

## **APPENDIX M**

### **Comments/Responses to Comments**

# TABLE OF CONTENTS

	<b>Page</b>
SECTION 1 - SUMMARY OF PUBLIC COMMENTS.....	1-1
1.1 Introduction.....	1-1
SECTION 2 - GENERAL RESPONSES TO COMMENTS .....	2-1
SECTION 3 - COMMENTS FROM FEDERAL, STATE, TRIBAL, AND LOCAL GOVERNMENTS.....	3-1
3.1 Introduction.....	3-1
3.2 Comments and Response to Comments.....	3-1
SECTION 4 COMMENTS FROM NON-GOVERNMENTAL ORGANIZATIONS.....	4-1
4.1 Introduction.....	4-1
4.2 Comments and Response to Comments.....	4-1
SECTION 5 - SUMMARY OF PUBLIC HEARINGS .....	5-1
5.1 Introduction.....	5-1
5.2 Summary of Public Hearing Comments and Reclamation Responses .....	5-3
SECTION 6 - COMMENTS FROM INDIVIDUALS .....	6-1
6.1 Introduction.....	6-1
6.2 Comments and Response to Comments.....	6-2
SECTION 7 - OTHER COMMENTS .....	7-1
7.1 Introduction.....	7-1

## SECTION 1

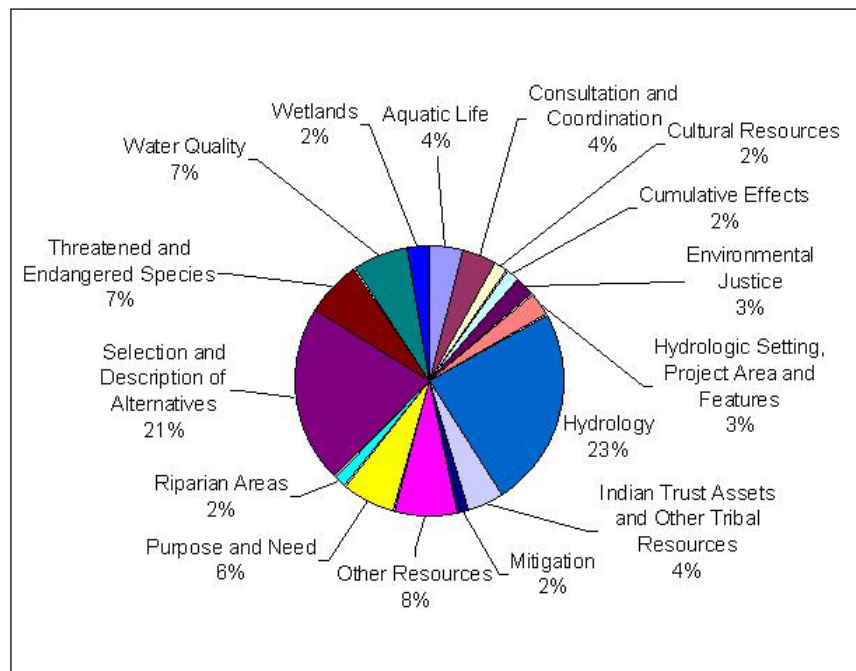
### SUMMARY OF PUBLIC COMMENTS

#### 1.1 INTRODUCTION

This appendix contains the original comment letters received from agencies, organizations, and the general public on the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project. Each comment letter is presented on the left side of the page with a document reference number, with each separate comment numerically ordered to the right of the decimal point. For example, 3435.003 is the third comment on a letter referenced with the document numbered 3435. Responses to comments are presented on the right side of each page.

A total of 54 comment letters (17 from government agencies, 7 from non-government organizations, and 30 from individuals) expressing concerns about information contained in the DEIS, and requiring response from Reclamation, were received. Information on the breakdown of the topics to which Reclamation responded is shown in Figure 1.1. Additionally, 223 letters were received expressing support for the preferred alternative. These letters required no responses.

**Figure 1.1 Topics Addressed in Comment Letters other than Those Expressing Support for the City's Preferred Alternative**



In accordance with Reclamation's National Environmental Policy Act guidelines, a summary of the formal public hearing comments has been included, along with Reclamation's responses. All relevant comments from the public hearings are summarized by comment category. The 60-day public review period commenced with the publishing of the notice of availability in the *Federal Register* on June 14, 2002. The comment period was scheduled to end on August 13, 2002; however, a 30-day extension was granted by Reclamation. The last date for the receipt of public comment was September 12, 2002.

The DEIS was distributed to federal, state, and local agencies; Pueblo governments; stakeholders such as interest groups; and members of the public who requested copies. The document was also available at several local libraries and on the Bureau of Reclamation Upper Colorado Region website during the public comment period. The webpage received a total of 9,525 hits between June and September. Table 1.1 displays the breakdown of number of hits per month.

**TABLE 1.1  
PUBLIC ACCESS TO DEIS ON THE INTERNET**

<b>Month</b>	<b>Number of Hits</b>
June	4,568
July	3,143
August	1,351
September	463
Total	9,525

## SECTION 2

### GENERAL RESPONSES TO COMMENTS

#### INTRODUCTION

The following paragraphs provide additional details for certain components of the FEIS in response to comments. This information is a summary of several comments that pertain to each component.

#### 1. ALTERNATIVES

The development of the Albuquerque Water Resource Management Strategy (AWRMS) which includes the Drinking Water Project (DWP), the proposed project analyzed herein, included the analysis of 32 provisional alternatives through public scoping. The three Action alternatives and the No Action alternative analyzed in the Draft Environmental Impact Statement (DEIS) were among the 32 provisional alternatives. Identified alternatives were evaluated with respect to the project's purpose and need, engineering feasibility, practicability (including costs), environmental concerns, and public input. Potential alternatives were scrutinized using a variety of technical approaches as well as by the public informational and scoping meetings. See Appendices B, C, and D and Section 4.

The 32 provisional alternatives were evaluated using multidisciplinary methods as described within the DEIS in Section 2.2.3. The techniques used to evaluate alternatives are also detailed within CH2M Hill 1997a and 1997b, as provided within the references listed. The history of the City Council-approved water resources management strategy is detailed in Sections 1 and 2, along with the lengthy study and evaluation of alternatives. The 32 alternatives were narrowed to 9 which were presented at a public workshop in March, 2000. The scores for the nine alternatives presented are provided in Table 2.2-3 of the DEIS. A full description of rankings for recycled wastewater alternatives is provided by reference in Sections 2.3 and 2.6. Alternatives submitted by Rio Grande Restoration (in addition to the original 32) were fully considered and addressed specifically in Section 2.6.

The reduction of 9 diversion alternatives through the screening process to 3 diversion alternatives was completed at a public workshop in March of 2000. Details from this process are described on Sections 2.2 and 2.3 of the FEIS.

Direct diversion and use of San Juan-Chama water was one of the first alternatives considered (CH2M Hill 1997b within the FEIS). The diversion dam was considered during the December 1998 workshop and was presented as an alternative at the public

scoping meetings in 1999, with six other alternatives at the public workshop in 2000, and at the preferred alternative workshop in 2001.

All three Action alternatives and the No Action alternative have been both rigorously explored and objectively evaluated with respect to 29 resource categories, as well as detailed and public alternative evaluation process. Table 2.7-1 illustrates all alternatives and evaluated resource categories of the FEIS.

## **2. CONSERVATION**

Water conservation is an integral component of the Albuquerque Water Resources Management Strategy. Conservation measures are incorporated in both the No Action and Action alternatives. Both the No Action and the Action alternatives include the continuation of the City's current conservation program and the reduction of per capita water use from 250 gallons per capita per day to 175 gallons per capita per day by the year 2005. The 175 gpcd goal has been modified to include an enhanced goal of 150 gpcd by 2014. The City is part way through its program of reducing per capita water use. Current (2001) per capita usage is approximately 197 gallons per capita per day.

While working towards this goal, the City is evaluating other mechanisms to improve water conservation. For instance, the City is setting an example in the new construction of City facilities and in the development of alternative supplies to meet non-potable uses. Retrofitting existing facilities is another strategy. Retrofitting and/or redesign to enhance water conservation of existing facilities will take a period of years. The City water conservation program is very extensive and progressive.

Water conservation alone cannot meet the water supply demands of the City. If policies approved in the AWRMS are met, the City's rate of ground water pumping would still be greater than the amount that can be replenished naturally. The project will help protect the aquifer while providing a greater range of options to water managers.

## **3. BASELINE HYDROLOGY**

The hydrologic evaluation used a hydrologic baseline that relies on data from the 1971 through 1998 streamflow and reservoir record for gages throughout the Middle Rio Grande (MRG) and Rio Chama basins. This record was chosen because it represents (1) the long-term (greater than 100-year) record for key Rio Grande stream flow recording gages at Embudo and Otowi, (2) the most recent operational program for reservoirs, river facilities, and SJC water importation and use (which began in 1971), and 3) provides a measures of comparison of alternatives that is meaningful.

The 1971-1998 streamflow record was adjusted and aligned so that 1971 became 2006, 1972 became 2007, etc. to simulate future hydrologic conditions with the DWP or No Action alternative in effect. Adjustments included:

1. Removal of historic City SJC water from the record. The City SJC water was removed from the baseline to avoid double counting of SJC flows. If SJC water is included in the baseline, the DWP project would count the same water twice as both historic and proposed project releases.

2. Correction for differences between historic (simulated 1971-1998) and ‘adjusted’ future (simulated 2006-2060) pumping-induced effects on the river. Such corrections were made using the OSE ‘interim model’ of the Albuquerque basin aquifer.
3. Correction for differences between historic (measured 1971-1998) and adjusted (simulated 2006-2060) wastewater returns at the Southside Water Reclamation Plant (SWRP).
4. Addition of an artificial 3-year drought to the simulated record based on three 1972s drought-year flow amounts placed ‘back-to-back-to-back’ in the baseline so as to depict an extended drought similar to that experienced in the 1950s. Such a drought is otherwise missing from the 1971-1998 period.
5. For purposes of simulating the 2006-2060 hydrologic effects of the no action alternative, the City’s allocation of SJC water (with the exception of minor amounts of existing leases and the Non-potable Project) was assumed to not be in the river below Abiquiu.

#### **4. DIVERSION PERMIT**

The City must obtain a diversion permit from the New Mexico Office of the State Engineer to allow it to divert and fully consume 47,000 acre per year of its San Juan-Chama water along with the right to divert 47,000 acre-feet per year of native non-consumptive carriage water. The native water will be returned to the river at the SWRP.

#### **5. CURTAILMENT FLOWS**

As a result of consultations with the U.S. Fish and Wildlife Service, the curtailment flows described in the DEIS have been increased by 60 cubic feet per second (cfs). On October 21, 2002 flow at the Central Gage was 106 cfs and no drying of the river downstream was noted. To be conservative and to account for seepage and other potential losses, the amount of flow bypassed due to curtailment in the future for the preferred alternative at Paseo del Norte was increased to 130 cfs from the previously proposed 70 cfs. This 60 cfs increase in the curtailment rate also applies to the other Action alternatives of the DEIS. The previous operational curtailment scenarios for the DWP are detailed within pages 3-127 to 3-132 of the DEIS. The curtailment flow, where the City would have the diversion shut down completely is revised to a total river flow of 560 cfs from the previous 500 cfs at Angostura, above the diversion and at 260 cfs from the previous 200 cfs total river flow for the other two diversion alternatives.

#### **6. FISH PASSAGE AND FISH SCREENS**

Fish passage and fish screen facilities for the proposed action were summarized in Section 2.5.2, Section 3.7 and 3-24 of the DEIS. In addition, design drawings are provided in CH2M Hill (2001c) *Drinking Water Project Conceptual Design Report*. Additional conceptual design information that will be added to the Final Environmental Impact Statement (FEIS) is presented within CH2M Hill (2001h), *Fish Passage Engineering Design Considerations*.

Both upstream and downstream fish passage are provided by the diversion structures, fishways and sluice channels. Fish are protected at the raw water intakes by flat plate stainless steel fish screens. The technologies proposed for the DWP have been used with success at other sites. During conceptual design, there were no criteria available from state or federal fisheries resource agencies related to fish screens for the Rio Grande silvery minnow (RGSM). Designers used the same fish screen criteria used by the State of California, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service for the delta smelt, which is similar in body size and swimming ability to the RGSM. These criteria are:

- Approach velocity, 0.20 feet per second (fps)
- Sweeping velocity, at least 2 times the approach velocity
- Screen opening, 1.75 mm (0.069 inch).

As research and the design at the facilities continues, the state and federal agencies should be able to provide the City and the design engineer more specific approach velocity design criteria. The proposed designs have been successfully used at locations in California, Washington and Oregon.

The proposed fishway design incorporates this criteria. The average water velocity through the fishway would be approximately 2 feet per second at an average flow rate of 50 cfs. The final design will incorporate the research being conducted by other entities.

The studies that would be used in a final design for the fishway incorporate ongoing studies at Reclamation's Denver laboratory, RGSM flume studies conducted by the City, information from Gradient Reduction Facilities on the river at the Santa Ana Pueblo, and other data from migration and movement studies being completed in the Rio Grande. There are structures (boulders, etc.) within the fishway that would allow resting positions and cover within the fishway, so the fish could use burst, or darting behaviors to move up and down the channel. Riverine fishes can tolerate and move through a large range of flows within the river and different habitat components (main channel, riffles, pools, etc.) towards a preferred location. Because RGSM spawning occurs during high flows, the ability to lower the inflatable dam during high flows allows for RGSM eggs to pass down stream. Recent research completed by Reclamation (2003) indicates that the water velocity of 2 ft/sec is viable for the passage of RGSM.

Within the CEQ regulations, there is a provision for including the use of incomplete or unavailable information during the NEPA process. Specifically, 40 CFR 1502.22 addresses this aspect of NEPA. Even though there has not been a previous fish screen or passage facility constructed for the RGSM, it is necessary and permissible to use the best available scientific information and research results in the analysis of effects. Where exact information may be lacking regarding this environmental issue, the DEIS so indicates.

## **7. RIO GRANDE SILVERY MINNOW**

The data developed by Dudley and Platania (1997), as referenced on page 3-222 of the DEIS, is currently accepted as the definition of preferred habitat for the RGSM. This was



used as the basic parameter for determination of effects within the DEIS. The habitat availability/suitability areas of 10 square foot are representative of an area that would be adequate for a cyprinid fish under most flow conditions. It is certain that fish will move to seek out individually preferred areas. Different flow amounts would create different habitat availability amounts.

The use of the Hydrologic Engineering Center - River Analysis System (HEC-RAS), with existing cross-sections, and using literature definitions of RGSM preferred habitat is appropriate for an analysis. Conclusions are made from the graphical, tabular, and statistical data derived from existing government established cross-sections, flow modeling and literature interpretations are interpreted in the context of 15 or 32.7 (Angostura Alternative) miles of river depletion area. RGSM habitat remains available under any of the three action alternatives. It is not feasible or reasonable to estimate the entire available habitat, especially if the cross-sections are reflective of a variety of conditions within the river. The habitat will also vary naturally with different flows that occur over the course of a year. "Habitat availability", as defined in the DEIS, remains suitable for the RGSM under the action alternatives. The analysis of fisheries in the DEIS used habitat analysis as the best indicator of any impacts upon fish and fisheries. Within the depletion area (from point of diversion to return flows) there remains habitat for the RGSM under flow conditions likely to be encountered within this area. The curtailment strategy prevents river drying under all action alternatives as a result of this project. Construction within the river is necessary at Paseo del Norte for those two alternatives and within the edge of the river for the Angostura Diversion Alternative. Most in-river construction would occur in winter, or low flow months. Peak spawning for RGSM occurs during periods of high flow in the river. The exact schedule is impacted by contract requirements and economic considerations of construction. The mitigation requirements for in-river construction are summarized in Appendix O. Page 3-259 discusses a likely schedule of construction. The same period would apply to any action alternative (September through March). In addition, CWA Section 404 and other permit requirements would apply.

The ESA Section 7 consultation fully addressed potential take issues. The City will maintain the captive breeding program to support re-introduction of the RGSM. Other mitigation measures such as habitat improvement also are planned. The fishway will also be monitored and as a part of an adaptive management program.

With regard to the potential impact to RGSM eggs; 1) during typical flows associated with spawning a relatively small flow of the river will enter the sluice way, 2) of the water entering the sluiceway, a 5:1 sweeping velocity will keep most fish and eggs moving downstream, 3) the screen size is such that eggs could pass through the openings only during a portion of their gestation period. These factors all combine to result in minimal impact. With regard to the potential impact to fish passing through the flow control structure and energy dissipation device; 1) based on the section design, flow from the control structure will enter a pool containing rip rap that gradually widens and joins the main river, and 2) velocities in the pool will be less than or equal to those in the sluice way. These factors combine to result in minimal impact. The by-pass velocity was determined based on available swimming studies for fish species similar to the RGSM. By-pass flows were then derived based on channel design and area hydraulics to achieve the design velocity.

## **8. WATER QUALITY**

The report “River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project” (CH2M Hill, 2002d) has been incorporated by reference within the FEIS. The revised water quality section (3.27) also includes more extensive baseline data tables.

The addition of SJC water (which is similar in quality to native Rio Grande water) will have a minimal to no effect on water quality in the Rio Grande upstream of the diversion. Water quality will be the same under both scenarios downstream of the diversion. Water quality of the City’s effluent will be slightly better with respect to TDS and associated conservative species such as chloride. However, under average flow conditions, improvements in water quality in the Rio Grande downstream of the City’s SWRP outfall due to the Drinking Water Project will be minimal.

Under low flow conditions, when the DWP curtailment strategy is in effect, water quality will be similar upstream of the diversion, downstream of the diversion, and slightly improved downstream of the City’s SWRP outfall. Improvements downstream of the outfall will be due to an increase in overall flow under the action alternatives when compared to the No Action Alternative.

The DWP will divert water from the river and treat it to drinking water standards using ozone and granular activated carbon. Discharges from the SWRP will not change. The DWP will remove or destroy any pharmaceutically active compounds. The reach of the Rio Grande through the City of Albuquerque presently complies with all stream standards established by New Mexico and the Pueblo of Isleta, except for high fecal coliform bacteria counts in urban runoff during storm events. For additional information concerning water quality considerations, refer to Thompson and Chwirka (2002).

Initial baseline arsenic and other constituent samples were taken during 1998-2000 sampling events. However, it was determined that the long-term sampling conducted by the USGS would be more representative of long-term variability. The 1998-1999 sampling program resulted in arsenic concentrations ranging from 1.8 to 4.8 µg/L in the Rio Grande with an average value of 3.3 µg/L and a median value of 3.1 µg/L. Flow conditions in the Rio Grande were near average at each of the sampling events.

## **9. MITIGATION**

Several commenters noted concerns about the need for and the City’s commitment to mitigation measures. The City intends to mitigate project impacts to the fullest extent practicable and has initiated mitigation measures regarding endangered species and riparian areas. Appendix O provides details on mitigation measures that the City has proposed. Such proposals are also discussed throughout the FEIS text. Where possible, the City has made commitments to specific mitigation measures, such as those required to avoid jeopardy to the RGSM. However, in some instances, the City has identified proposed rather than final mitigation measures due to the fact that permitting agencies will consider and require measures they conclude are appropriate as part of the permitting process. The potential mitigation measures detailed in the FEIS are representative of the types of requirements that may be imposed by permitting agencies and that the City may

implement on its own initiative as good construction and environmental management practices.

### SECTION 3

#### COMMENTS FROM FEDERAL, STATE, TRIBAL, AND LOCAL GOVERNMENTS

##### 3.1 INTRODUCTION

Agency letters were received from federal, state, local agencies, tribal governments, and elected officials. Table 3.1 below includes the names of all such agencies and organizations next to the document reference number for their comments.

**TABLE 3.1  
FEDERAL, STATE, TRIBAL, AND LOCAL GOVERNMENT AGENCY LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Government Agency</b>
3424	Larranaga, Lorenzo. Minority Caucus Chair, State of New Mexico House of Representatives
3425	U.S. Department of Interior, Bureau of Land Management
3426	U.S. Department of Interior, Fish and Wildlife Service
3427	U.S. Department of the Army, Albuquerque District, Corps of Engineers
3428	U.S. Environmental Protection Agency
3429	Hopi Tribe
3430	Pueblo of Isleta
3431	Pueblo of Sandia
3432	Pueblo of Santa Ana
3433	New Mexico Environment Department
3434	New Mexico Interstate Stream Commission
3435	County of Bernalillo
3436	Acequia La Rosa de Castilla, Inc.
3437	Albuquerque Metropolitan Arroyo Flood Control Authority
3438	Albuquerque Ground Water Protection Advisory Board
3439	Albuquerque Water Resources Customer Advisory Committee
3440	Middle Rio Grande Conservancy District

##### 3.2 COMMENTS AND RESPONSE TO COMMENTS



State of New Mexico  
**House of Representatives**  
 Santa Fe

**LORENZO A. "LARRY" LARRAÑAGA**  
 Minority Caucus Chairman  
 R-Bernalillo County  
 District 27

COMMITTEES:  
 Appropriations & Finance  
 Transportation

7716 Lampighter NE  
 Albuquerque, NM 87109

July 23, 2002

Business Phone: (505) 823-1000  
 Home Phone: (505) 821-4948  
 Fax Number: (505) 821-0892  
 E-Mail: llarrana@bhinc.com

**ALBUQUERQUE AREA OFFICE**

RECEIVED FOR  
 OFFICIAL FILE COPY

**JUL 24 2002**

Classification \_\_\_\_\_  
 Project \_\_\_\_\_  
 Control No. \_\_\_\_\_  
 Folder No. \_\_\_\_\_

DATE	INITIALS	CODE
		153

ACTION

Lori Robertson  
 Bureau of Reclamation, Albuquerque Area Office  
 505 Marquette NW, Suite 1313  
 Albuquerque, NM, 87102

Re: Draft Environmental Impact Statement (DEIS) for City of  
 Albuquerque's Drinking Water Project

Dear Ms. Robertson:

I have reviewed the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque's Drinking Water Project.

**3424.001**

I want to go on record in support of the preferred alternative that has been described in the DEIS. This alternate will provide the needed methods for a plan that will protect the aquifer, provide an adequate water supply, and address the environmental issues in a most reasonable manner.

**3424.002**

The citizens of the City of Albuquerque have spent millions of dollars over the past thirty years for the first phases of the project and for the purchases of water rights in order to address the City's future water supply. The preferred alternative provides a good plan for the diversion of water from the Rio Grande in the most practical, economical and environmentally sensitive way.

**3424.003**

Implementation of this plan with the preferred alternative will best address the issues of water quality, protection of the aquifer, protection of endangered species, and protection of the Bosque in the Rio Grande.

It is imperative that the DEIS be finalized and Record of Decision issued to proceed with construction immediately.

Sincerely,

Larry Larranaga

cc: John M. Stomp, City of Albuquerque

Response to Comment 3424.001 Comment noted.

Response to Comment 3424.002 Comment noted.

Response to Comment 3424.003 Comment noted.

ORIGINAL



United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Taos Field Office  
226 Cruz Alta Road  
Taos, New Mexico 87571  
www.blm.gov

ALBUQUERQUE AREA OFFICE

RECEIVED FOR OFFICIAL FILE COPY	
SEP 5 2002	SEP 3 2002
Classification: <i>ESN-1.11</i>	Project: <i>ESN</i>
County: <i>2002558</i>	Field No: <i>2002558</i>
157	150

Laurie Robertson  
Bureau of Reclamation  
505 Marquette Suite 1313  
Albuquerque, NM 87102

Dear Ms. Robertson et al:

Thank you for the opportunity to comment on the city of Albuquerque and the Bureau of Reclamations' plan to use San Juan Chama water and how it may effect upstream users. As you may know the Bureau of Land Management co-manages the Wild and Scenic segment of the Rio Chama between El Vado and Abiquiu Lakes in cooperation with the US Forest Service and the Army Corps of Engineers. It is this segment of river that our comments concern:

3425.001

3425.002

1) A viable riparian environment is vital to the health of the land. An Instream Flow Assessment was conducted on the Rio Chama in 1992 and made a number of recommendations including: "A minimum flow of 185 cfs is necessary to maintain habitat for macroinvertebrates as forage for fish." and "Flows of 150 to 250 cfs are required during the winter for foraging success of bald eagles."

3425.003

2) The Rio Chama provides a high quality recreation and wilderness experience which includes such activities as fishing and whitewater boating. The Instream Flow Assessment recommended: "Flows required for boating range from 800 to 1,000 cfs for minimum whitewater experiences and 500 to 600 cfs for scenic floating experiences; flows required for fishing range from 150 to 300 cfs."

3425.004

We urge the Bureau of Reclamation to consider the recommendations of the Instream Flow Assessment while working cooperatively with other agencies and water users to insure the long term health of the Rio Chama. Enclosed is a copy of the "Rio Chama Instream Flow Assessment" for your reference.

Sincerely,

Ron Huntsinger  
Field Office Manager

Enclosure (1)

Response to Comment 3425.001 Within Table 3.16-2 and 4 (pages 3-148 and 3-150, DEIS), minimum fish releases from El Vado are described. During normal years, modeled winter fisheries flows of 185 cfs are maintained.

Response to Comment 3425.002 Within Table 3.16-2 and 4 (pages 3-148 and 3-150, DEIS), minimum fish releases from El Vado are described. During normal years, modeled winter fisheries flows of 185 cfs are maintained. This is within the range of 150-250 cfs suggested by the reviewer as necessary for the foraging success of bald eagles.

Response to Comment 3425.003 Rafting flows are considered within Table 3.16-2 of the Hydrology Section (3.16) and on page ES-9 of the Hydrology Report (Appendix L of the DEIS). There is not a loss of recreational flows attributable to operations of the Drinking Water Project. See DEIS at 3-179. As indicated within the hydrological analysis (Page 3-147 of Section 3.16), the City may not participate in future rafting-release operations unless compensation can be obtained for increased evaporation losses caused by surplus water delivery to Abiquiu during hot summer periods.

Response to Comment 3425.004 Comment noted.



**ORIGINAL**  
United States Department of the Interior

FISH AND WILDLIFE SERVICE

P.O. Box 1306  
Albuquerque, New Mexico 87103  
<http://ifw2es.fws.gov>

In Reply Refer To:  
R2/ES-HC/EC  
CL 9-005

SEP 11 2002

ALBUQUERQUE AREA OFFICE  
RECEIVED FOR  
OFFICIAL FILE COPY

Consulation #2-22-02-I-578-R1

Ser 13 2002

Checked: ENV-6.0  
Project: DE  
Control No. 205 2598  
Folder No. 38724

DATE	INITIALS	CODE
9/13	ML	150

ACTION

Memorandum

To: U.S. Bureau of Reclamation

From: ACTING Regional Director, Region 2

Subject: City of Albuquerque Drinking Water Project

Biologists with the U.S. Fish and Wildlife Service (Service) have reviewed the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque's (City) Drinking Water Project (DWP). The DEIS analyzes the impacts of implementing a DWP for residents of the City, that aims to use existing water resources and develop a safe and sustainable water supply to the year 2060. The proposed DWP action alternatives entail four elements: 1) diverting surface water from the Rio Grande, 2) transporting untreated river water to a new water treatment plant, 3) treating the water to drinking water standards, and 4) distributing the water to customers. The DEIS evaluates four alternatives, including the no-action alternative. Proposed infrastructure locations include the existing Angostura Diversion (north of Bernalillo) and north of the Paseo del Norte Bridge, within the city limits. The proposed water treatment plant will be located southwest of the intersection of Chappell and Osuna roads. Water pipelines will be installed to connect the proposed facilities. The no action alternative is to not implement the DWP and continue pumping from the Albuquerque Basin Aquifer, as the City's only water source.

In accordance with the National Environmental Policy Act (NEPA), we have evaluated the DEIS with respect to important fish and wildlife resources, including species federally-listed or proposed for listing as threatened or endangered. In addition, the document was evaluated for consistency with other federal resource mandates. Unless indicated otherwise, the use of "project area" herein refers to all affected areas and river reaches for all alternatives. It is our understanding that formal consultation with this office as per section 7 of the Endangered Species Act (Act) will be initiated. Therefore, our comments regarding listed species here are generally addressed.

GENERAL COMMENTS

3426.001

The DEIS adequately describes most potential impacts to fish and wildlife resources. However, the document does not adequately assess potential flow scenarios including higher diversion rates of the DWP, or the scenario when specific model assumptions are not met. Current effects analysis, such as those identified in Appendix L (hydrology study) reporting "minor changes in water depth from the DWP," were based on subtracting 65 cfs from annual or monthly statistical averages. Therefore, the analysis may not reflect actual (or seasonal) flow variances.

3426.002

Although flow modeling in the DEIS emphasizes the hydrologic effects of the proposed diversion, we believe the effects analysis would benefit from a determination of seasonal flows needed to, at a minimum, result in no net loss of existing fish and wildlife habitat within the project area. The mitigation plan and more specifically, the curtailment strategy, may not adequately protect fish and wildlife resources, as currently proposed.

SPECIFIC COMMENTS

Page 3-41, Section 3.7.3: Environmental Consequences: Aquatic Life

3426.003

This subsection describes the following hydrologic effects under a severe low flow scenario with the DWP in operation (i.e., 170 cfs at the Albuquerque gage): a 0.1 to 0.2 foot/sec reduction in flow velocity, a 20 - 30 foot reduction in river channel width, and a change in water depth below the diversion point up to 0.3 feet in the narrowest parts of the channel. Assuming the analysis of effects is based on 170 cfs at the Albuquerque gage, it may not reflect the operational scenario such as that described in Figure 3.16-13. This shows 70 cfs or less during DWP operation at the point of curtailment (during low flows). However, Appendix L states flows will be 105 cfs at the Albuquerque gage with the DWP in operation to the point of curtailment. Therefore, it is unclear at what flows the analysis of effects was based. Furthermore, a complete analysis should include other potential low flow scenarios such as those described at the top of page 3-112 (186 cfs diversion) and/or if the City's conservation plan (30 percent reduction in per capita demand by 2005) is not met or future growth rates are higher (reference bottom of page 3-113 and the top of page 3-114).

3426.004

According to the statement on page 3-41 with respect to DWP depletions; "these changes would be temporary and would be eliminated when flows increase from seasonal precipitation and runoff patterns" and "there is no evidence to support these losses having permanent resource-level effects." We recommend additional support be provided for these statements, further clarification, or omitting them from the analysis of effects.

Page 3-45, Summary of Environmental Consequences: Aquatic Life, paragraph 6

3426.005

This paragraph states no physical adverse effect to the habitat of the silvery minnow under the DWP operating criteria and "when extrapolated to other aquatic species, there are no cumulative

Response to Comment 3426.001. Effects analyses on change in Rio Grande stage were based on average and low flow conditions. Higher diversion rates are expected to occur on a short term basis in order to offset curtailment months. It is anticipated that this type of operation would occur during normal flow conditions when the portion of native carry water is small compared to the total flow. See Appendix L. The curtailment strategy addresses all potential flows.

Response to Comment 3426.002. Average year and dry year flows are illustrated within Table 3.16-4 of the DEIS. This chart also shows the very small amount of San Juan Chama water involved at the Albuquerque gage to compare Drinking Water Project and No Action. Mean monthly flows are characterized by low baseline conditions of about 500 to 1,000 cfs from August through February, with brief increases periodically from storm events. Predicting a net loss of fish and wildlife habitat, from such a small depletion such as the Drinking Water Project, and within a short geographic area (17 river miles with the Subsurface and Diversion Dam Alternative), is difficult. The HEC-RAS model representations in Section 3-24 indicate that even at low flows (Q=70 cfs) fish habitat remains in the river. The curtailment strategy, while it may not ensure no net loss of habitat, does help keep the river wet, thus in situations where RGSM (target species for analysis) preferred habitat may be zero, there is still flowing water. This strategy, when combined with habitat enhancements within the Middle Project Subarea, should be an effective platform for adaptive and cooperative mitigation, as discussed in Appendix O of the DEIS.

Response to Comment 3426.003. Please see General Response to Comment 5. As discussed in comment 3426.001, a larger diversion is not anticipated to occur during low flow conditions. In addition, while the diversion facilities are sized for a potential total diversion of 120 MGD, the present diversion permit application requests a maximum of 92 MGD. Diversions at rates above those described within the DEIS are outside the scope of this analysis.

Response to Comment 3426.004. The statement is correct. Aquatic organisms have the capability to, and normally do, seek optimum habitat conditions.

Response to Comment 3426.005. ON NEXT PAGE.



Response to Comment 3426.005 (from previous page). The HEC-RAS models completed for the RGSM illustrate the amounts and types of habitats available for the RGSM under a variety of flow conditions. If it is accepted that this species, a native cyprinid, and a “sensitive” species, would have available habitat under most average flow conditions, it seems reasonable that this is representative of aquatic habitat conditions in the river. In terms of cumulative effects, effects associated with changes in water velocity, depth, river width and river connectivity attributable to the project, and compared to water changes associated with No Action, would not result in permanent changes to aquatic habitat, as reflected by the needs of a sensitive native fish. Habitat requirements for the RGSM can be described, and while not exactly the same as other species, can serve as a benchmark to reasonably determine effects of the proposed project on other aquatic species, much as risk assessment is applied to the weakest or most vulnerable species within a community or ecosystem. Text added to FEIS.

effects of the DWP to aquatic life.” An explanation is warranted for how the extrapolation was accomplished from the silvery minnow to other aquatic species in terms of cumulative effects.

Page 3-47, Section 3.7.4. Proposed Mitigation Measures: Aquatic Life

3426.006

With reference to the fishway design, we recommend continued coordination with the New Mexico Ecological Services Field Office and Fishery Resources Office.

3426.007

Consistent with previous correspondence on this subject (memorandum to the Area Manager dated September 10, 2001), we do not consider the currently proposed curtailment strategy an operational enhancement or adequate mitigation “to preserve existing ecosystem elements...” (Page 3-49). However, modifying the curtailment strategy so that at 100 percent curtailment, flows at the Albuquerque gage do not drop lower than 170 cfs, may be more appropriate to preserve existing ecosystem elements. This flow (170 cfs) approximates extreme minimum daily flows measured over the last 10 years at the Albuquerque gage.

Page 3-159, Section 3.16.4 Proposed Mitigation Measures: Hydrology

3426.008

This subsection points out that “if existing river gages are incapable of measuring flows, the City would install appropriate stream gaging.” We recommend the City install gages just above and below the diversion structure, and at the SWRP outfall (if existing gages do not accurately reflect flows as a result of the DWP). Consistent with our September 10, 2001, memorandum, flow data for management/monitoring should be provided on a real-time basis, accessible to the public on the internet.

3426.009

Sediment management activities should be clarified. For example, on page 3-157, the sediment regime for the action alternatives “will essentially remain the same...”, but page 3-159 indicates the City would “conduct environmental enhancements with a coordinated sediment management element.” The Service recommends exploring ways to increase sediment within the affected reach to help reduce channel downcutting and help enhance riparian seedling establishment. Since the completion of Cochiti Dam in 1973, the Albuquerque Reach has been classified as a “sediment-starved” reach.

Page 3-190, Section 3.21.3 Operational Effects: Riparian Areas

3426.010

The first paragraph states “Differences in the water table elevation for the minimum flow of 70 cfs could not be calculated, though the riparian vegetation in the Middle Project Subarea has experienced such low flows during its lifetime, without significant, long term consequences.” This conclusion should be addressed in more detail or be supported by data.

Response to Comment 3426.006 Mitigation measures are listed and described within Appendix O of the DEIS, including the proposed fishway. The City would coordinate design work with the USFWS New Mexico Ecological Services Field Office and Fishery Resources Office to improve or enhance the design. There is an ongoing Section 7 Consultation with the Fish and Wildlife Service.

Response to Comment 3426.007 Text modified. The proposed curtailment strategy is an enhancement as more water is in the river than with No Action during the driest months of the year (reference Figures 13.6-7 through 13.6-9). The minimum flow to date over the last ten years at the Albuquerque gage was 106 cfs on October 21, 2002. This did not dry up the river below. The revised curtailment strategy for the DWP leaves 103 cfs in the river a few miles above the Albuquerque gage.

Response to Comment 3426.008 Text has been added. The City will be installing new gages at Alameda, the proposed diversion would be metered, and a gage installed at Paseo del Norte and I-25 below the SWRP discharge. Flow data will be available to the public on a real time basis.

Response to Comment 3426.009 The City will explore ways to increase sediment within the affected reach to help reduce channel cutting and help enhance riparian seedling establishment in cooperation with other stakeholders. These measures will be considered in the Biological Opinion.

Response to Comment 3426.010 This conclusion is supported in Appendix L (Hydrology Report) Table C-3, where evidence is provided of minimum flows from below the curtailment rate, in some cases to 0 cfs at Albuquerque. The riparian vegetation may have been impacted by these flows; however, riparian vegetation is still encountered within the Middle Project Subarea, so there do not appear to be significant long term consequences upon the riparian vegetation when considering the low flows alone. See 3-182 through 3-196 of the DEIS.

Page 3-213, Section 3.24.2 Affected Environment, Critical Habitats: Threatened and Endangered Species

3426.011

This subsection should be updated to include the recently proposed re-designation of critical habitat for the Rio Grande silvery minnow as cited in the Federal Register (67 FR 39206). The Service’s proposed critical habitat designation for the silvery minnow extends from Cochiti Dam to Elephant Butte Reservoir, and includes the project area.

Page 3-266, Section 3.24.4, Proposed Mitigation Measures, Threatened and Endangered Species

3426.012

This subsection and previous subsections (Section 3.24) make reference to “may affect” or “take” conditions that would result from implementation of the DWP. Therefore, this subsection should re-confirm that consultation with the Service under the Act will be conducted on all potential effects to threatened and endangered species. In addition, measures proposed here to minimize or offset project impacts on listed species should be more aptly termed “conservation measures” rather than “mitigation measures.” Mitigation does not directly apply to listed species, but measures to minimize or eliminate adverse effects are arrived at through consultation under the Act.

Appendix O, Proposed Mitigation Measures

3426.013

The objective of the plan is to outline the City’s existing and proposed measures that would offset the long term effects of the DWP (Appendix O, Section 1.1). To offset the direct, indirect, and cumulative impacts of the DWP on fish and wildlife resources, the Service recommends that the City adopt, without duplication of effort, each proposed measure shown in Appendix O with respect to Aquatic Life, Hydrology, Riparian Zone, and Threatened and Endangered Species resource categories; but with the following comments, additions, or modifications:

3426.014

1. Provided that applicable protective measures presented in Appendix O are incorporated as stipulations into contractor plans (such as those labeled “BMP”), these should be adequate to address temporary project construction impacts.

3426.015

2. Current analyses presented in the DEIS generally conclude no major long term impacts; however, these conclusions are based on annual or monthly statistical averaging. The relationship between streamflows and resource values should be better understood to ascertain a threshold of flows (extent, season, and duration) so that fish and wildlife habitat is not diminished as a result of project implementation. For example, flow needs should be established for the affected fish community on a seasonal basis (could include macroinvertebrates) within the project area. Such indicator species could include flathead chub (*Platygobio gracilis*), silvery minnow (*Hybognathus amarus*), longnose dace (*Rhinichthys cataractae*), and other native fishes. This information can be incorporated, in concert with or in addition to, current or planned conservation/enhancement programs (or stated mitigation measures). Methods such as Instream

Response to Comment 3426.011 This sub-section will be modified to state that critical habitat has been designated for the RGSM, and is discussed within the *Federal Register* Vol. 68, No. 33, under 50 CFR Part 17. The designated critical habitat would contain the Rio Grande from Cochiti Dam to the utility line crossing the Rio Grande, a permanent identified landmark in Socorro county.

Response to Comment 3426.012 Text has been added to Section 3.24, stating that consultation with the Service is occurring pursuant to the Endangered Species Act concerning all potential effects to threatened and endangered species. As a result of the consultation, selected conservation measures will be developed.

Response to Comment 3426.013 Text has been modified to reflect that the City will adopt measures as outlined in Appendix O.

Response to Comment 3426.014 Comment noted.

Response to Comment 3426.015 The flow requirements, especially at curtailment were modeled for the RGSM. While not the only member of the aquatic community, RGSM habitat requirements are indicative of those for similar fishes, and the RGSM serves as an indicator species. Based on HEC-RAS analysis (see 3-231 through 3-245 of the DEIS) presented in the DEIS, there is adequate habitat for RGSM passage or residence in the reach between the diversion and the return flow at the SWRP. Flows below the proposed diversion are not only a function of the operation of the City’s project, but include other river operations. Frequency of low flows was analyzed in CH2M Hill 2002, “Low-Flow Frequency Analysis to the Rio Grande at Albuquerque and Relation to Operation of the AWRMS Drinking Water Project.” This report states that based on the 1971-1999 hydrologic record, “a 30-day consecutive flow averaging about 105 cfs at Albuquerque would recur about every 3-4 years, although this record includes early 1970’s years when the river was not purposely managed to keep the river wet through the Albuquerque reach as at present. Based on 1981-1999 data, a 30-day flow of 105 cfs could recur about every 15 years.” On a seasonal basis, the planned conservation/enhancement measures could be planned for using this information.

Flow Incremental Methodology and/or Flo 2D modeling may be useful for these applications. However, other techniques or existing data may be used to determine minimum flow needs of fish and wildlife.

3426.016

3. As stated in the DEIS, based on U.S. Geological Survey flow records at the Albuquerque gage from 1971-98, mean annual flow has been 1,410 cfs whereas mean low monthly flows (typically October), were about 490 cfs. Although the Service does not anticipate frequent prolonged low flow (170 cfs) events; until flow needs are better established for fish and wildlife within the affected reach, the Service recommends modifying the curtailment strategy so that at 100 percent curtailment, flows at the Albuquerque gage are not lower than 170 cfs. This flow (170 cfs) approximates extreme minimum daily flows measured over the last 10 years at the Albuquerque gage. When threshold flows that result in no-net loss of fish and wildlife habitat are better known, the Service recommends incorporating these into the project and adjusting them according to the progress of restorative management activities such as those described in item 4 below.

3426.017

4. It is reasonable to conclude that, given the current condition of the river and bosque within the affected area, higher flows would be necessary to facilitate important ecological processes. However, bank lowering, jetty-jack removal, replacement of exotic with native vegetation, and other restorative measures could help alleviate the need for higher flows necessary to compensate for current conditions. Therefore, we encourage activities such as mitigation measure numbers. R-(4-10) or TE (6-14) to provide additional fish and wildlife habitat to offset future unforeseen negative impacts and/or increase the efficiency of available flows within the entire affected reach to help achieve no-net loss of biological resources.

3426.018

5. The Service recommends, as described in Appendix O, the development of an interagency planning and management group of involved stakeholders to monitor and manage the effectiveness of long term environmental enhancement measures described above and in Appendix O. This group should be able to recommend necessary management changes to address water management as well as environmental issues that are unforeseen as a result of operation of the DWP. Water management and monitoring should include the river-aquifer connection.

SUMMARY COMMENTS

3426.019

According to Section 1500.1(c), the NEPA process is intended to help public officials make decisions based on understanding of environmental consequences and take actions that protect, restore, and enhance the environment. To that end, we recommend consideration of the above comments for a more thorough analysis of effects. Central to this, threshold flows that would result in no-net loss of fish and wildlife habitat should be determined to better assess the impacts of the proposed DWP and to help guide current and future planning. With appropriate management and a working knowledge of fish and wildlife flow needs, the Service believes the DWP can benefit fish and wildlife resources within the project area.

Response to Comment 3426.016 Please refer to response to comment 3426.007. When river flows above the diversion point are less than 260 cfs (for the preferred alternative), the City will adjust operations of the surface diversion dam and begin curtailing diversion amounts to minimize depletion effects downstream. The City has the option to shut down the plant earlier. When flows just above the diversion point fall below 260 cfs, at the surface diversion dam, the City will begin curtailing the quantity of the native (non-San-Juan-Chama) water diverted by reducing the diversion amount by 1 cfs for each 1 cfs reduction of native flow, but will continue to release and divert the full 65 cfs of its San Juan-Chama water. When native flow reaches 130 cfs just above the diversion, all raw water diversions and San Juan-Chama water releases will be suspended (100 percent curtailment), the adjustable height dam will be completely lowered (about 0.5 ft above the river bottom). During periods of curtailment, the City will offset decreases in the amount of raw water diverted by increasing the amount of ground water pumped for potable use. During periods of complete shut down of river diversions, the City's water service area will be supplied entirely from ground water wells and the City's San Juan-Chama water will be stored in Abiquiu for later release as part of the groundwater storage and recovery program. The operation and discharge from the Southside Water Reclamation Plant will not change as a result of the Drinking Water Project. Currently about 60,000 ac-ft is discharged as treated effluent to the river below Rio Bravo Bridge. Based on population trends and current estimates of 46 percent of the water being used consumptively, return flow to the river is projected to increase to nearly 76,000 ac-ft by 2040 and 92,000 ac-ft by 2060 (reduction due to non-potable projects).

Response to Comment 3426.017 The listing of mitigation measures within Appendix O includes these types of mitigation measures and others.

Response to Comment 3426.018 The City is currently considering this and others as a mitigation measure.

Response to Comment 3426.019 Comment noted.

We appreciate the opportunity to provide comments on this DEIS and look forward to continued cooperation on compliance with NEPA and any further assistance we can provide. If you have any questions, please contact the New Mexico Ecological Services Field Office at 505-346-2525.

cc: Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico  
Director, New Mexico Energy, Minerals, and Natural Resources Department,  
Forestry Division, Santa Fe, New Mexico  
Supervisor, Ecological Services Field Office, Albuquerque, New Mexico  
David Dall, Regional Environmental Coordinator, Region 2



**DEPARTMENT OF THE ARMY**  
 ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
 4101 JEFFERSON PLAZA NE  
 ALBUQUERQUE, NEW MEXICO 87109-3435  
 FAX (505) 342-3498

September 10, 2002

REPLY TO  
 ATTENTION OF:  
 Operations Division  
 Regulatory Branch

Ms. Lori Robertson  
 U.S. Bureau of Reclamation  
 Albuquerque Area Office  
 505 Marquette NW, Suite 1313  
 Albuquerque, New Mexico 87102

Dear Ms. Robertson:

3427.001

This replies to your June and August 2002 announcements requesting comments on the Draft Environmental Impact Statement (DEIS) for the proposed City of Albuquerque Drinking Water Project in the Rio Grande in Albuquerque, Bernalillo County, New Mexico. Our tracking number for this project is Action No. 2000 00138. Waters of the United States which may be affected by the project include the Rio Grande, adjacent wetlands, and other tributary waterways.

In our March 28, 2000, letter, we requested that the U.S. Army Corps of Engineers (Corps) be included as a cooperating agency in this EIS. Our comments on this DEIS are provided as a cooperating agency under the procedural and statutory requirements of the Corps (33 CFR 325, App. B, Sec. 230.16).

Specific comments on the DEIS are enclosed. The comments are from several offices. Each comment notes a contact name and phone number for additional information.

3427.002

When design specifics are available, please submit an application for a Section 404 permit. The application form is available on the internet at [www.spa.usace.army.mil/reg/](http://www.spa.usace.army.mil/reg/). One or more nationwide permits may authorize portions of the proposed project. A determination of regulatory requirements will be made when design information is available.

3427.003

The New Mexico Environment Department or the Pueblo of Sandia must certify that the project complies with the applicable effluent limitations and with State or tribal water quality standards prior to our permit issuance. The certification agency will depend upon the project location. You may contact Mr. Dan Guevara at the NMED, ph. (505) 476-3017, for certification information on public or private lands. Contact Ms. Beth Janello

Response to Comment 3427.001 Comment noted.
Response to Comment 3427.002 Proper documentation will be submitted in the design process.
Response to Comment 3427.003 Comment noted.

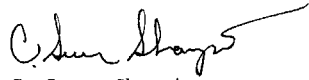
-2-

at the Sandia Pueblo Environmental Office, ph. (505) 867-4533,  
for certification information on Pueblo of Sandia lands.

3427.004

Our contact for this project is Ms. Jean E. Manger in the  
Regulatory Branch at telephone (505) 342-3216, e-mail at  
jean.e.manger@usace.army.mil.

Sincerely,



C. Susan Shampine  
Chief, Operations Division

Enclosure

Response to Comment 3427.004 Comment noted.

INDEX to  
U.S. Army Corps of Engineers, Albuquerque District  
Comments on Draft Environmental Impact Statement  
City of Albuquerque Drinking Water Project

<u>Comments by</u>	<u>Page</u>
Regulatory Branch Contact: Ms. Jean E. Manger, Phone: (505) 342-3216	2
Emergency Management Branch Contact: Mr. Tom Ryan, Phone: (505) 342-3268	9
Reservoir Control Branch Contact: Ms. Gail Stockton, Phone: (505) 342-3348	10
Planning Branch, Project Management Division Contact: Mr. Phil Boawn, Phone: (505) 342-3342	11

---



September 10, 2002

Comments on Draft Environmental Impact Statement  
City of Albuquerque Drinking Water Project

Comments by Regulatory Branch  
Contact: Ms. Jean E. Manger, Phone: (505) 342-3216

3427.005

1. The Executive Summary and the title page of the DEIS appropriately identify the Corps as a cooperating agency for the EIS process.

3427.006

2. The DEIS omits entirely a discussion of non-wetland waters of the United States, impacts of the proposed project on waters of the United States, and proposed mitigation of those effects. A description of these waters, proposed impacts, and mitigation must be included in the EIS for our adoption of the NEPA document for purposes of Clean Water Act Section 404 permitting.

An EIS Section on Waters of the United States could be included as a sub-section under any of the following headings: 3.16 Hydrology; 3.27 Water Quality, or 3.28 Wetlands (if located here, the Sub-section title would be better as Wetlands and Non-Wetland Waters). If located under Section 3.7, the Section title could be changed from Aquatic Life to Aquatic Resources.

3427.007

a. The EIS section regarding waters of the United States must first identify the wetland and non-wetland waters in the various reaches. We are available to review a draft discussion once one is prepared by your consultants. All waters (rivers, arroyos, flood control channels, lakes, wetlands) meeting the definitions at 33 CFR 328 are waters of the United States. The ordinary high water mark of non-wetland waters of the United States in the proposed project areas should be described in the EIS. Include arroyo crossings and any flood control channel crossings for pipelines. Changes to irrigation facilities to convert them to dual-use should also be described. Additional comments about wetlands are provided below in our comments on Section 3.28, Wetlands.

3427.008

b. The document should then discuss the proposed project effects, i.e., types of discharges of dredged and fill material into waters of the United States that will require authorization under Section 404. These types include temporary and permanent discharges of dredged and fill material to construct facilities in waters of the United States. For example, utility line crossings in arroyos, dam or sub-surface collectors in the Rio Grande, fishway, intake structure, and temporary construction fills.

The fills and structures discussed on pages 3-259 through 3-263 should also be addressed and discussed in a section about Clean Water Act requirements.

Alternatives to the discharge of dredged and fill material into waters of the United States should be identified and

Response to Comment 3427.005 Comment noted.

Response to Comment 3427.006 The text has been modified to include a discussion of other waters of the United States and is added to Section 3.28, Wetlands, which is re-titled Wetlands/Non-Wetland Waters.

Response to Comment 3427.007 Please refer to response to comment 3437.006. A table listing channels, arroyos, locations and crossing methods has been compiled and placed in the revised Section 3.28 Wetlands/Non-Wetland Waters. Ordinary high water marks are also documented within the table where pertinent. Changes to irrigation facilities, regarding the use of the Angostura Alternative have been described in Section 2 Description of Alternatives, and are summarized in the Wetlands/Non-Wetland Waters discussion.

Response to Comment 3427.008 Text has been added to Section 3.28 discussing 404 requirements. Specific project effects related to Section 404 permitting include discharges of dredge/fill material associated with temporary in-river and bank construction, cut and fill at arroyo crossings, and the renovation of some portions of existing irrigation facilities. This renovation work is associated with the Angostura Alternative. Construction impacts upon aquatic systems from developing the action alternatives are discussed in several other pertinent sections (aquatic life, hydrology, etc.), but are summarized in revisions to Section 3.28. The proposed mitigation measures developed for all resource measures, including wetlands, that pertain to construction within waters of the U.S. are discussed within the revised Section 3.28. These include measures described within Appendix O, under Aquatic Life, Hydrology, Land Use, Riparian, Threatened and Endangered Species and Water Quality.

