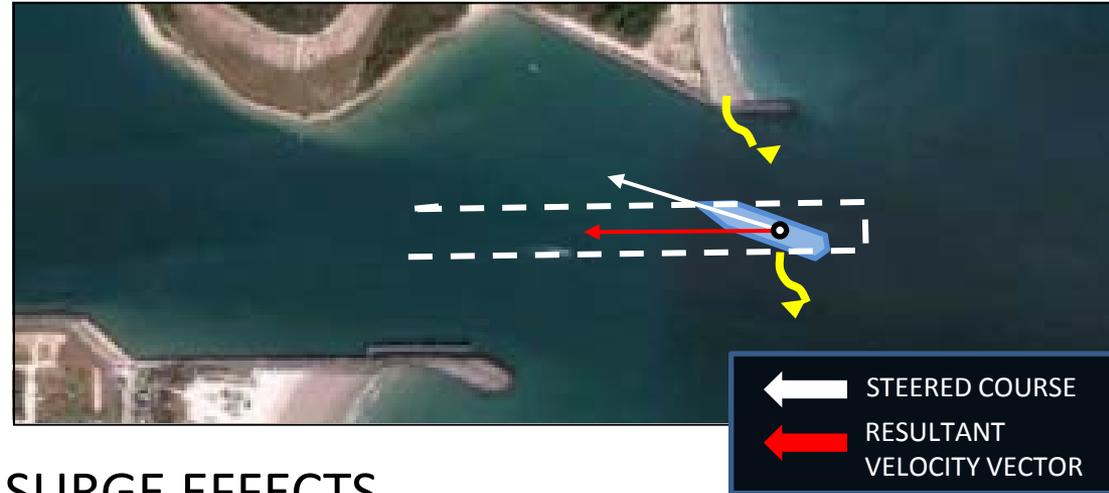


CANAVERAL HARBOR CHALLENGES

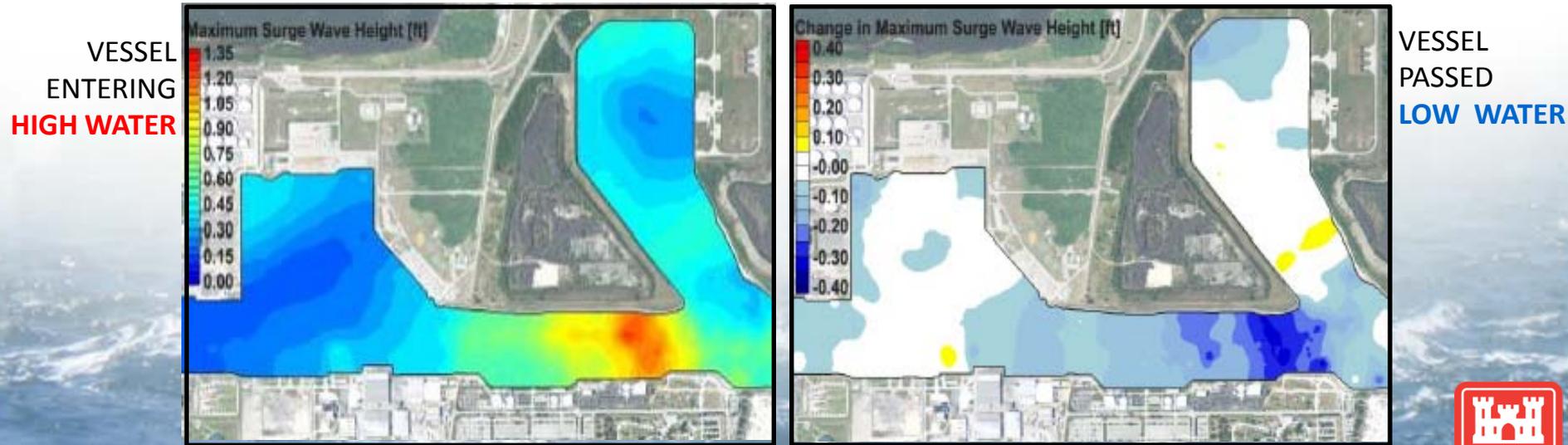
INADEQUATE DEPTHS/WIDTHS



CROSS WIND EFFECTS AND CRABBING



SURGE EFFECTS



CANAVERAL HARBOR CHALLENGES

Conditions result in:

- Navigation restrictions due to **safety** concerns for all vessels
- **Economic inefficiencies** due to vessel light loading



- Inadequate Depths/Widths
- Cross Winds
- Surge



Navigation Restrictions



Economic Costs

- Operational costs (e.g., tug support)
- Vessel light-loading
- Vessel/cargo size restrictions



CANAVERAL HARBOR

HISTORY OF AUTHORIZATIONS

- Initial Authorization: Rivers & Harbors Acts of 1945 and 1962
- Channel improvements: authorized 1992/constructed in 1995
- Federal Sand By-Pass Project: authorized 1962
 - Replenishes beach south of inlet; operated in ~ 6-year cycle
- Corps Maintenance Dredging
 - 12 to 18 month cycle; 660,000 CY per cycle
- Canaveral Port Authority (CPA) Designed/Constructed South Jetty Deposition Basin
 - Sediment trap for storm driven sediments
 - Conditionally authorized in Section 3047 WRDA 2007
- **Section 203 Study Initiated June 2005**



CANAVERAL HARBOR

KEY PARTNERS FOR CURRENT STUDY

- USACE Jacksonville District and South Atlantic Division
- Canaveral Port Authority (CPA)
- Canaveral Pilots Association
- U.S. Air Force
- U.S. Navy
- U.S. Coast Guard
- National Marine Fisheries Service (NMFS)
- U.S. Fish and Wildlife Services (FWS)
- Environmental Protection Agency (EPA)
- Florida Department of Environmental Protection (FDEP)
- Brevard County





Barge Canal and Lock

CT
WEST TURNING BASIN
CT

BANANA RIVER

CG
WEST ACCESS CHANNEL
CG

Fuel Farm

Army Wharf

City of Cape Canaveral

MIDDLE TURNING BASIN

Cape Canaveral Air Force Station

CG

TRIDENT BASIN

Cape Canaveral Air Force Station

INNER REACH
CT

MIDDLE REACH

OUTER REACH

ATLANTIC OCEAN

Federal Project Areas

CT: Cruise Terminals

CG: Cargo Terminals

AUTHORIZED PROJECT FEATURES

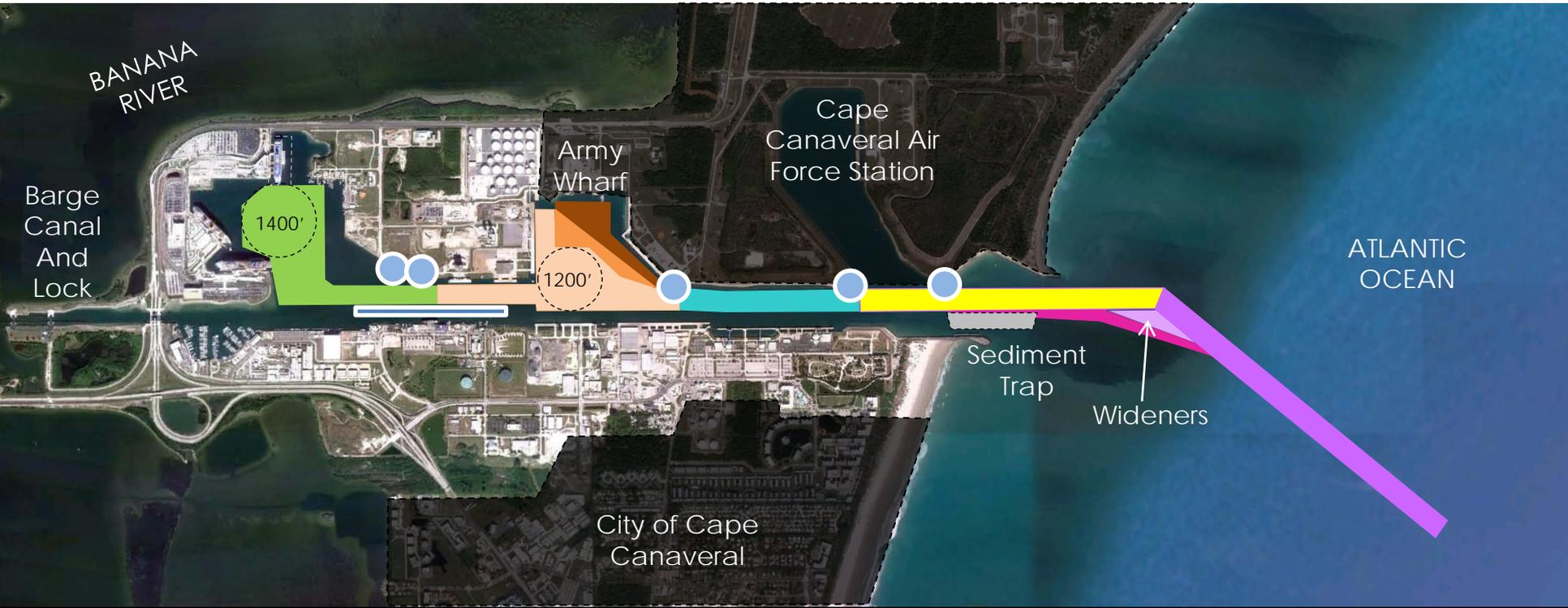
WIDTHS:

- Channels: 400'
- Turning Basins: **West:** 1400' turning radius **Middle:** 1200' turning radius

