PROJECT MANAGEMENT PLAN

PMP/PMF STUDY

CHERRY CREEK DAM

DENVER, COLORADO

U.S. Army Corps of Engineers
Omaha District
Northwestern Division
INTRODUCTION. This document presents the Project Management Plan (ProjMP) for the Probable Maximum Precipitation/Probable Maximum Flood (PMP/PMF) Study for Cherry Creek Dam in Denver, Colorado.

PURPOSE OF A PROJECT MANAGEMENT PLAN (ProjMP). The ProjMP establishes the framework necessary for the execution of the design, procurement and construction of the project referenced in the ProjMP. The intent of the ProjMP is to outline the project scope, budget, and roles & responsibilities of the interfacing agencies. The ProjMP also outlines the technical performance requirements for the management and control of the project from initiation of the study through final product delivery. The plan provides performance measurement criteria including major milestones. A project schedule is included depicting tasks/activities, milestones, and durations. This plan also identifies the commitments of all the project participants.

Providing a quality study on schedule and within budget is the primary objective of all project participants. The operating procedure described in this plan supplements existing regulations for the purpose of establishing more detailed and specific relationships among organizations participating in this project. It is intended that this ProjMP be a living document subject to change as conditions warrant or as project experience dictates.

1. PROJECT REQUIREMENTS. To identify a project Probable Maximum Precipitation/Probable Maximum Flood (PMP/PMF) for the Cherry Creek Reservoir. This effort is part of the overall Dam Safety study process that the Corps follows for Corps dams and is in accordance with ER 1110-8-2 (FR), “Inflow Design Floods for Dams and Reservoirs”. All NEPA requirements will be followed for development of remediation alternatives, if required.

2. TEAM IDENTIFICATION. The members of the product delivery team are provided in Appendix A. Team members will be assigned to those disciplines where no personnel are assigned as the work effort progresses. The Corps’ project manager and primary point-of-contact (POC) is:

   John A. Palensky, P.E. Project Manager  402-221-4584
Non Federal Sponsor/Stakeholders:

Tom Browning, P.E.  Chief, Flood Protection/ Water Restoration/ Weather Modification Section
Colorado Water Conservation Board

303-866-4807

3. SCOPE. The scope for this effort is shown in Appendix B.

4. FUNDING. Funding for this study is provided under the Corps of Engineers authority for Operations and Maintenance of the Cherry Creek Dam project and is limited to $340 K for the PMP/PMF effort, as directed by the Congressional Representatives for the Cherry Creek vicinity (see item 4.1).

4.1 AUTHORITY. This study is authorized by the Corps of Engineers general authority for Operations and Maintenance of the Cherry Creek Dam project and is supported by Representatives Tancredo and Hefley of Colorado (See Attachment 1 for October 2005 letter of support).

5. SCHEDULE. The proposed schedule for this study is shown as Appendix C. The schedule has been coordinated with the signatories of this ProjMP. The schedule will also be loaded into the Corps of Engineers management tools known as JOBS and P2. During the course of the study, the schedule will be revised as necessary to show current conditions and forecasted changes. Schedule compliance and changes will be tracked through the JOBS/P2 programs. Revisions to the schedule will be coordinated with the study team as provided in the Change Control Plan.

6. WORK BREAKDOWN STRUCTURE. A Work Breakdown Structure (WBS) is a breakdown of the project into its component work tasks and products. The WBS for this project is generally represented in the project scope of services. If the study effort proceeds beyond the PMP/PMF analysis, the scope of services will be modified.

7. PROJECT QUALITY. A Quality Control Plan (QCP) for this study is provided in Appendix D. This plan outlines the procedures (i.e., checks and reviews) that will be implemented to insure that the products meet the quality objectives provided above. A mandatory quality control review (QCR) or reviews is a critical element of the Corps quality control process.

An independent technical review team will perform the QCR to insure that all products conform to these quality objectives and District policy and procedures. Persons selected as QCR reviewers will have sufficient expertise and experience in the disciplines to be reviewed and a degree of independence from the individuals who prepared the products. A QCR reviewer would not normally be someone who has closely participated in the
study in an advisory or mentoring capacity. The members of the independent technical review team will be selected at a later date.

8. ACQUISITION STRATEGY. For this study, the determination was made that execution could be performed exclusively with in-house staff. The Omaha District in house staff is uniquely qualified to perform this study due to our familiarity with the project from design and construction through to present day operations and maintenance. As the study progresses, the need for contracts or work with other agencies will be considered and utilized where appropriate.