3427.008 (cont)	discussed. There should also be consideration of the Section 404(b)(1) guidelines (see 40 CFR 230), including methods to minimize project effects on the aquatic environment (avoidance of impacts, minimization of impacts, and mitigation of unavoidable effects).	Response to Comment 3427.009 Please refer to response to comment 3427.008. Text added to Section 3.28 describes the 404 permit and Section 401 requirements, impacts of fills/discharges, and how these are proposed to be mitigated.
3427.009	c. Appropriate paragraphs in the EIS document should describe the applicant's requirement to obtain a Section 404 Clean Water Act permit and a Section 401 water quality certification, including a discussion of what types of activities would require permitting. The discussions should include evaluation of the impacts of the fills (discharges) on the factors listed in 33 CFR 325.3(c). These factors are addressed in the EIS regarding operation of the facility, water rights, and water issues; however, there is little discussion regarding the physical impacts of the dam, sub-surface collectors, etc. on non-wetland waters of the United States.	Response to Comment 3427.010 Proposed mitigation measures for loss or modification of aquatic habitat, temporary construction effects and other resource sections are found within those sections, and are tabulated and further described within Appendix O of the DEIS. For the revised Section 3.28 Wetlands and Non-wetland Waters, proposed mitigation steps are listed where they have been developed for Aquatic Life (Section 3.7), Riparian (Section 3.21), Water Quality (Section 3.27) and Threatened and Endangered Species (Section 3.24).
3427.010	d. Proposed mitigation measures should be identified for the loss of aquatic environment (for example, footprint of the dam), temporary construction impacts, aquatic environment effects (ex., loss of overbank shading), etc.  3. Table 1.1-1 (pg 1-3, <u>and</u> in Appendix A).	Response to Comment 3427.011 The table (Table 1.1-1) within the DEIS and Appendix A, has been modified to reflect changes suggested within the comment.
3427.011	a. <del>Reference New Mexico Environment Department:</del> (1) Under Agency listing, after (NMED), <u>insert</u> "or" Water Quality Certification Agency. This will specifically identify that the Description applies to the NMED <u>or</u> to the appropriate certification agency. (2) Under Actions, Permits and Licenses for the NMED or Water Quality Certification Agency, <u>delete</u> statement regarding "Section 404 Permit Dredge and Fill Permit (CWA)" These agencies have no responsibility for, or action on, Section 404 authorizations. (3) Under Description for the NMED or Water Quality Certification Agency, <u>delete</u> statement "The WQ Agency issues the WQ Certification independently of the USACE." <u>Move</u> up the statement about "NMED or WQ Agency Section 401 certification is required prior to USACE issuance of individual Section 404 permit." This is the more appropriate description for this activity.	Response to Comment 3427.012 Table 1.1-1 and the table within Appendix A, has been modified to reflect changes suggested by the comment.
3427.012	b. Add another section for EPA and/or NMED regarding compliance with Section 402 of the Clean Water Act. Compliance with this law is not mentioned in this table <u>or</u> anywhere in the EIS. A surface water pollution prevention plan will be required for the proposed project. Contact the appropriate people at EPA and/or NMED for additional information on the NPDES program and required compliance. [Also, add to App A, Table 1.1-1 and Table A-2.]	

3427.013	<p>4. Page 2-33, Paragraph 2.5.1, Angostura Diversion. Modification of this diversion for non-irrigation purposes, including construction of a fish passageway, will require a Section 404 permit. Somewhere in the document, all activities requiring a Section 404 permit should be identified/discussed.</p> <p>Page 2-34, Para. 2.5.2, Paseo del Norte Diversion, and Page 2-45, Section 2.5.3, Subsurface Diversion - Same comment (i.e., a Section 404 permit will be required for the discharge of dredged and fill material into waters of the United States).</p>
3427.014	<p>5. Page 2-60, Para. 2.5.8. The first full paragraph on page 2-60 presumes the only alternative for construction of potable water transmission lines in the Rio Grande is open trenching. Water lines can also be installed via bore and jack methodology. Alternatives to the discharge of dredged and fill material, for trenching and other discharges into waters of the United States, should be explored within the EIS.</p>
3427.015	<p>6. Page 3-21, Oxbow. It would be useful to identify here that much of the Oxbow is an open water wetland providing habitat for diverse flora and fauna such as ... (have consultant identify species). Note: These wetlands are adjacent to the Rio Grande. Inconsistent terminology: The Oxbow is called the "City Oxbow" on page 3-21, the "Montano Oxbow" on page 3-289, and "the Oxbow" on page 17 of Appendix O, Mitigation Measures. You may wish to just call it the Oxbow or the Oxbow Marsh.</p>
3427.016	<p>7. Typo, Page 3-40, 3rd full paragraph, 2nd line. Should be "The City will continue to take full ..."</p>
3427.017	<p>8. Duplicate words, page 3-43, 2nd full paragraph, 3rd line. "aquatic species" repeated.</p>
3427.018	<p>9. Page 2-68, 3-41, 3-44, 3-46, Aquatic Life. Under Habitat Modification on Tables 2.7-1 and 3.7-2, add two subsections on the charts to address the expected (a) temporary, and (b) permanent loss of aquatic habitat due to construction and permanent facilities. Discuss the physical modifications to habitat expected due to the proposed project alternatives in the appropriate subsections of this Section, Aquatic Life. Include such items as fish passageways, bladder dam, temporary diversions, pipeline installations, selected backfill for subsurface collectors, etc.</p>
3427.019	<p>10. Page 3-42, 2nd paragraph. Reference 1st sentence re: effects to aquatic habitat potentially affected. Please identify what the potential effects are -- temporary construction? changes in diversion operation? The 80 to 120 acre impact should be identified without requiring the reader to search for the antecedent of "potential effect."</p>

<p>Response to Comment 3427.013 Within each paragraph indicated by the comment (2.5.1, 2.5.2, and 2.5.3), a sentence has been added, indicating the need for a Section 404 permit for each of the proposed actions.</p>
<p>Response to Comment 3427.014 The referenced text has been modified to include the consideration of various technologies.</p>
<p>Response to Comment 3427.015 Text has been revised to identify the Oxbow as an adjacent wetland, and the term "Oxbow" has been used for consistency.</p>
<p>Response to Comment 3427.016 Text modified.</p>
<p>Response to Comment 3427.017 Text modified.</p>
<p>Response to Comment 3427.018 The tables have been modified and appropriate text changes inserted to reflect 0.2 acres of aquatic habitat permanently removed by the Paseo del Norte alternative.</p>
<p>Response to Comment 3427.019 Text has been revised within Section 3.7.</p>

3427.020	11. Page 3-44, Summary of Environmental Consequences. The habitat impacts are mentioned for only Paseo del Norte diversion. Recommend including permanent habitat changes at Angostura due to the fish passageway (1.72 ac). Could also add the 1.72 ac habitat modification at Paseo del Norte due to the fish passageway.
3427.021	12. Page 3-71, Sec 3.12 Floodplains.  a. In addition to compliance with the FEMA National Flood Insurance Program, the selected project must comply with any applicable local floodplain ordinances. For instance, a local ordinance may require no change to the 100-year flood elevation, or, no fills may be placed in the 100-year floodplain. Recommend identification of the applicable ordinance (County, City), a summary of its restrictions, and a discussion of each project's compliance with the applicable local ordinance. This discussion may require modification of other paragraphs in this section.
3427.022	b. Include a discussion of potential project effects to flood control levees. For example, access roads (temporary, permanent), pipes (raw water, potable water). Also, modification of Kelner jack lines. See comments by Corps' Emergency Management Office regarding coordination with the Corps and the USBR prior to construction affecting levees or jetty jacks.
3427.023	13. Page 3-74, top paragraph. What permit is being referenced by "construction would conform to permit guidelines ..."? What are the guidelines? Has the permit been issued? Issued by whom?
3427.024	14. Page 3-97, Fig 3.16-2. Sil <del>e</del> Canal is misspelled.
3427.025	15. Page 3-206, Sec 3.23, Soils.  a. Project effects to aquatic substrate. Either here, in Aquatic Life, Hydrology (Surface Water), or under Water Quality, create a section to discuss changes in aquatic soils/substrate due to the proposed projects. For example, at the fish passageways, the proposed project would replace 1.72 ac of bank and/or riverine soils with rock for fish passage; Paseo del Norte diversion, the proposed project would replace 0.2 ac of river substrate with concrete, rock for bladder dam/apron; subsurface collector, the proposed project would replace ?? ac of river substrate with selected backfill for collectors. Describe any proposed mitigation for loss of, or other impacts to, the aquatic environment.
3427.026	b. Will there be drainage modifications to the Domingo Baca Arroyo at the Chappell site? Describe, discuss.
3427.027	c. Discuss disturbances to arroyos, flood control channel(s) at pipeline crossings. Describe mitigation to return

Response to Comment 3427.020 The fishways are considered riparian for discussion of amounts removed temporarily and permanently, and amounts are considered there (Section 3.21). Table 3.7-2 has been modified to show amounts of aquatic (river) habitat impacted.
Response to Comment 3427.021 Text has been added within Section 3.12.1 at the end of the section to introduce the appropriate County and City ordinances regarding floodplains and flooding.
Response to Comment 3427.022 Text has been added to Section 3.12.4 at the end of the section.
Response to Comment 3427.023 Construction would conform to FEMA permit guidelines. Text has been modified to reflect this within section 3.28.
Response to Comment 3427.024 Figure has been corrected to proper spelling.
Response to Comment 3427.025 The text has been changed to include a discussion of the outfall at Angostura.
Response To Comment 3427.026 Text has been added within Section 3.28.
Response to Comment 3427.027 Table 3.28-1 has been modified.

arroyo bed to original contours and soils.

16. Section 3.27 (beginning on page 3-278).

a. Section 402 (NPDES) requirements could be addressed in a subsection here.

b. While not specifically identified as Section 404 permit actions or issues, some aspects of Section 404 are touched upon (ex, page 3-285, end of 1st paragraph, notes that temporary settling ponds would be built to control turbidity during in-river construction of the subsurface collectors). Items such as this could be moved to, or referenced in, a specific section discussing Section 404 permit issues.

c. Add under 3.27.3, Environmental Consequences, a requirement to obtain Clean Water Act permits. As noted above, at a minimum, discuss discharges of dredged and fill material into waters of the United States, including wetlands, for each type of project. Identify waters of the United States.

17. Wetlands, Section 3.28 (beginning on page 3-288).

a. Page 3-288, 1st sentence of last paragraph. Sentence sense? Was the method of analysis used to map wetland areas?

b. Page 3-289, Section 3.28.2, paragraph 3. The DEIS is making a jurisdictional determination without an official concurrence from the Corps of Engineers. The wetlands at the North Diversion Channel (NDC) are jurisdictional. In addition, the NDC is a water of the United States to the limit of jurisdiction, the ordinary high water mark. The South Diversion Channel (SDC), while probably not a wetland, is a regulated water of the United States. The discharge of dredged and fill material into these waters will require a Section 404 permit. A wetland that is seasonal does not necessarily equate to non-jurisdictional.

We recommend that the City of Albuquerque and/or USBR submit a wetland determination to the Corps for an official determination prior to publishing the final EIS. The delineation should be made using the 1987 Corps of Engineers Wetland Delineation Manual for proposed project areas. If an official determination is not made, the EIS should not make strong statements that a wetland is or is not jurisdictional. Alternatively, an area could be identified as a wetland without making a distinction regarding Clean Water Act jurisdiction.

c. Page 3-289, Section 3.28.2, paragraph 4. The Oxbow is hydrologically connected to the Rio Grande via groundwater. Pursuant to 33 CFR 328.3(c), the Oxbow is considered an adjacent wetland. To quote 33 CFR 328.3(c): The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from

Response to Comment 3427.028 A new subsection has been added to Section 3.28.
Response to Comment 3427.029 Please see response to comment 3427.030.
Response to Comment 3427.030 The Wetland section (Section 3.28) has been revised.
Response to Comment 3427.031 The sentence has been corrected to read "...to locate existing identified wetland areas..."
Response to Comment 3427.032 Text has been revised to state the NDC is a jurisdictional wetland, and is a water of the United States to the ordinary high water mark, while the SDC is a regulated water of the United States. As such, any discharge of dredged and fill material into these areas will require a Section 404 permit.
Response to Comments 3427.033 AND 3427.034 ON NEXT PAGE

3427.028

3427.029

3427.030

3427.031

3427.032

3427.033

3427.034

Response to Comment 3427.033 Text has been added to Section 3.28.2. A Section 404 permit was submitted for the City of Albuquerque Nonpotable Surface Water Reclamation Project in May 2000. The proposed construction area for this project is about 2000 feet north of the Paseo del Norte and Subsurface diversion locations. A wetlands delineation was completed at and near the location for the nonpotable diversion, and it did not contain jurisdictional wetlands. Surface soil and vegetation characteristics are similar within the proposed construction areas of the Paseo del Norte and Subsurface Diversion alternatives. No standing water or saturated soil were present at these locations during several field visits, nor were these conditions observed at the area of the existing Angostura Diversion Dam. The surface area at this location including the proposed construction area has been disturbed and very little vegetation of any type is present. Proposed construction activities in the active channel would result in the discharge of fill material into the jurisdictional waters of the U.S. These proposed activities would require authorization under provisions of Section 404 of the Clean Water Act. Any activities affecting water in the Albuquerque Riverside Drain would not require authorization under provisions of the Clean Water Act. The soils of the diversion alternatives are similar to those encountered in the previous delineation.

Response to Comment 3427.034 Section 3.28.2 has been modified to identify the oxbow as an adjacent wetland, and state that it is hydrologically connected.

other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."

**3427.035** d. Page 3-289, Section 3.28.2, Affected Environment. Describe sites for the bladder dam, pump house(s), access road(s), fishways, and subsurface collectors. Describe the three wetland parameters at each site; vegetation, soils, and hydrology. For example, an area may have cottonwood dominant forest (FACW vegetation); the area may have high overbanks due to channelization/Kelner jacks (lack of wetland hydrology due to low water table and no saturation/inundation); there may be sandy, alluvial soils with no mottling or low chroma. Without this information, it will be difficult to draw a conclusion regarding wetlands at each proposed site.

**3427.036** e. Page 3-290, Effects from Action Alternatives, 2nd paragraph. The statement regarding seasonal non-jurisdictional wetlands is incorrect (see above discussion).

The statement that there are no jurisdictional wetlands in the Middle Subarea is incorrect. At the least, the NDC and the Oxbow are jurisdictional wetlands. Some of the vegetated islands in the Rio Grande qualify as jurisdictional wetlands. There may be other wetland sites; however, performing a wetland delineation of the entire river reach is outside the scope of this action.

**3427.037** ~~The 1/10 ft increase in river stage elevation may provide~~ additional backwater to the NDC outfall wetland (majority of the wetland is supported by intermittent flows from the NDC). The statement in paragraph 2 that "In the Middle Project Subarea construction would not affect any known jurisdictional wetlands. A flow reduction in the Middle Project Subarea would not affect any seasonal non-jurisdictional wetlands found along the river's edge." may not be entirely correct. Provide additional substantiation if these statements are to remain in the EIS.

**3427.038** f. Page 3-290, Effects from Action Alternatives, para 3. Typo, second line "SWRP; thus no effects on wetlands .."

**3427.039** g. Page 3-290, Summary of Environmental Consequences. The statements: "based on the lack of potential jurisdictional or non-jurisdictional wetlands in the immediate construction areas" and "due to the absence of wetlands in the Middle Subarea" are not adequately supported by information in the DEIS. As discussed above, additional investigations must be made regarding the presence of wetlands.

**3427.040** 18. Section 4, Consultation Coordination. There are two pages numbered 4-1.

On the first page 4-1, please change the address of Jean Manger to show the street address in the NE quadrant; i.e., 4101 Jefferson Plaza, NE

Please note that the Corps Regulatory Program is not solely

Response to Comment 3427.035 Additional text has been added to identify surface conditions at the location of each action alternative within Section 3.28.

Response to Comment 3427.036 Text within this section has been modified.

Response to Comment 3427.037 As noted within the comment above (3427.036), the text has been modified as follows: The increase in river flow predicted within hydrologic modeling is not expected to cause backwater increases at the NDC. Decreased flows and small changes within channel geometry are not predicted to impact known wetland areas. The ground water effects attributable to the Subsurface Diversion are shown in Figures 3.16-20 and 3.16-21. Effects of this alternative upon riparian vegetation are considered within Section 3.21.

Response to Comment 3427.038 The text has been modified.

Response to Comment 3427.039 Text has been revised to correct the use of jurisdictional/non-jurisdictional wetlands, and affected environment descriptions have been elaborated.

Response to Comment 3427.040 Corrections made in text as requested.

September 10, 2002

Comments on Draft Environmental Impact Statement  
City of Albuquerque Drinking Water Project

Comments by Emergency Management Branch  
Contact: Mr. Tom Ryan, Phone: (505) 342-3268

3427.041

1. The levees along various reaches of the Rio Grande in Albuquerque were constructed either by the U.S. Army Corps of Engineers (Corps) or the U.S. Bureau of Reclamation (USBR). Pipe crossings through/under the levees will require appropriate construction, compaction, and stabilization to insure that the project does not adversely affect the levee integrity. Plans for pipelines through levees will be coordinated with the Corps and/or USBR for approval.

3427.042

2. Similarly, Kelner jetty jack fields were installed in the floodplain of the Rio Grande for flood control. Plans depicting proposed impacts to Kelner jetty jacks will be coordinated with the Corps and/or USBR for approval.

3427.043

3. Temporary construction or permanent access roads impacting existing levees will require coordination with the Corps and/or USBR prior to construction.

Response to Comment 3427.041 All construction or activity on, through or under levees constructed or maintained by the USACE or Reclamation will be coordinated with those agencies for approval.

Response to Comment 3427.042 The text has been modified to indicate construction effects upon Kelner jetty jack fields will be coordinated with USACE and Reclamation for approval.

Response to Comment 3427.043 The City is required to obtain all permits and licenses as required within Table 1.1-1. The City would be required to coordinate with the USACE during the permit process.



September 10, 2002  
Comments on Draft Environmental Impact Statement  
City of Albuquerque Drinking Water Project

Comments by Reservoir Control Branch  
Contact: Ms. Gail Stockton, Phone: (505) 342-3348

3427.044

1. P. 3-298, Table 3.30-1 (Continued), Project U.S. Army Corps of Engineers- Belen Levee Project, 1999- ongoing - Correction: last sentence: "Portions of this spoil-bank levee limit the higher spring releases from upstream reservoirs."  
(The San Marcial railroad bridge is the factor which limits higher spring releases not the spoil bank levees. The spoil bank levees will withstand reservoir releases but not large floods (such as the 1 % chance flood) from uncontrolled areas. The Corps currently operates Cochiti, Abiquiu, Jemez Canyon, and Galisteo to 7,000 cfs, as measured at the Albuquerque gage. The constriction of the San Marcial railroad bridge currently precludes higher releases.)

3427.045

2. Appendix A, Supplemental Information on Rio Grande Operational Procedures and River Control Facilities, P.A-2, Cochiti Reservoir, second paragraph- Clarification: "The limiting-channel capacity below Cochiti is about 7,000 cfs." ( This may just be a matter of semantics but suggest say that "The Corps currently operates to a 7,000 cfs channel capacity downstream of Cochiti, as measured at the Albuquerque gage." The Corps, with other partners in the Upper Rio Grande Basin Water Operations Review and EIS, is currently investigating proposed operations for establishing much higher than 7000 cfs channel capacity, as measured at the Albuquerque gage.)

3427.046

3. P.3-109, paragraph 6, Clarification: " The simplified model, called the DWP model, was based on a computer code developed by URGWOM(2000)." ( Inserting "Team" after URGWOM as in the following: Appendices Hydrologic Effects of the Proposed City of Albuquerque Drinking Water Project on the Rio Grande and Rio Chama Systems, P.ES-8- "a simplified version of the SJC Riverware model was used (CH2MHILL, 2001c) based on a computer code developed by the multi-agency Upper Rio Grande Water Operations Model (URGWOM) Team (2000)." To make clear that URGWOM is the team not the model.)

Response to Comment 3427.044 Corrections made to table in Section 3.30.

Response to Comment 3427.045 Comment noted. Text not revised.

Response to Comment 3427.046 The referenced sentence in Section 3.28 has been edited to reflect use of the word "Team".

September 10, 2002  
 Comments on Draft Environmental Impact Statement  
 City of Albuquerque Drinking Water Project

Comments by Planning Branch, Project Management Division  
 Contact: Mr. Phil Boawn, Phone: (505) 342-3342

3427.047

Alternatives - Figure 2.1-1 showing the 32 provisional alternatives is hard to read, but what was readable is too cryptic to understand what the alternatives where about and the summary does not show any viable non-structural alternatives. Also, there are no alternatives that seriously consider expanding the City's water conservation plan.

3427.048

All alternatives need to consider a long-term drought condition (more than the 3-year 1972 hydrograph that CH2M Hill used in the hydrology). Considerations must also be made on the scenario of a portion of the City's water being used for ESA purposes.

3427.049

Section 3.7.3 - Effect from Paseo del Norte Diversion. Please provide additional information on the surface water intake and the potential velocity impacts on the RGSM with the operation of the radial gate used to check up the water for diversion.

3427.050

Appendix K - Cumulative Effects is missing. Section 3.30 ~~Cumulative Effects on page 3-295 provides many qualitative~~ statements about effects of projects on the minnow, hydrology and the RGSM. However, there is no information available on how the effects were assigned the values of 0, +, or -. Was this assignment based on any scientific analysis, professional judgment, or sponsor desires. Please provide more information on how the impacts were evaluated.

3427.051

Appendix L - CH2M Hill Hydrology Report. For the baseline and No-Action Alternative, please provide more explanation on why the City's San Juan - Chama water is taken out of the system, especially in drought periods and for ESA considerations.

3427.052

Effect on Sediment Transport for the 3-foot high adjustable dam. Please provide more detail from the Heggen Report on sediment characteristics for lower flow or drought flow conditions over a long period of time.

3427.053

The capable delivery of 94,000 acre-feet per year of San Juan - Chama water for the DWP does not take out the water required for the City's North I-25 Industrial Recycling Project. Would this omission change the average of 130 cfs diversion of San Juan - Chama water?

3427.054

Appendix I - Biological Assessment. Although this document may not be available for comment during DEIS review, can it be made available for review before the final EIS document is released?

Response to Comment 3427.047 Please see 2-2 through 2-18 of the DEIS. The quality of Figure 2.1-1 has been improved in the FEIS. The text descriptions of alternatives will provide additional detail and explains the process flow on pages 2-2 through 2-32 (DEIS). Also, the DEIS does incorporate by reference reports detailing alternatives and the process of evaluation (see references CH2M Hill 1995a, 1995b, 1997a, 1997b, 1997c, and others listed in references). The City implemented a water conservation goal of 175 gpcd to be reached by 2005. The 175 gpcd goal has been modified to include an enhanced goal of 150 gpcd by 2014.

Response to Comment 3427.048 All alternatives consider long term drought alternatives as the project ceases to divert native flows at less than the curtailment rate. The length of the curtailment could extend longer than the hydrographs depicted and the City would increase the pumping of groundwater for its water supply. See Section 3.24 for a discussion of measures pursuant to the ESA.

Response to Comment 3427.049 Please see response to 3444.038.

Response to Comment 3427.050 Appendix K is a placeholder for also showing cumulative effects in a separate appendix. Section 3.30 in the introduction describes how effects were assigned, after mitigation measures. Text has been added to Tables 3.30.2 to explain the rationale for determination of effect for each project listed in the tables.

Response to Comment 3427.051 As discussed in Appendix L and Section 3.16, the City's San Juan Chama (SJC) water was removed from the baseline to avoid double counting of SJC flows. If SJC water is included in the baseline, the Drinking Water Project (DWP) alternative would count the same water twice as both historic and proposed project releases. Because the DEIS analysis is a comparison of effects between the No Action and action alternatives, leaving SJC water in the baseline would produce no differences in effects between the alternatives.

SJC water has been made available for ESA considerations in the past. However, future uses of SJC water for ESA purposes can not be estimated for either the DWP or No Action alternatives.

Responses to Comments 3437.052 - .054 ON NEXT PAGE

September 10, 2002

Comments on Draft Environmental Impact Statement  
City of Albuquerque Drinking Water Project

Comments by Planning Branch, Project Management Division  
Contact: Mr. Phil Boawn, Phone: (505) 342-3342

3427.047

Alternatives - Figure 2.1-1 showing the 32 provisional alternatives is hard to read, but what was readable is too cryptic to understand what the alternatives were about and the summary does not show any viable non-structural alternatives. Also, there are no alternatives that seriously consider expanding the City's water conservation plan.

3427.048

All alternatives need to consider a long-term drought condition (more than the 3-year 1972 hydrograph that CH2M Hill used in the hydrology). Considerations must also be made on the scenario of a portion of the City's water being used for ESA purposes.

3427.049

Section 3.7.3 - Effect from Paseo del Norte Diversion. Please provide additional information on the surface water intake and the potential velocity impacts on the RGSM with the operation of the radial gate used to check up the water for diversion.

3427.050

Appendix K - Cumulative Effects is missing. Section 3.30 ~~Cumulative Effects on page 3-295 provides many qualitative~~ statements about effects of projects on the minnow, hydrology and the RGSM. However, there is no information available on how the effects were assigned the values of 0, +, or -. Was this assignment based on any scientific analysis, professional judgment, or sponsor desires. Please provide more information on how the impacts were evaluated.

3427.051

Appendix L - CH2M Hill Hydrology Report. For the baseline and No-Action Alternative, please provide more explanation on why the City's San Juan - Chama water is taken out of the system, especially in drought periods and for ESA considerations.

3427.052

Effect on Sediment Transport for the 3-foot high adjustable dam. Please provide more detail from the Heggen Report on sediment characteristics for lower flow or drought flow conditions over a long period of time.

3427.053

The capable delivery of 94,000 acre-feet per year of San Juan - Chama water for the DWP does not take out the water required for the City's North I-25 Industrial Recycling Project. Would this omission change the average of 130 cfs diversion of San Juan - Chama water?

3427.054

Appendix I - Biological Assessment. Although this document may not be available for comment during DEIS review, can it be made available for review before the final EIS document is released?

Response to Comment 3427.052 During periods of low flow less than the curtailment rate, the adjustable height dam will be lowered and will not have an effect on sediment transport. The Heggen report does not discuss sediment transport under drought conditions.

Response to Comment 3427.053 No. While the DWP will consume the City's annual allotment of SJC water, the North I-25 Non-Potable project will divert SJC water that is released from storage, including water stored during curtailment periods.

Response to Comment 3427.054 Release of the Biological Assessment requires a decision to do so by Reclamation and the FWS.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2738

August 5, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette N.W.  
Suite 1313  
Albuquerque, NM 87102

Dear Ms. Robertson:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality Regulations (CEQ) for Implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Supply, Albuquerque, New Mexico.

The DEIS evaluates four alternatives of implementing a drinking water project for residents of the City of Albuquerque, New Mexico, that aims to use existing water resources and develop a safe sustainable water supply to the year 2060. The proposed preferred project would entail four elements: (1) diverting surface water from the Rio Grande, (2) transporting the raw water to a new water treatment plant, (3) treating the raw water to drinking water standards, and (4) distributing the treated, potable water to customers in the City's water service area. The preferred alternative would provide a means by which the City could consumptively use the City's San Juan-Chama (SJC) project water to the fullest extent practicable and provide a sustainable water supply. The City's continued sole reliance on ground-water resources lead to serious environmental problems including water quality degradation, irreversible damage to the aquifer, and land surface subsidence. The proposed alternative should elevate this problem in a positive and environmentally sound manner.

The following comment is offered for your consideration in development of the Final EIS (FEIS).

To strengthen the FEIS, the document should note that any discharges of dredged or fill material into wetlands or waters of the United States are not authorized under Section 404 of the Clean Water Act, unless authorized by a Department of the Army permit or exempted. The FEIS should further note that where a Section 404 permit is required, the action must comply with EPA's Guidelines for Specification of Disposal Sites for Dredge or Fill Material (40 CFR Part 230) [404(b)(1)]. Please address this comment in the FEIS.

3428.001

Response to Comment 3428.001 Comment noted.

3428.002

Response to Comment 3428.002 Comment noted. The City will acquire all the permits and licenses required, as listed within Table 1.1-1.

3428.003

EPA classified your DEIS and proposed action as "LO," i.e., EPA has "Lack of Objections". We ask that the FEIS provide additional information as discussed above. Our classification will be published in the Federal Register according to our responsibility under Section 309 of the Clean Air Act, to inform the public of our views on proposed Federal actions.

We appreciate the opportunity to review the supplemental information. We request that you send our office one (1) copy of the FEIS at the same time that it is sent to the Office of Federal Activities (2251A), EPA, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20044.

Sincerely yours,

*for Michael Jewell, P.E.*  
Robert D. Lawrence  
Chief, Office of Planning  
and Coordination

Response to Comment 3428.003 Comment noted.

SUMMARY PARAGRAPH FORM

ERP NUMBER D-IBR-G39036-NM

TITLE: ALBUQUERQUE DRINKING WATER PROJECT

RATING ASSIGNED TO PROJECT LO

NAME OF EPA OFFICIAL RESPONSIBLE MIKE JANSKY  
309 COORDINATOR

SUMMARY OF COMMENT LETTER

3428.004

EPA has no objections to the selection of the preferred alternative. Full consumptive use of the SJC renewable water supply is the only means available to the City to provide a sustainable water supply. The current method of continued sole reliance on ground-water resources has lead to serious environmental problems including water quality degradation, irreversible damage to the aquifer, and land surface subsidence. The proposed alternative should elevate this problem in a positive and environmentally sound manner.

Response to Comment 3428.004 Comment noted.

PARAGRAPH APPROVED FOR PUBLICATION

\_\_\_\_\_  
(Initials of  
Approving Official)

ORIGINAL



June 21, 2002

Rick L. Gold, Regional Director  
 Attention: Lori Robertson  
 Bureau of Reclamation, Albuquerque Area Office  
 505 Marquette, N.W., Suite 1313  
 Albuquerque, New Mexico 87102

Wayne Taylor, Jr.  
 CHIEF  
 ALBUQUERQUE AREA OFFICE

RECEIVED FOR  
 Leigh J. Kuwanwisiwma  
 Director  
 Cultural Preservation Office

JUN 28 2002

Classification: ENV-6-00  
 Project: 6-2  
 Control No. 2001589  
 Folder No. 35797

DATE	REV. S	CODE
6/28	m	153
		158

ACTION

Dear Director Gold,

Thank you for your letter dated July 14, 2002, with an enclosed draft Environmental Impact Statement for the City of Albuquerque Drinking Water Project.

3429.001

The Hopi Tribe claims cultural affiliation to cultural groups in the Albuquerque, in part through our Tewa people of Tewa Village on First Mesa, and their Tano predecessors. The Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites.

3429.002

However, on this proposal, without waiving our rights under the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, and other applicable Legislation and Executive Orders, the Hopi Cultural Preservation Office defers further consultation to the Pueblo of Cochiti and the Six Middle Rio Grande Basin Water Rights Coalition, the Pueblo of Sandia, the Pueblo of Isleta, and Taos Pueblo.

If you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you again for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director  
 Cultural Preservation Office

xc: New Mexico State Historic Preservation Office  
 Pueblos of Cochiti, Sandia, Isleta, Taos

Response to Comment 3429.001 Comment noted.
Response to Comment 3429.002 Comment noted.





THE PUEBLO OF ISLETA'S COMMENTS ON THE  
 JUNE 2002 DRAFT ENVIRONMENTAL IMPACT STATEMENT ("DEIS")  
 FOR THE CITY OF ALBUQUERQUE DRINKING WATER PROJECT  
 AUGUST 12, 2002

3430.001

The people of the Pueblo of Isleta have lived along the Rio Grande and used its water since time immemorial. Every year, we grow our traditional crops. This is how we feed our families. It is also how we continue the way of life that identifies us as a people. Our survival as a tribe depends on continuing our traditional ways, including our traditional farming. The members of the Pueblo also grow alfalfa to feed their own livestock and to sell to support their families.

3430.002

We also use the water of the Rio Grande for traditional ceremonies that are essential to the practice of our religion. We must have clean water flowing in the river and our irrigation ditches for these ceremonies.

3430.003

The Rio Grande and the life it supports, are precious to the Pueblo of Isleta. We have taken care of our lands and the river flowing through our lands since time immemorial. We have adopted water quality standards to protect the river from pollution by those who came to this valley much later.

3430.004

We have endured the many failures by our federal trustees to take care of our resources. We insist that the Bureau of Reclamation comply with its trust duty in this instance, and protect our lands and waters from adverse effects of the City of Albuquerque's proposed Drinking Water Project. Although the Draft EIS focuses on whether adverse effects are "significant" within the meaning of the National Environmental Policy Act (NEPA) statute and regulations, the Bureau of Reclamation's trust duty requires it to avoid or fully mitigate any adverse effects.

3430.005

The Bureau of Reclamation, as an agency of the federal government, has a trust responsibility to the Pueblo of Isleta "to protect and maintain rights reserved by or granted to Indian tribes or Indian individuals by treaties, statutes, and executive orders." See Attachment 5, Bureau of Reclamation, Indian Trust Asset Policy (August 31, 1994) in Protection of Indian Trust Resources (notebook on file with the Department of Interior) ("Reclamation Indian Trust Asset Policy").<sup>1</sup> "This trust responsibility requires that all federal agencies, including Reclamation, *take all actions reasonably necessary to protect trust assets.*" *Id.* (emphasis added). The Indian Trust Assets ("ITAs") entitled to protection include water rights. See id.

<sup>1</sup> In February, 1996, Secretary of the Interior Babbitt and Assistant Secretary Deer transmitted to Interior employees a compilation of the policies and procedures adopted by the Bureau and offices of the Department of Interior relating to trust protection practices, which we refer to in these comments as "Protection of Indian Trust Resources."

Response to Comment 3430.001 Comment noted.

Response to Comment 3430.002 Comment noted.

Response to Comment 3430.003 Comment noted.

Response to Comment 3430.004 Comment noted.

Response to Comment 3430.005 Comment noted.

The Department of Interior's Departmental Manual requires that "[a]ny effect [on Indian trust resources] must be *explicitly addressed* in the planning/decision documents, including, but not limited to...Environmental Impact Statements..." 512 DM A 2.4(A) (emphasis added). Such documents "shall...[e]xplain how the decision will be consistent with the Department's trust responsibility." Id.

In its Indian Trust Asset Policy, the Bureau of Reclamation states:

Reclamation will carry out its activities in a manner *which protects trust assets and avoids averse impacts when possible*. When Reclamation cannot avoid adverse impacts, it will provide appropriate mitigation or compensation.

Reclamation Indian Trust Asset Policy (emphasis added):

3430.006

The Bureau of Reclamation's procedures implementing this policy require that the assessment of impacts on ITAs cover "[a]ctions that could impact the value, use or enjoyment of the ITA." Bureau of Reclamation, Indian Trust Asset Policy and NEPA Implementing Procedures: Questions and Answers About the Policy and Procedures (hereinafter "ITA Q&A"), Section IV-4 at 9 (Aug 31, 1994) in Protection of Indian Trust Resources. "Such actions could include interference with the exercise of a reserved water right." Id. "[A]ll impacts, both positive or negative, should be analyzed and discussed." Id. Unavoidable impacts should be fully mitigated:

The first strategy should be to avoid causing significant adverse impacts. When this is not possible, an attempt should be made to minimize such impacts. If adverse impacts do occur, the next step is to identify mitigation or compensation measures to offset adverse impacts so that there is no net loss to the Indian beneficial owners of the asset.

ITA Q&A, Section V-1 at 13.

We do not find any meaningful analysis of adverse effects on the Pueblo of Isleta in the DEIS. Instead, the DEIS Section 3.17 ("Indian Trust Assets and other Tribal Resources") assumes without analysis that the decline in river flow in the Pueblo's reach through 2020 shown by the City's hydrological modeling will have no adverse effect on the Pueblo. Section 3.17 also fails to consider the impacts on water quality at the Pueblo and on the Pueblo's agricultural and traditional cultural activities. The Bureau of Reclamation must correct these deficiencies, and avoid or mitigate the effects, in order to comply with NEPA and its trust duty to the Pueblo of Isleta.

3430.007

The Bureau of Reclamation appears to be trying to avoid its trust obligation by placing the burden of analysis on the Pueblo. Section 3.17.4 ("Proposed Mitigation Measures") states: "No environmental design features or mitigation measures have been identified or proposed for the DWP to address ITA or Indian resource concerns because the Pueblos and Tribes have not identified any specific ITA as a result of the consultation

3430.008

Response to Comment 3430.006 Comment noted.

Response to Comment 3430.007 The assessment of Indian Trust Assets (Section 3.17) contains several substantive discussions of the methods of analysis, affected environment, and environmental effects of the proposed action. Additionally, the consultation process is described. Analysis of physical and biological resources are considered in Sections 3.16 (Hydrology) and Section 3.27 (Water Quality). The descriptions and analysis within those sections are pertinent to Section 3.17. Results of the consultation efforts are included in Section 4 (Consultation and Coordination) and Appendix F (Correspondence With Tribal Governments). There is no reduction in flow attributable to the project in the Isleta Reach.

Response to Comment 3430.008 The methods of analysis and description of Indian Trust Assets are considered in Section 3.17. Reclamation is required to consult with potentially affected Pueblos and tribes to identify ITAs. Although consultation with the Pueblo of Isleta did not explicitly identify any ITAs, Reclamation considers Indian water rights as an important ITA. The DWP will not impact Indian water rights. Modeled hydrologic and related impacts are presented within Section 3.16, 3.27 and Appendix L (Hydrology Report). Additionally, the methods and results of the consultation process are presented within Section 4 (Consultation and Coordination) and Appendix F (Correspondence With Tribal Governments).

process.” DEIS at 3-164. The Bureau of Reclamation’s trust duty, and the Indian Trust Asset policies discussed above, clearly requires Reclamation, as the trustee, to undertake this analysis and explicitly address the adverse effects in the DEIS.

3430.009

Moreover, Section 3.17.4 wrongly implies that the Bureau of Reclamation has consulted with the Pueblo of Isleta on the Drinking Water Project. The Bureau of Reclamation has a duty to consult with the Pueblo on a government-to-government basis regarding the potential effects of the Project on the Pueblo. Unfortunately, the Bureau of Reclamation refused the Pueblo’s request for a preliminary draft of the EIS to facilitate consultation. Meaningful consultation must occur before the Bureau of Reclamation makes a final decision on the Project.

3430.010

In addition, the Pueblo questions the propriety of the Bureau of Reclamation’s agreement to expedite the NEPA process for the Project in its agreement with the City of Albuquerque dated June 6, 2002. The Bureau of Reclamation must take care not to compromise the integrity of the NEPA process. We are afraid that the agreement by its very nature, compromises the integrity of the process.

3430.011

Accordingly, the Pueblo of Isleta urges the Bureau of Reclamation to undertake the necessary analysis to explicitly address the adverse effects of the proposed Project on the Pueblo of Isleta, and to recirculate a new DEIS that includes this analysis. The comment period on recirculation should be at least 90 days. The Pueblo of Isleta further urges the Bureau of Reclamation to immediately begin government-to-government consultation with the Pueblo of Isleta on this Project, and complete consultation before making a final decision on the Project. Finally, the Bureau of Reclamation must avoid or fully mitigate adverse effects on the Pueblo of Isleta.

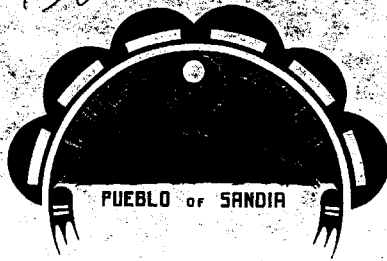
Response to Comment 3430.009 The results of the consultation process are considered in Section 3.17, Section 4 (Consultation and Coordination) and Appendix F (Correspondence With Tribal Governments). Government-to-government consultation has occurred. The administrative DEIS was only provided to the cooperating agency.

Response to Comment 3430.010 The NEPA process has been followed. All required public meetings and hearings have been held, after extensive advertising. The City has conducted two workshops with the public and agencies regarding alternatives. Agency kickoff meetings to screen resource areas and other issues were conducted (BIA and some Pueblos attended). Interagency group meetings (eighteen in number) have been held throughout the process (BIA and some Pueblos regularly attended). Numerous public and agency issue specific meetings have been held. The integrity of the process was achieved through the completion of the steps indicated above.

Response to Comment 3430.011 Please see responses to comments 3430.007, 3430.008, 3430.009 and 3430.010. The consultation process and other NEPA procedures and processes have been completed, and are discussed in appropriate sections. No adverse effects upon Isleta Pueblo have been identified. Water flows are slightly improved, which is considered a beneficial effect, and there is no water quality impact below the SWRP.

COPY FOR YOUR INFORMATION 150

Stewart Paisano  
Governor  
Alex Lujan  
Lt. Governor  
Treasurer



Box 6008  
Bernalillo, New Mexico 87004  
(505) 867-3317

Via Hand Delivery

September 12, 2002

Ken Maxey, Area Director  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, NW, Suite 1313  
Albuquerque, NM 87102

Ms. Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, NW, Suite 1313  
Albuquerque, NM 87102

**RE: Comments on City of Albuquerque Drinking Water Project  
Draft Environmental Impact Statement under NEPA**

Dear Mr. Maxey and Ms. Robertson:

The Pueblo of Sandia hereby submits its comments to the above-referenced draft Environmental Impact Statement ("DEIS").

It is the Pueblo's understanding that the DEIS evaluates four alternatives for the implementation of the City of Albuquerque's Drinking Water Project. The Project would entail the diversion of 94,000 acre-feet/year (47,000 acre-feet/year of San Juan Chama water and 47,000 acre-feet/year of native Rio Grande water) from the Rio Grande, with return flows of 47,000 acre-feet/year of treated wastewater effluent. The four alternatives are No Action, the Angostura Diversion Alternative, the Paseo del Norte Alternative, and the Subsurface Diversion Alternative. The preferred alternative is the Paseo del Norte Alternative. The City proposes this Project to reduce its dependence on groundwater resources.

The City's efforts to reduce its groundwater pumping levels given that the Pueblo has concrete evidence that the City's groundwater pumping has adversely impacted the Pueblo's water resources. The Pueblo has concerns, however, with the City's plans to divert surface water from the Rio Grande. As a general matter, the City's reliance on San Juan Chama water may be overly optimistic given Endangered Species Act limitations that are coming to the fore in the Minnow v. Keys litigation and current drought conditions. The Pueblo also is not convinced that there has been adequate consideration of the Pueblo's senior water rights

3431.001

Response to Comment 3431.001 Specific hydrologic modeling results that show the effects of City pumping are contained in Figure 3.16-6. Current litigation and related information regarding any effects upon endangered species is provided within Section 3.24. The ITA consultation process, and related correspondence and consultation are provided within Appendix F. Biological resources on Sandia Pueblo lands are similar to those on adjacent lands as reported within references cited and a field review.

and administration of water uses according to the priority system. Similarly, the Pueblo believes that the DEIS fails to adequately examine impacts of the Project on the Pueblo's trust assets and resources and the federal trustee's duty to protect such assets and resources. For instance, the draft DEIS does not include environmental surveys of Pueblo lands and does not discuss impacts to native flora and fauna in the Pueblo's reach of the bosque. The surveys in the DEIS also do not accurately depict the natural wetlands and native wildlife species at the Pueblo.

3431.002

The Pueblo also has concerns regarding the City's proposal to use "borrowed native water" since it is possible that such water is unexercised Pueblo water rights. Finally, the Pueblo believes that there has not been adequate government-to-government consultation under the National Historic Preservation Act regarding protection of cultural resources, and furthermore, that the Environmental Justice analysis is flawed to the extent that it fails to consider that a disproportionate impact of the Project falls on Pueblo lands that traverse the Rio Grande.

3431.003

More specific comments are that the Pueblo is opposed to the Angostura Diversion Alternative given the need for use of rights-of-way located within the Pueblo's boundaries, the need for construction activity on Pueblo lands, as well as impacts to the environment such as to native flora and fauna in the bosque, impacts to irrigation canals and ditches on the Pueblo's lands, and flow depletions. The Pueblo also is opposed to the Subsurface Diversion Alternative given the concerns raised in the DEIS, including harm to habitat. The Pueblo believes that adopting the No Action Alternative would only exacerbate current impairment to Pueblo water resources due to the City's groundwater pumping. Thus, the one alternative that appears to involve the least amount of negative impact to the Pueblo is the Paseo del Norte Alternative, although the Pueblo has concerns with this option as well. The Pueblo attaches herein a table that outlines its concerns regarding all four alternatives in greater detail, with page references for your convenience.

3431.004

3431.005


3431.006

3431.007

The Pueblo requests that the City and its trustee, the U.S. Bureau of Reclamation, address the concerns discussed herein and set forth in the attached table before taking any final action. Your consideration of these matters is greatly appreciated.

3431.008

Sincerely, -



Stewart Paisano  
Governor

cc: Alex Lujan, Lt. Governor  
Beth Janello, Director, Environment Department  
Hilary Tompkins, Sonosky, Chambers, et al.  
Lt. Colonel Hurst, USACOE  
Dale Hall, Regional Director, USFWS  
John Stomp, Water Resources Manager, City of Albuquerque

Response to Comment 3431.002 The rationale and description of the use of native water is provided within Section 2 Description of Alternatives, Section 3.16 Hydrology, and Appendix L (Hydrology Report). Native water will be diverted but not consumed. All water will be diverted to outside (downstream) Pueblo boundaries and returned at the SWRP. All use of native water will be permitted by the OSE.

Response to Comment 3431.003 The government-to-government consultation that has occurred is detailed within Section 4 (Consultation and Coordination) and Appendix F (Correspondence With Tribal Governments). The environmental justice assessment results are presented in pages 3-66 through 3-69 of the DEIS. The conditions that define disproportionate impacts are described within these pages, and the assessment was conducted with these conditions and the results indicated that these criteria were not met. We believe the consultation has been adequate, and if additional information is obtained, it will be evaluated.

Response to Comment 3431.004 Comment noted.

Response to Comment 3431.005 Comment noted.

Response to Comment 3431.006 Comment noted.

Response to Comment 3431.007 Comment noted.

Response to Comment 3431.008 Comment noted.

**PUEBLO OF SANDIA COMMENTS TO  
CITY OF ALBUQUERQUE'S DRINKING WATER PROJECT**  
September, 2002

	Page	Comment
3431.009	1-1	The Pueblo requests that it be provided with an opportunity to comment on any Section 404 permits that may be issued for this Project, as well as the opportunity to assert its Section 401 certification authority under the Clean Water Act when applicable, given that the Pueblo has EPA-approved water quality standards.
3431.010	1-3	Table 1.1-1 should include the Pueblo of Sandia's Section 401 Certification Authority under the Clean Water Act for all applicable permits. Only upon a showing that the Pueblo's water quality standards would be met would the Pueblo grant Section 401 certification, and such certification would be necessary before the US Army Corps of Engineers could issue the Section 404 permit.
3431.011	1-4; 2-2 to 2-5	The Pueblo agrees with the City's efforts to preserve the aquifer as the Pueblo has experienced depletion of its water resources from the City's groundwater pumping. However, the Pueblo also has concerns regarding the City's proposal to divert surface water, while continuing to pump groundwater.
3431.012	1-4	The Pueblo is concerned with the City's proposal to create drought reserves of groundwater for use when surface water is unavailable. For instance, is the drought reserve approach considered "consumptive use"? Also, when there are surface water shortages, does this groundwater drought reserve concept comport with priority administration of water resources during a shortage? Finally, the use of groundwater depletes Rio Grande surface flows, so how does the City intend to offset the use of these drought reserves without exacerbating surface water shortages that have caused the City to resort to groundwater use in the first place?
3431.013	1-7	The DEIS mentions that the City has arsenic problems with forty (40) wells. Are the drought reserve wells impacted with arsenic problems? Which wells will the City utilize and where will the pumping occur under the drought reserve scenario? For example, if the groundwater pumping is spread throughout ninety-two (92) production wells, the impacts to the aquifer may be more widely-distributed, whereas, if the pumping does not include the forty (40) arsenic wells, will the pumping occur in a focused area involving the remaining fifty-two (52) wells? The Pueblo needs assurances that the groundwater pumping envisioned under the Project does not have a disproportionate effect on the Pueblo's groundwater and surface water resources, particularly if such pumping will occur in a focused area during drought conditions. To this end, has the City modeled the effects of groundwater pumping in a drought scenario, including compliance with EPA's drinking water standard for arsenic?

Response to Comment 3431.009 Comment noted.
Response to Comment 3431.010 If the Angostura Alternative were selected, Sandia Pueblo 401 Certification Authority would be sought in conjunction while completing other 401 and 404 permit requirements, which are necessary for any in river construction.
Response to Comment 3431.011 Modeled hydrologic effects are presented within Section 3.16, and there are no deleterious impacts predicted to Sandia Pueblo water resources. As stated in the purpose and need, the proposed action is to reduce pumping ground water while developing surface sources.
Response to Comment 3431.012 When native water is diverted from the Rio Grande the City will comply with the terms and conditions of the Office of State Engineer diversion permit so that this diversion will be offset. In addition, because effects on the river due to pumping are not instantaneous, during drought the City's groundwater use will result in additional water (mined groundwater) in the river downstream of Albuquerque. The "drought reserve" is water that is left in the aquifer for later use. Withdrawal of this water will be administered under the City's RG 960 permit in the same manner as current withdrawals.
Response to Comment 3431.013 The City will primarily use wells that have an arsenic concentration of less than 10 ug/L and will use blending to meet the Safe Drinking Water Act drinking water quality requirements. The specific wells and operating plan under a drought scenario have not been identified. Under the project the groundwater impact to the Pueblo will be less than the impact under the No Action alternative where all City water supplies will continue to come from groundwater resources.

		Similarly, has the City considered a pumping schedule to minimize impacts to certain other water users?
3431.014	1-9	The Pueblo has a concern regarding the City's plans to divert an additional 47,000 acre-feet of native Rio Grande water and return it downstream. What legal claim does the City have to using this excess amount of native water? The City needs to confirm that such "surplus" water is not unexercised Pueblo water rights.
3431.015	1-14	The Pueblo of Sandia provided written concerns regarding impacts to water quality and biological resources in a letter dated December 8, 1999. The DEIS only refers to the Pueblo's comments under section 1.4.5 Cultural Resources and does not address these other concerns. Table 1.4-1 also doesn't include the Pueblo's concerns regarding biological resources and water quality.
3431.016	1-15	The DEIS states that potential effects on cultural resources would likely be a result of project construction rather than project operation. What is the basis for this statement? In the Pueblo's view, project operation also could potentially affect cultural resources during periods of diversion.
3431.017	1-15	Under Section 1.4.6, the DEIS states that "ITAs could include Indian water rights and any trust land and natural resources" and also that "concerns may affect a Traditional Cultural Property." However, this paragraph does not specifically identify how these ITAs and cultural resources may be impacted, and as a general matter, the Pueblo believes that the DEIS does not go beyond generalities when discussing impacts to trust resources and assets.
3431.018	2-21	The Angostura Dam option requires use of the ABQ Main Canal and ABQ Riverside Drain that runs through Pueblo lands. This would require Pueblo and Secretarial consent to change the use of a right-of-way. The Pueblo also has a concern regarding accountability in the delivery of water and that the Pueblo is not deprived of a full supply to meet its demand.
3431.019	2-24	Table 2.3-2, Alternatives A-1 and A-3 mention the use of the Albuquerque Metropolitan Flood Control Authority (AMAFCA) North Diversion Channel. The AMAFCA North Diversion Channel outfall is located on the Pueblo, and thus, any changes in use would require Pueblo approval and Secretarial consent.
3431.020	2-33	The Angostura Diversion Dam Alternative would result in lower river flows along the Pueblo's reach of the river, with a corresponding increase in MRGCD canal flows. The Pueblo is concerned that this change in flows could result in a decrease in local groundwater recharge at the Pueblo.
3431.021	2-34	Angostura Diversion Dam: The Pueblo has a concern about activity on rights-of-ways traversing their lands. This section discusses a widening of the drains by 8 feet, other improvements and reconstruction of an access road. In addition, a pumping station would need to be constructed on Sandia property. These activities

Response to Comment 3431.014 The City will have the right to divert this native water under its diversion permit that will be issued by the Office of the State Engineer. The water will not be consumed and functions only as carry water. It will be diverted and returned in its entirety at the SWRP.

