

**MIDDLE RIO GRANDE
BOSQUE ECOSYSTEM RESTORATION PROJECT
ALBUQUERQUE, NEW MEXICO
QUALITY CONTROL (QC) AND
INDEPENDENT TECHNICAL REVIEW (ITR) PLAN**

1.0 PURPOSE

This Review Plan presents the process that assures quality products for the Middle Rio Grande Bosque Ecosystem Restoration, General Investigation (GI) Feasibility Study.

The product to be reviewed by the technical review team is the integrated Feasibility Report. Under the provisions of new U.S. Army Corps of Engineers (USACE) policy, as detailed in EC1105-2-408 dated May 31, 2005, the ITR will be conducted by specialists from organizations outside of the district responsible for the study. Independent Technical Review will be conducted for all decision documents and will be independent of the technical production of the project. This QC and ITR Plan is, by reference, a part of the PMP for this Feasibility Study.

2.0 APPLICABILITY

This document provides the Quality Control Plan for the Feasibility Study. It identifies quality control processes and independent technical review for all work to be conducted under this study authority, including in-house, sponsor and contract work.

3.0 REFERENCES

EC 1105-2-408 "Peer Review of Decision Documents" (May 31, 2005)
EC 1105-2-407 "Planning Models Improvement Program: Model Certification" (May 31, 2005)
EC 1105-2-409 "Planning in a Collaborative Environment" (May 31, 2005)
ER 1105-2-100 "Planning Guidance Notebook & Appendices"

4.0 GENERAL PROJECT DESCRIPTION

The authority for this study was derived from a series of Congressional actions authorizing projects on the Rio Grande, particularly in the Middle Rio Grande Valley. These authorizations began with the basic flood control authorization for the Middle Rio grande, Public Law No. 228, 77th Congress, 1st Session, H.R. 4911, dated 18 August 1941. House of Representatives Resolution, dated 11 April 1974 states:

RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE HOUSE OF REPRESENTATIVES, UNITED STATES, That the Board of Engineers for Rivers and Harbors is hereby requested to review the report of the Chief of Engineers on the Rio Grande and tributaries, New Mexico, published in House Document Numbered 243, Eighty-first Congress, First Session, with a view to determining whether any modifications of the recommendations contained therein are advisable at the present time, with particular reference to providing a plan for development, utilization and conservation of water and related land resources of "the metropolitan region of the Rio Grande from Cochiti Lake to Elephant Butte Reservoir, with due consideration for the metropolitan planning activities in the

six-county area, consisting of Santa Fe, Sandoval, Bernalillo, Valencia, Socorro and Sierra Counties.” Such studies to include appropriate consideration of the needs for protection against floods with particular emphasis on the levee system of the Middle Rio Grande Conservancy District, wise use of flood-plain lands, regional water supply and waste management facilities system, general recreation facilities, enhancement and control of water quality, enhancement and conservation of fish and wildlife and other measures for environmental enhancement, economic and human resources development, and shall be harmonious components of comprehensive development plans formulated by various planning agencies and other interested Federal agencies.

The purpose of the Feasibility phase study is to determine if there is a Federal (Corps) interest in addressing the water resource problems and opportunities in the Albuquerque area of the Middle Rio Grande in Bernalillo County, New Mexico. In response to the study authority, a Reconnaissance study was initiated in March 2002. The Reconnaissance study determined that there is a federal interest in participating in cost-shared feasibility studies to investigate ecosystem restoration, educational/interpretive opportunities, and low-impact recreational opportunities for the Middle Rio Grande floodway as it passes through Albuquerque, New Mexico. A Feasibility Cost Sharing Agreement (FCSA) was signed in the fall of 2004 and this Feasibility study was initiated. The Feasibility report resulting from these studies is intended to serve as the basis for authorizing a specific project(s) for construction.

5.0 REVIEW REQUIREMENTS

Initial Quality Control (QC) review will be handled within the Section or Branch performing the work within the Corps, or by the sponsor’s staff in the corresponding department when it involves In-Kind Services. Additional QC will be performed by the Project Delivery Team (PDT) during the course of completing the integrated Feasibility Study. The detailed checks of computations and methodology should be performed at the District level, and the processes for this level of review are well established.

Pursuant to EC 1105-2-408, item 2 c (2), Models used in the preparation of decision documents covered by this Circular will be reviewed in accordance with EC 1105-2-407, Planning Models Improvement Program: Model Certification, and are not subject to the requirements of this [1105-2-408] Circular. The uses and applications of models in individual studies that lead to the preparation of decision documents covered by this Circular will be reviewed in accordance with the requirements of this Circular.