○ Additional areas of improvement conducted by Canaveral Port Authority (CPA)

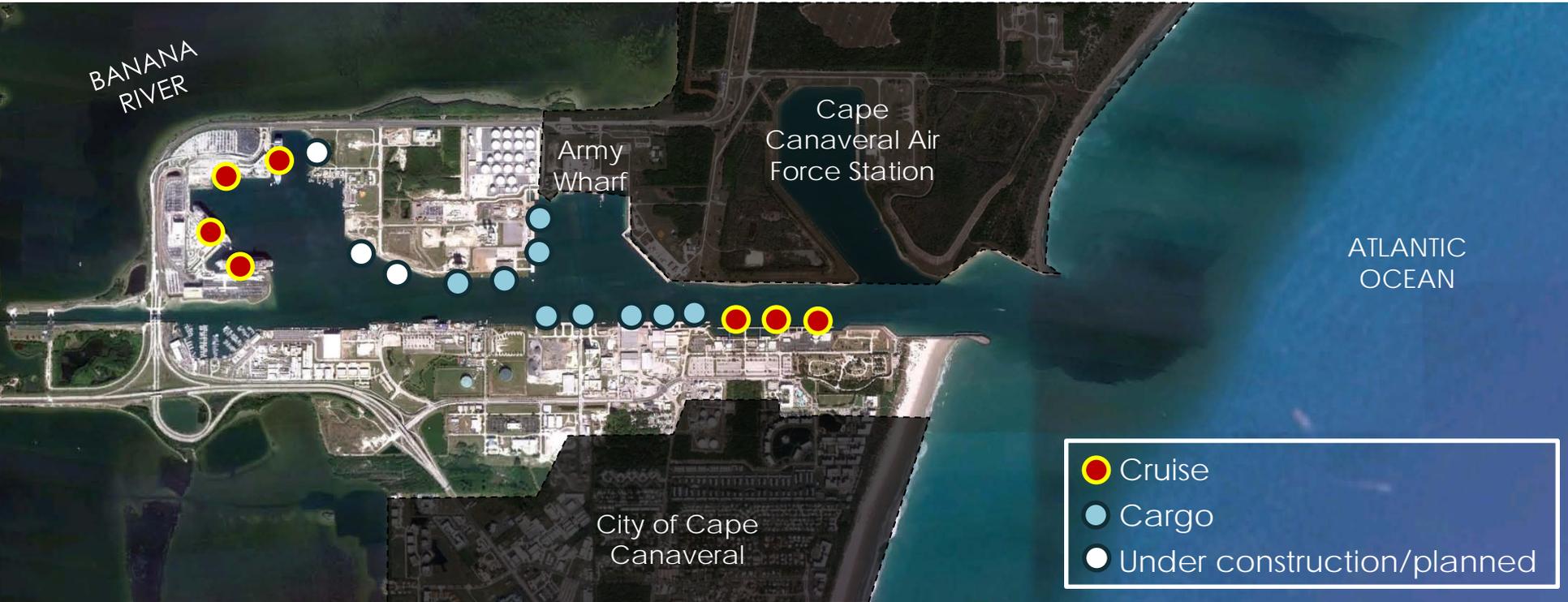
DEPTHS:

- | | | |
|---|---|-----------------------------------|
| -31 West Turning Basin (-35 CPA) & West Access Channel | -35 Middle Turning Basin (-39 CPA) | -41 Middle Reach (-44 USN) |
| -39 West Access Channel & Middle Turning Basin | -35 Middle Turning Basin | Wideners |
| | -40 Inner Reach | -41 Outer Reach (-44 USN) |



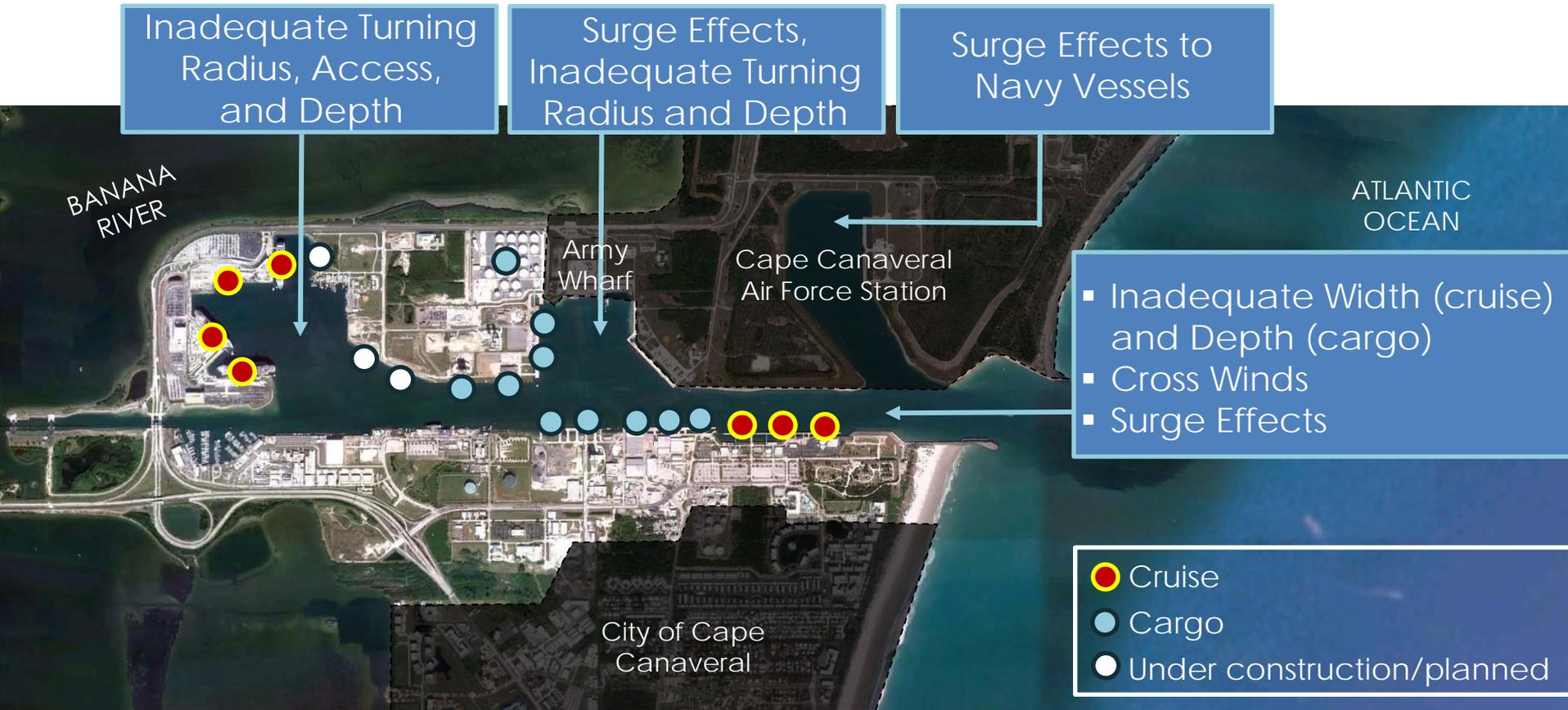
EXISTING LANDSIDE FEATURES

- 9 completed cargo berths, 2 under construction, 1 planned
- 7 cruise berths
- Less than 2-mile channel
- \$200 million private investment
(Seaport Canaveral State of the Art Fuel Tank Farm and Fuel Blending Facility)



PROBLEMS

- Last channel improvements designed in early 1990s (built 1995) cannot accommodate larger vessels in the current and future fleet
- Cruise ship and cargo vessel sizes constrained by channel dimensions
- Surge effects on civil and military vessels at dock



OPPORTUNITIES

- Accommodate new generation of ultra-large cruise ships (~1000 to 1142 feet LOA*) including NCL, RCI, Carnival, and Disney
- Improve efficiency of loading cargo vessels and allow for the use of larger vessels
- Reduce transportation costs for cargo and cruise ships
- Increase safety of cargo vessel loading by reducing surge effects
- Restore safety margins for vessels transiting the Federal channel and turning basins

* LOA = Length Overall



CONSTRAINTS

Avoid impacts to:

- Protected species
- Existing land and waterfront uses
- Adjacent shoreline processes



OBJECTIVES

FEDERAL OBJECTIVE

- Increases in net value of national output of goods and services

PROJECT OBJECTIVE (2014 – 2064)

- Reduce need for tug assists to cruise ships and docked cargo vessels under high wind conditions
- Allow for deeper and more efficient loading of bulk vessels
- Allow for more efficient operations through use of longer and deeper draft bulk vessels
- Reduce impacts to berthed and operating vessels from surge effects
- Support national defense requirements/needs (coordination w/military tenants and reduction of surge effects on port military infrastructure)



EXISTING CONDITIONS PHYSICAL

- Cross wind effects
- Surge effects
- Inadequate widths, depths, and turning radii