Response to Comment 3431.015 The December 8, 1999 letter is included in its entirety within Appendix F. Section 1.4.6 addresses specific water related ITA issues. Table 1.4-1 includes considerations of water quality and provides a cross-section reference, Section 3.27. Table 1.4-1 includes considerations of biological resources and provides several cross-section references, including 3.7, 3.8, 3.21, 3.24 and others.

Response to Comment 3431.016 Cultural resources such as structures, irrigation ditches and archeological sites are susceptible to direct damage from construction activities. The hydrologic effects, described within Section 3-16, or project operational effects, are not predicted to impact historical structures, irrigation ditches or archeological sites. There are no effects to Pueblo water resources.

Response to Comment 3431.017 Section 1.4, within purpose and need, identified relevant issues determined during scoping. This Section does not describe effects, alternatives or proposed mitigation. Exact discussion of potential impacts is considered within Section 3. Affected Environment/Environmental Consequences, and specifically under Sections 3.9 and 3.17 (Cultural Resources and Indian Trust Assets). Resource details and environmental impacts are described there. Results of the Indian Trust Asset and Cultural Resources consultations are within Section 4 (Consultation and Coordination) and Appendices F and G. The impacts have been analyzed to the level of detail supported by available information.

Response to Comment 3431.018 The need for right of way agreements for use of Pueblo land is noted. Water accounting procedures approved by the OSE will be in place during project operations so that no injury would occur to senior water rights.

Response to Comment 3431.019 - .021 ON NEXT PAGE

Response to Comment 3431.019 Text has been modified to state that any work outside the access rights of AMAFCA, would, if required, obtain necessary permission and applicable permits.

Response to Comment 3431.020 Local ground water recharge at the Pueblo from the Rio Grande will change very little due to the reduction in flow in the river as corresponding increased flows will occur in the MRGCD canals. (Section 3.16 and Appendix L, DEIS)

Response to Comment 3431.021 Comment noted.



		cannot occur within the Pueblo's boundaries without prior consent of the Pueblo, and also any changes to rights-of-way also are likely to require Secretarial approval. This alternative also mentions needed improvements for bridge crossings and wasteways on waters within Sandia Pueblo. Any permit issued for such activities would require Section 401 certification from the Pueblo given that the Pueblo has EPA-approved water quality standards.
3431.022	2-45	The Pueblo has concerns with the "threshold flow" requirements at Angostura Dam (500 cfs) or at Paseo del Norte (250 cfs). Has the City taken into consideration how the Pueblo's full exercise, including storage, of its irrigation, domestic, and stock water rights under the 1928 Act will impact these flow requirements? Are these realistic flow thresholds?
3431.023	2-54	This section discusses well recharge activities with treated San Juan Chama water and the bank reserve created by such recharge activities. Is this considered "consumptive use" of the San Juan Chama water? Is this practice consistent with the terms of the City's San Juan Chama contract? Is this proposal distinct from the groundwater drought reserve? Will this proposal reduce the amount of return flows downstream?
3431.024	2-69	This section mentions that "flow changes" may impact Pueblo cultural properties under the Angostura Dam option; however, it fails to indicate whether increased or decreased flows would cause the damage and the kind of impact.
3431.025	2-70	This section mentions that under the Angostura Dam option, environmental justice concerns exist since it would require construction and flow depletion on the Sandia Pueblo. For these reasons, the Pueblo objects to the Angostura Dam option.
3431.026	2-74	Total groundwater pumping under the three proposed alternatives is at 1.2 million acre-feet each. Does this mean that groundwater pumping will occur during the surface water diversions? Also, is this 1.2 million acre-feet figure based on a period of years? In addition, this section says the river mileage with increased flows will be at 171.3 (Angostura) or 189 (Paseo del Norte or Subsurface). Where will this flow increase occur, especially since under the Angostura option, flow depletion will occur at Sandia?
3431.027	2-75	Where will the flow depletions occur geographically for Angostura (32.7 miles); Paseo del Norte (15 miles); subsurface (15 miles)?
3431.028	2-77	Angostura Diversion Dam: This section notes that construction activities, modification of canals, and construction of a pump station at the Pueblo, as well as flow depletions at the Pueblo, may possibly impact Indian trust assets. Given that impacts could occur, the Pueblo does not support this option.
3431.029	2-77	Angostura Diversion Dam : This option would require the use of Pueblo lands to construct a pump station. This would require Pueblo approval and possibly Secretarial approval. Since such approval has

Response to Comment 3431.022 The threshold flows were developed to consider "worst case" operation. Threshold flows are intended to ensure that the DWP will not adversely affect the river during low-flow periods or impact the rights of other users. Under the DWP, the City does not exceed its water rights and in fact supplements the river during drought, therefore protecting the rights of other users. (Section 3.16, and Appendix L, DEIS)

Response to Comment 3431.023 SJC water used as part of an ASR program would be considered as water is added to aquifer storage. The consumptive use of water would occur when it is withdrawn. An ASR program is distinct from aquifer water savings that would be achieved because of the DWP. The ASR project will have no impact on return flow. The use of SJC water in an ASR program is fully consistent with the City's SJC contract. The ASR Program is described in Section 2 Description of Alternatives.

Response to Comment 3431.024 Proposed project flow effects and water quality effects are discussed within Section 3.16 and 3.27. From the Angostura Alternative, there is an average annual percentage reduction in mean annual flow for a typical year, measured at the Albuquerque Gage, of 7%, which compared to No Action results of 5%, indicates a proposed action reduction in flow of 2%. With the preferred alternative, there are no predicted impacts to Pueblo cultural properties.

Response to Comment 3431.025 Comment noted.

Response to Comment 3431.026 The text has been modified to state that there is actually a small amount of water added to aquifer storage. For the No Action Alternative, about 2.2 million ac-ft is removed from storage. Groundwater pumping will continue through the life of the project, please refer to DEIS Appendix L, Hydrology Report. Increased river flow will occur from Abiquiu reservoir to the point of diversion at either Angostura or Paseo del Norte. The only river flow depletion that would occur to the Sandia Pueblo would be below the Angostura diversion for the Angostura alternative. See pages 2-33 through 2-39 of the DEIS.

Response to Comment 3431.027 The location of depletion for Angostura is from the Angostura diversion dam to the SWRP outfall, and for the other two alternatives from near Paseo del Norte to SWRP outfall. See pages 2-33 through 2-39 of the DEIS.

Response to Comment 3431.028 and 3431.029 ON NEXT PAGE

	not been obtained, the Pueblo objects to the Angostura Dam option.
<b>3431.030</b>	2-82 The No Action alternative states there would be no loss of individual members of a population of a listed species; however, increased groundwater depletions of 1 to 3 feet per year will cause lowering of the groundwater table in the bosque. This will result in changes to the root zone and changes in bosque vegetation types and densities. By changing the dynamic of bosque hydrology, there will be losses to native vegetation and wildlife, and potentially losses to the endangered Southwestern Willow Flycatcher and other threatened or candidate species. In addition, groundwater depletions may also result in surface water depletions effecting aquatic organisms.
<b>3431.031</b>	2-82 Angostura Diversion Dam: This section states that no bald eagle or southwestern willow flycatcher would be lost. The Pueblo of Sandia would like to see the scientific research supporting this statement. In addition, does this finding apply to construction activity or operation activity, or both?
<b>3431.032</b>	2-83 This section discusses a loss to riparian habitat, as well as to Rio Grande silvery minnow habitat. What would be the cause of loss of habitat, and geographically, which habitat would be lost? The Pueblo would like to see the scientific research supporting this finding.
<b>3431.033</b>	2-84 The Pueblo of Sandia's Water Quality Standard for turbidity could be violated during construction activities for the alternatives.
<b>3431.034</b>	2-85 The Pueblo of Sandia has numerous natural wetlands within its exterior boundaries and would like to see the scientific data supporting the statement that no jurisdictional wetlands would be affected during construction or operation of the alternatives.
<b>3431.035</b>	2-85 thru 2-87 The Pueblo of Sandia would like to see the scientific research supporting the assumption that no migratory bird species, raptor species, or high use waterfowl areas would be lost.
<b>3431.036</b>	3-15 El Vado Dam: This section states that "[n]ative waters stored and released from El Vado are subject to restrictions of the Rio Grande Compact." However, Pueblo water is stored in El Vado and Article XVI of the Rio Grande Compact expressly states that Indian rights are not impaired by the compact.
<b>3431.037</b>	3-20 Angostura Diversion Dam: This description does not indicate with geographical precision the location of the dam. Nor does it indicate that the dam is used to divert water to both MRGCD members and Pueblos downstream.
<b>3431.038</b>	3-32 Angostura Diversion Dam: This section discusses possible air quality impacts from construction, stating "[a]n air quality permit requirement may not be applicable on Sandia Pueblo lands." The Clean Air Act and federal regulations are applicable within the Pueblo of Sandia rather than New Mexico requirements, and thus, any potential air quality issues would have to meet federal requirements as well as any applicable tribal requirements.
<b>3431.039</b>	3-38 The Pueblo of Sandia owns and operates a commercial recreational

Response to Comment 3431.028 Comment noted.
Response to Comment 3431.029 Comment noted.
Response to Comment 3431.030 The ground water effects listed in the comment pertain to effects associated with the subsurface diversion alternative, located at Paseo del Norte, below Sandia Pueblo. The surface and ground water resources near Angostura alternative are described on page 3-127 and 3-157. The localized area of bosque, which could be impacted by lowered ground water levels near the subsurface diversion alternative, is presented within Figures 3.16-20 and 21. The mitigation for this effect is detailed in Section 3-21 and Appendix O, Mitigation Measures. There is not a predicted ground water drawdown associated with the Angostura Alternative. Within Section 3.2 at page 3-189, in terms of any riparian effects, the greatest change in ground water is a decrease of 0.38 foot during mean flows, and 0.09 foot during maximum flows. This is well within tolerance limits for riparian vegetation, as discussed on page 3-191 of the DEIS. Surveys for the flycatcher and review of existing bird survey results indicate the flycatcher does not occur in this area and would therefore not be affected by ground water changes. The riparian zone is by nature dynamic, so changes are not necessarily considered a long term effect.
Response to Comment 3431.031 Methods of analysis, including mapping and frequent site visits by biologists, as well as literature reviews and discussions with resource agency personnel were used to determine presence or absence of habitats for these species. Details are found within Sections 3.21, 3.24 and 3.29. Results are within each pertinent resource section, along with evaluation criteria to form the basis for the determinations. The effects analysis for the eagle and the flycatcher is discussed on page 3-230 and 3-264, respectively. The analysis addresses both operational and construction effects.
Response to Comments 3431.032 - 039 ON NEXT PAGES

Response to Comment 3431.032 Please see comment response to Comment 3431.031. The same Sections and page references would apply. Detailed analysis concerning the Rio Grande silvery minnow is found within pages 3-231 through 3-263. The modeling sheets and data for the RGSM are available for inspection through the administrative record. The evaluation is made in terms of habitat availability for the RGSM. The analysis shows the extent of habitat available for the RGSM in different flow conditions.

Response to Comment 3431.033 Any construction in the river would require 401/404 certification from the Pueblo and the use of in river construction BMPs for turbidity control. It is anticipated that conventional turbidity control measures would be used during construction to minimize adverse effects, these measures are typically very effective in controlling and limiting adverse water turbidity effects off-site.

Response to Comment 3431.034 Within the construction and operation areas for the Angostura Alternative, no wetlands were identified or delineated from national wetlands inventory and other existing wetland maps and site visits, as indicated within Section 3.28.1.

Response to Comment 3431.035 Please see the responses to comments 3431.031 and 3431.032. The evaluation criteria for wildlife resources, referred to by the commenter are evaluated within Section 3.29, which is the basis for the data within Table 2.7-1. Again, methods, including surveys are described. Notes and pertinent information from the field surveys is available through the administrative record.

Response to Comment 3431.036 See comment provided for 3431.074: ["Storage in El Vado Reservoir is subject to Article VII of the Rio Grande Compact. Pursuant to 1928 legislation, a contract between the Bureau of Reclamation and the Middle Rio Grande Conservancy District, water is stored in El Vado to serve specified prior and paramount rights of the six Middle Rio Grande Pueblos. Article XVI of the Rio Grande Compact provided that the Compact does not infringe or impair the treaty or other rights of Indian tribes. Table 3.30-1 has been footnoted to reflect this distinction."]

Response to Comment 3431.037 – 039 ON NEXT PAGE

	fishery. Lowered water tables and reduced surface water flows could affect the Pueblo's commercial operation.
3431.040	3-40 Angostura Diversion Dam: This section discusses the net depletion of flows that would result between Angostura and the SWRP outfall. The Pueblo objects to this option for this reason, since depletion in water levels could adversely impact aquatic life, as well as Pueblo trust assets. While the water would be diverted into MRGCD canals that run through the Pueblo, the diverted water would not pass through the Rio Grande reach on the Pueblo, possibly impacting the Pueblo's bosque restoration project and ceremonial uses of the river.
3431.041	3-45 The Pueblo prefers an option where river flow depletions occur downstream of the Pueblo.
3431.042	3-50 The Pueblo of Sandia has a concern regarding the impacts of the proposed alternatives on its cultural resources, including use of the river for ceremonial purposes.
3431.043	3-50 Under the federal regulations for the National Historic Preservation Act, as part of identifying historic properties, the action agency must consult with an Indian tribe in addition to the SHPO regarding projects occurring on or affecting historic properties on tribal lands. 36 CFR § 800.2(c)(2)(i)(B). Likewise, consultation with the Indian tribe is required where a project may affect properties that the tribe attaches religious and cultural significance. 36 CFR § 800.2(c)(2)(ii)(A)-(F); <i>see also</i> 36 CFR § 800.3(d) & (f)(2). The federal regulations also instruct the federal agency and the SHPO to "identify any Indian tribes [] that might attach religious and cultural significance to historical properties in the area of potential effects and invite them to be consulting parties." 36 CFR § 800.3(f)(2). Finally, the NHPA provides that properties of traditional religious and cultural importance to a tribe may be eligible for inclusion on the National Register and federal agencies are to consult with the tribe on such properties. 16 U.S.C. § 470a(d)(6)(A)-(B). These consultation requirements with Indian tribes may be met through the NEPA process, as described in 36 CFR § 800.8. From the record in the DEIS, it is not clear that these requirements under Section 800.8 of the federal regulations were met with regard to the Pueblo of Sandia's concerns. In addition, the Pueblo of Sandia has adopted its own Historic Preservation Policy that the City would need to comply with for any activities impacting Pueblo resources.
3431.044	3-51 It is not clear where the water distribution lines would be located in the North Valley and on the west side. The Pueblo of Sandia has concerns about potential locations that could disturb traditional cultural areas.
3431.045	3-56 Angostura Diversion Dam: This section discusses changes to canals, removal of vegetation and sediment, among other activities. It provides that "[a]ny adverse effects to the river as a traditional cultural property would need to be mitigated through ongoing

Response to Comment 3431.037 The dam can be located by reference to Figure 2.5-1 and 2.5-2. The diversion at Angostura diverts for the MRGCD and downstream pueblos.
Response to Comment 3431.038 Text is added to page 3-32, stating that any work or facility on Sandia Pueblo land would be subject to Clean Air Act requirements and federal regulations.
Response to Comment 3431.039 Ground water effects from operating the Angostura Alternative are considered in the response to comment 3431.030. This level of reduced ground water level should not impact fish ponds set back from the river. The additional flow from the SJC water flowing past the Pueblo boundary, if Angostura is not the selected alternative, should not be expected to harm the fish ponds. Text has been modified in Section 3.21.3.
Response to Comment 3431.040 Comment noted.
Response to Comment 3431.041 Comment noted.
Response to Comment 3431.042 Comment noted.
Response to Comment 3431.043 The tribal invitations to consultation are presented in Appendix F. The results of the cultural resources survey report and concomitant evaluation and clearance from the SHPO will be placed within Appendix G of the Final EIS. The consultation process has been opened to all Native American entities and remains so. This has included an assessment for Cultural Resources, Indian Trust Assets, Environmental Justice and other physical, biological and socio-economic resources. Consultation records are attached to the document as appendices. Section 4 of the DEIS also lists government-to-government consultations and other pertinent meetings.
Responses to Comments 3431.044 and 045 on next page.

<b>3431.045 (Cont)</b>		communications with Sandia Pueblo.” Indeed, no activity could occur impacting the Pueblo’s traditional and cultural resources without prior approval from, and consultation with, the Pueblo (as opposed to “communication”), as required under NHPA and its regulations. Notably, the record does not indicate that any such consultation has occurred with the Pueblo on the issue of impacts to cultural resources and there has been no substantive resolution of the Pueblo’s concerns. In addition, the Pueblo of Sandia has adopted its own Historic Preservation Policy that the City would need to comply with for any activity impacting Pueblo resources.
<b>3431.046</b>	3-58	This section notes that the Pueblo “has expressed concern about effects on traditional cultural use of the river under this alternative,” but notably there is no substantive response by the City or the federal action agencies to these concerns. If the Angostura Dam option were selected, then these issues would need to be addressed and the Pueblo’s Historic Preservation Policy would need to be followed.
<b>3431.047</b>	3-58 & 3-59	The described “cultural resources discovery plan” does not provide for consultation with Indian tribes, as it should under NHPA.
<b>3431.048</b>	3-61	The North Diversion Channel is located on Pueblo lands. Any changes in use would require Pueblo and Secretarial approval (for construction of the “standby” generator).
<b>3431.049</b>	3-65 & 3-66	Environmental Justice: The Pueblo is concerned by the adverse impacts on its land under the Angostura Dam option, and also by the possibility of general flow depletions under any alternative. In addition, while there was no predominant, low-income minority population identified in the project areas, it is noteworthy that Pueblo populations and lands are located immediately adjacent to the Rio Grande where the impacts from the Project will be felt. Thus, there is a disproportionate impact on Pueblo communities, regardless of the fact that they do not make up a majority of the population.
<b>3431.050</b>	3-70	This section fails to discuss the possibility of general flow depletions at the three Pueblos and concludes there are no environmental justice concerns. However, flow depletions would be felt by the Pueblo of Sandia and may impact their ceremonial and religious practices, as well as other activities in their reach of the river, such as bosque restoration efforts.
<b>3431.051</b>	3-94	This page states that water is diverted to MRGCD lands, “including up to 8,300 acres of Pueblo cropland.” That figure is incorrect, and under federal law, the Six Middle Rio Grande Pueblos are entitled to irrigate, at a minimum, 8,847 acres of prior and paramount land and 12,600 acres of newly-reclaimed lands.
<b>3431.052</b>	3-109	While the discussion notes that the Six Middle Rio Grande Pueblos are water users not subject to the terms of the Rio Grande Compact, the Pueblo believes that it is critical that the DEIS make clear that the Pueblo water rights are a creation of federal law and are senior in priority compared to other water rights.

<p>Response to Comment 3431.044 The commenter is referred to Figure 2.5-2 (page 2-35), Figure 2.5-4 (page 2-43), Figure 2.5-6 (page 2-47) and Figure 2.5-9 (page 2-59) of the DEIS for locations of all potable and non-potable lines associated with each alternative. No water distribution lines have been located where they could disturb know traditional cultural areas. For purposes of cultural resources, and the exact results of pedestrian surveys, please see the Cultural Resources Survey Report.</p>
<p>Response to Comment 3431.045 Further evaluation and assessment action specifically related to the Angostura Alternative would depend upon the selection of that alternative. The results of ongoing tribal consultations are located within Appendix F and Section 4 of the DEIS.</p>
<p>Response to Comment 3431.046 Through the consultation process to date, no specific traditional cultural uses or properties have been identified by Sandia Pueblo. Specific concerns, primarily about water quantity and quality, have been addressed within the appropriate resource sections (Section 3-16 and Section 3-27). Without exact definition, and considering impacts to “concerns” the Cultural Resources and Indian Trust Asset sections discuss and evaluate these concerns. If the Angostura Alternative were selected, the Pueblo’s Historic Preservation Policy would be followed.</p>
<p>Response to Comment 3431.047 Text has been added to Section 3.9, stating that “Consultation would occur with the Pueblos as necessary”.</p>
<p>Response to Comment 3431.048 Comment noted.</p>
<p>Response to Comment 3431.049 - 052 ON NEXT PAGE</p>

Response to Comment 3431.049 Selection of the Angostura Alternative would require permission of the Sandia and other Pueblos to access and complete work on their property. In addition, a detailed consultation and development of mitigation packages would likely be required. While ditch and channel restoration work would improve those facilities, there would be construction and related effects to areas of the Pueblo. The safety and reliability of the drainage and water supply facilities would be improved. The Pueblo would be able to determine if it wanted the alternative to occur on its land or not. The Angostura Alternative could not move forward without this concurrence.

Response to Comment 3431.050 Hydrologic impacts are described and evaluated within Section 3.16 and Appendix L. Within page 5-1 of Appendix L, river flows above Albuquerque at San Felipe and Cochiti are generally 60 cfs higher than No Action owing to the release of SJC water from Abiquiu in a normal year. The small amount of depletion during the normal event is depicted within Figure 5-6 in the hydrology appendix and Figure 3.16-8 within the DEIS. These flows are within the range of those typically encountered in the Rio Grande. Indeed, it may not even represent a measurable difference between the project and No Action. The ground water effects are described in the response to comment 3431.030, and would not harm a bosque restoration effort, as they are not harmful to native riparian vegetation.

Response to Comment 3431.051 Text changed as appropriate.

Response to Comment 3431.052 Text has been added to Section 3.17 (Indian Trust Assets and other Tribal Resources).

3431.053	3-110 & 3-111	The modeling discussion does not clearly describe the full consumptive use assumptions that relate to Pueblo water use, nor does it indicate whether Pueblo storage in El Vado Reservoir was included in the model. In this regard, the analysis may not be complete regarding impacts to Pueblo water use and storage.
3431.054	3-111	This page refers to “borrowed native water.” What legal basis does the City have to divert this “borrowed native water,” and can the City confirm that this excess water is not unexercised Pueblo water rights?
3431.055	3-112	This section refers to the “hydrologic baseline,” however it does not account for unexercised Pueblo water rights that have a greater priority than other water users. As such, Pueblo water rights, including those not exercised, should be included in the baseline.
3431.06	3-131	The Pueblo objects to the Angostura Dam option because it would result in flow depletions (apparently in the amount of 65 cfs) in the Rio Grande.
3431.057	3-154	Angostura Diversion Dam: The surface water flow increases in the MRGCD canal is not discussed in any detail. Expansion of the canal is a requirement, but in this section it would make sense to discuss the increased flows in the MRGCD irrigation system and any potential impacts on the Pueblo of Sandia as a result, such as flooding concerns or other concerns.
3431.058	3-154	Under the proposed alternatives, groundwater pumping would be reduced to approximately 100,000 afy. Does the City’s groundwater permit allow for increased pumping above this level after a period of non-use?
3431.059	3-161	The Pueblo considers the No Action Alternative to have impacts to the aquifer, which in turn, could deplete a resource that the Pueblo relies upon. As such, the Pueblo disagrees with the characterization that this alternative “would not directly affect any identified Indian trust resources or ITAs or other Tribal resources.”
3431.060	3-162 & 3-163	Angostura Diversion Dam : The Pueblo objects to this option because approval for construction of a pump station and expansion of the right-of-way, among other improvements, has not been obtained. Moreover, the Pueblo is concerned with any impacts on its irrigation system from the 65 cfs of SJC water diverted at Angostura, along with the 65 cfs of native water. Finally, the DEIS states that flows below Angostura would be reduced by up to 65 cfs of native river water; however, because SJC water currently flows in the Rio Grande, the actual reduction below present flows would be greater.
3431.061	3-164	This section should discuss the basis for using “borrowed native water” under the proposed alternatives, since such water could include Pueblo unexercised water rights that are not lost from non-use.
3431.062	3-171	The canal improvements and construction of a pump station on Pueblo lands would require Pueblo approval, as well as the possibility of Secretarial approval.

<p>Response to Comment 3431.053 The DWP alternative proposed in the DEIS results in significant savings of groundwater over current practices over time (approximately 2 million acre-feet of aquifer storage savings). Savings in aquifer storage will result in reduced impacts to other users including the Pueblo. Reservoir operations are described in Section 3.16 and Appendix L of the DEIS. Reservoir operations were estimated using URGWOM to reflect all reservoir conditions.</p>
<p>Response to Comment 3431.054 Native water will be diverted according to the conditions of the OSE diversion permit 4830. Because the City will not consume this water but will return it to the river at the City’s SWRP, it will not be consuming any of the Pueblo’s unexercised rights to the extent they exist. The preferred alternative is located near Paseo del Norte below Sandia Pueblo.</p>
<p>Response to Comment 3431.055 The baseline includes all native Rio Grande flows including any unexercised rights of the Pueblo to the extent they exist. (Section 3.16 page 3-92 and Appendix L, Executive Summary of the DEIS)</p>
<p>Response to Comment 3431.056 Comment noted.</p>
<p>Response to Comment 3431.057 Text has been modified to reflect flows in the MRGCD system would increase from an approximate range of 250 cfs to 500 cfs during the irrigation season to a range of 380 cfs to 630 cfs. With the improvements to the canal system there should be no potential flood impact from the DWP. Refer to page 3-157 in the DEIS.</p>
<p>Response to Comment 3431.058 Under conditions of OSE permit RG 960, the City can currently pump up to 155,000 acre-feet in any given year. It should be noted that groundwater pumping would be initially reduced to approximately 10,000 acre-feet rather than the stated 100,000 acre-feet in the comment. It is estimated that pumping would reach 70,000 acft/yr by 2060. The City permit allows it to pump any amount below this and to increase pumping again up to the permitted amount.</p>

Response to Comment 3431.059 Reference is made to Figure 3.16-10 and Figure 3.16-11. Sandia Pueblo is outside the critical management area. Results of continued pumping under the No Action alternative do not indicate impacts upon Pueblo water resources.

Response to Comment 3431.060 Comment noted.

Response to Comment 3431.061 Please see comment 3431.054.

Response to Comment 3431.062 Comment noted.



3431.063	3-175	The construction noise and vibration effects during canal improvements and construction of a pump station on Pueblo lands could have an adverse effect on wildlife in the Pueblo's bosque. The proposed mitigation measures should include mitigation measures for the protection of native wildlife habitat.
3431.064	3-179	The Pueblo of Sandia's members fish and use the bosque area for other recreational purposes. The project construction from the Angostura option would adversely impact Pueblo recreational activities.
3431.065	3-225	This section discusses major legal events involving the Rio Grande silvery minnow habitat, but it should also list the recent decision in the <i>Minnow v. Keys</i> litigation by Judge Parker in April, 2002, subsequent appeal activity, and any other recent legal developments in that case.
3431.066	3-226	The DEIS states that no southwestern willow flycatchers were detected in the Middle Project subarea. There have been no comprehensive willow flycatcher surveys done in the Pueblo of Sandia's reach.
3431.067	3-263 & 3-264	These conclusions regarding no effects on the silvery minnow or willow flycatcher do not discuss the impacts of flow changes on the Pueblo's bosque restoration projects. The Pueblo would like assurances that no impacts would occur to its bosque under any of the alternatives.
3431.068	3-268 - 3-270	The Pueblo objects to the construction of new conveyance water pipelines in areas that have been undisturbed, and in particular, through the Petroglyph National Monument.
3431.069	3-285	Increased turbidity in the Pueblo of Sandia reach of the Rio Grande may result in a violation of its water quality standards.  In addition, the Pueblo of Sandia has had problems with treated effluent discharged by upstream cities, and thus, is concerned that under the Angostura Dam Option, the decreased flows in the Rio Grande would not necessarily be supplemented with clean wastewater return flows.
3431.070	3-285 & 3-286	The Pueblo of Sandia has EPA-approved water quality standards under the Clean Water Act. The DEIS should evaluate how increased flows or decreased flows on the Pueblo's reach of the river under the alternatives will impact the Pueblo's water quality standards.
3431.071	3-288	While the proposed mitigation measures refers to Section 401 certification authority and Section 404 discharge limitations, the DEIS does not discuss these permit requirements in any detail. Given that the Pueblo has EPA-approved water quality standards and Section 401 certification authority, there should be a discussion regarding these permit processes.
3431.072	3-289	There are wetland resources located within the riparian area on Pueblo of Sandia lands. To the best of our knowledge, construction

Response to Comment 3431.063 Construction equipment and operations would cause some noise, and the effects would be temporary. Most wildlife would leave the immediate locale during construction, and return soon after. Noise and vibration mitigation measures are located in Appendix O, and would be applied as minimum measures for operating along or near the bosque, or other identified wildlife areas. Identified nesting or rearing locations could be avoided.
Response to Comment 3431.064 The construction required for completing the Angostura Alternative would not likely deter recreational hunting and fishing at the existing dam location due to poor quality habitat. Within areas of the Pueblos themselves, while construction was ongoing within and along the Atrisco Feeder Drain, individuals hunting or fishing may be disturbed. Construction may, in some areas, be timed to avoid this disruption, or to avoid any known, seasonal activities within Pueblo portions of the bosque. Work would require coordination with Pueblo resource managers.
Response to Comment 3431.065 The final EIS has been updated regarding this litigation.
Response to Comment 3431.066 Comment noted.
Response to Comment 3431.067 The discussion of riparian effects (Section 3.21) in particular page 3-189 of the DEIS, indicates that any ground water lowering is within the tolerances for riparian vegetation. Bosque restoration projects should not be impacted with the modeled flows and ground water level modifications.
Response to Comments 3431.068 – 072 ON NEXT PAGE

Response to Comment 3431.068 The water lines are not constructed into Petroglyph National Monument, and tie into existing lines near the Monument. The routes for new conveyance lines are described within Section 2, under description of alternatives. Very little undisturbed surface area is harmed by water line construction, as existing rights of way and utility easements are used. The small amount of disturbed vegetation impacted, and the mitigation measures for the vegetation are described within Section 3.26, Upland Vegetation. The "Northwest Spur" is an existing water line that ties into the proposed project line at the intersection of Unser and Montano. Any water line construction in or near the monument would be in conjunction with planned but unfunded road construction. This would require a separate cultural resources evaluation. Figure 3.25-1 has been corrected to show where the constructed line finishes.

Response to Comment 3431.069 The City, where discharge is below the Pueblo, intends to comply with the applicable water quality standards for return flows from its wastewater treatment plant below Sandia Pueblo. Construction within the river related to the Angostura Alternative would be subject to 404 and Pueblo water quality certifications.

Response to Comment 3431.070 Water quality has been further assessed by Thompson and Chwirka (2002). Text has been modified to show the results of this report. Text in the FEIS has been modified to reflect water quality concerns.

Response to Comment 3431.071 Text has been modified within Section 3.28 to describe the Section 401 certification authority and Section 404 discharge limitations.

Response to Comment 3431.072 Any construction impacts associated with the Angostura Alternative along the Atrisco Feeder would require coordination with the Pueblo resource managers. No wetlands were identified that would be impacted by construction in the immediate construction area. Please see response to comments for document number 3427 provided by the Corps of Engineers for an elaboration of the wetlands resources. Any wetlands impacted by any future construction associated with the Angostura Alternative would require mitigation and permitting. Operational effects of hydrology are described within Section 3.16, and the flow variations are not predicted to impact wetlands, structurally or functionally.

	effects for any of the alternatives on these resources are unknown. At a minimum, the Pueblo believes the No Action alternative would continue to deplete the groundwater table in the bosque and could adversely impact jurisdictional wetlands at Sandia Pueblo. Changes in surface flows also may impact these resources.
3431.073	3-291 The Pueblo of Sandia has raised concerns about the loss of potential wildlife habitat. Comprehensive wildlife surveys have not been completed on Pueblo lands, and therefore, there is no basis to assume that the effects would be minimal.
3431.074	3-297 This table incorrectly describes storage in El Vado as being subject to the Rio Grande Compact. The Pueblo requests that this description be revised to accurately state that Pueblo storage in El Vado is not subject to the Rio Grande Compact, pursuant to Article XVI of the Compact.
3431.075	3-298 The Pueblo of Sandia's Bosque Restoration Project has moved beyond the initial stages of planning and development. The initial 20-acre project was completed in May, 2001. The Pueblo is actively restoring an additional eighty (80) acres of riparian habitat and hopes that resources will be available to continue restoration activities along its nine-mile reach of the Rio Grande. In addition, the Pueblo is actively restoring natural wetlands adjacent to the existing levee system.

Response to Comment 3431.073 An extensive literature review and numerous field visits have been conducted. These visits have included areas near the Pueblo and rafting trips, with Pueblo personnel present down the river bounded by the Pueblo. Hink and Omhart (1984) and other numerous references cited in the DEIS are used for an assessment and compilation of potential and actual species that may be encountered within the Middle Rio Grande. The assessment of effects, using this information is adequate. The existing literature is representative of conditions on the Pueblo.

Response to Comment 3431.074 Storage in El Vado Reservoir is subject to Article VII of the Rio Grande Compact. Pursuant to 1928 legislation, a contract between the Bureau of Reclamation and the Middle Rio Grande Conservancy District water is stored in El Vado to serve specified prior and paramount rights of the six Middle Rio Grande Pueblos. Article XVI of the Rio Grande Compact does not infringe or impair the treaty or other rights of Indian Tribes. Table 3.30-1 has been footnoted to reflect this distinction.

Response to Comment 3431.075 The table within cumulative effects (Table 3.30-1, beginning page 3-297 of the DEIS) has been changed to reflect this information.

September 12, 2002

Lori Robertson  
U.S. Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, N.W., Suite 1313  
Albuquerque, New Mexico 87102  
[lrobertson@uc.usbr.gov](mailto:lrobertson@uc.usbr.gov)

Transmitted via e-mail

Re: Albuquerque Drinking Water Project Draft Environmental Impact Statement

Dear Ms. Robertson:

3432.001

Thank you for considering these comments on the City of Albuquerque ("City") Drinking Water Project ("DWP") Draft Environmental Impact Statement ("DEIS"). The Pueblo of Santa Ana ("Pueblo") is pleased that the City has not chosen the Angostura Diversion Alternative as the Preferred Alternative. Utilization of the Angostura Diversion Dam to divert the City's San Juan/Chama water would result in unacceptable negative impacts to the land, water and cultural resources of the Pueblo. Therefore, these comments are submitted based on an assumption that the Preferred Alternative, or a modified version of it, will be implemented. If the City changes its preference and reconsiders adoption of the Angostura Alternative additional consultation with the Pueblo will be required.

3432.002

Just a few of the problems identified with the potential use of the Angostura Diversion Dam include cultural resource impacts, land and water impacts from the redesign and modification of Angostura Diversion Dam, difficulties with fish passage designs, undesired roadway construction and access on Pueblo lands, environmental justice impacts to the Pueblo population (which is not served by the DWP), impacts from soil movement within the levee system directly upstream of the Pueblo, riparian area impacts, and disturbance of fish and wildlife resources on the Pueblo.

3432.003

While the Preferred Alternative is generally acceptable to the Pueblo, there are several concerns raised by the environmental analysis that the Pueblo would like addressed. The following comments are submitted with the intention of helping the City improve its environmental analysis and implement an environmentally sound Preferred Alternative.

The §3.3.1 description of physical features in the upper project subarea should recognize the Pueblo's river restoration projects, which have created significant positive alterations to the ecological health of the upper subarea. A recent description of the Pueblo's restoration projects is available in the Corps of Engineers' January 2002 Detailed Project Report and

Response to Comment 3432.001 Comment noted.

Response to Comment 3432.002 Comment noted.

Response to Comment 3432.003 Text on Page 3-21 of the DEIS has been modified to include a brief discussion of the riparian/wetland restoration project on the Santa Ana Pueblo. A citation has also been added for the Corps of Engineers report mentioned in the comment.

Environmental Assessment for Riparian and Wetland Restoration, Pueblo of Santa Ana, New Mexico.<sup>1</sup>

3432.004

The hydrologic analysis within the DEIS should provide a clear description of San Juan/Chama transmission losses from El Vado to the proposed new diversion dam. The transmission losses should be calculated in a manner that is equivalent to or compatible with transmission loss calculations utilized by the Bureau of Reclamation for all other San Juan/Chama contractors and native water rights holders in the DWP area.

3432.005

The DEIS should provide a hydrologic analysis that is based on current use patterns of San Juan/Chama water by contractors other than the City. The current analysis assumes full diversion by all San Juan/Chama contractors, while history has shown that San Juan/Chama water is often leased to alternate users, including to the Bureau of Reclamation to maintain in-stream flows for the Rio Grande silvery minnow.

3432.006

The DEIS should more carefully explore the interaction between ground and surface waters. The DEIS makes generalized assertions that there is a lack of hydrologic connectivity within the DWP area, but also recognizes that surface flow in the area is generally connected to the groundwater. This should be clarified with an explanation of the complexities of hydrologic connectivity in the DWP area and should also discuss the wide variation in connectivity within the DWP area. For example, §3.16.2 states that locally the river and aquifer are disconnected. This statement should be refined to delineate what areas are hydrologically disconnected and clarify if the lack of connection is due to low aquifer levels or due to a geological barrier.

3432.007

The DWP model transposes historic stream flows onto future years to create a variety of modeling conditions. This use of future years based on specific past years may create some confusion for non-technical readers of the DEIS, implying that the future hydrologic forecasts are already known. The DWP model description of anticipated wet, average, and dry year scenarios should be recast without assigning them to particular future years. In addition, the DWP model analysis of dry year scenarios should go beyond average yearly flows and should include some modeling of extreme drought conditions, like those currently being experience in the Middle Rio Grande.

3432.008

The potential for deferring diversion of the City's San Juan/Chama water during the irrigation season should be investigated. Although the City would still take its full allotment every year, restricting the diversion of the City's San Juan/Chama allocation during the irrigation season would leave up to 65cfs of natural flow in the river system that otherwise would be diverted by the City in the most difficult water management months of the year. A seasonal diversion schedule should be possible given the increased diversion latitude that can be obtained with a waiver from the Bureau of Reclamation and the Rio Grande Compact Engineer Advisors.

3432.009

The water transmission lines described in Figure 2.5-9 appear poised to serve undeveloped west side lands, including the area around the Petroglyph National Monument. The Pueblo strongly discourages continued development of the City's west side in the

<sup>1</sup> Available at [http://www.spa.usace.army.mil/FONSI/santa\\_ana\\_nm/grf-e-dea.htm](http://www.spa.usace.army.mil/FONSI/santa_ana_nm/grf-e-dea.htm).

Response to Comment 3432.004 The transmission losses are consistent with the methods that are utilized by the Bureau of Reclamation for transmission of San Juan Chama water from El Vado to the proposed new diversion dam. This description of the method for calculating the transmission losses has been incorporated into the FEIS. See Section 3.16.

Response to Comment 3432.005 The current analysis makes no assumption regarding diversion by other users of SJC water. Historical diversions by other users are implicit in the AWRMS model. Uses by other contractors are outside of the control of the City.

Response to Comment 3432.006 Comment noted. The DEIS in Section 3.16.2, Existing Ground-Water Conditions states that the limited hydrologic connection is due to pumping that takes water from the aquifer faster than it is removed from the river. A more detailed description of the existing groundwater conditions is found in Appendix L CH2M Hill Hydrology Report and in the references cited in both the DEIS and Appendix L.

Response to Comment 3432.007 The text has been modified so that a statement that the simulations for specific years are being made to show the operation of the project over dry, average, and maximum flow years will be made so that non-technical readers will not be led to believe that flows for specific future years are not already known. Extended drought conditions over a three year period are described. As described in the operational criteria, when native flows are less than the curtailment rate diversions will cease and the City will increase pumping of ground water. See Section 3.16 and Appendix L.

Response to Comment 3432.008 Because the City diverts native water near either Angostura or Alameda and fully returns this water to the river at Rio Bravo and there are no irrigation diversions between these points, reduced operation during the irrigation season is not necessary. In addition, during low flows, the City's curtailment strategy will provide higher flows downstream of Albuquerque. (Pages 3-127 through 3-132 of the DEIS)

Response to Comment 3432.009 Comment noted.

vicinity of this valuable cultural resource and would prefer to see the City concentrate its development efforts on in-fill development or development of the City's southern corridor, areas which are already served by water transmission infrastructure.

3432.010

Overall, the Pueblo encourages the City to adopt a longer-term vision for its water supply plans. For example, the DEIS recognizes that additional water supplies will be needed for the City and that investigation of additional water supplies is merited. However, the DEIS does not consider in any detail the possibility of increased utilization of recycled wastewater, rejecting the concept due to fears of prohibitive treatment costs. It is only through increased investigation and research that the reuse of wastewater will become financially feasible. Therefore, the City should not dismiss wastewater recycling outright but should incorporate the study of wastewater recycling effort into its long-term planning.

3432.011

A similar long-term water management technique that is dismissed by the DEIS is the potential use of aquifer recharge. While the Pueblo currently opposes any groundwater recharge that could potentially impact Pueblo groundwater resources, the City is encouraged to continue to study and research methods of affordable surface water tertiary treatment in preparation for the rapidly approaching time when aquifer recharge will become a necessity in the Middle Rio Grande.

3432.012

The related concern of subsidence should also be addressed in a more forthcoming manner. Only aquifer recharge will result in a decrease in the risk of subsidence. Table 3.13-1 incorrectly states that the subsidence risk will decrease due to decelerated groundwater mining. While decelerated groundwater lowering may slow the increase in subsidence risk, only when the water table levels begin to recover will the risk level stabilize and then decrease.

3432.013

Another long-term water management strategy that is inadequately utilized in the DWP is conservation. The DEIS analysis is based on the per capita urban consumptive use of 175 gallons per day. This is not the current use rate in the City; it is the predicted 2004 rate, if the City's current conservation goals are attained. First, the Pueblo suggests utilizing the current urban water use rate for a more honest and reliable DEIS analysis. Second, the Pueblo suggests that the conservation goals of the City are not ambitious enough. The City has some of the highest urban water use rates in the American West and will need to implement much more aggressive conservation measures to reach a more appropriate urban usage rate.

3432.014

The design of the proposed new diversion dam should be more fully developed prior to completion of the Final Environmental Impact Statement. The design of a new diversion dam is complex enough to warrant its own alternatives analysis. Both sediment and fish and wildlife concerns need to be addressed comprehensively. For example, the DEIS states that the crest gates for the new surface dam will be raised 2-3 feet above the river bottom for a large part of the year. What are the plans for maintenance of sediment that is captured by this ridge on the river floor? Other design and management elements that must be more fully developed prior to implementation include substrata and flow rates in the fish passage. The fish passage design incorporates a riprap channel lined with boulders, while this will help to create suitable flows it is not the channel configuration currently thought to be preferred by the silvery minnow. Moreover, the fish passage flow rate may be too fast for the silvery minnow at its current design flow rate of 2 ft/sec (3-260). Silvery minnow are currently thought to prefer slower flow rates. In 1997 Dudley and Platania reported that silvery

Response to Comment 3432.010 The City analyzed reclaimed wastewater alternatives, shown on Table 2.2-4 of the DEIS. The recycled wastewater alternatives were ranked low because of environmental difficulties, poor public perception, financial considerations and regulatory issues (page 2-16, DEIS).

Response to Comment 3432.011 Comment noted.

Response to Comment 3432.012 If ground water were to be pumped below 250 feet below ground surface, as is predicted with the No Action alternative, subsidence risk could increase. With action alternatives, ground water levels are predicted to remain above 250 feet below ground surface, therefore decreasing the risk of subsidence as a result of increasing ground water depth. (Section 1.3 Purpose and Need)

Response to Comment 3432.013 Please see the response to comment 3459.001.

Response to Comment 3432.014 While exact fish passage requirements are not known for the Rio Grande silvery minnow, they are likely similar for those of other cyprinids. Research is ongoing to determine swimming speeds and other life history requirements for the RGSM. The currently designed fish passage velocities are adequate; however, as a portion of mitigation plans, monitoring would occur and modifications made as necessary. In addition, design modifications are possible as research results become available. The channel substrate of the fishway would contain some boulders to modify flow. In general, silt and sand would be expected to begin occurring in the fishway channel as a result of river flows, soon simulating natural substrates within the river. Sediment temporarily captured behind the dam would move downstream when the inflatable dam is down. The velocities within the fishway will, at times, be above the "preferred" velocity; however, the boulders and reduced flows near the sides of the fishway will allow fish a range of velocities and cover to transit the structure.

minnow "primarily utilized habitats characterized by moderate depths ( $x^- = 15$  to 40 cm), low water velocity ( $x^- = 4$  to 9 cm/sec) and small substrata (silt or sand)."

3432.015

§3.16.2 of the DEIS incorrectly states that MRGCD system diverts water for "up to" 8,300 acres of Pueblo cropland. This statement should be clarified to avoid the implication that Pueblo irrigation rights are capped at 8,300 acres. The amount of irrigated Pueblo acreage served by the MRGCD is not currently limited as the Pueblo's water rights have yet to fully be quantified.

3432.016

Statements regarding the accounting procedures for the storage and release of Pueblo water in §3.16.2 should be corrected to reflect that the accounting procedures were established by the Six Middle Rio Grande Pueblos in collaboration with the Bureaus of Reclamation and Indian Affairs.

3432.017

The Pueblo reminds the City that the WMP must comply with all applicable water quality standards, including the standards codified by the Pueblos of Isleta and Sandia. The dramatic increase in effluent discharges from the City's wastewater treatment plant must comply with Isleta's standards.

3432.018

The City is also reminded that any attempt to appropriate additional surface water will be met with extreme resistance from the Pueblo as no natural flows of surface water should be considered available for appropriation until all Indian water rights to the natural flow of the Rio Grande have been quantified and satisfied. Likewise, attempts to obtain additional storage space in federal reservoirs will impinge upon the Pueblo's ability and right to reach a full and fair settlement of its water rights.

It is the Pueblo's desire to work in a constructive manner with the City to assure the needs of all people in the Middle Rio Grande Valley are met. However, this will not be possible if the City's DWP negatively impacts tribal resources. Thank you for considering and addressing these comments. The Pueblo looks forward to continued consultation with the City and the Bureau of Reclamation on the DWP. Please do not hesitate to contact me at 505-254-7812 to discuss these issues in greater detail.

Sincerely,

Les W. Ramirez  
Special Counsel for Water Resources &  
Environmental Affairs

Response to Comment 3432.015 Text changed as appropriate.

Response to Comment 3432.016 Text changed as appropriate.

Response to Comment 3432.017 The City will comply with all applicable water quality standards, including those of the Pueblos of Isleta and Sandia.

Response to Comment 3432.018 The City will only divert native water under approved terms and conditions of the New Mexico Office of the State Engineer.



GARY E. JOHNSON  
GOVERNOR

State of New Mexico  
**ENVIRONMENT DEPARTMENT**  
Office of the Secretary  
Harold Runnels Building  
1190 St. Francis Drive, P.O. Box 26110  
Santa Fe, New Mexico 87502-6110  
Telephone (505) 827-2855  
Fax (505) 827-2836



PETER MAGGIORE  
SECRETARY

July 11, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, N.W., Suite 1313  
Albuquerque N.M. 87102

Dear Ms. Robertson:

**RE: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE CITY OF ALBUQUERQUE DRINKING WATER PROJECT (JUNE 2002)**

This transmits New Mexico Environment Department (NMED) comments concerning the above-referenced Draft Environmental Impact Statement (DEIS).

Surface Water Quality

This project involves diverting water from the Rio Grande and constructing a new water treatment plant to supply potable water to the City of Albuquerque. According to the DEIS, this project will maximize the use of water diverted from the San Juan /Chama Diversion as part of the overall strategy to decrease groundwater use from the Albuquerque Basin aquifer. The proposed preferred alternative calls for a new diversion structure on the Rio Grande in Albuquerque near the Paseo del Norte overpass. The main environmental impacts of the preferred alternative would stem from a decrease in flows to areas downstream of the diversions, both in the San Juan and Rio Grande Basins. Additional impacts could result from the construction of the new diversion structure and the water treatment plant.

3433.001

The Rio Grande is a jurisdictional water of the United States under the Federal Clean Water Act (CWA). Therefore, authorization would be required under the CWA if the project involved the discharge of fill material below the ordinary high water mark of the channel. If the project involves the discharge of fill material into waters of the United States, then a permit is required from the U.S. Army Corps of Engineers (USACE) under CWA Section 404. Furthermore, CWA Section 401 requires that those responsible for the project also obtain a water quality certification from the state in which the discharge originates. The purpose of the Section 401 State water quality certification is to ensure that the project will comply with applicable water quality standards and the Anti-degradation Policy.

Response to Comment 3433.001 CWA and other permitting requirements are listed within Table 1.1-1 and will be strictly adhered to. In addition to the 404 permit, state water quality certification, and if necessary, Pueblo certification will be acquired.



A joint 404/401 application form is available from the following offices and website:

U.S. Army Corps of Engineers  
Regulatory Branch  
4101 Jefferson Plaza, NE  
Albuquerque, NM 87109-3435  
(505) 342-3282

New Mexico Environment Department  
Surface Water Quality Bureau  
401 Certifications  
Harold Runnels Bldg.  
1190 St Francis Dr.  
PO Box 26110  
Santa Fe NM 87502  
(505) 476-3017

<http://www.spa.usace.army.mil/reg/>.

3433.002

The DEIS indicates that the Action Alternatives will result in a decrease in Rio Grande flow between the point of diversion and the point of return (approximately 15 miles) compared to the No Action Alternative, particularly just below the point of diversion. Section 3.27 of the DEIS addresses some water quality issues but does not appear to address the possible adverse effects on surface water quality due to subsequent increased in-stream pollutant concentrations from other point and non-point source dischargers in this reach of the Rio Grande. The DEIS should address these possible adverse effects.

3433.003

The DEIS states, on page 3-281, "[t]able 3.27-2 shows the discharge limitations for the effluent characteristics based on a minimum low flow of 162.5 million gallons per day (mgd) in the Rio Grande." (referring to NPDES permit limits for discharges from the SWRP) The referenced NPDES permit limits are only applicable based on a daily minimum guaranteed flow of 162.5 mgd. The current (expired) NPDES permit requires that alternative effluent limits be met based on either seasonal 4Q3 values or daily minimum actual flows measured upstream of the SWRP discharge (point of return). Effluent concentration values for several parameters (dissolved oxygen, total aluminum, nitrate) listed in Table 3.27-2 exceed these alternative permit effluent limitations. The DEIS should address the impacts to water quality from the SWRP discharges based on projected daily minimum flows.

3433.004

The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) permit coverage for storm water discharges from construction projects (common plans of development) that will result in the disturbance (or re-disturbance) of five or more acres (one or more acres after March 10, 2003), including expansions, of total land area. Because this project (including infrastructure construction such as the WTP and water lines) will exceed five acres, it will require appropriate NPDES permit coverage prior to beginning construction.

3433.005

Among other things, this permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters.

3433.006

You should also be aware that USEPA requires that all "operators" (see **Federal Register/Vol. 63, No. 128/Monday, July 6, 1998** pg 36509) obtain NPDES permit coverage for construction

Response to Comment 3433.002 Water quality has been further assessed in the report "River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project" (Thompson and Chwirka, 2002). Water quality is slightly improved by the DWP implementation. Text has been added where appropriate within Section 3.27.

Response to Comment 3433.003 The City will address the impacts from the SWRP discharges based on projected daily minimum flows as part of the NPDES process and Section 7 . Consultation for the SWRP.

Response to Comment 3433.004 NPDES permitting requirements will be adhered to as required by permits and regulations detailed within Table 1.1-1. The table has been modified to reflect this requirement.

Response to Comment 3433.005 NPDES permitting requirements will be adhered to as required by permits and regulations detailed within Table 1.1-1. As necessary, and required through the permitting process, an SWPPP would also be prepared and suitable BMPs also listed and developed as necessary to comply with permitting requirements.

Response to Comment 3433.006 Table has been modified to reflect this requirement.

