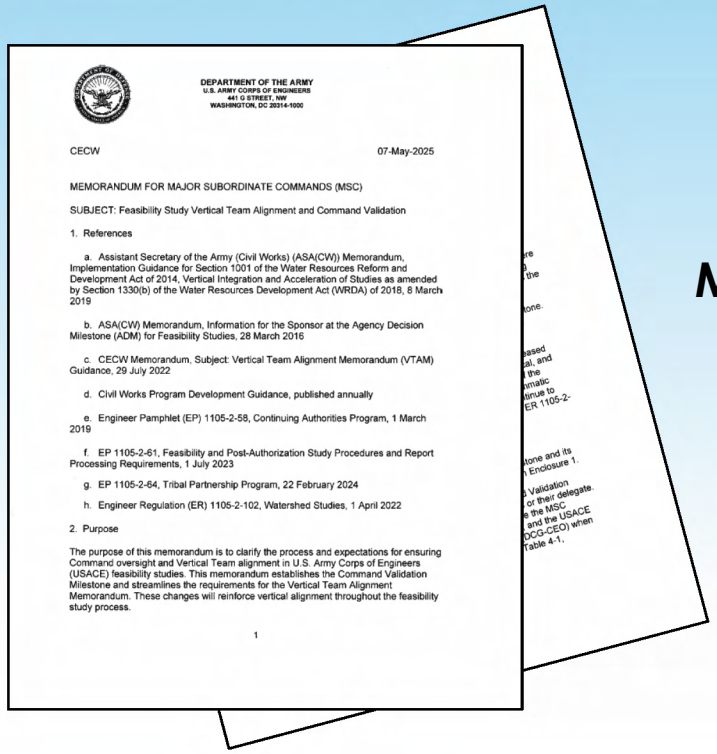
FEASIBILITY STUDY VERTICAL TEAM ALIGNMENT & COMMAND VALIDATION MILESTONE



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, DC 20314-1000

CECW 07-May-2025

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDS (MSC)

SUBJECT: Feasibility Study Vertical Team Alignment and Command Validation

1. References

a. Assistant Secretary of the Army (Civil Works) (ASA(CW)) Memorandum, Implementation Guidance for Section 1001 of the Water Resources Reform and Development Act of 2014, Vertical Integration and Acceleration of Studies as amended by Section 1330(b) of the Water Resources Development Act (WRDA) of 2018, 8 March 2019

b. ASA(CW) Memorandum, Information for the Sponsor at the Agency Decision Milestone (ADM) for Feasibility Studies, 28 March 2016

c. CECW Memorandum, Subject: Vertical Team Alignment Memorandum (VTAM) Guidance, 29 July 2022

d. Civil Works Program Development Guidance, published annually

e. Engineer Pamphlet (EP) 1105-2-58, Continuing Authorities Program, 1 March 2019

f. EP 1105-2-61, Feasibility and Post-Authorization Study Procedures and Report Processing Requirements, 1 July 2023

g. EP 1105-2-64, Tribal Partnership Program, 22 February 2024

h. Engineer Regulation (ER) 1105-2-102, Watershed Studies, 1 April 2022

2. Purpose

The purpose of this memorandum is to clarify the process and expectations for ensuring Command oversight and Vertical Team alignment in U.S. Army Corps of Engineers (USACE) feasibility studies. This memorandum establishes the Command Validation Milestone and streamlines the requirements for the Vertical Team Alignment Memorandum. These changes will reinforce vertical alignment throughout the feasibility study process.

1

Memo Signed
7 May 2025

Susan Werning
Deputy Chief, Planning CoP

May 21, 2025

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OVERVIEW

Memo signed by MG Kelly on 7 May 2025 covers the following topics:

Tentatively Selected Plan – Change of decision-maker

Command Validation Milestone

- Command understanding and concurrence with the project recommendation while there is still time for Senior Leaders to influence the plan
- Validate the engineering strategy to reach required engineering sufficiency during the feasibility phase

Vertical Team Alignment Memo (VTAM)

- CECW Memo dated 29 July 2022
- Process was not working as envisioned
- Ripe for improvement

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PURPOSE

"The purpose of this memorandum is to clarify the process and expectations for ensuring Command oversight and Vertical Team alignment in U.S. Army Corps of Engineers (USACE) feasibility studies. This memorandum establishes the Command Validation Milestone and streamlines the requirements for the Vertical Team Alignment Memorandum. These changes will reinforce vertical alignment throughout the feasibility study process."

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TENTATIVELY SELECTED PLAN MILESTONE:

Change in Decision-Maker

Table 1 - Milestone Decision-Making Delegation/Report Approval Level

Ongoing	Feasibility Decision Milestone	Decision-Making Delegated to MSC	Decision-Making Resides at Headquarters
Vertical Team Engagement	Alternatives Milestone	MSC Planning and Policy Chief	MSC Planning and Policy Chief
NEW!	Tentatively Selected Plan Milestone	MSC Commander	USACE DCG-CEO
	Command Validation Milestone	USACE Chief of Engineers	USACE Chief of Engineers

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OVERVIEW | COMMAND VALIDATION MILESTONE (CVM)

Who: Applies to all feasibility studies that have not released their Draft Report by 7 May 2025 (date of memo). The CVM decision maker will be the HQ Chief of Engineers or delegate.

What: Marks the corporate endorsement of the Recommended Plan, engineering strategy, and path forward & replaces the Agency Decision Milestone (ADM).

Why: To ensure Command understanding and concurrence with the recommendations and confirm the engineering strategy while there is still time to influence them.

When: Within 2 months of completion of concurrent reviews of Draft Report. Intended to be earlier than ADM had been held.

Where: The meeting will be in conjunction with a site visit by the USACE Chief of Engineers or designee.

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Feasibility Study Timeline and Milestones: Per our Guidance

Key Decision and Product Milestones in a 3-Year, $3 Million, Vertically Coordinated Study (3x3x3)

~3 months	~9 to 18 months	~ 12 months	~ 3 months
~$200K	~$1.5M	~$1M	~$300K

Scoping & Alt Formulation → **Alternative Evaluation & Analysis** → **Feasibility Analysis of Selected Plan** → **Washington-Level Review**

- *Inter-agency Meeting*
- *Section 1002 Letter to NFS (<90 Days After FCSA Executed)*
- *Alternative Milestone*
- *Vertical Team Alignment Memorandum (VTAM)*
- *Tentatively Selected Plan Milestone*
- *Draft Report Released for Concurrent Reviews*
- *Agency Decision Milestone*
- *District Final Report Package Transmittal to HQ*
- *Draft Chief's Report (State & Agency Review)*
- *Site Visit by GC, DCG-CEO or DCW*
- *Chief's/ Director's Report Signed*

INSET OF FEASIBILITY ANALYSIS OF SELECTED PLAN

Updated VTAM (if needed)

Command Validation Milestone (CVM) & Site Visit

BEFORE CVM:
- *Completion of ATR, Public/agency review, P&LCR*
- *Critical or high significance comments from all reviews compiled, assessed and actions to resolve*

DURING CVM:
- *Milestone meeting with requirements in para 4-4 EP 1105-2-61*
- *Limited list of required participants from all key disciplines (Table 2)*
- *Placemat used as briefing tool, will discuss significant comments*
- *Site visit (before or concurrent with CVM), ~12 USACE personnel with project placemat*

AFTER CVM:
- *Draft PDT responses in PGM*
- *IEPR complete*
- *Receive concurrence from SHPO*
- *PMP, Review plan & Study issue checklist updated*
- *Policy exceptions submitted to ASA(CW)*

In-progress Review
- *Held with VT*
- *Ensures comment resolution*
- *Led by District Planning Chief*

KEY
- *Decision Milestones*
- *Supporting Meetings*
- *Product Milestones*
- *NEW checkpoints*
- *Milestones removed*