EXISTING CONDITIONS ENVIRONMENTAL

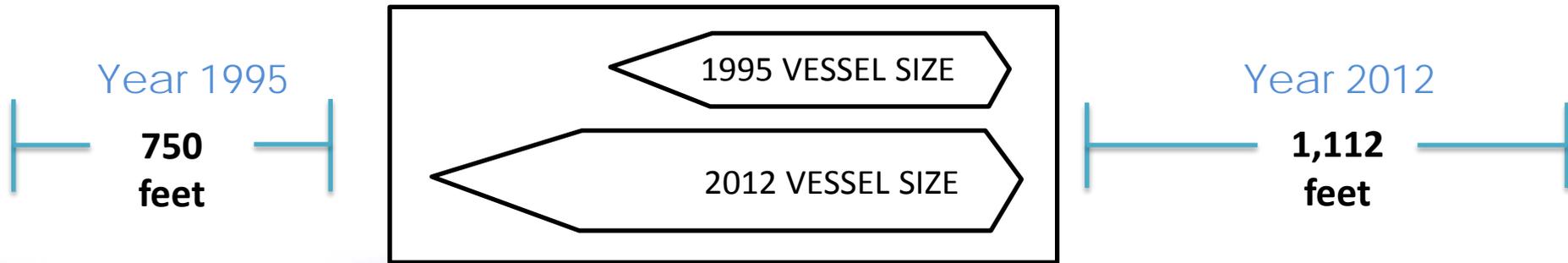
- Canaveral Harbor is a completely manmade harbor
- Long-standing, highly successful implementation of standard protection for threatened and endangered species
- No naturally occurring hardbottoms, seagrasses and wetlands
- Threatened and Endangered species:
 - Manatee
 - Sea Turtle
 - Right Whale
- State-listed species: Gopher Tortoise
- Cape Canaveral Air Force Station is listed on the National Register of Historic Places, including national landmarks and a pre-historic site



EXISTING CONDITIONS ECONOMIC

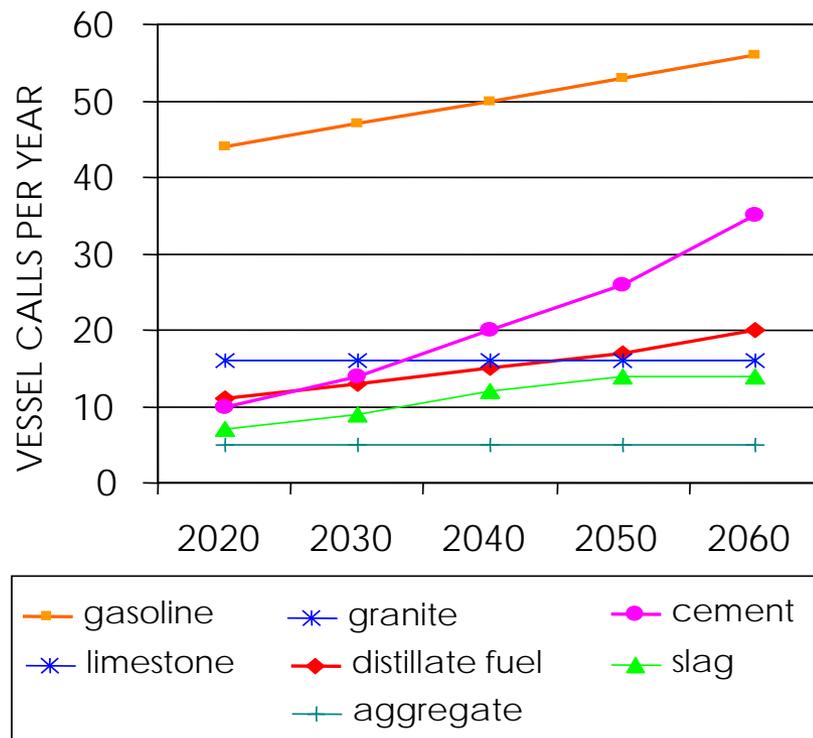
DESIGN VESSELS - 1995	DESIGN VESSELS - 2012
Tanker – 67,000 DWT	Dry Bulk Carrier – 67,000 DWT
Dry Bulk Carrier – 45,000 DWT	Cruise Ship – 160,000 GRT
LOA: 750 feet	LOA: 1,112 feet (CS)/ 750 feet (DBC)
Beam: 100 feet	Beam: 127 feet (CS)/ 106 feet (DBC)
Draft: 40 feet	Draft: 28 feet (CS)/ 43.5 feet (DBC)

* LOA = length overall



FUTURE CONDITIONS WITHOUT PROJECT

- Due to inadequate widths and depth, continued safety issues (crabbing and surge effects)
- Continued expansion of cargo and cruise terminals resulting in continued and increased congestion
- Continued navigation restrictions imposed on large cruise ships (length overall of 1000 feet +) due to inadequate channel width
- Tug assistance will continue to be required for channel passage by largest cruise ships (assisting both transiting cruise ships and docked vessels)
- Projected population growth within port hinterland requiring more goods, further stressing port operations and resultant efficiency



PROJECTED GROWTH BY MAJOR COMMODITIES – WITHOUT PROJECT



PLAN FORMULATION MEASURES EVALUATED

- No-Action
- Non-Structural Measures
 - Operational measures: reducing/increasing vessel speed, turning vessels in ballast
 - Local measures: relocating cargo/cruise facilities, improving mooring conditions
- Structural Measures
 - Deepening and widening of navigational channels
 - Expansion of the turning basins
 - Expanded turn wideners



PLAN FORMULATION MEASURES EVALUATED

OBJECTIVES	1	2	3	4	5
MEASURES					
No Action					
Non-structural					
Channel Deepening	X	X	X	X	X
Channel Widening *	X	X	X	X	X

OBJECTIVES

- 1) Reduced tug assists under high wind conditions
- 2) Deeper and more efficient loading of bulk vessels
- 3) More efficient operations through use of longer and deeper draft bulk vessels
- 4) Reduced damages to berthed vessels from surge
- 5) National defense

* Includes turning basin expansion and turn widener expansion due to their interdependency

Widening Benefits Derived From: Cruise Vessels & Tanker Vessels (tug assists)
 Deepening Benefits Derived From: Cargo (Tankers and Bulk) Vessels (loading)



PLAN FORMULATION FINAL ARRAY OF ALTERNATIVES

* Widening Alternatives

- No Action: 400 feet
- 450 feet
- 500 feet

* Deepening Alternatives

- No Action: -40 feet (at inner reach)
- -42 feet
- -43 feet
- -44 feet

Turning Basins Alternatives

- No Action:
West Turning Basin 1400 feet x -31 feet
Middle Turning Basin 1200 feet x -39 feet
- West Turning Basin:
1725 feet x -35 feet
- Middle Turning Basin:
1422 feet x -43 feet

* Dimensions based on project constraints



PLAN FORMULATION ECONOMIC ANALYSIS

- Channel Widening Benefits: Cruise and Cargo (Oil Tankers)
- Channel Deepening Benefits: Cargo (Tankers and Bulk Carriers)
- Conducted Separable Incremental Analysis of Widening and Deepening Alternatives, by Channel Segment
- Separable segments included West Turning Basin, West Access Channel, Middle Turning Basin, Middle Basin Reach, Inner Reach, Middle Reach, and Outer Reach



PLAN FORMULATION NED BENEFITS

Transportation Cost Savings

- Traditional Approach to Benefit Estimation
 - Benefit estimates are conservative and policy compliant
- Cruise ship operational cost savings
 - Reduced tug assist costs
- Increased cargo vessel efficiency
 - Larger vessels
 - Vessels more deeply laden
 - Fewer calls needed to transport projected tonnage
 - Reduced tug assists



PLAN FORMULATION AND EVALUATION

INCREMENTAL ECONOMICS OF WIDENING AND DEEPENING

BENEFIT/COST RATIO

COST/BENEFIT ANALYSIS: CHANNEL WIDENING ONLY

WIDENING ALTERNATIVE	TOTAL AAEQ COSTS	TOTAL AAEQ BENEFITS	TOTAL NET BENEFITS	B/C RATIO
450 feet	\$1,448,734	\$1,883,968	\$435,233	1.3
500 feet	\$1,960,442	\$2,829,748	\$869,306	1.4

COST/BENEFIT ANALYSIS: CHANNEL DEEPENING ONLY

DEEPENING ALTERNATIVE	TOTAL AAEQ COSTS	TOTAL AAEQ BENEFITS	TOTAL NET BENEFITS	B/C RATIO
-42 feet	\$157,949	\$1,633,114	\$1,475,165	10.3
-43 feet	\$396,407	\$2,363,067	\$1,966,660	6.0
-44 feet	\$668,011	\$2,941,086	\$2,273,075	4.4

AAEQ=average annual equivalent



PLAN FORMULATION AND EVALUATION

INCREMENTAL ECONOMICS OF WIDENING AND DEEPENING

BENEFIT/COST RATIO

COST/BENEFIT ANALYSIS: CHANNEL WIDENING AND DEEPENING COMBINED

450-FOOT WIDENING ALTERNATIVE	TOTAL AAEQ COSTS	TOTAL AAEQ BENEFITS	TOTAL NET BENEFITS	B/C RATIO
Plus -42-foot deepening	\$1,504,084	\$3,337,988	\$1,833,905	2.2
Plus -43-foot deepening	\$1,764,285	\$4,007,328	\$2,243,043	2.3
Plus -44-foot deepening	\$2,055,296	\$4,559,051	\$2,503,756	2.2