Lori Robertson  
July 11, 2002  
Page 3

3433.006  
(Cont)

projects. Generally, this means that at least two parties will require permit coverage. The owner/developer of this construction project who has operational control over project specifications (probably the City of Albuquerque in this case), the general contractor who has day-to-day operational control of those activities at the site, which are necessary to ensure compliance with the storm water pollution plan and other permit conditions, and possibly other "operators" will require appropriate NPDES permit coverage for this project.

Drinking Water

Following are a number of observations provided by the Department's Drinking Water Bureau (DWB) concerning this project :

3433.007

1. The City of Albuquerque may not currently have staff with experience in operating a large capacity surface water treatment plant. The current ground water-based system uses different technologies for providing quality finished water after treatment.

3433.008

2. Historically, outbreaks of waterborne diseases are more common with surface water systems, but adequate precautions in the design and competent operation should minimize the risk.

3433.009

3. Assuming the city will adequately treat the water obtained from any of the proposed alternatives, the selection from the four alternatives should not affect the amount and quality of the finished water.

3433.010

4. Appendix A, Table 1.1-1, third unnumbered page. Per 20 NMAC 7.1.502, public water supply system projects require prior approval in writing by the NMED. Please provide two copies of the plans and specifications for the project to the DWB at least 90 days prior to the bidding on the construction of the plant.

3433.011

The DWB finds no public health concerns with the concept of the proposed construction. This project will need to comply with the current DWB/NMED regulations, including submittal of construction plans and specifications to DWB, before a public health approval can be issued for its construction.

We appreciate the opportunity to comment on this document.

Sincerely,



Peter Maggiore  
Secretary

NMED File No. 1607ER

Response to Comment 3433.007 Staff would be added or training provided to utility staff as necessary to operate the drinking water treatment plant.
Response to Comment 3433.008 Comment noted.
Response to Comment 3433.009 Comment noted.
Response to Comment 3433.010 Table has been modified to reflect this requirement.
Response to Comment 3433.011 Comment noted.

**NEW MEXICO INTERSTATE STREAM COMMISSION**

**COMMISSION MEMBERS**

RICHARD P. CHENEY, Chairman, Farmington  
HOYT PATTISON, Vice-Chairman, Clovis  
THOMAS C. TURNEY, PE., Secretary, Santa Fe  
PALEMÓN A. MARTÍNEZ, Valdez  
JOHN S. BULSTERBAUM, Deming  
PHILIP R. GRANT, Albuquerque  
HAROLD HOUGHTALING, Jr., Lake Arthur  
NARENDRA N. GUJAJI, Las Cruces  
PHIL H. BIDEGAIN, Tucumanari



BATAAN MEMORIAL BUILDING, ROOM 101  
STATE CAPITOL  
POST OFFICE BOX 25102  
SANTA FE, NEW MEXICO 87504-5102  
  
(505) 827-6160  
FAX: (505) 827-6188

September 12, 2002

Lori Robertson  
U.S. Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, N.W., Suite 1313  
Albuquerque, NM 87102

Re: Comments on the Draft Environmental Impact Statement for the City of Albuquerque's Drinking Water Project

Dear Ms. Robertson:

The New Mexico Interstate Stream Commission (ISC) submits the following comments on the subject study:

3434.001

The ISC, which is charged by New Mexico law with investigation, protection, conservation and development of New Mexico's water resources for beneficial uses, strongly supports the full development and utilization by the City of Albuquerque's of its annual allocation of 48,200 acre-feet of San Juan-Chama Project water in accordance with the Project's authorizing legislation. Full consumption by the City of Albuquerque of its annual San Juan-Chama Project allocation will allow the City to conjunctively manage the water resources available to it and thereby decrease its current reliance upon unsustainable groundwater use. Such a project is necessary since the City's original alternative for full consumption of its San Juan Chama Project water – diversion and consumption of that water via induced Rio Grande streamflow recharge resulting from groundwater pumping – has proven infeasible.

3434.002

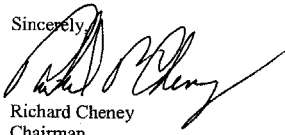
The San Juan-Chama Project was authorized by Congress in 1962 as a participating project of the Colorado River Storage Project for the primary purposes of providing water supply for irrigation, domestic and municipal and industrial uses. The authorizing legislation recognizes recreation and fish and wildlife benefits as incidental to the project. The firm yield of the Project (96,200 acre-feet) is a portion of the State of New Mexico's water apportionment under the Upper Colorado River Compact. As such, the waters supplied by the San Juan-Chama Project are public waters of the State of New Mexico, the use of which is subject to all applicable state laws.

Response to Comment 3434.001 Comment noted.
Response to Comment 3434.002 Comment noted.

Ms. Lori Robertson  
September 12, 2002  
Page 2

Thank you for the opportunity to comment on this important project.

Sincerely,



Richard Cheney  
Chairman

cc: John Stomp

# County of Bernalillo

State of New Mexico

## BOARD OF COUNTY COMMISSIONERS

**E. TIM CUMMINS**, CHAIR  
DISTRICT 4  
**TOM RUTHERFORD**, VICE CHAIR  
DISTRICT 3  
**STEVE D. GALLEGOS**, MEMBER  
DISTRICT 2  
**LES HOUSTON**, MEMBER  
DISTRICT 5  
**KEN SANCHEZ**, MEMBER  
DISTRICT 1  
**JUAN R. VIGIL**, COUNTY MANAGER



ONE CIVIC PLAZA, NW  
ALBUQUERQUE, NM 87102  
ADMINISTRATION (505) 768-4000  
COMMISSION (505) 768-4217  
FAX (505) 768-4329

**MARK J. CARRILLO**, ASSESSOR  
**MARY HERERRA**, CLERK  
**MERRI RUDD**, PROBATE JUDGE  
**JOE BOWDICH**, SHERIFF  
**ALEX A. ABEYTA, JR.**, TREASURER

August 8, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, NW, Suite 1313  
Albuquerque, NM 87102

Dear Ms. Robertson:

Bernalillo County appreciates the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project. Bernalillo County supports the continued development and implementation of this project. In general, the DEIS is adequate in its consideration of the impacts of the project, although some additional discussion of certain impacts should occur.

The following four components are identified: 1) diverting surface water from the Rio Grande, 2) transporting the raw water to a new water treatment plant, 3) treating the raw water to drinking water standards, and 4) distributing the treated potable water to customers in the City's water service area.

3435.001

1. The County supports the preferred alternative for surface diversion near Paseo del Norte using an adjustable dam. The County also recommends consideration of the siting of a proposed additional wastewater treatment plant just south of the proposed diversion. This would be an additional mitigation measure for stream depletions in the Albuquerque reach and would increase stream flow between the surface diversion and existing wastewater treatment plant near Rio Bravo Blvd.

3435.002

2. The County has no adverse comments on the transportation of water from the diversion point to the surface water treatment plant, so long as the roadway and any improvements made along the route (in particular landscaping, paths and sidewalks) are restored to their current condition, or better.

3435.003

3. The County requests additional information on surface water quality and the ability of the treatment plant to address surface water quality issues such as those raised at the public hearing. In particular, there should be an explanation of the potential risk of water contamination from radionuclides, the severity of this risk, and how the treatment plant will be designed to address this risk.

Response to Comment 3435.001 Pump back alternatives in conjunction with the diversion dam were evaluated at a public alternatives workshop in March, 2000, held in Albuquerque. The descriptions of these alternatives are presented in Table 2.3-2 in the DEIS.

Response to Comment 3435.002 Comment noted.

Response to Comment 3435.003 Issues related to surface water quality including radionuclides are addressed in Section 3.27.3, which states that radiation in the water supplies are well below current SDWA limits. The report "River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project" (Thompson and Chwirka, 2002) further assesses water quality, such as TDS, arsenic and other compounds. Water quality downstream of the treatment plant is slightly improved by the DWP implementation.

3435.004

4. The County has no adverse comments on the distribution of the surface water throughout the Utility system. As these routes are further identified and finalized, the County may have comments on segments of the route. The County has commented previously to the City on proposed routes, and anticipates continued dialogue as the routes proceed, especially for those routes in the unincorporated County. Paving, sidewalks, utilities, landscaping and other impacted features on each route should be restored to their current or better condition.

3435.005

At the public meeting held July 2, 2002 in Albuquerque, there were a number of comments by individuals who opined that the "no action" alternative was not the only reasonable alternative. These individuals believed that the document was deficient in that the DEIS did not propose further conservation as a stand-alone alternative. While the County agrees that water conservation is a major component of a reliable and long-term water resources strategy, the County does not agree that conservation is a long-term substitute for this project. The County does not find the document deficient in this regard.

These comments supplement the brief oral comments made at the July 2, 2002 public hearing held in Albuquerque. If you have questions on these comments, please contact Mary Murnane, Water and Facilities Planner, at (505) 848-1507. Thank you for the opportunity to comment on this document.

Very truly yours,



Juan R. Vigil  
County Manager

Cc: Board of County Commissions  
E. Tim Cummins, Chair  
Tom Rutherford, Vice Chair  
Steve D. Gallegos, Member  
Les Houston, Member  
Ken Sanchez, Member  
Tim West, Division Director, Public Works  
Steve Miller, Department Director, Technical Planning  
Mary Murnane, Water and Facilities Planner  
File

Response to Comment 3435.004 Comment noted.

Response to Comment 3435.005 Comment noted.

Comments to the Bureau of Reclamation  
by Lynn D. Montgomery, Mayordomo,  
Acequia La Rosa de Castilla, Inc.

Acequia La Rosa de Castilla, Inc. had its beginnings in 1768, when settlers on Las Huertas Creek near present-day Placitas received a Grant from the Colonial Governor. This Grant was called "San Antonio de las Huertas", and is still active to this day. The village that these settlers lived in was called "San Jose de las Huertas" and was virtually abandoned in 1823 because of dire threats from nomadic Native American bands. Some small excavations of San Jose are going on at this moment, which we hope will give us new and unique data on the formation of Hispanic culture in New Mexico. The families that make up the Acequia La Rosa de Castilla Community are direct descendants of those original settlers. We consider ourselves living history that will go on into the future. San Jose de las Huertas was here long before the City of Albuquerque was anything but a small hacienda. Las Huertas Creek flows down from San Jose de las Huertas for 5 miles before emptying into the Rio Grande at Algodones. We consider ourselves part of the living history of the region, including Albuquerque, and have concerns that Albuquerque is continuing to ignore our human and natural history heritage.

3436.001

Our acequia community and other residents try and take care of the Creek, acequia, and the little upland bosque that is home to a very diverse flora and fauna. We are on a major raptor migration flyway and provide critical habitat for the migrants. Local residents have obtained a small grant to restore wildlife habitat along the Creek and are working with the US Fish and Wildlife Service and private groups. The acequia association manages the water from the Creek and La Rosa de Castilla Spring, and does its best to see that our local environment gets its share of water. We recognize that a healthy environment is essential to a reliable and sustainable water resource. We hope the City of Albuquerque will take care of and be considerate of the environment, when it manages the water, as we are.

3436.002

Las Huertas Creek is a major local tributary to the Rio Grande and a major recharge envelope to its aquifer. Lately, hydrological studies and a model have indicated more than strongly that groundwater pumping, over a very large area, will drop the flow of our Spring and Creek permanently. Placitas has seen a 2000% jump in population over the last two decades. This intense and unrelenting growth continues, despite efforts to protest new pumping by local residents. This growth is engendered by the Albuquerque region and has been spilling into our little traditional community. Not only is the groundwater pumping threatening our very existence, but also our watershed is being irretrievably harmed by all the building and altering of the landscape. Our pinon-juniper forest is being decimated. Eventually, pumping of the major Rio Grande aquifer will create more impairment, as water tables drop further and further up into the hills.

3436.003

Albuquerque touts its ability to get its citizens to conserve water, but is basically treading water on the conservation mill because it refuses to recognize there are two ends to a pipe. Ignoring and not containing the rampant sprawl that is blighting our landscape, destroying wildlife habitat, impairing the ability of the watershed to provide water, and pumping more and more water out of the aquifer is not being considerate of

3436.004

Response to Comment 3436.001 Comment noted.

Response to Comment 3436.002 Comment noted.

Response to Comment 3436.003 Comment noted. The proposed DWP would significantly reduce City reliance on groundwater and result in significant savings in aquifer storage.

Response to Comment 3436.004 Please see General Response to Comment 1. Conservation. The Purpose and Need section (Section 1) details the necessity for the proposed action. The proposed action is essential to meet current and projected water demands. Figure 1.2-1 shows the projected water demand for the City and sources of supply. Conservation alone cannot provide a sustainable supply of water (pages 1-10) of the DEIS. Groundwater pumping will decrease. See Section 3.16 and Appendix L of the DEIS.

3436.004  
(Cont)

the environment. The SJ/C water will provide enough water, in average years, for Albuquerque's present use. There is no more for further growth and the resulting use. The City must face up to this depressing fact and start finding ways stop this madness. Even at present use levels, the City will have to pump the acquifer more than occasionally. The cones of depression will keep expanding and the Rio Grande will flow less for it.

3436.005

Although the City apparently doesn't have much regard for regional water resource planning, our regional water planning group is trying to come up with a budget to balance use with supply. This is an ongoing effort and is now incorporated into a model done by Sandia Labs and others. If we don't come to such a balance, surface flows will be impaired, and the environment along with them. One thing that has come up is aquifer storage depletion. This is estimated to be .51 cubic mile at present. We are adding to that volume at a rate of, at least, 55k afy. Even if the water planning effort is successful, it is unlikely we could agree to reduce use by more than 1k afy over 50 years. Over 50 years, that comes to an accumulated depletion of 3 million ac/ft that must be paid back to ensure future surface flows and a healthy environment. The question is: Will there be enough surplus SJ/C water to re-inject to do this? And, is the City truly committed to putting reinjection infrastructure in place and parting with the water?

We don't go quite as fast up in Las Huertas Creek. We find the City's headlong rush into this project to be at a reckless speed and hope passions and ambitions start to temper themselves into a less hectic and anxious road to fulfilling communities and neighborhoods, a more independent and self-reliant lifestyle, and a healthy environment.

POB 412  
Placi Fas NIM 87043

Response to Comment 3436.005 The City currently plans to complete an ASR program with surplus SJC water in the early years of the project. The City funds and participates in the Middle Rio Grande Water Assembly. The Drinking Water Project will reduce ground water drawdown.



RONALD D. BROWN, CHAIR  
DANIEL HERNANDEZ, VICE-CHAIR  
TIM EICHENBERG, SECRETARY-TREASURER  
LINDA STOVER, ASST. SECRETARY-TREASURER  
DANIEL W. COOK, DIRECTOR

JOHN P. KELLY, P.E.  
EXECUTIVE ENGINEER



Albuquerque  
Metropolitan  
Arroyo  
Flood  
Control  
Authority

2600 PROSPECT N.E. - ALBUQUERQUE, NM 87107  
TELEPHONE (505) 884-2215 FAX (505) 884-0214

September 12, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, NW  
Suite 1313  
Albuquerque, NM 87102

**Re: Draft Environmental Impact Statement - City of Albuquerque Drinking Water Project**

Dear Ms. Robertson,

Regarding the referenced DEIS document and the proposed project, AMAFCA has the following general comments.

3437.001

1) The Rio Grande is the main conveyance system in Albuquerque for drainage. The River receives runoff from the entire Rio Grande drainage basin - land developed and undeveloped. As such, it is the drainage system that provides the "outlet" for all drainage and flood control systems in the basin. It is imperative that the drainage and flood control function of the River is not adversely impacted by the referenced project.

3437.002

2) The proposed project within the limits of the Rio Grande levees is located within Bernalillo County, and is therefore subject to the requirements of the County Drainage Ordinance. Bernalillo County Code, Ch. 38, Article 2, Division 3, Section 38-101, Item 5 "floodways" indicates that projects that impact a floodway may not increase the 100 year water surface elevation. Therefore, project review and approval must be coordinated with Bernalillo County Public Works and the County Floodplain Administrator. Section 3, page 3-73 of the DEIS document contains data on the anticipated floodway water surface elevation impacts and encroachment on existing levee freeboard that is of concern to AMAFCA. Project planning and design within the Rio Grande levees should be coordinated with the U.S. Army Corps of Engineers, and the Federal Emergency Management Agency, for compliance with all floodway/floodplain regulations.

3437.003

3) Some of the proposed water transmission lines are proposed to be located within AMAFCA right-of-ways and/or easements. The project has been discussed, but formal approval is needed from AMAFCA and the Corps of Engineers. Design and construction of these portions of the project will require plan review and approval by AMAFCA and the Corps of Engineers.

Response to Comment 3437.001 Comment noted.

Response to Comment 3437.002 The City is coordinating with AMAFCA, Bernalillo County and the USACE to ensure floodway/floodplain considerations are addressed. Proposed mitigation measures (Page 3-74, DEIS) included use of USACE HEC model to calculate elevations. Once final design is completed, when more recent topographic information is available, FEMA and the USACE will be contacted again to ensure compliance.

Response to Comment 3437.003 The City will continue to seek formal authority and approval from AMAFCA and the USACE. Tables 1.1-1 and A-1 are modified to include the requirement for a license agreement with AMAFCA.

Deis dwp, page 2

Also, a License Agreement, approved by the AMAFCA Board of Directors, will be required prior to construction of improvements.

3437.004

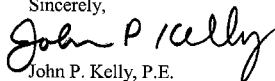
4) The DEIS mentions possible increases in turbidity in the Rio Grande during construction. Additional mention should be made regarding chlorination of potable water facilities during construction. Special concern needs to be given to pipeline and facility disinfection during construction to ensure that chlorinated water is not discharged to storm drains.

3437.005

5) Raw water transmission lines will need periodic maintenance flushing. The operator of the water system will be required to insure that any discharge to AMAFCA facilities from flushing activities meets the requirements of AMAFCA's NPDES permit for storm water discharge.

Thank you for the opportunity to comment on the Draft EIS for this project. If you have any questions, please contact me at 884-2215.

Sincerely,



John P. Kelly, P.E.  
Executive Engineer

cc. John Stomp, Manager  
Albuquerque Water Resources Division

Response to Comment 3437.004 All construction efforts are to conform to best management practices and all pertinent permits. The City will use best management practices throughout the construction period. Access and work on any AMAFCA facilities would be coordinated with AMAFCA. A spill prevention and abatement plan would be adhered to. It is not anticipated that chlorinated water would be discharged to storm drains during construction.

Response to Comment 3437.005 The City would adhere to AMAFCA NPDES permit requirements while on or using AMAFCA facilities. (Table 1.1-1 within Purpose and Need)

**RESOLUTION OF THE CITY OF ALBUQUERQUE  
GROUND WATER PROTECTION ADVISORY BOARD**

3438.001

**WHEREAS**, the Ground Water Protection Advisory Board (GPAB) was established by Ordinance of the City Council on October 3, 1997 (O-96, Enactment 36-1997) and by Ordinance of the Bernalillo County Commission on October 8, 1997 (O-97-17, §1, 10-8-97); and

**WHEREAS**, the purpose of the GPAB is to study and advise the City and the County on ground water protection concerns, including policies necessary to enhance protection of ground water quality; oversee implementation of the Ground Water Policy and Action Plan; promote consistency in City and County actions to protect ground water quality; and advocate effective protection of ground water quality; and

**WHEREAS**, the Ground Water Protection Policy and Action Plan (GPPAP) was adopted by the County in Resolution No. AR 121-93 on November 23, 1993, and by the City in Resolution No. R-57, Enactment No. 81-1994, on August 12, 1994; and

**WHEREAS**, the GPAB is concerned about the region's future water quality and quantity;

**WHEREAS**, the GPAB fully supports the transition from sole reliance on ground water to renewable resources to protect and preserve the aquifer and fully utilize the City's San Juan-Chama water; and

**THEREFORE, BE IT RESOLVED** that the Ground Water Protection Advisory Board fully supports implementation of the Drinking Water Project and full consumptive use of the City's San Juan-Chama water.

**BE IT FURTHER RESOLVED** that the Ground Water Protection Advisory Board fully supports the Preferred Alternative in the Draft Environmental Impact Statement; and

**BE IT FURTHER RESOLVED** that the Ground Water Protection Advisory Board supports completion of the Final Environmental Impact Statement and Record of Decision by the Bureau of Reclamation; and

**BE IT FURTHER RESOLVED** that the Ground Water Protection Advisory Board recognizes the need for water conservation, but that water conservation by itself is not a substitute for the city's San Juan-Chama water or the need for the Drinking Water Project.

Response to Comment 3438.001 Comment noted.

**BE IT FURTHER RESOLVED** that the Ground Water Protection Advisory Board supports the design, construction and operation of the Drinking Water Project without delay.

**PASSED AND ADOPTED** this \_\_\_\_ day of September, 2002.

\_\_\_\_\_  
**Pamela Hayes, Chair**  
City of Albuquerque

*Pamela Hayes*

\_\_\_\_\_  
**Pauline Gubbels**  
City of Albuquerque

*Pauline Gubbels*

\_\_\_\_\_  
**Barbara Rosnagle**  
County of Bernalillo

*Barbara Rosnagle*

\_\_\_\_\_  
**Julie Stephens, Vice Chair -**  
County of Bernalillo

*Julie Stephens*

\_\_\_\_\_  
**Bruce Thomson**  
City of Albuquerque

\_\_\_\_\_  
**Carl White**  
Joint City/County

**RESOLUTION OF THE CITY OF ALBUQUERQUE  
WATER RESOURCES CUSTOMER ADVISORY COMMITTEE**

3439.001

WHEREAS, the Water Resources Customer Advisory Committee (CAC) was established by resolution of the City Council on July 3, 1996 (R-31, Enactment 36-1996, and R-71, Enactment 74-1996); and

WHEREAS, the purpose of the CAC was to represent community interests and be a source of impartial oversight to enhance accountability of the City's water supply planning process; and

WHEREAS, the CAC participated in the evaluation of more than 32 water supply alternatives during the development of the Water Resources Management Strategy; and

WHEREAS, the Water Resources Management Strategy was adopted by the City Council on May 19, 1997; and

WHEREAS, the CAC fully supports the transition from sole reliance on ground water to renewable resources, protect and preserve the aquifer and fully utilize the City's San Juan-Chama water; and

WHEREAS, the CAC has been working with the Public Works Department in the development and evaluation of alternatives for the Drinking Water Project Draft Environmental Impact Statement; and

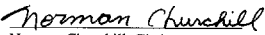
BE IT RESOLVED that the CAC fully supports implementation of the Water Resources Management Strategy and full consumptive use of the City's San Juan-Chama water; and


BE IT FURTHER RESOLVED that the CAC supports the Preferred Alternative in the Draft Environmental Impact Statement; and

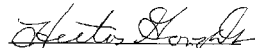
BE IT FURTHER RESOLVED that the CAC supports completion of the Final Environmental Impact Statement and Record of Decision by the Bureau of Reclamation; and


BE IT FURTHER RESOLVED that the CAC supports the design, construction and operation of the Drinking Water Project without delay.

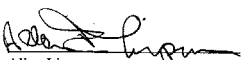
PASSED AND ADOPTED THIS 16th DAY of July 2002.


  
Norman Churchill, Chairman  
League of Neighborhoods, Eastside

  
Aileen Gatterman  
League of Women Voters

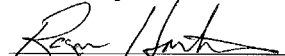
  
Hector Gonzales  
Unincorporated Bernalillo County

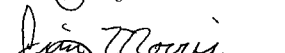
  
Carlo Lucero  
Alb. Hispano Chamber of Commerce


  
Allen Lipman  
City Council District 4

  
Charles Barnhart, Economic Forum  
Economic Forum

  
William Brooks Gauert  
Coalition of Neighborhoods

  
Roger Hartman  
Member, At-Large

  
Jim Morris  
Alb. Chamber of Commerce

  
Martin Haynes  
Unincorporated Bernalillo County

Response to Comment 3439.001 Comment noted.



September 12, 2002

Lori Robertson  
U.S. Bureau of Reclamation  
500 Marquette Street NW Suite 1313  
Albuquerque, NM 87103-2162

**HAND DELIVERED**

Re: City of Albuquerque Draft Environmental Impact Statement (DEIS)  
for the Drinking Water Project

Dear Ms. Robertson:

The Middle Rio Grande Conservancy District (MRGCD) has been working with the City for more than five years as the City has planned for the Drinking Water Project. The MRGCD strongly supports the City's plans to fully utilize their San Juan-Chama water for drinking water purposes. The City must transition to the surface water in order to provide a sustainable supply and reduce the long-term impacts to the river from ground water pumping.

**3440.001**

The MRGCD reviewed the preferred alternative identified in the DEIS consisting of the construction of a new adjustable height dam, with environmental features consisting of the fish passage structure and screens. The MRGCD will be working cooperatively to implement the Drinking Water Project including approving the necessary license agreements to allow for construction and operation of the new facilities.

**3440.002**

The Angostura diversion alternative would require a joint agreement between the MRGCD, Sandia Pueblo, San Felipe Pueblo and Santa Ana Pueblo. In addition, the diversion would now require operation year round instead of between March 1<sup>st</sup> and November 15<sup>th</sup>. Also, the above agreement would need to address operation and maintenance of the diversion dam and the canals and drains to convey the water to Albuquerque.

**3440.003**

The MRGCD recognizes that the City has aggressively implemented a water conservation program, but that no level of water conservation can substitute for the City's San Juan-Chama water or the need for the Drinking Water Project.

**3440.004**

The MRGCD has reviewed the DEIS for the preferred alternative and the hydrologic analysis of the project effects on the MRGCD and on the Rio Grande south of Albuquerque which will be evaluated in the near future. We agree that the Rio Grande will benefit. We are looking forward to working with the City on this vital project.

P.O. Box 581

87103-0581

1931 Second St. SW

Albuquerque, NM

87102-4515

505-247-0234

Fax # 505-243-7308

Sincerely,

Subhas K. Shah  
Chief Engineer / CEO

Response to Comment 3440.001 Comment noted.
Response to Comment 3440.002 Comment noted.
Response to Comment 3440.003 Comment noted.
Response to Comment 3440.004 Comment noted.

## SECTION 4

### COMMENTS FROM NON-GOVERNMENTAL ORGANIZATIONS

#### 4.1 INTRODUCTION

Letters were received from several non-governmental organizations. Table 4.1 below includes the names of all such organizations next to the document reference number for their comments.

**TABLE 4.1  
NON-GOVERNMENTAL ORGANIZATION LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Non-Governmental Organization</b>
3441	1000 Friends of New Mexico
3442	Amigos Bravos
3443	Alliance for the Rio Grande Heritage
3444	Rio Grande Restoration
3445	SAGE Council (Sacred Alliances for Grassroots Equality)
3446	Sierra Club
3447	Southwest Research and Information Center, Water Information Network, and Amigo Bravos

#### 4.2 COMMENTS AND RESPONSE TO COMMENTS



July 2, 2002

Members of the hearing panel,

My name is Jessica Saavedra, I am the Albuquerque Coordinator for 1000 Friends of New Mexico. 1000 Friends is a statewide, non-profit, growth management organization.

I would like to state on record that 1000 Friends of New Mexico is concerned about the City's present Surface Water Diversion proposal. It is our position that state and local governments should prepare realistic water budgets that balance supply with present and future demands. Land use planning and water planing should be connected, and growth and development should be consistent with those plans. The planning process should protect and balance agricultural, environmental, economic, municipal, and cultural uses of water. Decisions about future water use and new development should be driven by a community's plan with facilitated citizen input as an integral part of that process.

1000 Friends of New Mexico has been an active participant in the Middle Rio Grande water planning process. The present proposal should not be considered until a water plan for the region is complete. The proposal should not be implemented unless it is consistent with the goals and objectives set forth by the Middle Rio Grande water plan.

We are also concerned by the amount of protest that this proposal has raised and feel that the concerns of the protestants should be fully analyzed and viable alternatives should be taken into serious consideration.

It is important that decision makers plan for environmentally sound water use alternatives for the future, instead of short term solutions with long term potential for serious harm to the Rio Grande's unique riparian environment.

Thank you,

*Jessica Saavedra*

Jessica Saavedra  
Albuquerque Area Coordinator  
1000 Friends of New Mexico

www.1000friends-nm.org  
omigos@1000friends-nm.org

**ALBUQUERQUE**  
1001 Marquette NW 87102  
Tel 505.848.8232  
Fax 505.248.1361

**SANTA FE**  
320 Artex, Suite B 87501  
Tel 505.986.3831  
Fax 505.986.0339

**DIRECTORS**  
Arturo Sandoval, President  
Debra Colman, Vice President/  
Treasurer  
Janice Varela, Secretary  
Patricio Garcia  
Sean Gilligan  
Bob Mang  
Larry Martin  
Joseph Montoya, Past President  
Fabi Romero  
Briyon Vello  
Carol Weahkee

**ADVISORY COUNCIL**  
Stewart Udall, Chair

**STAFF**  
Edward Archuleta  
Santa Fe and Northern NM Director  
Consuelo Bokum  
NM Water Project Director  
Daphne DeCerna  
Southern New Mexico Coordinator  
Bernadette Jobs  
Administrative Assistant  
Patricia Channon  
Membership Coordinator  
Jessica Ciddio  
Albuquerque Area Coordinator  
Lahua Lopez-Mau  
Statewide Campaign Director  
Lois Lyles  
Office Manager  
Jeff Mitchell  
Middle Rio Grande Policy and  
Research Director  
Ra Saavedra  
Communications Coordinator  
Mallinda Smith  
Executive Director

3441.001

3441.002

3441.003

Response to Comment 3441.001 A City water budget is shown on pages 2-7 and 2-8 of Appendix L (Hydrology Report) of the DEIS. The City actively participates in water resources management and planning groups, and through the conservation program (see General Responses to Comments 2, Conservation) of the water resources management strategy, is making progress towards obtaining stated goals. Citizen participation has occurred throughout the NEPA process, and proceeding meetings and forums to develop the AWRMS. Public involvement steps are described in Section 1 and summarized in Section 4 and Appendix B, C, D and others.

Response to Comment 3441.002 The City will participate with the regional water plan development.

Response to Comment 3441.003 All reasonable alternatives were rigorously explored and objectively evaluated in the DEIS. Alternatives that were eliminated from further study are discussed in Section 2. Technical studies, public input and agency input guided the development and evaluation of alternatives.

**For the People... For the Land**





Friends of the Wild Rivers

September 12, 2002

Lori Robertson  
 Bureau of Reclamation  
 Albuquerque Area Office  
 505 Marquett NW, Suite 1313  
 Albuquerque, New Mexico 87102

Via Fax and Mail: 505-924-2223

Dear Ms. Robertson,

ALBUQUERQUE AREA OFFICE

SEP 13 2002

Classification: 6011-6.00  
 Project: 6011-6.00  
 Control No. 266-35-99  
 Folio: 38794

DATE	INITIALS	CODE
9/13	LR	150

3442.001

In response to receiving the DEIS for the Albuquerque Drinking Water Proposal, it was noticed in the DEIS Appendices that community members and organizations in the North, Central and South Valley were not included on the list to receive or review a copy of the document. Upon realizing this Amigos Bravos ordered several additional copies inviting several neighborhood associations, residents and community organizations to participate in an informal citizen review and study of the DEIS. Each participant in the Citizen's Review Committee are experienced in reviewing complicated materials such as a DEIS supported by years of education and public service. While others were unavailable, they requested to be kept informed of our progress. Our purpose it is to ensure environmental justice and advocacy for minority and poor communities as well as protect the native habitats. Each member has participated in preparing this testimony, in addition some participants have also opted to send your office their own organizational or personal testimony.

3442.002

**Public Participation:**

On many levels, this was a cumbersome project considering the depth of the project and the high level expertise needed to fully comprehend the Albuquerque Drinking Water Project in all of its process. Over past couple of years, some have followed the public scoping and public meetings while others have just recently become involved, unaware there was such a process. This Concerned Citizen's Review Committee found the DEIS document to be confusing, incomplete, vague and unreliable in providing what the document states it will provide. This DEIS does not lend itself to public review and thus limits and restricts public participation preventing a full critical understanding and analysis of the Albuquerque Drinking Water Project. This created numerous delays and increased the already difficult comprehension of the document. As the case with others, this Citizen's Review Committee formally requested an additional 60 day extension. Though only a 30 day extension was granted, committee members hung-in-there to investigate and research the DWP proposal finding additional shortcomings in the documents. Fortunately, timely meetings with environmental lawyers, hydrologists and advocacy organizations confirmed that our frustration is not due to our lack of "expertise"

Response to Comment 3442.001 Comment noted.

Response to Comment 3442.002 The process to solicit public input has been extensive. The NEPA scoping and consultation processes are described in detail within Section 4 and Appendices B,C,D, F, G and H. This is in addition to the many public meetings and agency meetings that have been held throughout the process, as a part of the City Council approved Water Resources Management Strategy. We are uncertain of what exactly in the document, from the commenter perspective, is confusing and what is implied by "degree of error." The requirement for public participation has been met in full.

3442.002  
(Cont)

in the field. They too have expressed frustration about the degree of error and confusion of the DEIS document. This committee recommends that a "Second Draft" of the Environmental Impact Statement be prepared with corrections to fulfill the NEPA requirements of public participation and resubmit the document for public review. It is imperative that environmental justice be defined as related to this Drinking Water Project. Then, based on that definition we request an analytical discussion and the opportunity to partake in it.

3442.003

**The following are quotes from Review Committee Members as testimony.**

- ❖ "Environmental Justice is seen through a narrow scope." Frances Ortega,
- ❖ "My feeling of that document, is that it's deliberately ambiguous." "I have given up on expecting very much from government. The DEIS was written deliberately difficult" Andrew Lopez.
- ❖ "Scoping questions were not addressed though the appendices has numerous references. The appendices itself is negligible as exemplified by the empty appendix M, which should have responses to the scoping concerns. There remain unanswered occupational, cultural and environmental concerns seemingly dismissed through neglect." Cynthia Gomez

3442.004

**Public Participation and Environmental Justice:**

We reference a section from the DEIS, challenging assumptions made in the statement **"There are, in general five guiding principles when determining any environmental justice issues. Those are 1) identify minority and low-income populations in the area effected by the project.** The South Valley was one potential location for placing the water treatment plant and was evaluated with others, and found unacceptable for several reasons. The South Valley is a diverse area, and contains many ethnic and various populations of high, middle and low incomes. **2) consider relevant public health data and industry regarding multiple and cumulative exposure of minority and low -income populations to human health or environmental hazards.** Exposures to hazards from this project are low to all populations within Albuquerque. **3) Recognize interrelated cultural social occupational, historical , or economic factors that could amplify environmental effects of the project.** This was done during the development of the City water strategy and completing a list of sites located a various locations throughout Albuquerque. **4) Develop effective public participation strategies that overcome linguistic, cultural institutional, geographic and other barriers.** The city held a series of public meetings to present and refine the location for the WTP. These meetings were in addition to the NEPA scoping meetings. Residents consistently attended, expressed reservations, and helped direct the location of the WTP portion of the project away from the South Valley. **5) Assure meaningful community representation in the process.** This was accomplished through the NEPA Scoping Meeting and the early site location. (3.11.1 page 3-65 of the DWP DEIS)

3442.005

Assumption#1: There are no other Environmental Justice Concerns or areas of Impact:

Response to Comment 3442.003 Environmental justice was thoroughly considered (Section 3.11, and related Sections 3.9, 3.15, 3.17 and 3.22). There are no disproportionate effects from improving the reliability and quality of the municipal water supply with an equitable distribution of rates, approved by the City Council, upon minority populations. Most water pipeline construction (temporary effect) occurs in areas that are not primarily minority populations. Water rights of others can not be impacted by the project, by law, and subject to a separate diversion permit. The water depletion area (from point of diversion to treatment plant outfall) does not conflict with use of the river for recreation (Section 3.20), nor does it impact the riparian area (Section 3.21). Considering the Angostura Alternative, there would be requirements for temporary construction upon Pueblo lands to improve the safety and delivery capability of existing water conveyance facilities upon Pueblo lands. This would require more consultation with, and permission from the Pueblos. Environmental justice evaluations relied upon population data and the public process to develop alternatives and seek public input and guidance for the Water Resources Management Strategy. Once this was done, the NEPA public and agency scoping process was undertaken. Both were extensive, lengthy and provided many opportunities for minority and other public involvement. In addition, the public hearings and 90 day public comment period provide for comments, which when substantive and accurate, help guide correction and improvement of the final document. The DEIS is not deliberately ambiguous. The water supply challenges the DEIS seeks to address are multifaceted and complex. It was written using CEQ Regulations as general guidance. In addition, the Bureau of Reclamation NEPA manual provided guidance. The laws and other processes that must be adhered to are presented in Table 1.1-1. Formats and styles are similar to other Bureau of Reclamation documents. All issues raised in the scoping process are addressed. Scoping questions/concerns are first introduced in the DEIS within Section 1.4. Each scoping concern is then presented again within the introduction to each resource category (Section 3) so the identified concern can be addressed within the evaluation. Actual results of scoping meetings are provided in Appendices B,C, and D. Appendix M will consist of these comments and the responses to them. Appendix M in the DEIS is a placeholder for the Final EIS.

Response to Comment 3442.004 and .005 ON NEXT PAGE

Response to Comment 3442.004 Comment noted.

Response to Comment 3442.005 The consideration of environmental justice concerns was guided by Federal directives on this subject, as noted in Section 3.11. The analysis of these concerns concluded that there are no disproportionate impacts to minority communities or populations. Appendix B, results of the Albuquerque Public Scoping meeting (9/23/99) discusses environmental justice issues, which pertain to the possible location of a drinking water treatment plant location in the South Valley. That possible alternative was eliminated. Section 3.11 states there were no further environmental justice issues identified. The impact area and methods used to evaluate project construction within minority communities are addressed in Section 3.11.2 of the DEIS. For context, the commenter is referred to Sections concerning water quality, socio-economics, cultural resources and human health and safety (Sections 3.27, 3.22, 3.9 and 3.15, respectively). For a consideration of hazardous materials, Section 3.14 is referenced.

3442.006

Assumption#2: Dewatering the river will cause no hazards to those communities along the river.

3442.007

Assumption #3: Where is this list located? There is no available statement with sites, etc of these interrelated cultural social occupational, historical , or economic factors . This is concerning because many of the communities we spoke with and that participated were not contacted about the DEIS. In addition, the scoping concerns that raised similar issues were not addressed in the DEIS.

3442.008

Assumption #4: The DEIS itself is a barrier to understanding the DWP and the impacts it will have on various communities. As stated by this public participation, language, ineffective communication, excessive jargon, and lack of recognition and outreach to those communities that are traditionally identified as minority and low income that will be impacted.

3442.009

#5 Assumption: Public Meetings located in various parts of the city did not establish ongoing dialogues with minority and low-income communities. Most of the scoping questions have not been adequately addressed including these questions:  
"We want to protect our private wells, ditches, fields and values. I want an honest open discussion of the impacts to my neighborhood, its groundwater and way of life before you start this project." (pg. 6)  
"I am very concerned that this project not decrease the availability of irrigation water, especially for small farmers." (pg. 8)  
"What will the effects of this project be on shallow private wells?" (pg. 11)  
"Would like to see results of public scoping meeting; resolution of comments and answers to questions." (pg. 12)  
"South Valley residents want the same quality of life as the rest...we're tired of being the dumping ground. All residents deserve the same quality of life...(we have) a high rate of poverty and minorities there." (pg. 5).

3442.010

Though the city held a series of public meetings to present and refine the location for the WTP, the DEIS does not identify or address any additional Environmental Justice communities or concerns. These measures do not constitute a first step in environmental justice. Restating NEPA requirements is not an analytical discussion that addresses environmental justice. The scoping process, and the map provided (pg. 3-67), raise concerns that the drying river and bosque runs primarily through minority and low-income communities yet it is not identified as an impact area. Scoping statements identify concerns of impact on private wells, culture, and quality of life (Albuquerque Public Meeting 8/23/99 Appendix B) yet these concerns are not addressed anywhere in the DEIS. They should be fully addressed in the Environmental Justice Section.

3442.011

The DEIS Appendices also notes that: "**Effects of Residential Wells: Concerns were recorded during the scoping meeting, though not addresses in city materials, City materials should be provided to answer this question, as well as related issues on land subsidence. This is a major concern to all residents.**" (pg. 3). There is no information provided about the impact on private wells, neither in the construction area

Response to Comment 3442.006 The proposed project does not dewater the river. For an explanation of the project hydrology and curtailment strategy, and project operations, please refer to Sections 3.16, and 2.5 and Appendix L.

Response to Comment 3442.007 The list of environmental justice concerns raised at the public scoping meetings were provided in Appendices B, C and D. Specific locations of cultural resources, historical buildings and related resources were provided within Section 3.9 (Cultural Resources). Exact scoping concerns were identified and addressed within the DEIS (refer to response to comment 3442.003). Minority populations were mapped, and temporary water line (potable water) construction impacts assessed. Consultation, coordination, and public outreach efforts are detailed within Section 4 in the DEIS. Public announcements were made through local media for each meeting.

Response to Comment 3442.008 The DEIS was prepared in accordance with CEQ and Bureau of Reclamation guidance. Results of the scoping meetings and other public meetings are presented within Appendices and Section 4. The language used, wherever possible, is non-technical, and a list of acronyms/abbreviations is provided, as is an index. When specific, substantive comments regarding examples of improper language, grammar, or excessive jargon are received, corrections will be made to the final document.

Response to Comment 3442.009 - .011 ON NEXT 3 PAGES

Response to Comment 3442.009 Dialogues and minority involvement were established by the outreach programs and public scoping opportunities (Appendix B, C and D). There is no disproportionate impact upon minority populations or communities from an improved, more reliable, and sustainable water resources project for the City. The purpose of the project (Section 1) is protection of the aquifer and establishment of this water supply for all the citizens of Albuquerque, as reflected by the adoption of the strategy by the City Council. We believe the questions identified by the commenter have been addressed within the document, and appropriate locations within the document are presented below. The purpose of the project is protection of Albuquerque ground water resources (Section 1 and Section 2.2). Water rights of others, including wells, are protected by state law, and cannot be altered. The City must acquire a diversion permit from the state (Section 3.16, Appendix L, and Section 2.4). Water rights of others, including wells and irrigation water rights, are protected by state law, and cannot be altered. The City must acquire a diversion permit from the state (Section 3.6, Appendix L, Sections 2.4 and 2.5, and Table 1.1-1). The Middle Rio Grande Conservancy District (see comment letter 3440), has determined that the Rio Grande will benefit from the proposed project. Water rights of others, including wells and irrigation water rights, are protected by state law and cannot be altered. The City must acquire a diversion permit from the state (see above paragraph). Private wells that are properly permitted and identified are not impacted by the project, indeed, the project would help protect the aquifers in the Albuquerque area (Section 3.16 and Appendix L). Scoping questions and concerns are presented in Appendices B, C and D and Section 1, where an overview is given. Each concern is again raised within each individual resource area, where actual impacts after mitigation, if any, are presented.

Response to Comment 3442.010 The public involvement process has solicited and responded to minority concerns through public scoping and alternatives selection workshops, in addition to a preferred alternative workshop. These efforts represent the first steps in the process of obtaining minority and other public input. Five additional public meetings were held during January and February 2001 to gain further input and comment on DWP alternatives. Dates and locations are presented within Section 4 of the DEIS. Inter agency workgroup meetings were held from January 1999 through March 2001. Environmental and public interest groups were provided the minutes of these meetings, regardless of attendance. The City maintains a web site for water resources projects and related public and government meetings. Please refer to Section 4 and pertinent DEIS appendices B,C, and D and Section 3.11. The analytical process is described within 3.11. Please refer to the response to comments 3442.009 for discussion related to specific scoping questions. The river does not dry as a result of this project. Hydrologic effects are detailed within Section 3.16 and Appendix L. The riparian zone, after mitigation, is not impacted for recreational or agricultural uses of the river or the bosque. Water rights can not be impacted in order for the City to secure a diversion permit. The hydrology is related to the Environmental Justice section through context, and if there are no hydrologic impacts that could affect any environmental justice concerns (quality of life, recreation, farming, or other resource areas or concerns), then there are, by way of extension, no impacts upon environmental justice concerns. The action required and completed for each scoping issue is presented within the scoping appendices (B, C and D). Then the reader can follow the action by referring to the appropriate section of the DEIS. Private wells can not be impacted by the project in order to obtain the necessary diversion permit from the state engineer. Appendix L, the hydrology report, addresses water rights issues.

Response to Comment 3442.011 Residential wells are not impacted by the proposed project, and text has been added to indicate this (Section 3.16.3); indeed, ground water resources of the basin will be protected, and slightly improved, over time, with the project (Section 3.16, Section 1 and Appendix L). The established water rights of others can not be impacted under state law. The City must prove this in order to acquire a diversion permit. There is some impact to the shallow water within the bosque associated with the implementation of the Subsurface Alternative (Section 3.16, Figures 3.16-20 and 3.16-21); however, there are no shallow residential wells in the bosque. The effects to vegetation and the appropriate mitigation measures to the vegetation are considered in Section 3.21 (Riparian).

or in the extended "project area" which includes poorer communities that include Native American, Hispano, Black and poor Anglo communities. This does not reassure the minority and low-income participants that there is a sincere commitment to Environmental Justice and the NEPA process. These actions disproportionately impact low-income and minority communities.

3442.012

Public Participation has been superficially addressed. This document is "uninclusive and therefore inconclusive by design. The burden of the proof falls on the citizen as is in this case." Frances Ortega.

3442.013

Environmental Justice impacts appear to have been dismissed in the DEIS because of the Chapel Road WTP location was settled and the only EJ concern. As supported through the scoping questions and additional testimony below, minority communities and land-based people continue to identify with traditional cultural and spiritual use of the river and the plants grown as a part of the habitat are used regularly by residents, occupational concerns from small farmers. "We have communities that continue to farm herbs along the river banks that have been used for centuries. Undue drying of the river will only damage those critical areas." **Sylvia Ledesma, Kalpuli Itzkalli.**

3442.014

**There should be no taking native water.**

There is strong agreement among the group that there should be no taking of 47 k af native water a year from the Rio Grande. With the high potential of a 10 year drought, reducing water flows add unnecessary stress to the river imposing negative impacts on the Rio Grande Valley and the communities who depend on the river for cultural, spiritual and occupational sustenance. There is no option to take native water from the river and return it as effluent at any point in the river. The waste water effluent does not match the quality native water carries in its native flow. Native water is continuously degraded by northern Waste Water Treatment Plants. A decrease in the native river flows will negatively impact the quality of river water, the quality of crops and quality of life along the Rio Grande. The only alternative is not taking any additional native water from the Rio Grande. This action of dewatering the river disproportionately impacts minority and low-income communities causing environmental injustices.

3442.015

**Historical and Cultural Practices:**

The drying of the river will impact the spiritual and cultural practices of the agricultural communities in the North and South Valley. It is well documented that in these agricultural communities we have maintained historical and traditional water ceremonies from the town of Bernalillo to Sandia, the North Valley's San Isidro Church to the Holy Family Church, on to Los Padillas and to Isleta Pueblo. Each community celebrates the annual San Isidro (patron saint of the farmer) and the traditional blessing of the waters. Many of the agricultural communities continue to gather and hold processions to the acequias and the Rio Grande. In specific areas, the flowers and plants are blessed and recognized as sacred and used in purification. Groups of sacred dancers gather to dance and pray over the water for healthy crops and herbs for the year. Traditionally gathered *yervas* (herbs) are already going extinct where ditches are drying and drought conditions exist. It is already difficult when nature plays a role in harsh dry seasons, yet we

Response to Comment 3442.012 Substantial public involvement and outreach has occurred. The extensive public participation process prior to NEPA, development of the City Council approved Water Resources Management Strategy, NEPA scoping requirements, and other components are detailed within Section 1, 2, and 4, and Appendices B, C and D and other appendices. The public information program continues (Section 4.6). Each scoping issue raised in a public forum has been addressed; if not directly within Section 3.11, then within another resource category. Particularly within sections pertaining to hydrology, human health and safety, water quality, socio-economics and cultural resources are analyses of those resources that could be of concern to minority individuals or communities.

Response to Comment 3442.013 Potential ground water effects upon flood plain and riparian conditions were evaluated in the DEIS. The proposed action does not dry the river. Environmental justice concerns are addressed in Section 3.11.

Response to Comment 3442.014 Please see General Response to Comments 8. Water Quality. The proposed project does not dry the river (please see curtailment strategies described within Section 3.16). Water quality effects were assessed in Section 3.27 (Water Quality).

Response to Comment 3442.015 The action alternatives do not dry the river, significantly impact water quality, or deter the application of water rights by other users (See Section 3.16). Cultural and traditional uses of the river and river bank areas within the area of diversion to return would not be impacted, as the City does not dry the river, impact water quality, or prohibit current agricultural activities. Effects upon riparian plants and mitigation measures are discussed within Section 3.21 and Appendix O.



3442.015  
(Cont)

continue to gather, and harvest, herbs for healing and ceremonial use. This is especially true for *yerba del manzo*, other wise known as "swamp root" in English. This root is harvested in the fall for it's medicinal purposes and used traditionally for strengthening the immune system. Withdrawing native water from the river threatens the existence of herbs drying before harvesting. In our tradition, baptisms and marriage ceremonies are also held by the rivers, we often get into the rivers for these reasons, just as pueblo's have for centuries. Sweat lodge ceremonies use willow harvests by the river for ceremonial uses the drying of the river will impact the quality of the harvest. Sweats are a ceremony for spiritual purification and cleansing that is held regularly throughout the year, it is symbolic of spiritual rebirthing." **Sylvia Ledesma**, Coordinator of Kalpuli Itzkalli: A resource community to protect preserve and promote cultural and traditional practices.

3442.016

**Pipelines, Growth and Culture:**

"The Petroglyph National Monument will be environmentally impacted by the proposed project stated in the DEIS by the City of Albuquerque. The Petroglyph National Monument is an area that regional Indian Pueblos regard as a place of important religious and spiritual significance. The Petroglyph area has been publicly recognized as a sacred site. Especially, if the City of Albuquerque constructs a pipeline through the escarpment and surrounding area will damage the integrity of the area. NPS must be notified of proposed projects stated in the DEIS." **Sage Council.**

We request that the State Historic Preservation office in Santa Fe determine a traditional and cultural properties assessment for the LA 1323366 site on the west side private lands at a level 3 survey to determine its status as a preservation site.

3442.017

**EJ and Waste Water Treatment:**

"Taking as true that the city will somehow increase its wastewater, processing rate from 46.0% at present to 50.0% [47,000 of 94,000 acre feet of annual use], where will this wastewater processing take place? The South Valley plant is at capacity and in some cases is operating in excess of its rated capacity. **Andrew Lopez.** This is an ongoing concern for South Valley residents that have raised Environmental Justice challenges. These actions disproportionately impact minority and low-income communities in the South Valley.

3442.018

**Socio Economics:**

The DEIS does not identify the financial impact of cost and benefit on taxpayers. It needs to be determined who will benefit and who will carry the financial burden? Also, the DEIS has not identified the impact on local agriculture or the time line as to when the construction, repairs and maintenance will be scheduled and for how long. This is also an Environmental Justice question and has been totally ignored in the DEIS. These actions disproportionately impact minority and low-income communities that are affected.

3442.019

**Water quality:**

"The DEIS does not clarify if the minimal proposed flow of 70 cfs will suffice to dilute effluent at the waste water treatment plant in the South Valley to meet Isleta water quality

Response to Comment 3442.016 The proposed project would not impact Petroglyph National Monument. The project does tie in to existing water lines, and figures (Figure 2.5-9 and 3.25-1) have been corrected to reflect this. There is no construction, or any other activity, proposed on or through the Monument. The State Historic Preservation Office (SHPO) has issued a concurrence letter supporting the findings of the cultural resources survey report (see Appendix G). SHPO may or may not change the status of site LA 1323366. The project will avoid this site. Please see Section 2 Description of Alternatives and Appendix K for descriptions of additional potential line alternatives.

Response to Comment 3442.017 Wastewater treatment will take place at the SWRP. The report "River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project" (Thomson and Chwirka, 2002), indicates the City would not degrade water quality, nor will the proposed project impact the capacity of the wastewater treatment plant. There are no negative impacts to river water quality, effluent is slightly improved, and plant operations or capacity are not altered as a result of the proposed project. See Section 3.27 of the DEIS.