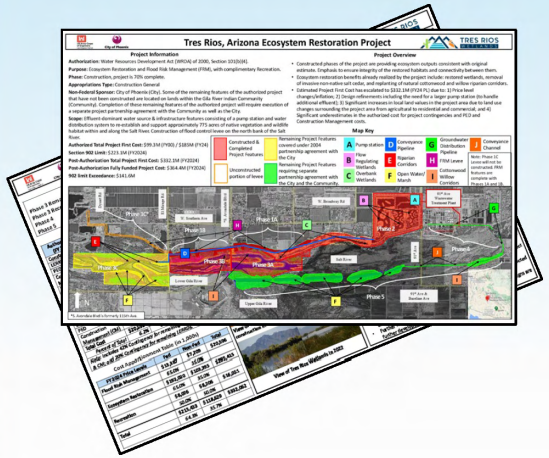
BEFORE | COMMAND VALIDATION MILESTONE (CVM)

- Completion of Agency Technical Review (ATR), Public/agency review, Policy & Legal Compliance Review (P&LCR). "Completion" means the review is complete, but not the backcheck or full resolution of comments.
- Critical or high significance comments from all reviews compiled, assessed and actions identified to resolve, with summary in project placemat
- Team creates/finalizes project placemat
- District leadership finalizes dates/meeting location for site visit and CVM
- *NOTE: We are working with the PID to determine the path forward for P2 code*

READ-AHEADS | COMMAND VALIDATION MILESTONE

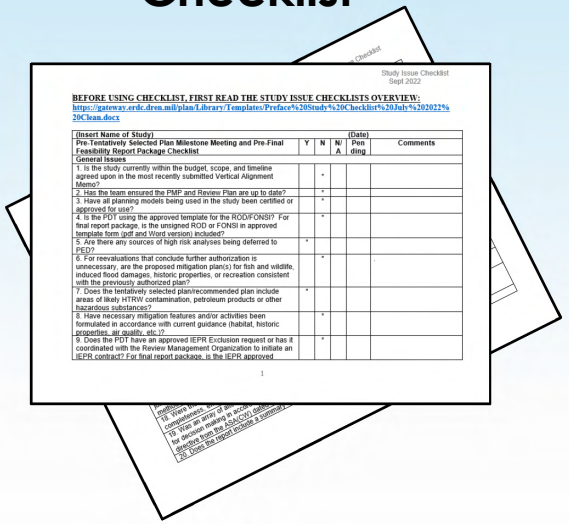
The RAHs for the Command Validation Milestone:

Study Placemat

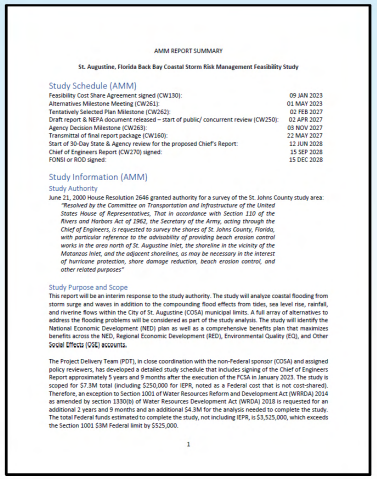


Slides

Study Issue Checklist



Report Summary



Please also submit: Summary of High Significance Comments

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PLACEMAT INFOGRAPHIC KEY POINTS

COMMAND VALIDATION MILESTONE (CVM)

Background
- ✓ Project Name
- ✓ Vicinity Map
- ✓ Study Authority
- ✓ Study Timeline

Plan Formulation
- ✓ Problems, Opportunities, Objectives, Constraints
- ✓ Alternatives
- ✓ Evaluation and Decision Criteria
- ✓ Any information important to the plan selection

Economic, Engineering and Environmental Considerations and Analysis
- ✓ Tribal Consultation

Tentatively Selected Plan
- ✓ Tentatively Selected Plan/Features & Map
- ✓ Project First Cost, Cost-Sharing
- ✓ O&M costs
- ✓ Benefits
- ✓ Comprehensive Accounting of Benefits
- ✓ Implementation Plan
- ✓ High or significant risks, and risk management strategy
- ✓ Environmental Mitigation
- ✓ Sea Level Change Considerations
- ✓ Trade-off Analysis
- ✓ NEPA Compliance
- ✓ Social Effects
- ✓ Key & Significant Comments received during review as well as path forward

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EVERY PROJECT WILL BE DIFFERENT –
THESE ARE SUGGESTIONS NOT REQUIREMENTS

EXAMPLE CSRM PLACEMAT SIDE 1

Puerto Rico Coastal Storm Risk Management Study, Puerto Rico

INTRODUCTION

BACKGROUND

The Puerto Rico Coastal initial study area considered locations around the Puerto Rico coastline identified by the Department of Natural and Environmental Resources (DNER), the non-federal sponsor, as having coastal damages and warranting investigation under a feasibility study. The study now focuses on finding CSRM solutions in the Ocean Park and Rincón planning reaches. It is expected that storm-induced erosion, wave attack and coastal flooding will continue damaging properties and structures, along with critical infrastructure, as well as reducing beach habitat and community resilience during the 50-year period of analysis which will be further exacerbated by sea level rise.

STUDY AUTHORIZATION AND PROCESS

Authority for the Puerto Rico Coastal study is granted under Section 204 of the Flood Control Act of 1970, Public Law 91-611. Study funds were appropriated under Bipartisan Budget Act of 2018 Public Law 115-123. The Department of Natural and Environmental Resources (DNER) is the non-federal sponsor for this study.

STUDY SCHEDULE

STUDY INITIATION, PLANNING AND TECHNICAL ANALYSES, DRAFT REPORT PUBLIC RELEASE	PLAN FORMULATION ENGINEERING AND ECONOMIC MODELING	TENTATIVELY SELECTED PLAN MILESTONE	DRAFT REPORT AND EA** PUBLIC, TECHNICAL, AND POLICY REVIEW	AGENCY DECISION MILESTONE	FINAL REPORT STATE AND AGENCY REVIEW	CHIEF OF ENGINEERS REPORT	PROJECT ENGINEERING AND DESIGN CONSTRUCTION
Oct 2018 to Nov 2020	Oct 2021*	Jan 2023	Mar 2023	Jul 2023	April 2024	Summer 2024	2024 through 2029***

*Additional Study Time Approved | ** National Environmental Policy Act Environmental Assessment | *** Contingent on Authorization, Appropriations & Real Estate Acquisition

PROBLEMS

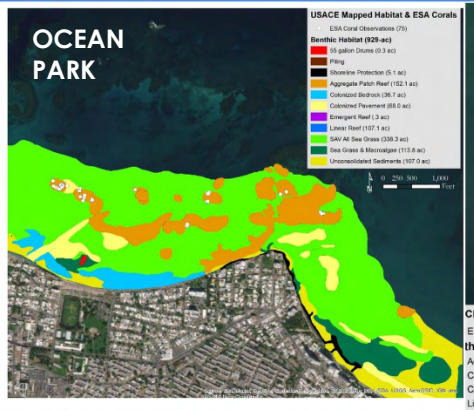
Coastal flooding, Ocean Park

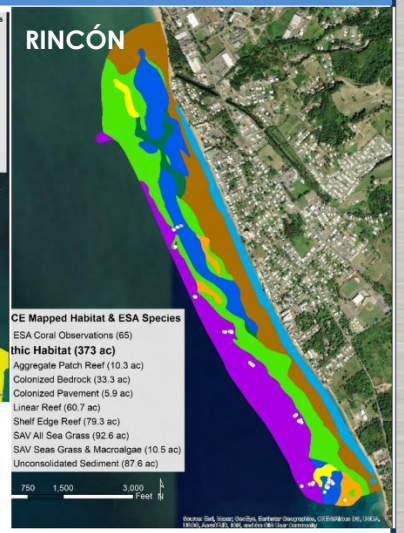
Wave attack, Ocean Park

Severe erosion & wave attack, Rincon

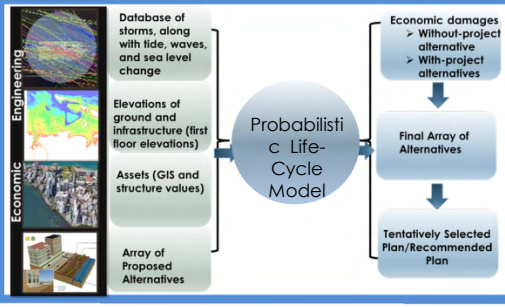
ENVIRONMENTAL & CULTURAL RESOURCES

The National Environmental Policy Act (NEPA) is a federal law enacted in 1969. As required by NEPA, the Corps has assessed potential environmental effects of alternatives, to include cultural resources and the human environment as well as environmental justice considerations. The findings are explained in this report. Side scan sonar results are shown to the right. These surveys and subsequent data have helped to inform plan formulation, to avoid and minimize impacts, as well as understand potential environmental benefits of alternatives.