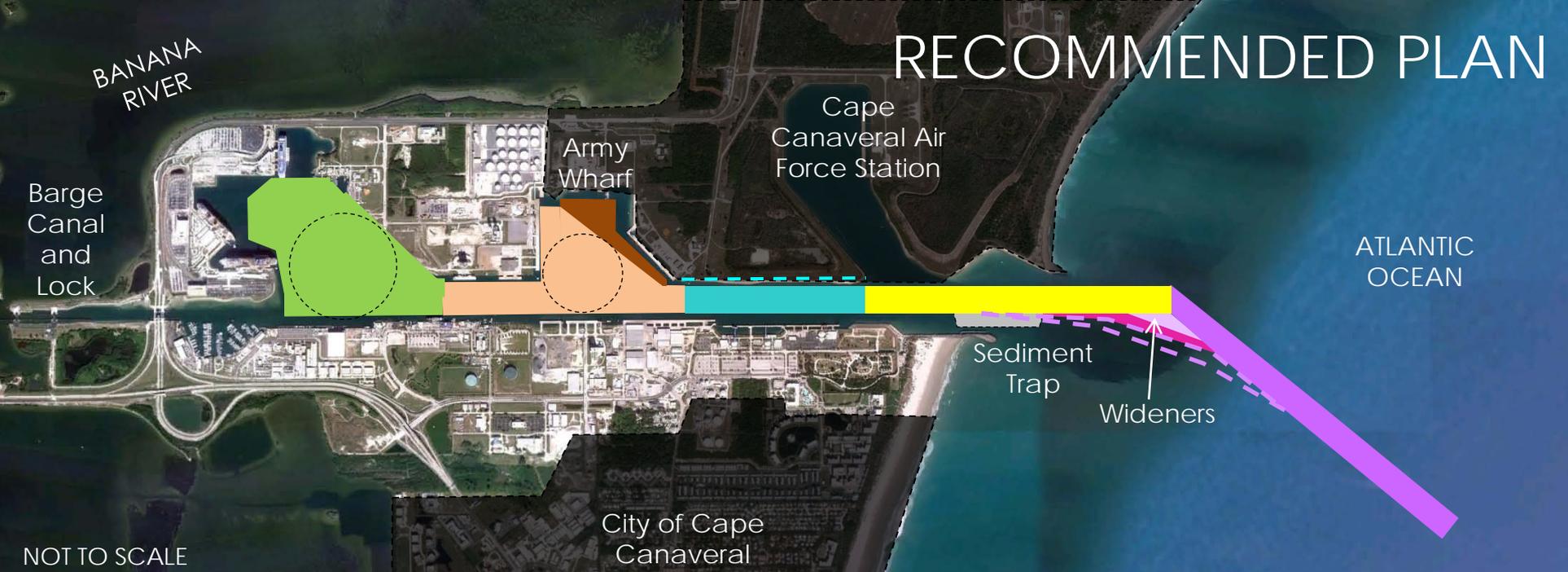
500-FOOT WIDENING ALTERNATIVE	TOTAL AAEQ COSTS	TOTAL AAEQ BENEFITS	TOTAL NET BENEFITS	B/C RATIO
Plus -42-foot deepening	\$2,094,929	\$4,221,830	\$2,126,900	2.0
Plus -43-foot deepening	\$2,377,931	\$4,831,756	\$2,453,826	2.0
Plus -44-foot deepening*	\$2,692,766	\$5,361,312	\$2,668,546*	2.0

* Maximum net benefits of plans considered

RECOMMENDED PLAN ←



RECOMMENDED PLAN



NAVIGATION FEATURE	LENGTH (FEET)	WIDTH (FEET)	CW DEPTH (FEET, MLLW)
Outer Reach	29,000	500	-46
Middle Reach	5,658	500	-46
Inner Reach	3,344	500	-44
Inner Reach Cut for Widening (100 foot)			
Middle Basin	2,660	NA	-35
West Access Channel (east of Sta. 260+00)	1,840	500	-43
West Access Channel (west of Sta. 260+00)	1,730	500	-35
Middle Basin	2,200	1,422 \emptyset	-43
West Basin	1,650	1,725 \emptyset	-35
Sediment trap footprint expanded southward	----	----	----
Widener Extension	----	----	----

RECOMMENDED PLAN ECONOMIC SUMMARY

AVERAGE ANNUAL BENEFITS AND COSTS

- Annual Benefits \$ 5,361,000
- Annual Costs \$ 2,693,000
- Net Annual Benefits \$ 2,669,000

BCR = 2.0
FY 12 Price Level
Discount Rate 4.00%



RECOMMENDED PLAN ENVIRONMENTAL ASPECTS

- Minimal impacts to resources
- No mitigation required
- Continuation of successful threatened and endangered species protection measures



RECOMMENDED PLAN

SEA-LEVEL RISE ANALYSIS

- Used EC 1165-2-211 for guidance
- Scenarios based on:
 - Low: extrapolation of historic sea-level rise rates
 - Intermediate: NRC Curve I
 - High: NRC Curve III
- Regional sea-level change: +2.4 mm/year
- Results of analysis for the period of 2014 – 2064:
 - Low: .39 feet
 - Intermediate: .80 feet
 - High: 2.14 feet

CONCLUSION:

Based on these sea-level rise projections and elevations of current and planned port facilities, no impacts are anticipated.



RECOMMENDED PLAN COST SHARING SUMMARY

PROJECT FEATURES	TOTAL PROJECT COSTS	FEDERAL SHARE	NON-FEDERAL SHARE
Total General Navigation Features	\$ 38,502,000	\$ 27,487,000	\$ 11,015,000
Lands and Damages (LERRs)	\$ 100,000	\$ 0	\$ 100,000
Aids to Navigation	\$ 2,748,000	\$ 2,748,000	\$ 0
Local Service Facility – Berth Dredging	\$ 353,000	\$ 0	\$ 353,000
Total Allocated Cost	\$ 41,702,000	\$ 26,484,000	\$ 15,218,000
*Total General Navigation Features includes Engineering and Design, Supervision and Administration, and Contingency			
Total Project First Cost	\$ 38,602,000	\$ 27,487,000	\$ 11,115,000
Total Certified Cost	\$ 41,350,000	\$ 30,235,000	\$ 11,115,000



REMAINING MILESTONES

- Civil Works Review Board: 3 October 2012
- Release of Letters for State and Agency Review: 4 October 2012
- State and Agency Review: 15 October 2012
- State and Agency Review Complete: 16 November 2012
- Issuance of Final Chief's Report: April 2013
- Planning, Engineering, and Design Phase : 9-Month Duration
- Construction: 14-Month Duration (pending authorization and funding)



PUBLIC AND AGENCY INVOLVEMENT

SCOPING AND DRAFT EA

- Scoping Letter: March 2007
- Advertised meetings in local news paper
- Scoping Meeting: April 2007
- Draft EA coordinated, and comments incorporated
- Public Workshop: May 2012

ISSUES RAISED

- No Public Issues
- Resource Agency issues resolved
- Air Force/Navy Surge effects issue resolved

AGENCY COORDINATION

- Formal comments received:
 - U.S. Environmental Protection Agency
 - U.S. Fish and Wildlife Service
 - National Marine Fisheries Service
 - U.S. Navy
 - U.S. Air Force
 - Florida Department of Environmental Protection
 - Florida State Historic Preservation Office

There has been no opposition or major issues raised with the proposed action



ENVIRONMENTAL COMPLIANCE

- EA prepared and coordinated
- ESA coordination completed
- SHPO coordination completed
- Coordination on Section 401 WQC initiated
- EPA approved Site Monitoring and Management Plan
- Consultation under the Fish and Wildlife Coordination Act



ENVIRONMENTAL OPERATING PRINCIPLES

“Strive to achieve environmental sustainability”

- Dredging and dike construction techniques will result in no significant impacts to T&E species (manatee and sea turtles)

“Proactively consider environmental consequences”

- Project components were incorporated during Feasibility phase design to avoid and minimize impacts to aquatic habitat and species to the extent that no environmental mitigation is required

“Economic and environmental solutions that support and reinforce one another”

- Project design provides economic benefits while preserving in harbor environments for resident and transitory manatee and sea turtle populations

“Accept responsibility and accountability for our activities that impact human health and welfare and viability of natural systems”

- Canaveral Harbor provides a “win-win” solution by increasing navigation benefits while maintaining environmental quality

“Seek ways to assess and mitigate cumulative impacts to the environment”

- Cumulative impacts were considered including dredging, disposal, port development, traffic, and associated effects to natural resources

“Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work”

- The Canaveral Harbor Section 203 Study discusses all of these areas in depth; for example, the long-standing environmental protection measures that have proven to be highly successful during maintenance activities

“Respect the views of individuals and groups”

- Views expressed on the plan have been incorporated into the project design



REVIEWS

- District Quality Control
- Agency Technical Review
- Independent External Peer Review (exclusion)
- Model Review



RECOMMENDED NATIONAL PRIORITIES

Reduce the Deficit

Indirect economic benefits (employment, tax revenues)

Create Jobs and Restore the Economy

RED benefits = jobs, economic impact on Space Coast

Improve Resiliency and Safety of Infrastructure

Loading/Unloading restrictions lifted, surge effects diminished

Restore and Protect the Environment

Incorporation of sea turtle habitat and manatee protection measures during dredging

Maintain Global Competitiveness

Reductions in restrictions to navigation for cargo & cruise vessels

Increase Energy Independence

Reduced delays, reduced transportation costs, benefits to Seaport Canaveral and energy deliveries to central Florida

Improve Quality of Life

Improved safety in the Federal Channel



Section 203 Channel Widening and Deepening Project



Early Port Canaveral (circa 1953)



Port Canaveral Commercial Fishing



Early Cargo – Lumber and Cement...



