Executive Summary: Transforming the Current Pre-Authorization Study Process

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I. The Problem

The U.S. Army Corps of Engineers (Corps) and the Assistant Secretary of the Army (Civil Works) (ASA(CW)) senior leadership have been working collaboratively to identify and discuss opportunities to transform the Civil Works Planning Program to better address the many water resources challenges that face the nation. One priority for addressing these challenges is completion of the preauthorization study process in a targeted goal of 18 months, while preserving the integrity of the analysis.

The U.S. Army Corps of Engineers (Corps) pre-authorization planning study process has evolved into a time-consuming and complex suite of mechanisms developed to arrive at the "perfect" answer to a problem, and that answer is often at odds with the wishes of the project sponsors and other federal and state agencies.

Further, the goal of optimization of National Economic Development (NED), coupled with the false precision of quantitative analysis without acknowledging uncertainty, does not necessarily produce the best recommended alternative or preferred solution to the problem at hand. In seeking an optimized solution, years of effort can be added to an already long process.

The result of these factors is the current Corps study process is perceived by many, including project sponsors, partner state and federal agencies, and Congress as taking too long, being too cumbersome, too detailed, and too expensive, and not leading to a better product or better decisions. As the Corps strives to respond to its critics by creating a more robust and detailed study process, the unintended outcome is increasing internal and external frustration with the study process and the Corps itself.

II. Vision for an 18-Month Study Process

The Corps can realize a single-phase study process with clearly defined decision points that is more predictable, more efficient, and takes significantly less time than the current pre-authorization study process, including the Reconnaissance and Feasibility study phases. The pre-authorization study process outlined below can be completed in 18 months and will provide:

- Clear information and a way forward for project sponsors and communities who are seeking to solve a specific problem;
- Appropriate levels of analysis that use the federal dollar wisely;
- Identification of the level of federal interest (and investment) and the responsibility of all parties in identifying and executing the solution to the problem;
- Distinct decision points during the process and accountability for those decisions; and
- Meaningful engagement of the Corps, the ASA(CW), the project sponsor, and other federal and state agencies before a project is recommended for authorization to Congress.

While not every study initiated by the Corps will be able to be completed in 18 months, the proposed process should dramatically shorten the amount of time and cost of conducting planning studies and increase corporate and individual accountability for decisions.