ENGINEERING & ECONOMIC MODELING



The study team's engineers and economists analyzed how existing conditions performed under future extreme storms and various sea level change conditions. The Beach-fx model estimated FWOP and FWP coastal structure damages from erosion and wave attack over a future 50-year period. The G2CRM model estimated flood damages within 3,000 feet of the coast over the same 50-year period. Notably, HEC-RAS was used to compute overland flood depths and effectively force G2CRM hydraulically - a novel approach to USACE CSRM studies. Alternatives were then formulated using the intermediate SLC scenario model results after careful consideration and coordination with the VT and Climate CoP.

Plan Formulation Process

STUDY OBJECTIVES

Overall: Contribute to coastal resiliency in Puerto Rico

Primary Objectives:

Ocean Park Planning Reach

Manage the risk of damages to structures, property and critical infrastructure as a result of coastal flooding*, erosion, and wave attack

Rincón Planning Reach

Manage the risk of damages to structures, property and critical infrastructure as a result of coastal flooding, erosion*, and wave attack

*key problem/damage driver

Secondary objectives: Contribute to the 4 accounts of benefits, specific to each planning reach

1 EVALUATE AND COMPARE MEASURES

Initial criteria was ability of array of structural, non-structural and nature-based measures to effectively meet primary project objectives to reduce hazards in each reach

2 SCREEN MEASURES

Measures that did not most effectively meet primary project objectives, or were redundant when compared to more cost-effective measures, were screened

3 CARRY FORWARD MEASURES

SEAWALL/ FLOODWALL

ACQUISITION (NOT SHOWN)

ROCK REVETMENT

BEACH NOURISHMENT W/ VEGETATED DUNE AND/OR GROINS

4 FORMULATE ALTERNATIVES to reasonably maximize total benefits

Ocean Park Planning Reach

Alt 1: No Action
Alt 2: Floodwall
Alt 3: Floodwall and Beach/Dune
Alt 4: Extended Floodwall
Alt 5: Floodwall + Acquisition

Floodwall is at Barbosa Park and Skate Park locations and includes rock armoring; variations in floodwall alts 3,4,5 are at Barbosa Park only

Rincon Planning Reach

Alt 1: No Action
Alt 2: Revetment
Alt 3: Beach/Dune with Groins
Alt 4: Acquisition

5 EVALUATE & COMPARE ALTERNATIVES

Meet planning objectives
Primary and secondary

Long-term Considerations
Response/Ease of adaptability to sea level rise

Planning Constraints
Cannot violate Federal regulations or laws
Cannot incur greater life safety risk compared to FWOP

Evaluate 4 accounts of benefits
National Economic Development (NED)
Environmental Quality (EQ)
Other Social Effects (OSE)
Regional Economic Development (RED)

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EXAMPLE CSRM PLACEMAT SIDE 2

Ocean Park Recommended Plan – Alternative 5

- Floodwall (with rock armor) at Barbosa Park & Skate Park with Acquisition
- NED Exception for total benefits plan (NED BCR<1) approved 2 Feb 2024

MEASURES TO REDUCE PROBELMS

- Floodwall
- Acquisition (*required per real estate guidance; will be restored to natural sandy state for habitat and recreation)

PROBLEMS ADDRESSED

- Key points of coastal flooding
- Coastal flooding risk reduced in approximate area previously at risk*

Monitoring and Adaptive Management - Intermediate sea level change (SLC) curve was used to formulate the recommended plan. If high sea level scenarios are realized, coastal flooding could occur from multiple pathways. If thresholds outlined in Appendix I of this report are exceeded, it is recommended that a re-evaluation study is initiated to reformulate alternatives.

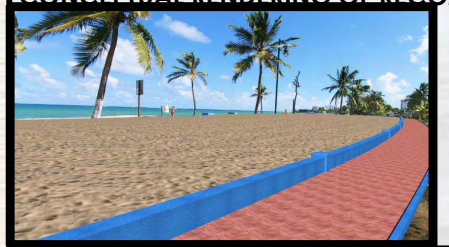
KEY FEATURES

- Floodwall and associated acquisition of property
  - Barbosa Park = Length = ~1600 feet, EL = 7 feet PRVD02 (1.0 to 5.5 feet above existing grade)
  - Skate Park = Length = ~1200 feet, EL = 7 feet PRVD02 (1.0 to 4.5 feet above existing grade)

KEY BENEFITS

- **Reduces risk of damages by $2,390,000 each year over 50 years from coastal flooding from ocean (blue outline)** (Reduces risk to hundreds of structures, including 7 structures identified as critical infrastructure)
- **Reduces risk to life loss attributed to coastal flooding**
- **Reduces business disruption by 6,878 days over 50 years**
- **Integrates function with continued recreation and beach access at Barbosa Park**
- **Supported by agencies - No environmental mitigation is required**
- **Creates habitat in acquired area (.27 average annual habitat units (AAHU))**
- **Preserves beach seaward of floodwall and will maintain access for beach and other recreation opportunities**

CONCEPTUAL RENDERING OF RECOMMENDED PLAN ALONG BEACH



Approx. Avg. 3 Ft high floodwall along beach in Barbosa Park will reduce coastal flooding, where access will be maintained for beach and other recreational opportunities

*Water levels vary with different storm events: I.e., a 1% Still Water Elevation Annual Exceedance Probability (AEP) + Intermediate SLC (2078), water level would be 5.5 Ft-PRVD-02

Rincón Recommended Plan – Alternative 4

- Acquisition
- NED Exception for total benefits plan (NED BCR<1) approved 8 May 2023

PROBLEMS ADDRESSED

- **Estimated Cost = $139,718,000**
- **AAEQ Cost = $5,353,000**
- **AAEQ Benefits = $649,000**
- **AAEQ net Benefits = -$4,704,000**
- **BCR = .1 without recreation; .2 w/ recreation**

- Homeowners have time and incentive to move before structural failure of home due to erosion
- Coordinated effort to remove structures and restore natural beach setback area, rather than ad hoc reactive approach as structures fail over time and devastation of community
- Natural beach restores and enhances habitat and revives cultural identify

Monitoring and Adaptive Management - There is a window of time when benefits will be realized, which is the benefit of the recommended plan. However, benefits may diminish over time during the 50-year period of analysis as properties behind the acquisition footprint become vulnerable, especially if high erosion rate scenarios or high sea level rates are realized. If thresholds outlined in Appendix I of this report are exceeded, it is recommended that a re-evaluation study is initiated to reformulate alternatives

KEY FEATURES

- Acquisition of property and structures most vulnerable to structural failure in the near future due to erosion
- After acquisition, homeowners be provided assistance with relocation to new properties
- Structures would be removed on acquired land, and it would be graded to return it to natural sandy state;
- Native vegetation plantings are included in this plan to increase habitat and resiliency
- Formulated for no environmental impacts

KEY BENEFITS

- **This is the only plan to gain benefits across the four accounts.**
- **Increases beach related recreation by $460,000 (AAEQ)**
- **Maintains $3,372,000 AAEQ worth of local tourism spending**
- **Creates ~17 acres of beach habitat (estimated 4.14 AAHU)**
- **This is a non-structural/nature-based plan and is the most effective alternative**

The Vision: The proposed plan is a reset of the Rincón coastline. Through the acquisition of vulnerable structures and properties, in concert with the establishment and enforcement of a coastal regulatory program by the local government, the newly established shoreline will function as a buffer, allowing time and space for the NFS to manage the shoreline and increase coastal resiliency into the future.