Citrus



Cruise Terminal 1 – First Homeported Cruise Ship



Scandinavian Sea - 1982



Cruise Terminal 1 – Visit of Queen Elizabeth II



1980



Cargo (circa 2005-2006)



2006 – Cargo

Cement – 1,286,563 tons

Aggregate – 344,100* tons

Lumber – 582,541 tons

*including granite, limestone and other aggregates**



Distances to Major Markets



Cruise Passenger Statistics

FYE 2000	Multi Day Revenue
Passengers	1,995,619

FYE 2011	Multi Day Revenue
Passengers	3,100,199

Projected FYE 2012	Multi Day Revenue
Passengers	3,869,220



Year 2000 Cruise Ships at Canaveral

FYE 09/2000 Regular and Port-of-calls Vessels	LOA	GRT
Disney Magic	964	83,338
Disney Wonder	964	83,308
RCL Sovereign of the Seas	880	73,192
Carnival Fantasy	855	70,367
Premier Oceanic	782	38,700
Premier Rembrandt	748	39,674
Dolphin	501	14,000



Year 2004 Cruise Ships at Canaveral

FYE 09/2004 Regular and Port-of-call Vessels	LOA	GRT
RCL Mariner of the Seas	1,021	138,279
Norwegian Dawn	965	92,250
Disney Magic	964	83,338
Disney Wonder	964	83,308
Carnival Miracle	963	85,942
Carnival Glory	952	110,239
RCL Grandeur of the Seas	917	73,817
RCL Sovereign of the Seas	880	73,192
Carnival Fantasy	855	70,367
HAL Zaandam	781	60,906
Mirage	464	14,264



Year 2012 Cruise Ships at Canaveral

FYE 09/2012 (through July 31, 2012)
Regular and Port-of-Call Vessels

		LOA	GRT
Disney Dream	1,115	129,690	
Disney Fantasy	1,115	128,000	
RCL Freedom of the Seas	1,112	154,407	
NCL Norwegian Breakaway	1,062	144,017	
Carnival Dream	1,002	128,251	
RCL Enchantment of the Seas	990	82,910	
NCL Norwegian Jewel	965	93,502	
NCL Norwegian Gem	965	93,530	
Disney Magic	964	83,338	
Carnival Pride	960	85,942	
RCL Monarch of the Seas	880	73,937	
Carnival Sensation	860	70,367	
Carnival Ecstasy	860	70,367	
NCL Norwegian Sun	846	78,309	



The 1980's



Cruise Terminals 2, 3 & 4



The 1990's



Cruise Terminals 5, 8 & 10



2010 Cruise Terminal 8 Expansion



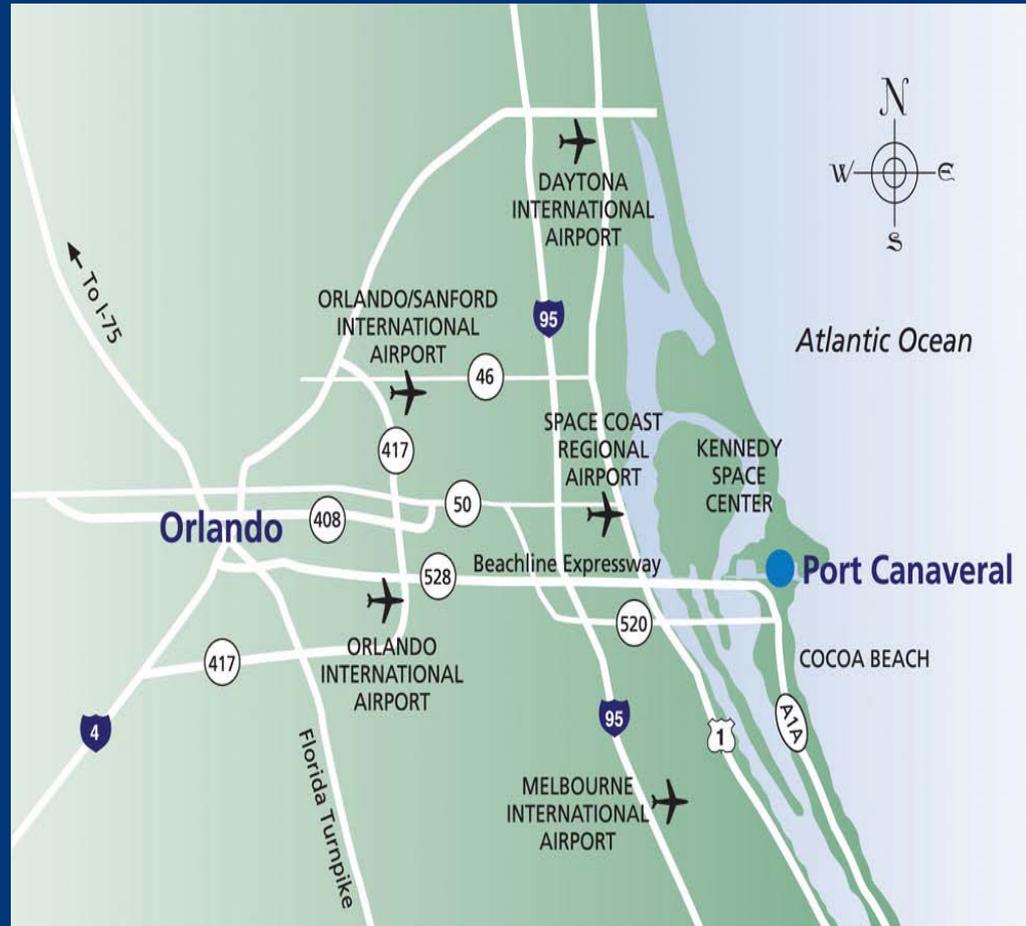
2012 - Cruise Terminal 6



2012 - Cruise Terminal 6



Central Florida Proximity to Port Canaveral



Approximately 55 miles



Civil & Marine (Hanson)



Martin Marietta



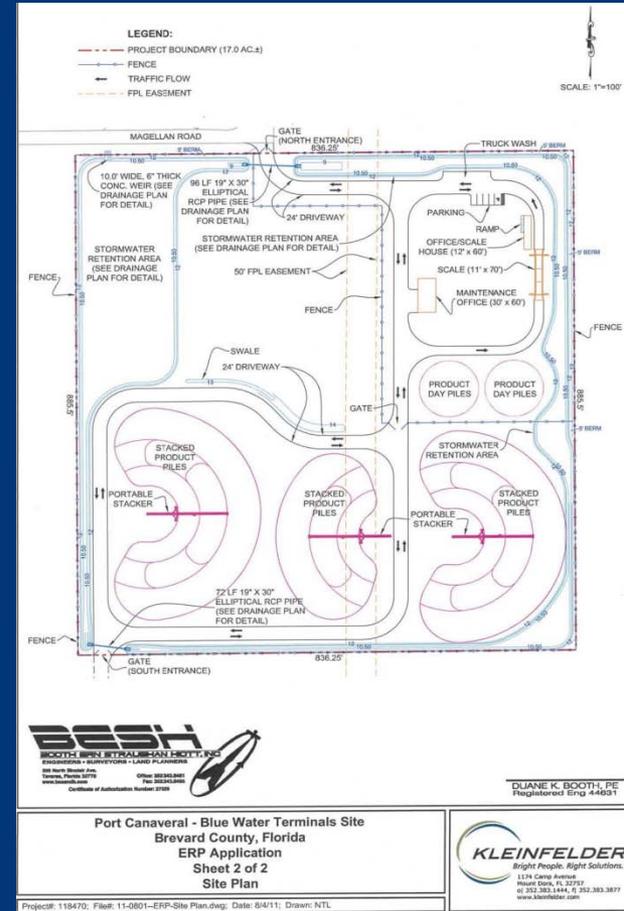
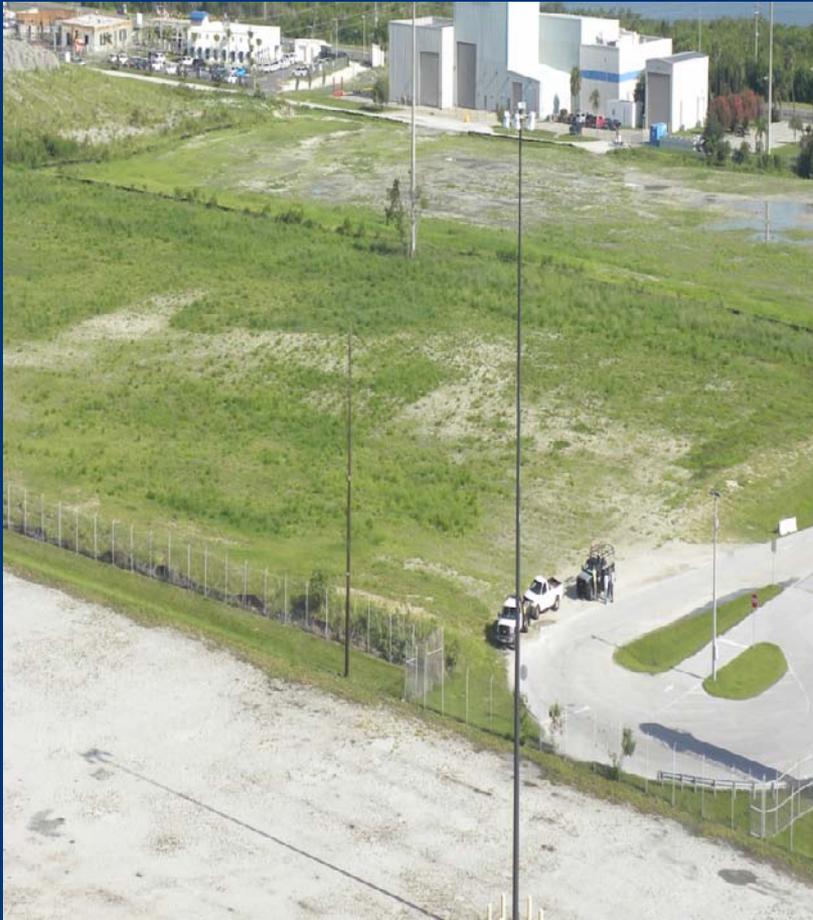
Seaport Canaveral