9. RISK MANAGEMENT. Any study has inherent risk and uncertainty associated with it due to natural conditions and limitations in analysis. The more detailed and comprehensive the analysis, the lower the risk. In addition, the more detailed and updated the site information is, the lower the risk. For this study, hydrologic and hydraulic models will be employed that are state of the art and are commonly used by the Corps of Engineers (e.g. HEC-HMS, HEC-RAS, etc). In addition, models developed by HDC and HAC will be utilized during the hydropower analysis portion of study. At each step throughout the study, every attempt will be made to use the best information available and to use state of the art engineering practices to minimize risk. For this study, the PDT agrees that the risk is acceptable for the level of detail that will be applied. Study results will be monitored on a continual basis and modifications will be made if the PDT determines that the risk is not acceptable.

10. SAFETY PLAN. The PDT will adhere to the general safety requirements of the U.S. Army Corps of Engineers and the policies and procedures established by the Division, Branch, or Section in which that person represents. Work performed that requires a pre-approved safety plan shall not commence until official approval is given (approvals shall be those that are required for the specific work task(s) and accompanying policies set forth by the office which the PDT member represents). For work where a pre-approved safety plan is generally not required (e.g. routine site visits for Planning/Civil works projects), the PDT shall conform to standard safety practices. If any member of the PDT is uncertain or needs guidance in safety practices, contact the safety office, CENWO-SO, at 402/221-4051.

11. CHANGE MANAGEMENT. PDT members are responsible for identifying any changes in scope, budget, or schedule as early as possible so that the PM can resolve the issue, approve the change, or elevate the change to the appropriate level for action. The greater the change and its impact to the study, the higher the level of authority that may be required for action. Changes that affect the overall scope, budget, or schedule require approval by the PM. The PM maintains a record of approved changes and modifies the ProjMP accordingly. Unanticipated changes in the project will be accommodated with no change in total project costs so long as sufficient contingencies exist. The draw down of contingencies will be managed to offset study cost increases.

12. COMMUNICATIONS STRATEGY.
12.1 Communication Plan. The Project Manager will be the main point of contact for the PDT for the study. A technical lead may also be identified as the study progresses. A communication plan must be developed that addresses discussions between the PDT members, discussions with other stakeholders/observers, discussions with Congressional Representatives, discussions with the public, and discussions with the media. The strategy for communications for these various components are as follows.

12.2 Project Development Team (PDT) Meetings. Project Development Team meetings will be periodically scheduled by the PM or Lead Technical Office to discuss technical issues, update status, etc.

12.3 Omaha District Meetings. In addition to the day-to-day discussions required for a study the Corps’ management will also be kept informed through reports to the Project Review Committee (PRC) and Project Review Board (PRB). These reports are prepared by the PM and will discuss accomplishment of project objectives, identify issues, and forecast changes to schedules and costs.

Other internal reports will be periodically prepared for various purposes. Milestone reports showing tasks, funds, and dates for work requests from various functional divisions within the District are prepared so that the District workload may be planned. Reports showing past and estimated future expenditures are prepared for budget planning. These internal reports are prepared monthly, quarterly, or annually, according to established District procedures. One or more fact sheets with condensed information about the project are maintained to provide background information to higher authority or to respond to inquiries. Some informal internal reports are made for recording purposes. These include trip reports, telephone call memos, and minutes of meetings.

12.4 Stakeholders/Other Interested Parties. The goal of any discussions outside of the main Corps/CWCB PDT is that we will speak with one message. As the study progresses, the PDT will determine appropriate times to call a meeting with the stakeholders and make ourselves available to share information, as needed. Information that is considered draft or has not reached consensus with the PDT will not be shared without the full understanding of all PDT members.

12.5 Public Involvement. Meetings may be held as needed throughout the course of the study to brief other interested parties, including members of the general public. The dam safety process will require public input and communication with news outlets to convey the message. These requirements will be adhered to and implemented as required. Other governmental agencies will be consulted as needed throughout the study.

12.6 Public Affairs and Media. The CWCB and the Corps of Engineers both have active public affairs offices that may be involved with this study. Whenever possible, news releases to the media will be a joint collaboration between the CWCB and the Corps of Engineers.
12.7 **Information Management.** Electronic and hard copy files will be maintained in accordance with current policies established by the Omaha District.

13. **VALUE MANAGEMENT.** Value Management (VM) is a process to facilitate and encourage the understanding, consideration, and integration of the needs of all customer, PDT members, partners, and stakeholders. VM seeks the highest value for a project or study by balancing resources and quality. The VM process emphasizes the use of multi-disciplinary teams and their resulting synergy, using a functional analysis approach for decision-making. It is a management tool that should be applied continuously throughout the life cycle of projects or studies and programs. VM is applicable to all business processes.

For purposes of this study, the principles of VM shall be adhered to and enforced through the procedures put in place in the aforementioned sections.

14. **CLOSEOUT PLAN.** At the conclusion of the study, the PDT, including identified stakeholders, shall agree that the delivered product meets the expectation of the Scope of Services.

15. **APPROVALS.** This Project Management Plan for the PRB/PMF study for Cherry Creek was prepared and approved by the Project Delivery Team. See approvals in Appendix A.