This study will not be novel, controversial or precedent setting. As a result, the ITR will focus on:

- Review of the planning process and criteria applied.
- Review of the methods of preliminary analysis and design.
- Compliance with authority and NEPA requirements.
- Completeness of preliminary support documents.
- Spot checks for interdisciplinary coordination.

6.0 REVIEW PROCESS

The review of the Middle Rio Grande Bosque Ecosystem Restoration Feasibility Study will follow the criteria set forth in CESP-D-R 1110-1-8, Appendix c, dated 20 September 2004. The Existing Conditions (F3) ITR and review of this study was completed in December 2006. The F4 review is scheduled for the fall of 2007.

7.0 REVIEW SCHEDULE

The commencement of this study preceded the requirement for PCX involvement and development of this Review Plan. Current review activities are summarized below.

TASK	START DATE	FINISH DATE
Develop ITR Plan & post to Web Site, PCX	30 March 2007	30 Apr 2007
Identify Regional ITR resources & Recommend ITR Plan to PCX	31 March 2005	1 April 2005
PCX Approves or Assigns ITR Team	26 May 2005	14 July 2005
Review of Models		
ITR Team Review of F3 Documents	22 Sept. 2006	31 October 2006
F3 Meeting & Policy Review Memorandum	18 December 2006	21 December 2006
Preparation for AFB to Include ITR Review of AFB Documents	2 February 2007	14 September 2007
Alternative Formulation Briefing	10 October 2007	
Public Review of Draft Feasibility Report	3 December 2007	4 January 2008
Final Feasibility Report	March 2008	

8.0 PROJECT RISK

The PDT members were asked to assess the risk associated with this project based upon five factors and rate the project quantitatively among five levels of project risk of failure ranging from low to high (risk score class). The PDT scored each Project Risk Item in the Review Plan Score Guide (Table 8.1) and calculated an overall Average Project Risk Assessment Score. The exact value of the scores were not as important as compared to what risk score class (low, medium or high) the Average Project Risk Assessment Score was classified. Based upon the PDT analysis, the project is projected to be moderate in risk.

The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating, so it is likely that the risk level would have been lower if the team were to have compared the risk of this project to a large ecosystem restoration

project elsewhere. The Project Schedule and Cost were assessed as a low degree of risk if they both remained flexible and a high degree of risk if the Project schedule and cost was fixed. Staff Technical Experience was assessed as a low degree of risk if the staff had a high level of experience/expertise and a high degree of risk if the staff had a low level of experience. The results of the evaluation are tabulated as follows:

Table 8.1 Review Plan Score Guide

Project Risk Item	Risk Assessment Score (Low Degree to High Degree)			Score
	Low	Medium	High	
Project Complexity	1 2	3 4	5	2
Customer Expectations	1 2	3 4	5	4
Product Schedule/Cost	1 2	3 4	5	3
Staff Technical Experience	1 2	3 4	5	2
Failure Impact and Consequences	1 2	3 4	5	2
Average Project Risk Assessment Score				2.6 Low to Medium Risk

9.0 REVIEW PLAN

The components of the Review Plan were developed pursuant to the requirements of EC1105-2-408.

9.1 TEAM INFORMATION

The decision documents that will be the ultimate focus of the peer review process are the integrated Feasibility Report and the Environmental Record of Decision (ROD) for the Middle Rio Grande Bosque Ecosystem Restoration, General Investigation Feasibility Study. The purpose of the decision document will be to begin the approval process leading to the authorization to begin Plans & Specifications. The internal review will be conducted by elements of the Albuquerque District per the project Quality Control Plan. Independent Technical Review will be conducted by Technical reviewers from SPK and SPL.

9.2 SCIENTIFIC INFORMATION

Based upon the self-evaluation by the PDT, it is unlikely that the USACE report to be disseminated will contain highly influential scientific information. The ecosystem restoration measures that were identified within the 905 (b) analyses will be evaluated using standard hydrologic, hydraulic, geotechnical and economic processes.

Economic and planning processes will additionally consider the Collaborative Planning EC (EC 1105-2-409). This EC describes the economic accounts that can be used to describe economic

benefits. The four main economic accounts are national economic development (NED), national ecosystem restoration (NER), regional economic development (RED), and the other social effects (OSE).

9.4 EXTERNAL PEER REVIEW PROCESS

No External Peer Review process is envisioned at this time. This assessment is supported by the evaluation of the PDT in April 2007 and tabulated as shown in Section 8 of this Review Plan.