Petroleum Volumes

FYE 09/30	TRANSMONTAIG NE	FP&L /OUC UTILITI ES	VITOL/SEAPOR T CANAVAR AL	Yearly Total Tons	Yearly Barrels
		787,06			
2004	811,034	4		1,598,098	9,512,488
		660,98			
2005	926,759	3		1,587,742	9,450,845
		402,70			
2006	956,873	3		1,359,576	8,092,714
		271,09			
2007	980,078	3		1,251,171	7,447,446
		116,01			
2008	804,572	3		920,585	5,479,673
2009	922,104	68,490		990,594	5,896,393
2010	1,012,360	23,067	857,205	1,892,632	11,265,667
<i>*Seaport Canaveral Terminal's first full year</i>					
2011*	909,032		2,490,926	3,399,958	20,237,845

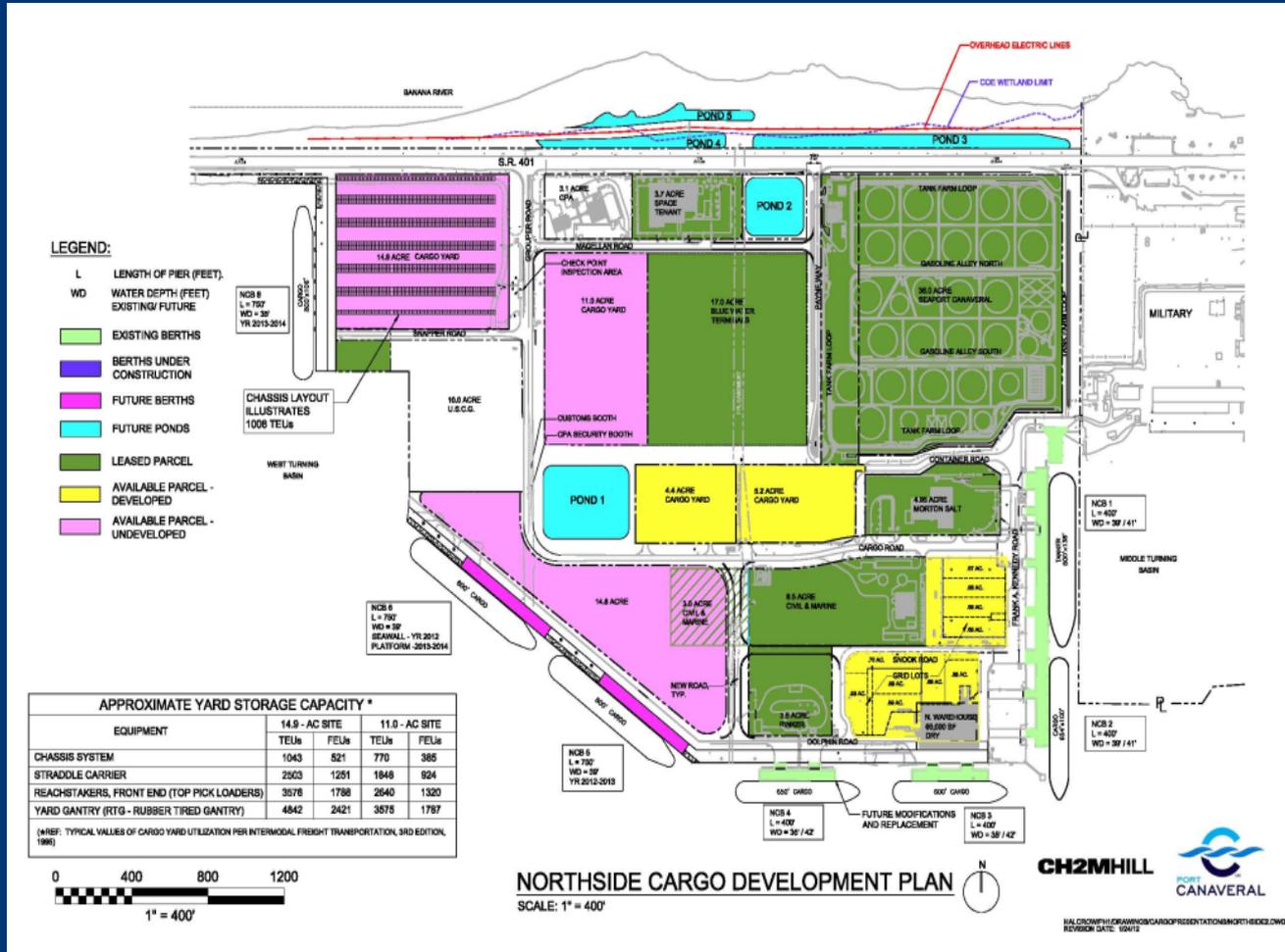
Blue Water Terminals



Operational 2013



North Side Cargo



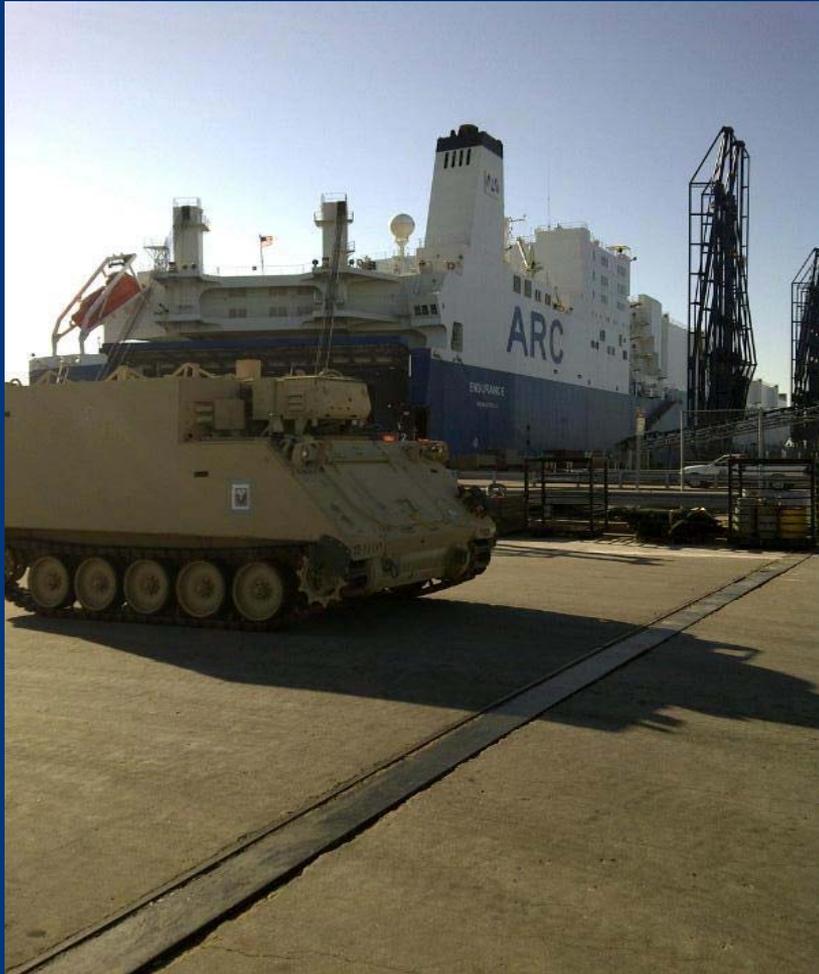
North Side Cargo



South Side Cargo



Cargo



Military Cargo



Fertilizer from Chile



Cruise Terminals



➤ Cruise ships at
Cruise Terminals
5, 8 and 10 – **FULL**



Cruise Terminals 2, 3, and 4 - FULL



