Draft Final Integrated Interim Response Feasibility Report and Environmental Assessment

NEW YORK-NEW JERSEY HARBOR AND TRIBUTARIES COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY

APPENDIX C
COST ENGINEERING

March 2026

WALLA WALLA COST ENGINEERING MANDATORY CENTER OF EXPERTISE

COST AGENCY TECHNICAL REVIEW

CERTIFICATION STATEMENT

For Project No. 404586

NAN – New York-New Jersey Harbor and Tributaries
Coastal Storm Risk Management
Feasibility Study

The New York-New Jersey Harbor and Tributaries CSRM Feasibility Study, as presented by New York District, has undergone a successful Cost Agency Technical Review (Cost ATR), performed by the Walla Walla District Cost Engineering Mandatory Center of Expertise (Cost MCX) team. The Cost ATR included study of the project scope, report, cost estimates, schedules, escalation, and risk-based contingencies. This certification signifies the products meet the quality standards as prescribed in ER 1110-2-1150 Engineering and Design for Civil Works Projects and ER 1110-2-1302 Civil Works Cost Engineering.

As of March 9, 2026, the Cost MCX certifies the estimated total project cost:

FY26 Project First Cost:	$278,334,000
Fully Funded Amount:	$351,552,000

Cost Certification assumes Efficient Implementation (Funding). It remains the responsibility of the District to correctly reflect these cost values within the Final Report and to implement effective project management controls and implementation procedures including risk management through the period of Federal Participation.

Digitally signed by
NELSON.DEREK.DU
ANE.1235538233

Derek D. Nelson, TCCC
Chief, Cost Engineering MCX
Walla Walla District

****** TOTAL PROJECT COST SUMMARY ******

PROJECT: **New York – New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study**
PROJECT NO: P2 xxxxxx
LOCATION: East Riser, Bergen County, NJ

DISTRICT: **New York District** **PREPARED:** **2/26/2026**
POC: **CHIEF, COST ENGINEERING, Anthony Schiano**

This Estimate reflects the scope and schedule in report; Feasibility Submission Report January 2026

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)						TOTAL PROJECT COST (FULLY FUNDED)				
						Program Year (Budget EC): 2026										
						Effective Price Level Date: 1 OCT 25										
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Spent Thru: 1-Oct-25 ($K)	TOTAL FIRST COST ($K)	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)	
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*		*K*	*L*	*M*	*N*	*O*	
	EAST RISER															
02	RELOCATIONS	$14,808	$3,998	27.0%	$18,806	0.0%	$14,808	$3,998	$18,806	$0	$18,806	28.5%	$19,036	$5,140		$24,175
08	ROADS, RAILROADS & BRIDGES	$8,237	$2,224	27.0%	$10,461	0.0%	$8,237	$2,224	$10,461	$0	$10,461	28.5%	$10,588	$2,859		$13,447
09	CHANNELS & CANALS	$114,020	$30,785	27.0%	$144,806	0.0%	$114,020	$30,785	$144,806	$0	$144,806	28.5%	$146,572	$39,574		$186,146
19	BUILDINGS, GROUNDS & UTILITIES	$1,388	$375	27.0%	$1,763	0.0%	$1,388	$375	$1,763	$0	$1,763	28.5%	$1,784	$482		$2,266
	INITIAL CONSTRUCTION ESTIMATE TOTALS:	$138,454	$37,382		$175,836	0.0%	$138,454	$37,382	$175,836	$0	$175,836	28.5%	$177,980	$48,055		$226,035
01	LANDS AND DAMAGES	$15,365	$7,683	50.0%	$23,048	0.0%	$15,365	$7,683	$23,048	$0	$23,048	15.3%	$17,709	$8,855		$26,564
30	PLANNING, ENGINEERING & DESIGN	$42,444	$11,510	27.1%	$53,954	0.0%	$42,444	$11,510	$53,954	$0	$53,954	19.2%	$50,596	$13,719		$64,315
31	CONSTRUCTION MANAGEMENT	$20,076	$5,420	27.0%	$25,496	0.0%	$20,076	$5,420	$25,496	$0	$25,496	35.9%	$27,274	$7,364		$34,638
	PROJECT COST TOTALS:	$216,339	$61,995	28.7%	$278,334		$216,339	$61,995	**$278,334**	$0	**$278,334**	26.3%	$273,559	$77,993		$351,552

