

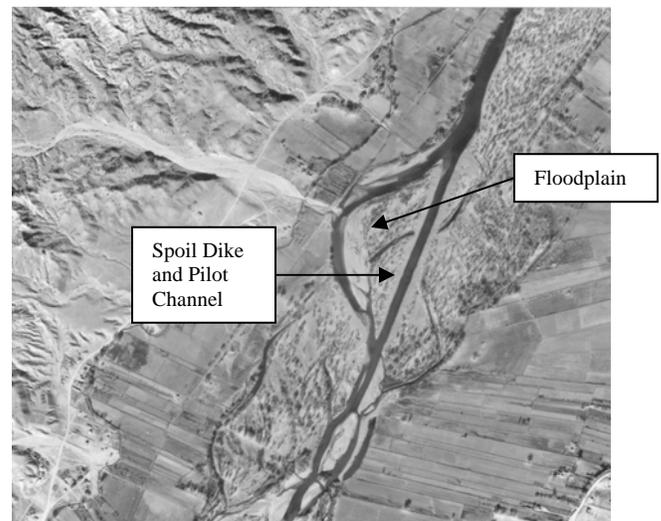
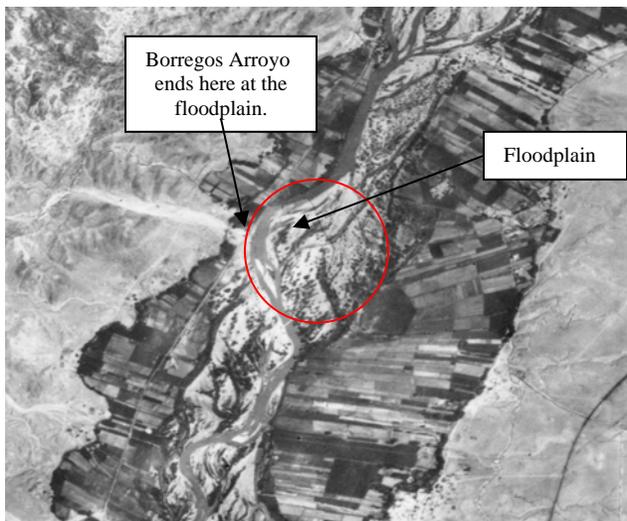
## Chapter 1. PURPOSE AND NEED FOR ACTION

### 1.1 Introduction:

The Flood Control Acts of 1948 and 1950 authorized Reclamation and the Corps of Engineers to develop and implement a comprehensive plan for flood control and water conservation. The Middle Rio Grande Project was approved by Congress in the Flood Control Act of 1948 (62 Stat. 1171, 1179), and completion of the plan authorized in the Flood Control Act of 1950 (64 Stat. 170, 176). Originally, the river channel was the type to change course as a result of flooding (an avulsion-type channel). The river would flow toward one location until it had built its bed to a higher elevation than the adjacent lands. Then a high flow would break over into the lower lands and establish a new channel location. As a result, Reclamation implemented a system of channelization on the Middle Rio Grande for the purpose of providing flood control and straightening out the river on floodplains. In addition, as part of the channelization, the Rio Grande has been confined between a system of levees or a combination of levees and natural bluffs which control the river (Summary Report December 1967).

Historically, the Borregos Arroyo emptied into a floodplain created by the Rio Grande (see 1935 Photo below). As a result of the flood control acts, a pilot channel and spoil dike were constructed to straighten out the Rio Grande (see 1949 photo below).

The photo on the left was taken in 1935. The photo on the right was taken in 1949.



