DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-N

7 Aug 2011

MEMORANDUM FOR Commander, New Orleans District

SUBJECT: Continuing Authorities Program (CAP) Section 205, Town of Carencro, Louisiana Review Plan (RP) and Independent External Peer Review (IEPR) Waiver Approval

1. References:

a. Memorandum, CEMVN-PD-F, 23 June 2011, subject: CAP Section 205 City of Carencro Flood Risk Reduction Feasibility Study, Carencro, Louisiana.

b. Memorandum, CEMVD-PD-KM, 5 April 2011, subject: MVD Review Procedures for the CAP.

2. Your RP and request to waive IEPR requirements for subject project has been reviewed within the MVD offices and is hereby approved.

3. The subject RP documentation was provided under Reference 1.a above. Updates were made to the RP documentation following the MVD review. The updated RP documentation is enclosed. Support for IEPR waiver is consistent with the CAP Model RP approved under reference 1.b above.

4. The Project Manager may delete the names of ATR team members from the table on page 18 before posting the approved RP to the District web pages.

5. The MVD point of contact is Mr. James Wojtala, CEMVD-PD-N, at (601) 634-5931.

Encl

MICHAEL J. WALSH
Major General, USA
Commanding

REVIEW PLAN

USING THE MVD MODEL REVIEW PLAN

for

Continuing Authorities Program
Section 103 and 205 Projects, or Projects Directed by Guidance to use CAP Processes

City of Carencro Flood Risk Reduction Feasibility Study, Carencro, LA
Section *205* Project

New Orleans District

MSC Approval Date: *08/07/2011*
Last Revision Date: *08/08/2011*

US Army Corps
of Engineers ®

REVIEW PLAN
USING THE MVD MODEL REVIEW PLAN

City of Carencro Flood Risk Reduction Feasibility Study, Carencro, LA
Section *205* Project

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REVIEW PLAN

City of Carencro Flood Risk Reduction Feasibility Study, Carencro, LA

1. Purpose

a. **Purpose.** This Review Plan defines the scope and level of peer review for the ***City of Carencro Flood Risk Reduction Feasibility Study, Carencro, LA***, **Section *205 (Carencro CAP 205 Study) products.*** ***Review products to be developed will include a feasibility report, an environmental and cultural assessment; cost estimate; economic analysis; hydraulic and hydrologic analysis; geotechnical analysis; real estate plan; and project drawings.***

Section 205 of the Flood Control Act of 1948, as amended, authorizes the U.S. Army Corps of Engineers (USACE) to study, design and construct flood risk management projects. This Continuing Authorities Program (CAP) focuses on water resource related projects of relatively smaller scope, cost and complexity. Unlike the traditional Corps' civil works projects that are of wider scope and complexity, CAP is a delegated authority to plan, design, and construct certain types of water resource and ecosystem restoration projects without specific Congressional authorization.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F, Amendment #2.

b. Applicability. This review plan is based on the Mississippi Valley Division (MVD) Model Review Plan for Section 103 or 205 Projects or Programs directed by guidance to follow CAP processes. The model is applicable to projects that do not require an Environmental Impact Statement (EIS).

c. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 January 2010.

(2) Director of Civil Works' Policy Memorandum #1, CECW-P, dated 19 January 2011.

(3) EC 1105-2-412, Assuring Quality of Planning Models, 31 March 2010.

(4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 September 2006.

(5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 January 2007.

(6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007.

2. Review Management Organization (RMO) Coordination.

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for Section ***205 Projects*** is MVD. MVD will coordinate and approve the review plan and manage the Agency Technical Review (ATR). If Type I Independent External Peer Review (IEPR) will be performed, MVD will coordinate the IEPR effort with the appropriate Planning Center of Expertise (PCX), which will administer the Type I IEPR. The home District (New Orleans District [MVN]) will post the approved review plan on its public website. A copy of the approved review plan (and any updates) will be provided to the Flood Risk Management PCX (***FRM-PCX***) to keep the PCX apprised of requirements and review

schedules. A copy of the approved review plan will also be added as an appendix to the Project Management Plan (PMP).