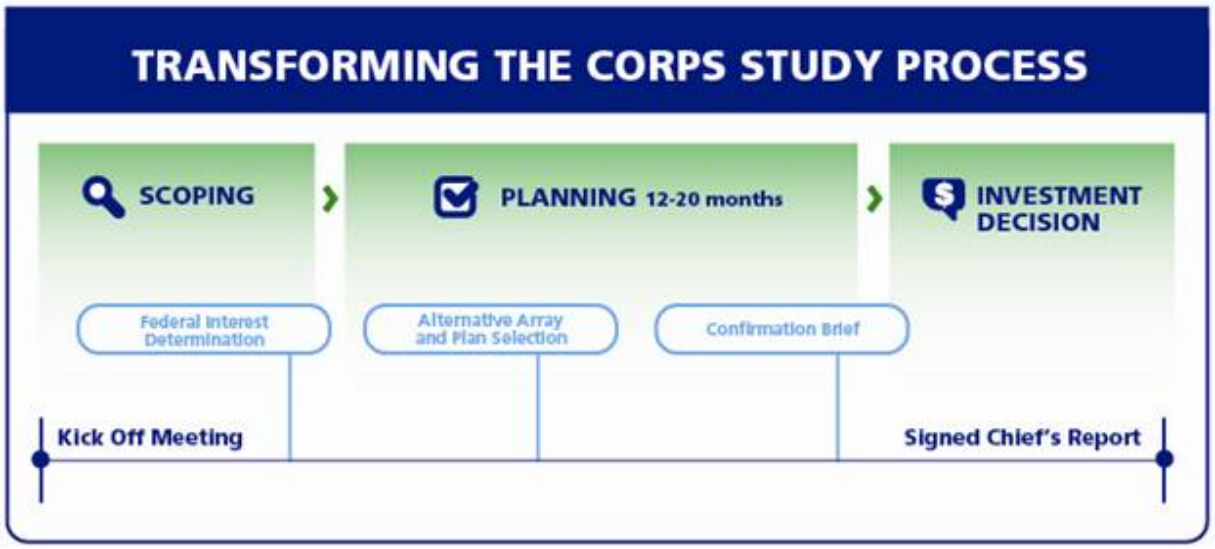

Figure 1: Transforming the Pre-Authorization Study Process

Makes Current Planning Process More Efficient

The proposed study process will incorporate both the current Reconnaissance and Feasibility study phases into a single, cohesive process that reduces the number of decisions revisited, the duplication of effort, and the scope and type of data collected. An early understanding of the problem and determination of federal interest will allow the Vertical Team to determine the appropriate level of detail needed to make decisions during the study process. To avoid the lengthy delays currently experienced in between the Reconnaissance and Feasibility studies in negotiating the Feasibility Cost Sharing Agreement, 100% of the funding needed for the study should be available up front.

The transformed pre-authorization study process relies on the current Corps planning process, and includes appropriate levels of review. While the myriad levels of review currently part of the study process have been retained in the proposed process, the process would be further strengthened by incorporating review teams on the Vertical Team to facilitate early agreement on the level of detail necessary, eliminating levels of review when they are redundant or unnecessary (e.g., Independent External Peer Review (IEPR) is unlikely to be necessary for every study), and creating flexibility in some of the internal processes that do not necessarily change decisions or recommendations (such as concurrent review or flexibility in cost certification and model certification).

This new study process builds on the strengths of the Corps and continues to use quality engineering, economics, and environmental analyses. However, it deliberately and thoughtfully scales the amount and type of data collected and analysis conducted to reflect the likelihood and magnitude of the consequences of the decisions being made.

Relies on Timely Decisions by an Effective Vertical Team

Transforming the pre-authorization study process into one that can be completed in dramatically less time will depend on engagement of a well-integrated, Vertical Team at three key decision points:

- Determination of the federal and Corps interest in addressing a given problem;

- Recommendation of a limited array of potential solutions and level of federal investment appropriate to the scale of the federal interest in the problem; and
- Confirmation of the recommended plan(s) based on agreed-upon study parameters.

The Corps can create an environment for change and transformation of the study process if it can:

1. Ensure that vertical integration and engagement of decision makers takes place early and throughout the planning process.
2. Identify the federal interest in resolving a problem, rather than targeting a particular solution.
3. Manage and balance an adequate level of detail and uncertainty throughout the pre-authorization planning process, eliminating unnecessary data collection and analyses while maintaining quality of analysis and outcome.
4. Include other factors in determining the alternatives recommended in a meaningful and transparent way. Quantitative optimization of any factor, including net national economic development (NED) or net national environmental restoration (NER) benefit, should not be the primary factor in the Corps decision for a recommendation for federal investment.
5. Ensure that all resources needed for the study – funding, human resources, data and information – are identified and available for the duration of the study.

The end result of the study will be an actionable decision document. This could take many forms, including an early decision that there is not a federal interest in addressing a specific problem or a recommended project (or projects) and suggested level of federal investment in a Chief's Report.

Although these recommendations were developed for the pre-authorization study process, the changes to policy and corporate culture will have similar positive results in all Corps planning studies, including post-authorization studies.

III. Achieving an 18-Month Study Process

Achieving an 18-month study process requires a cultural change of increased trust and communication and the willingness to stand behind difficult or unpopular decisions. It also requires investment of resources (time and training). Working together from the beginning of the study process, the Corps can make important decisions earlier in the process; identify areas where additional resources (data, time) are needed; and keep communication open between the Corps, ASA(CW), the local sponsor, and other important partners.

Effective Vertical Integration & Decision-Making

The breadth of the Vertical Team will build trust and transparency, ensure decisions are made and understood by all involved in the study process, and reduce expensive and time-consuming repetition of data collection or analysis when one level of review "kicks back" a study. The exact membership and level of each element's participation in the study process will vary over the course of the study to reflect the needs of that particular study, but an effective Vertical Team will include core engagement from across different Corps Communities of Practice and at all levels of the organization – from the District up to, and including, the Office of the ASA(CW).

An important role of the Vertical Team is to balance and manage the level of detail necessary at various points of the process and accountability for those decisions. Because the Vertical Team includes decision makers from all levels of the agency and across disciplines (Communities of Practice), the

Vertical Team will be responsible for making difficult decisions during the study process, including determining if the proposed problem is in the federal interest or not or pushing back against the drive for a level of detail that will not improve the quality of the agency's decision or recommendation.