EXAMPLE FRM PLACEMAT SIDE 1

June 2025

Amite River & Tributaries Study

Authorization: Bipartisan Budget Act of 2018, Division B, Subdivision 1, H. R. 1892—13, Title IV, Corps of Engineers-Civil, Department of the Army, Investigations

Non-Federal Sponsor: The NFS is the State of Louisiana, acting by and through, the Louisiana Department of Transportation and Development (LADOTD).

Study Area: Amite River Basin and Tributaries

Mississippi Counties:

- Amite
- Lincoln
- Franklin
- Ascension

Louisiana Parishes: (# of elevations / floodproofing)

- East Feliciana (39)
- St. Helena (4)
- East Baton Rouge (607)
- Livingston (351)
- Iberville
- St. James
- St. John the Baptist
- Ascension (1050)

Size: 2,200 square miles

Population: 800,000 with more than half of the population living in East Baton Rouge parish.

Over 260,000 structures and of those, about 80% are in the middle of the study basin.

Study Purpose: To investigate flood risk reduction solutions to reduce flood damages caused by rainfall.

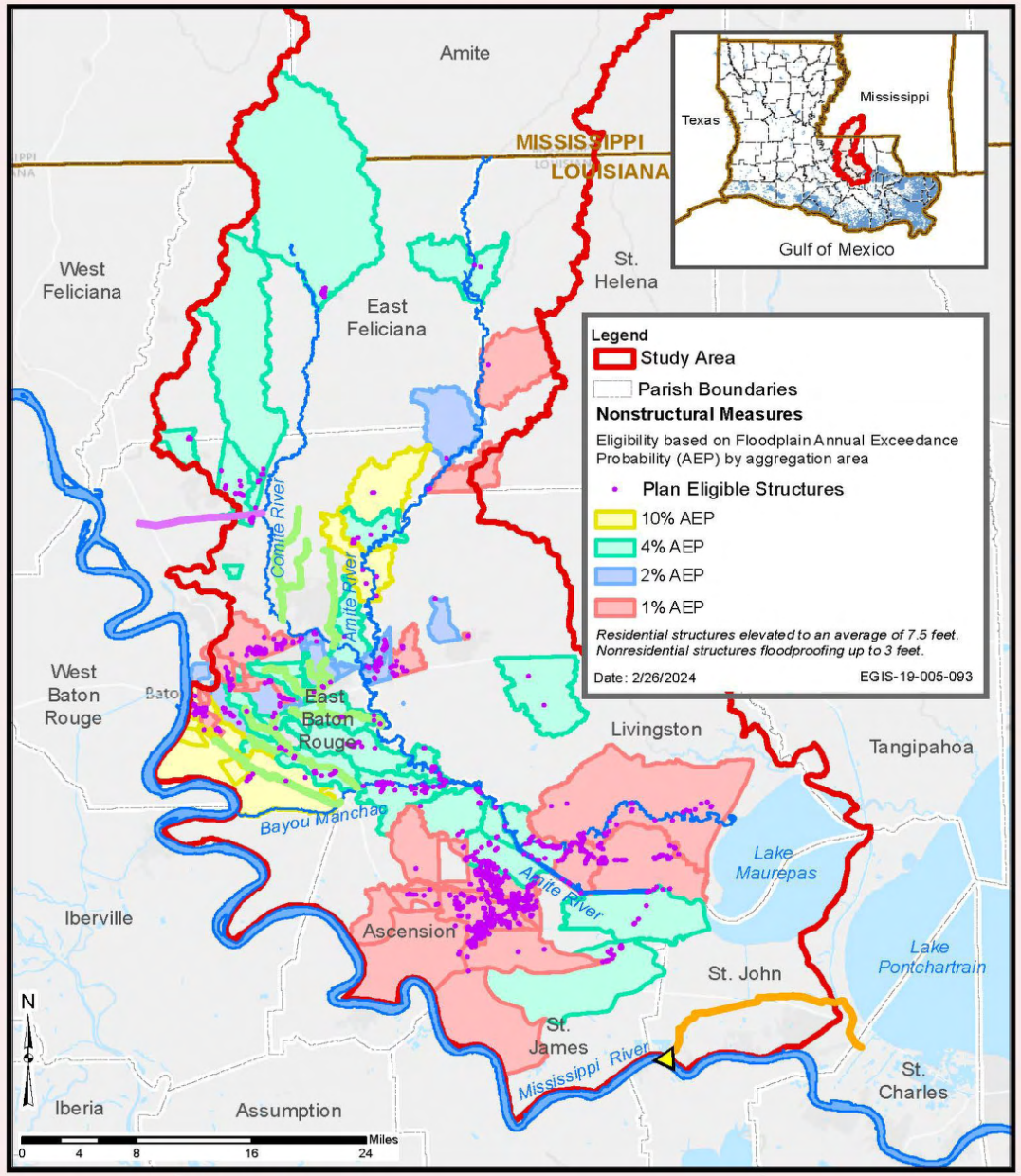
Flooding Sources: Upper basin is dominated by rainfall and riverine flooding Lower to middle basin is a mix, with backwater flooding and storm surge.

Formulation Strategy: Alternatives developed were limited to FRM. Storm surge risk is included for nonstructural evaluation as residual risk. Initial TSP (Dry Dam) was removed from consideration.

Study Objectives

1. Risk reduction to life, land, property, and infrastructure from flooding
2. Reduce flood damages to residential / nonresidential structures (industrial, commercial, agricultural)
3. Reduce interruption to the nation's transportation corridors, particularly the I-10/I-12 infrastructure
4. Reduce risks to critical infrastructure (e.g. medical centers, schools, transportation etc.).

Amite Study: Total Net Benefits Plan



EXAMPLE FRM PLACEMAT SIDE 2

Amite River & Tributaries Study

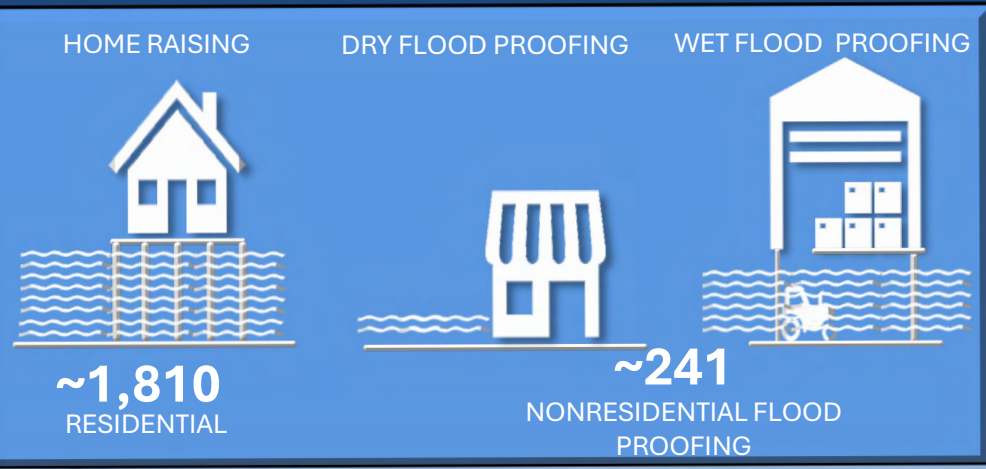
June 2025

Components of Recommended Plan

- **Home Raising -** 1,810
- **Dry & Wet Floodproofing -** 241
- **Total -** 2,051
- **First Cost -** $1.05 B

A NED Policy Exception was approved by the ASA(CW) on August 23, 2024. The basis for the ASA decision was that comprehensive net benefits are accounted for under Other Social Effects.