_____ **CHIEF, COST ENGINEERING, Anthony Schiano**

_____ **PROJECT MANAGER, Jamal Sulayman**

_____ **CHIEF, REAL ESTATE, Helen Luke**

_____ **CHIEF, PLANNING, Jodi McDonald**

_____ **CHIEF, ENGINEERING, Encer Shaffer**

_____ **CHIEF, OPERATIONS, Thomas Creamer**

_____ **CHIEF, CONSTRUCTION, Richard English**

_____ **CHIEF, CONTRACTING, Francis Cashman**

_____ **CHIEF, PM-PB, Joseph Seebode**

_____ **CHIEF, DPM, Joseph Seebode**

ESTIMATED TOTAL INITIAL PROJECT COST: **$175,836**

ESTIMATED TOTAL PROJECT COST: **$351,552**

$97,416.79 **35% Cost Share:** **$ 123,043**
$180,916.89 **65% Cost Share:** **$ 228,509**

****** TOTAL PROJECT COST SUMMARY ******

****** CONTRACT COST SUMMARY ******

PROJECT: New York – New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study - DISTRICT: New York District PREPARED: 2/26/2026
LOCATION: East Riser, Bergen County, NJ POC: CHIEF, COST ENGINEERING, Anthony Schiano
This Estimate reflects the scope and schedule in report; Feasibility Submission Report January 2026

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Jan-26 Effective Price Level: 1-Oct-25				Program Year (Budget EC): 2026 Effective Price Level Date: 1 OCT 25								
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	RISK BASED CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	CONTRACT 1 - EAST RISER													
02	RELOCATIONS	$14,808	$3,998	27.0%	$18,806	0.0%	$14,808	$3,998	$18,806	2035Q4	28.5%	$19,036	$5,140	$24,175
08	ROADS, RAILROADS & BRIDGES	$8,237	$2,224	27.0%	$10,461	0.0%	$8,237	$2,224	$10,461	2035Q4	28.5%	$10,588	$2,859	$13,447
09	CHANNELS & CANALS	$114,020	$30,785	27.0%	$144,806	0.0%	$114,020	$30,785	$144,806	2035Q4	28.5%	$146,572	$39,574	$186,146
19	BUILDINGS, GROUNDS & UTILITIES	$1,388	$375	27.0%	$1,763	0.0%	$1,388	$375	$1,763	2035Q4	28.5%	$1,784	$482	$2,266
	CONSTRUCTION ESTIMATE TOTALS:	$138,454	$37,382	27.0%	**$175,836**		$138,454	$37,382	$175,836			$177,980	$48,055	$226,035
01	LANDS AND DAMAGES	$15,365	$7,682.500	50.0%	$23,047.500	0.0%	$15,365	$7,683	$23,048	2031Q3	15.3%	$17,709	$8,855	$26,564
30	PLANNING, ENGINEERING & DESIGN													
2.5%	Project Management	$3,461	$935	27.0%	$4,396	0.0%	$3,461	$935	$4,396	2029Q2	10.5%	$3,826	$1,033	$4,859
1.0%	Planning & Environmental Compliance	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
15.0%	Engineering & Design	$20,768	$5,607	27.0%	$26,375	0.0%	$20,768	$5,607	$26,375	2029Q2	10.5%	$22,955	$6,198	$29,152
1.0%	Reviews, ATRs, IEPRs, VE	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
1.0%	Life Cycle Updates (cost, schedule, risks)	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
1.0%	Contracting & Reprographics	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
3.0%	Engineering During Construction	$4,154	$1,121	27.0%	$5,275	0.0%	$4,154	$1,121	$5,275	2035Q4	35.9%	$5,643	$1,524	$7,167
2.0%	Planning During Construction	$2,769	$748	27.0%	$3,517	0.0%	$2,769	$748	$3,517	2035Q4	35.9%	$3,762	$1,016	$4,778
3.0%	Adaptive Management & Monitoring	$4,154	$1,121	27.0%	$5,275	0.0%	$4,154	$1,121	$5,275	2040Q2	56.6%	$6,505	$1,756	$8,261
1.0%	Project Operations	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
	Real Estate (All Federal Labor)	$216	$108	50.0%	$324	0.0%	$216	$108	$324	2031Q2	17.7%	$254	$127	$381
31	CONSTRUCTION MANAGEMENT													
10.0%	Construction Management	$13,845	$3,738	27.0%	$17,584	0.0%	$13,845	$3,738	$17,584	2035Q4	35.9%	$18,810	$5,079	$23,888
2.0%	Project Operation:	$2,769	$748	27.0%	$3,517	0.0%	$2,769	$748	$3,517	2035Q4	35.9%	$3,762	$1,016	$4,778
2.5%	Project Management	$3,461	$935	27.0%	$4,396	0.0%	$3,461	$935	$4,396	2035Q4	35.9%	$4,702	$1,270	$5,972
	CONTRACT COST TOTALS:	$216,339	$61,995	28.66%	$278,334		$216,339	$61,995	**$278,334**			$273,559	$77,993	**$351,552**

Print Form | Save As

U.S. Army Corps of Engineers (USACE)

DESIGN MATURITY DETERMINATION FOR COST CERTIFICATION

For use of this form, see ER 1110-2-1302; the Proponent agency is CEEC

Purpose: The purpose of this form is to determine design maturity for cost certification.