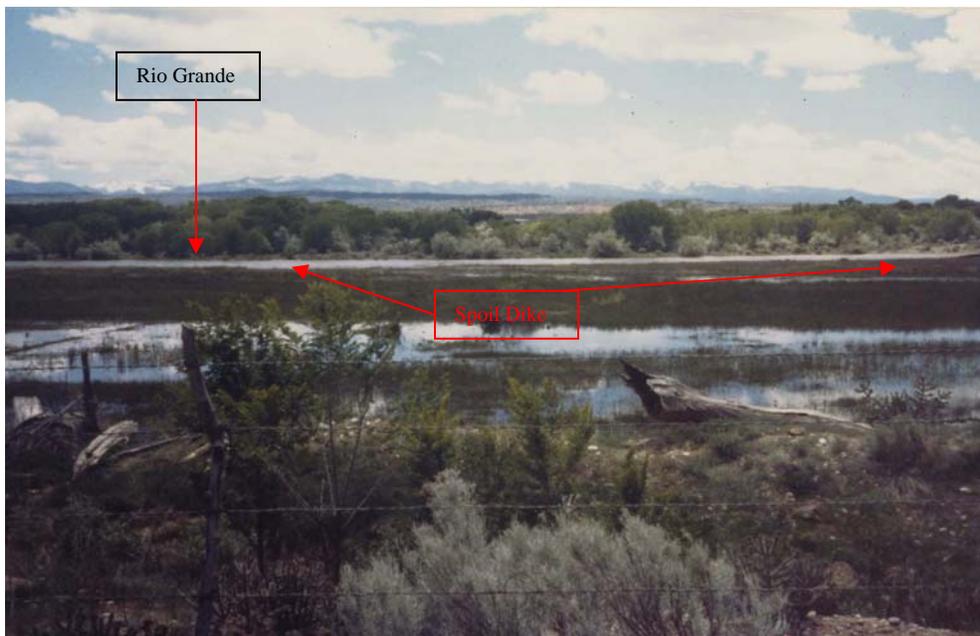
## 1.2 Proposed Action

The Bureau of Reclamation, Albuquerque Area Office, proposes to provide drainage of stormwater from the Estaca, Lopez, Borregos Arroyos impeded by an existing dike to the Rio Grande. In addition, water overflows from the El Guique Acequia (Acequia) would also be provided drainage to the Rio Grande (figure 1 for the location of the proposed project, figure 2 for the exact location of the arroyos).

## 1.3 Need for the Action

A spoil dike (see spoil dike on aerial photos in section 1.1) that was constructed in front of Estaca, Lopez, and Borregos Arroyos, restricts stormwater from draining into the Rio Grande. The dike also restricts acequia overflows and stormwater flows from adjacent properties from entering the Rio Grande. As a result, the restrictions cause water to pond up west of the dike on the adjacent landowner properties.

The picture below shows excessive ponding of water that occurred in 1987 onto the land west of the spoil dike in the vicinity of the Borregos Arroyo. Water flow in the river at that time was 8852 cfs.



