

# **REVIEW PLAN**

**Luther Road, Oklahoma County, OK.  
Emergency Streambank Protection  
(Program Code #150959)  
Continuing Authorities Program  
Section 14 Project**

Plans and Specifications

*Tulsa District*

**MSC Approval Date:** *April 15, 2014*

**Last Revision Date:** *April 10, 2014*



**US Army Corps  
of Engineers®**

## REVIEW PLAN

Luther Road, Oklahoma County, OK.  
Plans and Specifications

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## 1. PURPOSE AND REQUIREMENTS

- a. **Purpose.** This Review Plan defines the scope and level of peer review for the Luther Road, Oklahoma County, OK., plans and specifications package. Currently, work is underway on the design.

This Review Plan does not cover project construction. Prior to the start of construction of the project, a construction management plan will be developed covering all aspects of construction including quality controls, quality assurance, contractor submittals, inspections, and all other associated documentation construction requirements.

### b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2014
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

- c. **Requirements.** This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, implementation documents are subject to Value Engineering Certification, and Biddability, Constructibility, Operability, Environmental, and Sustainability (BCOES) review and certification.

## 2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, Appendix G, Section 2.a.(5) specifies that the RMO for ATR for CAP projects may be the home MSC in lieu of a PCX. The RMO for this project, plans and specifications and subsequent construction, will be the MSC, Southwestern Division (SWD).

