

1.0 Purpose of and Need for Action

1.1. Introduction

The El Paso County Water Improvement District Number One (District) of Texas proposes to reconstruct a portion of the Riverside Canal (Canal) system (see map page 2). The project would be in cooperation with Reclamation under a Memorandum of Agreement (MOA, see appendix B). In addition, authorization and requirements for funding the project are written in the Lower Rio Grande Valley Water Resources Conservation and Improvement Act of 2000 (P.L. 106-576), hereinafter referred to as “The Act”. This environmental assessment will analyze the potential impacts of the proposed action on canal reaches A, B, and C. A more detailed description of the Proposed Action will appear in Chapter 2.

1.2. Proposed Action

Due to excessive water losses found in the Canal as a result of evaluations, there is a proposal to reconstruct the first 3 miles of the Canal. The following four alternatives were considered for correcting the identified weaknesses:

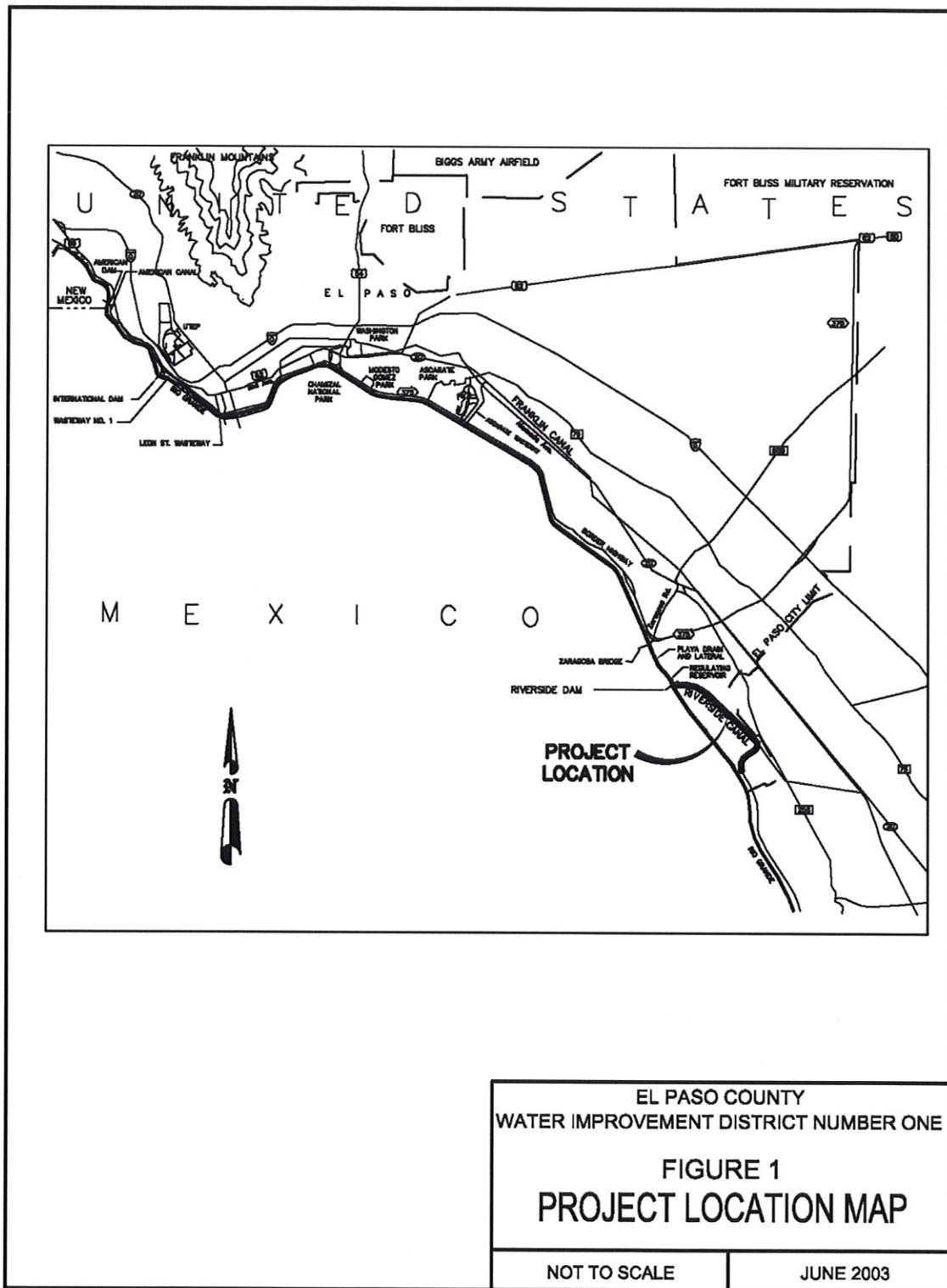
1. Elimination of the canal
2. Reconstruction of the earthen canal
3. Concrete line the canal, replace leaky gates, check structures, and correct inefficient delivery
4. Replacement of canal with large diameter pipe

