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

REPLY TO
ATTENTION OF

CECW-EC 05 June 2023

MEMORANDUM FOR District Commanders, Deputy District Engineers, Engineering Chiefs, and Cost Engineering Community of Practice (CoP)

SUBJECT: Guidance on Cost Engineering Products update for Civil Works Projects in accordance with Engineer Regulation 1110-2-1302 – Civil Works Cost Engineering

1. References:

a. Engineer Regulation (ER) 1110-1-1300 – Cost Engineering Policy and General Requirements

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

c. Engineer Manual (EM) 1110-2-1304 – Civil Works Construction Cost Index System (CWCCIS)

d. CECW-EC Memorandum for Record (MFR) – Inflation Risk Assessment and Inclusion of Current and Future Year Project/Construction Cost Estimates for Civil Works, dated 7 April 2023

1. In accordance with Reference (Ref.) 1.a, the objective of cost engineering is to focus USACE leadership on the effective development, management, and control of cost estimates to ensure funds are adequately programmed, authorized, and appropriated in all phases of the project. The USACE's ability to provide quality project estimates is an essential element of our support to our stakeholders and partners for the successful delivery of our programs.

2. For all phases of the project, cost products, including Current Working Estimates (CWEs), budget estimates, design progress estimates, project schedules, Cost and Schedule Risk Analyses (CSRAs), etc., must be based on accurate project scope, design assumptions, and construction processes, and include appropriate contingencies to account for unknown information, as outlined in Paragraph (Para.) 8, below.

3. In accordance with Ref. 1.b, project CWEs for all Authorized (active) and Authorized but Unconstructed (ABU) projects must have an estimate preparation date and cost certification within two years of the date of submission for budget or funding requests. See Para. 11, Matrix for Additional Certification, for clarification.

4. A project is considered Authorized (active) if project funds have been appropriated for pre-construction, engineering, and design (PED), and/or the construction phase post

project authorization, including projects funded through a work plan, or a supplemental spend plan, or received funds from the Non-Federal sponsor. A project is considered (ABU) if no funds have been appropriated or provided by the Non-Federal sponsor in more than two years for PED or construction phase post project authorization.

5. ABU projects can remain inactive indefinitely. Congress can allocate funds to these projects at any time, turning them into Authorized (active) projects. Districts will annually express capability to update these project costs, per Para. 3, to obtain a certified cost estimate. The district's capability to execute these ABU projects, and any budget request, must comply with Para. 3, above, and include a current cost certification. Currently, the Civil Works Directorate is developing a strategy to add a Remaining Item to the Construction Account to fund cost estimate updates for ABU projects.

6. Furthermore, the quality of the Cost Products is secondary to the design maturity and quality of technical scope definition. As such, the project delivery team (PDT) must review the technical details of the authorized project in consultation with the district's Engineering Division. The Cost Products, specifically CWEs and CSRAs, must not be simply indexed based on the outdated engineering and technical details of the authorized project.

7. Ref.1.b, Para. 13, defines "Cost Estimating Classifications," and Table 1, "Civil Works Estimates – Class Level Designation," further clarifies the relationship between the Project Phase, Scope and Technical Definition, and Cost Estimate Class. However, PDTs often interpret the Class of an estimate as the leading factor in determining the maturity of the project design and level of technical details. In fact, the primary factor that determines the Class of the estimate is the design maturity. For example, an Independent Government Estimate (IGE, Class 1) cannot be developed based on feasibility level design.

a. Ref. 1.b, Section 13.b(3), defines a "Class 3" estimate as having 10-60 percent quality project definition and potential contingency range of 20-50 percent.

b. Recent review of project deliverables across the enterprise has shown a trend towards consistently having significant scope unknowns but relying on CSRA results of less than 50 percent contingency to justify a "Class 3" project. When these projects with undefined or significant unknown scope risks have been updated recently, cost increases are coming in significantly above 50 percent.

c. This is a multi-faceted issue, requiring change to our delivery model across many internal regulations. The following paragraphs outline initial adjustments to be implemented immediately.

8. We acknowledge that based on current design guidance, defining maturity of design can be challenging. As such, the District Chief of Engineering Division must determine the maturity of design prior to cost engineering developing the cost products. At

minimum, the District Chief of Engineering Division, utilizing the project's Risk Register, must address three basic areas in determining the level of design:

a. Geotechnical data quality, likely unknowns, and risks associated with using the available data, including the risks where there is little to no data. Scope changes from unknown foundation conditions have been known to cause significant increases.

b. Hydrology and Hydraulics (H&H) model type (e.g., 1d, 2d, 3d), if a model has been run, quality of data and risks associated with these models.

c. Survey data quality and risks associated with this data.

9. Once the maturity of design and the level of technical details have been determined, the District Chief of Cost Engineering office will determine the associated Classification of Cost Estimate and appropriate contingency. Cost classification must be determined from actual design maturity, not at an assumed state of design maturity according to where a project "should be" in the process.

10. Furthermore, the District Chief of Engineering Division must establish a process, if one does not currently exist, to sign off on the Project Cost Estimates to include any applicable Project Justification Sheets (J-Sheets) for each funding request to ensure information regarding current design and costs is accurate. This also should be an opportunity to express capability/need to update project design and cost products.

11. To clarify and supplement Ref. 1.b, the matrix below can be used to determine the level of cost engineering products required for Civil Works projects in various project phases.

Matrix for Additional Certification

Project Phase	Cost ATR Review	Cost Certification Required
Pre-Authorization		
Alternatives / TSP	Yes [1]	No
Recommended Plan	Yes [2]	Yes [5]
Authorization		
Decision Documents (GRR, LRR, PACR, CCB, etc)	Yes [3]	Yes [5]
Funding Requests	Yes [4]	Yes (less than 2yrs old) [5]
IGE (100% Design)	No	No
Construction / Post Award		
IGE (modifcations/claims)	No	No
Funding Requests	Yes [4]	Yes (less than 2yrs old) [5]

1. ER 1110-2-1302, Sec 14, Paragraph a. (1) (b)
2. ER 1110-2-1302, Sec 14, Paragraph a. (2)
3. ER 1110-2-1302, Sec 14, Paragraph a. (3)
4. ER 1110-2-1302, Sec 14, Paragraph a. (4)
5. ER 1110-2-1302, Sec 25, Paragraph b (1)

12. The Point of Contact for this action is Mr. Mukesh Kumar, Cost Engineering Community of Practice Leader, CECW-EC, Mukesh.Kumar@usace.army.mil.

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