3. **Project Information.**

a. Decision Document. The *City of Carencro Flood Risk Reduction Feasibility Study, Carencro, LA* decision document will be prepared in accordance with ER 1105-2-100, Appendix F, Amendment #2. The approval level of the decision document (if policy compliant) is MVD. An Environmental Assessment (EA) will be prepared with the decision document.

b. Study/Project Description. *The City of Carencro, Louisiana has a population of approximately 6,100 people and is located approximately 5 miles north of the City of Lafayette, in Lafayette Parish, Louisiana. Beau Basin Coulee and an unnamed southern lateral that drains into the coulee are the main rainfall drainage arteries within Carencro. Beau Basin Coulee enters Carencro from the northeast after passing under Interstate-49 (I-49), loops through central Carencro, and exits the city toward the east-northeast after passing under I-49 again. The southern lateral flows into Beau Basin Coulee from the southwest, entering the coulee immediately east of central Carencro.*

The study area includes: the drainage basin of Beau Basin Coulee and the southern lateral within the city limits, Beau Basin Coulee and adjacent drainage areas extending upstream to approximately 1,000 feet east of I-49, and Beau Basin Coulee and adjacent drainage areas extending downstream to the Saint Espirit bridge, approximately 1 mile east of I-49.

The city experienced major flooding events due to overtopping from Beau Basin Coulee and southern lateral in the following years: 1940, 1953, 1955, 1966, 1971, 1973, 1977, 1980, 1982, 1989, 1993, 2001, 2002, 2003 and 2004. Multiple plans are being investigated to address flooding concerns and maximize net benefits to the project area.

Structural alternatives to reduce flood risk that are being investigated include various combinations of the following measures: 1)enlarging the existing earthen section, 2) concrete lining portions of the coulee, 3) installing gabion sections, 4) constructing a bypass channel, 5) constructing one or more detention basins, and 6) clearing and snagging portions of the coulee. Two other alternatives under consideration are the No Action alternative and the non-structural alternative.

The non-Federal sponsor for this study is the City of Carencro.

In a memo dated 08 December 2009, the CAP 205 City of Carencro Flood Risk Reduction Feasibility Study was granted a waiver from Value Engineering (VE), due to the anticipation that selected project costs will not exceed 10 million dollars.

Pursuant to EC 1165-2-209, the Project Delivery Team (PDT; Attachment 1) for the Carencro CAP 205 project has made a risk-informed determination that the study will not greatly benefit from Type 1 IEPR, and thus is seeking a waiver from this requirement.

c. Factors Affecting the Scope and level of Review. *The MVD Model Review Plan is the appropriate tool for determining the scope and level of review for the Carencro CAP 205 Study, due to the lack of life safety concerns the project poses, the cost and magnitude of impacts associated with the project, and the lack of public/sponsor concerns anticipated with the project. Furthermore, the project does not involve innovative processes, and has a straight forward construction method that has been utilized previously on other small scale flood risk reduction projects. The principal uncertainties associated with the Carencro flood risk management feasibility study are proper use and application of models (economic and hydrodynamic), and the sufficiency and accuracy of data used to perform the technical analyses. The risk associated with these uncertainties is low for the following reasons:*

- *The PDT will employ engineering (HEC-RAS, HEC-HMS) and economic (HEC-FDA) models that are USACE approved/certified.*
- *The hydrodynamic environment that will be modeled is a straight forward system consisting of two streams; no significant hydraulic or hydrodynamic complexities are present in the study area.*
- *The economic model is straightforward, involving a relatively small number of structures.*
- *Existing data and recent field investigations do not suggest the presence of significant cultural, aesthetic, or recreational resources in the study area.*
- *Existing data and recent field investigations do not suggest the presence of HTRW (hazardous, toxic and radioactive waste) that would significantly impact the project.*
- *The project budget is sufficient and the project area small enough to allow adequate field data (geotechnical, elevation survey, environmental, and structure inventories) to be collected to support the technical analyses. Due to the limited geographic scope of the project, data sets will be small enough to readily undergo adequate quality control review prior to use, and the study will use simple models and sufficient field data will be readily available.*

d. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control (DQC) and ATR, similar to any products developed by USACE. The City of Carencro provided an initial HEC model to support the study. The PDT updated the City model for the study. This updated model will undergo DQC and ATR along with other study elements.