SECTION I: PROJECT INFORMATION

DATE: 3/9/26

P2 Designation/Project Name: 404586/NYNJHATS Actionable Elements- East Rise

The Chief of Engineering is responsible for the technical content and engineering sufficiency for all engineering products produced by the command. As such, I have performed the Management Control Evaluation per Engineer Regulation (ER) 1110-2-1150, Engineering and Design for Civil Works Projects, Appendix H, Internal Management Control Review Checklist.

1. The current design DOES NOT require HQ approval (i.e., engineering waivers), requiring a deviation from mandatory requirements and mandatory standards, as defined in ERs, Engineer Manuals (EMs), Engineer Technical Letters, and Engineer Circulars.

2. The current hydrology and hydraulics modeling is at 90 % design maturity, per reference (g) below.

3. The current geotechnical data and subsurface investigations are at 90 % design maturity, per reference (g) below. Subsurface investigations shall also include investigations of potential borrow and spoil areas.

4. The current survey data is at 90 % design maturity, per reference (g) below.

5. Other major technical and/or scope assumptions and risks include the following, which will be refined as the design progresses:

6. The aggregate for all features is 90 % design maturity. Therefore, per ER 1110-2-1302, Civil Works Cost Engineering, I certify that the design deliverables used to generate the cost products for this project and the estimate meet the requirements for a CLASS 2 estimate, as per reference (a) below. Design risks, impacts, and remaining efforts are summarized on page 2.

7. The total project baseline schedule for this project is 40 months. This schedule was coordinated with the Project Manager, Project Delivery Team, and Non-Federal Sponsor, and takes into consideration the project constraints, including district execution capacity, capability of providing real estate in a timely fashion, and cost-share budget requirements, along with the market conditions, including industry capability to execute the project.

8. Considering risks and assumptions noted above, along with all other concerns documented in the Risk Register, the Cost and Schedule Risk Analysis has developed a contingency of 27 % at the 80 % confidence level for the defined project scope.

TITLE: CHIEF OF ENGINEERING	
NAME: Encer Shaffer, P.E.	OFFICE SYMBOL: CENAN-EN
DATE: 3/11/26	SIGNATURE:

SECTION II: REMAINING WORK

If an engineering waiver is required, list the risks and remaining design work needed to mitigate this issue in the current design. Identify remaining effort to complete the design required for 100% design.

Identify remaining effort to complete geotechnical design effort required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

The geotechnical design is based on borings at each bridge site and at selected locations along the channel. The design meets required stability factors of safety. It is anticipated that the design will need to be verified relative to any revisions in USACE, DOT or other guidance Addtional borings may be needed.

Identify remaining effort required to complete H&H required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

The H&H data is complete based on the current design. It is anticipated that some additional analysis will be required to comply with State on NJ permit requirements and to incorporate any minor changes in existing conditions or project design

Identify remaining effort needed to complete survey data required for 100% design. List the risks and cost and schedule impacts needed to mitigate this issue in the current design.

The survey has been completed to a 100% design. Given the delay until the start of construction, updated survey will be needed to reflect changes in nearby development and to calculate channel excavation quantities. Survey data is from 2019. Addtional survey may nbe needed after site viste and evaluation.

If the project is anticipated to be executed in parts, provide a design assessment (percent complete) of each part/phase below.

SECTION III: REFERENCES

a. ER 1110-2-1302 – Civil Works Cost Engineering

b. CECW-EC (CEEC) memorandum dated 05-June-2023 MFR, Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering

c. ER 1165-2-217 – Civil Works Quality and Review Policy

d. ER 1110-2-1150 – Engineering and Design for Civil Works Projects

e. ER 1110-345-700 – Design Analysis, Drawings and Specifications

f. EM 5-1-11 – Project Delivery Business Process (PDBP)

g. Engineering and Construction Bulletin (ECB) 2023-9 – Civil Works Design Milestone Checklists

SECTION IV: INSTRUCTIONS

Page 1 – Design Date: Use the drop-down menu to populate the date of the design.

P2 Designation/Project Information: Enter the P2 Project number and Project name.

Paragraph 1 – Engineering Waivers: Use the drop-down menu to populate this field with either “Does,” or “Does not.” If an engineering waiver is needed, or anticipated to be needed, provide the specific waiver required for the Project. A waiver is any deviation from current mandatory standards, as indicated.

Paragraph 2 – Hydrology and Hydraulics: Populate this field with the percent of design maturity.