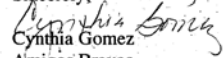
Response to Comment 3442.018 The AWRMS was implemented by action of the Albuquerque City Council, and the Drinking Water Project is one aspect of that strategy. The citizens' advisory group, providing some oversight of the strategy, contains minority and women representation. Water rates were approved by the Albuquerque City Council. These considerations are discussed in Section 3.22 of the DEIS. There would be some positive benefit from construction jobs and a small increase in permanent jobs related to the project. All City rate payers pay for the project and all rate payers receive the benefits from the project. There are no impacts upon local agriculture as existing water rights cannot be impacted, the river would not dry as a result of the project, nor is water quality impacted. Time lines for construction, repairs and maintenance would depend upon contract documents, weather, design requirements, funding cycles, equipment manufacturer requirements, mitigation measures, permit requirements and other factors. See Section 3.22 of the DEIS.


Response to Comment 3442.019 on next page.


3442.020

standards. Nor does it identify how the project determines when the SJC water will be withdrawn. Water quality is critical throughout the river in determining the health and quality of plants and crops used for human consumption and should not be degraded." Amigos Bravos, **Cynthia Gomez**.

In addition to the comments and concerns noted, the citizen's Review Committee does not have a high degree of confidence that the author of this document thus far has included a sufficient degree of public input according to the NEPA process. As concerned citizens we challenge the hearing process because those people being most affected will be disproportionately impacted by an incomplete EIS and hearing process.


Sincerely,  
  
Cynthia Gomez  
Amigos Bravos  
925 Sixth Street NW Suite 10  
Albuquerque, NM 87102

Sylvia Ledesma   
Coordinator  
Kalpuli Itzkalli  
1028 Ann Avenue SW.  
Albuquerque, NM 87105

Sofia Martinez   
CAMBIO  
Albuquerque, NM

Sage Council  
PO Box 82086  
Albuquerque, NM

Frances Ortega   
Albuquerque, New Mexico

Maceo Carrillo Martine   
Albuquerque, New Mexico

Cc: Kalpuli Itzkalli, Adobe Acres Neighborhood Association; Mountain View Neighborhood Association; 19 Pueblos, SAGE Council; CAMBIO; Southwest Research Center; Amigos Bravos; Andrew Lopez; Alliance for the Rio Grande Heritage; City Council Members,

Response to Comment 3442.019 Please see General Response to Comments 8. Water Quality. The project does not degrade water quality from the point of diversion to the wastewater return, and actually improves the river water quality by releasing less total dissolved solids (TDS) and arsenic, as discussed in (Thomson and Chwirka, 2002) and Section 3.27. The operations of the project are discussed within Sections 2.5, 3.16 and Appendix L of the DEIS. The MRGCD has indicated the project would improve the river. There would be no impacts upon agricultural users (see comment letter 3440). There may be temporary increases in turbidity downstream of instream construction sites.

Response to Comment 3442.020 Public involvement has been on-going since 1995, during the early formulation steps of the AWRMS. NEPA scoping processes were planned, advertised and conducted in strict accordance with CEQ and Bureau of Reclamation regulations and requirements. Scoping meeting programs and reports are contained within Appendices B, C and D of the DEIS. Three public hearings were held and the comment period was extended. In addition, five other public meetings were held throughout Albuquerque in January and February 2001 to gain public input and comment on the alternatives. The City maintains a public information web site. An alternative screening workshop was held March 21, 2000. A preferred alternative workshop was held on April 20, 2001. Eighteen interagency workgroup meetings were held, with agencies, environmental groups and other groups attending and participating. See Section 4 of the DEIS.

September 12, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette NW, Suite 1313  
Albuquerque, NM 87102

Via Mail and E-Mail ([lrobertson@uc.usbr.gov](mailto:lrobertson@uc.usbr.gov))

Dear Ms. Robertson:

This letter contains comments on the Bureau of Reclamation's (BOR) Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project, submitted by the following members of the Alliance for the Rio Grande Heritage ("Alliance"), a coalition of local, regional and national conservation organizations - Amigos Bravos, Defenders of Wildlife, Forest Guardians, National Audubon Society of New Mexico, National Parks Conservation Association, New Mexico Public Interest Research Group, Rio Grande Restoration, Rio Grande/Rio Bravo Basin Coalition, Southwest Environmental Center, Sierra Club, and World Wildlife Fund, representing over 1 million members and supporters, including approximately 14,000 in New Mexico - and the Sage Council.

3443.001

The Alliance understands and applauds the City's recognition of its need to move away from mining the aquifer. Unfortunately, the City has missed a rare opportunity to implement an innovative program to reduce water use, implement conjunctive use and preserve the aquifer and river, all while realizing its SJC investment. This DEIS is a reflection of that. This DEIS does not satisfy the intent or requirements of NEPA. It also raises serious questions about the project's SDWA, CWA, and ESA compliance.

3443.002

The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 *et seq.*, is "our basic national charter for protection of the environment," 40 C.F.R. § 1500.1(a). NEPA's purpose is twofold: "promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man," 42 U.S.C. § 4321, and "help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore and enhance the environment." 40 C.F.R. § 1500.1(c). Congress thus required the preparation and circulation for public review and comment a detailed environmental impact statement (EIS) prior to any major federal action that may have a significant effect on the environment. 42 U.S.C. § 4332(2)(C). Only in this way, Congress concluded, would an agency elevate the consideration of the environmental effects of its proposed actions to the same level as other, more traditional, factors. See *Foundation for North American Wild Sheep v. U.S. Dept. of Agriculture*, 681 F.2d 1172, 1177 (9<sup>th</sup> Cir. 1982).

3443.003

This DEIS falls short of NEPA's goals - it reflects neither a focus on the environmental effects of the action nor a decision based on understanding these effects. Therefore, BOR and the City of Albuquerque must draft and distribute a supplemental DEIS to correct the numerous

Response to Comment 3443.001 Comment noted. The DEIS fully complies with NEPA as set forth fully in the document, the DWP complies with all applicable federal laws including the SDWA, the CWA and the ESA. See DEIS Sections 1,2 and 3. The SDWA is complied with through operation of the surface water treatment plant. The project will obtain a 404 permit under the CWA and operate in continued compliance with the City's NPDES permit. The City has a new conservation strategy which is discussed in Section 2. Finally, the project is undergoing section 7 consultation under the ESA.

Response to Comment 3443.002 Comment noted. The DEIS fully complies with the authority cited.

Response to Comment 3443.003 Comment noted. A supplemental DEIS is not necessary because the DEIS represents a thorough analysis of the proposed action and alternatives. The proposed action and alternatives are described at pages 2-1 through 2-67; the affected environment and environmental baseline are described and analyzed at pages 3-1 through 3-307 and the environmental impacts are described and analyzed at pages 3-24 through 3-307 (DEIS). Based on these analyses, the proposed mitigation measures and conclusions are supported and sound.

3443.003 (Cont)	<p>deficiencies noted in the comments below. These flaws, omissions, and incorrect analyses render it impossible for the reader, and for the action agency, to take a hard look at the environmental impacts of the proposed action, and require revision and supplementation of the DEIS. Such deficiencies include: inadequate development and description of the proposed action and alternatives, inadequate and incorrect description of the affected environment and environmental baseline, incomplete analysis of environmental impacts, unsupported conclusions, and unsound mitigation measures.</p>	<p>Response to Comment 3443.004 The DEIS fully analyzes the direct, indirect and cumulative effects of the proposed action in sections 3.5 through 3.30 and the Hydrology Report, Appendix L.</p>
3443.004	<p>The City of Albuquerque Drinking Water Project DEIS fails to satisfy both the spirit and letter of NEPA. Of its many failures, oversights and inadequacies, none is more egregious than its failure to meet the federal lead agency's fundamental responsibility to give appropriate consideration to the direct, indirect and cumulative effects of this proposed action: the diversion from the Rio Grande of 94,000 af of water, at a near-constant rate of 130 cfs. <i>"All agencies of the Federal Government shall identify and develop methods and procedures ...which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations."</i> 42 U.S.C. § 4331.</p>	<p>Response to Comment 3443.005 The environmental and hydrologic setting of the Rio Grande is described from pages 3-1 through 3-24 (DEIS). The importance of the river and associated aquifers to Albuquerque and its citizens is provided in Section 1 (Purpose and Need). Economic, ecological and cultural importance of the river, and associated environments and eco-systems are never "undervalued", and are in fact carefully presented within the previously mentioned sections, and each specific resource category, which was identified as important through scoping or another mechanism. Each resource category also includes an environmental description. Risks to the river have been assessed by the DEIS in its entirety, a hydrologic report, extensive hydrologic modeling, a cultural resources survey and report, a biological assessment and numerous other studies, reviews and all the associated work associated with NEPA and dozens of other permit requirements. See Section 4 and the appendices for these discussions. Of note, the agency responsible for water service to agriculture in the Middle Reach has determined that the project will help the river, the cultural resource survey and report have been approved by the New Mexico SHPO and the biological assessment is ongoing.</p>
3443.005	<p><b>1. The DEIS undervalues the Rio Grande's role as the central ecological feature of the region and its status as an irreplaceable and highly threatened resource.</b> The DEIS effectively disregards the economic, ecological and cultural importance of the river and has failed to identify and study the widely accepted need for protection, restoration and enhancement of the river. Although much is at stake, the analysis fails to adequately acknowledge the risks to the river posed by the DWP.</p> <ul style="list-style-type: none"> <li>● The Rio Grande has long provided a supply of water to irrigate agricultural crops; nearly 190,000 acres are irrigated from the river, in and below the City of Albuquerque. Its flows are critical in maintaining this most important human economy.</li> <li>● For perhaps 1000 years, the Rio Grande has provided spiritual sustenance and renewal. It continues to hold great cultural meaning for Native Americans and other residents of the region.</li> <li>● From time immemorial, the Rio Grande has been the essential element of an ecosystem upon which literally thousands of life forms, including humans, depend.</li> </ul>	<p>Response to Comment 3443.006 The DEIS fully analyzes the effects of the proposed action.</p>
3443.006	<p>There is ample evidence that water withdrawals at <b>present</b> rates are disassembling the river ecosystem. The Rio Grande has been so extensively dammed, channelized and diverted, that it is now widely recognized as one of the United States' most endangered rivers. The water provided by the Rio Grande is actually subject to an excess of legal claims. It often runs dry, due to over-diversion, at certain times and places. In consequence, a number of native aquatic and avian species have been extirpated from the Rio Grande in recent decades, and two are now listed as federal endangered species. With the Rio Grande silvery minnow at the brink of extinction, it is at least conceivable that the proposed withdrawals may constitute a "final straw" for a federally protected species. Instead of concerning itself with the tenuous condition of the river, the document seeks to convince the reviewer that the project is essentially benign, a dubious</p>	

conclusion indeed.

3443.007

**2. The DEIS misrepresents the depletion effects of the proposed DWP on the Rio Grande.** In constructing its environmental baseline, the DEIS distorts the underlying hydrologic condition of the river by subtracting the City's San Juan-Chama water from the record of flows. As a result, the validity of its hydrologic, biologic, geomorphologic analyses become highly questionable, as does the document's conclusion that there are no significant risks from the depletion of so much of the river's flow. With the baseline condition thus misrepresented, the DWP impacts have necessarily been underestimated. The document cannot, and does not, fairly analyze alternatives to the diversion (including "no action"), nor can it suggest appropriate mitigation. Neither agency should finalize this EIS until this misleading assumption is corrected and a re-analysis conducted.

3443.008

**3. The DEIS does not analyze a full range of alternatives.** For example, an aggressive water conservation program would be a reasonable, technically feasible (and likely lower cost) alternative for providing much of the 50,000 acre feet of water the DWP proposes to develop. Other southwestern cities, through education and pricing incentives, have reduced per capita water use into the 150 gallons per capita per day range. Were Albuquerque to reduce its water consumption to such levels, it would save as much as 26% of its present demand for water, producing nearly as much water as would the DWP. Yet, the DEIS gives scant consideration, and no explicit analysis to a water conservation alternative to the proposed river diversion. Likewise, aquifer recharge options and the 32 project alternatives which the DEIS purports to analyze are presented without the providing the underlying data and scientific methodology which would allow the document's reviewers to reach their own conclusions of how the DWP might best "prevent or eliminate damage to the environment".

3443.009

**4. The DEIS fails to consider cumulative effects which are linked to the DWP.** The contemporaneous actions of other San Juan-Chama contractors (Town of Taos/Taos Pueblo, City of Espanola, City/County of Santa Fe and Las Campanas have recently initiated SJC diversion projects) must be considered. These are clearly linked to the DWP, but the DEIS fails to analyze these, either cumulatively or individually. Similarly, the significant effects on the river of pumping present and future water wells in the project area (including City of Albuquerque's own pumping) are linked to the DWP, but not analyzed. Effects from both categories of diversion would very likely be amplified by the DWP proposal, with which they share a source and purpose. It is highly significant that the only section of the DEIS which attempts to portray DWP cumulative effects with other projects (Table 3.30-5), demonstrates its less-than-rigorous analysis, through the use of simple "plusses" and "minuses" which do not provide the reviewer with any quantitative or qualitative analysis, and call into serious question its conclusions about the project's role in increasing depletion of the river.

Response to Comment 3443.007 Please see General Response to Comments 3. Baseline Hydrology. The baseline conditions are described using existing information. The No Action alternative which is outlined in section 2.4 outlines the reasons for establishment of the appropriate hydrologic baseline.

Response to Comment 3443.008 Please see General Response to Comments 1. Alternatives. Numerous alternatives were evaluated using several methods, (Section 2.3 of DEIS) as listed within the DEIS and the numerous references listed within the DEIS. Water conservation alone will not meet the goals of the City Council approved AWRMS (DEIS, page 1-10) purpose and need of the proposed project action. Ground water development with conservation was considered as alternative GW-1 described in Table 2.2-1, page 2-9 of the DEIS. Ground water pumping at an unacceptable level would still be maintained. The protection of the aquifer is vital to the long term water requirements of Albuquerque. The methods used to evaluate alternatives are detailed within CH2M Hill 1997a and 1997b, as provided within the references listed. The scores for the nine alternatives presented at a public workshop in March, 2000 are provided within Table 2.3-3 of the DEIS. Water conservation is an aspect of the action alternatives and the no action alternative. The City implemented a water conservation goal of 175 gpcd to be reached by 2005. The 175 gpcd goal has been modified to include an enhanced goal of 150 gpcd by 2014.

Response to Comment 3443.009 and .010 ON NEXT PAGE

3443.010

We suggest that the preceding paragraphs identify only a few potentially fatal flaws in the DEIS. To assist the deciding officer in securing an adequate analysis of the project's impacts, the following section critiques other significant shortcomings in the document and poses important questions which the document fails to answer.

Response to Comment 3443.009 Cumulative effects were considered for all resource areas. In this case, the resource areas analyzed in detail were hydrology, riparian areas and the Rio Grande silvery minnow. The analysis looked for additive or interactive effects, as discussed thoroughly in Section 3.30. Effects from other users, including other San Juan – Chama users, were considered in the hydrologic analysis and baseline determinations. Cumulative effects for the resource areas were evaluated after mitigation is in force, and are net effects. The analysis of cumulative effects used the analysis of each resource area within Section 3 (3-16, 21 and 24), and then places the effects (or no effect) in the context of impacted area and then made a determination of a positive, negative or no effect from the past, planned or known future projects that could cause a cumulative effect. An inventory of past, present and future projects is included within the section on cumulative effects. Actions by others were included. Tables 3.30-2 through 3.30-7 have been modified to include a description of analysis for each area. Other projects are not in place and will undergo their own NEPA evaluation.

Response to Comment 3443.010 Each comment is responded to and if appropriate, the final document reflects changes resultant from the response to comments.

**Purpose and Need**

3443.011

The purpose of the proposed project, the DWP, is to "provide a sustainable water supply" for Albuquerque (1-9). If this is true, then no alternatives for implementing the DWP satisfy this intent.<sup>1</sup> The DEIS contains the facts showing such, but does not interpret them to have any effect on the effectiveness of the alternatives. For example, with implementation of any DWP alternative, aquifer mining will resume in 2024. Aquifer storage and recharge will cease within the first 5-10 years of the project. New sources of water will be needed by 2040 (1-10). The DEIS misleads the reader to believe that the diversion of surface water is by definition sustainable, and by extension, that such diversion will protect the aquifer (because present use is not sustainable). Only the parenthetical statement is true. Both sources are renewable, Albuquerque's use is not sustainable. As such, Albuquerque's use must be the primary target in devising a sustainable water supply.

This fundamental disconnect is most clearly revealed in rejecting the No Action alternative because it "would also have potentially long-term socioeconomic consequences because it would not address the AWRMS objectives of reducing the City's reliance on decreasing supplies of potable ground water and creating a ground-water drought reserve" (3-198). This statement could just as easily apply to all alternatives because in 2060, the City foresees that we will again be pumping as much groundwater as we are today while also consuming SJC water. At that same time, there will be no foreseeable additional potable water supplies and certainly no groundwater reserve. A reserve is put aside or held for future need – an aquifer that we pump even as we utilize surface water is not a reserve.

**Scope**

3443.012

The scope of this EIS is too narrow. According to CEQ regulations, actions should be considered in a single EIS if they are connected, cumulative, or similar. 40 C.F.R. § 1508.25. In this case, the DWP, the North I-25 project, and the Non-Potable project are all three. They are connected because they are "interdependent parts of a larger action and depend on the larger action for their justification," cumulative because "when viewed with other proposed actions have cumulatively significant impacts," and similar because "when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together." Id.

<sup>1</sup> As a result, none of the alternatives are truly reasonable within the meaning of CEQ regulations, see 40 C.F.R. § 1502.14, because they do not fulfill the purpose and need of the proposed action. See City of Alexandria, Va v. Slater, 198 F.3d 862, 867 (D.C. Cir. 1999).

Response to Comment 3443.011 Albuquerque's current use of ground water is not sustainable because it is mining the aquifer in a manner which by definition is drawing on a non-renewable resource - i.e. more is taken out than can be replaced through natural processes. The focus of the DWP is conjunctive use to provide a sustainable supply through use of renewable surface water and use of ground water in a manner which allows recharge of the aquifer. Additionally, a focus of the AWRMS, and specifically the DWP as embodied in the action alternatives, is reduced usage through a target goal of 40 percent reduction over 20 years. The text in Section 1 has been amended to clarify this. The City implemented a water conservation goal of 175 gpcd to be reached by 2005. The 175 gpcd goal has been modified to include an enhanced goal of 150 gpcd by 2014. With the new water conservation goal, no new water is needed under 150 gpcd.

Response to Comment 3443.012 The effects analysis assumes the existence of the referenced projects and thus any cumulative impact is accounted for. See Section 3.30, pages 3-295 through 3-306 of the DEIS. These projects also involved separate NEPA analysis.

3443.012  
(Cont)

All three projects are integral to the AWRMS and depend on it for their existence. As part of the AWRMS, all three aim to reduce groundwater pumping and will take place in the same region of the river, and are thus similar. See *Churchill County v. Norton*, 276 F.3d 1060, 1077 (9<sup>th</sup> Cir. 2001) (calling for a single EIS when "projects in a particular geographic region are foreseeable and similar"). The DEIS's own methodology for determining cumulative impacts comes close to acknowledging this NEPA issue by first evaluating impacts of the DWP in conjunction with recent City projects (3-295).

#### Development & Description of the Alternatives

3443.013

On the whole, the alternatives section is sorely lacking. First, the narrative on public involvement characterizes the AWRMS as going through much public involvement, yet the concept of a diversion dam – the preferred alternative – was never before the public. Second, the description of the alternatives leaves the reader with little sense of day-to-day, or even year-to-year, operation of the No Action alternative or the Angostura, Paseo del Norte, and Subsurface Diversion alternatives (collectively "DWP alternatives"). Without this basic information, there cannot be a comparison of the alternatives by the reader or BOR. See 40 C.F.R. § 1502.14. Third, the range of alternatives is narrow and shortsighted.

3443.014

*Formulation of Alternatives* The construction of a new surface diversion on the Rio Grande is a controversial aspect of this project. During public hearings on this DEIS, numerous citizens questioned the need for a dam in the river. At a time when more dams are being torn down than constructed, this alternative is crude and regressive. See *63 Dams Slated for Removal in 2002*, ENS, July 23, 2002. Given the questionable value of a dam, the process used to arrive at that decision is important.

The DEIS states that the City initially had 32 alternatives for use of its SJC water. Construction of a dam was not included in that list. In 1997, the City pared the alternatives to a list of 14, which was approved by the City Council as the Albuquerque Water Resources Management Strategy (AWRMS). According to the DEIS, Alternative MC-9 (infiltration galleries) was the highest ranking alternative at that time. Construction of a dam was not included in the AWRMS either. Suddenly, in 2000, there were now eight alternatives and included construction of a new dam. These alternatives also were not presented to the public, but three of them, including the new dam, were, as the alternatives presented here. Therefore, it is not clear how or when "public input" was achieved to whittle the eight alternatives to four, as claimed on p. 2-23, nor how a new dam entered the picture in 2000.

Given the lack of public information and consideration of a new diversion dam, the DEIS should not make broad claims of extensive public involvement or support. What is more important, since the City Council and Mayor approved an AWRMS that did not contemplate constructing a new dam in the river, they must have a renewed role in approving this project, and this role must be made explicit in the supplemental DEIS.

Response to Comment 3443.013 Please see General Response to Comments 1. Alternatives. Day to day operations, while generally comparable to each other, will require different operations and maintenance schedules. While some of this detail is within the alternative descriptions, more is located within the discussion of curtailment operations (Section 3.16), and further details can be located in CH2M Hill 2001c, located in the List of References (Section 5). Table 2.7-1 illustrates all alternatives and evaluated resource categories in one area of the DEIS.

Response to Comment 3443.014 Please see General Response to Comments 1 Alternatives. First public scoping of a surface diversion occurred during the public scoping meetings in September, 1999 (Appendices B,C and D) and the dam was also subject to public involvement processes prior to that. This is also explained in Section 2. Also please see response to comment 3433.013. The diversion dam is one of the three action alternatives presented and analyzed in the DEIS.



3433.015

*Description of Alternatives* Development of alternatives is the heart of the EIS. See 40 C.F.R. § 1502.14. CEQ regulations call on the BOR and City to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated," "[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits," "[i]nclude reasonable alternatives not within the jurisdiction of the lead agency," "[i]nclude the alternative of no action," and "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." *Id.* (emphasis added). Because NEPA has integrated environmental protection into the mission of every federal agency, the BOR and the City must examine a broad range of alternatives. As the CEQ states, "the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative." 46 Fed. Reg. 18026 (March 23, 1981).

3433.016

None of the alternatives were "rigorously explored" or "objectively evaluated," largely due to the absence of critical information. As will be illustrated below, the DEIS: does not provide or evaluate the routine operation and maintenance of each alternatives; improperly defines the baseline in the No Action alternative; skims over important pieces of the DWP alternatives – ASR and water conservation; and presumes the effectiveness of theoretical mitigation measures. It is thus impossible to compare the merits of the alternatives. See e.g., *Calvert Cliffs Coordinating Committee Inc. v. Atomic Energy Comm'n*, 449 F.2d 1109 (D.C. Cir. 1971) (making a reasoned choice requires having information on all possible approaches). Alternatives not discussed in reasonable detail may not withstand judicial review. *Citizens Against Burlington v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).

3433.017

*No Action Alternative* The fundamental flaw in this baseline is the removal of the City's SJC water from No Action baseline (2-31). Loss of this water skews the evaluation of alternatives and impacts since some will reflect the loss of this water, while others will not, casting the project in a deceptively beneficial light. For example, impacts in the hydrology section are not as severe because the loss of approximately 940,000 af over 18 years need not be considered, yet in the water quality section the sampling results benefit from the dilution of that SJC water. In a nutshell, removal of this water reduces all impacts, to the benefit of the DWP.

3433.018

*Three DWP Alternatives* The baseline and the DWP alternatives include the diversion of 3,000 af/yr of SJC water for the Non-Potable Surface Water Project (2-30). Nowhere is this reconciled with the planned DWP diversion of 47,000 af/yr, said to be the City's entire SJC allocation (1-7). This results in a total of 50,000 af/yr. See also App.L, Table E2. The City's proposal and this DEIS must be amended to reflect total City SJC diversions that do not exceed 47,000 af/yr or to explain how both projects are possible within the City's SJC contract.

3433.019

Also, so that the DWP alternatives may be considered in tandem with the No Action alternative, parallel construction dictates that "future legal and other uncertainties" (2-30) (used

Response to Comment 3443.015 Please see General Response to Comments 1. Alternatives. The alternatives development and evaluation process is detailed within Sections 2.2 and 2.3.

Response to Comment 3443.016 Please see General Response to Comments 1. Alternatives and 3. Baseline Hydrology. All three action alternatives and the No Action alternative have been both rigorously explored and objectively evaluated through 26 resource categories, as well as a detailed and public alternative evaluation process (Sections 2 and 3, Draft DEIS). Routine operations and maintenance are detailed within conceptual design reports and other material incorporated by reference. Baseline selection and definition is addressed within alternative descriptions, environmental area descriptions and within hydrologic analysis sections and the hydrologic appendix, Appendix L. Table 2.7-1 lists alternatives and a summation of effects.

Response to Comment 3443.017 Please see General Response to Comments 1. Alternatives and 3. Baseline Hydrology. Please see the response to comment 3443.016. The 940,000 ac-ft over 18 years is not considered an accurate number and does not reflect actual amounts of San Juan-Chama water released downstream.

Response to Comment 3443.018 Please see General Response to Comments 1. Alternatives and 3. Baseline Hydrology. The proposed DWP alternative will consume the City's annual allotment of SJC water except in drought years during times of curtailment. Water for the Non-Potable Surface Water Project will come from storage. This use of the City's SJC water is reflected in Appendix B of Appendix L (Hydrology report).

Response to Comment 3443.019 Please see General Response to Comments 1. Alternatives and 3. Baseline Hydrology. Establishment of a No Action alternative comparative baseline requires what is predictable with reasonable certainty, not hypothetical conjecture regarding every possible and uncertain event. Both the decision (currently on appeal) in *Rio Grande Silvery Minnow v. Keys*, N. Civ 99-1320 JP/RLP and drought conditions were taken into account in the analysis of alternatives. The analysis includes utilizing no San Juan-Chama water, up to 47,000 acre-feet per annum, and a range of curtailment strategies in drought

3443.019  
(Cont)

to justify the removal of the City's SJC water from the baseline) must be considered in the context of the DWP alternatives. For example, the recent decision in Rio Grande Silvery Minnow v. Keys, Civ. No. 99-1320 JP/RLP (concluding that BOR has discretion over deliveries from the SJC Project) was not analyzed for its effect on DWP supplies, nor was a drought like current one.

3443.020

The DWP alternatives lack description of the operation and maintenance of the existing well fields once the DWP diversions begin. In other words, does the total cost (e.g., \$538 million Angostura Alternative) include maintenance of the wells and/or periodic operation of the wells during low flow (curtailment) and high demand (summer peak)? How will the City meet the arsenic standards when groundwater is used as a supplemental or sole water source? What will this cost? Also, why will 91.2 million kWh/yr be required for continued groundwater pumping (3-61)? That represents 79% of current energy needs for groundwater pumping, not reflective of a decreased reliance on groundwater. How was this number arrived at?

3443.021

Each of the DWP alternatives include threshold flows and a curtailment strategy, designed to "ensure DWP diversions do not adversely affect the riverine ecology" (2-46). These flow targets are not based on any scientific data or analysis. A supplemented DEIS must disclose how BOR or the City arrived at these threshold flows and how it was concluded that these flows would not harm the river environment; e.g., what constitutes harm to the river and how do these flows avoid that harm? Given the absence of scientific justification for these flows, the City and Reclamation must develop alternatives that include alternate threshold and curtailment flows. The Alliance suggests examination of higher thresholds.

3443.022

Lastly, the use of threshold flows, curtailment strategy and a bladder dam raises questions about operation of the diversions that must be answered in a revised Section 2 (and not scattered throughout the DEIS, if answered at all). For example:

- Are there/will there be measurement devices above the diversion and at the fishway to ensure the required flows exist? Where precisely will they be located? Who will be monitoring the gages? What is the monitoring plan?
- How long will construction associated with each alternative take? When will it take place?
- When, and to what height, will the Paseo del Norte diversion's bladder dam be lowered? Not until p. 3-43 does the reader learn that the dam will be lowered to about 6 inches for 30-45 days. The Alliance urges the City to contemplate additional occasions for lowering; e.g., during low flows and spawning season.

3443.023

*Aquifer Storage and Recovery (ASR)* Section 2 goes to great lengths to show how thoroughly the City vetted various alternatives, and in 1997 picked MC-9 because it ranked the highest. MC-9 was ranked so high in part because it contains an ASR component. Five years

Response to Comment 3443.020 Please see 3443.102 for a description of As (Arsenic) operational issues. As costs were addressed in Section 3.22. Operation and Maintenance costs are based on average future conditions rather than specific events (curtailment or high summer peaks). Power consumption discussed in the comment are based on 2050 conditions. In 2050, the groundwater demand (pumping) for the DWP alternative is approximately 79 percent of current demand, resulting in an energy requirement close to 79 percent of current energy needs.

Response to Comment 3443.021 Threshold flows are based on engineering requirements to operate, HEC-RAS habitat analysis (Section 3-24), and extensive hydrologic modeling detailed within Section 3.16 and Appendix L. These threshold flows were used to determine project effects to riverine ecology.

Response to Comment 3443.022 Measurement devices will be located above and below the diversion and on the amount diverted from the Rio Grande. For the Paseo del Norte alternative, the locations will be between Alameda on the upstream side and Paseo del Norte on the downstream side of the proposed diversion. The length of time for construction of each alternative is 27 months as described in Section 3.22.3 and the construction is projected to commence following the completion of permitting. As described on page 3-43 of the DEIS, the dam would be lowered to about 6 inches for 30-45 days per year when flows in the Rio Grande are greater than 3,000 cfs.

Response to Comment 3443.023 The ASR component is part of the AWRMS and is included in the analysis and development of the DWP project (Section 1). As the City continues to develop and operate its water resources and serve its water customers, ASR would be further developed and implemented.

3443.023  
(Cont)

later, though, the City cannot present any further development of what remains an idea (2-53). It is pitiful that the City plans a minimal ASR component (10-15 kaf for five years and declining thereafter) when continued groundwater mining is expected as ASR declines. Before the City is allowed to finalize this EIS, it must make a convincing show that ASR is actually planned for the DWP.

3443.024

*Water Conservation* It is unrealistic for the City to assume, and by implication plan for, no further water conservation after 2005. BOR and the City are ignoring the fact that we live in a desert, that this project is not sustainable, that it has a finite lifespan, that in 2040 we will again seek more water, and that by 2060 we will be depleting our SJC water and pumping 100,000 kaf/yr (3-132), close to current rates.

3443.025

Tables E-1 and E-2 in App. L. appear to indicate the City and BOR have equated supply and demand (column 10). Supply and demand cannot be the same, as illustrated post-2040, when additional sources of water will be needed, yet are not known. The City cannot assume the existence of these new, hypothetical supplies, particularly in an arid desert. It is precisely this mindset that assumes this project is sustainable, despite water conservation goals that stop at 175 gpcd, the resumption of aquifer mining in less than 20 years, or the installation of a dam at a time when we are looking at removing others.

3443.026

*Range of Alternatives* The City and BOR must examine a water conservation program because any alternative that fulfills the purpose and need of protecting the aquifer must work on curbing Albuquerque's water use. Had the City and BOR examined this alternative, it would have learned that the region could be entering a decade of severe drought, that Albuquerque has a relatively high consumption rate of water use when compared to other cities in the Southwest, far behind Santa Fe, El Paso, Tucson and San Antonio.<sup>2</sup> If Albuquerque were to attain usage of 140 gpcd, it would save almost 40,000 af/yr over current usage, nearly the amount to be delivered by the SJC Project. Clearly, this is a reasonable alternative, and "[t]he existence of a viable but unexamined alternative renders an environmental statement inadequate." Resources Ltd., Inc. v. Robertson, 35 F.3d 1300, 1307 (9<sup>th</sup> Cir. 1994). See also Dubois v. U.S. Dept. of Agriculture, 102 F.3d 1273, 1287 (1<sup>st</sup> Cir. 1996) (if an agency fails to consider a viable alternative, the EIS will be inadequate); City of Alexandria, 198 F.3d at 867 (an alternative may not be considered "only if it would be reasonable for the agency to conclude that the alternative does not 'bring about the ends of the [ ] action'" ).

3443.027

By providing lackluster descriptions of alternatives, and by eliminating a reasonable alternative, BOR and the City have gone against virtually every mechanism of NEPA that seeks to ensure worthwhile consideration of the environmental effects of the proposed project, Andrus v. Sierra Club, 442 U.S. 347, 350 (1979), and facilitates public input into the decision-making process, Weinberger v. Catholic Action of Hawaii/Peace Education Project, 454 U.S. 139, 143 (1981).

<sup>2</sup> See <http://www.cabq.gov/waterconservation/insert.html>

Response to Comment 3443.024 Please see General Response to Comments 2. Conservation. The City implemented a water conservation goal of 175 gpcd to be reached by 2005. The 175 gpcd goal has been modified to include an enhanced goal of 150 gpcd by 2014.

Response to Comment 3443.025 Figure 1.2-1 shows that with the DWP, the supply will be less than forecast demand. New sources would be required about 2050.

Response to Comment 3443.026 Please see General Responses to Comments 2. Conservation.

Response to Comment 3443.27 Water conservation is an element of all the alternatives, and the City elected to use the 150 gpd as a target for achieving. Moreover, the AWRMS includes substantive conservation goals for the City. However, as the DEIS demonstrates, conservation efforts alone are insufficient to meet demand and avoid sole reliance on the aquifer. See Section 1.3 pages 1-9 through 1-11 in the DEIS.

**Affected Environment / Environmental Consequences**

3443.028

This section must “describe the environment of the area(s) to be affected or created by the alternatives.” 40 C.F.R. § 1502.15. The environmental consequences section of the EIS “forms the scientific and analytic basis” for the comparison of alternatives. *Id.* § 1502.16. *See also id.* § 1502.14 (EIS will “present the environmental impacts of the proposal and the alternatives in comparative form”). This section discusses the direct and indirect effects of the alternatives, the significance of the environmental effects, and the means to mitigate adverse impacts. *Id.* Direct effects are caused by the action and occur at the same time and place, *id.* § 1508.8, and indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” *Id.*

EISs must analyze the "environmental impacts" of proposed actions which include not only the direct and indirect impacts of proposed actions, but also the cumulative impacts of "past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Id.* § 1508.7. *See also id.* § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect or cumulative); *id.* § 1508.25(c) (EIS shall consider three types of impacts, including cumulative effects); *id.* 1508.25(a)(2) (EISs must analyze the effects of actions "which when viewed with other proposed actions have cumulatively significant impacts").

3443.029

This DEIS has incorrectly and inadequately represented the affected environment for nearly every affected resource. Failure to properly describe the existing environment triggers a domino effect that undermines the quality of the DEIS as a whole. Use of faulty baseline data by the City and BOR has led to inaccurate effects analyses across alternatives and resources. As a result, one cannot truly compare the alternatives nor see an reliable account of the cumulative impacts. The Alliance has tried to illustrate the most egregious examples below, so that the City and BOR may correct them in a supplemental DEIS.

3443.030

Additionally, this part of the EIS must investigate the potential for conflict with federal, state, tribal and local land use plans, policies and controls. *Id.* §§ 1502.16(c), 1506.2(d). Failure to consult with the National Park Service regarding the Petroglyph National Monument is a prominent example.

***Aesthetics***

3443.031

Several conclusions are suspect and contradicted by text. For example, the Paseo del Norte Alternative will construct a dam in the Rio Grande. The DEIS admits that this will have "direct effects on aesthetics and visual resources" but claims it will would not block or disrupt existing views (3-29). This is a non sequitur. A dam that can be seen from either the Paseo del

Response to Comment 3443.028 Comment noted. The DEIS adequately addresses the affected environment and the environmental impact of the proposed action.

Response to Comment 3443.029 The description of the affected environment is relevant to the issues. All necessary clarifications are presented in the Final EIS.

Response to Comment 3443.030 The consultation process with other agencies and tribal entities is detailed within Section 4. Seventeen persons from seven separate agencies have been contacted, in addition to those agencies listed within Table 1.1-1, which is concerned with permits and other requirements. The ITA consultation process is detailed within Appendix F. The proposed action does not conflict with Petroglyph National Monument or cross or access the park confines. Potential line alternatives that might enter the park with planned road construction which is not a part of this project is described in Section 3.25 and Appendix K.

Response to comment 3443.031 Text has been revised in the FEIS. An “effect” upon aesthetics or resources does not imply a “significant effect”, nor does it indicate an effect could not be mitigated. The placement of the dam does not mean that an individual view could not be disrupted. The wording in the text indicates this: “The structures would be permanent, and depending upon an individual’s vantage point, would not block or disrupt any existing views”. The construction of a low-head dam, across the river, would be visible, from some areas, particularly from bridges across the river. It could not be placed there, and not be visible from some locations, and during some periods of the year when the dam is up. The dam would not increase visual contrast, especially to automotive traffic on the bridges. (Continued on next page)

3443.031  
(Cont)

Norte or Alameda bridge will disrupt views; the loss of a viewshed *without* a dam is particularly adverse "when considering the present urban landscape" (3-29). Given that these effects will not be mitigated, the conclusion that this project will have no cumulative effects is flawed.

Also, while construction may occur within the Rio Grande Valley State Park, and permanent structures will be placed within it, the action agencies give no consideration to coordinating with the Park superintendents to avoid, minimize or otherwise mitigate for this intrusion. The City must make this effort, and relay its progress in a supplemental DEIS.

*Air Quality*

First, the DEIS fails to lay out all the criteria by which to measure impacts. For example, are there state standards? Are they stricter than federal? (3-30, 3-31) What are the City opacity requirements (3-33)?

The DEIS states NAAQS are not directly enforceable, but neglects to mention that the state implementation plan (SIP) is enforceable. The federal government cannot permit, license or provide financial assistance to an activity that does not comply with the SIP. Also, in areas that are in non-attainment, the EPA must make a conformity determination. The General Conformity Rule thresholds are located at 40 C.F.R. § 93.153(b). Lastly, in contrast to the statement, "only PM<sub>10</sub> is regulated," PM<sub>2.5</sub> is also regulated by the EPA (3-30). In March 2002, the D.C. Circuit rejected the remaining challenges to the 1997 regulation on PM<sub>2.5</sub>. American Trucking Assn. v. EPA, 283 F.3d 355 (D.C. Cir. 2002) The supplemental DEIS must discuss the ROI's compliance with the SIP, the conformity determination, and current measurements of PM<sub>2.5</sub> and the likelihood of compliance with the PM<sub>2.5</sub> standard under all alternatives.

Second, the DEIS inadequately describes the existing environment. This section must state what portions of Albuquerque are in non-attainment for PM NAAQS and the expected impacts of the DWP alternatives. Further, the text should be revised to state the level of non-attainment, whether serious, severe, or extreme (3-31).

Thirdly, the effects analysis is poorly written, reflecting a substandard analysis. In general, the entire section titled "Effects from Action Alternatives," like other sections in the DEIS, is garbled, making it virtually impossible for the reader to make a fair assessment of the DWP. For example, the second paragraph talks only of the Angostura Diversion's raw water conveyance route, yet the third paragraph mentions a "pipeline," then "the conveyance and transmission pipelines," and then the "potable water pipeline" for the other two alternatives (in an incomplete sentence, no less) (3-32). The switch from conveyance routes (presumably raw water) to conveyance and transmission pipelines (presumably raw and potable water) to potable water pipeline gives the reader no sense of what impacts will arise from what activities.

Lastly, there is no discussion regarding the treatment of WTP emissions, simply a statement that it will occur and will not generate objectionable odors (3-33). However, without

(Continued from previous page) The dam would not be visible from residences located near the levees. The dam does not conflict with any local policies or regulations concerning aesthetics. Panoramic views of the mountains, the bosque, or nighttime views of the City lights are not disrupted. The partial view of the river, with a background of some trees and other urban structures, as seen from moving pedestrian and automotive traffic crossing the bridges, is not considered a viewshed. Most existing views from the river and the bosque include buildings, roads, power lines and other structures. Again, this would depend upon exact location and direction one was looking while within the bosque. The project occurs in an urban area, within an urban landscape, thus there is no measurable or definitive contribution to cumulative effects concerning visual resources. The City will coordinate with the Open Space Superintendent during construction of facilities. Open Space personnel that have been consulted and coordinated with during completion of the DEIS are listed in Section 4 of the document, Consultation and Coordination. The City operates and funds the Rio Grande Valley State Park. Text has been revised within Section 3.5 in the FEIS.

Response to Comment 3443.032 The air quality section (Section 3.6) has been revised to include calculations for each alternative, and has a revised affected environment section. Based on the analysis, there is no need for a conformity determination, and the effects are not significant.

3443.032

3443.032  
(Cont)

any examination of the emissions (expected content, before and after treatment), necessary treatment, or of what constitutes objectionable odor, there can be no conclusions regarding odor impacts.

By failing to address the SIP, conformity, PM<sub>2.5</sub>, and by failing to write a coherent analysis of environmental effects that includes emissions from the WTP, the DEIS has flawed conclusions of environmental impact, both direct and cumulative.

*Aquatic Life*

3443.033

Again, the DEIS lacks necessary baseline data, this time of typical river flows, velocities and depths in low flow, and average flows. Drying of the river is a major adverse effect on aquatic life in the river. Therefore, the effects analysis, while it estimates a change in water depth during mean low flow and severe low flow, it does not accompany this information with the typical range of depths in the river. In other words, a reduction in depth of .1 foot or .3 foot may not be significant in river depths of two or 3 feet, but it will be in depths of .3 feet. See 3-41, 3-162.

3443.034

And again, there are several conclusions regarding impacts that do not follow from any analysis in the text. For example, there is no analysis in Section 3.7 to substantiate the statement "River depletions during DWP operations under Paseo del Norte Diversion would not contribute to flow intermittency" (3-43). The DEIS has not stated the typical range from which river depths will be reduced and has not looked at the data on a scale to allow an intermittency determination. Data based on mean monthly flows cannot be relied on to support or contradict an event that happens on a daily basis. The wide variations in flows during periods prone to intermittency can easily mask the low flows.

3443.035

Additional examples of cursory conclusions include assertions that there would be no anticipated changes in water quality (water quality is not evaluated in this section) (3-43) and calculations of impacts on riparian vegetation (No Action alternative (3-38) and the Subsurface diversions (3-44) will both impact 583 acres of riparian vegetation). The former should be deleted and analysis for the latter must be provided.

3443.036

Lastly, in the Summary of Environmental Consequences, the reader is left to compare apples and oranges. First, "[d]irect and indirect effects on aquatic life from construction would be minimal and temporary under all action alternatives," but two sentences later, "[a] total of .2 acres would be permanently lost due to the presence of the bladder dam" (3-44). (Also, if the fishway fails, the total acreage of habitat lost, due to the barrier, is much higher. This impact must also be added to Table 3.17-2.) Also, there is no mention in the Effects Analysis of the potable water pipeline, its effects, or its mitigation.

*Biodiversity*

Response to Comment 3443.033 The data that is requested is given within the DEIS Section 3.16, Hydrology and in Appendix L CH2M Hill Hydrology Report. The river does not dry due to project operations as the project will cease diverting as described in the operational criteria described in the above referenced sections. Additionally, the habitat analysis indicates the amount of habitat available for Rio Grande silvery minnow under low flow conditions (70 cfs). Please see Figure 3.24-4 and the accompanying text. Depth estimates were calculated for Paseo del Norte at low flow, maximum flow and mean flow, and are considered to be representative of other cross-sections in the river. If average depths within the river are 0.3 foot in all areas of the river, and width has been decreased substantially, it is likely those flows preclude the operation of the diversion dam (See Figure 3.16-12 and accompanying text for an explanation of those conditions). The diversion will not operate at or below a combined flow in the river of 130 cfs. Additionally, the habitat analysis indicates the amount of habitat available for Rio Grande silvery minnow under low flow conditions. Please see Figure 3.24-4 and the accompanying text. Depth estimates were calculated for Paseo del Norte at low flow, maximum flow and mean flow, and are considered to be representative of other cross-sections in the river.

Response to Comment 3443.034 Please refer to Section 3-16, specifically Table 3.16-1 and Figure 3.16-2 and accompanying text. On page 3-152 of the DEIS, is a discussion of environmental consequences related to hydrology. Typical river depths are indicated within the cross-section analysis completed at Figures 3.24-1 through 3.24-6.

Response to Comment 3443.035 The reader is referred to a discussion of water quality by introducing Section 3.27 with the revised text on page 3-43 of the DEIS. See also DEIS Section 3.7. The reader is referred to a discussion of Riparian Areas. Section 3.21, with the revised text on pages 3-28 and 3-44 of the DEIS. Analysis of the discussion of both these resource areas (water quality and riparian areas) is completed within pertinent sections of the DEIS.

Response to Comment 3443.036 ON NEXT PAGE

Response to Comment 3443.036 It is important to consider that impacts are measured or assessed after proposed mitigation measures with a total of 0.2 acres of aquatic habitat (space in the river removed), the amount is less than 0.05 percent of the total available within the Subareas. The fishway is a mitigation measure using best available technology, and incorporating on-going research as it becomes available. This mitigation feature would be monitored and appropriate adaptive measure taken if necessary. The water pipeline construction impacts would also be temporary, and subject to fish salvage/rescue and other in-stream mitigation techniques, where the pipeline would cross the river. After construction, there is no further disturbance to the river. Page 3-47 of the DEIS discusses in-river construction mitigation measures (Section 3.7.4).

3443.037

Again, the depiction of baseline conditions is unsound. It is a stretch to say that "most native plant and wildlife species continue to be widespread throughout Middle Rio Grande region" (3-48). 12 of 24 native fish species are extirpated from the region, and 2 are extinct. Another, the Rio Grande silvery minnow, is endangered, reduced to 5% of its historic range and hardly widespread; it is the "only surviving endemic fish species in the Rio Grande in NM" (3-221). Since most of the project impacts will occur in and on the river, this is a glaring omission.

**Energy**

3443.038

Table 3.10-1 misrepresents the energy needs of the alternatives, eliminating any ability to compare alternatives on this basis. Primarily, the No Action alternative's demand is invalid. Earlier, the DEIS stated that an additional 130 wells would be needed to meet future demand (3-55) (the DEIS does not state at what point in the future; the supplemental DEIS must clarify this and the basis for this estimate). This section says, however, again with no future date as a reference, that 130 wells will be needed, but does not clarify whether these are in addition to the 92 already in use (3-61). These 130 wells will require 182 million kWh/yr (3-61). Thus, the energy needs remain a question mark. Will the City need 130 or 222 wells "in the future?" Is the table comparing energy needs for 2006 or sometime in the future? If 2006, energy needs are approx. 116 million kWh/yr; if in the future, then 182 million kWh/yr (if 130 wells are needed) or 298 million kWh/yr (if 222 wells).

3443.039

The Alliance also questions the initial demand estimates for groundwater wells. Earlier we commented on the lack of description of anticipated operation of the well fields once the DWP begins. This includes current and projected need for groundwater pumping while SJC diversions are occurring. Having omitted discussion of the projected levels of groundwater pumping, subsequent analyses cannot reasonably assess the energy needs, costs, construction impacts or other effects related to future groundwater pumping. Therefore, the DEIS cannot plausibly estimate the need for 91.2 million kWh/yr for pumping under the DWP alternatives. As with the No Action alternative's estimates, without any evidence, the reader cannot even determine to what point in the future these estimates apply.

The DEIS has missed additional energy-related effects. First, any energy requirements of the ASR component are not discussed in the text. Its absence from the discussion shows a lack of real will to implement the ASR component. Second, each alternative will result in increased energy production, yet there is no consideration of any indirect impacts on air quality. The impacts analyses must be redone in a supplemental EIS to reflect these comments.

3443.040

**Environmental Justice**

Again, the City and BOR have not defined the baseline. The DEIS concludes that there are no predominantly low income or minority populations in the project area, yet does not inform the reader of how it has defined a minority or low-income population.

Response to Comment 3443.037 Page 3-48 of the DEIS, introducing the affected environment lists Sections 3.21 (Riparian Areas), 3.24 (Threatened and Endangered Species), 3.26 (Upland Areas) and 3.29 (Wildlife) before the statement"... most native and wildlife species continue to be widespread throughout the Middle Rio Grande region." All of these biological resources are considered, and this context is important to understand the description of biodiversity. The minnow is discussed under Biodiversity in Section 3.24, as indicated on Page 3-50 of the DEIS. Stocking of native fish is also introduced in Section 3.8.4, proposed mitigation measures. Extensive analyses of effects upon the RGSM are considered in Section 3.24. Biodiversity was evaluated using the criteria on pages 3-48 and 3-49 in the DEIS.

Response to Comment 3443.038 A total of 130 wells would be required through 2060 to meet demand. Of these, approximately 40 are new wells. In addition, a number of existing wells would require replacement. Power requirements are based on estimated energy demand in approximately 2050. Text has been revised in the FEIS.

Response to Comment 3443.039 Annual estimates of required pumping can be found in Tables E-1 and E-2 of the Hydrology Report. Please note the response to the previous comment. Annual estimates of required pumping can be found in Tables E-1 and E-2 of Appendix L for the No Action and DWP alternatives, respectively. Power costs are based on model predicted lift required. It is anticipated that ASR injection will occur at distribution system pressure, so that energy beyond distributing treated water is not required.

Response to Comment 3443.040 Minority populations were mapped using (BBER) Bureau of Business and Economic Research UNM data. The project was then compared to these tracts (See Figure 3.11-1, Page 3-67) for locations of any project impacts. No transmission line or project feature is planned in an area containing over 50 percent minority population, excluding Angostura Alternative, which crosses Pueblo lands. The only impact to any residential areas is utility construction of an improved potable water line. Use of the "baseline" data, or affected environment data, is introduced by reference to BBER data in Section 3.11.2, Page 3-65 of the DEIS.



*Geology / Hydrology (Subsidence)*

3443.041

Until and unless the reader gets to Sec. 3.16 (Hydrology), there is nothing in this section to back up any of the claims made as to subsidence, yet subsidence is among the criteria examined for adverse effects (3-76). There is no description of what the subsidence is envisioned to look like (fissures, compaction, etc.). In Sec. 3.16 the reader learns the "costs" of envisioned subsidence (\$240 and \$19 million, No Action and DWP) (3-102), but there is no explanation of what these costs contemplate; i.e., what would this money be paying for?

Also, in the analysis of the No Action alternative, the DEIS provides a standard by which to assess impacts (3-115), but provides no assessment. MRGAA guidelines prohibit drawdown in the CMA greater than 250 feet through 2040. Further, the rate of decline cannot exceed 2.75 feet/year outside the CMA. Neither of these standards is addressed. The supplemental DEIS must evaluate whether drawdown under all alternatives will exceed 250 feet by 2040 and whether drawdown rates will exceed 2.75 ft/yr. (Fig. 3.16-10 is insufficient support for the former conclusion because it shows drawdown in the CMA may reach as high as 250 feet in 2040.)

*Hydrology*

3443.042

The inconsistencies, errors, and omissions render this section virtually meaningless. First and foremost is the inability of the drafters to use one rate of release for the alternatives, resulting in a confused document. The simplest calculation -- the City's release and diversion of SJC water for the DWP -- can not be done correctly. In several instances, the release 61 cfs is the basis for analysis. See 3-145, 3-234, 3-260, 3-290, 3-293. In several other examples, 65 cfs. See 3-41, 3-41, 3-113, 3-116, 3-131, 3-154, 3-157, 3-158, 3-162, 3-163, 3-180, 3-189, 3-262, 3-284, 3-293. Even 60 cfs was used. See 3-116.

3443.043

This example of careless work or deliberate obfuscation resonates throughout the DEIS. It calls into question the true amount of SJC and native water that the City plans to divert. It impairs the reliability of the effects analyses for hydrology, fisheries, threatened and endangered species, riparian resources, and water quality, to name a few. Put plainly, it looks bad. These errors must be rectified in a supplemental DEIS.