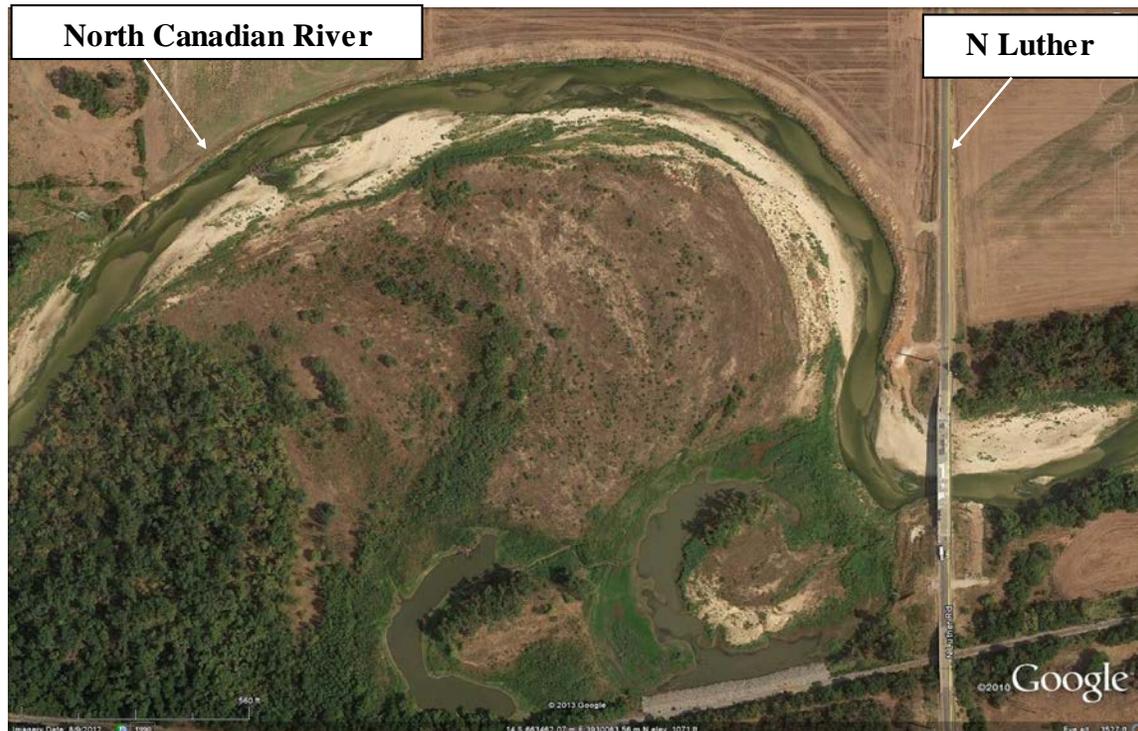
### 3. PROJECT INFORMATION

- a. **Background.** The project area is located along the North Canadian River within Oklahoma County, approx. 10 miles east of Oklahoma City, Oklahoma. Bank erosion associated with lateral migration of the North Canadian River is encroaching on the Luther Road embankment, significantly affecting use of this county road and associated public utilities. The value of the infrastructure at risk is approximately \$8.3 million. The local sponsor is the Board of County Commissioners of Oklahoma County, OK. The decision document is the Luther Road, Oklahoma County, Oklahoma, Emergency Streambank Protection Report, dated September 2012 and approved by Commander Southwestern Division on 19 June 2013, pursuant to the authority contained in Sec 14 of the Flood Control Act of 1946, as amended.
- b. **Project Description.** The recommended plan will stabilize approximately 3,500 linear feet of streambank of the North Canadian River adjacent to the west side of Luther Road, near Harrah, Oklahoma County, Oklahoma. Streambank stabilization will consist of rip rap placed along the toe of the slope, shaping the bank at a 3-foot horizontal to a 1-foot vertical slope, to the one-year frequency elevation, and balancing cut and fill of the existing slope.



**Photograph Showing the project area along the North Canadian River**

The total project implementation cost is estimated at \$2,152,000, and the benefit-to-cost ratio is 4.0 to 1. The total federal share is estimated to be \$1,398,800. The total non-federal share was estimated to be \$753,200.



**Aerial Photograph Showing North Canadian River Alignment in 2012**

**c. Factors Affecting the Scope and Level of Review.**

A risk informed decision was made that ATR is necessary for all major deliverable for this project. Additionally, it was determined that neither Type I nor Type II IEPR is needed for any products associated with the plans and specifications for the project. ATR requirements are described in Section 5 and IEPR in Section 6.

The specific factors to be considered by the reviewers include:

- The Plans and Specifications are for a small CAP project under Section 14 of the CAP with a total project cost less than \$45 million;
- The construction of the project is projected to be approximately \$2.2 million, with a federal financial risk level limited to \$1.5 million maximum,;
- The construction for the project is a Streambank stabilization operation in a limited area, an activity for which the Corps has ample experience. The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;

- Environmental issues are not considered significant with a FONSI signed on 27 Sep 2013 and should pose no further impediments to the project moving forward.
- The reviews of the Plans and Specifications should be commensurate with the scope and complexity of the small-scale construction project. In addition, there is no request by the Governor of an affected state for a peer review by independent experts;
- The reviews should use professional judgement tailored appropriately to minimize burdening the small project with additional or unnecessary requirements that may have limited value.

**d. In-Kind Contributions.** No in-kind services are part of the project

#### **4. DISTRICT QUALITY CONTROL (DQC)**

The Plans and Specifications (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

**Documentation of DQC.** DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. It is managed in the District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the project, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan (QMP) providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) review, etc. The PDT, including the non-federal sponsor, is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before the approval by the District Commander. In addition, non-PDT members and/or supervisory staff will conduct a review for major draft and final products, including products provided by the non-Federal sponsor as in-kind services following review of those products by the PDT. The PDT is listed in Attachment 1. Written DQC documentation will be provided to the ATR team.

#### **5. AGENCY TECHNICAL REVIEW (ATR)**

ATR is mandatory for the plans and specifications (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a

qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

- a. **Products to Undergo ATR.** Products to undergo ATR include the plans and specifications, economic analysis, and real estate requirements. An ATR will be conducted on the plans and specifications package at the following completion levels: 65% and 95%. In addition, an ATR final back-check will be conducted concurrent with or integral to the Bidability, Constructibility, Operability, Environmental, and Sustainability (BCOES) Review. All ATR comments will be adequately addressed and resolved prior to the BCOES certification.
- b. **Required ATR Team Expertise.** Since this is for design, the ATR team should be minimal considering the factors affecting the scope and level of review in Section 3, with the required disciplines and expertise as outlined below:

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a professional with experience in preparing Section 14 design documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process.
Civil Engineering	The Civil Engineer reviewer should be a Senior Design Engineer with experience in design as it pertains to Section 14 projects.
Geotechnical Engineer	The Geotechnical Engineer should be experienced in design of bank stabilization or erosion control practices.
Environmental & Cultural Resources	Team members should be familiar with the NEPA and HTRW process for similar studies and projects. Experience should include knowledge of streambank protection, HTRW, Cultural Resources and Ecosystem Restoration.
Real Estate	Team member should be experienced in Federal civil works real estate laws, policies and guidance as they pertain to Section 14 Projects.