Preliminary eligible structures were determined based on the predicted 2078 rainfall/riverine floodplain and were optimized using damages from the predominate condition.



Design Maturity

- RP Design Maturity is 10%, corresponding to a Class 3 design effort
- Feasibility level design was achieved using a **4-step approach**:
  1. **Evaluate the structural inventory** using Geospatial Engineering Mapping and statistical analysis
  2. **Assess regional geologic conditions** to establish expected depth to Pleistocene layer based on Fisk regional geology maps
  3. **Quantify materials and equipment** required to perform residential raising. Inventory sorted in categories of 1 & 2-story buildings, slab & pier foundations, and mobile homes
  4. **Develop general lift designs and typical floodproofing sections**

Engineering Design & Cost Highlights

- Design-Build Implementation Plan: Coordination with Southwest Coastal Project and the July 22, 2024, NS Guidance for Nonstructural Project Planning and Implementation
- 60% assurance of the RP IAW ER 1105-2-101 for 0.01 AEP (87% for +1', 91% for 2')
- Includes 14% PED, 8% S&A
- Construction contingency is 42% based on CSRA evaluated design maturity.
- Overall project contingency is 40.7% (including Real Estate & Cultural Resources)
- Class 3 Level Cost certified by Walla Walla on August 26, 2024.
- Cost share: 35% Non-Federal, 65% Federal

Benefits

- **Reduce** annual flood damages by **$58,000,000**, equivalent to approximately 30% of without-project damages
  - An additional 20-30% are heavily addressed by Louisiana Watershed Initiative, which contributes **$400,000,000** for 34 state projects
- **Net annual benefits** - $17,000,000
- **Benefit to Cost Ratio** – 1.42
- Total net benefits plan adds **308 additional structures** to the NED plan to provide relief **to low income** and **socially vulnerable** communities.

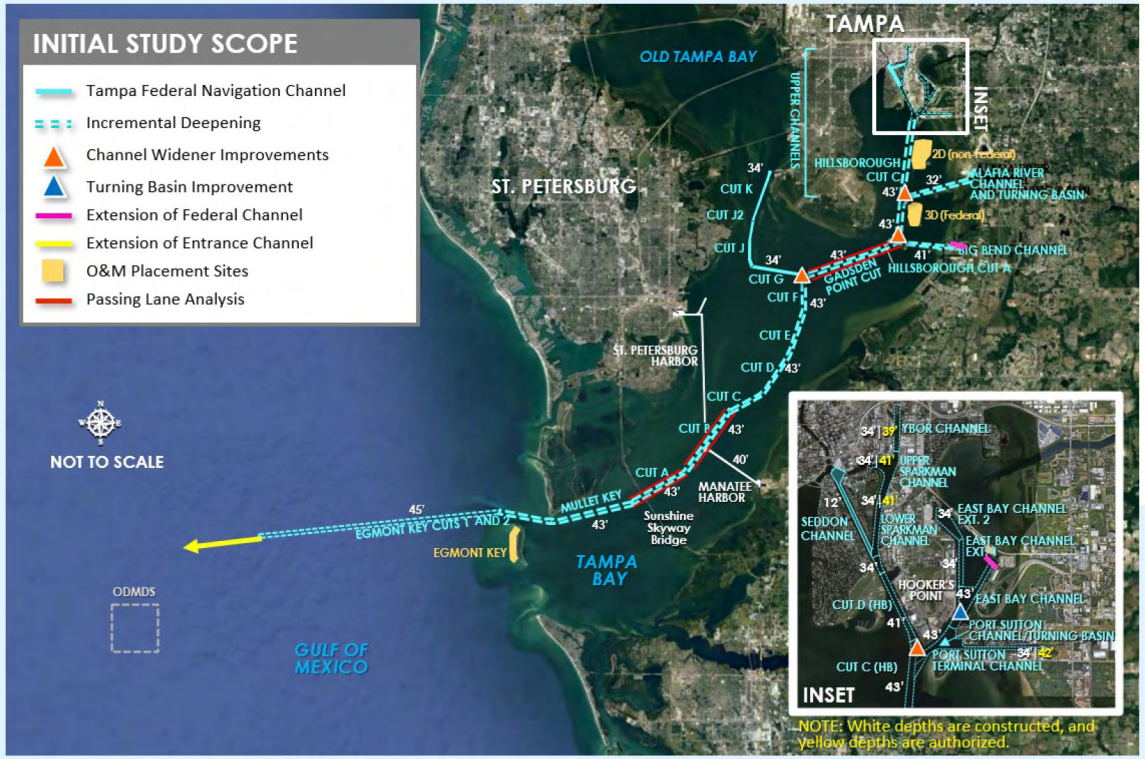
TAMPA HARBOR NAVIGATION IMPROVEMENT STUDY | GENERAL REEVALUATION REPORT

EXAMPLE NAV PLACEMAT SIDE 1

STUDY OVERVIEW

USACE NAVIGATION MISSION: To provide safe, reliable, and efficient waterborne transportation systems, stemming from the commerce clause of the United States Constitution.

NON-FEDERAL SPONSOR: Port Tampa Bay



STUDY AUTHORITY

The House of Representatives Congressional Resolution 2533, 105th Congress (1997):

"Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That the Secretary of the Army review the report of the Chief of Engineers on the Tampa Harbor, Florida, published as House Document 401, 91st Congress, Second Session and other pertinent reports, with a view of determining if the authorized project should be modified in any way at this time, with particular reference to a deep draft anchorage."

STUDY SCHEDULE (3 YEARS)

The Tampa Harbor Navigation Improvement Study is a 3-year, $4.5M study. The team maintained the study schedule and budget as approved per the Vertical Team Alignment Memorandum on 10-JUN-2022 from the Feasibility Cost Sharing Agreement (FCSA) through the Chief's Report.

SCOPING (1)
- ALTERNATIVES MILESTONE 12/17/2021
- FCSA: 8/18/2021

ALTERNATIVE FORMULATION & ANALYSIS (2)
- TENTATIVELY SELECTED PLAN (TSP) MILESTONE: 5/30/2023
- CONCURRENT AGENCY, POLICY, AND PUBLIC REVIEWS: 7/24/2023

FEASIBILITY-LEVEL ANALYSIS (3)
- AGENCY DECISION MILESTONE (ADM) 11/29/2023
- SAJ TRANSMITTAL TO SAD 4/12/2024

CHIEF'S REPORT (4)
- CHIEF'S REPORT 8/16/2024

PLAN FORMULATION

PROBLEMS

Problem 1. Transportation Inefficiencies

1. Vessels experience transit delays due to depth constraints requiring lightloading or waiting on tide; and
2. Existing depths limit transition to larger fleet, preventing the ability to benefit from economies of scale.

Problem 2. Maneuverability Concerns

1. Existing width prevents two-way traffic;
2. Wideners do not allow efficient movement; and
3. Turning basins are not large enough and require vessels to reverse into berths.

OPPORTUNITIES

Opportunities existing to create future desirable conditions, including 1) reducing the frequency of maintenance dredging intervals; 2) expand habitat through the beneficial use of dredged materials; and 3) create economic efficiencies by providing material for port infrastructure and public projects.

OBJECTIVES

Primary Objective: Reduce marine transportation costs and operational inefficiencies for tankers, bulk carriers, and general cargo ships using Tampa Harbor.