Lining the canal with concrete, replace leaky gates, and check structures which would correct inefficient deliveries has been subsequently identified as the proposed action, which would be partially Federally funded through Reclamation.

1.3. Need for the Action

In the lower Rio Grande Valley, the Rio Grande has been severely impacted by prevalent drought conditions. A portion of the lower Rio Grande Valley includes the District and the City of El Paso (City) in far west Texas. Water demands in this region are increasing each year dramatically as a result of population increases (EPA 1997). Waters of the Rio Grande are distributed in accordance with the Congressional Authorizations of Reclamation’s Rio Grande Project. The District has primacy use of these surface waters during an eight month irrigation season. The Canal is used to deliver approximately 50% of the raw water supply to the City, and to supply irrigation water to over 45,000 acres of irrigable land.

Since 1941, the City has obtained about 43 percent of its water supply from the Rio Grande by way of contracts with the District authorized by the Act of February 25, 1920 (Sale of water for miscellaneous purposes other than for irrigation). The City also obtains 40 percent of its water from the Hueco Bolson Regional Aquifer (Hueco), and 17 percent from the Mesilla Bolson groundwater aquifer (New Mexico-Texas Water Commission (Commission) 1998, 1999). However, according to the United States Geological Survey (USGS), these aquifers will begin to



run dry and will be severely depleted by 2025. As a result, depleted groundwater will also increase the demand for surface water in the Rio Grande. Therefore, irrigation system improvements, water conservation projects and increased efficiencies are critical to meet this region's growing need for water.

Limited options exist which would satisfy the need to increase the water supply. Of these options, conservation holds the greatest advantage over other potential approaches. Conservation programs allow previously developed, higher quality water sources to be extended, effectively creating new, "good" water sources.

Each year the Canal loses approximately 3,000 acre feet of water per mile through seepage and 55 acre feet per mile due to evaporation (District project report 2003). Therefore, the Canal loses approximately 7,000 to 9,000 acre feet of water per year in the Project area. In addition, diversion, check, and bypass structures along the Project leak water and need to be replaced. As a result, inefficient withdrawal scheduling and excess bypass waste flows exist. Improvements to the Canal would help the District reduce the need to pump water from the Hueco Bolson groundwater aquifer to provide irrigation water.

1.4. Purpose of the Action

In an effort to conserve water, the District proposes to correct weaknesses identified in the Canal. These weaknesses were identified in evaluations of the first 2.25 miles of the Canal (District project report 2003). The following summarizes these weaknesses:

- Seepage of water and evaporation losses from existing earthen canals.
- Excess bypass of water and waste flows resulting from limitations of existing check structures.
- Inefficient withdrawal scheduling in the system.

Therefore, the purpose and objectives of reasonable alternatives to overall increase the water supply, the proposed action would:

- 1.4.1.** Reduce or eliminate seepage losses to the groundwater
- 1.4.2.** Reduce evaporation losses due to the current surface area of the canal
- 1.4.3.** Correct inefficient delivery due to leaky diversion and check structures

1.5. Laws, Regulations, and Environmental Impact Statement (EIS) that affect this EA

The referenced MOA, the Act, and the El Paso-Las Cruces Regional Sustainable Water Project 2001 EIS , dated January 16, 2001, affect this EA. Under the MOA dated June 11, 2003, Reclamation agreed to prepare an EA for the project plan to comply with the National Environmental Policy Act (NEPA). The Act requires that a project plan approved by Reclamation be prepared by the District to qualify for federal funds required for the proposed action. According to the 2001 EIS (see page 4 and 6 of the Record of Decision), the Project or the preferred alternative will strive to deliver water efficiently. In addition, the Project will

promote water conservation. Therefore, irrigation system improvements, water conservation projects and increased efficiencies are critical to meet this region's growing need for water. This EA will address these improvements to promote water conservation. Improvements to the Canal would help the District to reduce the need for pumping water from the Hueco to provide irrigation water.