Accept Uncertainty & An Appropriate Level of Detail

To transform the Corps planning process, an important assumption is that a good, timely decision is preferable to a "perfect" or "optimized" decision made years out. Current studies include significant amounts of detail that do not necessarily result in an objectively better decision. The single-phase, 18-month study process embraces the concept and value that a quality decision can be made by focusing more on key analyses informed by the level risk associated with the decisions being made, a function of the probability and the consequences of the outcome. This philosophy is grounded by:

- Prioritization: Scarce resources dictate prioritization of feasibility study funding to focus on data and analysis most critical for decision making.
- Flexibility: There is no one size fits all "silver bullet," and not every study or analysis the Corps conducts needs to be perceived as controversial, complex, and costly.
- Teaming: Detail and depth/scope of study will have to be identified by a highly engaged Vertical Team.
- Decisiveness: The Corps, as an agency, must move away from the false sense of accuracy offered by relying on quantitative analyses and ever-increasing amounts of data and length of studies. There is a balance possible when adequate and appropriate levels detail are used for making good decisions.

Tailoring the quantity and quality of data to the decision being made and the consequences of that decision will require accepting a higher level of uncertainty throughout the pre-authorization planning process. This is predicated on the acceptance and acknowledgement by the Vertical Team and throughout the Corps that good decisions can be made with lower levels of detail than in the current study process about engineering detail, cost information, and environmental impacts.

Throughout the process, an important role of the Vertical Team will be to balance and manage the appropriate level of detail, while maintaining quality of analysis and outcome. Data gathering and analyses will be focused on areas critical to differentiating among alternatives, and the level of data and analysis will be agreed upon by the Vertical Team with an eye to how additional detail will affect the next decision. As the consequences of decisions rise (e.g., the cost of project, the impacts to the environment), the appropriate level of detail will also rise. As the Vertical Team gets closer to selecting a single plan, or small array of acceptable plans, adding more details into elements that directly affect the decision is appropriate.

These recommendations are not intended to eliminate detail from planning studies; rather, they are a return to relying on an appropriate level of detail for the decisions being made. Feasibility-level design will still be conducted, using the data appropriate for developing that design. However, with this process is that level of detail will be limited to a single alternative or small set of alternatives. The final Chief's reports will continue to include a recommendation for authorization with supporting detail, but the Agency must move away from a culture of instituting new procedures as a response to every criticism and increasing the amount of detail and analysis to meet the level in the last signed Report.

Define Federal Interest Based on the Problem Early in the Process

There is a difference between Federal Interest and Corps interest. Federal Interest assesses the problem and solution across Federal agencies, while Corps interest refers to whether the project falls under Corps authorities and the Administration's priorities and if there is the potential for Corps construction authorization from Congress.

To reduce the total time of the study process, the way the Corps applies its determination of Federal Interest must not specifically depend on justification of a project on strict economic criteria. Federal Interest can be determined in a radically different way – but in a way that does not run counter to either the current guidelines of "reasonably maximize" economic benefit or the need for fiscal responsibility.

The Federal Interest determination process should be based on determining the federal interest (and Corps interest) in a resolving a problem, rather than an optimized solution. This decision becomes based on a critical examination of the identified problem, scope, and need rather than a quantitative exercise of determining the optimized solution. The focus of this analysis involves identifying the problem, needs, and opportunities, as well as the specific roles of each federal agency.

Once the problem is understood, the Vertical Team's assessment and decision will put the study on one of three paths (Figure 2):

1) There is no federal interest in solving this problem. In this case, the Corps can provide the data it gathered in assessing the problem to the local sponsor. Although the outcome would be a finding of no federal interest, this is a positive result of the study – the decision was made early with information all parties agreed to, costing fewer federal (and local) dollars and taking less time;
2) There is a federal interest in solving this problem; however, it is not a primary Corps interest or under Corps authorities. In this case, the Corps would engage other federal agencies who have the authority / interest in addressing the problem and may provide technical assistance (e.g., conduct a watershed study); or
3) There is a federal interest in solving this problem and the Corps has the responsibilities and authorities to enact a project. In this case, the pre-authorization study would continue.