3443.044

The City proposes to divert SJC and native water, while continuing to pump groundwater, yet several omits several pertinent issues in its water supply overview. For example, the DEIS does not, and must in a supplemental DEIS, make explicit the priority dates of the City's water (ground and surface) rights (vested and acquired). Though not stated in the DEIS, the City's water rights are junior to most, if not all, other water users -- particularly those downstream. The DEIS must discuss when and why the City would not be able to use its rights to offset river depletions (e.g., during low flow or priority call, when Compact compliance in question), and the City's plans for water supply during such events.

In addition to the incorrect baseline, the DWP alternatives are based on a series of

Response to Comment 3443.041 Subsidence costs are based on costs associated with structural damage and ensuing lawsuits in a manner to those experienced in Houston and Las Vegas. It was assumed that subsidence will occur in an area that is approximately 10% of the total area that the model calculates to have subsidence potential. Based on the OSE guidelines a total drawdown of 250 feet is prohibited in the declared CMA through 2040. The OSE model predicts that no cell in the Critical Management Area (CMA) will reach 250 feet of drawdown from pre-development in either the No Action or DWP alternatives. In addition the OSE guidelines prescribe a limit of 2.75 feet per year in cells outside of the CMA from 2000 through 2040. While some cells in the Rio Rancho area do exceed this limit, the limit is exceeded with both the No Action and DWP alternatives. Text has been revised in the FEIS.

Response to Comment 3443.042 The flow rate of 65 cfs is the basis of analysis and is used to show the difference between the Action and No Action alternatives in the reach from Abiquiu to the point of diversion. The rate of 65 cfs has been replaced with the rate of 61 cfs on pages 3-154, 3-157, 3-158, 3-163, 3-180, 3-189, 3-262, and 3-284 of the DEIS. All other rates cited in this comment are correct.

Response to Comment 3443.043 Revisions noted in response to comment 3443.042 have been incorporated into the FEIS.

Response to Comment 3443.044 Priority dates can only be set by the New Mexico Office of the State Engineer through an adjudication process. At this time the Middle Rio Grande has not been adjudicated and therefore priority dates have not been set. In general, priority calls can only be made on an adjudicated basin. No priority call has been made in this basin.

3443.045

assumptions that further distort the results used to predict environmental impacts. Combined, they overstate the viability of the project and understate the environmental impacts.

3443.046

*Loss Rates* The DEIS cannot assume the same loss rates for diversion at Angostura and Paseo de Norte. The two sites are 18 miles apart. Furthermore, contrary to p. 1-7, the Rio Grande Compact Commission has not adopted loss rates for delivery of SJC water through the middle valley, nor to the points of diversion.

3443.047

*"Reliable supply"* The methods used to analyze effects did not include the possibility that less than the contracted for amount of SJC water would be available in any given year. This relates back to legal and other uncertainties that must be considered in assessing the DWP alternatives. 2002 SJC Project operations offer a timely example. This year BOR diverted approximately 5200 af to Heron Reservoir, the lowest ever (and far below the previous low of 21,000 af). The DEIS must consider the recurrence of such lows, and the impacts of them on the proposed action.

3443.048

*Water conservation* All alternatives assume that the City's conservation plan will be fully implemented as scheduled, culminating in use of 175 gpcd by 2005. Albuquerque's current per capita consumption is 205-210 gpcd. Because the impacts analyses depend on per capita water use of 175 gal/day, the supplemental DEIS must show how the City plans to reduce its use by 30 gpcd in less than three years or revise upwards the baseline assumption of per capita water use.

3443.049

*Aquifer* Currently, the aquifer is being depleted twice as fast as recharge from river and other sources (1-4). Sustainable yield of the aquifer, obscured in a footnote to a table (1.3-1), is 67,500 af/yr. Other necessary information, such as those pumping the aquifer, is not included. What is the river's rate of recharge to a mined aquifer, a recovered aquifer, and levels in between? Without any data or analysis, the City's assumption regarding residual impacts of pumping on the aquifer are without merit. Appendix L states that it will take only 90,000 acre-feet to make up for the continued effects of Albuquerque's past pumping (App. L 4-5). The State Engineer, however, concluded that it would require about 924,000 acre-feet of water over the first forty years of the DWP to make up for the effects of past pumping. See Ghassan R. Musharrafieh and Linda M. Hogan, Evaluation of Hydrological Impacts of the Proposed City of Albuquerque Drinking Water Project Application 4830, Hydrology Bureau Report TDH-02-01 (2002), Table 3. Because Albuquerque has grossly underestimated the residual depletions from past pumping, it has greatly overestimated the amount of water that there will be in the river in the Middle Subarea under the DWP.

3443.050

*Summary of Impacts* Again, there is no analysis in the environmental effects section to back up key conclusions in the Summary of Environmental Consequences (3-153 et seq.) and the reader is unable to compare the alternatives. Analyses supporting these conclusions must be presented in a supplemental DEIS.

3443.051

- No Action. "The MRGAA criteria would not be exceeded until after the year 2023" (3-

Response to Comment 3443.045 Analysis assumptions are disclosed as used in the NEPA analysis.

Response to Comment 3443.046 Please see response to comment 3444.017 regarding loss rates for both the Angostura and Paseo del Norte Alternative.

Response to Comment 3443.047 If less than the full amount of project diversions would occur, the impacts of the project would be reduced.

Response to Comment 3443.048 Please see General Response to Comments 2. Conservation.

Response to Comment 3443.049 The river's rate of recharge varies from year to year and depends on the amount of pumping by the City in previous years, the level of drawdown in a given year and other factors (Appendix L of the DEIS). The OSE model is used to calculate recharge due to the City's pumping in a given year over the 60 years of analysis presented. The 924,000 acre-feet of residual effects calculated by the OSE represents the total residual effect over time or the amount of water that is removed from the river over the period analyzed due to pumping. The 90,000 acre-feet of additional releases shown in this document (DEIS) is the portion of the 924,000 acre-feet that exceeds the City's water rights in any given year or the net effect of river losses when return flow and the City's native water rights are considered. The releases have increased to approximately 110,000 in the FEIS. In addition, these residual effects by definition occur with or without the City's proposed DWP.

Response to Comment 3443.050 Table 3.16-6 lists the summary of hydrologic effects (page 3-159 in the DEIS). Appendix L also details the hydrologic effects. Cumulative hydrologic effects are presented in Section 3-30. Methods of analysis and results are located in Section 3.16, early in the section, and are also detailed within Appendix L.

Response to Comment 3443.051 The OSE MRGAA (Middle Rio Grande Administrative Area) criteria limit drawdown due to all pumping to 250 feet from pre-development. Computer simulations of the No Action alternative indicated that this drawdown limit would be exceeded in 2023 as presented in Section 3.16, figures 3.16-10 and 3.16-11 (DEIS). With revised conservation numbers (FEIS) the drawdown limit is not exceeded until after 2040.

3443.051  
(Cont)

3443.052

3443.053

3443.054

3443.055

3443.056

3443.057

3443.058

153). What criteria? Based on what analysis?

- DWP alternatives. "ground-water levels are less effected . . . avoiding exceedance of the MRGAA." Again, what criteria, based on what analysis?
- DWP alternatives. "Total ground-water pumping is estimated to be 1.05 million acre-foot over the 2006 to 2060 period the aquifer would be restored between 2006 and 2030" (sic) (3-154). Comparing the No Action to the DWP alternatives is like comparing apples and oranges. The No Action alternative totaled pumping from aquifer storage (i.e. non-renewable water) while this alternative totals pumping from renewable and non-renewable storage. Second, what does it mean that the aquifer will be "restored," and what analysis is this based on?
- All alternatives. There has been no concrete demonstration of the connection between aquifer pumping and river seepage to conclude that river seepage will lessen as pumping lessens or to provide estimates of the deficiencies caused by seepage (3-154).
- Cumulative Impacts. The DEIS does not the impacts of the loss of availability of the City's SJC water. Despite the City's and BOR's manipulation of the baseline, the fact remains that between 1971 and 1998, 940,000 af of SJC has been available to the river and to other users. A significant portion of this water has been used to account for evaporation from Abiquiu, Jemez and Elephant Butte Reservoirs. Other waters must now bear that loss. Similarly, MRGCD and BOR have leased this water, but no longer can. The DEIS must analyze the impacts to MRGCD and to BOR's use as supplemental water, particularly for the benefit of the Rio Grande silvery minnow, and the new strain on existing water supplies.
- Mitigation. The accounting system should already have been developed, should be included in the supplemental DEIS, and there should be regular publication of the accounting (3-159).

*Indian Trust Assets and Other Tribal Resources*

This section purports to evaluate the effects of the alternatives based on criteria that includes water quality in the Rio Grande and in the aquifer (3-161). However, there is no qualitative discussion of water quality as it impacts ITAs, which may be different than impacts to human health or wildlife (presumably covered in Sec. 3.27). Specifically, there is no examination of water quality impacts to ITAs or cultural resources given reduced flow in the river as it flows through Pueblos, less water to dilute SWRP discharge, and the SWRP discharge itself.

Sec. 3.17.3 also states that it will evaluate adverse impacts to cultural resources, but then directs the reader to Sec. 3.9. To the contrary, Sec. 3.9 does not examine the impacts of the DWP on the river itself, which is significant since "Pueblos use the river for traditional and cultural purposes" (3-160). There is no qualitative discussion in the text regarding the type or extent of impacts to the river as a TCP. As seen again and again in this DEIS, although there is no analysis in the text, Table 3.9-2 concludes that there may be impacts. Of course, without supporting evidence, the reader cannot tell the type or extent of the impacts, or why only 2 of the 4 alternatives suffer impacts. The DEIS must actually examine the effects to criteria as set out in the DEIS, but fails to do so.

Response to Comment 3433.052 Please see comments in response 3443.051.

Response to Comment 3433.053 Aquifer restoration is used to describe a rise in water level elevations that would occur with the DWP. From approximately 2006 to 2030, water level elevations would rise with the DWP alternative due to reduced pumping of the aquifer. See Appendix L of the DEIS.

Response to Comment 3433.054 The OSE model indicates that river seepage would reduce with reduced pumping as presented in Section 3.16, page 3-157 of the DEIS.

Response to Comment 3433.055 Please see response to comment 3443.007.

Response to Comment 3433.056 The City has proposed an accounting system for release of the City's SJC water. However, final implementation will depend on the conditions of the OSE diversion permit and approval by the Rio Grande Compact Commission.

Response to Comment 3433.057 The consultation to date has not identified specific Indian Trust Assets. General concerns have been indicated, and are addressed within the DEIS. Water quantity and quality are discussed, and related to concerns that have been expressed in section 3.16 and 3.27 of the DEIS. The operation of the SWRP is not altered, and the facility operates within an existing NPDES permit.

Response to Comment 3433.058 The reader is referred to Section 3.9, Cultural Resources, for convenience and context. Flows and water quality are discussed within this section. TCP (Traditional Cultural Properties) are considered in Section 3.9, because they are not necessarily ITAs, nor have any TCPs been identified during tribal consultation. Page 3-160 of the DEIS does not contain the words "Pueblos use the river for traditional and cultural purposes." Through public scoping, inter-agency scoping and ITA consultation, no TCPs or use of the river as a TCP has been identified. The Sandia Pueblo has been treated as a TCP within the DEIS. If there are no measurable hydrological effects (Section 3.16), and no specific TCPs have been identified, the prediction of an effect must use the words "may affect" or "potentially affect". The evaluation criteria for ITAs (Section 3.17) and Cultural Resource (3.9) were used in predicting impact, or no impact, in both resource areas.

3443.059

Nine New Mexico Pueblos are located within the City's identified Region of Influence (ROI). According to the minimal information included in the DEIS, each of these Pueblos is likely to suffer impacts from the proposed plan. However, the DEIS fails to adequately address either the full range of these impacts or any potential mitigation measures relating to water quantity or quality on Indian lands.

3443.060

The DEIS states that the DWP alternatives will reduce surface water flow in the Pueblos of Sandia, San Felipe, and Santa Ana (3-162). The DEIS's discussion ends there, however, and makes no inquiry as to whether these surface water reductions will violate Pueblo water rights. This question is a vitally important one which must be addressed in a supplemental DEIS.

3443.061

The exact quantity of the Pueblos' water rights remains unclear. In fact, this remains a central issue in the oldest active case in the federal courts today.<sup>3</sup> Although it ultimately remains to be seen what amount of water the courts will allocate to the Pueblos, it is well established that Pueblo Indian water rights are deeply rooted in history and predate all other rights to water in the state. The Pueblo people's use of water predates recorded history, and some historians believe they developed the oldest irrigation systems in what is now the United States.<sup>4</sup> After European conquest, the Pueblos' rights to water were recognized by each subsequent ruling nation: Spain, Mexico, and finally the United States.

3443.062

The fact that each ruling sovereign has recognized the Pueblos' ancient, continuous rights to water in the Rio Grande is particularly significant in a state like New Mexico, which follows the prior appropriation doctrine.<sup>5</sup> No subsequent users – that is, no non-Indian users off the reservation – can infringe upon the water rights of the Pueblos.<sup>6</sup> Yet the DEIS plainly states that surface water flow will be reduced in the Pueblos of Sandia, San Felipe, and Santa Ana. If surface flow will indeed be reduced by any of the proposed actions or alternatives to action, then the City must inquire whether the Pueblos' water rights will be impeded. There is absolutely no discussion of this issue in the DEIS, other than mere mention of the fact that a number of Pueblos had "concerns" about future reductions in surface water flow on their lands (1-15)

3443.063

The supplemental DEIS must address the issue of whether Pueblo water rights will be infringed upon by any of the proposed actions or alternatives. If the City anticipates that Pueblo rights would be impaired by any action, then that action will be unlawful unless the impacted Pueblos sell their rights to the City.

<sup>3</sup> New Mexico v. Aamodt, 618 F.Supp. 993 (1985) (mem.). The case was originally filed in 1966.

<sup>4</sup> PAUL HORGAN, GREAT RIVER (1964) (2 vols.), cited in CHARLES T. DUMARS ET AL., PUEBLO INDIAN WATER RIGHTS: STRUGGLE FOR A PRECIOUS RESOURCE I (1984).

<sup>5</sup> N.M. CONST. art. XVI, §§ 2-3.

<sup>6</sup> See Charles T. DuMars & Michele Minnis, *New Mexico Water Law: Determining Public Welfare Values in Water Rights Allocation*, 31 ARIZ. L. REV. (1989).

Response to Comment 3443.059 The commenter is referred to Sections 3.16 and 3.27 for water quantity and quality details, and for context. The hydrologic analysis determines the context and intensity of any hydrologic impacts. Text has been added to Section 3.9 and Section 3.17, encouraging the reader to review pertinent water sections. Page 3-162 considers the increase in river flows through Santo Domingo, Cochiti, San Juan, Santa Clara and San Idelfonso. On the following page, 3-163, flow reductions through parts of Santa Ana, San Felipe and Sandia are considered relative to the Angostura Alternative. The water balance for the proposed project, presented in Appendix L, Page 2-8 and Table 2-2, illustrates that return flow at SWRP, City Rio Grande native water rights, and City SJC water remain greater than or equal to, pumping effects on the river and surface water diversion. Flow depletions only occur along Pueblo lands with implementation of the Angostura Alternative. Within the summary of environmental consequences, it is stated that project water volumes, and the resulting hydrologic changes of both increased flows upstream and decreased flows downstream would be difficult to differentiate from background variations given existing conditions. Summaries of modeled stream flow conditions are provided in Appendix D of the Hydrology Report (Appendix L of the DEIS).

Response to Comment 3443.060 The page commented upon actually states there would be an increase in flows past upstream Pueblos with the addition of SJC water. If Paseo del Norte or Subsurface Alternative were selected, there would not be any reductions in flow in any of the Pueblos above Albuquerque. Considering flows if Angostura were selected, flows would be reduced along parts of Santa Ana, San Felipe and Sandia Pueblos. The hydrologic effects are detailed in other sections. There would be no measurable effects described in Section 3.16 and Appendix L.

Response to Comment 3443.061 Comment noted.

Response to Comment 3443.062 Please refer to the response to Comment 3443.061.

Response to Comment 3443.063 Please refer to the responses to Comments 3443.061 and 3443.062.

**Land Use/Traffic and Circulation**

3443.064

Figure 3.25-1 may contain the most glaring, and most damning, omission in this DEIS. This figure shows that a potable water conveyance route will cross the Petroglyph National Monument via the northwest spur. However, this is accounted for nowhere in the document. There is no coordination with the National Park Service. There is no discussion of conflicts with Monument management plans or authorizing legislation. See 40 C.F.R. §§ 1502.16(c), 1506.2(d). There is no discussion of the growth inducing impacts of a water line to the west side of Albuquerque, where there have been attempts to extend major roads in order to facilitate growth.<sup>7</sup> See *id.* § 1508.8 ("Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate"). In addition, there is no mention of impacts to the monument in the context of cultural resources and Indian trust assets.

BOR and the City must coordinate with the National Park Service and other concerned parties regarding this issue. Its complete absence from the DEIS demonstrates that no one has considered the significant impact of locating the pipelines through the Monument.

**Recreation**

3443.065

The DEIS does not adequately analyze the potential loss of summer recreational flow releases, nor are they noted in Table 3.20-1 or Table 2.7-1.

**Riparian Areas**

3443.066

The analysis of impacts to riparian areas suffers from the same ills as nearly every other resource: little to no accurate baseline data; omission of direct, indirect and cumulative impacts, and inadequate mitigation. First, the DEIS provides no baseline from which to judge the differences in water table elevation that are provided in the Effects Analysis (e.g., 3-184). As stated above (see Aquatic Life), the significance of the impact depends heavily on the baseline.

3443.067

Second, the effects and mitigation analysis is confusing, particularly the characterization of some impacts as temporary and others as permanent. It is not clear which, if any, permanent impacts will be mitigated, as claimed to be so (3-189, 3-190, 3-192). Each alternative's permanent effects will not be mitigated (e.g., 3-189), thus their permanency. It defies logic to subsequently claim that permanent impacts will be offset by mitigation (e.g., 3-189, 3-190). The cumulative impacts analysis must be revised to reflect this.

3443.068

Thirdly, it is not enough to imply that the low threshold flows and attendant changes in

<sup>7</sup> This belief is bolstered by comparison of Figures 3.16-6 and 3.16-16. The latter, aquifer drawdown in 2040, has expanded city limits in precisely this area, versus the former. Recent attempts to build new roads in this area lend further support to this claim.

Response to Comment 3443.064 The figure has been corrected to reflect the fact that the new line ties into an existing line. DWP transmission lines will not cross or enter Petroglyph National Monument at any point. The FEIS has been modified to correct the figure. Section 3.25 and parts of Section 2 describe additional line alternatives.

Response to Comment 3443.065 See response to comment 3425.003.

Response to Comment 3443.066 The section on Riparian Areas (3.21) provides mapped riparian data and includes the results of field surveys as well. Site locations where construction may occur have been surveyed and the vegetation described within 100 feet of direct impact areas (Page 3-182). HEC-RAS and ground water models were both completed for an analysis of ground water levels. The results of the ground water modeling are clearly discussed within Section 3.21 under each alternative. In addition, Figures 3.16-20 and 21 illustrate water levels modeled as a result of the proposed action. The reader is referred to Section 3.16. Ground water levels would vary with the No Action alternative, while Page 3-184 clearly refers to the differences in water table elevation between No Action and the proposed action. This is the effect. Cumulative effects upon riparian areas are presented within Section 3.30 Cumulative Effects, as well as Page 3-192 of the DEIS. Mitigation measures are listed within Appendix O.

Response to Comment 3443.067 The identification of an effect as temporary means the short term or reversible. As indicated within Section 3.21.4, Proposed Mitigation Measures, and pages 3-193 to 3-196 of the DEIS, the affected area is restored or impacts to riparian areas are avoided or lessened through construction techniques. The amount of temporary disturbance under each alternative is presented, using acres as a quantifiable amount, within Table 3.21-1. Among the techniques for mitigation are exotic vegetation removals, fuel wood reduction, over bank projects and many others. There are numerous techniques and procedures for this detailed within the DEIS. The cumulative impacts analysis considered the effects upon riparian areas after mitigation.

3443.068  
(cont)

water table elevation in the Middle Area will not have negative impact on the bosque because they have occurred in the past (3-189). (Note that this is never actually stated, because no analysis was performed.) The DEIS must be revised to recognize that the DWP will increase the frequency and duration of these low flow events and thus may affect riparian areas in a manner not here considered.

3443.069

Fourth, the No Action alternative predicts the loss of 583 acres of riparian area due to continued groundwater pumping, yet foresees no such losses under the DWP alternatives despite the continuation of groundwater pumping in these alternatives as well. This is a remarkable difference since by 2060 the DWP alternatives will have pumped one-third as much groundwater as the No Action alternative. Pumping at least 1 maf must result in some impacts, and the DEIS must investigate this.

*Socioeconomics*

3443.070

Here we have an example of the use of inconsistent baseline data among resource areas. What can be interpreted as the selective use of available data leads the Alliance to question the integrity of this and the Environmental Justice section. Baseline data in the previous section is ten years older than this one -- population figures differ by 70,000, and per capita income more than doubles. The Environmental Justice baseline must be revised to use the most recent information and retain baseline employed here.

3443.071

Furthermore, the DEIS did not follow the criteria by which it claims to measure adverse impacts and to address concerns raised during scoping. The first measure of significance -- who will bear the cost of the project -- was ignored. There is no analysis of the relation between the initial AWRMS cost estimate of \$180 million, including the Non-Potable Surface Water project, Industrial water reuse project, the SWRP, and the cost estimates of DWP alternatives. The costs estimates of the first three are critical since they have spent \$37.4 million, \$5.3 million above the estimate. According to the DEIS, the No Action alternative will cost \$722 million; the Angostura diversion, \$538 million; the Paseo del Norte alternative, \$511 million; and the Subsurface alternative, \$553 million.<sup>8</sup> The DEIS makes no statement of how these costs will be covered, especially when the rate increases approved by the City Council to pay for the AWRMS \$180 million figure have already been approved and implemented.

<sup>8</sup> The Alliance also questions the derivation of these costs to begin with, since \$40 million for arsenic treatment may as well have been plucked from thin air because DEIS does not speak to treatment plans under DWP alternatives, and therefore cannot plausibly speak to costs. Also, the cost estimates (Tables 3.22-1 thru 4) are not all calculated the same way. The text states costs will be through 2025 (see e.g., 3-198, 3-200), yet all include costs through 2060, and nearly 50% of the No Action costs come occur in that time span (versus 4% for other alternatives), biasing the reader against what then appears as the vastly more expensive No Action alternative. The supplemental DEIS must present an honest comparison of the costs.

Response to Comment 3443.068 The range of fluctuations occurring in the river is more substantial than would occur from the project. This information has been added to the FEIS. Shallow ground water effects are presented in Section 3.16 within Figures 3.16-20 and 3.16-21. Riparian effects are presented in Section 3.21 of the DEIS.

Response to Comment 3443.069 The loss of 373 acres of riparian habitat is based on changes in groundwater elevation due to pumping. Water table declines in excess of 3 feet along the Rio Grande could potentially result in the loss of riparian habitat. The OSE groundwater model predicted under the No Action alternative that approximately 373 acres of bosque area could experience such a decline. While, pumping does continue under the DWP, it is at a greatly reduced level. Model results indicate that the water table will rise for many years after the implementation of the DWP. By 2060, pumping rates under DWP will be less than current pumping rates. Further, water levels are expected to generally be higher than current levels. Therefore, because there is no predicted 3 foot decline in the water table underneath the bosque, there would be no subsequent loss of habitat. See 3-152 through 3-157 of the DEIS.

Response to Comment 3443.070 The mapped Environmental Justice data was best available data at the time of writing the DEIS at Section 3.22. The 2000 census data has now been mapped and used in Section 3.11 for consistency with Section 3.22. There are no changes in the result of the analysis, and the text has been changed to update Section 3.11.

Response to Comment 3443.071 The ratepayers of Albuquerque bear the cost of the project. This is so indicated within Section 3-21, page 3-198, and Section 1, page 1-8 of the DEIS. Each rate increase is determined by and put into effect by the Albuquerque City Council. Cost tables and text revisions have been added to Section 3.22.3.

3443.072

As with other resource areas (e.g., water quality), the DWP alternatives contain a groundwater component that has not been analyzed in this DEIS. Costs are included for construction and O&M of groundwater facilities, but not one word is dedicated to explaining what these costs are for. Of particular concern is the \$16 million allocated for construction of groundwater facilities through 2025.

3443.073

Returning to the criteria of who will pay for the project, if the City contemplates additional water rate increases, they must be revealed in a supplement DEIS so that the public may make an educated decision. Just as important, if the City plans to seek funding elsewhere, these sources must also be explicit. The DEIS cites the possibility of private sources of funding for one alternative (3-200). It must be clear as to whether this is true for all alternatives, to the potential sources, and to the impact on the DWP. Potential privatization of municipal water systems must not be hinted at, but made explicit.

3443.074

The DEIS also asserts that adverse effects will be measured by the hardship to City customers (3-198). However, there is no baseline information on current monthly water bills and water rates (before and after the first, fourth, and seventh increases). There are no predictions of further increases. Because there is discussion of current or future water bills and water rates, there is no effects analysis. Thus, there is no entry in Table 3.22-5, but there is, inexplicably, a conclusion that water rate increases would not pose a hardship to City water users (3-203).

**Threatened and Endangered Species**

3443.075

The Rio Grande silvery minnow has been reduced to 5% of its historic range. Its population has declined every year since it was first listed in 1994. Dams that have blocked migration routes, fragmented habitat, and contributed to altering the flow regime and dewatering segments of the river are a major cause of their decline. Yet the City and BOR propose to construct another diversion dam in the river and remove 94,000 af of water from 17 miles of river. A conceptual fishway and fish screen *may* mitigate *someday* for *some* of these impacts, but too many questions persist as to their design and effectiveness. The Endangered Species Act places the protection of endangered species as the highest mission of federal agencies. See TVA v. Hill, 437 U.S. 153, 174 (1978) (holding that "Congress intended endangered species to be afforded the highest of priorities"). The species is not to bear the brunt of uncertainty, yet this project aims to do just that. We must err on the side of caution in the interest of protecting the last remaining silvery minnow. To acknowledge otherwise is to violate NEPA, to do otherwise is to violate the ESA.

3443.076

The criteria employed to quantify impacts must be redefined. The current definitions have not been made carefully, undermining the credibility of the effects analysis and the determination of significance. First, the criteria must include harm to species, as well as loss thereof (3-229). One of the measures of the significance of adverse impact is the extent of

Response to Comment 3443.072 The \$16 million for groundwater facilities includes any required new wells required to meet peak demands as well as replacement wells and Operations and Maintenance (O&M) costs for these additions.

Response to Comment 3443.073 Rate increases have previously been approved by the City council, and will stay the same. Water bill increases to pay for other projects or circumstances may be necessary, for example, arsenic treatment. Private sources of funding may or may not be available. There are no current plans within the AWRMS for privatization. Text has been revised in the FEIS, Section 3.22.

Response to Comment 3443.074 The rates were developed and implemented with City Council approval. The rates meet the criteria developed by the City for determining hardship. The amount dedicated to the DWP remains the same portion of a customers' water bill. The overall amount of a bill may change, for example, meeting the arsenic standard.

Response to Comment 3443.075 The City would be removing 47,000 ac-ft native water, which is removed at the diversion point, and is returned at the waste water treatment plant. The 47,000 ac-ft is the size of the native water diversion, not 94,000 ac-ft. Fish passage and fish screens are frequently used as mitigation and protection devices for fish. Both facilities include the most recent design considerations, and will incorporate on-going research results for the RGSM. The mitigation measures proposed for any effects to the RGSM are detailed on pages 2-263 and from pages 3-266 through 3-268 of the DEIS.

Response to Comment 3443.076 The effects analysis is not undermined by the use of HEC-RAS modeling, nor is the determination of significance inappropriate. The actual amount of in-river habitat removed is quantified as it relates to Paseo del Norte diversion, and this is proposed to be mitigated. The number of fish larvae and adults that may be impinged would be monitored. The City will mitigate for any loss through the captive breeding program and the establishment of suitable habitat areas within the Middle Reach. These items are fully addressed in the Biological Opinion.

impact to endangered species. See 40 C.F.R. § 1508.27(b)(9).

3443.077

Second, the definition of habitat suitability and availability (3-233) must be substantiated. In other words, the DEIS must demonstrate the basis for classifying areas greater than 10 ft<sup>2</sup> as adequate habitat and approximately 10 ft<sup>2</sup> as marginal habitat. In the absence of supporting studies, the reader may assume that areas less than 10 ft<sup>2</sup> are poor habitat. That said, the DEIS's interpretation of Table 3.24-11 is wrong. Habitat near CA Line 700 is not adequate (in order to moderate poor habitat in CA Line 400) or marginal, it is very poor. The addition of "marginal but acceptable" is new and undefined. As a result of these errors, the conclusion that there is no difference between the No Action and DWP alternatives is wrong (3-261).

3443.078

This conclusion is even less credible because the DEIS lacks necessary the baseline information with which to compare alternatives. In this case, there is no analysis of low flow habitat availability under the No Action alternative. The reader is thus unable to compare the DWP alternatives to the baseline, and the DEIS cannot reasonably make the conclusion that there is "no difference" between No Action and all DWP alternatives (3-261).<sup>9</sup> The DEIS must also state where the City's January 2002 surveys were conducted (3-217).

3443.079

There is also a lack of consistent information among alternatives, hindering any real comparison. For example, while the Angostura diversion estimates take of silvery minnow propagules, the Paseo del Norte diversion does not. In another example, information regarding the initiation of DWP construction is provided for some, but not all, alternatives, but all fail to indicate the duration of construction (i.e., will construction continue through the spring run off (spawning cue) and throughout the summer?).

3443.080

Just as the conclusion on p. 3-261 is baseless (whether it refers to all alternatives or to the Paseo del Norte diversion), the conclusions regarding the Angostura diversion are similarly doubtful. The conclusion "available RGSM preferred habitat is consistently available" (3-250) is a tautology. Even if it were not so, the DEIS has not revealed where available (baseline?) preferred habitat is, and thus cannot reason that it (a) remains available and/or enhanced or (b) is consistently so (i.e., under all alternatives and under low, mean and maximum flows). Such a vague conclusion reflects the lack of rigorous examination.

3443.081

Lastly, and most critical to this analysis, the proposed mitigation is unacceptable. An "agency must supply a convincing statement of reasons why potential effects are insignificant." The Steamboaters v. F.E.R.C., 759 F.2d 1382, 1393 (9<sup>th</sup> Cir. 1985). BOR and the City propose to build a fishscreen and fishway for the Angostura and Paseo del Norte diversions in order to offset all impacts to the silvery minnow. This is unsupportable. The DEIS frequently refers to the

<sup>9</sup> This particular conclusion is yet even more suspect because Table 3.24-11 applies only to the Paseo del Norte diversion, not all DWP alternatives.

Response to Comment 3443.077 Please see General Response to Comments 7. Rio Grande silvery minnow.

Response to Comment 3443.078 Tables 3.24-8 and 3.24-11 analyze the curtailment rate at 120 cfs for Angostura and 70 cfs (revised to 180 and 130 cfs in the FEIS) for the Paseo del Norte and Subsurface diversion. A low flow analysis of the No Action alternative was not completed. With the same flows, the low flow useable habitat numbers are accurate. Table 3.24-4 shows the locations of 2002 RGSM and other fishes collection data.

Response to Comment 3443.079 Take is considered under Angostura Alternative, page 3-249, and under Paseo del Norte Diversion on page 3-259 of the DEIS. Construction within the river is necessary at Paseo del Norte for those two alternatives and within the edge of the river for Angostura Alternative. Any in-river construction would occur in winter, or low flow months for the reason of not being able to work effectively during high flows. Peak spawning for RGSM does occur during periods of high flow in the river. The exact schedule is impacted by contract requirements and economic considerations of construction. The mitigation measures for in-river construction are summarized in Appendix O. Page 3-259 discusses a likely schedule of construction. The same period would apply to any action alternative (September through March). The text has been modified to reflect the amount of take at each alternative.



impact to endangered species. See 40 C.F.R. § 1508.27(b)(9).

Second, the definition of habitat suitability and availability (3-233) must be substantiated. In other words, the DEIS must demonstrate the basis for classifying areas greater than 10 ft<sup>2</sup> as adequate habitat and approximately 10 ft<sup>2</sup> as marginal habitat. In the absence of supporting studies, the reader may assume that areas less than 10 ft<sup>2</sup> are poor habitat. That said, the DEIS's interpretation of Table 3.24-11 is wrong. Habitat near CA Line 700 is not adequate (in order to moderate poor habitat in CA Line 400) or marginal, it is very poor. The addition of "marginal but acceptable" is new and undefined. As a result of these errors, the conclusion that there is no difference between the No Action and DWP alternatives is wrong (3-261).

This conclusion is even less credible because the DEIS lacks necessary the baseline information with which to compare alternatives. In this case, there is no analysis of low flow habitat availability under the No Action alternative. The reader is thus unable to compare the DWP alternatives to the baseline, and the DEIS cannot reasonably make the conclusion that there is "no difference" between No Action and all DWP alternatives (3-261).<sup>9</sup> The DEIS must also state where the City's January 2002 surveys were conducted (3-217).

There is also a lack of consistent information among alternatives, hindering any real comparison. For example, while the Angostura diversion estimates take of silvery minnow propagules, the Paseo del Norte diversion does not. In another example, information regarding the initiation of DWP construction is provided for some, but not all, alternatives, but all fail to indicate the duration of construction (i.e., will construction continue through the spring run off (spawning cue) and throughout the summer?).

Just as the conclusion on p. 3-261 is baseless (whether it refers to all alternatives or to the Paseo del Norte diversion), the conclusions regarding the Angostura diversion are similarly doubtful. The conclusion "available RGSM preferred habitat is consistently available" (3-250) is a tautology. Even if it were not so, the DEIS has not revealed where available (baseline?) preferred habitat is, and thus cannot reason that it (a) remains available and/or enhanced or (b) is consistently so (i.e., under all alternatives and under low, mean and maximum flows). Such a vague conclusion reflects the lack of rigorous examination.

Lastly, and most critical to this analysis, the proposed mitigation is unacceptable. An "agency must supply a convincing statement of reasons why potential effects are insignificant." The Steamboaters v. F.E.R.C., 759 F.2d 1382, 1393 (9<sup>th</sup> Cir. 1985). BOR and the City propose to build a fishscreen and fishway for the Angostura and Paseo del Norte diversions in order to offset all impacts to the silvery minnow. This is unsupported. The DEIS frequently refers to the

<sup>9</sup> This particular conclusion is yet even more suspect because Table 3.24-11 applies only to the Paseo del Norte diversion, not all DWP alternatives.

Response to Comment 3443.080 The use of HEC-RAS, with existing cross-sections, and using literature definitions of RGSM preferred habitat is appropriate for an analysis. The conclusion is hardly baseless when the graphical, tabular, and statistical data derived from existing government established cross-sections, flow modeling and literature interpretations are interpreted in the context of 15 or 32.7 (Angostura Alternative) miles of river depletion area. RGSM habitat remains available under any of the action alternatives. Estimating the entire available habitat is difficult as the river habitat is constantly changing. The habitat will also vary naturally with different flows that occur over the course of a year. "Habitat availability", as defined in the DEIS, remains suitable for the RGSM under the action alternatives.

Response to Comment 3443.081 Please see General Response to Comments 6. Fish Passage and Fish Screens.

3443.080

3443.081

3443.081  
(Cont)

fishway as an uncertainty,<sup>10</sup> yet just as frequently dismisses these statements as inconveniences as asserts that the fishway will mitigate all effects of the diversion dams as barriers to fish movement. For example, "Scientific studies to provide a basis for the design of a fishway that would allow upstream movement of fish, particularly silvery minnow, past the [Paseo del Norte] diversion are being completed" (2-40). These admissions call into question any reliance on the fishway as mitigation for the adverse impacts on the silvery minnow and other aquatic species.<sup>11</sup> Furthermore, monitoring of use of the fishway is not mitigation, particularly when the fishway itself is not mitigation. The entire project looks more like an experiment than mitigation, and violates NEPA. See *Oregon Natural Resources Council v. Marsh*, 832 F.2d 1489, 1493 (9th Cir. 1987) ("We fail to see how mitigation measures can be properly analyzed and their effectiveness explained when they have yet to be fully developed").

3443.082

Moreover, because the fishway has not yet been designed, the environmental effects of the dam cannot be evaluated with respect to fish passage. "Mitigation must 'be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.'" *Carmel-By-the-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989)). In fact, the DEIS contains no analysis of how the dam will effect minnow populations in the reach between Angostura and the proposed new diversion structure. There is no evaluation of how many fish will have to pass upstream to ensure that the reach upstream of the proposed dam remains populated with silvery minnows, either at the present level of population or once minnows are recovered in the Middle Subarea. There is no analysis of how many minnows, if any, can be expected to happen upon the fishway and use it to pass upstream.

3443.083

Since studies for the design of a fishway are still in progress, how can the DEIS be sure that flows of 50 cfs through the fishway will in fact provide access for fish (3-260)? We have similar concerns regarding the provision of flow at 2 ft/sec, since elsewhere ideal flow velocity for the silvery minnow is around .325 ft/sec. Cursory statements as to the lowering of the

<sup>10</sup> See 3-44 ("Use of the fishway by aquatic species is an area of uncertainty"); 3-234 ("concepts presented for the fishway and fish screens are provisional"); 3-263 ("in conceptual design stage"); 3-260 ("intended to protect RGSM are other fishes"); 3-263 ("depending on application and effectiveness of the mitigation measures"); and *id.* ("fish screens and fish way are unproven technologies; therefore, there will be uncertainty regarding impacts to the RGSM").

<sup>11</sup> See 3-44 (the fishway, and monitoring of its use, will offset impacts of dam as barrier); 3-45 ("no substantial temporary or long-term adverse effects on aquatic life"); 3-49 ("The proposed new low head adjustable height dam will not fragment habitat since the fishway, the sluiceway, and the time when the dam is not raised will be effective mechanisms for fish passage"); 3-260 ("fish bypass provides a mechanism for individuals to successfully avoid the diversion inlets"); 3-263 (direct and indirect effects are minimal . . . "any identified direct or indirect effects would be mitigated"); 3-263 ("no cumulative effects on RGSM").

Response to Comment 3443.082 The monitoring of the fishway will provide necessary data. Monitoring that will be conducted is described in Appendix O.

Response to Comment 3443.083 Please see General Response to Comments 6 Fish Passage and Fish Scens.

3443.083  
(Cont)

3443.084

3443.085

3443.086

3443.087

bladder dam similarly require evidentiary support.<sup>12</sup> ←

Second, it is not clear how the fish screen is mitigation when its only effects seem to be allowance of eggs and non-motile minnow to pass through and impingement of other eggs and non-motile minnow (3-249). What good will come of the screen?

In closing, the summary of effects in the DEIS is baseless. The DEIS has determined that operation of the DWP alternatives "would have no long-term, local direct effects on RGSM," "will not adversely affect RGSM populations," that "direct and indirect effects . . . will be minimal," "no substantial temporary or long-term adverse effects . . . would result," and "no cumulative impacts would occur" largely because of mitigation and enhancement (3-263). The fishway and fish screens are unproven technologies and thus impacts to the silvery minnow are uncertain. NEPA does not allow the City and BOR claim significant impacts are mitigated by the fishway.

**Water Quality**

Again, the analysis suffers because of a lack of baseline information and regulatory framework. The text refers to a non-existent table of MCLs and current compliance to support its analysis (3-279) and to show those regulated and unregulated substances for which the City tests. The baseline is further warped because, unlike in other sections where the City and BOR have pretended that there has been no City SJC water in the system, in this section it is taken full advantage of, and the City's surface water quality samples benefit from the additional dilution provided by the SJC water. See e.g., 3-284 (Upper Subarea would benefit from addition of 65 cfs of good quality water). Any perceived or implied benefit to water quality from additional SJC flows is an illusion.<sup>13</sup>

Moreover, the DEIS includes no narrative regarding the CWA water quality standards, the designated uses, or the anti-degradation policy that apply in this stretch of the Rio Chama and Rio Grande. Cf. DEIS for Proposed Critical Habitat for the Rio Grande Silvery Minnow, at 3-16 et seq. Examples of the types of information that is missing include the Pueblo of Isleta's

<sup>12</sup> See 3-260 (that when deflated, aquatic organisms "will be able to freely access upstream or downstream locations"). Moreover, the diversion structure will "probably" be deflated only for about 30-45 days per year when flows exceed 3,000 cfs (3-43). During flows of that magnitude, the velocity of the water will be high. Although the DEIS contains no analysis of this matter, it would appear unlikely that the silvery minnow, which, again, prefers flows of less than .325 ft./sec., will have the ability or inclination to swim upstream during the spring high flows periods when the dam is deflated.

<sup>13</sup> Likewise, the DEIS has selectively chosen that baseline most friendly to its preferred alternative by excluding the existing SJC flows from the hydrology and other sections, but including them in the water quality section. If the DEIS were to consistently disregard the SJC flows, the impacts of the loss of SJC water would be explicitly stated.

Response to Comment 3443.084 Fish screen design and screen effects are considered on page 3-260 of the DEIS. The screen has been designed for an approach velocity of 0.2 ft/sec to avoid pinning fish at the screens and to reduce the mortality of juveniles and adults at the diversion.

Response to Comment 3443.085 Effects analysis within the DEIS uses hydrologic modeling and HEC-RAS/habitat modeling to determine effects upon the habitat of the RGSM. The uncertainties associated with the fish way and screens are noted, and potential solutions, as well as mitigation measures or features are described. Fish ways and fish screens are not unproven technologies. Hydraulic and hydrologic conditions within the Rio Grande are amenable to the construction of fish ways, and as knowledge about the RGSM is collected, it would be applied to a preliminary and final design of the fish way and screens. In that interim, knowledge of fish ways and screens in other areas of the country was used. In order to increase the effectiveness of the screens and fishways, studies are being completed to insure effective designs and minimize adverse effects to the RGSM.

Response to Comment 3443.086 Please see General Response to Comments 8. Water Quality. The table referred to on page 3-279 was inadvertently not included in the draft document and has been inserted into the FEIS. The water quality analysis presented under Section 3.27 Water Quality discusses the existing groundwater supply, the proposed surface water supply, and the discharge from the City's wastewater treatment plant. The groundwater supply and the water quality of the wastewater treatment plant are relatively independent of the water quality in the Rio Grande and would not be impacted by a dilution effect of the San Juan Chama water. The anticipated water quality of the surface water supply shown in Table 3.27-1 is an average water quality obtained from sampling events in 1998 and 1999. In the report by CH2M HILL, entitled Hydrologic Effects of the Proposed City of Albuquerque Drinking Water Project on the Rio Grande and Rio Chama Systems, on page 3-3, it is stated that on average around 19 cfs of City San Juan Chama water has flowed past Albuquerque for the period of 1971 to 1998.

3443.083  
(Cont)

bladder dam similarly require evidentiary support.<sup>12</sup>

3443.084

Second, it is not clear how the fish screen is mitigation when its only effects seem to be allowance of eggs and non-motile minnow to pass through and impingement of other eggs and non-motile minnow (3-249). What good will come of the screen?

3443.085

In closing, the summary of effects in the DEIS is baseless. The DEIS has determined that operation of the DWP alternatives "would have no long-term, local direct effects on RGSM," "will not adversely affect RGSM populations," that "direct and indirect effects . . . will be minimal," "no substantial temporary or long-term adverse effects . . . would result," and "no cumulative impacts would occur" largely because of mitigation and enhancement (3-263). The fishway and fish screens are unproven technologies and thus impacts to the silvery minnow are uncertain. NEPA does not allow the City and BOR claim significant impacts are mitigated by the fishway.

**Water Quality**

3443.086

Again, the analysis suffers because of a lack of baseline information and regulatory framework. The text refers to a non-existent table of MCLs and current compliance to support its analysis (3-279) and to show those regulated and unregulated substances for which the City tests. The baseline is further warped because, unlike in other sections where the City and BOR have pretended that there has been no City SJC water in the system, in this section it is taken full advantage of, and the City's surface water quality samples benefit from the additional dilution provided by the SJC water. See e.g., 3-284 (Upper Subarea would benefit from addition of 65 cfs of good quality water). Any perceived or implied benefit to water quality from additional SJC flows is an illusion.<sup>13</sup>

3443.087

Moreover, the DEIS includes no narrative regarding the CWA water quality standards, the designated uses, or the anti-degradation policy that apply in this stretch of the Rio Chama and Rio Grande. Cf. DEIS for Proposed Critical Habitat for the Rio Grande Silvery Minnow, at 3-16 et seq. Examples of the types of information that is missing include the Pueblo of Isleta's

<sup>12</sup> See 3-260 (that when deflated, aquatic organisms "will be able to freely access upstream or downstream locations"). Moreover, the diversion structure will "probably" be deflated only for about 30-45 days per year when flows exceed 3,000 cfs (3-43). During flows of that magnitude, the velocity of the water will be high. Although the DEIS contains no analysis of this matter, it would appear unlikely that the silvery minnow, which, again, prefers flows of less than .325 ft./sec., will have the ability or inclination to swim upstream during the spring high flows periods when the dam is deflated.

<sup>13</sup> Likewise, the DEIS has selectively chosen that baseline most friendly to its preferred alternative by excluding the existing SJC flows from the hydrology and other sections, but including them in the water quality section. If the DEIS were to consistently disregard the SJC flows, the impacts of the loss of SJC water would be explicitly stated.

Response to Comment 3443.086 (con't) During this period, the average flow of water in the Rio Grande was around 1,410 cfs. As such, the San Juan Chama water has amounted to around 1.3% of the river's total flow. This is an insignificant amount of water that will have an insignificant dilution effect on the river flow in total. The released San Juan Chama water in the Rio Grande will impact the anticipated raw water quality presented in Table 3.27-1. Under average conditions, the addition of SJC water will have minimal to no effect on water quality in the Rio Grande upstream of the diversion. Therefore, water quality will be the same under DWP and No Action alternatives. Water quality will be the same under both scenarios downstream of the diversion. Water quality of the City's effluent will be slightly better with respect to TDS and associated conservative species such as Cl. However, under average flow conditions, improvements in water quality in the Rio Grande downstream of the City's SWRP outfall will be minimal. Under low flow conditions when the City is curtailed, water quality will be equivalent upstream of the diversion, downstream of the diversion, and slightly improved downstream of the City's SWRP outfall.

Response to Comment 3443.087 Please see General Response to Comments 8. Water Quality. The comment refers to compliance with the Clean Water Act as well as anti-degradation policy and the Pueblo of Isleta water quality standards. The City of Albuquerque's discharge permit reflects all these in-stream water quality standards. As such, the City must comply with any water quality limits in effect downstream of the wastewater treatment plant. This is true, regardless of whether the drinking water project is implemented or not. In addition, the drinking water project will provide a benefit by improving the quality of the water discharged from the City's wastewater treatment plant as described in the report by Thomson and Chwirka entitled River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project.

3443.087  
(Cont)

designation of the Rio Grande through the Pueblo for both primary contact ceremonial use and primary contact recreational use, the state's designation of this reach as secondary contact, and the identification of 35 miles of the Rio Grande from the northern boundary of Isleta Pueblo upstream to the Jemez River as impaired with fecal coliform identified as the pollutant of concern. Without this baseline information, there can be no, and there is not, evaluation of the impacts to those water quality standards and designated uses.

**Surface Water**

3443.088

Additional baseline data is lacking in the affected environment of the Middle Subarea. Samples from 1998 and 1999 do not occur upstream of Alameda (3-279), yet one of the alternatives will divert water several miles north of that point. There is no means by which to compare the raw water quality of the Angostura alternative to the other alternatives, and it further fuels the perception that the Angostura alternative was not seriously considered by the City or Reclamation.

3443.089

The City of Rio Rancho also presents water quality problems. In recent years, citizen groups and the EPA have alleged that the City of Rio Rancho, which lies just upstream from Albuquerque, has illegally discharged untreated sewage into the Rio Grande.<sup>14</sup> Although the amount of wastewater is disputed, it lies between 6,400 gallons – Rio Rancho's estimate – and 1 million gallons – the EPA's estimate – for a single incident.<sup>15</sup>

3443.090

One environmental organization has filed suit against Rio Rancho, alleging over 60 permit violations over a five-year period.<sup>16</sup> According to the organization, water sampling below the City's wastewater plants has shown fecal coliform levels more than 50 to 100 times the federal standard for surface water.<sup>17</sup> Clearly, such contamination could pose a substantial health threat to downstream users who may be drinking surface water in the future. Yet, the DEIS makes no mention of whether Rio Rancho effluent will impact the DWP or, if so, how the City plans to implement water treatment sufficient to bring contaminated effluent in compliance with drinking water standards. This is a critical issue, and its absence from the DEIS constitutes a serious omission that must be corrected in a supplemental DEIS.

3443.091

Another problem with these 1998 and 1999 sampling efforts is that they may not accurately reflect current water quality. In 2000, the Cerro Grande fire burned 50,000 acres of forest. Among the land burned was approximately 7,500 acres within Los Alamos National Laboratory (LANL) boundaries, partly in areas known or suspected to be contaminated with

<sup>14</sup> Associated Press, *Forest Guardians to Sue Rio Rancho Over Rio Grande Sewage Spills*, ALBUQUERQUE TRIBUNE (Oct. 5, 2000).

<sup>15</sup> *Id.*

<sup>16</sup> *Notice Alleges City of Rio Rancho and EPA to Blame for Sewage Problems*, available at <http://www.fguardians.org/frontline/ofront89.htm>.

<sup>17</sup> *Id.*

Response to Comment 3443.088 The USGS routinely samples for numerous constituents in the Rio Grande at various locations. These samples could be used to supplement the baseline information provided. The water quality report by Thompson and Chwirka (2002) addresses the issue of water quality throughout the region of influence for the EIS. Essentially, each of the three diversion options will recover the same amount of water, therefore, their effect on the water quality within the river will be the same. The only difference will be the length of river between the diversion and the SWRP discharge that has a slightly reduced flow.

Response to Comment 3443.089 The City's proposed WTP will remove or destroy any detectable constituent to below drinking water standards associated with upstream sewage spills. The text has been revised to acknowledge potential sewage outfall from Rio Rancho.

Response to Comment 3443.090 The City's DWP accounts for Rio Rancho and other wastewater dischargers as well as non-point source pollution through a water treatment process that includes settling, filtering, chemical oxidation, and adsorption processes.

Response to Comment 3443.091 ON NEXT PAGE.

3443.091  
(cont)

radionuclides and chemicals. As a result, the Department of Energy (DOE) anticipates environmental and safety problems associated with contaminant runoff from LANL for three to five years.<sup>18</sup> There exists the likelihood that metals, PCBs and radionuclides have and/or will be found in the Rio Grande, and may be found in excess of drinking water standards. Despite these recognized risks, the DEIS fails to identify any courses of action Albuquerque might take if unacceptable levels of radionuclides are found in City drinking water. Will the proposed water treatment plant (WTP) have the capacity to effectively treat drinking water contaminated with radionuclides and chemicals? Does the City have a plan of action for how it will anticipate, detect, and immediately address any problems that may arise as a result of runoff from the Cerro Grande Fire? These important questions remain unanswered.

3443.092

In a report prepared for the New Mexico Environment Department (NMED), the following necessary courses of action were identified, *inter alia*: 1) further investigation into the magnitude and extent of chemicals and radionuclides at potential release sites;<sup>19</sup> 2) characterization of contaminated areas to determine the amount of pollutants that may be available for release into the river;<sup>20</sup> 3) expansion of monitoring programs to include both routine and emergency monitoring data collection;<sup>21</sup> 4) maintenance of collected data in an easily retrievable format;<sup>22</sup> and 5) ultimately, the analysis and reduction of public health risks as a result of comprehensive monitoring efforts.<sup>23</sup>

3443.093

We insist that the City and Reclamation supplement their water quality analysis to take a hard look at the existing and future water quality of the Rio Grande as drinking water as well as at the City's ability to treat this water. The report's findings and recommendations demonstrate a continued, pressing need to plan ahead for potential health risks associated with contaminated runoff in the Rio Grande. The City and BOR must respond accordingly by revising its DEIS and devising strategies to address this significant issue.