### Project Location – El Guique, NM

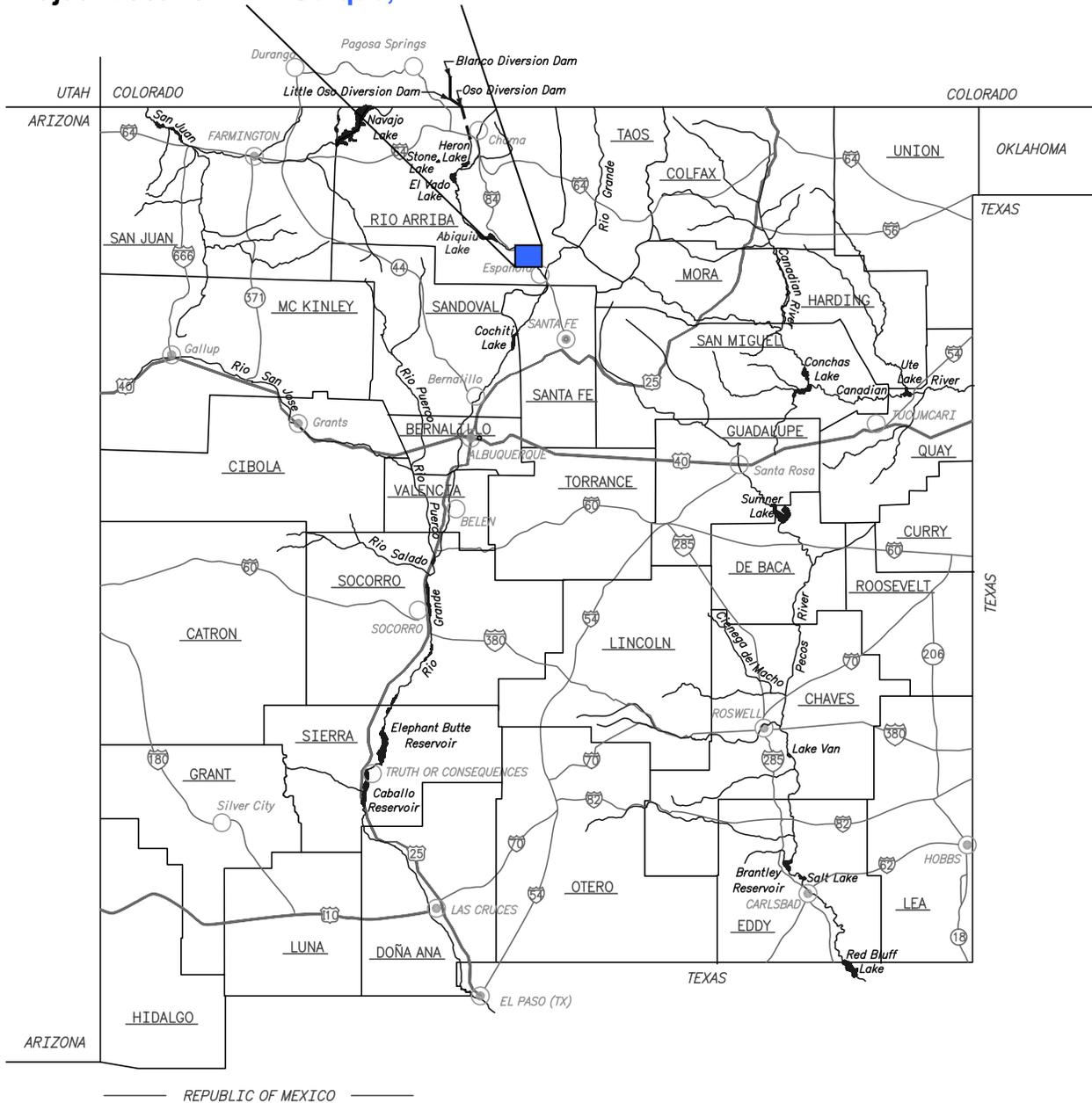


Figure 1 - New Mexico State Map