If it is determined that there is a federal interest in solving the problem and the Corps has the responsibilities and authorities to develop a project, the Vertical Team will recommend the level of federal investment in solving the stated problem. The expected level of federal investment should be incorporated into the planning process and clearly communicated with the sponsor and other stakeholders. An acceptable outcome of the study process, for example, could be a project that is the sponsor's preferred option, which solves the problem but reduces the federal cost share from the current 65% standard because the level of federal interest in the problem does not warrant such an investment.

When the determination of federal interest in solving a specific problem is confirmed at the highest levels of the Corps and Administration, the focus of the planning can rightly be on all possible solutions to the water resource problem to determine the best federal investment based on multiple criteria analysis, and reasonably maximizing economic benefit.

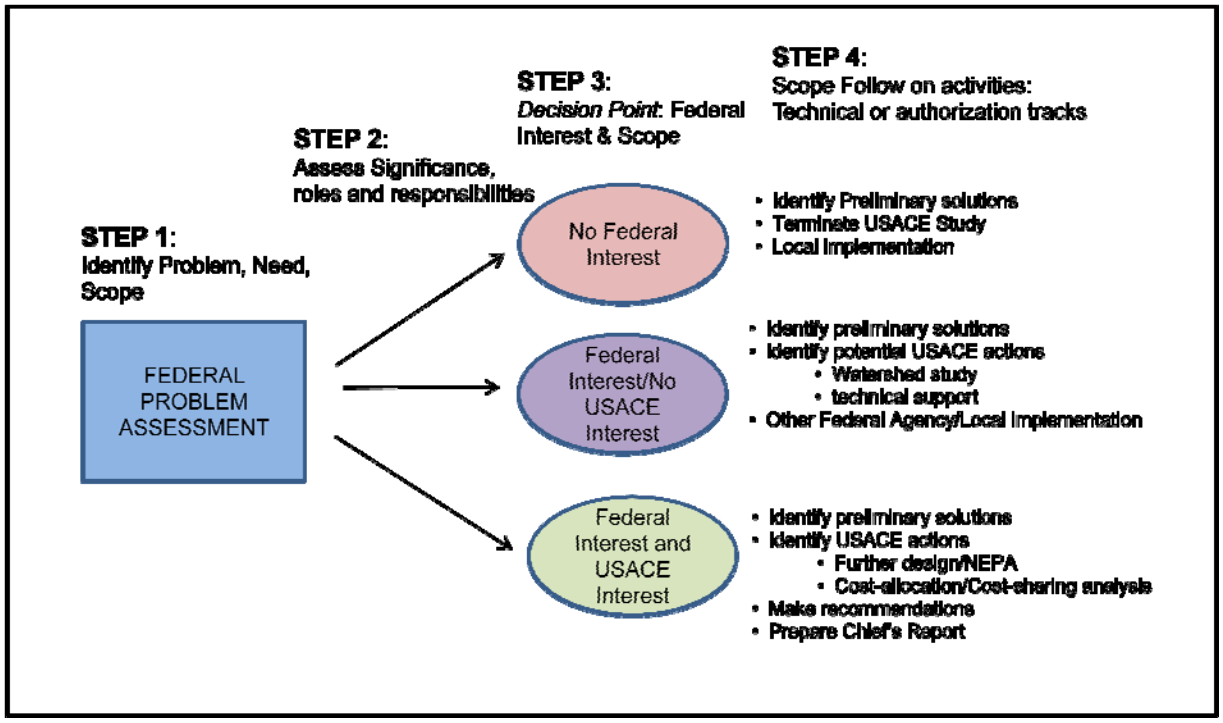

Figure 2: Federal Problem Assessment Process

Use Multi-Criteria Approach in Alternative Selection

The Corps can, and should, move away from the rote acceptance of National Economic Development (NED) or National Environmental Restoration (NER) as the primary criteria for plan selection. Rather, the Project Development Team should use multi-criteria evaluation and judgment to decide which formulated plans make significant contributions to the planning objectives. The most appropriate evaluation method will depend on the purpose of the comparison and the impacts of the decision being made. For example:

- A relative rating or ranking of plans based on a few identified criteria could be appropriate early in the study process to compare plans without selection of a single plan or array of plans.
- Relative rankings with weighted criteria could provide an appropriate level of detail for decision making when screening of a preliminary set of plans to identify a final array of alternatives.
- A more precise form of ranking, such as a quantitative trade-off analysis and ranking of plans using weighted criteria, would be appropriate for selection of a single plan from a final array.