<sup>18</sup> Robert Alvarez & Joni Arends, *Fire, Earth, and Water: An Assessment of the Environmental, Safety and Health Impacts of the Cerro Grande Fire on Los Alamos National Laboratory, a Department of Energy Facility: Executive Summary 2* (Dec. 2000), available at <http://www.nuclearactive.org/docs/fire2.html>. The fire is linked to increased contaminant run-off through the following chain of events:

The Cerro Grande Fire destroyed vegetation and changed the surface soil, allowing greater quantities of storm water to flow through the canyons. This increased storm water flow can carry greater amounts of soil, sediment, and ash from the entire burned watershed, including some areas at LANL where chemicals and radioactive materials have been detected in soils.

Risk Assessment Corporation, *supra* note 1, at 9.

<sup>19</sup> Risk Assessment Corporation, *supra* note 1, at 2.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*, at 14.

<sup>22</sup> *Id.*, at 15.

<sup>23</sup> *Id.*, at 14.

Response to Comment 3443.091 Radionuclides are typically attached to particulates that will generally be captured in upstream reservoirs. Any particles not captured upstream would either then be settled out in the sedimentation basins or filtered in the filters. Any radionuclide that is not removed in this manner would be destroyed by treatment with ozone or bound to granular activated carbon. Chemical constituents would also be destroyed by treatment with ozone or bound to granular activated carbon. EPA drinking water standards require regular testing for regulated constituents including both radionuclides and various chemical constituents. The City is required by law to meet or exceed the drinking water standards imposed by Pueblos and the EPA. The text has been modified to include more recent water quality sampling.

Response to Comment 3443.092 Comment noted.

Response to Comment 3443.093 Comment noted.

3443.094

Lastly, in regard to the 1998 and 1999 sampling data, did these efforts include sampling for arsenic? If so, why is it not included in Table 3.27-1? If not, who determined, and how, that the arsenic levels in the river range from 2µg/L to 3µg/L (3-285)?

3443.095

Water quality in Indian Country is also not addressed. Four of the nine Pueblos in the ROI have water codes.<sup>24</sup> As a general rule, upstream non-Indian municipalities must ensure that water sent downstream complies with these Pueblo quality standards. City of Albuquerque v. Browner, 97 F.3d 415 (10<sup>th</sup> Cir. 1996), *cert. denied*, 118 S.Ct. 410 (1997). Yet, the DEIS makes no mention of how the City's project will meet Pueblo water quality standards. In particular, the Pueblo of Isleta has a water code including some standards that are more stringent than those of New Mexico.<sup>25</sup> One important distinction between the state and Pueblo standards is that two of the Pueblos designate the Rio Grande through the Pueblos for both primary contact ceremonial use and primary contact recreational use. It is impossible to know whether the City anticipates being able to meet these more stringent standards, as the issue is never discussed.

3443.096

Apart from complying with specific code provisions promulgated by the Pueblos, the City of Albuquerque must assess the DWP's potential impacts on Pueblo water quality in general. The DEIS itself mentions the Pueblos' concerns about impacts on water quality as they relate to human health, religious uses of the river, and habitat rehabilitation projects (1-15, 3-159 *et seq.*) Yet the City gives no response in the face of these concerns. Rather, the DEIS makes no attempt at all to explore how these issues could be addressed; nor does it propose any mitigating measures, as further discussed below.

3443.097

As illustrated above, the DEIS lists numerous potential impacts on Pueblo water resources. Shockingly, however, not a single mitigation measure is proposed (3-164). The DEIS purports that it listed no mitigation measures because no potentially impacted Indian trust assets (ITAs) were "formally identified."

3443.098

First, this is flawed reasoning. There is no restriction limiting proposed mitigation efforts to impacts on ITAs in an appropriately comprehensive EIS. Second, even if the reasoning were

<sup>24</sup> The four Pueblos within the ROI that have promulgated water quality standards are Isleta, Sandia, San Juan, and Santa Clara. EPA Repository of Documents: State and Tribal Water Quality Standards, available at <http://www.epa.gov/ost/wqs/>.

<sup>25</sup> Pueblo of Isleta Water Quality Standards (1992), available at [http://www.epa.gov/ost/standards/wqslibrary/tribes/isleta\\_6\\_wqs.pdf](http://www.epa.gov/ost/standards/wqslibrary/tribes/isleta_6_wqs.pdf).

Response to Comment 3443.094 Average and median arsenic (As) concentrations were based on routine long-term sampling by the USGS. As samples were taken during the 1998-2000 sampling events. However, it was determined that the long-term sampling conducted by the USGS would be more representative of long-term variability. The 1998-1999 sampling program resulted in As concentrations ranging from 1.8 to 4.8 µg/L in the Rio Grande with an average value of 3.3 µg/L and a median value of 3.1 µg/L. Flow conditions in the Rio Grande were near average at each of the sampling events. The commenter asks if As was sampled in the river water as shown in Table 3.27-1. The river water has an As concentration ranging from around 2 to 3 ug/L as sampled by the USGS. These data are presented in the report by Thomson and Chwirka entitled River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project. This low level of arsenic in the Rio Grande will have no impact on the water produced at the proposed drinking water treatment plant.

Response to Comment 3443.095 Assessments were completed regarding water quality at the Pueblos. The proposed project has no impact upon water quality at the SWRP, so downstream water quality is not impacted at all. There are no point sources of pollution to be considered if alternatives other than Angostura are selected. Water quality impacts, if any, could only occur from the lessening of any dilution effect from the diversion of the water. Please refer to Section 3.27.

Response to Comment 3443.096 Please refer to response to comment 3443.095. Water quality is assessed in Section 3.27. Water quality has been further assessed by Thompson and Chwirka (2002).

Response to Comment 3443.097 No mitigation measures are required as no effects are indicated. For construction activity, BMPs will be implemented. Please refer to Appendix O.

Response to Comment 3443.098 ON NEXT PAGE

3443.098  
(Cont)

sound, the statement itself remains inaccurate. Tribal land and water are both ITAs,<sup>26</sup> and they are both identified as resources that will be impacted by the DWP.

3443.099

One must question what the City requires for "formal identification" of an ITA, as it seems the Pueblos more than adequately identified natural resources that are both held in trust by the United States government and are imperiled by the proposed DWP. For example, in its preliminary comments to the City, the Six Middle Rio Grande Basin Pueblos criticized the DWP for the following: 1) failing to properly consider the nature of Indian water rights; 2) failing to adequately preserve senior water rights; 3) impeding Pueblo efforts at Bosque rehabilitation and other natural habitat restoration; and 4) harming the quality of Pueblo surface and ground water.<sup>27</sup> Additionally, during consultation sessions, Pueblo representatives identified the following eight areas of concern: 1) effects on domestic and municipal water supplies; 2) effects on the exercise of Pueblo reserved water rights; 3) impairment of water quality or quantity in Indian Country; 4) effects of wastewater effluent on Pueblo water supplies; 5) effects on traditional and cultural practices involving the river; 6) effects on the environment, including the Bosque, other habitat, and endangered species; 7) effects of project construction on Pueblo lands; and 8) effects on Cochiti Reservoir storage (3-160-161). The above statements of affected ITAs could not be clearer. Even the DEIS itself recognizes the existence of impacted ITAs, classifying "ITAs and other tribal resources" as "potentially affected resource[s]" in every subarea of the DWP (Table 3.17-1).

3443.100

It is certain that tribal resources will be impacted by the DWP. Mere consultation is insufficient for the fulfillment of agencies' obligations toward Indian tribes and their trust assets. The DEIS has done nothing more than state that the Pueblos' fears are likely to be confirmed. A supplemental DEIS must go beyond this superficial treatment of issues surrounding Indian Pueblo resources. It must determine whether Pueblo water rights will be violated; it must formulate plans for compliance with Pueblo water quality standards; and it must propose mitigation measures to reduce or eliminate the DWP's impacts on ITAs.

3443.101

In addition to the omission of CWA standards of the state and Pueblo of Sandia and Pueblo of Isleta, the DEIS overlooks the fact that while the City may (or may not) be in

<sup>26</sup> The DEIS defines ITAs as "legal interests in resources held in trust by the United States government for tribes or tribal members." DEIS 3.17.1. All Indian lands, water, and other natural resources meet this definition. With some exceptions, water and land in Indian Country are held by the United States government in trust for American Indian tribes. *See, e.g.,* Pyramid Lake Paiute Tribe of Indians v. Morton, 354 F.Supp. 252 (D.D.C. 1972) (holding that under its trust obligations, the Secretary of the Interior had to meet a high standard of fiduciary duty to the Tribe when it allocated water rights among users in a watershed). Since Pueblo water and lands constitute legal interests in resources held in trust, they are ITAs, and the City cannot claim they are not.

<sup>27</sup> These concerns render the characterization of water returned to the river at the SWRP outfall "native" as disingenuous. It is native for ease of accounting only. *See e.g.* 3-43.

Response to Comment 3443.098 During preparation of the DEIS, tribal lands or water was not identified as assets. Water quality issues have been further assessed through the report "River Water Quality Issues Related to Implementation of the Albuquerque Water Resources Management Strategy Drinking Water Project", (Thompson and Chwirka, 2002). The analysis indicates that water quality of the Rio Grande will be slightly improved by implementation of the DWP. There are no impacts upon water quality attributable to the DWP that interfere with Native American use of the water within the Rio Grande. Indian water rights are not impacted. Effects upon any reservations attributable to the Angostura Alternative are discussed in appropriate sections. This alternative would require more intensive consultation, permission, and authorizations to occur on Indian lands. Mitigation, where appropriate under a specific resource area, is considered within that resource area, and Appendix O. Results of the consultation were provided within Appendix F, G and Section 4.

Response to Comment 3443.099 Each of the concerns mentioned in the comment has been addressed thoroughly within the DEIS. If there is no effect upon a specific resource, there can not be an effect upon a "concern". Indian water rights are not impacted (Section 3.16 and Appendix L); water quality is not impacted (Section 3.27 and Response to Comment 3443.097). The cultural and traditional uses of the river, interpreted as contact with the river, are not altered. Domestic and municipal supplies are not impacted negatively, in fact, they may be improved (Section 3.16 and Appendix L), and effects upon bosque and other habitats and endangered species are considered in Sections 3.21 and 3.24. The Angostura Alternative would require additional consultation and authorization requirements from the effects indicated in Table 3.17-1. Reservoir operations are not affected by the action alternatives (Section 3.16 and Appendix L).

Response to Comment 3443.100 The first step in analysis of existing ITAs is the identification and quantification of those assets. After this process (detailed within Section 4 and Appendix F) was completed, tribal concerns were treated or evaluated as an asset. Regarding water rights and quality, reference is made to the response to comment 3443.099. Mitigation measures for each resource area are listed and summarized within resource categories, and formally presented within Appendix O. Also note response to comments 3443.095, 3443.096, 3443.097, and 3443.098.

Response to Comment 3443.101 The DEIS has assessed the needs for an NPDES permit.



3443.101  
(cont)

compliance with its NPDES permit for the SWRP, the City still has not received a NPDES permit for stormwater discharge, and thus is not in compliance with the CWA.

**Ground Water**

*Arsenic* 40 of 92 wells are not in compliance with the new arsenic standard, and the estimated cost of compliance for the No Action alternative is estimated at \$150 million (1-10). How did the City or Reclamation arrive at this figure, since elsewhere claimed costs are \$200 million (2-30)? We ask the same question of the three alternatives, all of which claim costs of \$40 million for arsenic treatment (3-200, 3-202, 3-203). How are costs calculated? Given the ambiguity in these cost estimates, how did the City and/or Reclamation reach the conclusion that the DWP is the "sole economically viable method" of compliance with the arsenic standard (1-10)?

3443.102

Likewise, the Alliance asks the City to explicitly lay out its plan for complying with the arsenic standard when groundwater will be used for drinking water. Neither the No Action alternative (3-284) nor the DWP alternatives provide any specifics, and in fact, offer mixed designs. For example, the summary of environmental alternatives (not the environmental consequences section or the description of alternatives section, where it more properly belongs) (yet another example of a conclusion with no evidence) states that individual well treatment may be required under any alternative, 3-287, while the effects analysis implies that river water will dilute groundwater, 3-285. We are particularly concerned with how the standard will be met during times of low flow when the DWP is not diverting surface water. Whether it be via individual well treatment, dilution, WTP treatment, or some combination of the three, it must be explicit for each alternative and for the curtailment and threshold flow scenarios (when the DWP reduces and stops diversions).

3443.103

What will happen to water quality at low flows, which is when exceedances most often occur?

3443.104

In sum, without the baseline data reviewed above, the DEIS can not reasonably contain the conclusions that the raw surface water quality is good (3-280), that there are no known water quality problems in the Upper Subarea (3-284), that there will be no adverse impacts to designated uses in the Middle Subarea (3-285), and most plainly, that there will be no cumulative impacts (3-287).

**Cumulative Effects**

3443.105

In determining the significance of the impact to the environment, EISs examine three types of impacts: direct; indirect; and cumulative. 40 C.F.R. § 1508.25(a)(2). Direct and indirect effects, defined above, are most often analyzed in the Environmental Consequences section of an EIS, while cumulative impacts are discussed after all other impacts have been examined. Cumulative impact "is the impact on the environment which results from the incremental impact

Response to Comment 3443.102 Text has been added to respond to this comment in Section 3.22.

Response to Comment 3443.103 Please see General Response to Comments 8. Water Quality. At low flows during curtailment water quality in the Rio Grande will reflect native water quality above Albuquerque. Below the diversion point, there will be considerably less water removed with the proposed DWP than with the No Action alternative. Downstream of the City's SWRP, river flows will be augmented with stored groundwater resulting in larger flows and greater dilution of any constituents.

Response to Comment 3443.104 All these have been addressed by the DEIS.

Response to Comment 3443.105 The methods used to assess cumulative impacts are described within Section 3.30.

3443.105  
(Cont)

of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 C.F.R. § 1508.7. See also 40 C.F.R. § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect or cumulative); and *Defenders of Wildlife v. Norton*, 130 F.Supp.2d 121 (D.D.C. 2001).

3443.106

First, your cumulative impacts analysis is all over the place – App. K, Sec. 3.30, and at the conclusion of resource sections. Thus, it is unclear which is the definitive statement of cumulative impacts. We hope that they are not those paragraphs concluding each resource section, since they fail to account for any other actions or other resources.

3443.107

Second, the discussion of related projects is not helpful or thorough. For example, City actions to address water quality lists no actions, simply the discharge of effluent. We sincerely hope this is not a measure that improves water quality. In addition, what is the meaning of ending the project in 2001, since the SWRP will continue to discharge (and when this contradicts what is said in Table 3.30-6)?

3443.108

Relatedly, Table 3.30-1 is not a complete list. It omits the Middle Rio Grande Ecosystem Restoration Project<sup>28</sup>, FWS silvery minnow rescue and relocation (and other actions pursuant to the 2001 biological opinion), diversions by other SJC contractors, diversions by other Rio Grande water rights holders, other groundwater pumping, and the ongoing protest of this project before the State Engineer.

3443.109

Most importantly, there is no analysis in Sec. 3.31, only conclusions. A meaningful cumulative impacts analysis requires consideration of context and intensity, measured by: proximity to park lands and wetlands; the degree of controversy generated by the project; the relation to individually insignificant but cumulative significant impacts; the loss of cultural resources; the degree of adverse effect to threatened and endangered species; and violations of federal or state law. See 40 C.F.R. § 1508.27. Tables of pluses, minuses, and zeroes offer no measure of degree, or more critically, of significance. These tables also fail to reflect the impacts demonstrated throughout these comments, and which go directly to the significant impact of this project, both individually and cumulatively. A few stand out:

- ▶ lack of public support of a new dam
- ▶ continuation of unsustainable water use
- ▶ understated residual impacts of aquifer mining
- ▶ adverse impact to the silvery minnow
- ▶ conflict with management of the Petroglyph National Monument
- ▶ violations of Pueblo water quality standards
- ▶ impairment of downstream water rights

<sup>28</sup> *River Revival, Multimillion-dollar project plans restoration of bosque from Alameda to Rio Bravo*, Albuquerque Journal (Aug. 22, 2002), at C1.

Response to Comment 3443.106 Appendix K was a place holder within the DEIS pending a decision to place Section 3.30 in a separate Appendix for ease of the reader. When cumulative effects are considered for other resource areas, it is to indicate the potential, if at all, for a cumulative effect upon that resource. For example, page 3-82 of the DEIS, there are no increases in hazardous material sites planned, nor is there an increase of unrecognized hazards, so there are no cumulative effects. This is done to acknowledge the requirement to consider direct, indirect and cumulative effects. The text has been modified to consider cumulative effects in each resource area, and to reference Section 3.30 where appropriate.

Response to Comment 3443.107 Please see General Response to Comments 9. Mitigation. City actions to improve water quality include improvements to the treatment plant, reduction of arsenic and other activities. It is not necessary to list each one unless it was seen as more pertinent to the cumulative effects analysis than the summary. Improvements, if they occur, would be a positive event, and not harmful to the resource listed in Table 3.30-6, the RGSM. Specific water quality issues, as indicated in previous responses to comments, have been further addressed in the report listed in response to comment 3443.095 and others. Attempts to improve water quality would not end in 2002, and the document has been corrected.

Responses to Comments 3443.108 and 3443.109 are on the next pages.

An EIS that fails to consider cumulative impacts may be deemed inadequate. See Neighbors of Cuddy Mountain v. U.S.F.S., 137 F.3d 1372, 1376 (9<sup>th</sup> Cir. 1998). Given the unexamined and significant impacts of this project, the City and BOR must supplement this DEIS. See Marsh, 490 U.S. at 374.

**Mitigation**

In addition to the adverse effects, BOR and the City must discuss mitigation measures; it is explicit in NEPA's command and the CEQ's regulations. See 40 C.F.R. §§ 1502.14(f), 1502.16(h), 1508.14. The omission of reasonably complete discussion of mitigation measures would undermine NEPA's action forcing functions. Without such, interested parties cannot properly evaluate the severity of adverse impacts. Roberston v. Methow Valley Citizens Council, 490 U.S. 332 (1989).

Mitigation measures must cover the range of impacts of the proposal and must include such things as design alternatives, possible land use controls and other possible efforts. "Once the proposal itself is considered as a whole to have significant effects, all of its specific effects on the environment (whether or not "significant") must be considered, and mitigation measures must be developed where it is feasible to do so." 46 Fed. Reg. 18026 (March 23, 1981). See also 40 C.F.R. §§ 1502.14(f), 1502.16(h), 1508.14.

When developing alternatives and mitigation measures, BOR and the City should keep the following priorities in mind: a) avoid the impact by not taking the action; b) minimize the impact by limiting the action; c) rectify the impact by rehabilitation; d) reduce the impact by maintenance; and e) compensate for the impact by replacement. 40 C.F.R. §1508.20.

The pervasive use of passive voice addressing mitigation measures allows the DEIS to address mitigation without committing a party to actually perform it. Without commitments by the City or BOR (or another third party), the effectiveness of these measures are nil. For example, stranded fish would be recovered (3-45), but by whom?

Likewise, in revising the DEIS, the Alliance suggests that BOR and the City change "woulds" to "wills" to reflect their commitment to mitigation (3-159). Pervasive use of the subjunctive mood indicates the hypothetical or doubtful, rather than a commitment to mitigate for adverse impacts.

**Miscellaneous**

In addition to typographical errors, incomplete sentences, and grammatical mistakes too numerous to cite here, please note the following errata. We make these corrections not to be petty, but to illustrate the difficulty in simply reading and comprehending the text, given the incomplete sentences describing and comparing alternatives, the lack of proper and adequate reference to tables, figures, and other sections, and missing references. As a whole, they cast

Response to Comment 3443.108 The list has been updated and effects analyzed and amended in the FEIS.

Response to Comment 3443.109 Cumulative impacts are fully analyzed and discussed in the DEIS in Section 3.30, which as noted in that section must be read in conjunction with Section 2.

Response to Comment 3443.110 Mitigation measures are fully set forth in the DEIS for each affected resource category. See DEIS at Sections 3.5.4 to 3.29.4.

Response to Comment 3443.111 The City will enter into an agreement with the Bureau of Reclamation regarding prospective responsibilities for proposed mitigation measures. Clarification has been provided in the FEIS. NEPA only requires discussion of possible mitigation measures. See Robertson v. Methow Valley Citizens Council, 480 U.S. 332 (1989). The City will incorporate additional funding commitments through Section 7 consultation with the FWS.

3443.110

3443.111

doubt on the rigor with which the document was prepared.

Page

3443.112	1-4	The San Juan-Chama Project was not authorized by the Boulder Canyon Project Act. Change to PL 87-483, which amended the Colorado River Storage Project Act.
3443.113	1-7	The City of Albuquerque does not "own" water, it simply has the right to use contracted water.
3443.114	1-17	Section 3.31 does not refer to cumulative impacts, but to Unavoidable Adverse Impacts. Please correct.
3443.115	3-15	Neither Heron Dam and Reservoir nor a transmountain diversion were authorized by the Colorado River Compact. Delete that reference.
3443.116	3-15	Clarify with whom El Vado Dam is operated by agreement with BOR.
3443.117	3-15, 16	The DEIS states that the native waters in El Vado are, and the SJC waters are not, subject to restrictions of the Rio Grande Compact. The DEIS should explain what these restrictions are.
3443.118	3-16	Discuss the meaning of sinuosity < 1.15.
3443.119	3-39	Provide units in the last full sentence.
3443.120	3-44	The 583 acres of riparian area affected by the Subsurface Diversion does not match the 552 acre figure in Table 3.7-2. Please correct this discrepancy.
3443.121	3-52	SWCA, Inc. 1997 reference is not included in Section 5 References.
3443.122	3-102	There is no Section 3.16.2.2 (last incomplete paragraph) to which you refer. See also p. 3-145, where there is no Section 3.16.2.4.2; p. 3-213, no Section 3.24.2.3. The lack of outlining in the DEIS makes the format difficult to follow, worsened by references to non-existent subsections.
3443.123	3-102	Albuquerque's effluent discharge of 58,000 af and non-use of native rights of 13,500 af does not add up to the total effect on the river of 71,700 af. Why? Is this indicative of the City's water accounting?
3443.124	3-125	Figure 3.16-11 (and similar Figures) would be improved by contrasting colors to show drawdown. The shades of red depicting 250-300 and 300-500 are indistinguishable. This is particularly important since the Figures are the only evidence/analysis provided. For

Response to Comment 3443.112	Comment noted. Error has been corrected to reflect that the authorizing legislation for the project is PL87-483.
Response to Comment 3443.113	The City owns its allocation of San Juan-Chama water pursuant to state law.
Response to Comment 3443.114	Section 3.31 does refer to Unavoidable Adverse Impacts.
Response to Comment 3443.115	Comment noted. Text has been clarified to explain that the compact allocated New Mexico 11.25% and the diversion and reservoirs associated with the San Juan - Chama Project are New Mexico's exercise of part of its entitlement.
Response to Comment 3443.116	Comment noted. Text has been rewritten to reflect that Reclamation operates El Vado pursuant to an agreement with the MRGCD.
Response to Comment 3443.117	Native storage is subject to the restrictions of Article VII of the Rio Grande Compact which precludes storage in post-1929 upstream reservoirs where storage in Elephant Butte Reservoir drops below 400,000 acre-feet. San Juan-Chama water, as imported water, is not subject to this restriction.
Response to Comment 3443.118	This definition is found in the referenced report following the statement (Fogg, et al, 1992). Sinuosity defined generally is the nature of a meandering stream system. As measured, it is the ratio of the thalweg length to valley length, for a specific reach of a river or stream system.
Response to Comment 3443.119	Units are cubic feet per second *cfs). Text has been modified to reflect this comment.
Response to Comment 3443.120	Comment noted and text changed for consistency and accuracy.
Response to Comment 3443.121	Comment noted. Text changed.
Response to Comment 3443.122	The Final EIS has been revised to reflect these references as follows: from 3.16.2.2 to 3.16.2; 3.16.2.4.2 to 3.16.2; and 3.24.2.3 to 3.24.2.
Response to Comment 3443.123	Water was released as part of payback to the City from the MRGCD for water borrowed to sustain flows for the RGSM in the year 2000. This water is included in the calculations.
Response to Comment 3443.124	Figure has been modified.

example, Fig. 3.16-11 is relied on to show drawdowns over 300 feet ( ), yet it is not evident from the figure.

- 3443.125** 3-169 There is no Figure 3.17-1. Please change to 3.18-1. See also pp. 3-259 (change Fig. 2.4-3 to 2.5-3); 3-260 and 3-266 (change Fig. 2.4-1 to 2.5-1).
- 3443.126** 3-200 Second full paragraph: "between \$538 million" and what? This is but one example where the second half of a comparison or contrast is missing. See also 3-32, "While ..."
- 3443.127** 3-198 Please add NPV to the list of acronyms, or define within the section.
- 3443.128** 3-198 Believe that you mean "annual" rather than a "monthly" rate increase in excess of 10% of water bill.
- 3443.129** 3-209 The last incomplete paragraph describes Table 3.24-1 as containing the date and source for each species listing; this information is not in the table.
- 3443.130** 3-211 Table 3.24-1: please change Rio Grande silvery minnow to indicate that critical habitat is proposed, and proposed within the Middle Rio Grande.
- 3443.131** 3-213 First full paragraph states critical habitat has been designated for four species, yet Table 3.24-1 shows critical habitat designated for 2 and proposed for one. Please correct these discrepancies.
- 3443.132** 3-213 Add description of proposed critical habitat for Rio Grande silvery minnow.
- 3443.133** 3-216 Please clarify which Reclamation 2001 is being cited.
- 3443.134** 3-216 Please delete redundant paragraph.
- 3443.135** 3-217 Please delete reference to "this BA." Also, there are no references listed for Parsons (2001a, 2002) or for USFWS (2002).
- 3443.136** 3-220 There is no reference in Section 5 for USFWS 2002b.
- 3443.137** 3-250 Change BL Line (in list of exceptions) to BI.
- 3443.138** 3-271 Fig. 3.25-1 contains 18 dots, yet there are 19 sites on the list. Please correct this discrepancy
- 3443.139** 3-298 Please fix the inconsistency in the date of issuance of the LFCC DEIS.

Response to Comment 3443.125 Text changed as appropriate.
Response to Comment 3443.126 Text changed as appropriate.
Response to Comment 3443.127 Text changed as appropriate.
Response to Comment 3443.128 Text changed as appropriate.
Response to Comment 3443.129 Text changed as appropriate.
Response to Comment 3443.130 Text changed as appropriate.
Response to Comment 3443.131 Text changed as appropriate.
Response to Comment 3443.132 Text changed as appropriate.
Response to Comment 3443.133 Text changed as appropriate.
Response to Comment 3443.134 Text changed as appropriate.
Response to Comment 3443.135 Text changed as appropriate.
Response to Comment 3443.136 Text changed as appropriate.
Response to Comment 3443.137 Text changed as appropriate.
Response to Comment 3443.138 Text changed as appropriate.
Response to Comment 3443.139 Text changed as appropriate.

Thank you again for this opportunity to comment. If you have any questions or comments, please contact me at 248-0118.

Sincerely,

Kara Gillon  
Wildlife Counsel  
Defenders of Wildlife

(on behalf of the aforementioned signatories)



william j miller  
ENGINEERS

September 11, 2002

Ms. Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, N.W., Suite 1313  
Albuquerque, NM 87102

Dear Ms. Robertson:

Attached herewith for your review and information are comments on the June 14, 2002 Draft Environmental Impact Statement for the City of Albuquerque Drinking Water Project. These comments have been prepared for and are being submitted on behalf of Rio Grande Restoration.

Please let me know if you have any questions or if additional information would be helpful.

Sincerely,

William J. Miller,  
Principal Engineer

cc: w/ copy of enc.: Steve Harris

**Comments on Draft Environmental Impact Statement – City of Albuquerque Drinking Water Project.**

TO: Lori Robertson, Bureau of Reclamation  
 FROM: William J. Miller, Consultant to Rio Grande Restoration  
 DATE: September 11, 2002

This Memorandum contains comments on the June 2002 Draft Environmental Impact Statement (DEIS) prepared for the City of Albuquerque Drinking Water Project (Project) submitted on behalf of Rio Grande Restoration.

**3444.001**

Page 1-4, last incomplete paragraph. The San Juan-Chama Project was not authorized by the Boulder Canyon Project Act, but was authorized by the Colorado River Storage Project Act of April 11, 1956.

**3444.002**

Page 1-7, first incomplete paragraph, fourth sentence. The Rio Grande Compact Commission has not approved transportation loss rates for delivery of San Juan-Chama Project water between Cochiti Dam and the two proposed diversion locations within the City of Albuquerque. Section 8(e) of Public Law 87-483 provides that “details of (San Juan-Chama) project operation essential to accounting for diverted San Juan and Rio Grande flows shall be developed through the joint efforts of the Rio Grande compact commission...” Unless loss rates approved by the Rio Grande Compact Commission are used, it is not possible to know how much of the City’s San Juan-Chama Project water will be available for diversion and use by the City. The Rio Grande Compact Commission has approved loss rates for the delivery of San Juan-Chama Project water from Otowi to Elephant Butte Reservoir during all months of the year except June, July, August and September.

**3444.003**

The DEIS is inconsistent it the use of loss rates for delivery of San Juan-Chama Project water to the Albuquerque area. On page 1-7, the DEIS states that 47,000 acre-feet will be available for beneficial use, which is based on an average annual loss rate of 2.5% between Heron Reservoir and Albuquerque. On page A-5 of Appendix L, Table A-1 tabulates loss factors used to estimate San Juan-Chama Project water at locations below Heron Reservoir. This table shows an average annual loss rate between Heron Reservoir and Albuquerque of 8%, which would result in about 44,300 acre-feet of San Juan-Chama Project water available for diversion and consumptive use at Albuquerque. The DEIS should be revised to provide an explanation and a basis for the use of two different loss rates for the delivery of San Juan-Chama Project water between Heron Reservoir and Albuquerque.

**3444.004**

Page 1-7, first complete paragraph, penultimate sentence. This sentence makes conclusions about the amounts of San Juan-Chama Project water anticipated to pass the Otowi gage in the future. The DEIS should consider the likely possibility that the firm yield of the San Juan-Chama Project may be reduced below the current yield of 96,600

Response to Comment 3444.001 Text changed.

Response to Comment 3444.002 Loss factors have not been officially approved but those used in the EIS are consistent with and more conservative than those commonly used since the mid-1980s for both cool and warm weather deliveries to Elephant Butte Reservoir.

Response to Comment 3444.003 Since the City intends to begin the DWP operation with near full storage in Abiquiu and since the City will have a curtailment strategy where there would be reduced or no SJC diversions during low flow conditions, sufficient water should be available to deliver the City SJC water that the DWP needs to operate fully at 47,000 ac-ft/yr delivered to Albuquerque. The EIS uses this full operation of 47,000 ac-ft/yr to determine effects. This explanation has been incorporated into the EIS.

Response to Comment 3444.004 The current yield of the San Juan-Chama Project is 96,200 ac-ft/yr, not 96,600 ac-ft/yr. The historical analysis that was completed in 1989 to calculate this yield was based on 1935-1987 data. Since 1987 there have been both wet and dry periods. In accordance with the authorizing legislation for the SJC project, the Secretary of the Interior is precluded from entering into contracts outside of the firm yield. Consequently, if firm yield is reduced, the Secretary of Interior would need to cancel or modify the contracts entered into in descending order based on the available water supply. Since the City and MRGCD have perpetual contracts that were signed that allow the Secretary to construct the project, the City and MRGCD contracts must be kept whole even if the firm yield were to change.



acre-feet. The February, 1989 Bureau of Reclamation San Juan-Chama Project Yield Update did not include the low-flow years of 1996, 2000 and 2002. The amount of San Juan-Chama Project water diverted from the San Juan River basin during 2002 was lower than any year used in the yield study. The combined low inflows of these three years will likely reduce the Project yield, which could reduce the allocation to all Project contractors, including the City of Albuquerque.

3444.005

Page 1-9, first complete paragraph. This paragraph briefly summarizes the history of the development of the three diversion alternatives brought forward for evaluation in the DEIS. This summary does not accurately describe the history of development of the proposed alternatives. Specifically, the preferred alternative, construction of a new dam across the Rio Grande, was not among those considered in the original 32 alternatives evaluated by the City. The March, 1997 planning documents (Evaluation of Alternatives and Strategy Formulation, Technical Basis of the Recommended Strategy, page 5-1), states that "No new diversion structures will be constructed across the Rio Grande". At some point in the planning process (the reason this Project component was added and whether there was public involvement are not clear) the City's position changed and a new diversion structure across the Rio Grande emerged as the preferred alternative. Because the preferred alternative was not evaluated against all the other 32 alternatives considered by the City, it is not possible to determine how this alternative would compare with the wide range of alternatives initially considered by the City. The DEIS should be revised to accurately reflect the development and evaluation of planning alternatives, and the preferred alternative should be evaluated against all of the 32 "true alternatives" considered in 1997. The "decision audit trail" that records the basis for defining the logic used to identify the preferred alternative is critical for sustaining progress in selecting a water supply alternative for the City. The audit trail for defining how a new dam across the Rio Grande became the preferred alternative is not clear.

3444.006

Page 1-10, first complete paragraph, penultimate sentence. This sentence states that the implementation of the DWP as proposed in the DEIS is the sole economically viable method for the City to comply with the new arsenic standard. The DEIS does not contain data on the economic studies of the alternatives considered by the City which led to this conclusion. The DEIS should contain specific data regarding the costs and benefits of each alternative in order to support this conclusion.

3444.007

Page 2-6, first paragraph, first sentence. The DEIS describes the City's water conservation plan as rigorous and effective. It is suggested that the language used to describe the City's conservation plan be changed because the current City water conservation plan is not "very strict, harsh or severe," (voluntary for residential users). The implementation of the current City water conservation plan may not achieve the desired result, which is to reduce the per capita use rate to 175 gallons per person per day by the year 2004, and therefore should not be characterized as effective. The DEIS should be revised to state that the goals of the water conservation plan are not likely to be met by 2004. If the goal of reducing per capita water use to 175 gallons per day cannot be reached by 2004, the hydrologic analysis undertaken in the DEIS to describe the impact of the City's water use on the flow of the Rio Grande should be revised to reflect

Response to Comment 3444.005 Please see General Response to Comments 1. Alternatives.

Response to Comment 3444.006 Please see General Response to Comments 8. Water Quality. Please also see response to comment 3443.102.

Response to Comment 3444.007 Please see General Response to Comments 2. Conservation. Water conservation is an integral part of the project.

a more realistic projected water demand based on the current water use rate of 209 gallons per capita per day (<http://www.cabq.gov/waterconservation/insert.html>, last visited, August, 2002).

**3444.008**

The DEIS does not evaluate the role of water conservation in fulfilling the purpose and need of the project. The DEIS assumes that the City's water conservation goal of 175 gpcd will be achieved by the time the project is implemented and that no further reductions in per capita water use will occur over the following sixty years. Even with a projected use rate of 175 gpcd, the City of Albuquerque water users would use more water than residents of neighboring southwestern cities presently use, including some of served by water from Reclamation projects. The DEIS should be revised to evaluate the impacts of the various proposed alternatives assuming future reductions in per capita use rates below 175 gpcd. The DEIS should also spell out what role, in any, the Bureau of Reclamation may have under federal law or Reclamation regulations that would ensure that the federal San Juan-Chama Project water is utilized in an efficient and prudent manner.

**3444.009**

Page 2-16, second paragraph, first sentence. This sentence states that recycled wastewater alternatives were ranked low because of environmental difficulties, poor public perception, financial considerations and regulatory issues. This sentence does not adequately describe the reasons or provide a basis as to why these alternatives were ranked lower than some of the other alternatives. All of the alternatives have environmental difficulties, financial considerations and regulatory issues. The DEIS should fully explain the bases behind this statement in order for the reader to more fully understand why the recycled wastewater alternatives were ranked low.

**3444.010**

At the time the 1997 Evaluation of Alternatives and Strategy Formulation document was prepared by the City, New Mexico state law did not provide for a lawful right to recover recharged water. As a result, the recharge alternatives considered in the evaluation of the original 32 alternatives were ranked low because of concerns that likely would arise over who receives the benefits of aquifer recharge. Since the 1997 Evaluation of Alternatives, a state statute has been enacted that would allow for the entity who recharges water to receive the benefits of the recharged water. An evaluation of the impacts of all recharge alternatives should be undertaken in the DEIS based on the existing state recharge and recovery statutes in order to provide a valid comparison with the impacts of the non-recharge and recovery alternatives.

**3444.011**

Page 2-21 second paragraph. The DEIS does not explain how construction of a new diversion dam across the Rio Grande became one of the three final alternatives considered, especially after the 1997 evaluation specifically excluded a new diversion dam that would span the channel of the Rio Grande. The DEIS should include a description of the public involvement process whereby this alternative was added. In addition, the DEIS does not state why only one type of new dam was considered. A complete evaluation of a new diversion dam should include the evaluation of a heading type of diversion structure that does not include a structure that spans the entire channel of the Rio Grande. Such structures were constructed and operated by the Middle Rio Grande Conservancy District (MRGCD) for many years at the Atrisco and San Juan headings on the Rio Grande. Works constructed by the Corps of Engineers and the

**3444.012**

Response to Comment 3444.008 Please see General Response to Comments 2. Conservation. Use of the SJC water must meet terms of the contract between users and BOR.

Response to Comment 3444.009 Please see General Response to Comments 1. Alternatives. Full description of rankings for recycled wastewater alternatives is provided by reference in Section 2.3 and 2.6. While it is true that the New Mexico statutes have been enacted to provide a regulatory framework that allows for consideration of recycling wastewater, no project of this kind has been permitted in the state to date. It is anticipated that the permitting process for this type of project would be more difficult than for a surface water diversion because numerous surface water diversions have been permitted in the past.

Response to Comment 3444.010 Please see General Response to Comments 1. Alternatives.

Response to Comment 3444.011 Please see General Response to Comments 1. Alternatives.

Response to Comment 3444.012 Other types of diversion dam structures were considered as a part of this process. However, the inflatable dam type was chosen as part of the strategy because of its flexibility with respect to operation. Please note that the analysis included by reference of Dr. Heggen indicates that this type of dam would not result in adverse impacts.

3444.012  
(Cont)

Bureau of Reclamation have stabilized the channel of the Rio Grande and have reduced the difficulties sedimentation presented in the operation and maintenance of these types of structures. The DEIS should evaluate other types of diversion structures that do not interfere with the transport and deposition of sediment in the channel of the Rio Grande or impact aquatic habitat, such as a heading type structure.

Page 2-27, Section 2.4 - No Action Alternative

The DEIS improperly bases the development of the "no-action" alternative on the inability to reliably predict a future use of the City's San Juan-Chama Project water in the event that any of the alternatives are not constructed. Because it is believed that the future cannot be reliably predicted does not relieve the DEIS from the obligation of developing and analyzing an alternative that is based on no action, that is, that the present course of action is maintained. This means that the "no action" alternative must be based on the City's current plan for use of San Juan-Chama Project water, which is the continuation of the leases of San Juan-Chama Project water to the existing subcontractors for beneficial uses in the Rio Grande basin.

Any use (or non-use) of the City's San Juan-Chama Project water other than the current course of action is really another action alternative. An alternative based on the City's San Juan-Chama Project water not being available for beneficial use, is an action alternative and should be included in the evaluation of the action alternatives. The "no-action" alternative simply means that the proposed activity will not take place. It does not mean that the City will no longer receive or use its allocation of San Juan-Chama Project water.

The Council on Environmental Quality's (CEQ) Forty Most Asked Questions concerning CEQ's National Environmental Policy Act Regulations [FR46(55): 18026-18038, 23 May 1981] discuss items to be included in the no-action alternative. In the situation where a program is initiated under existing legislation and regulations, the CEQ's regulations state:

*In these cases "no action" is "no change" from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until the action is changed.*

In the instance involving federal decisions on proposals for projects:

*"No action" in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative to go forward.*

The existing City San Juan-Chama Project subcontracts and actual releases of San Juan-Chama Project water constitute the "present course of action" with respect to defining the "no action" alternative. Not using the City San Juan-Chama Project water,

Response to Comment 3444.013 Section 2-4 accurately states the basis for the no action alternative in full compliance with NEPA. The "current plan" for use of the SJC water is not continued and undefined leasing to third parties. Rather, as fully set forth in the no action, the proper no action for use of SJC water is to offset depletion effects, to satisfy outstanding leases through expiration dates of 2011 and to serve the non-potable project. See Section 2-4 at page 2-30 of the DEIS.

3444.013

as currently proposed in the DEIS as the “no action” alternative, would either constitute a fourth action alternative or would be a “useless academic exercise”.

3444.014

The inclusion of the proposed “no action” alternative in the DEIS results in numerous inconsistencies in the evaluation of the impacts of the proposed action alternatives. When the DEIS evaluates the impact of the action alternatives, the existing biological, chemical and physical characteristics of the Rio Grande are used in the analysis. Historic surface water quality data, existing biological data (aquatic species habitat) and stream channel geomorphology are used to develop the basis for comparing the impacts of the proposed alternatives. The DEIS removes the historic San Juan-Chama Project streamflow from the hydrology used to describe the “no action” alternative, but the biologic, chemical and physical aspects associated with the flow of this water cannot be removed from the analysis. The DEIS analysis of impacts of action alternatives on biological, chemical and physical characteristics of the Rio Grande would be consistent if the DEIS “no action” alternative were based on the current use of City’s San Juan-Chama Project water.

3444.015

The fact that the total annual flow of the City’s San Juan-Chama Project water is small compared to the total annual flow of the Rio Grande is misleading and meaningless. The City’s San Juan-Chama Project water was used to maintain a base flow of 250 cfs at the Central Avenue gage; the proposed action alternatives would reduce the base flow at Central Avenue to 70 cfs, or less. This reduction in minimum base flow is the impact of the action alternatives that must be analyzed by the DEIS. Similarly, the City’s San Juan-Chama Project water has been used for the conservation of endangered species and for the irrigation of crops in the Rio Grande Valley. The impact of the reduced water supply for these activities must be considered in the analysis of impacts of implementing any of the action alternatives.

3444.016

Page 2-33, Section 2.5.1. This section describes rehabilitation and repairs and the removal of sediment and debris from the existing structures at the MRGCD’s Angostura diversion, and the DEIS assigns a Project cost to this work. These items describe operation and maintenance activities that are the responsibility of the MRGCD. In addition, the DEIS includes as part of the cost of this alternative the construction of a fish screen and a fish bypass structure. The DEIS does not explain why the cost of constructing, maintaining and operating these new facilities should be entirely borne by the City of Albuquerque water users. It is likely that all of this work, including operation, maintenance and improvements of facilities for endangered species conservation, would have to be undertaken by water users of the MRGCD, or the Bureau of Reclamation. The DEIS should state the basis for assigning costs to the City of Albuquerque that are not for the Drinking Water Project and why some costs should not be borne by water users of the MRGCD or the Bureau of Reclamation.

3444.017

Page 2-46, first paragraph. The second sentence of this paragraph states that approximately 65 cfs of the City’s San Juan-Chama Project water would reach the diversion facility at Paseo del Norte. This is the same flow of San Juan-Chama Project water that the DEIS states would arrive at and be diverted at the Angostura Dam (see first bullet statement on page 2-46 of DEIS). The DEIS should explain why there is no

Response to Comment 3444.014 See comment above (3444.013).

Response to Comment 3444.015 The proposed action will not reduce base flow to 70 cfs. Please refer to DEIS Figure 3.16.4 that shows average and dry year monthly flows in the Rio Grande at the Albuquerque gage.

As described in DEIS Section 2.4 No Action alternative historic use of the City’s SJC water cannot reasonably be used to predict a future without the project, hence the analysis of future continuation post temporary uses of City SJC water is not considered.

Response to Comment 3444.016 Costs associated with improvements to and operation and maintenance of the Angostura diversion point are costs solely associated with the addition of the City’s project to the facility and as such are considered to be borne by the City.

Response to Comment 3444.017 For purposes of the streamflow effects analysis, no difference in the delivery rates for either the Angostura or Paseo del Norte diversions was assumed. In practice, there may be a very small difference. The actual loss rates to be used for the operation of the DWP are to be determined by the OSE in the City diversion permit application and approved by the Rio Grande Compact Commission.

additional loss of San Juan-Chama Project water for delivery to Paseo del Norte, 18 miles downstream of Angostura.

3444.018

Page 2-46, second complete paragraph. The first sentence of this paragraph states that implementation of the City's curtailment strategy would "ensure DWP diversions do not adversely affect the riverine ecology between the diversion point and return flow points". The DEIS does not explain how the curtailment strategy ensures the DWP diversions will not adversely affect the riverine ecology, especially considering:

- The DEIS does not describe the ecological or biological basis for the flow rates contained in the curtailment strategy; and
- There is no administration of diversions by middle Rio Grande surface water rights by the Office of the State Engineer that would ensure that any minimum flow provided in a curtailment strategy would bypass the diversion and remain in the river.

3444.019

The DEIS seems to recognize that it is not possible to ensure against adverse effects to the riverine ecology; on page 2-53, second line, the DEIS states that implementation of the diversion strategy would only "minimize depletion effects". The DEIS should be revised to provide a scientific basis for the flow rates used in any curtailment strategy, and to describe how the operation of the City's diversion will be administered to ensure that a curtailment strategy is implemented as described in a Final EIS.

3444.020

Page 2-46, first bullet statement. The DEIS states that the City's curtailment strategy for the Angostura diversion allows for the diversion of approximately 250 cfs for MRGCD water users. The records of the historic diversion of water at Angostura (<http://www.spa.usace.army.mil/urgscripts/getData.pl>) indicate that diversion at Angostura reaches at least 350 cfs each year, and some years reaches 400 cfs. The City's curtailment strategy for Angostura should reflect the historic demands of water users served by the Angostura diversion. The DEIS should be revised to indicate that the total flow needed to fully operate the City's project and to meet MRGCD demands would be at least 600-650 cfs at the Angostura diversion.

3444.021

Page 2-64, second and third paragraphs. These paragraphs discuss reason why recharge proposal developed by Rio Grande Restoration are not reasonable and were therefore rejected. Some of the reasons given for rejecting this type of proposal seem contradictory and unclear. The DEIS states that the recharge water would take many years to reach the aquifer and rendered unusable in the vadose zone. The recharge water would then be lost to the shallow groundwater system and ultimately reach the middle valley drainage system. If recharge water was lost to *shallow groundwater* and then to the surface drainage system, would that not imply that the amount of time taken by the recharge water to reach the aquifer would be relatively short? The DEIS also states that "much" of the water would be lost to evaporation from the water surface of the recharge ponds. The DEIS does not quantify "much". Assuming an average recharge rate of one-half foot per day, and an average water surface evaporation rate of 0.20 inches per day (based on annual water surface evaporation rate of 70 inches), the amount of water lost to

3444.022

Response to Comment 3444.018 Please see DEIS Sections 3.24, 3.27, 3.29 and 3.7 for the basis of the effects analysis to biological resources.

Response to Comment 3444.019 The curtailment rates were established based on project operational requirements to meet purpose and need. For effects upon the RGSM, please see DEIS Section 3.24, Threatened and Endangered Species, for the scientific basis for effects on river ecology. The City diversion will be operated and administered under the procedures that will be established by the Office of State Engineer and Biological Opinion.

Response to Comment 3444.020 The use of 250 cfs for the curtailment strategy is based on a dry year when the DWP would be approaching curtailment and is not meant to show the upper values of diversion such as the 350 cfs or 400 cfs cited.

Response to Comment 3444.021 The ultimate destination of the water does not imply a short travel time. It should be noted that the vadose zone at the site in Tijeras arroyo proposed by Rio Grande Restoration is more than 250 feet thick. In addition, the site is more than 3.5 miles from the surface drainage system. Both of these factors would contribute to relatively long travel times. However, the travel time discussion specifically refers to the amount of time required for "recharge" water to reach areas of extensive drawdown and/or pumping centers. The nearest pumping well is more than 3.5 miles away from the site and, the area of maximum drawdown in more than 5 miles away from the site. Even under the questionable infiltration rates sited in the Rio Grande Restoration alternative it would be many years before recharged water would reach the areas of interest. Further, the scenarios propose using this water as a source of supply, such that, any water input in a given year would be withdrawn in the same year. Therefore, none of the recharge water would be available for restoring aquifer heads. A full analysis of the Rio Grande Restoration alternatives is presented by reference in Section 2.6.2.

Response to Comment 3444.022 Comment noted.

evaporation from the surface of the recharge pond would be three percent of the amount percolating into the ground.

The DEIS has identified numerous issues, some of them valid, surrounding some recharge proposals, yet the DEIS offers no details at all about the aquifer recharge and recovery program proposed as a component of the DWP. The recharge and recovery component of the DWP is characterized as a demonstration project, which may only operate so long as the water treatment plant has excess capacity available. It is curious that the City of Albuquerque has not taken a more aggressive posture with respect to the development of a recharge and recovery project considering that the City was a leader in the development and enactment of the State's groundwater recharge and recovery statute. The DEIS should be revised to include specific details of a recharge and recovery project sufficient to evaluate the impacts of operating such a project. It is suggested that a simple recharge and recovery project, such as the diversion, treatment and injection of the City's San Juan-Chama Project be included and evaluated in the DEIS.

3444.023

Page 2-65, Section 2.6.3, Recycled Wastewater. In this single paragraph, the DEIS eliminates a sustainable water supply alternative based on serious concerns about public health and costs associated with the treatment of injected water. The DEIS does not adequately consider this alternative, and provides no supporting basis for not fully analyzing this alternative, other than generalizations about concerns and costs. Major metropolitan areas in southern California and in Arizona have developed and implemented projects involving the recycling and recharge of treated effluent. These municipalities have considered and addressed concerns related to public health and costs, many with financial assistance from the Bureau of Reclamation, resulting in projects that utilize treated effluent to provide drinking water that meets drinking water standards. The DEIS should include a complete analysis of alternative uses of treated wastewater.

3444.024

Page 3-17, third complete paragraph. This paragraph does not adequately characterize the nature and extent of authorized uses of water for agricultural purposes on the Rio Chama downstream of Abiquiu Dam. A total of 19 acequias have adjudicated water rights from the Rio Chama below Abiquiu Dam totaling 13,442 acre-feet (farm delivery), with priority dates extending back to 1724. The total maximum authorized diversion rate is 139 cfs. As noted in the DEIS, many of the diversion structures are constructed of brush and boulders. The DEIS does not discuss or evaluate the impact on these structures of increased flow below Abiquiu Dam due to the release of the City's San Juan-Chama Project water from Heron Reservoir.

3444.025

Page 3-42 fourth complete paragraph, first sentence. The DEIS states that there would be no direct, indirect or cumulative effects to fisheries and other aquatic life within the reservoirs attributable to reservoir operation in the Upper Subarea. It is not clear how the DEIS could reach this conclusion, considering the DEIS did not consider all operating scenarios and flows and did not fully assess the effects of the DWP alternatives (See page 7-2, Appendix L). Under the assumptions used in the hydrologic analysis, all San Juan-Chama Project contractors would fully utilize their contract amounts (see page 3-110). As a result, no San Juan-Chama Project water would be available for maintaining storage levels in Abiquiu Reservoir, which would result in an essentially dry reservoir and severe

3444.026

Response to Comment 3444.023 Please see General Response to Comments 1. Alternatives. The ASR program relies on excess drinking water supply through an over-treatment capacity of the drinking water plant. The amount of this supply and the time for which it is available is dependant on the size of the treatment plant and the overall demand. Because SJC water will not supply all of the City's needs in even the first year of diversion, a larger ASR project than proposed is not possible. If additional sources of supply are made available or City demands are less than predicted, additional ASR may be contemplated. The Rio Grande Restoration alternatives were fully considered and addressed specifically in Section 2.6.

Response to Comment 3444.024 The Rio Grande Restoration alternatives were fully considered and addressed specifically in Section 2.6.

Response to Comment 3444.025 Please see comment number 3443.044 for a discussion of adjudication and priority dates. A constant release of 65 cfs is relatively small compared to typical flows in the Rio Grande, particularly during irrigation season and is considerably smaller than typical irrigation releases. In addition, this flow is much less than many historic releases of SJC water. It is not anticipated that this volume of water will impact the diversion structures.