4. District Quality Control (DQC).

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC prior to ATR. DQC will be managed in accordance with the MVD and MVN Quality Management Plans. *The Engineering Division(ED) Project Engineer is the review leader for all DQC reviews and, as such, is responsible for managing all DQC reviews and assuring all DrChecks*[sm] *comments are resolved and closed. A DQC review will be performed on each product and deliverable. A DQC review is a review conducted by personnel within MVN. The purpose of this review is to review the accuracy of project data, information and calculations. A DQC review is not intended to replace an ATR, but rather is done in addition to an ATR. Comments from a DQC review will be captured formally through the use of DrChecks*[sm]*. A certificate with signatures documenting DQC*

***reviews is not required; however, a copy of the DrChecks[sm] report showing all comments are closed will be included in the final product quality review documents*.**

5. Agency Technical Review (ATR)

One ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.), however additional ATRs may be performed if deemed warranted. ATR will normally be performed on the AFB documentation with a continuing review on major changes leading up to completion and the District Commander signing the final report. 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. The ATR team lead will be from another MVD district.

a. Products to Undergo ATR. ***The ATR team (Attachment 3) will review all material developed to support the information contained in the Feasibility Report and associated Environmental Assessment (EA). This will include a cultural analysis, HTRW Phase 1 assessment, hydraulic analysis, engineering design drawings, cost estimates, and economic analysis.***

All products and deliverables and project-related design documents and other project-related materials subject to ATR shall be provided in electronic form for filing in the ProjectWise database by the Design Engineer/Project Engineer (DE/PE) during project development. The location of the ProjectWise database for the City of Carencro CAP 205 Feasibility Study is:

pw:\\MVN-APPW02.mvn.ds.usace.army.mil:CEMVN01\Documents\Civil Works\Continuing Authorities Program (CAP)\Sec. 205 Small Flood Control\Town of Carencro, LA\2.0 Feasibility\Working Documents

Additional ProjectWise location information will be added as it is developed (for DQC Reviews and ATRs).

b. Required ATR Team Expertise. ***The ATR team for this CAP 205 project should consist of 7 team members. Individuals chosen should have experience in flood risk management projects and be familiar with CAP processes. The following table details expertise that shall be included on the ATR team:***

ATR Team Members/Disciplines	***Expertise Required***
ATR Lead	*The ATR lead should be a senior professional preferably with experience in preparing Section 205 projects and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning,*

	economics, environmental resources, etc). The ATR Lead MUST be from outside MVN.
Planning	*The Planning reviewer should be a senior water resources planner with plan formulation experience in flood risk reduction projects. This person will be charged with evaluating the six step planning process, as well as the key planning assumptions made, and will be responsible for reviewing relevant information that led to the formulation of the final array of alternatives and identifying the selected plan. They should determine whether the planning process was clear and rationale, and evaluate the selected plan against the goals/objectives.*
Economics	*The Economics reviewer should be an expert in the field of economics and have experience with benefit/cost analysis and its application to planning projects. This person should have familiarity with the HEC-FDA model and its application in flood risk management studies. This reviewer should also have knowledge of non-structural alternatives and their evaluation in the planning process.*
Environmental Resources	*The Environmental Resources reviewer should be familiar with the laws/regulations associated with developing an Environmental Assessment for a small scale flood risk management CAP project. This person should have a wide variety of expertise as an environmental manger, including knowledge of HTRW, cultural and recreational resource evaluations.*
Hydraulic Engineering	*The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of Steady and Unsteady State hydraulic modeling pertaining to flood risk reduction projects. Knowledge of an open channel system with the possibility for the influence of retention ponds is also applicable for this project. This person should have experience working with the HEC-RAS model, and its application to small scale flood risk management projects.*
Civil Engineering	*A civil engineering reviewer will be an expert in the field of engineering and have an understanding of engineering measures applicable to reducing flood risk reduction in an open canal system. This person should have experience in designing measures to reduce flood risk and have applicable knowledge to the necessary staging requirements to construct measures in order to achieve the flood risk management goal of the project.*
Cost Engineering	*Cost DX Staff or Cost DX Pre-Certified Professional with experience preparing cost estimates for small scale flood risk management projects.*
Real Estate	*The Real Estate reviewer should have experience working*

	with flood risk management projects and experience with projects that have a local sponsor responsible for acquiring the land needed to construct the selected plan.

c. Documentation **of ATR.** DrChecks[sm] 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. Editorial comments should be provided by email to the PDT.