Secondary Objective: Support habitat creation and increase recreational opportunities through maximizing the beneficial use of dredged material.

Primary and secondary objectives are for the 50-year period of analysis.

CONSTRAINTS

- Comply with maritime safety requirements (e.g., USCG safety clearances);
- Avoid unacceptable impacts to important natural, cultural, and historical resources; and
- Avoid unacceptable impacts to landside infrastructure.

A **specific constraint** to the study area is the air draft restriction (affecting cruises only) under the Sunshine Skyway bridge (180 feet air draft). These would generally be a constraint for any construction equipment and are a constraint to larger cruise ships.

ALTERNATIVE FORMULATION

NON-STRUCTURAL MEASURES	STRUCTURAL MEASURES
Congestions Fees*	Incremental Deepening to Reduce Light Loading^
Light Loading*	Incremental Deepening (with Narrowing) to Reduce Light Loading^
High-Tide Transiting*	Incremental Widening Inner Channels for Future Fleet†
Improve Traffic Management Systems*	Widening Turning Basins^
Use of Tugs*	Widening Entrance Channel^
Move Range Markers/Buoys*	Widen for Passing Lanes^
	Anchorage Areas†
	Widen for Transitions^
	Advance Maintenance**
	Beneficial use of dredged material **

* Already implemented to fullest extent by NFS
** Measure that could meet opportunities
† Screened out as these do not address the most immediate problems in the study area
^ Carried forward to plan formulation

FINAL ARRAY OF ALTERNATIVES

Alternative 1: No Action

Alternative 2: Incremental Deepening of Main Stem Channel* (Egmont Key Cut 1 to Hooker's Point) and Big Bend Channel + Upper Channel Deepening + Federal Channel Modifications + Advanced Maintenance + BUDM of Dredged Material. *Depth Variations:* 45 feet; 46 feet; and 47 feet.

Alternative 3: Alternative 2 + Passing Lanes:
3a. Passing Lane at Cut B
3b. Passing Lane at Gadsden Point Cut
3c. Passing Lanes at Cut B and Gadsden Point Cut

* Note that all deepening alternatives included an additional two feet of depth for the entrance cuts to account for more pronounced wind, waves, and tides present in the Gulf of Mexico

EXAMPLE NAV PLACEMAT SIDE 2

RECOMMENDED PLAN

The Recommended Plan is the LPP and includes the following GNF:

Deepening Main Stem Cuts to 47': Egmont Cuts 1 and 2 (deepened to 49' to account for more pronounced wind, waves, and tides present in the Gulf of Mexico), Mullet Key Cut, Cuts A to F (Tampa Bay), Cuts A to C (Hillsborough Bay), Big Bend Channel, Big Bend Channel Extension, Big Bend Turning Basin, Cut D (Hillsborough Bay) to Station 61+30, and East Bay Channel

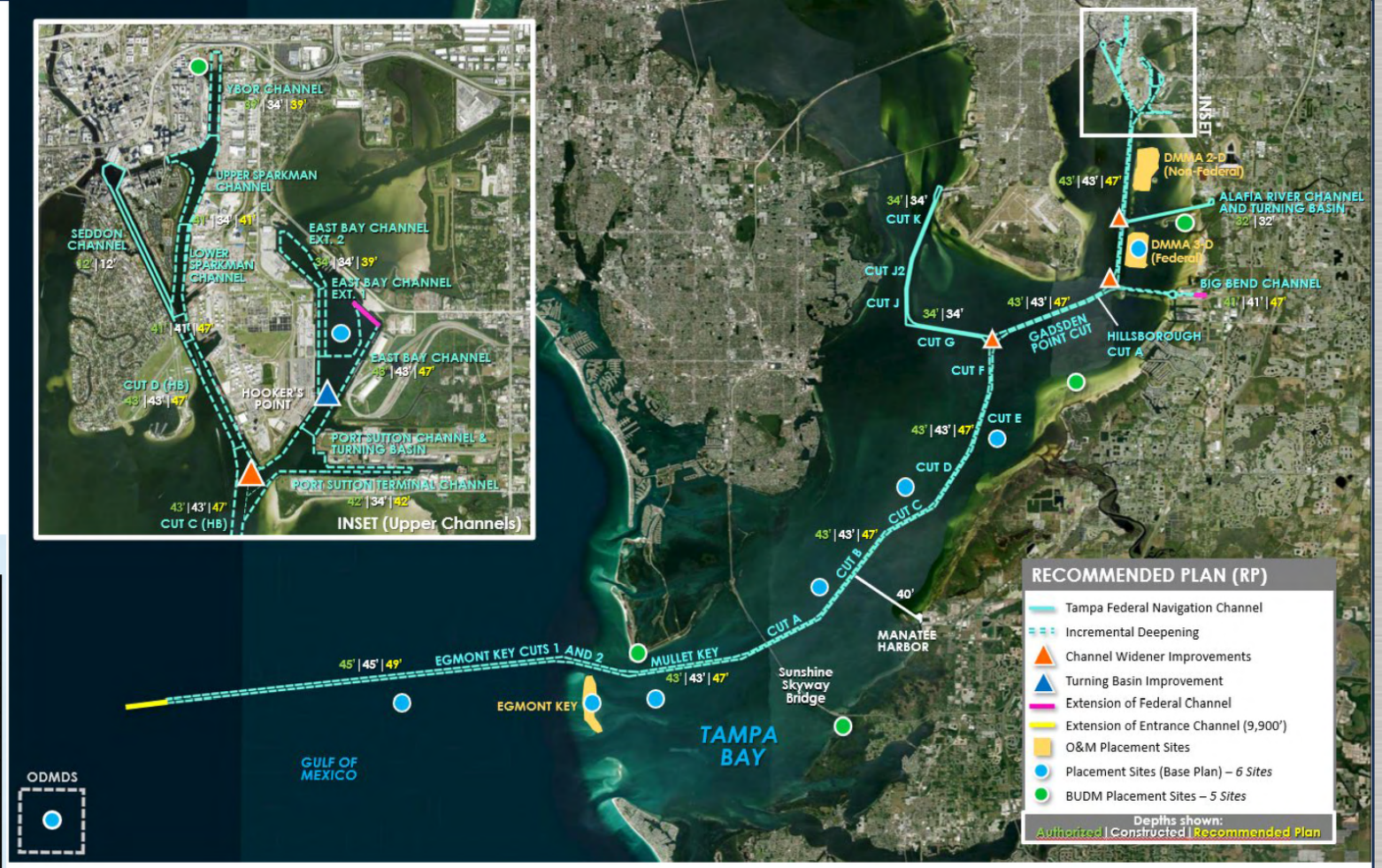
Deepening Upper Channels: Lower Sparkman Channel to Cut D (Hillsborough Bay) at Station 61+30 (41'), Upper Sparkman Channel (41'), Ybor Channel (39'), Port Sutton Terminal Channel (42'), East Bay Extensions 1 and 2 (39')

Entrance Channel Extension: The entrance channel will be extended 9,900' to access natural depths of 49' consistent with the depth of Egmont Cuts 1 and 2.

Extension of Federal Channel: Two (2) areas previously constructed by the NFS will be deepened to 47' and incorporated into the federal project to access end benefits from these berths. These areas are located at Big Bend (east of the turning basin and existing channel extension) and at the eastern extent of the East Bay Channel.

Turn Widener Improvements: Wideners to accommodate safe navigation of channel intersections will be expanded at four locations: 1) Cut F (TB) to Gadsden Point Cut; 2) entrance to the Big Bend Channel; 3) Cut C (HB) to Alafia Channel; and 4) Hooker's Point/Port Sutton Channel.

Turning Basin Improvements: Expand the northern extent of the East Bay Turning Basin to accommodate the design vessel.