- c. **Documentation of ATR.** DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:
  - (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
  - (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;

- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on project implementation or implementation responsibilities; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the appropriate issue resolution process described in ER1110-2-12. . Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date. A sample Statement of Technical Review is included in Attachment 2.

## 6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required **under** certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

EC 1165-2-214, Appendix G, Section 2.a(1) specifies “All CAP projects are excluded from Type I Independent External Peer Review (IEPR) except Section 205 and Section 103, or those projects that include and EIS or meet the mandatory triggers for Type I IEPR as stated in Appendix D”. None of these are applicable for this project. Further, Type I IEPR is required for decision documents, but plans and specifications is an implementation document. Therefore, Type I IEPR is not applicable to this project.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

EC 1165-2-214, Appendix G Section 2.a(3) specifies, “Type II IEPR is still required for those CAP projects where life safety risk is significant as documented in the approved Review Plan.” Luther Road, Oklahoma County, OK. Is a small Streambank stabilization project in the design and implementation phase and there are there are no known hazards that might pose a significant threat to human life. Therefore, Type II IEPR is not necessary for this project.

**Decision on IEPR.** Plans and specifications are not a decision document and do not meet the criteria for a Type I IEPR. The project does not involve life safety issues. Consequently, the determination of the PDT and the District, with Major Subordinate Command (MSC) concurrence, is that the level of review be ATR. Type I and Type II IEPR is not required.

## **7. POLICY AND LEGAL COMPLIANCE REVIEW**

The plans and specifications will be reviewed throughout the design process for compliance with law and policy. For the Plans and Specifications for this project, the Policy and Legal Compliance approval level will be the MSC unless issues arise requiring higher level approval. Policy and Legal Compliance Reviews will be concurrent with ATR. All Policy and Legal Compliance comments will be adequately addressed/resolved prior to the BCOES certification. The Policy and Legal Compliance reviews should include an assessment of whether the project design is generally consistent in scope, function, and purpose with the project described in the approved PDA report, whether the project remains economically justified, and that the project to be constructed substantially conforms to the requirements for NEPA compliance and associated Corps NEPA documentation.

## **8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION**

For Plans and Specifications, the Government Estimate is reviewed and approved through a separate process from this Review Plan. Accordingly, Cost Engineering DX review Certification is not required.

## **9. MODEL CERTIFICATION AND APPROVAL**

No model certifications or approvals are required for the design effort. Standard engineering models commonly in use by the Corps will be utilized per normal Corps engineering design practice.

## **10. REVIEW SCHEDULES AND COSTS**

- a. **ATR Schedule and Cost.** The estimated cost for the ATR is \$40,000. The final (95%) ATR for the plans and specs is currently scheduled for 10 August 2014. Milestone CW330 Plans and Specs Approved is scheduled for 18 October 2014.

**65% ATR Design Submittal:** 12 July 2014

**95% ATR Design Submittal:** 10 August 2014

**100% Submittal:** 13 September 2014

**BCOES Complete:** 27 September 2014

- b. **Real Estate review of Plans and Specifications at 35% completion.** This review should be performed by the ATR Real Estate team member to verify the project foot print and coordinate with the local sponsor to facilitate the acquisition process.

- c. **Real Estate review of Plans and Specifications at 65% completion.** This review should be performed by the ATR Real Estate team member as part of the 65% ATR to verify the project foot print and coordinate with the local sponsor to facilitate the acquisition process and avoid unnecessary actions or delays. Real estate requirements must be fulfilled prior to advertisement of the project for construction bids. However, if the sponsor is unable to acquire the real estate for any reason, including condemnation, a risk analysis will be performed to determine the level of risk of not acquiring the property or properties prior to advertising or conducting the contract negotiations.
- d. **VE Certification:** The Value Engineering/Management Screening Tool shows low opportunity for value engineering on this project. See VE Waiver in Attachment 5.