Documentation of the ATR will also include a completed (signed) statement of technical review and certification (ref. EC 1165-2-209; see Attachment 4), with an attached printout from DrChecks[sm] of all review comments (identified by the Reviewer) and the response of the designer to the comment. Documentation will be submitted with the AFB documentation package.

6. Independent External Peer Review (IEPR).

IEPR may be required for decision documents 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 1165-2-209, 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 1165-2-209.

For Section 103 and 205 decision documents prepared under the MVD Model Review Plan, Type I IEPR may or may not be required.

● 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.

For Section 103 and 205 decision documents prepared under the MVD Model Review Plan, Type II IEPR may or may not be anticipated to be required in the design and implementation phase. The decision on whether Type II IEPR is required will be verified and documented in the review plan prepared for the design and implementation phase of the project.

a. Decision on IEPR. It is the policy of USACE that Section *205* project decision documents should undergo Type I IEPR unless ALL of the following criteria are met:

- Federal action is not justified by life safety or failure of the project would not pose a significant threat to human life;
- Life safety consequences and risk of non-performance of a project are not greater than under existing conditions;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an EIS;
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;
- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

Further, if Type I IEPR will not be performed:

- Risks of non-performance and residual flooding must be fully disclosed in the decision document and in a public forum prior to final approval of the decision document;
- The non-Federal sponsor must develop a Floodplain Management Plan, including a risk management plan and flood response plan (and evacuation plan if appropriate for the conditions), during the feasibility phase; and
- The non-Federal sponsor must explicitly acknowledge the risks and responsibilities in writing in a letter or other document (such as the Floodplain Management Plan) submitted to the Corps of Engineers along with the final decision document.

The decision on whether the above criteria are met (and a Type I IEPR exclusion is appropriate) is the responsibility of the MVD Commander. Additional factors the MVD Commander might consider include in deciding if an exclusion is appropriate include, but are not limited to:

Hydrograph/period of flooding, warning time, depth of flooding, velocity of flooding, nature of area protected, and population protected.

An exclusion for Type I IEPR is appropriate for the CAP 205 Carencro Flood Risk Reduction Feasibility Study. As described in the following text, the project meets all of the exclusion criteria listed above. Therefore, a mandatory Type 1 IEPR is not triggered. Additionally, a risk informed evaluation of this project does not lead the PDT to believe that the project would significantly benefit from IEPR.

- ***Federal action is not justified by life safety or failure of the project would not pose a significant threat to human life:*** The flood risk management measures being considered for this project include: clearing and snagging; creating an improved earthen section; installing gabion walls; installing concrete lined section; installing a bypass channel; and/or constructing retention basins. Installing these measures will reduce the existing flood risk to humans and property. Once in place, these standard flood risk management measures the risk of failure is minimal. In the unlikely event that a failure were to occur, the threat to human life would still be less than is present under existing conditions and would not be considered significant.

- ***Life safety consequences and risk of non-performance of a project are not greater than under existing conditions:*** Historical flooding in Carencro has resulted in damage to homes, businesses, and infrastructure; no loss of life has been reported to date. Consequently, the primary flood risk the project will address is economic rather than life safety. The flood risk management measures being considered for this project include: clearing and snagging; creating an improved earthen section; installing gabion walls; installing concrete lined section; installing a bypass channel; and/or constructing retention basins. None of these flood risk management measures are subject to catastrophic failure. Therefore, the life safety consequences and risk of project non-performance will not be greater than those risks under existing conditions.

- **There is no request by the Governor of an affected state for a peer review by independent experts:** The Governor of Louisiana has not requested a peer review of the CAP Carencro project. A request is not expected.

- **The project does not require an EIS:** An Environmental Assessment is being developed for the Carencro CAP 205 study. Environmental impacts associated with the project are not expected to trigger the need for an EIS.

- ***If the project/study is likely to involve significant public dispute as to the size, nature, or effects of the project:*** The Carencro CAP 205 study is not anticipated to involve public dispute regarding the size, nature, or effects of the project. The local sponsor has been consistently involved in the project, is very supportive of the alternatives left in the final array, and has been an asset in searching for real estate that could be used to construct the various alternatives project under consideration.