1.6. Public Scoping and Issues

A public meeting was held on September 10, 2003, at the District office. The purpose of the meeting was to provide an opportunity to discuss a proposal to improve the Canal. Several alternatives were presented including the preferred alternative to line the canal with concrete. Approximately 30 people attended representing the District, University of Texas at El Paso (UTEP), Ysleta del Sur Pueblo (Pueblo), Friends of the Rio Bosque (Friends), Axiom-Blair Engineering, and Reclamation. Each of the representatives were encouraged to send comments regarding the proposed action in writing to Reclamation. The following issues were discussed:

1.6.1. Pecos River Muskrat

The Pecos River Muskrat was sighted 3 to 4 miles southeast in irrigation ditches. However, it can live in canal systems and around hydraulic structures (Prevention and Control of Animal Damage to Hydraulic Structures, Hegdal and Harbour USDA, BOR, US Government Printing Office, April 1991. page 51.).

1.6.2. Historic Features of the Riverside Canal

The proposed project takes place entirely within the District which is included on the National Register of Historic Places (NHRP). Three hydraulic structures in excess of 50 years of age will be modified and/or replaced in the proposed Project area.

1.6.3. Effects of lining the Canal with concrete to the Rio Bosque Wetlands Park (Park)

Lining the Canal with concrete near the Park was identified as an issue in the public meeting of Sept. 10, 2003. Additional meetings were held with the Friends to further define their issues regarding the proposed action. Proponents of the Park believe that lining the Canal with concrete will impact the potential for creating and maintaining a wetlands park.

1.6.4. Effects of lining the Canal with concrete to the groundwater aquifer

Friends believe that lining the Canal would affect the groundwater aquifer below the Canal and the Park.

1.6.5. Impacts to the culture of the Ysleta del Sur Pueblo

Additional meetings were held with the Pueblo to further define their issues regarding the

proposed action. The following concerns were identified.

1.6.5.1. Effects of lining the canal on sacred plants.

1.6.5.2. Effects of construction activities during religious ceremonies.

2.0 Description of Alternatives Including the Proposed Action

2.1. Introduction

This chapter will be devoted to describing and comparing the alternatives including a summary of environmental consequences. The chapter has five sections as follows:

2.1.1. Description of Alternatives

2.1.2. Process Used to Consider, Select, and Eliminate Alternatives

2.1.3. Discussion of Reclamation's Preferred Alternative

2.1.4. Summary Comparison of the Activities, the Predicted Achievement of the Project Objectives, and the Predicted Environmental Effects of All Alternatives (see table on page 11)

2.2. Description of the Alternatives

2.2.1. No Action Alternative (A):

Implementation of this alternative would not satisfy the purpose and need of the proposed action. Weaknesses in the Canal would continue to exist including inefficiencies of the delivery structures. In addition, high seepage and evaporation losses would continue to exist at the present rate.

2.2.2. Proposed Alternative (B)

Three Canal sections A, B, and C (see Figure 2, Page 9) would be concrete lined with side slopes of 1:5:1. Although the dimensions would be different for each section, it would be necessary to carry a maximum flow of 1,590 cubic feet per second (cfs). The Partidor Check, Franklin Check, and the Wasteway One Check Structures would be replaced with new efficient Structures. The Partidor Check Structure would discharge water to Reach C of the Riverside Canal. The Franklin Check Structure would discharge water to the Franklin feeder, an existing, earthen-lined, irrigation canal which flows to the northeast to feed the Franklin Canal. Both check structures would contain two, twelve-foot wide radial gates to control flow. The Wasteway One Structure is intended to pass water from Reach C to the existing Canal. Its design would also include a side-channel weir to allow water to be wasted in an emergency from Reach C to the Rio Grande.

Access to the Project during construction would be along the current right-of-way roads.