➤ Gaming Ship at Cruise Terminal 2

➤ Cruise ships at Cruise Terminals 3 and 4



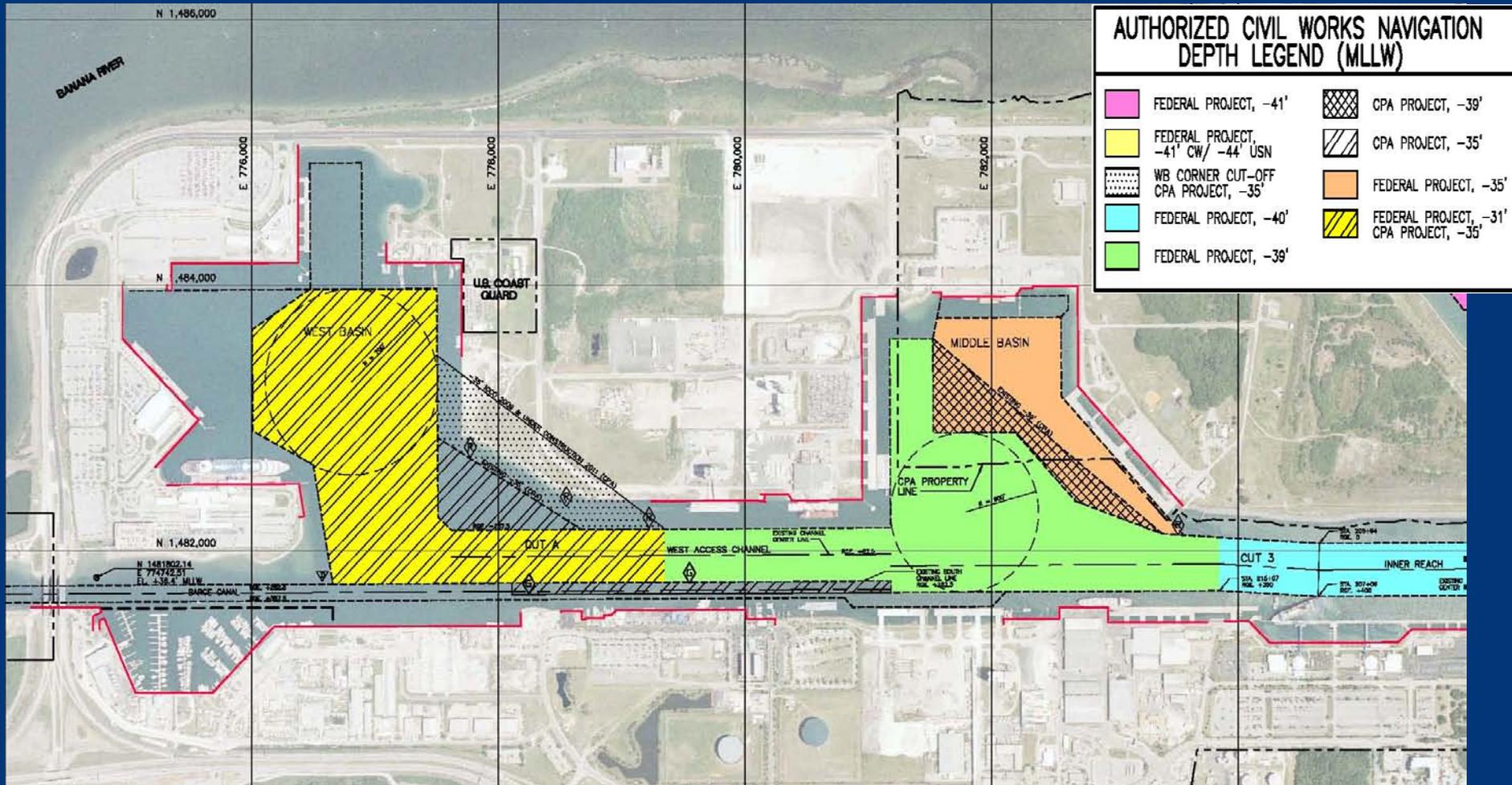
Corner Cut-Off (Both Phases)



Phase I - \$4.564 million from Port Revenues
Phase II - \$3.547 million form Port Revenues



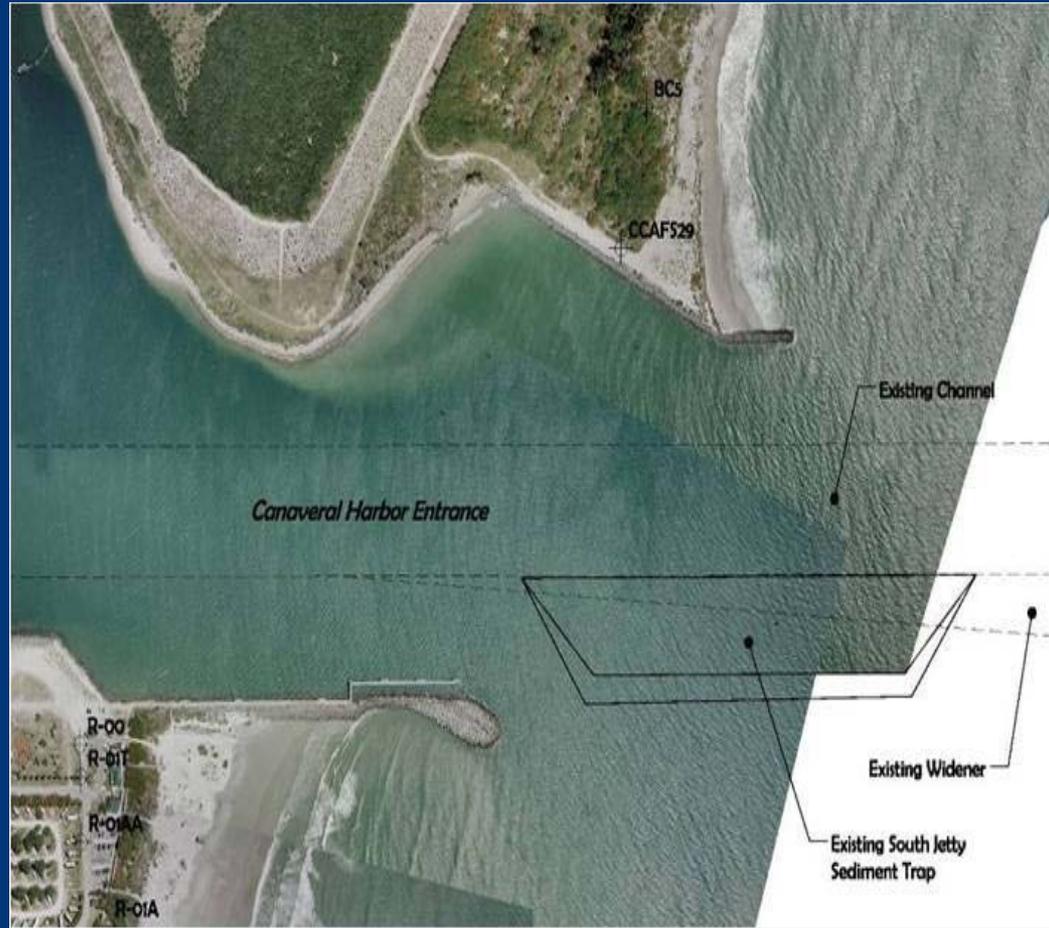
Middle and West Turning Basin



**10-Year Maintenance of West and Middle Turning Basins
\$4.16 million from Port Revenues**



South Jetty Deposition Basin



Construction (2007) \$1.956 million from Port Revenues
Maintenance (2011) \$2.259 million from Port Revenues



Port Canaveral

We have made investments because
our region needs the jobs we have created and will create.



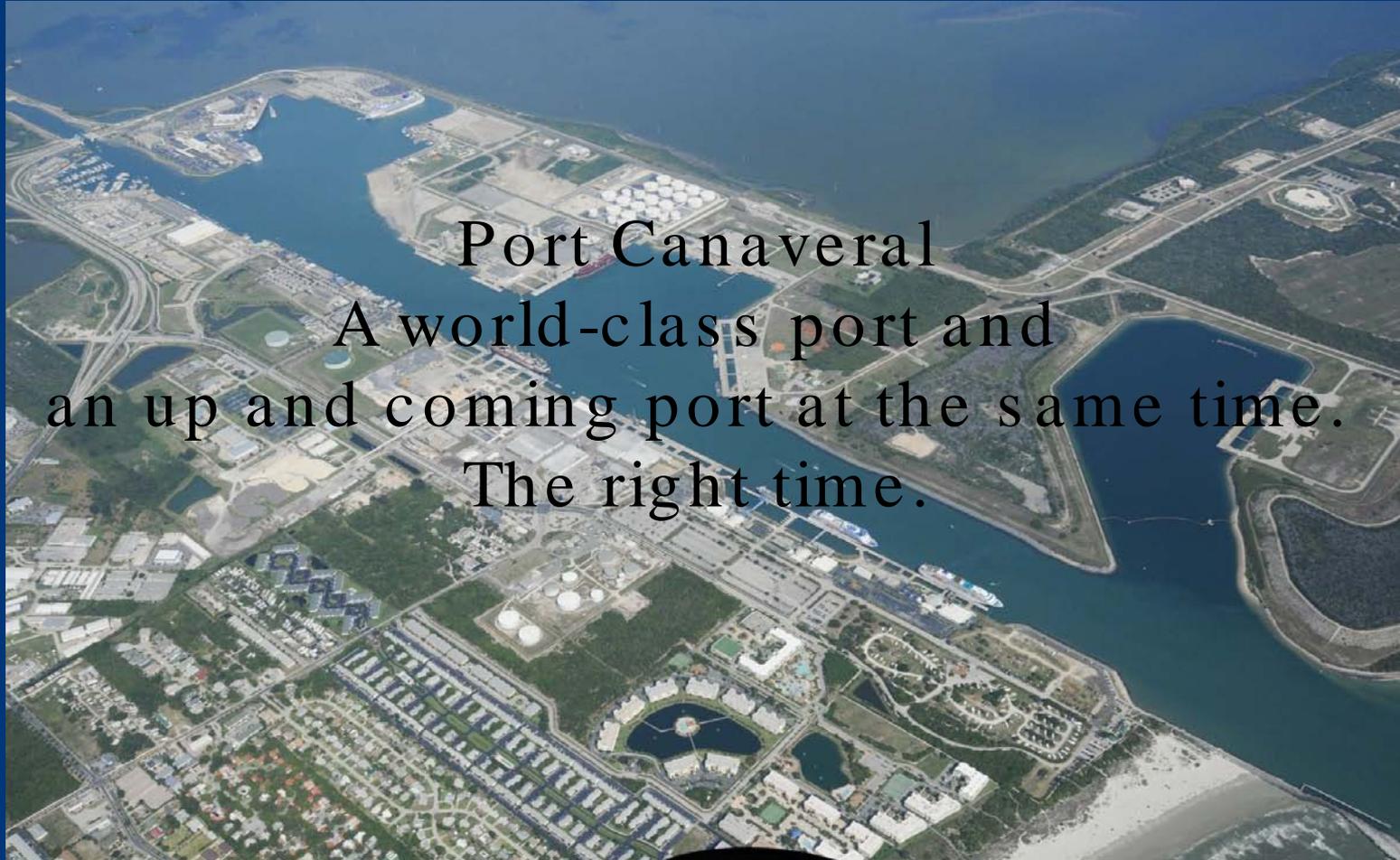
Port Canaveral



Job Creation

**3,494 permanent jobs and
3,413 construction jobs**





Port Canaveral
A world-class port and
an up and coming port at the same time.
The right time.