- ***If the project/study is likely to involve significant public dispute as to the economic or environmental cost or benefit of the project:*** The Carencro CAP 205 study is not anticipated to involve public dispute regarding the economic or environmental costs/benefits of the project. The environmental effects of the project are not expected to be significant and will be documented in an EA; an EIS is not required for this project.

- ***The information in the decision document or anticipated project design is likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices (with some discussion as to why or why not and, if so, in what ways):*** The Carencro CAP 205 study does not involve any unique or novel technical analytical methodologies. Nor does the project include any design feature that would be considered novel or involve materials that are innovative. The flood risk management strategies that may be employed and associated construction methods proposed are methods that are typical of small scale flood risk reduction projects, and have safely and effectively been used before; nothing in the project is expected to be precedent setting or to impact prevailing practices.

- ***If the project design is anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule (with some discussion as to why or why not and, if so, in what ways:*** The design of this project is not anticipated to require redundancy, resiliency, or robustness. Construction of the various flood risk management measures being considered will be straightforward; no unique construction sequencing or scheduling will be required to implement any of the alternatives currently under consideration.

- ***There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted:*** This project does not possess any other known circumstances that would warrant Type 1 IEPR.

- ***Risks of non-performance and residual flooding must be fully disclosed in the decision document and in a public forum prior to final approval of the decision document:*** Risks of non-performance and residual flooding (if any) identified during the feasibility study will be fully disclosed in the decision document, and will be mentioned at public meetings to be held in the City of Carencro during the draft public comment period.

- ***The non-Federal sponsor must develop a Floodplain Management Plan, including a risk management plan and flood response plan (and evacuation plan if appropriate for the conditions), during the feasibility phase:*** The City of Carencro, as the non-Federal sponsor, will develop a Floodplain Management Plan, including a risk management plan and flood response plan (and evacuation plan if appropriate for the conditions), during the feasibility phase.

- ***The non-Federal sponsor must explicitly acknowledge the risks and responsibilities in a letter or other document (such as the Floodplain Management Plan) submitted to the Corps of Engineers along with the final decision document:*** The City of Carencro will

explicitly acknowledge the risks and responsibilities in this document, which will be submitted to the Corps of Engineers to include with the final decision document.

The need for Type II IEPR is not anticipated during the design and implementation phases of the CAP 205 Carencro Flood Risk Reduction project. The project is not expected to meet any of the triggers defined in the mandatory criteria list in Paragraph 2 of Appendix E of EC 1165-2-209 which includes the following three factors described in Section 3:

- **If the Federal action is justified by life safety or failure of the project would pose a significant threat to human life:** The flood risk management measures being considered for this project include: clearing and snagging; creating an improved earthen section; installing gabion walls; installing concrete lined section; installing a bypass channel; and/or constructing retention basins. None of these flood risk management measures are subject to catastrophic failure. Construction of any of these features will not result in the loss of human life, and once complete storm events will not change this condition.
- **If the project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices:** The CAP 205 Carencro project does not involve any unique or novel technical analytical methodologies. Nor does the project include any design feature that would be considered novel or involve materials that are innovative. The flood risk management strategies that may be employed and associated construction methods proposed are methods that are typical of small scale flood risk reduction projects, and have safely and effectively been used before; nothing in the project is expected to be precedent setting or to impact prevailing practices.
- **If the project design requires redundancy, resiliency, and/or robustness; and/or if the project has unique construction sequencing or a reduced or overlapping design construction schedule:** The design of this project is not anticipated to require redundancy, resiliency, or robustness. Construction of the various flood risk management measures being considered will be straightforward; no unique construction sequencing or scheduling will be required to implement any of the alternatives currently under consideration.

b. Products to Undergo Type I IEPR. *Not-Applicable*

c. Required Type I IEPR Panel Expertise. *Not-Applicable*

d. Documentation of Type I IEPR. *Not-Applicable*

No IEPR of interim products will be performed on the Carencro Cap 205 Study.

7. Policy and Legal Compliance Review.

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the MVD Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. Cost Engineering Directory of Expertise (DX) Review and Certification.