Paragraph 3 – Geotechnical Information: Populate this field with the percent of design maturity.

Paragraph 4 – Survey Data: Populate this field with the percent of design maturity.

Paragraph 5 – Other Technical Assumptions and/or Scope: Enter any other major technical assumptions or scope assumptions here. Only include assumptions that pertain to design. Template discussion fields are provided as a courtesy. Please include additional pages as an attachment as necessary.

Paragraph 6 – Aggregate for All Features: Populate this field with the percent of design maturity. Use the dropdown menu to choose which class of estimate is met by the design deliverables.

Paragraph 7 – Total Project Baseline Schedule: Populate this field with the total project baseline schedule for the project in months.

Paragraph 8 – Contingency and Confidence Level for the Defined Project Scope: Populate these fields with the contingency percentage and confidence level percentage for the defined project scope.

Signature: Print the name and provide the title and signature for the District’s Chief of Engineering. This authority cannot be delegated; however, the Deputy Chief of Engineering and Design may sign the form in the absence of the Chief of Engineering. All fillable fields must be populated (use N/A if not applicable) in order for the document to be signed.

Page 2 – Remaining Work: Identify the current baseline design assumptions and the remaining design effort and risks to complete 100% design for the authorized project. If the project is to be broken into parts or phases, provide details on the aggregate design level of each phase and anticipated timeline for completion.

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ATTACHMENT C-3B – EAST RISER MII REPORT

1. INTRODUCTION

1.1. Objective

The New York District (NYD) Corps of Engineers is conducting a feasibility level study to evaluate coastal storm risk management (CSRM) on the New York New Jersey Harbors and Tributaries Study (NYNJHAT) area.

At the time of the release of the Draft Integrated Interim FR/EA in July 2025, the TSP chosen for advancement was Alternative C, the Total Net Benefits Plan. This alternative included the Harlem River, Oakwood Beach, and East Riser Actionable Elements. However, prior to release of the Draft Integrated Interim Response FR/EA, the study team, which includes the New York District, NJDEP, NYSDEC, NYCDEP, and NYSDOS confirmed that the Harlem River Actionable Element would not be sufficiently developed or detailed to support USACE design maturity requirements within the timeline for inclusion in a Chief of Engineer's Report, which could be considered by Congress for authorization in a potential WRDA of 2026. Noting this with the need for more robust and meaningful public engagement, as well as the additional engineering analyses needed to meet the USACE engineering design requirement standards, the study team released the Draft Integrated Interim Response FR/EA in July of 2025 with the caveat that the Harlem River Actionable Element would be deferred to a later iteration of Actionable Elements to consider, subject to the future availability of funds.

The other Actionable Elements, East Riser and Oakwood Beach, have since been optimized after having undergone public review and coordination. These Actionable Elements and the analyses done to advance their associated engineering designs are outlined within this Interim Response Report. Specifically, the East Riser Actionable Element has been sufficiently studied and is ready for potential Congressional consideration, to be authorized in WRDA 2026 as a Recommended Plan, Alternative B.

The Oakwood Beach Actionable Element was initially justified as part of Alternative C, by considering a comprehensive benefits analysis, in which this site specifically maximized benefits within the EQ and OSE accounts, and had positive NED account benefits. While USACE recognizes the benefit this Actionable Element Project would provide and the public support for this element as a Nature-Based Solution, as the study team analyzed Oakwood Beach further, it became evident that it would not be ready for inclusion in the final report as the

minimum design maturity would not have been achieved nor would the project cost estimates been developed to meet acceptable requirements. Therefore, USACE is recommending deferral of the Oakwood Beach Actionable Element until such time that the necessary information can be further developed to meet current regulations and policy. Accordingly, the Oakwood Beach Actionable Element has been removed as part of the NY District's Recommended Plan for advancement through a Chief of Engineer's Report, for Congressional authorization within a potential WRDA 2026.

After careful evaluation of the alternatives and their tradeoffs, and consideration of the optimization done since the July 2025 Draft Report the study team selected Alternative B, East Riser Actionable Element, as the Recommended Plan. East Riser also considers multiple flood drivers as requested by the State of New Jersey through Section 8106(a) of WRDA 2022 through the confluence of coastal and riverine flood drivers.

The Recommended Plan includes channel modifications, two bridge culvert replacements, and a railroad bridge replacement on East Riser Ditch Channel in Carlstadt and Moonachie, New Jersey. Channel modifications, more specifically, include widening and deepening of the East Riser Ditch Channel, bank stabilization, and replanting of vegetation

This appendix includes the cost estimates and construction schedules developed for East Riser, to achieve a Class 3 cost estimate per United States Army Corps of Engineers (USACE) Engineer Regulation (ER) 1110-2-1302 and Engineering and Construction Bulletin (ECB) 2023-9. This report supports evaluation of technical feasibility and informs USACE participation consistent with the NYNJHATS Main Report.