CANAVERAL HARBOR, FLORIDA

Integrated Section 203 Navigation Study Report And Final Environmental Assessment

Section 203 (WRDA 1986) Study of Deep Draft
Navigation Improvements

Presented by Colonel Donald E. Jackson Jr.

U.S. Army Corps of Engineers, South Atlantic Division

October 3, 2012



CANAVERAL HARBOR

KEY PARTNERS FOR CURRENT STUDY

- Canaveral Port Authority (CPA)
- Canaveral Pilots Association
- U.S. Air Force
- U.S. Navy
- U.S. Coast Guard
- National Marine Fisheries Service (NMFS)
- U.S. Fish and Wildlife Services (FWS)
- Environmental Protection Agency (EPA)
- Florida Department of Environmental Protection (FDEP)
- Brevard County, Florida



ASA, OWPR, SAD-RIT, & HQ-DC Team Members

- Wes Coleman, OWPR
- Jeremy LaDart, OWPR, Review Team Lead
- Lee Ware, OWPR
- Jeff Trulick, OWPR
- Scott Murphy, Counsel
- Brenda Johnson-Turner, Real Estate
- Stacey Brown, SAD-RIT
- David Apple, SAD-RIT
- Marilyn Benner, CWRB Team
- Marianne Matheny-Katz, ASA(CW)



SAD Team Members

- Wilbert Paynes, Chief of Planning
- Terry Stratton, Sr. Economist and SAD Team Lead
- Vechere' Lampley, Environmental
- Kaiser Edmond, Engineering
- Barbara Altera, Counsel
- John Cline II, Real Estate
- Susie Vohlken, Cost Engineering
- Sharon Haggett, Programs
- Mike Magley, Jacksonville District DST Team Leader



Rationale for SAD Support

- Study and current operating practices document need for channel improvements and demonstrate Federal interest
- Concur with District Commander's findings & recommendations to deepen channel to 44 ft, widen to 500 ft, and implement associated navigation feature improvements
- Plan supported by Sponsor & Congressional delegation.
- Plan will relieve channel congestion, reduce wind affects, and reduce surge affects to shipping
- Plan will provide positive navigation benefits to all deep draft users
- Anticipate favorable response to draft Chief's Report.
- Report complies with all applicable laws in place at time of submittal to HQ.



Certification of Legal & Policy Compliance

- Legal certification of the final Feasibility Report made by SAJ District Counsel.
- Compliant with Corps policies
- Technical and Policy Compliance:
 - Quality Control accomplished by Sponsor and by Corps
 - Agency Technical Review by DDNPCX; all ATR comments have been resolved, ATR Certified
 - Independent External Peer Review exclusion approved 13 April 2012
 - Update Review Plan approved 28 August 2012
 - Cost DX certified Cost Estimate Feb 2012
 - Value Engineering Study deferred to PED



SAD Quality Assurance Activities

- Continuous involvement in development of economic methodology and throughout the Feasibility Study.
- Worked w/DDNPCX for Economic Model approval, Review and approval of Review Plan,
- Assured execution of Quality Control, Agency Technical Review, Independent External Peer Review exclusion, and Cost Estimate approval.
- Review of Policy Compliance Memo: all issues identified in draft Final Feasibility Report have been adequately addressed.
- Examples of quality assurance assistance actions:
 - ▶ Economic Workshops and IPRs to resolve benefit issues
 - ▶ Site visits



SAD Recommendation

- Approve Final Report
- Release for State and Agency Review
- Complete Chief's Report
- Submit for Authorization



Reviews Since November 2007

- **Draft Report “Independent Technical Review” - November 2007**
 - 65 review comments were submitted, 62 resolved and closed
 - 3 review comments remained open and elevated through Vertical Chain for resolution.
- **Final Draft Report Agency Technical Review March 2010**
 - Modified documents were submitted to the DDNPCX for subsequent ATR
 - All 82 review comments were resolved and closed
- **Final Report ATR – Port Canaveral Section 203 – July 2012**
- **Walla Walla Cost Engineering CX – Cost Re-Certification ATR - February 2012**
- **Economic Model approved by HQ on June 2012**
- **IEPR Exclusion May 2012**

HQUSACE POLICY REVIEW CONCERNS

Civil Works Review Board

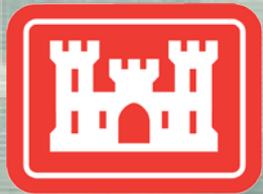
Canaveral Harbor, Florida Section 203 Navigation Study

Jeremy LaDart

Office of Water Project Review

Planning and Policy Division

Washington, DC – 3 October 2012



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US Army Corps of Engineers
BUILDING STRONG®

HQUSACE Team Reviews:

- FSM was held April 2007
- AFB was held April 2011
- Review of Draft Report completed
- Back check of remaining outstanding comments completed October 2012
- Final Feasibility Report/EA HQUSACE review completed



Significant Policy Questions from AFB and Draft Report Reviews

- Real Estate.
- Cruise Ship Benefits.
- Commodity Projections.
- Credit for Sponsor Construction.
- Categorical Exemption to NED Plan.



Real Estate

CONCERN: Availability of US Air Force land for placement of approximately 354,000 CY of excavated material during initial construction.

REASON: It was not clear from the report how the cost of the project could be impacted should the USAF land become unavailable for use.

RESOLUTION: The non-Federal sponsor provided a rough order cost of the next least costly alternative should the USAF land become unavailable. Also, further coordination with the USAF throughout Pre-construction Engineering and Design (PED) will occur.

RESOLUTION IMPACT: Concern Resolved.



Calculation of Cruise Ship Benefits

CONCERN: The original economic analysis included a non-standard calculation of cruise ship benefits.

REASON: Since the justification of the widening component included cruise ship benefits, the non-standard benefits could not be used. Specifically, the concern was that the proposed methodology overstated the potential Cruise Ship benefits.

RESOLUTION: The non-Federal sponsor revised the methodology to account for a standard benefit using tug assist savings.

RESOLUTION IMPACT: Concern Resolved.



Commodity Projections

CONCERN: The deepening component of the plan appeared to be highly dependent on future projections of fuel, rock, slag, and cement.

REASON: The deepening component accounts for approximately half of the cost of the project . The concern was that the justification of the deepening was highly dependent on the future projections.

RESOLUTION: The non-Federal sponsor conducted adequate sensitivity analyses to show that the deepening justification is supportable under the most conservative of potential scenarios.

RESOLUTION IMPACT: Concern Resolved.



Credit for Sponsor Construction

CONCERN: The original cost estimate for the project included approximately \$13.7M for credit to the non-Federal sponsor for construction it implemented above the current Federal project.

REASON: Since the non-Federal sponsor completed the work prior to the identification of a plan and no agreement was in place for the work, the Corps does not have the authority to include the cost as part of the recommendation to Congress for Authorization.

RESOLUTION: The non-Federal sponsor separated out the cost of its work from the Corps recommendation and will seek authorization on its own for the completed work.

RESOLUTION IMPACT: Concern Resolved.



Categorical Exemption to NED

CONCERN: The report and analysis did not show enough alternatives to clearly bracket the NED plan.

REASON: Due to non-Federal sponsor constraints, the report did not show the full range of deepening alternatives needed to fully bracket the NED Plan. The non- Sponsor indicated it wished to use the Categorical Exemption to the NED Plan allowed by policy.

RESOLUTION: The use of the Categorical Exemption to NED was noted in the report and thoroughly coordinated with the OASACW.

RESOLUTION IMPACT: Concern Resolved.



HQUSACE POLICY REVIEW TEAM RECOMMENDATION

**Release the report and EA for S&A
Review**



SAJ LESSONS LEARNED

- Start cost estimate certification process earlier and involve Cost DX in development of Cost Risk Register from the beginning
- Bi-weekly conference calls with the PDT accelerated the formulation and review processes
- Schedule the AFB earlier in the process and insist on a site visit by review team members – it greatly enhanced the formulation and review processes
- While soliciting input from the resource agencies early did not result in agency responses at the time, it did facilitate their eventual cooperation and agreement later in the review process
- Need to update guidance regarding the calculation of cruise ship benefits



SAD Lessons Learned

- Implementation under Sec 203 presents communication challenges as well as policy/process challenges. Need to update guidance
- Clearly articulate Corps process, engagement steps. ie: DQC, ATR, Model Approval, Cost Approval
- Identify all models early and work to secure certification
- Engage the vertical team early on technical issues – importance of Corps speaking with one voice
- Importance of identifying policy issues quickly and articulating clearly how issues best resolved
- Clearly define Corps role and resource requirements under Sec 203 for all levels of the Corps vertical team.
- Need to better define what Corps can and cannot help with or do under Sec 203 with sponsor funding. Recommend guidance in ER 1165-2-122 be updated.
- SAJ Team performed well in support of Sponsor and Study