For CAP projects, ATR of the costs may be conducted by pre-certified district cost personnel within the region or by the Walla Walla Cost DX. The pre-certified list of cost personnel has been established and is maintained by the Cost DX at https://kme.usace.army.mil/EC/cost/CostAtr/default.aspx. The cost ATR member will coordinate with the Cost DX for execution of cost ATR and cost certification. The Cost DX will be responsible for final cost certification and may be delegated at the discretion of the Cost DX.

9. Model Certification and Approval.

Approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC commanders remain responsible for assuring the quality of the analyses used in these projects. ATR will be used to ensure that models and analyses are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports.

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

Planning and Engineering Models. The following models are anticipated to be used in the development of the decision document: *The planning model used is the certified HEC-FDA (1.2.4) model which was used to evaluate future with and without project measures for flood risk*

reduction along the Beau Basin Coulee. Two engineering models were used, HEC-RAS and HEC-HMS which are hydrologic models used to evaluate of the hydrology of Beau Basin Coulee.

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study
HEC-FDA 1.2.4 (Flood Damage Analysis)	The Hydrologic Engineering Center's Flood Damage Reduction Analysis (HEC-FDA) program provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program will be used to evaluate and compare the future without- and with-project plans along the Beau Basin Coulee near Carencro to aid in the selection of a recommended plan to manage flood risk.
HEC-RAS 4.0 *(River Analysis System)*	The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for unsteady flow analysis to evaluate the future without- and with-project conditions along the Beau Basin Coulee.
HEC-HMS (Hydrologic Modeling System)	A HEC-HMS model was developed for the hydrologic input of the HEC-RAS study. The hydrologic model did not include land use changes due to the historical growth of the City of Carencro; utilizing aerial photography and US census data over the past 10 years revealed insignificant changes to land development and minimal land available for future development. The analysis also assumes that any future development will incorporate measures to minimize impacts to the overall watershed at or less than the current conditions.

10. Review Schedules and Costs.

● ATR **Schedule and Cost.** The ATR for the draft Feasibility Report and associated Environmental Assessment (EA) is scheduled in P2 for 06 July 2011 to 29 July 2011 and is estimated to cost $25,000. The AFB milestone is 19 August 2011. The ATR for the Final Feasibility Report and associated Environmental Assessment (EA) is scheduled for late 2011 and is estimated to cost $25,000.

● Type **I IEPR Schedule and Cost.** *Not-Applicable*

11. Public Participation.

A public scoping meeting was held on 23 August 2010. The participating public will also have two opportunities to review and comment on the decision document and associated Environmental Assessment. The first of those opportunities will come once the PDT has completed the Alternative Formulation Briefing and has received approval to release the draft report for public review. This comment period will span 30 days and each comment received will be formally responded to in the final document. All comments can be mailed to the New Orleans District headquarters, or can be given verbally at a public hearing that will be held in the City of Carencro during the open comment period. The final decision document and associated review reports will be developed and sent to those individuals who made comments during the public comment period on the draft document. The reports will also be made available and will be distributed upon request from either the local sponsor or the New Orleans District.

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate.

12. Review Plan Approval and Updates.

The MSC Commander is responsible for approving this review plan and ensuring that use of the MVD Model Review Plan is appropriate for the specific project covered by the plan. The review plan is a living document and may change as the study progresses. MVN is responsible for keeping the review plan up to date. Minor changes to the review plan since the last MVD approval are documented in Attachment 2. Significant changes to the review plan (such as changes to the scope and/or level of review) should be reapproved by MVD following the process used for initially approving the plan. Significant changes may result in MVD determining that use of the MVD Model Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-209. The latest version of the review plan, along with the MVD approval memorandum, will be posted on the home district's webpage.