1.2. Basis of Cost

The construction cost estimate was developed in MCACES, Second Generation (MII) using the appropriate Work Breakdown Structure (WBS) and based on current estimated quantities provided by the Architect/Engineer. The cost estimate was developed from these quantities using cost resources such as RSMeans, historical data from similar construction features, and MII Cost Libraries. The contingencies were developed based on input to the Cost Schedule Risk Analysis (CSRA) (template provided by the Cost Mandatory Center of Expertise, MCX, Walla Walla District). These contingencies were applied to the construction cost estimates to develop the Total Project First Cost. The construction duration for East Riser was estimated at 40 months or 1121 days.

1.3. General Description of the Project Features

Figure 1-1 on the following page shows the major components and location of East Riser. The East Riser Actionable Element includes a proposal of channel modifications, three culvert replacements, and a railroad bridge replacement on East Riser Ditch Channel. Channel modifications more specifically include widening and deepening of the East Riser Ditch Channel, bank stabilization, and replanting of vegetation.

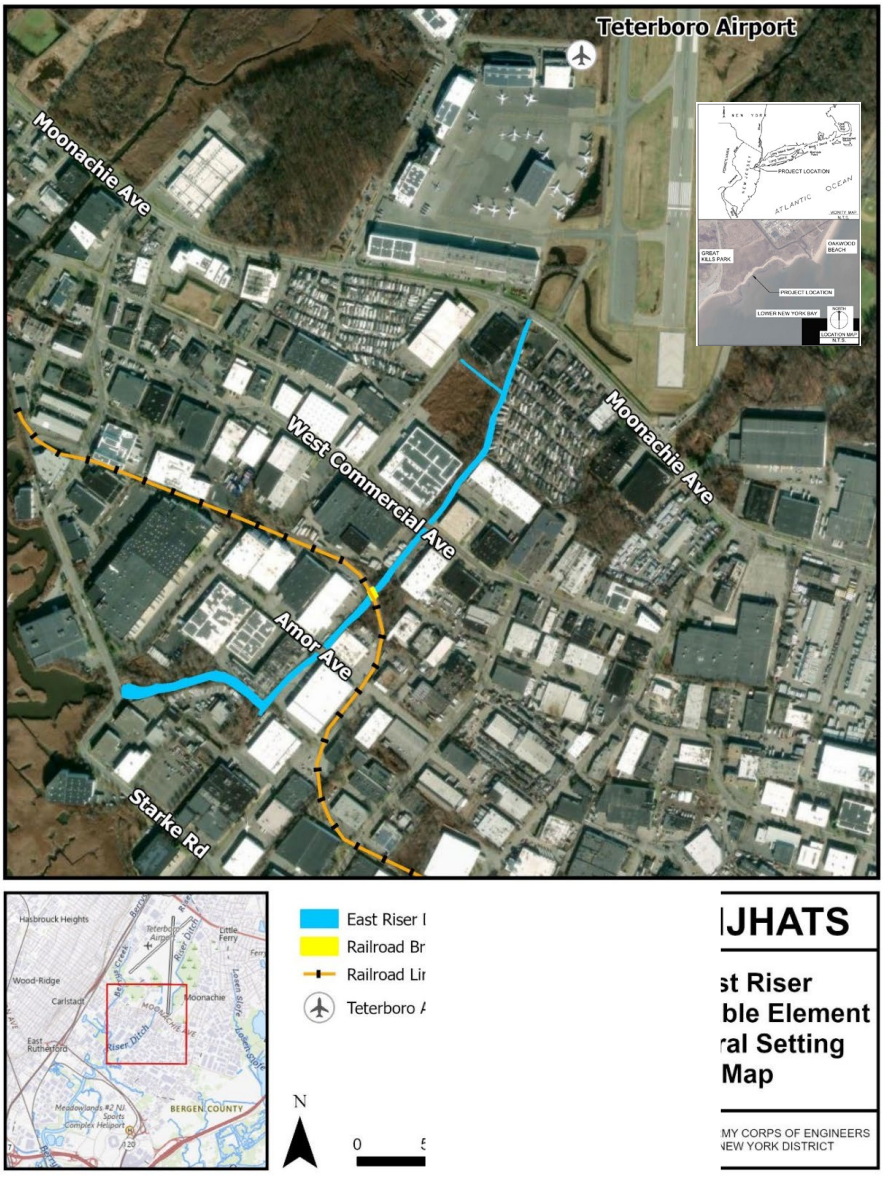

Figure 1-1. East Riser Actionable Element General Setting

2. WORK BREAKDOWN STRUCTURE

2.1. Initial Construction Estimate

2.1.1. 01 – Lands and Damages

This account covers Real Estate costs for Construction. The initial estimate for real estate costs was developed by USACE NAN Real Estate and accounts for costs related to land acquisition, land surveys, appraisals, titles services & closing costs.