ECONOMIC SUMMARY OF THE RECOMMENDED PLAN

Summary of Recommended Plan Costs October 2023 (FY24) Price Level	
General Navigation Features (GNF)	
Dredging Main Stem[1] to 45 ft.	$507,953,000
Dredging Upper Channels	$130,205,000
Dredging Main Stem[1] two additional feet to 47 ft.	$427,983,000
Subtotal of GNF	$1,066,141,000
LERR Costs	
Lands, Easements, Rights of Way, and Relocations (LERR)[2]	$168,000
Associated Costs	
Aids to Navigation	*minimal*
Local Service Facility Construction and Berthing Area Costs (LSF)	$316,302,000
Utility Relocations	$12,557,000
TOTAL PROJECT FIRST COSTS	**$1,395,168,000**

NOTES:

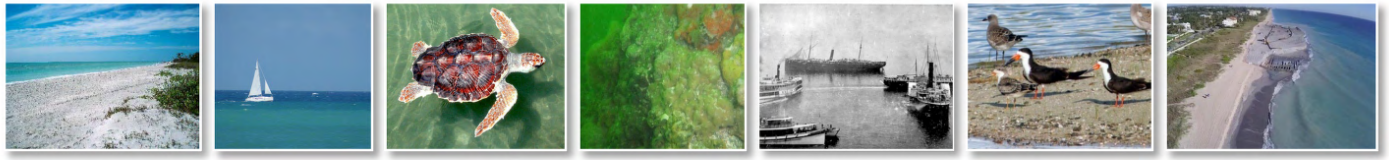
1. "Main Stem" includes Entrance Cuts through Cut D (HB), Port Sutton, East Bay Channels, Big Bend Channels, and Turn Wideners to Accommodate Design Vessel.
2. Real Estate (RE) administrative costs. There are no actual lands and damages, but per USACE regulations, RE administrative costs are placed in the 01 account.
3. Final total may differ slightly from TPCS due to rounding errors.

FORMULATED IN CONSIDERATION OF THE FOUR P&G ACCOUNTS

ENVIRONMENTAL COMPLIANCE

- An Environmental Impact Statement was integrated into the Feasibility Report in compliance with the National Environmental Policy Act (NEPA). The environmental effects of the Focused Array of Alternatives were analyzed.
- National Marine Fisheries Service participated as a cooperating agency in the NEPA process.
- Coordination and consultation under all major laws was conducted and completed.
- A project website was developed to relay information: https://www.saj.usace.army.mil/Tampa-Harbor/
- Extensive coordination with the public occurred during this study.

NEPA Scoping Meeting:	Nov 18, 2021
Public Comment Period:	Jul 28, 2023, to Sep 11, 2023
Public Meetings on Draft Report:	Aug 16 and 17, 2023
Stakeholder Presentations:	Aug 16, 2023 (Tampa Bay Regional Planning Council)



SITE VISIT | COMMAND VALIDATION MILESTONE (CVM)

- Recommended to have site visit the day before the CVM; or when/if feasible have them both the same day.
- Visit key areas within the project footprint.
- Discuss primary risks.
- Discuss project commitments with NFS.
- Placemat is provided as a reference for map of study area and key facts.
- Team is empowered to speak to Chief of Engineers about key project details.

SITE VISIT | COMMAND VALIDATION MILESTONE (CVM)

- Do not exceed 12 people.
- Example/potential invitees (tailor to project details):
  - Chief of Engineers (or as delegated) and Chief's support staff
  - District Commander
  - MSC Commander
  - Project Manager
  - Lead Planner
  - Engineering Technical Lead
  - Lead Economist
  - Lead Environmental
  - Lead Real Estate
  - District Planning Chief
  - Non-federal sponsor representative
  - P&LCR Review manager or MSC representative

MEETING | COMMAND VALIDATION MILESTONE (CVM)

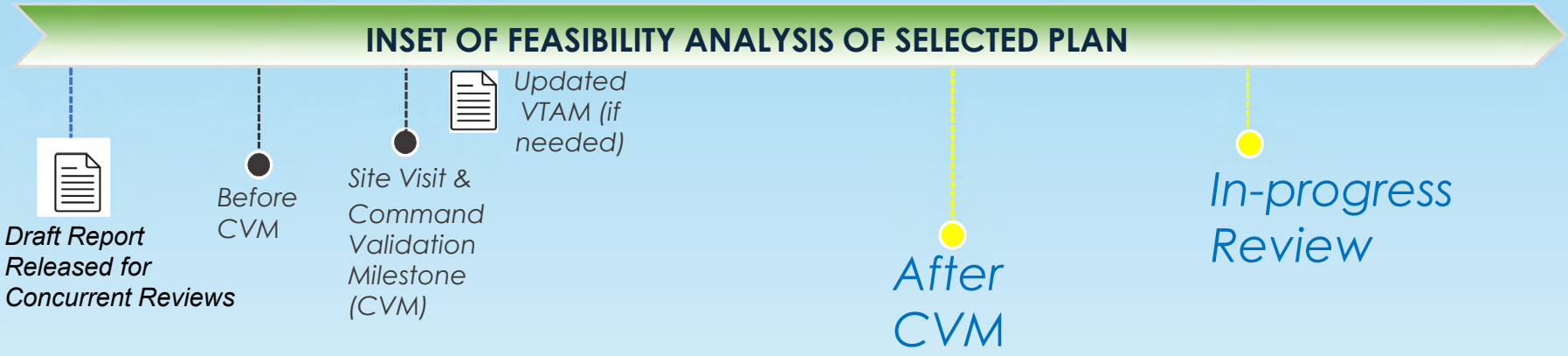
- Can be held in District or other location near site as needed with in-person site visit attendees.
- Recommended include at a minimum:
  - Site visit participants in-person
  - Key members of the team at all levels participating online (see Table 2)
- Placemat used as primary briefing tool, and meeting will include discussion of significant comments from all reviews and proposed preliminary comment resolution, as well as key technical and policy risks, relative to scope and schedule moving forward.
- Milestone meeting with requirements in paragraph 4-4 of EP 1105-2-61.
- HQ travel is not a project/District cost. PDT travel is a project cost.

MEETING | COMMAND VALIDATION MILESTONE (CVM)

Table 2 - CVM Meeting Participants

Required meeting participants	Invited meeting participants
▪ Decision maker ▪ MSC Commander ▪ MSC Chief of Planning ▪ MSC Chief of Engineering & Construction ▪ District Planning Chief ▪ District Chief of Engineering & Construction ▪ Planning Center of Expertise ▪ Policy and legal compliance review manager ▪ Non-Federal Sponsor ▪ District project delivery team (PDT) – Project Manager, Lead Planner, and Engineering Technical Lead	▪ Office of the ASA(CW) ▪ Agency Technical Review team lead ▪ MSC Chief of Operations ▪ MSC or Headquarters Office of Counsel ▪ Any other MSC or HQ representative from a discipline with high potential impact to the study and/or recommended project

AFTER | COMMAND VALIDATION MILESTONE (CVM)



PDT TASKS AFTER CVM

- Draft PDT responses in PGM and DrChecks (ATR)
- IEPR complete
- Receive concurrence from SHPO
- PMP, Review plan & Study issue checklist updated
- Policy exceptions submitted to ASA(CW)

In-Progress Review (~3-6 months after CVM)

- Held with Vertical Team
- Ensures comment resolution
- Led by District Planning Chief

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Feasibility Study Timeline and Milestones: Per our Guidance

PLANNING Community of Practice

Key Decision and Product Milestones in a 3-Year, $3 Million, Vertically Coordinated Study (3x3x3)

~3 months	~9 to 18 months	~ 12 months	~ 3 months
~$200K	~$1.5M	~$1M	~$300K

Scoping & Alt Formulation → **Alternative Evaluation & Analysis** → **Feasibility Analysis of Selected Plan** → **Washington-Level Review**