13. **Review Plan Points of Contact.**

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

- Josh Carson – 504-862-2318 (New Orleans District)
- Jim Wojtala – 601-634-5931 (Mississippi Valley Division)

Attachment 1: Team Rosters

CARENCRO PROJECT DELIVERY TEAM MEMBERS

Name	Overall Project Role	Office	Org. Code	Phone
Environmental				
Christopher Brown	Direct Overall EA Effort/HTRW Phase I	PDR-RP	B2K2133	(504) 862-2508
George Bacuta	Direct HTRW Investigation, Phase I & II	ED-F	B2L0300	(504) 862-1558
Gary Demarcay	Direct Cultural Resource Investigation	PDR-RN	B2K2131	(504) 862-2039
Richard Radford	Aesthetics Element for EA	PDR-RN	B2K2131	(504) 862-1927
Debbie Wright	Prepare Outdoor Rec Element EA	PDR-RN	B2K2131	(504) 862-1732
Chris Ingram	Prepare Remaining EA Elements/Compile EA	GSRC		(225) 757-8088
Joe Joseph	Cultural Resources Field Investigation	New South		(770) 498-4155
Paul Lo	Phase 1 HTRW Investigation	MMG		(504) 368-0568
Economics				
Courtney Reed	Guide/Review Economic Work	PDE-FR	B2K2122	(504) 862-1913
Jason Weiss	Direct Socioeconomic Analysis/Report Prep	URS		(301) 258-5859
Engineering				
Walter Teckemeyer	Engineering PE	ED-E	B2L0700	(504) 862-2611
Bich Quach	Review Geotech Appendix	ED-F	B2L0300	(504) 862-1504
Reynold Broussard	Guide H&H Effort/Review Appendix	ED-HD	B2L0200	(504) 862-2428
Brian Leaumont	Guide and Review Design Work	ED-L	B2L0400	(504) 862-2777
Stephen Staffier	Quality Management	ED-E	B2L0000	(504) 862-1846
Alex Jimenez	Relocations	ED-S	B2L0500	(504) 862-1789
Andre DeHaan	GIS	ED-S	B2L0500	(504) 862-2324
Jennifer Stephens	Cost Engineering	ED-SC	B2L0500	(504) 862-2972
Dwayne Blanchard	Surveys	ED-SS	B2L0500	(504) 862-1589
Tom Cancienne	H&H Modeling	CH2MHill		(504) 593-9421
Doug Harris	Engineering/Cost Estimating	CH2MHill		(530) 229-3391
Real Estate				
Hope Jackson	Cost Estimates and RE Appraisal/RE Plan	RE-E	B2N0200	(504) 862-2891
Erin Clark	Alt. Cost Estimates and RE Appraisal/RE Plan	RE-E	B2N0200	(504) 862-2183
Margie Sexton	Obtain Rights-of-entry	RE-L	B2N0100	(504) 862-2405

Office of Counsel				
Karen Roselli	Legal Support	OC	B2E0000	(504) 862-2137
Mary Kinsey	Senior Legal Support	OC	B2E0000	(504) 862-2828
Project Management				
Durund Elzey	Senior PM	PM-W	B2H4820	(504) 862-1674
Lloyd Rochon	Sponsor PM	City of Carencro		(337) 896-8481
Contracting				
Veronica Garner	Contracting	CT-W	B2P0500	(504) 862- 1515
Construction				
Maggie Fournier	Construction	CD-A	B2M1500	(504) 862-2821
Operations				
Steven Schinetsky	Operations Technical Support	OD-T	B2R0310	(504) 862-2343
Plan Formulation				
Josh Carson	Plan Formulation	PD-P	Atkins	(504) 862-2318

Attachment 2: Review Plan Revisions

Revision Date	Description of Change	Page/Paragraph Number

Attachment 3: ATR Team Members

Name:	ATR Discipline:	District:	Contact Info:
TBD	ATR Lead		
TBD	Planning		
TBD	Economics		
TBD	Environmental Resources		
TBD	Hydraulic Engineering		
TBD	Civil Engineering		
TBD	Cost Engineering		
TBD	Real Estate		

Attachment 4: Sample Statement of Technical Review for Decision Documents

Completion of Agency Technical Review

The Agency Technical Review (ATR) has been completed for the *CAP 205* City of Carencro Flood Risk Reduction Feasibility Study. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. 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[sm].

SIGNATURE _____ _____
Shawn Phillips Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____
Durund Elzey Date
Project Manager (home district)
Office Symbol

SIGNATURE _____ _____
Name Date
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ _____
Name Date
Review Management Office Representative
Office Symbol

Certification of Agency Technical Review

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

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

SIGNATURE _____ _____
Name Date
Chief, Engineering Division (home district)

Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division (home district)
Office Symbol

[1] Only needed if some portion of the ATR was contracted.