2.1.2. 02 – Relocations

This account covers the relocation of water, gas, and other miscellaneous utilities throughout the project area including utility relocations for the replacement of the Norfolk-Southern rail bridge, Armor Avenue roadway bridge, and West Commercial Avenue roadway bridge.

2.1.3. 08 – Roads, Railroads, & Bridges

This account covers the replacement of the Norfolk-Southern rail bridge, Armor Avenue roadway bridge, and West Commercial Avenue roadway bridge. The bridge replacement activities include temporary cofferdams and dewatering, demolition, new abutments, superstructure steel or prestressed concrete slab beams, rail track or concrete bridge deck, and other miscellaneous rail and roadway elements.

2.1.4. 09 – Channels & Canals

This account covers activities related to the channel improvements. The channel improvements consist of bank stabilization, the widening and deepening of the East Riser Ditch Channel, and the replanting of vegetation along about 4,150 feet of the lower reach of the channel.

2.1.5. 19 – Buildings, Grounds & Utilities

This account covers activities related to the construction of a new stormwater sewer utility.

2.1.6. 30 – Planning, Engineering and Design (PED)

The cost was developed for all activities associated with the planning, engineering and design effort. The cost for this account includes the preparation of Design Documentation Reports, plans, and specifications for East Riser and engineering support during construction through project completion. It includes all the in-house labor based upon work-hour requirements, material and facility costs, travel, and overhead.

2.1.7. 31 – Construction Management

The cost was developed for all construction management activities from pre-award requirements through final contract closeout. This cost includes the in-house labor based upon work-hour requirements, materials, facility costs, support contracts, travel and overhead. The cost was developed based on the input from the construction division in accordance with the Civil Works Breakdown Structure (CWBS) and includes, but is not limited to, anticipated items such as the salaries of the resident engineer and staff, surveyors, inspectors, drafters, clerical, and custodial personnel; operation, maintenance and fixed charges for transportation and for other field equipment; field supplies; construction management, general construction supervision; and project office administration, distributive cost of area office and general overhead charged to the project.

3. INTEREST DURING CONSTRUCTION AND O&M

3.1. Interest During Construction

Interest during construction (IDC) is the amount of interest the construction cost would earn were it invested from the beginning of construction until the accumulation of benefits begins. IDC cost has been added to the project cost to determine investment cost. Average annual cost was determined based on investment cost, which includes IDC. The pre-base year costs were estimated using the Federal interest rate of 3.25 percent.

3.2. Operation and Maintenance

The Operation and Maintenance (O&M) cost was estimated to represent the anticipated annual costs necessary to maintain the project at full operating efficiency throughout the project life. Following completion of the project, operation and maintenance of project facilities would be the responsibility of the non-Federal sponsor in accordance with Federal regulations and operations manual.

3.3. Annualized Cost

Annual costs are based on an economic period of analysis of 50 years and an interest rate of 3.25%. The annual costs include the annualized investment cost along with annual operation and maintenance cost. A detailed breakdown of annual costs for East Riser is presented in Table 3-1 on the following page.

Table 3-1: Annualized Cost

East Riser O&M

First Cost		$	175,835,310
Sunk Cost		$	-
Investment Cost			
Interest During Construction (a)		$	9,456,207
	Total Investment Cost:	$	185,291,517
Annual Costs			
Annualized Investment Cost (b)		$	7,546,974
Annualized Operation & Maintenance Cost (c)		$	879,176.55
Total Annual Cost*		**$**	**8,426,151**

*March 2026 Price Level

(a) Based on 40 months of construction @ 3.25% (IDC, E&D, RE and Sunk costs calculated separately and included in this total)

(b) Annualized investment cost only includes the remaining features. For annualized investment cost with the sunk cost, please see the economic appendix. I = 3.25% and n = 50 yrs

(c) Assume 0.5% of total Construction Cost base on historical data.

4. ESTIMATED DESIGN AND CONSTRUCTION SCHEDULE

The estimate is based on the entire contract awarded to a single prime contractor. The estimated design and construction schedule is presented in Table 4-1. The estimated construction duration is presented in Table 4-2. A construction duration contingency will be added to the values summarized through the CSRA.