Location of Arroyos

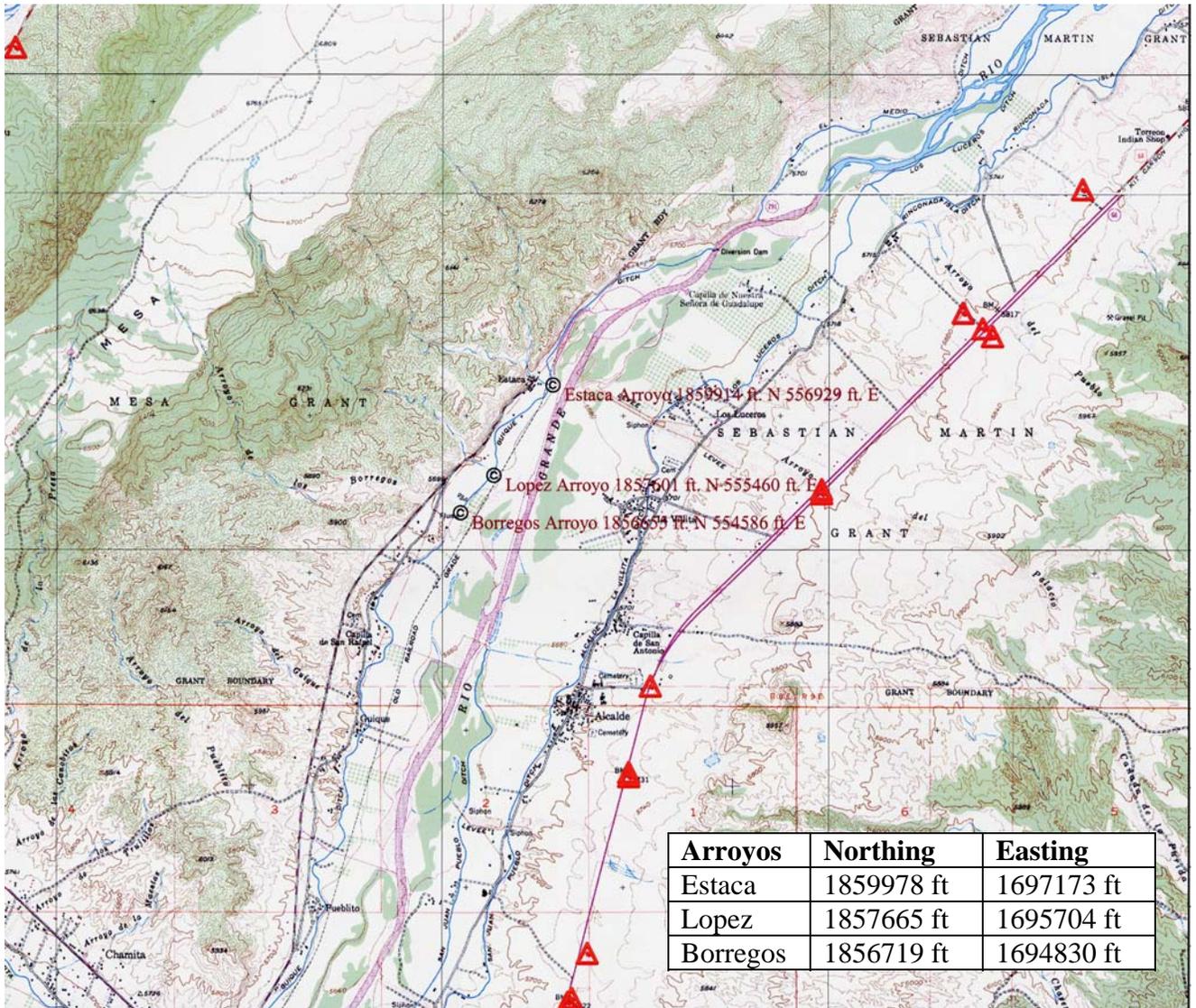
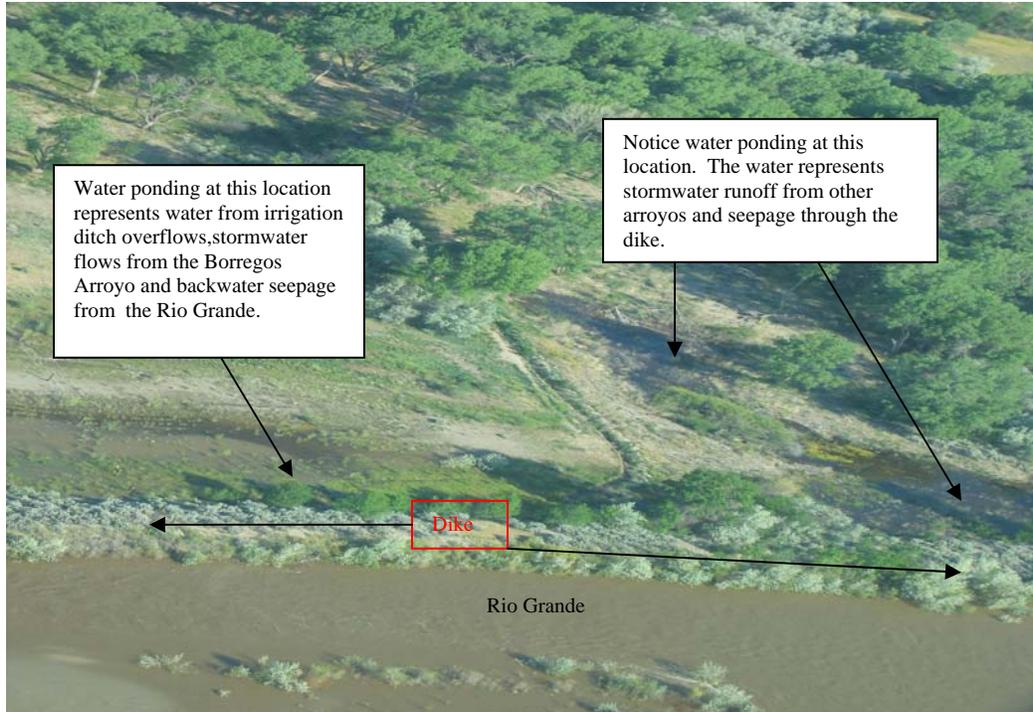