## **11. PUBLIC PARTICIPATION**

As required by EC 1165-2-214, the approved Review Plan will be posted on the District public website for public comment. While there is not a formal comment period, the public will have an opportunity to comment on the types of reviews to be carried out. If and when comments are received, the PDT shall consider them and decide if revisions to the review plan are necessary.

## **12. REVIEW PLAN APPROVAL AND UPDATES**

The Southwestern Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input as to the appropriate scope and level of review. The Review Plan is a living document and may change as the need arises. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the MSC.

## **13. REVIEW PLAN POINTS OF CONTACT**

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Project Manager, Tulsa District, 918-669-7527
- CAP Program Manager, Southwestern Division, 469-487-7032

**ATTACHMENT 1: TEAM ROSTERS**

**Project Deliver Team (PDT)**

<b>TABLE 1: Project Delivery Team</b>	
<b>NAME</b>	<b>TITLE</b>
Richard C. Bilinski	Project Manager
Patricia A Newell	Senior Biologist
Terri Broomhall	Real Estate
Randy Beauchamp	Design Engineer
Michael McGill	Cost Engineer
Keith Francis	Office of Counsel
Mr. Stacy Trumbo	County Engineer, Oklahoma County

**Vertical Team:** The Vertical Team consists of members of the MSC and CESWT Offices. The Vertical Team plays a key role in facilitating execution of the project in accordance with the PMP. The Vertical Team is responsible for providing the PDT with Issue Resolution support and guidance as required. The Vertical Team will remain engaged seamlessly throughout the project via monthly teleconferences as required and will attend In Progress Reviews and other key decision briefings.

**Agency Technical Review (ATR)**

<b>TABLE 2: Agency Technical Review Team – 65% and 95% Design Submittal</b>		
<b>NAME</b>	<b>DISCIPLINE</b>	<b>OFFICE SYMBOL</b>
John Grothaus	Planning/Team Leader	CENWK-PM-PF
TBD	Civil	TBD
TBD	Geotechnical	TBD
TBD	Environmental	TBD
TBD	Real Estate	TBD

**District Quality Control (DQC)**

<b>TABLE 3: District Quality Control Team</b>		
<b>NAME</b>	<b>DISCIPLINE</b>	<b>OFFICE SYMBOL</b>
Cory Phillips	Civil Engineer	CESWT-EC-DC
Eaf Redden	Geotechnical	CESWT-EC-DI
Tim Batson	Cost Engineer	CESWT-EC-DC
TBD	Real Estate	TBD
David Williams	Hydrology and Hydraulics	CESWT-EC-HF

**ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS**

**COMPLETION OF AGENCY TECHNICAL REVIEW**

The Agency Technical Review (ATR) has been completed for the Plans and Specifications for the Luther Road, Oklahoma County, OK. Streambank Protection Project. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks<sup>sm</sup>.

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John Grothaus  
ATR Team Leader  
CENWK-PM-PF

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Date

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Richard C. Bilinski, P.E.  
Project Manager  
CESWT-PM

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Date

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Mark Burkholder, P.E.  
District Quality Control  
CESWT-EC-D

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Date

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Lanora Wright  
Review Management Office Representative  
CESWD-PDS-P

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Date

**CERTIFICATION OF AGENCY TECHNICAL REVIEW**

Significant concerns and the explanation of the resolution are as follows:

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

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Clif Warren, P.E.  
Chief, Engineering and Construction Division  
CESWT-EC

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Date

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John Roberts, P.E.  
Chief, Programs and Project Management  
Division  
CESWT-PM

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Date

**ATTACHMENT 3: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>

**ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS**

<b><u>Term</u></b>	<b><u>Definition</u></b>	<b><u>Term</u></b>	<b><u>Definition</u></b>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSD	The District or MSD responsible for the preparation of the plans and specs	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act

ATTACHMENT 5: VE WAIVER

Beta Version 0.14.3



## Value Management Plan

(PMBP REF8023G)