Table 4-1: East Riser Design and Construction Schedule

Phase	Estimated Start	Estimated End
PED	Q1 2027	Q2 2029
Solicit/Award/RE Acquisitions	Q2 2029	Q3 2033
Construction	Q3 2033	Q4 2037
Monitoring & Adaptive Management	Q4 2037	Q4 2042

Table 4-2: East Riser Construction Duration

Description	Duration (days)
Mobilization and Site Preparation	38
Upgrade R x R, Amor Ave, and West Commercial Ave Bridges	392
Reach 1 Channel Improvements	255
Reach 2 Channel Improvements	163
Reach 3 Channel Improvements	235
Demobilization	38
Total Duration:	1121 Days (4.3 years)

5. CONTINGENCIES

As stated in ER 1110-2-1302, the goal in contingency development is to identify the uncertainty associated with an item of work or task to an acceptable degree of confidence. Consideration must be given to the detail available at each stage of planning, design, or construction for which a cost estimate is being prepared. Contingency may vary throughout the cost estimate and could constitute a significant portion of the overall costs when data or design details are unavailable. Final contingency development and assessment of the potential for cost growth is included in this cost estimate. To develop the Total Project First Cost, contingencies developed in the CSRA were applied. The construction cost contingency developed per CSRA for East Riser is shown in Table 5-1: Contingencies in the following page.

Table 5-1: Contingencies

Element	Contingency Factor
02 Relocation	27.00%
08 Roads, Railroads & Bridges	27.00%
09 Channels & Canals	27.00%
19 Buildings, Grounds & Utilities	27.00%
Total Construction Contingency	27.00%
01 Lands & Damages	50.00%
30 Planning, Engineering, and Design	27.00%
31 Construction Management	27.00%

6. FIRST COST TABLE

The First Cost table for East Riser is presented in Table 6-1.

Table 6-1: Project First Cost Table

CW WBS	Subtotal	Cont. %	Total Cost
East Riser			
02 Relocations	$14,808,000	27%	$18,806,000
08 Roads, Railroads & Bridges	$8,237,000	27%	$10,461,000
09 Channels & Canals	$114,020,000	27%	$144,805,000
19 Buildings, Grounds & Utilities	$1,388,000	27%	$1,763,000
Construction Cost Subtotal	**$138,453,000**	**27%**	**$175,835,000**
01 Lands & Damages	$15,365,000	50%	$23,048,000
30 Planning, Engineering, and Design	$42,444,000	27%	$53,954,000
31 Construction Management	$20,076,000	27%	$25,496,000
Project Costs Total	**$216,338,000**	**28.66%**	**$278,333,000**

7. TOTAL PROJECT COST SUMMARY

The Total Project Cost Summary (TPCS) considers an estimation of future inflation costs that are expected to occur over the duration of construction of the project. The TPCS, presented in Attachment C-3A represents the estimated “at complete cost of expenditures” for East Riser. The Total Project Cost is the constant dollar cost fully funded with escalation to the estimated midpoint of construction and is the cost estimate used in project partnership agreements; the Total Project Cost is estimated to be $351,551,000 with the midpoint of construction being 2035Q4.

ATTACHMENT C-3A – TOTAL PROJECT COST SUMMARY (TPCS)

**** TOTAL PROJECT COST SUMMARY ****

*** CONTRACT COST SUMMARY ***

PROJECT: New York – New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study -
LOCATION: East Riser, Bergen County, NJ
This Estimate reflects the scope and schedule in report: Feasibility Submission Report January 2026