There may be variations to these approaches that could be appropriate for use in Corps planning studies. Depending on factors such as scope of the project, level of screening, and consequences of the decision, the study should identify the appropriate methodology (or methodologies) for use in their specific study. The chosen methodology, as well as the rationale for its use, should be discussed and affirmed by the Vertical Team.

Commit Necessary Resources – Funding, Human Resources, Data & Information

Achieving an 18-month study process will require the identification and commitment of resources – funding, human resources, and information resources – from the beginning of the Reconnaissance phase of the planning study through the signed Chief's Report.

Study Funding

One significant hurdle faced by Corps planning studies is the start-and-stop nature of the federal authorization and appropriations process and the difficulty of negotiating cost-sharing agreements between the Reconnaissance and Feasibility phases of the study. Modifying the Congressional authorization and appropriations process is outside the purview of these recommendations; however Corps policies and procedures related to study funding should be addressed.

In order to avoid the lengthy delays currently experienced in between the Reconnaissance and Feasibility studies in negotiating the Feasibility Cost Sharing Agreement, 100% of the funding needed for the study should be available up front.

Current law requires a contract in place for a 50% cost-share from a non-federal sponsor before the feasibility phase of the pre-authorization study can proceed (WRDA 86, Section 105, as amended). The negotiation of the feasibility cost-share agreement can delay the study for a significant amount of time, as the non-federal sponsors negotiate the total amount of the study and monetary value of in-kind services. The level of uncertainties of the exact work that will be required during the study, and the cost of funding it, further contributes to delays.

Shorter study times and more clearly defined study parameters will increase certainty for the sponsors regarding potential costs, which could ease the burden of negotiation. A risk of protracted negotiation over cost sharing and in-kind contributions could remain due to the uncertainty of total study costs or the possibility of a "no federal interest" determination.

Human Resources

The recommendations for a single phase planning study with significant involvement from the Vertical Team will require the commitment of the Corps' human resources from the initiation of the study. For the 18-month feasibility study to become a reality, the Corps must either focus the existing Vertical Team resources on a few studies (reducing the total number of studies underway at any given time), or it must identify alternate means of providing additional Vertical Team resources. Many of these alternatives will require the development of a training and development program to build policy expertise across the Corps.

Information Resources: Data and Modeling

The Corps must rethink the way that existing data sets are evaluated and approved for use in planning studies. A National Data Repository could compile existing data sets or models from a variety of sources (including academia, other federal agencies, and sponsors) that meet data quality and validity requirements, expanding the availability of data beyond that generated by the Corps itself. A central data repository would increase the efficiency of data collection and use, especially in early phases of studies. In addition, benefits of a national repository would be expected to increase over time as regional or watershed-based data sets and models are updated and made available across the agency.

IV. Testing the 18-Month Study Process

Individually, each Corps policy and procedure guiding the pre-authorization study process was put into place for a good reason. Taken together, they have created a cumbersome and unwieldy process. The Corps will test the 18-month study process deliberately and methodically, and in partnership with the Office of the ASA(CW), project sponsors, and other federal agencies.

The concepts of a well-integrated vertical team and early decision-making require no change in Corps policy, only a change in practice and culture. Other changes, such as using an adequate level of detail and eliminating unnecessary data collection and analyses, the determination of federal interest based on the problem, and the recommendation of a plan without the quantitative optimization of NED, may need to be addressed through changes in Corps procedures or policies. Eventually, changes to law may be required to address areas that cannot be resolved by changes to policy, such as requirements for cost sharing agreements in place before the initiation of a feasibility study.

Figure 3: Culture Change is Integral to Achieving an 18-Month Process

In 2011, the Corps will methodically roll out a small number of pilots to test this approach. Examination of the process, both during and after each pilot study, will be used to evaluate the effectiveness of the approach, develop guidelines for future studies (e.g., identify levels of analyses appropriate to each business line such as navigation, flood risk reduction, and ecosystem restoration), and suggest modifications to Corps processes, procedures, and policies, as appropriate.

These pilots, and the experiences of the individuals involved in them, including the Vertical Teams, the project sponsors, and senior leaders at the Corps and Office of the ASA(CS) will create a stronger, more responsive, and more respected Corps of Engineers.