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Civil Works:  Military:

Non Federally/ Host Nation Funded =   
 Project/Program/Procurement Amount Cost = \$2,152,000

Agency: USACE  
 District: SWT

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P2#: 150959

Date: 3/12/2014

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PN: SWT-14-0459

Filled Out By: Thurston Hurst

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Project Title: Luther Road, Oklahoma County, OK

Project Manager: Rich Bilinski

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**Goal:** (Statement of overall goal of VM/E effort)  
 The overall goal of Value Management is to identify projects with good opportunity to inject value manage / engineering methodologies to improve the quality and value of the systems being procured, and to implement specific value management strategies to be implemented.

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**Objective:** (Specific items of accomplishment that the VM/E effort will achieve as specific to the project)  
 Due to the nature of this project, this value management plan documents a very low opportunity for value management / engineering to be an effective and efficient tool for application to this project

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**Execution - VE Strategy & Level of Effort** (Document Decisions from Section I, II & III):

Conduct VE <input type="checkbox"/>	Low Opportunity <input checked="" type="checkbox"/>	No Further Action <input checked="" type="checkbox"/>	Design Agent VE Compliance <input type="checkbox"/>										
Strategy Decision:			Date of Compliance										
Bridge <input type="checkbox"/>	Scan <input type="checkbox"/>	Single Effort <input type="checkbox"/>	<table style="width: 100%; border-collapse: collapse;"> <tr><td colspan="2" style="background-color: #f2f2f2;">Preliminary Schedule</td></tr> <tr><td style="width: 80%;">Overall VE Start (M,285, CW285, CW192)</td><td style="width: 20%;"></td></tr> <tr><td>VE Activity Start</td><td></td></tr> <tr><td>VE Activity Finish</td><td></td></tr> <tr><td>Est. Value Activity Duration</td><td></td></tr> </table>	Preliminary Schedule		Overall VE Start (M,285, CW285, CW192)		VE Activity Start		VE Activity Finish		Est. Value Activity Duration	
Preliminary Schedule													
Overall VE Start (M,285, CW285, CW192)													
VE Activity Start													
VE Activity Finish													
Est. Value Activity Duration													
Value Planning (Level 1) <input type="checkbox"/>	Abbreviated Study (Level 2) <input type="checkbox"/>	Multiple efforts <input type="checkbox"/>											
Standard Study (Level 3) <input type="checkbox"/>	Problem Resolution (Level 4) <input type="checkbox"/>	Independent <input type="checkbox"/>											
Programmatic (Level 5) <input type="checkbox"/>	Functional Review (Level 6) <input type="checkbox"/>	Integrated <input type="checkbox"/>											
		Blended <input type="checkbox"/>											

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**Brief Narrative:** (Summarize Narrative from Page 3)  
 The project scope is the stabilization of approximately 3,500 linear feet of streambank of the North Canadian River adjacent to the west side of Luther Road, near Harrah, Oklahoma County, Oklahoma. Stream bank stabilization will consist of rip rap placed along the toe of the slope, shaping the bank at a 3-foot horizontal to a 1-foot vertical slope, to the one-year frequency elevation, and balancing cut and fill of the existing slope.

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**Preliminary Team & Budget Info**

Name	Role/ Discipline	Org Code	Approx Bill Rate	Hrs	USACE- Dist/ AE Firm	Total
	Team Leader		\$100	0		\$0
Thurston Hurst	VEO	MSL1PBA	\$100	1		\$100
	Admin Assistant		\$100	0		\$0
	Contracting		\$100	0		\$0
	Tech Team #1		\$100	0		\$0
	Tech Team #2		\$100	0		\$0
	Tech Team #3		\$100	0		\$0
	Tech Team #4		\$100	0		\$0
	Tech Team #5		\$100	0		\$0
	Tech Team #6		\$100	0		\$0
	Cost Estimator		\$100	0		\$0
Expenses Total (from worksheet) =						\$0
Estimated Cost of Value Activity =						\$100

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Signature & Date of Project Manager Required

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M&C VPM Signature - Not Required

Signature & Date of VEO Required

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HQ Chief OVE Signature - Not Required

Page 1 of 4