DISTRICT: New York District
POC: CHIEF, COST ENGINEERING, Anthony Schiano

PREPARED: 2/26/2026

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Jan-26 Effective Price Level: 1-Oct-25				Program Year (Budget EC): 2026 Effective Price Level Date: 1 OCT 25								
				RISK BASED										
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	ESC (%)	COST ($K)	CNTG ($K)	TOTAL ($K)	Mid-Point Date	INFLATED (%)	COST ($K)	CNTG ($K)	FULL ($K)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*P*	*L*	*M*	*N*	*O*
	CONTRACT 1 - EAST RISER													
02	RELOCATIONS	$14,808	$3,998	27.0%	$18,806	0.0%	$14,808	$3,998	$18,806	2035Q4	28.5%	$19,036	$5,140	$24,175
08	ROADS, RAILROADS & BRIDGES	$8,237	$2,224	27.0%	$10,461	0.0%	$8,237	$2,224	$10,461	2035Q4	28.5%	$10,588	$2,859	$13,447
09	CHANNELS & CANALS	$114,020	$30,785	27.0%	$144,805	0.0%	$114,020	$30,785	$144,805	2035Q4	28.5%	$146,571	$39,574	$186,146
19	BUILDINGS, GROUNDS & UTILITIES	$1,388	$375	27.0%	$1,763	0.0%	$1,388	$375	$1,763	2035Q4	28.5%	$1,784	$482	$2,266
	CONSTRUCTION ESTIMATE TOTALS:	$138,453	$37,382	27.0%	**$175,835**		$138,453	$37,382	$175,835			$177,980	$48,054	$226,034
01	LANDS AND DAMAGES	$15,365	$7,682,500	50.0%	$23,047,500	0.0%	$15,365	$7,683	$23,048	2031Q3	15.3%	$17,709	$8,855	$26,564
30	PLANNING, ENGINEERING & DESIGN													
2.5%	Project Management	$3,461	$935	27.0%	$4,396	0.0%	$3,461	$935	$4,396	2029Q2	10.5%	$3,826	$1,033	$4,859
1.0%	Planning & Environmental Compliance	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
15.0%	Engineering & Design	$20,768	$5,607	27.0%	$26,375	0.0%	$20,768	$5,607	$26,375	2029Q2	10.5%	$22,955	$6,198	$29,152
1.0%	Reviews, ATRs, IEPRs, VE	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
1.0%	Life Cycle Updates (cost, schedule, risks)	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
1.0%	Contracting & Reprographics	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
3.0%	Engineering During Construction	$4,154	$1,121	27.0%	$5,275	0.0%	$4,154	$1,121	$5,275	2035Q4	35.9%	$5,643	$1,524	$7,167
2.0%	Planning During Construction	$2,769	$748	27.0%	$3,517	0.0%	$2,769	$748	$3,517	2035Q4	35.9%	$3,762	$1,016	$4,778
3.0%	Adaptive Management & Monitoring	$4,154	$1,121	27.0%	$5,275	0.0%	$4,154	$1,121	$5,275	2040Q2	56.6%	$6,505	$1,756	$8,261
1.0%	Project Operations	$1,385	$374	27.0%	$1,758	0.0%	$1,385	$374	$1,758	2029Q2	10.5%	$1,530	$413	$1,943
	Real Estate (All Federal Labor)	$216	$108	50.0%	$324	0.0%	$216	$108	$324	2031Q2	17.7%	$254	$127	$381
31	CONSTRUCTION MANAGEMENT													
10.0%	Construction Management	$13,845	$3,738	27.0%	$17,584	0.0%	$13,845	$3,738	$17,584	2035Q4	35.9%	$18,810	$5,079	$23,888
2.0%	Project Operation:	$2,769	$748	27.0%	$3,517	0.0%	$2,769	$748	$3,517	2035Q4	35.9%	$3,762	$1,016	$4,778
2.5%	Project Management	$3,461	$935	27.0%	$4,396	0.0%	$3,461	$935	$4,396	2035Q4	35.9%	$4,702	$1,270	$5,972
	CONTRACT COST TOTALS:	$216,338	$61,995	28.66%	$278,333		$216,338	$61,995	**$278,333**			$273,559	$77,992	**$351,551**

ATTACHMENT C-3B – EAST RISER MII REPORT

CUI

Print Date Tue 24 March 2026 | U.S. Army Corps of Engineers | Time 11:17:54

Eff. Date 1/12/2026 | Project : 13372.106.EastRiser.OPCC.30PercentDesign | Overview Page 1

Description	UOM	Quantity	DirectLabor	DirectEQ	DirectMatl	ProjectCost
Overview			**26,672,419.61**	**9,633,693.05**	**39,419,644.96**	**137,533,531.26**
			26,672,419.6072	*9,633,693.0525*	*39,419,644.9602*	*137,533,531.2626*
East Riser OPCC	EA	1.00	**26,672,419.61**	**9,633,693.05**	**39,419,644.96**	**137,533,531.26**
			2,990,820.8033	*518,623.4642*	*3,810,263.0321*	*13,888,242.5940*
02 Relocations	EA	1.00	**2,990,820.80**	**518,623.46**	**3,810,263.03**	**13,888,242.59**
			773,609.3056	*219,221.5534*	*3,608,403.5821*	*8,236,879.2053*
08 Roads, Railroads, & Bridges	EA	1.00	**773,609.31**	**219,221.55**	**3,608,403.58**	**8,236,879.21**
			22,783,462.4192	*8,848,315.1927*	*31,638,880.8057*	*114,020,279.3721*
09 Channels & Canals	EA	1.00	**22,783,462.42**	**8,848,315.19**	**31,638,880.81**	**114,020,279.37**
			124,527.0792	*47,532.8423*	*362,097.5403*	*1,388,130.0913*
19 Building, Grounds, & Utilities	EA	1.00	**124,527.08**	**47,532.84**	**362,097.54**	**1,388,130.09**

*Note: There are $920,000 of additional costs for Account 02 Relocations in Real Estate Costs that are not included in the estimate shown here.