

## MEMORANDUM FOR RECORD

SUBJECT: Implementation Decisions on Value Engineering (VE) Proposals for Galveston Channel Extension Limited Reevaluation Report (LRR), Galveston, Galveston County, Texas

REFERENCE: VE Report prepared by U.S. Army Corps of Engineers, Galveston District, entitled "Value Engineering Study Summary Report, Galveston Channel Extension", Report No. 201103-C

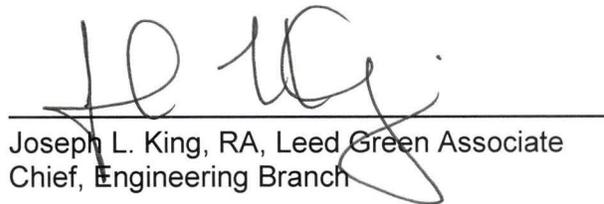
1. The VE study was conducted on the LRR at a point in the study where the Plan Formulation Phase was being finalized. The purpose of the project is to deepen the west portion (2,571 feet) of the Galveston Channel to allow deeper draft ships to navigate to facilities located within the west portion of the channel.
2. A 3-day VE workshop was conducted with a multidisciplinary team in Galveston composed of team members from two Corps of Engineers districts. The VE study followed the 6-phase job plan value methodology procedure sanctioned by SAVE International.
3. The VE team generated nineteen ideas during the speculation phase and developed six of the ideas into proposals for Project Delivery Team (PDT) consideration. The remaining ideas were offered to the PDT as suggestions. The VE team recommends that Proposals C-13, C-14, and C-19 be implemented with a total estimated first cost and life-cycle cost savings of up to \$4,400,000.
4. The PDT accepted VE Proposal (VEP) numbers C-10, C-12, C-13, C-14 and rejected VEP numbers C-11 and C-19.
  - a. VEP C-10 – Design a storage basin of 60 acre-ft within channel. This proposal was accepted. While it is acknowledged that increasing advance maintenance volume within the channel could potentially save costs by extending the period between dredging cycles and allow more efficient management of applicable placement areas, implementation of this proposal will be subject to future operations funding levels and will be addressed during the operation phase of the project.
  - b. VEP C-11 – Steepen 1V:3H (channel) side slopes as designed to 1V:2H. This proposal was rejected because the existing channel side slopes are generally flatter than 1V:3H. The channel bottom width would have to be widened significantly in order for there to be enough material to excavate a 1V:2H slope. This would result in additional new work volumes and thus higher cost to construct.
  - c. VEP C-12 – Reduce bottom width of channel to fit within projected 1V:3H side slopes of existing channel template. This proposal was accepted. The current preliminary design includes a channel new bottom width that is 10-foot narrower than the existing channel. In addition, the existing channel side slopes are generally flatter than 1V:3H; therefore, little if any cutting of the existing side slopes will be required to achieve the design template.
  - d. VEP C-13 – Box-cut channel to deepen it. This proposal was accepted. The current preliminary design includes the box-cut feature.

- e. VEP C-14 – Increase advance maintenance depth from 3' to 4' to lengthen interval between dredging cycles. This proposal was accepted. While it is acknowledged that increasing advance maintenance volume within the channel could potentially save costs by extending the period between dredging cycles and allow more efficient management of applicable placement areas, implementation of this proposal will be subject to future operations funding levels and will be addressed during the operation phase of the project.
  - f. VEP C-19 – Improve benefit to cost ratio by including railhead benefits. This proposal was rejected. This proposal addresses economic benefits that may be realized as a result of a deeper channel. The proposal analyzes energy cost savings associated with utilizing barges vs. rail or truck transportation of goods away from the port; however, the economic analysis indicates benefits that will accrue due to an increase in channel depth are the result of additional tonnage transported by ocean-going vessels. The proposal provided no basis for using barge transportation in place of truck or rail should the channel depth be increased. In addition, these economic benefits do not affect construction or operation cost of the federal project; therefore, are not applicable nor do they fall within the scope of this VE study.
5. The PDT's justifications for rejecting the VE proposals appear to be valid and complete. Since there are no outstanding VE matters that need to be addressed, the VE study process is considered to have been completed.



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