Figure 2 - Estaca, Lopez, and Borregos Arroyos

The following photo was taken on May 24, 2005, when the river was flowing at 5710 cfs. The excessive ponding on the west side of the dike increased as the river increased in flows. In addition, stormwater runoff from the arroyos and the irrigation ditch overflows were restricted from draining into the Rio Grande.



#### 1.4 Purpose of the Action

The objective of the proposed action includes improving the drainage of stormwater flows back to the river channel. In addition, the improved drainage would reduce the extent of ponded water on the west side of the dike. Therefore, an outlet through the dike would need to be provided for three types of flows to drain into the river. These flows would include stormwater from the arroyos (Estaca, Lopez and Borregos), stormwater from adjacent land owner property, and irrigation ditch (El Guique Acequia) overflows.

The objective would require an action alternative for channeling and drainage of these flows into the Rio Grande. As a result, an alternative would need to be selected that would achieve the following:

- 1.4.1. Eliminate excessive water ponding of adjacent landowner properties.
- 1.4.2. Provide an outlet for stormwater flows of the Estaca, Lopez, and Borregos Arroyos, including El Guique ditch overflows to the Rio Grande.
- 1.4.3. Provide the opportunity for landowners to improve stormwater drainage of their property into the river.

### 1.5 Relevant Statutes, Regulations, and other Plans

The following table summarizes the statutes, permits, and MOUs that affect the proposed action:

| Statute, Permit, MOU  | Government Agency                              | Purpose  | Requirements   |
|-----------------------|--|--|--|
| 62 Stat. 1171, 1179   | Reclamation and Corps of Engineers             | Protection from floods                           | Maintain levees and dikes  |
| 64 Stat. 170, 176     | Same as above                                  | Protection from floods                           | Same as above  |
| 404 and 401 permits   | Corps of Engineers                             | Comply with the Clean Water Act                  | Mitigation plan to replace 12 mature cottonwood trees (See Appendix B) |
| 402 stormwater permit | Environmental Protection Agency                | Protect US waters from stormwater runoff         | Pollution Prevention Plan and an Notice of Intent (NOI)                |
| MOU dated 1/14/2004   | Reclamation and El Guique Acequia organization | An agreement between Reclamation and the Acequia | Reclamation agrees to correct water flow restrictions.                 |

According to the Memorandum of Agreement (see Appendix A) between Reclamation and the El Guique Acequia, Reclamation agreed to provide drainage of restricted flows to the Rio Grande. The decision to be made would be whether or not to construct certain features in the Borregos Arroyo and the levee for this purpose.

### 1.6 Issues, Public Scoping

On December 8, 2003, a public meeting was held in the conference center near Alcalde, NM. The purpose of the meeting included an explanation of the project at the Borregos Arroyo. In addition, Reclamation gave the public an opportunity to make any comments and voice any issues for or against the project.

Additional meetings were held at the proposed project site with representatives from the Corps of Engineers and the Fish and Wildlife Service. The following are issues identified during the public meeting, coordination with other government agencies, and employees of Reclamation:

- Removal of existing cottonwood trees from the proposed project area.
- Small wetlands near the project area may be affected.
- Wildlife habitat for endangered species such as the Southwestern Willow Flycatcher and Bald Eagles may be affected.
- Cultural resources are present near the proposed project area and may be affected.
- The proposed action would affect a wasteway ditch that has been identified by the Corps of Engineers as waters of the United States.
- Private land would be affected by the proposed project.
- Air quality and noise may affect private landowners during construction.