- *Inter-agency Meeting*
- *Section 1002 Letter to NFS (<90 Days After FCSA Executed)*
- *Alternative Milestone*
- *Vertical Team Alignment Memorandum (VTAM)*
- *Tentatively Selected Plan Milestone*
- *Draft Report Released for Concurrent Reviews*
- *Agency Decision Milestone*
- *District Final Report Package Transmittal to HQ*
- *Draft Chief's Report (State & Agency Review)*
- *Chief's/ Director's Report Signed*
- *Site Visit by GC, DCG-CEO or DCW*

INSET OF FEASIBILITY ANALYSIS OF SELECTED PLAN

Updated VTAM (if needed)

Command Validation Milestone (CVM) & Site Visit

BEFORE CVM:
- *Completion of ATR, Public/agency review, P&LCR*
- *Critical or high significance comments from all reviews compiled, assessed and actions to resolve*

DURING CVM:
- *Milestone meeting with requirements in para 4-4 EP 1105-2-61*
- *Limited list of required participants from all key disciplines (Table 2)*
- *Placemat used as briefing tool, will discuss significant comments*
- *Site visit (before or concurrent with CVM), ~12 USACE personnel with project placemat*

AFTER CVM:
- *Draft PDT responses in PGM*
- *IEPR complete*
- *Receive concurrence from SHPO*
- *PMP, Review plan & Study issue checklist updated*
- *Policy exceptions submitted to ASA(CW)*

In-progress Review
- *Held with VT*
- *Ensures comment resolution*
- *Led by District Planning Chief*

KEY
- *Decision Milestones*
- *Supporting Meetings*
- *Product Milestones*
- *NEW checkpoints*
- *Milestones removed*

OVERVIEW | VERTICAL TEAM ALIGNMENT MEMORANDUM (VTAM) GUIDANCE MAY 2025

- ✓ This guidance applies to VTAMs prepared for all new planning phase studies, or ongoing planning studies with changed scope, schedule, or funding streams.
- ✓ The VTAM requirement applies to all new and ongoing **feasibility, post-authorization, and watershed studies.**
- ✓ Applicability inquiries should be raised to the vertical team.
- ✓ Effective immediately.

NO VTAM REQUIRED

- ➢ Continuing Authorities Program projects and programmatic Tribal Partnership Program studies are not required to prepare a VTAM.

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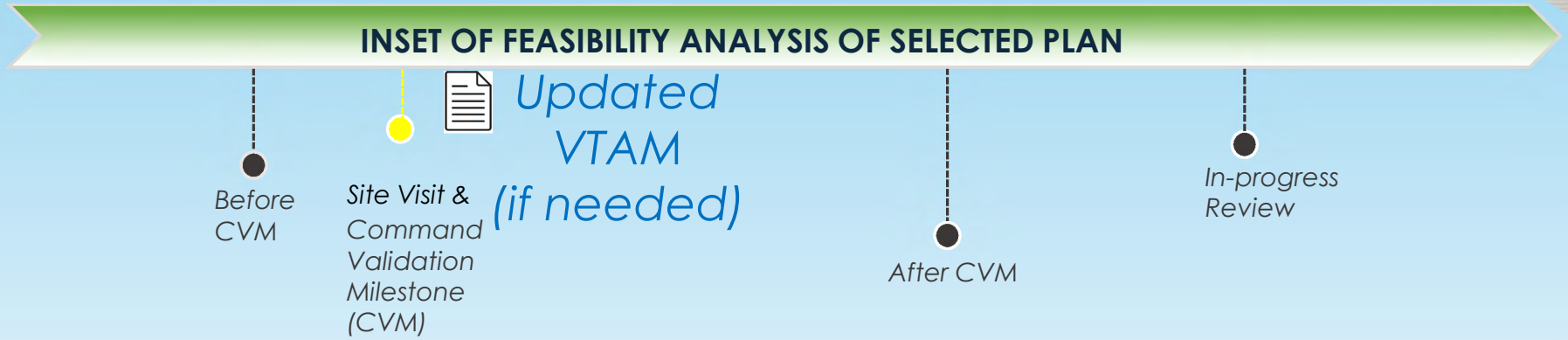
TIMING | VERTICAL TEAM ALIGNMENT MEMORANDUM (VTAM) GUIDANCE MAY 2025



Formalize and normalize an opportunity to adjust the schedule and budget

- Second VTAM is acceptable, and especially likely on highly complex projects.
- Command Validation Milestone. The study team will revisit the original VTAM immediately following the Command Validation Milestone and, if necessary, develop an updated VTAM.

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TEMPLATE | VERTICAL TEAM ALIGNMENT MEMORANDUM (VTAM) GUIDANCE MAY 2025

Simplified VTAM template – Focus on schedule and budget decisions and funding strategy. *Remove PMP and risk register as submittals. Remove other information from VTAM.*

1. References
2. Purpose
3. Background
4. Study Scope
5. Study Schedule and Funding Stream
6. 3x3x3 compliance
7. Risk and uncertainty (signature certifies risk managed)
8. PMP (signature certifies PMP complete
9. Review Plan – signature certifies approved
10. Design Maturity
11. Vertical Team Alignment

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PROCESS | VERTICAL TEAM ALIGNMENT MEMORANDUM (VTAM) GUIDANCE MAY 2025

Streamline VTAM process

- 3x3 Compliant VTAM can be delegated to be signed by MSC Chief of Planning
- No VTAM addendum is needed for changes that do not impact final date on schedule or total budget
- Coordinate with Planning Portfolio Manager (HQ Planning, Policy Advisers) for change to funding stream
- Once received at Headquarters there will be no additional HQ reviews, Senior Leaders panel, nor routing of a VTAM.
- The vertical alignment is confirmed by the MSC Commander's signature and will not be revisited unless directed by the DCG-CEO.

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PROCESS | VERTICAL TEAM ALIGNMENT MEMORANDUM (VTAM) GUIDANCE MAY 2025

VTAM Review Process Enhancements - Review process required to be addressed in review plan with specific durations, format and decision documentation.

Risk-informed scoping -

- ***All VTAMs will include a 3x3 compliant plan***
- If a plan that exceeds 3x3 is being recommended, that will be included as an additional Course of Action
- VTAMs supporting an alternative study scope (COA beyond 3 years and $3 million total study cost) will be used to support the exception process.
- In addition to the VTAM, the MSC will prepare and provide other elements of the exception package: the PMP; a report summary; the study risk register; briefing slides; and a statement that the non-federal sponsor has been consulted and concurs with the schedule and funding stream. See paragraph 2-12 of EP 1105-2-61.

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SUBMITTAL | VERTICAL TEAM ALIGNMENT MEMORANDUM (VTAM) GUIDANCE MAY 2025

VTAM Submittals

- Feasibility studies, LRRs, and GRRs – within 60 days of AMM
- Validation studies – within 120 days of study initiation
- Watershed studies – within 6 months of study initiation

Delays

- AMM delayed beyond nine months of study initiation – Communicate to Chief, OWPR
- Delays in VTAM submittals – District Planning Chief notifies Chief, OWPR
- VTAM submittals will not be delayed more than 30 days beyond the timelines

Design Maturity

- Signature of the VTAM certifies the District Chief of Engineering and Construction have confirmed there are sufficient resources and schedule to achieve an appropriate design maturity
- Will result in a class 3 estimate that includes full scope of the design in the final feasibility report
- References: ER 1110-2-1302 and CECW-EC memorandum, Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering, dated 5 June 2023

HQ Notification

- Not later than 120 days before approved study completion date, MSC Commander must provide either:
  - ✓ An email to the DCG-CEO with confirmation that the study will be completed in approved timeline OR
  - ✓ The firm date that an updated, signed VTAM and policy exception package for additional time and/or funding will be transmitted to HQ

Continued Funding

- ✓ If the study will not be completed within the approved timeline, MSC Commander will provide a memo to DCG-CEO that includes a formal request to continue to obligate or expend funds after approved completion date

QUESTIONS?