Response to Comment 3444.026 Reservoir operations and potential impacts are discussed in Section 3.16 and Appendix L. While every conceivable combination of operational scenarios was not considered, the analysis was completed by examining low and high flow conditions with low medium and high storage starting conditions. This analyses bracket the range of possible conditions and examine potential worst case conditions. It is anticipated that the City will continue to require significant storage space in Abiquiu. In addition, other parties have expressed interest in using any storage space that is made available.

3444.026  
(Cont)

impacts to fisheries and downstream water quality. The action alternatives assume full delivery of the City's San Juan-Chama Project water to Abiquiu Reservoir. Implementation of any of the action alternatives would require by-pass of the City's San Juan-Chama Project water and would not be available for maintenance of a minimum pool. Evaluation of the impact of an action alternative should reveal impacts to fisheries, recreation and downstream water quality because no San Juan-Chama Project water is available for storage in Abiquiu Reservoir.

3444.027

The DEIS states that there would be no change in historic maximum and minimum reservoir operating levels, but this conclusion is based on the hydrology of only three selected years. The DEIS does not fully evaluate the year-to-year impacts of implementing an action alternative on historic operating levels, fisheries and recreation. The DEIS should state where water will be obtained in order to demonstrate that there will be no major changes in storage volumes in Abiquiu Reservoir over the 60-year planning horizon used in the DEIS.

3444.028

The DEIS proposes a mitigation measure of maintaining a 50,000 acre-foot pool of San Juan-Chama Project water in Abiquiu Reservoir (Appendix O, page 8). In addition to delivering the City's total annual allocation for use in within the City of Albuquerque and storing and releasing water from Abiquiu Reservoir to offset the residual or lingering effects of historic groundwater pumping in Albuquerque, the DEIS also proposes an additional 50,000 acre-foot of San Juan-Chama Project water for storage in Abiquiu Reservoir. The DEIS should clearly state where the water to establish and maintain this pool in Abiquiu reservoir would be obtained in light of all of the other commitments for the City's San Juan-Chama Project water.

3444.029

Page 3-45, third complete paragraph. The DEIS states in this paragraph that there would be no loss of Rio Grande silvery minnow habitat or river connectivity attributable to the operation of the DWP. Because the final studies and design of the proposed fish passage have not been completed, it is not clear how the DEIS could reach a conclusion regarding the impact of the operation of this Project component.

3444.030

Page 3-47, Section 3.7.4, Proposed Mitigation Measures. This section identifies fish screens and a fishway as project design features that would enhance Rio Grande silvery minnow habitat and minimize or eliminate potential effects on aquatic resources. It is not clear how the DEIS could reach this conclusion when the final design for the fishway and evaluation of its performance has not been completed. Mitigation measures cannot be based on experimental or uncertain features of the proposed alternatives. Any mitigation measures should be completed before the Project is implemented to ensure that the mitigation measure is effective. The DEIS must analyze mitigation in detail and explain the effectiveness of the measures in terms of resulting impacts.

3444.032

Page 3-102, second bullet statement. This statement summarizes the surface water rights claimed by the City. Appendix L (page 2-7) provides an addition description of these water rights. The DEIS does not completely or adequately describe these rights. In addition to the amount of water, a water right description should include the priority date and the location of the place of use. The DEIS should be revised to include the priority date of the water rights claimed by the City. The DEIS should also describe the location

Response to Comment 3444.027 Page 3-35 of the DEIS contained a description of the methods used to determine effects upon aquatic life. As analyzed within the DEIS, upstream reservoirs are not affected by the project. This is discussed in some detail within Section 3.16 and Appendix L. The physical attributes of effects to aquatic habitat are listed on page 3-41 of the DEIS. Additional aspects of aquatic effects are detailed within Section 3-24.3, using an endangered fish species as an indicator species. Reference is also made to response to general comments 6 and 7.

Response to Comment 3444.028 Proposed mitigation measure H-04 states that the City will attempt to maintain a 50,000 ac/ft pool in Abiquiu (Appendix O). This storage maybe accumulated when the City's demand is less than its supply. However, there is not a specific commitment to maintaining a 50,000 ac/ft pool in Abiquiu.

Response to Comment 3444.029 Please see General Response to Comments 6. Fish Passage and Fish Screens.

Response to Comment 3444.030 Please see General Response to Comments 6. Fish Passage and Fish Screens. Please see response to 3444.027.

Response to Comment 3444.031 A description of the City water rights is included by reference. For a more complete description please see EIS reference: CH2M Hill. 2001f "40 Year Water Plan in Support of Application to Adjust Pumping Limit Under State Engineer Permit Rio Grande 960". Prepared for City of Albuquerque, Albuquerque, New Mexico. Effects on the surface flow of the Jemez River are primarily below the Zia Diversion. Effects below the Zia Diversion can be offset with releases of water into the Rio Grande. These effects are accounted for in the City's analysis.

Response to Comment 3444.032 All of the effluent is from City wells. The amount of water quantified as discharged from the City's SWRP is adjusted to remove other non-City inputs to the sewer system that receive return flow credits from the OSE.

of place of use of the water right. Pumping by the City wells may impact the surface flow of the Jemez River. The DEIS should state whether the City has water rights that would offset impacts of groundwater pumping on the flow of the Jemez River.

3444.032

Page 3-102, third bullet statement. This statement discusses the amount of treated effluent discharged to the Rio Grande from the Southside Water Reclamation Plant available for return flow credit. The DEIS should state if all of this treated effluent is discharge from the City wells, or if the effluent discharge includes discharge from other, non-City of Albuquerque wells or sources.

3444.033

Page 3-112, last paragraph, continuing on top of page 3-113. This paragraph explains that because the 1971-98 hydrologic record used in the DEIS hydrologic analysis does not contain a drought similar to that which occurred during the 1953-57 period, the low flow year of 1972 was inserted back-to-back three times to create a 3-year drought period. On page 5-15 of Appendix L, the DEIS states that the year 1972 was in many ways more severe than 1977 in terms of zero or near-zero flows. This statement is misleading and does not consider the fact that much of the flow through the middle valley during 1977 was San Juan-Chama Project water. San Juan-Chama Project water at Otowi was 30% of the total flow at Otowi during 1977. If the effects of releases of water from upstream storage are removed from consideration, and a "natural flow" is considered, a more representative year of drought would be 1977. Utilizing a natural flow based on the Rio Grande Compact Otowi Index Supply, the average flow at Otowi was 409 cfs during 1977 and 655 cfs during 1972. During the low-flow month of June, 1977, the Otowi Index Supply was 127 cfs. The lowest monthly Otowi Index Supply in 1972 was July, with an average flow of 220 cfs. It is not necessary to refer to the drought of the 1950's as the standard drought used in planning studies, as there is ample record of low flows in the more recent hydrologic record. Since 1977, the natural flow (based on the Otowi Index Supply) for the years 1981, 1996 and 2000 were equal to or less than the 1972 natural flow (Otowi Index Supply). In addition, the natural flow during 2002 will likely be the lowest on record (based on provisional USGS streamflow records of the flow of the Rio Grande at Embudo and estimated flow at this site for the remainder of this calendar year). The hydrologic analyses used in the DEIS should use the hydrologic record for the year 1977, back-to-back three times, in order to study the effects of an extended drought that may likely be experienced during the planning period.

3444.034

Page 3-113, third bullet statement. The DEIS states that in a normal year, a constant release of 66 cfs is made from the City San Juan-Chama Project pool in Abiquiu Reservoir. The DEIS does not consider, or evaluate, the impacts of the operation of Abiquiu Reservoir for flood control purposes on the assumption of constant releases of San Juan-Chama Project water from Abiquiu Reservoir. Releases of San Juan-Chama Project water are not made during periods of time when Abiquiu Reservoir is operated for flood control purposes. During the period of time when the inflow to Abiquiu Reservoir exceeds the channel capacity of the Rio Chama downstream of Abiquiu Dam (about 1,800 cfs), inflow in excess of 1,800 cfs is retained in storage. During the time when inflow exceeds downstream channel capacity and until the induced storage is evacuated, no San Juan-Chama Project water is released. Some period of flood control operations

Response to Comment 3444.033 Please see General Response to Comments 3. Baseline Hydrology. The removal of all SJC water from the baseline is not consistent with the analysis in the DEIS. Only the City's portion of SJC water was removed to complete the baseline. As discussed in Appendix L, the use of three 1972 years inserted into the baseline is representative of a severe drought.

Response to Comment 3444.034 Under present operational criteria for Abiquiu Reservoir it is correct to state that no SJC water would be released during flood control operations. The City would only be able to continue to divert if a modified operational scenario such as an exchange plan is developed that is approved by the Federal agencies and the OSE that will allow operation without injury to senior water rights.



are experienced at Abiquiu Reservoir in most years. When this occurs, the City cannot release San Juan-Chama Project water. If the City continues to divert surface water during this period of time, the impacts on water users in the middle Rio Grande, and the effects on deliveries to Elephant Butte Reservoir under the Rio Grande Compact must be evaluated. The DEIS should be revised to include this evaluation.

3444.035

Page 3-115, Table 3.16-1. This tabulation describes the effects of the alternatives on Rio Grande flows in the Albuquerque Reach, including flow at the I-25 Bridge, which is an artificial or computed value. Appendix L (page 5-1) includes a general description of how the flow of the Rio Grande at this location was computed. Included in this computed flow is a value of 220 cfs for drain return flows above Isleta Diversion dam. The DEIS is not clear which drains were used in this computation, but it is assumed that the returns are those of the Albuquerque Riverside Drain and the Atrisco Riverside Drain, which return to the Rio Grande between the Albuquerque gage and the Isleta Diversion Dam. Information on estimated discharge from these drains developed by the Middle Rio Grande Conservancy District (one-page flow chart entitled "MRGCD Diversions and Return Flows") show that these drains return about 92,000 acre-feet per year, or about an average of 133 cfs. Discharge from these drains is a major component of flow arriving at the Isleta Diversion Dam during low flow periods. The estimated value of 220 cfs used in the DEIS appears too high and this assumption should be verified by consulting with officials with the MRGCD.

The Albuquerque Riverside Drain and the Atrisco Riverside Drain intercept seepage from the channel of the Rio Grande through the Albuquerque reach. Therefore, the amount of flow in these drains is in part a function of the level of flow in the channel of the Rio Grande. If the record of flow of the Rio Grande at the various gages in the middle valley were adjusted by removing historic City San Juan-Chama Project water, the discharge of the flow in the drains should also be adjusted because of the reduced flow in the river will result in reduced seepage from the channel of the Rio Grande. The DEIS should state if the discharge of drain flow was adjusted as a result of removal of historic City San Juan-Chama Project water, and the flow in the drain should be adjusted if it has not been done.

3444.036

Page 3-131, first complete paragraph. This paragraph compares the daily depletion flow of 65 cfs of the action alternative against the mean annual flow of the Rio Grande. Because the City's curtailment strategy is based on daily flow, it is not appropriate for the DEIS to state that the average daily depletion is only 7% of the average annual flow. The use of annual flow is misleading and inappropriate when evaluating the effects of an operation based on daily flow. The DEIS should also compare the daily project depletion against the historic daily flow data. For example, during the 1964-1973 period (pre-San Juan-Chama Project), the flow of the Rio Grande at Albuquerque was less than or equal to 70 cfs about 16 percent of the time. (Statistical Summaries of Streamflow Data in New Mexico through 1985, USGS Water-Resources Investigations Report 88-4228, 1989). In other words, the flow at Albuquerque dropped below 70 cfs during this period of record about 58 days each year. When evaluated in this manner, the impact of the City's proposed surface water diversion becomes more clear and provides a basis for estimating the number of days each year that the City will have to rely on its wells. The

Response to Comment 3444.035 The inserted "Isleta or I-25 gage" did assume a constant value of 220 cfs which was used for purposes of comparing effects from the Action and No Action alternatives. Use of this constant did not affect the differences between the Action and No Action alternatives that were used in the effects analysis.

Response to Comment 3444.036 It is possible that Rio Grande flows could drop below the curtailment flows more often, or less often, than would be indicated by any given historic series. This variability speaks to the advantage of a conjunctive use strategy as proposed under the DWP. The DWP allows the City to consider different operational approaches depending on flow conditions, whereas relying on groundwater (No Action) allows for no flexibility.

DEIS should be revised to include an analysis of the impact of operation of a surface water diversion based on daily flow data.

3444.037

Page 3-131, last paragraph, last sentence, continuing on the top of page 3-132. This sentence states that for the year 2040, flow in the Albuquerque reach improves during a curtailment month, as this represents a period during which surface water diversions are curtailed and demands are met by groundwater pumping. The use of a single year to evaluate this impact on the flow of the Rio Grande is misleading. Figure 3.16-14 shows that surface water flow is greater because surface diversions are curtailed, but a single-year analysis does not demonstrate the residual effects of the groundwater pumped in lieu of surface water diversion on the flow of the Rio Grande in the following years.

The DEIS does not adequately describe or evaluate the impact of the residual effects of groundwater pumping on the flow of the Rio Grande. During the 1960-2000 period, the City of Albuquerque pumped approximately 3 million acre-feet of water from the underground aquifer. Assuming that about one-half of what the City pumped has been replenished by the river (see page 2-5), then about 1.5 million acre-feet has been "mined" from groundwater. If river seepage is the major source of replenishment of this mined groundwater, is the approximately 90,000 acre-feet of San Juan-Chama Project water proposed to be released from Abiquiu Reservoir to offset the lingering effects of this groundwater pumping adequate to replenish the mined groundwater? The DEIS should be revised to fully characterize the future impacts on the flow of the Rio Grande due to the residual effects of historic (and future) groundwater pumping using a water budget analysis.

3444.038

Page 3-157, third bullet statement. This paragraph states the impact of native flow depletion due to surface water diversion at Paseo del Norte would be virtually identical to the impact resulting from the depletions associated with the no-action alternative. This assertion is made in other places in the DEIS. The depletion impacts associated with the no-action alternative are those resulting from the effects of continued groundwater pumping by the City of Albuquerque.

The DEIS fails to recognize that the impacts due to groundwater pumping on the flow of the Rio Grande are not the same as the depletion impacts due to surface water diversion at Paseo del Norte (or Angostura). The primary difference is that the impacts due to groundwater pumping are computed by the groundwater model, which was not built or calibrated for the specific purpose of defining the groundwater-surface water interaction, and the impacts of surface water diversion can be directly measured. Also, groundwater is recharged from seepage from irrigation canals and irrigated farm lands, in addition to river channel seepage. The Bureau of Reclamation has estimated that the 156 miles of irrigation canal between Bernalillo and Isleta Pueblo currently recharge about 14,000 acre-feet per year. (Middle Rio Grande Water Assessment, Canal Seepage Field Investigations, Supporting Document No. 12, 1997). This amount may increase in future years as the impacts of sediment control at Cochiti Reservoir become manifest and scour the fine material that "seals" the ditch bottom and banks. In addition, deep percolation from the application of water to the approximately 15,000 acres of irrigated land in the Albuquerque Division also contributes to groundwater recharge. Approximately one acre-foot per acre per year may contribute to groundwater recharge. (Middle Rio Grande

Response to Comment 3444.037 As described in Appendix L CH2M Hill Hydrology Report, once the effects of past pumping are augmented by additional SJC releases any time the DWP is curtailed the effect will be to surcharge the river and improve the flows between the diversion point and downstream.

Response to Comment 3444.038 The OSE model was altered and adopted by the OSE for the specific purpose of computing groundwater-surface water interaction. The river effects calculated by the OSE Model by the methods prescribed by the OSE include both river seepage and canal and drain seepage. On the whole the surface water system includes all of these components. The system, likewise, tends to be somewhat self-compensating. If water is lost from the canals, the irrigation district will divert more upstream to account for those losses. Further, if drain flows are reduced due to pumpage, less water is returned to the Rio Grande. It is appropriate to consider the entire surface water flow system when comparing effects on the Rio Grande. Groundwater recharge due to excess applied irrigation water is not included in the analysis. This quantity is specified as part of a separate MODFLOW package.

Water Assessment, Supporting Document No. 7, 1997). The DEIS should be revised to indicate that not all of the impacts due to groundwater pumping are offset by seepage from the Rio Grande channel; some recharge is supplied by seepage from canals and irrigated farmland.

3444.039

Page 3-260, third complete paragraph. This paragraph of the DEIS discusses the operation of the sluice channel and fish screens and how this structure would be operated to maintain a sweeping velocity of at least five times the normal approach velocity. Although the DEIS purports that this structure will protect adult Rio Grande silvery minnow from entrainment, eggs and non-motile larvae would pass through the fish screens and not survive. The DEIS here refers to Figure 2.4-3, which was not included in this review's copy of the DEIS.

The DEIS does not adequately describe or evaluate the impacts of the operation of the surface water diversion structure on Rio Grande silvery minnow. Figure B-5 of the March, 2001 Drinking Water Project Conceptual Design Report shows an adjustable-height control gate located at the downstream side of the sluice channel which would control the water surface elevation in the sluice channel as well as the bypass flow rate through the sluice channel. The DEIS does not describe the hydraulics of the flow through and downstream of this control gate. The operation of the gate to control the elevation of water in the sluice channel and the flow rate through the sluice channel may result in velocities through the gate structure that would be fatal to adult Rio Grande silvery minnow that pass through the gate structure. In addition, the effects of energy dissipation of the flow through the control gate from the rip-rap located downstream of the control gate may also lead to increased mortality rates to adult Rio Grande silvery minnow. The DEIS should be revised to fully describe the sluice channel and its operation and the impacts of the operation on Rio Grande silvery minnow.

3444.040

Page 3-263 – Summary of Environmental Consequences, Rio Grande Silvery Minnow. In this section, the DEIS concludes that direct and indirect effects of the Paseo del Norte Diversion will be minimal, and no substantial temporary or long-term adverse effects on the Rio Grande silvery minnow will result from implementation of the Paseo del Norte Diversion. This conclusion is based on faulty assumptions, inadequate data or the failure to take into account available data.

The DEIS assumes (page 3-233) that operation of the project will not substantially alter the sediment regime in the project area with respect to availability or movement. In December, 1980, the Corps of Engineers Technical Report "An Assessment of the Response of the Rio Grande to Dam Construction – Cochiti to Isleta Reach" was completed. This report notes that dams with small storage capacity (diversion dams) may induce degradation and then aggradation over a relatively short time period. The report also notes that aggradation in the reach above the diversion dam can increase local channel slopes in relation to the fixed elevation of the downstream diversion structure, and thus, can influence river planform characteristics significantly. Although the proposed diversion dam at Paseo del Norte may not interfere with the movement of sediment transport in the reach, the sill of the dam will act as a geologic control, likely resulting in scour and deposition in the reach. The DEIS Appendix L notes that additional specific hydraulic and sediment transport evaluations are required to address

Response to Comment 3444.039 With regard to the potential impact to eggs, 1) During typical flows associated with spawning a relatively small flow of the river will enter the sluice way, 2) Of the water entering the sluiceway, a 5:1 sweeping velocity will keep most fish and eggs moving downstream, 3) The screen size is such that eggs could pass through the openings only during a portion of their gestation period. These factors all combine to minimize the loss of individual fish. With regard to the potential impact to fish passing through the flow control structure and energy dissipation device 1) Based on the section design flow from the control structure will enter a pool containing rip rap that gradually widens and joins the main river, 2) Velocities in the pool will be less than or equal to those in the sluice way. These factors combine to result in a reduction of harming individual fish. Adult fish are protected from entry into the radial gates by the screen. Please refer to the Response to General Comments 6.

Response to Comment 3444.040 Please see General Response to Comments 7 Rio Grande silvery minnow. The HEC-RAS analysis and other analysis indicates the minimal effects upon the RGSM and provides an estimate of available preferred habitat under different flow conditions. The COE study cited examines potential problems for dams in general. A specific study of potential effects of the proposed dam at Paseo del Norte was conducted and is included by reference (Heggen). This study indicated that the location of the dam just upstream of a major sediment contributing tributary and the ability of the dam to be lowered to flush sediments would be sufficient to avoid the problems indicated.

the sediment issues. Until these studies are complete, the DEIS cannot make any conclusions about the effects of the structure on the Rio Grande silvery minnow and its habitat.

3444.041

The DEIS does not contain sufficient information about the design or operation of the bladder dam or other structures that may be required to ensure that adequate flows are delivered to the west side of the river and thereby ensuring adequate flow through the fishway. More detailed description of the operation of this facility should be included in the DEIS.

3444.042

The design velocity of flow of water through the fishway, 2 ft/sec, (page 3-260) is too great to allow for Rio Grande silvery minnow to travel upstream of the diversion dam. On page 3-233, the DEIS states that few Rio Grande silvery minnow (0.8%) were found in areas where velocities were greater than 1.31 ft/sec. The DEIS should clarify how the Rio Grande silvery minnow are expected to travel through the fishway with a velocity greater than that normally preferred by the Rio Grande silvery minnow.

3444.043

The effects of the operation of the Paseo del Norte bladder dam on the aquatic habitat downstream of the dam is not properly evaluated in the DEIS. The impacts on habitat immediately downstream of the dam are evaluated using cross section line 1100, which represents the existing channel configuration. Analysis of the dam operation using existing habitat (cross sections) does not reflect habitat below the dam during low flow conditions after implementation of the preferred alternative. During low flow periods (70 cfs), the operation of the dam calls for 50 cfs to be delivered to the west side of the channel through the fishway and 20 cfs through the gate structure on the east side. During low flow conditions, these flows will be separated by a distance of more than 500 feet. This fragmentation of habitat is not reflected in the analysis of existing channel configurations as shown by cross section 1100, (page 3-241) which shows all confined to channels within about 400 feet of the east bank.

3444.044

Page 3-280, first complete paragraph. This paragraph discusses the quality of the raw (river) drinking water, and here the DEIS states that bacteria are present in the Rio Grande water. The DEIS does not state what levels of bacteria were found and how this level compares to the surface water quality standards. The DEIS simply states that the raw water quality is good. A 1979 report prepared by the NM Health and Environment Department (*Pollutant Loads in Stormwater Runoff from Albuquerque, New Mexico*, by David F. Tague and Anthony Drypolcher) states that "fecal coliform counts ranging between 10,000 and 100,000 colonies/100 ml (are) routinely observed in the river during June through September." The single sample standard for fecal coliform in the Rio Grande at Paseo del Norte is 2,000/100 ml. NMED/SWQB data collected during the summer of 1999 by the Surveillance and Standards Section show numerous exceedances of the bacteria standards in the Rio Grande above Albuquerque. If the bacteria levels in the raw drinking water supply routinely exceed the water quality standard during the summer months, the DEIS should provide additional discussion on how the WTP will operate during periods of time when the bacteria levels in the raw water exceed the water quality standards in order that safe drinking water may be provided to water users in Albuquerque.

Response to Comment 3444.041 The small detention area behind the dam, which creates a pool, results in hydraulic control of the river such that the appropriate flow is available in the fishway.

Response to Comment 3444.042 Please see General Response to Comments 6 Fish Passage and Fish Screens.

Response to Comment 3444.043 The HEC-RAS analysis/habitat analysis indicates suitable habitat under these conditions, in which case the operations will be curtailed. Cross-sections reflect the amount of habitat at that particular cross section. Multiplying the length of the reach between the next cross section reflects a much greater amount of habitat. Downstream flow of the dam would be similar to other natural stream braiding.

Response to Comment 3444.044 Please see General Response to Comments 8. Water Quality. The cited study refers to fecal coliform concentrations in runoff not to concentrations of the runoff when combined with river flows. The treatment processes proposed by the DWP account for potential water quality problems mentioned. The proposed processes provide for an effective water treatment stream that will eliminate harmful constituents. It should be noted that the City must by law provide drinking water that meets or exceeds EPA standards.

**3444.045** Page 3-284, last paragraph. In this paragraph, the DEIS states that the Upper Project Subarea would not be expected to experience any adverse changes in water quality as a result of project construction or operation. However, the DEIS fails to evaluate the impact on water quality downstream of Abiquiu Reservoir as a result of changed operation at Abiquiu Dam. Since the mid-1970s, sediment inflow to Abiquiu Reservoir has been controlled through the storage of San Juan-Chama Project water of varying amounts in the Reservoir. Under the assumptions made in the DEIS, no water would be available to maintain a sediment control pool in Abiquiu Reservoir. The release of water in storage in the reservoir and the release of inflow to the reservoir would result in the transport of sediment from the reservoir into the channel of the river downstream of the Dam. The DEIS should evaluate the impacts of this increased sediment load on water quality, aquatic species and irrigated agriculture in and along the river downstream of the Dam.

**3444.046** Page 3-285, second paragraph. The last two sentences of this paragraph indicate that the City water supply will be able to meet the new arsenic MCL of 10µg/L, even though the low-arsenic surface water would not be available for periods of time up to six months. The DEIS does not state if individual well treatment will be required during this period of time in order to achieve compliance. If individual well treatment is not used, will arsenic levels in the effluent discharged from the SWRP be in compliance with the City's discharge permit requirements?  
 In addition, the third sentence of the first complete paragraph on page 3-287 states that existing City wells would require individual treatment (if the well's groundwater source exceeds 10µg/L arsenic MCL) even if any of the action alternatives are implemented. This statement seems in conflict with the statements referred to above (page 3-285) and made on page 1-10, where the DEIS states that the implementation of the DWP as proposed in the DEIS is the sole economically viable method for the City to comply with the new arsenic standard. If individual wells will require treatment to meet the new arsenic standard, how can the DWP be the only economically viable method to comply with the new standard? The DEIS does not address the issue of treatment of groundwater to meet the new arsenic standard in a consistent and clear manner. The DEIS should clarify the issue of the need for treatment of groundwater and should fully examine and discuss all methods of compliance with the arsenic standard.

**3444.047** Page 3-286, second complete paragraph. This paragraph discusses the issue of levels and treatment of endocrine disruptors and pharmaceuticals in drinking water. The DEIS limits discussion to treatment of river water for drinking water purposes, and does not discuss the impact of increased concentrations of these substances in the river water diverted and returned to the river at the SWRP, and the impact of these increased concentrations, if any, on aquatic species and irrigated agriculture located downstream of the SWRP. The DEIS should discuss the concentrations of these substances in the river at the proposed points of diversion and the concentrations of these substances in the City's effluent and evaluate the impact of increases in concentrations, if any, that may result from the diversion and use of the river water by the City.

Response to Comment 3444.045 For both the DWP and No Action alternatives, there will be sufficient storage available in Abiquiu for sediment control. Reservoir operations are not modified by the DWP (see Section 3.16).

Response to Comment 3444.046 Please see response to comments 3443.102.

Response to Comment 3444.047 Please see General Response to Comments 8. Water Quality. Any concentrations of endocrine disruptors and pharmaceuticals present in the diverted water from the river will be destroyed in the treatment process proposed by the City as part of the DWP. Concentrations in the City's effluent will be the same with the

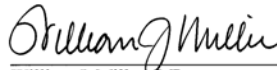
3444.048

The DEIS does not contain adequate data to fully evaluate the impacts of implementation of the DWP on the water quality of the Rio Grande. For example, Table 3.27-1 contains data on raw water quality of proposed water treatment plant influent, and Tables 3.27-2, 3-27-3 and 3.27-4 contain data regarding the water quality of treated effluent, but the water quality parameters describing the quality of the influent supply are not the same parameters describing the quality of the effluent. As a result, no comparison can be made and no conclusions can be reached about changes in concentrations of various water quality constituents that might result from implementation of the DWP. For example, Table 3.27-1 shows that the average chloride concentration of the treatment plant raw water supply (river water) is 7.388 mg/L; Table 3.27-5 shows that treatment of the raw water prior to distribution increases the chloride concentrations to 30-40 mg/L, but the DEIS contains no data on chloride concentration of water discharged to the river at the SWRP.

3444.049

The DEIS does not discuss the concentrating effects (increased pollutant loads) of implementation of the DWP. The DEIS (Table 3.27-1) gives the average total dissolved solids (TDS) level of the treatment plant influent as 232 mg/L. In the first incomplete paragraph of page 3-287, the TDS of the SWRP effluent is given as approximately 450 mg/L. Implementation of the DWP would divert 47,000 acre-feet of native Rio Grande water with a TDS concentration of 232 mg/l, and return this water to the Rio Grande at a TDS concentration of 450mg/L. Implementation of the DWP increases the TDS concentration of native Rio Grande water by 218 mg/l, and results in the addition of 38 tons per day of dissolved solids into the river. The diversion and return of 47,000 acre-feet of native Rio Grande water resulting from the implementation and operation of the DWP will result in an increase load of dissolved solids of approximately 13,800 tons per year, yet the DEIS concludes (Table 3.27-6) that implementation and operation of the DWP would result in no degradation of the water quality of the Rio Grande. The DEIS should be revised to evaluate the impacts of the increased pollution loads on aquatic species and irrigated agriculture.

Thank you for the opportunity to review and comment in this DEIS. Please let me know if you have any questions about any of these comments.



William J. Miller, P.E.  
William J. Miller Engineers, Inc.  
P. O. Box 22670  
Santa Fe, NM 87502  
505.983.7694

Response to Comment 3444.048 In both the DWP and No Action alternatives the TDS concentration is increased by approximately 200 mg/L. However, the TDS of groundwater is greater than the TDS of the river water. Therefore, the DWP results in a lower TDS input to the Rio Grande than No Action. Further, during low flow events, more water is left in the river under the DWP thus providing more dilution. In addition, the City must by law meet the requirements of their NPDES permit. The NPDES permit accounts for the potential effects of various constituents at a number of different flow regimes. This information has been added to Section 3.27.3.

Response to Comment 3444.049 In both the DWP and No Action alternatives the TDS concentration is increased by approximately 200 mg/L. However, the TDS of groundwater is greater than the TDS of the river water. Therefore, the DWP results in a lower TDS input to the Rio Grande than No Action. Further, during low flow events, more water is left in the river under the DWP thus providing more dilution. In addition, the City must by law meet the requirements of their NPDES permit. The NPDES permit accounts for the potential effects of various constituents at a number of different flow regimes.

**SAGE Council**  
Sacred Alliances for Grassroots Equality  
P.O. Box 82086, Albuquerque, NM 87198  
Tel: 505/260-4696 Fax: 505/260-1689 sage@sagecouncil.org

Date: Sept. 12, 2002 Page 1 of 2

To: Lori Robertson Fax #: 505/248-5356

Org: Bureau of Reclamation

From: Pam Malone, SAGE Council

Memo



**SAGE Council** ♦ Sacred Alliances for Grassroots Equality  
 P.O. Box 82086 ♦ Albuquerque, NM 87198 ♦ tele: 505/260-4696 ♦ fax: 505/260-1689 ♦ sage@sagecouncil.org

September 12, 2002

Lori Robertson  
 Bureau of Reclamation  
 Albuquerque Area Office  
 505 Marquette NW, Suite 1313  
 Albuquerque, New Mexico 87102

Via Fax and Mail: 505-248-5356

Dear Ms. Robertson,

SAGE Council has concerns regarding the Draft Environmental Impact Statement (DEIS) of the City of Albuquerque's Drinking Water Project. In the plan, one of the proposals will extend city water services and pipes through the Petroglyph National Monument. SAGE Council has grave concerns regarding this proposal and project for the following reasons:

3445.001

- The Petroglyph National Monument is an area that regional Indian Pueblos regard as a place of important religious and spiritual significance. The Petroglyph area has been publicly recognized as a sacred site. If the City of Albuquerque constructs a pipeline through the escarpment and surrounding area it will damage the integrity of the area.
- After reviewing the City of Albuquerque's DEIS, the National Park Service (NPS) is one important government agency that was not notified of the city's Drinking Water Project. As such, NPS must be notified of proposed projects stated in the DEIS.
- The Petroglyph National Monument will be environmentally impacted by the proposed project stated in the DEIS by the City of Albuquerque.

Response to Comment 3445.001 The project does not cross or enter the Petroglyph National Monument. Potable water lines tie into an existing water line at the intersection of Unser and Montano. At no point does construction of the project enter or approach Petroglyph National Monument. Figure 3-25.1 is corrected to show where the proposed line ends. There are no impacts to the national monument.

We thank for your consideration, if you have any questions please call us at 505/260-4696.

Sincerely,

*Laurie Weahkee*    *Bineshi Albert*    *Amber Carrillo*    *Pam Malone*  
 Laurie Weahkee    Bineshi Albert    Amber Carrillo    Pam Malone

cc: 19 Pueblos of NM  
 AIPC Chairwoman  
 Cynthia Gomez





3446.003

(b) In particular, the DEIS ignores the potential for conservation to help meet Albuquerque's needs. Albuquerque has set a goal of reducing consumption of water to 175 gallons per capita per day (gpcd) by the year 2004 or 2005. DEIS 1-7. While this goal would represent an improvement over earlier usage, 175 gpcd is still excessive. Other southwestern cities such as Santa Fe, Tucson, and El Paso have set or met goals in the 140 to 150 gpcd range. If Albuquerque were to attain a usage of 140 gpcd, it would save almost 40,000 acre-feet per year over current usage, almost as much water as it is receiving from the San Juan-Chama project. There are a variety of measures that Albuquerque could take to meet a more stringent conservation goal, including greater incentives for conversion to xeric landscaping in the form of higher per foot and total rebates; adjustments to the rate structure; rebates for water savings by large commercial water users; and landscaping codes.

3446.004

(c) The DEIS rejects the Rio Grande Restoration aquifer recharge proposal for the following reasons: (1) the recharged water would take many years to reach the aquifer; (2) much of the water lost to evaporation; (3) water would be rendered unusable in the unsaturated zone; (4) significant amounts would be lost to the shallow ground-water system, which flows in part to the Middle Rio Grande Project drains; (4) water would not reach the areas of the aquifer where historical water-level declines have been the greatest; (5) it might be decades before any measurable benefit could be seen in many existing City wells; (6) the safety of the water supply would be in question because ground-water contamination exists in this area; (7) quality-of-life concerns would not be adequately addressed under this proposal, as it violates a fundamental precept of the public water-supply industry that public drinking water supplies should be taken from the highest-quality source; and (8) this alternative would have a construction cost of more than \$300 million, or 50 percent more than the preferred alternative, while producing a water supply around 30 to 50 percent smaller than the preferred alternative. DEIS 2-64.

These concerns are not well taken. Responding by number to the concerns raised above: (1) Dr. Peter Fox, an expert in aquifer recharge who recently gave a presentation to the Santa Fe County Commission, indicated that water moves rapidly through the vadose zone. Even if it moves slowly, the water will eventually be available, and other water in the aquifer can be used in the meantime. (2) Vadose zone recharge wells will result in minimal evaporation losses. (3) Water in the unsaturated zone should eventually reach

Response to Comment 3446.003 Please see General Response to Comments 2. Conservation. The City implemented a water conservation goal of 175 gpcd to be reached by 2005. The 175 gpcd goal has been modified to include an enhanced goal of 150 gpcd by 2014.

Response to Comment 3446.004 The Rio Grande Restoration alternatives were addressed specifically in Section 2.6 of the DEIS. In response to comments by Peter Fox: 1) Infiltration rates and the City's ability to control the migration of infiltration water was a secondary concern in the analysis of the Rio Grande Restoration alternatives. However, it is not appropriate to generically categorize vadose zone migration as "rapid", site specific parameters must be considered. Further, rapid is a somewhat vague term that has different meaning in different contexts. Given site specific information and the context of annual water supply and demand, vadose zone movement would be considered to be relatively slow. Reasonable estimates of site vertical hydraulic conductivity indicate that it would take more than 125 days to reach the water table. 2) Vadose zone injection wells were not proposed by Rio Grande Restoration. Rio Grande Restoration proposed a spreading basin of approximately 70-acres. While expected evaporation from this basin would be small compared to the total quantity applied, the annual volume of evaporation would be roughly equivalent to that supplied by the City's industrial recycling project. 3) Water in the unsaturated zone may or may not eventually reach the aquifer. Layers of lower permeability material would result in lateral spreading of the water and increase the possibility of evaporation and or transpiration. In addition, because the water recharged in a given year would be required to meet demands in the same year, it is expected that the water table at this location would be drawdown from its present level resulting in a large area of storage in the vadose zone. 4) There are no existing wells or City wells within 3.5 miles of the proposed location. Further, the Rio Grande Restoration Alternatives call for recharge and withdrawal of 60,000 acre-feet per year. This system would require at least 25 wells in the vicinity of the site and a large transmission line to connect to the existing distribution system. 5), 6) It is not anticipated that wells would be sited directly in contaminated sites. However, to provide a reasonable spacing to avoid excessive drawdowns, an area more than 3 miles long in the arroyo bed and about 3 miles wide would be required.

Response to Comment 3446.004 (Con't) This site would be directly downstream of any releases from the existing hazardous and radioactive waste landfill at Kirtland as well as known superfund sites. In addition, it is known that groundwater is contaminated with Nitrate in the vicinity of the site. Large-scale pumping in this area would likely result in local gradient changes, potentially capturing contaminated areas. 7) It is correct that the quality of the treated wastewater should be at or above drinking water standards and the overall quality will be similar to the treated river water. However, public perception is at issue. Clearly, it would be much cheaper and efficient to directly inject the treated wastewater into the City's drinking water supply system rather than including the intermediate step of recharging the water to the aquifer and then withdrawing. However, current statutes and public perception would not allow this strategy. Further, treating wastewater to this quality is more expensive than treating an equal quantity of river water to drinking water standards. ASR is part of the City's strategy. ASR is used to store treated water when treatment capacity exceeds demand. 8) Vadose zone recharge was not proposed by Rio Grande Restoration. A number of recharge techniques were considered by the City in early analysis of alternatives. Analysis of large-scale recharge proposed by Rio Grande Restoration indicated that this alternative would result in a reduction of return flow from the City that could not be overcome with subsequent releases of City owned SJC water. Through 2060 the recharge scenario proposed by Rio Grande Restoration resulted in downstream deficits in 30 of the 53 years that would require upwards of approximately 80,000 acre-feet of additional supply to meet OSE water balance requirements in a given year. Subsequently, this scenario would require the consumption of more of the City's vested and acquired rights resulting in less water in the Rio Grande than the City's DWP alternative.

3446.004  
(Cont)

the aquifer. (4) Water can be pumped from wells in the vicinity of where recharge occurs. (5) See (1). (6) The wells can sited to avoid contaminated sites. (7) Treated wastewater recharged into the aquifer is used in many places and should be safe to drink. The water produced by aquifer recharge is likely to be of as high quality as treated river water. (8) Vadose zone recharge is much cheaper than active reinjection or spreading basins, because the wells are much cheaper and much less land is required. Although getting water to the wells may (or may not) render the project more expensive than the current preferred alternative, the preferred alternative unfairly places costs on the river and on the environment.

3446.005

3. Effects of dam on fish passage. The DEIS is deficient in failing to evaluate the environmental effects of the proposed new dam on fish passage, especially, although not only, as concerns the Rio Grande silvery minnow.

(a) The DEIS acknowledges that the knowledge necessary to design the fishway has not even been collected yet, DEIS 2-40, and that the fishway has not yet been designed. In spite these facts, however, the DEIS states that the fishway will be fifty feet wide and will have a flow of 50 c.f.s. at a velocity of 2 ft./sec. The selected width, flow rate, and velocity have no apparent scientific basis, but appear to have been selected arbitrarily or based on some criteria other than the needs of the silvery minnow and other aquatic organisms, perhaps the amount of water necessary to keep the river from drying before the SWRP at minimum project flows. The DEIS does not explain how parameters for the fishway can be stated prior to design and prior to the time that the swimming ability of the minnow and other matters have been determined.

3446.006

(b) Moreover, because the fishway has not yet been designed, the environmental effects of the dam cannot be evaluated with respect to fish passage, and, in fact, the DEIS contains no analysis of how the dam will effect silvery minnow populations, in particular in the reach between Angostura and the proposed new diversion structure. There is no evaluation of how many fish will have to pass through the fishway to ensure that the reach upstream of the proposed dam remains populated with silvery minnows, either at the present level of population or once minnows are recovered in the Middle Subarea. There is no analysis of how many minnows, if any, can be expected to happen upon the fishway and use it to pass upstream. The velocity of flows in the fishway as described in the DEIS, 2 ft./sec., suggests that if such a fishway were built, it would be used very little or not at all by minnows, since minnows

Response to Comment 3446.005 Please see General Response to Comments 6. Fish Passage and Fish Screens and 7. Rio Grande silvery minnow. The by-pass velocity was determined based on available swimming studies for fish species similar to the silvery minnow. By-pass flows were then derived based on channel design and area hydraulics to achieve the design velocity.

While final design of the fishway has not been completed and further information may be required to complete final design, preliminary design is based on similar species with conservative swimming speeds. Overall by-pass flows were developed based on the known gradient at the site, the required velocity, and the engineer's experience with similar structures.

Response to Comment 3446.006 Please see General Response to Comments 6. Fish Passage and Fish Screens and 7. Rio Grande silvery minnow. The issue of take will be resolved within the Section 7, Consultation with the USFWS. While current population status is unknown, the City will maintain the captive breeding program to support re-introduction of the minnow. Other mitigation measures, habitat improvement for example, are also planned. The fishway will have boulders and other features to allow fish to proceed through the fishway, and use different velocities in the fishway and areas to rest. The fishway will also be monitored and use an adaptive management program. Design will use the most recent results of research and was conceptually designed after the BOR GRF at Santa Ana, and also used biological characteristics of similar fish.

3446.006  
(Cont)

have a strong preference for flows of .325 ft./sec. or less. So far as the DEIS reveals, it is entirely a matter of speculation that the fishway will provide sufficient upstream fish passage for the silvery minnow. The DEIS is defective because of its failure to evaluate the effect of the dam on minnow populations between Angostura and the proposed new diversion.

3446.007

(c) The DEIS states that during periods when the diversion structure is deflated, silvery minnows will be able to freely move upstream. However, the diversion structure will "probably" be deflated only for about 30-45 days per year when flows exceed 3,000 c.f.s.. DEIS 3-43. During flows of that magnitude, the velocity of the water will be high. Although the DEIS contains no analysis of this matter, it would appear unlikely that the silvery minnow, which, again, prefers flows of less than .325 ft./sec., will have the ability or inclination to swim upstream during the spring high flows periods when the dam is deflated.

3446.008

(d) The DEIS also contains no analysis of whether the fishway will provide adequate fish passage for other aquatic organisms, but instead states that "[u]se of the fishway by aquatic species is an area of uncertainty." DEIS 3-44. The DEIS states that there are "opportunities" to include design parameters to accommodate other species and that the effects will be monitored. *Id.* It concludes that any effects will be offset by the proposed mitigation measures. The DEIS is required to evaluate the environmental effects of a project. It cannot simply do nothing and state that the effects are uncertain. Moreover, the proposed mitigation measures, DEIS 3-47, do not, as claimed, do anything to mitigate the effects of the dam on fish passage, except for the construction of the fishway, which is of highly questionable effect. The mitigation measures do not even call for the monitoring and adjustment of the design that the body of the DEIS claims will occur. In sum, the evaluation of the effects of the proposed dam on aquatic species other than the silvery minnow is also wholly inadequate.

3446.009

4. Sluiceway. Once again, the DEIS fails to undertake a scientific investigation of the environmental issues raised by the sluiceway, but simply speculates. The DEIS states:

There may be some loss of reproductive propagules of fish within the fish screens of Angostura Diversion and Paseo del Norte Diversion. From a cumulative effects standpoint, the amounts of propagules are not expected to be a

Response to Comment 3446.007 The dam would be down during high flows. It is unlikely the RGSM would be swimming upstream against this current. High flows in the late spring are an inducement to RGSM spawning. The fish way will also serve as an area to allow fish passage. Portions of the dam will be down at various times for sediment control, presenting additional opportunities for fish passage up stream. See Section 3.24.

Response to Comment 3446.008 Please see General Response to Comments 6. Fish Passage and Fish Screens and 7. Rio Grande Silvery Minnow. There is adequate habitat for other aquatic species as indicated by the modeling done for the RGSM (Section 3.24).

Response to Comment 3446.009 Please refer to the General Response to Comments 6. Fish Passage and Fish Screens and 7. Rio Grande silvery minnow.

substantial effect to the fish within the river.

3446.009  
(Cont)

DEIS 3-45. There is no scientific evaluation of what the losses might be and how such losses might effect fish populations. Conclusory statements without a scientific basis do not provide reasonable evaluation of environmental effects.

5. Flow issues in Middle Subarea.

3446.010

(a) The DEIS does not analyze the actual effect of the operation of the DWP on the Rio Grande silvery minnow. Instead, it does two things. It compares how much usable habitat would be lost under the DWP and the no action alternative, *e.g.*, DEIS 3-250, Tables 3.24-9 and 10, and it attempts to quantify the amount of usable habitat that would be lost in absolute terms, DEIS 3-265 and Table 3.24-11. Because the DEIS only looks at the hydrologic effects of reduced flow in the Middle Subarea, but never evaluates how this will impact aquatic species, including the silvery minnow, the DEIS is deficient.

3446.011

(b) Moreover, with respect to comparison of habitat under the DWP and no action, this comparison is not accurate, because the DEIS does not accurately describe the amount of water that would be in the river under either the DWP or the no action alternative. The hydrology analysis assumes that the only San Juan-Chama water in the system under the no-action alternative is (i) 3,000 ac.-ft. for the Nonpotable Surface Water Reclamation Project; (ii) water to offset effects of the City pumping in the years 2050-2060 in the amount of 220 to 6100 ac.-ft. per year; and (iii) 2,600 acre-feet through 2011 to meet existing contracts. This only accounts for 5600 to 9100 ac.-ft. of the City's 48,200 ac.-ft. of San Juan-Chama water. The other 37,100-43,600 ac.-ft. of San Juan-Chama is assumed to not be in the system. The City states that it cannot consider this water because the use of the water cannot be predicted. This is not a valid excuse for not considering the San Juan-Chama water, and it is unrealistic to assume that the water would just vanish. The water will be in the system for one use or another. Probable uses can even be predicted. Predictable uses are offsetting the effects of present and past pumping by the City, agricultural leases, and environmental leases. Moreover, all of this water cannot be stored, so most of would have to run over the dam if it were not leased. Because this water is not considered, there would be more water in the river under the no action alternative than is considered by the City and less frequent low flows and drying compared to the DWP alternative.

(c) Moreover, there will be less water in the river under the DWP than

Response to Comment 3446.010 The use of habitat analysis to evaluate effects upon fish species is an appropriate and effective method to evaluate operational and environmental effects of actions within the habitat. Effects upon aquatic species are typically analyzed. Additional analysis techniques used in the DEIS were geomorphological changes, reservoir operations, HEC-RAS modeling, the use of a sensitive aquatic species as an indicator, listing and discussing construction effects, and an analysis of riparian effects.

Response to Comment 3446.011 In the past most City SJC water has been consumed upstream of Albuquerque. And therefore would not affect flows in the Albuquerque reach. While it is possible that the City's SJC water could be used in a manner similar to past uses, the City cannot predict at this time where this water might be used on a monthly basis or if it will be used at all. Based on predictive modeling, the City could not begin using SJC water for pumping offsets until after 2060. See Appendix B of Appendix L of the FEIS. The full quantity of SJC water could not be used for offsets for decades beyond 2060. Note: Based on revised conservation goal, use of SJC for pumping offsets, would not be required for the No Action Alternative through 2060.

3446.012

assumed by the City. The Hydrology Appendix states that it will take only 90,000 acre-feet to make up for the continued effects of Albuquerque's past pumping. Hydrology App. 4-5. The State Engineer, however, concluded that it would require many times this amount of water over the first forty years of the DWP to make up for the effects of past pumping. See Jess L. Ward and Andrew L. Lieuwen, *Review of City of Albuquerque's Application for Permit to Divert Surface Water from the Rio Grande for Municipal, Industrial and Related Purposes for the City of Albuquerque's Drinking Water Project* (2002), p. 11; Ghassan R. Musharrafieh and Linda M. Hogan, *Evaluation of Hydrological Impacts of the Proposed City of Albuquerque Drinking Water Project Application 4830*, Hydrology Bureau Report TDH-02-01 (2002), Table 3.<sup>1</sup> Because Albuquerque has grossly underestimated the residual depletions from past pumping, it has greatly overestimated the amount of water that will be in the river in the Middle Subarea under the DWP.

3446.013

(d) There will also be less water in Middle Subarea than the City assumes under the DWP because the City makes incorrect assumptions about conveyance losses and the amount of water that will reach Albuquerque. The City assumes that 47,000 acre-feet of its San-Juan Chama water will reach the diversion point, when, in fact, only 44,348 acre-feet will reach Albuquerque on average each year. Musharrafieh and Hogan, *supra*, Table 1. If the City diverts 94,000 acre-feet per year as it proposes in the DEIS, it will therefore be diverting almost 50,000 acre-feet of native water, not 47,000 acre-feet. As a result, there will be less native water in the Middle Subarea and, again, more drying under the DWP than is assumed by the City.

3446.014

(e) Even under the faulty analysis of the DEIS, however, flows will be less than the no action alternative. The DEIS is not entirely clear as to how much flows will decrease, but states that the mean DWP flows will be generally 10-15 c.f.s. less than no action in the Albuquerque reach and a maximum of 45 c.f.s. less, Hydrology App. ES-5, and that DWP averages 27 c.f.s. less than no action, Hydrology App. 5-1. The Hydrology Appendix breaks its analysis as follows:

Normal years:      about 30 c.f.s. lower at Albuquerque

<sup>1</sup> It is unclear to the undersigned what the residual depletions should properly be, but it appears from the cited publications that they should be somewhere between about 300,000 ac.-ft. and 900,000 ac.-ft. over the next forty years.

Response to Comment 3446.012 Please see response to Comment 3443.049.

Response to Comment 3446.013 The loss rates used by Musharrafieh and Logan were incorrectly taken from CH2M HILL's analysis relating to losses of native water. Historical loss rates for SJC water applied by the BOR, OSE, and Rio Grande Compact Commission use the incremental method as was used in the analysis presented here. Appropriate loss rates will be determined as part of the OSE permitting process.

Response to Comment 3446.014 Comment noted.

**3446.014  
(Cont)**

Low flow years: 25-28 c.f.s. lower except during months of curtailment, when they are 10 to 25 c.f.s. higher  
Extended drought: 5 to 15 c.f.s. lower except May-August curtailment, 5-10 higher

**3446.015**

Hydrology App. 5-8 and 5-15. The DEIS attempts to concludes that this difference in flows in the Middle Subarea between the DWP and no action alternatives is insignificant. The Hydrology Appendix states that under the DWP, "a mean monthly flow of 170 c.f.s. at Albuquerque (reduced to 105 c.f.s. with the DWP in operation) will probably have a recurrence interval of about once every 7 to 10 years," 5-8, and that "[u]nder both alternatives, a monthly flow of 105 c.f.s. is not met about 7 percent of the time at Albuquerque. . . ," DEIS \_\_\_\_\_. This analysis is flawed for two reasons. First, no scientific justification is given for basing the analysis on mean monthly flow. The analysis should be based on the period of time, whether one day or one month, that would cause biological harm to species. Short periods of low flow that do not result in the mean monthly flow becoming lower than 170/105 c.f.s. could result in significant mortality and are potentially as harmful as whole months of low average flow. The DEIS never addresses how prolonged low flows would have to be to cause harm. It could be that there would be significantly more days when flows are less than 170/105 c.f.s. under DWP and significantly more harm to silvery minnows and other aquatic species, but this is not evaluated.

**3446.016**

(f) Second, while the Hydrology Appendix defines 105 c.f.s. as a "severe low flow," Hydrology App. ES-6, the DEIS does not reveal that 170 c.f.s. and 105 c.f.s. at the Albuquerque gage have any biological significance. One hundred seventy c.f.s. at the Albuquerque gage is "historical equivalent" (that is, the amount of native water at the Albuquerque gage without the project) to the 200 c.f.s. that the City will need to operate the its proposed project fully (130 + 50 + 20 = 200 needed to operate the project; the native water component of this at the Albuquerque gage is 200 - 65 San Juan-Chama water + 35 inflow = 170 c.f.s.). However, there is no biological justification for this figure. It might well be that significant biological harm occurs at flows higher than 170/105 c.f.s. The DEIS states that "[p]otential changes in velocity, river channel width, and water depth. . . would only occur when flows in the range of 170 c.f.s. total river flow were occurring," 3-41, but this is obviously nonsense. Changes in depth, velocity and width will occur whenever there is a change in flow of any kind. The low flow figure should be tied to biological harm, not just arbitrarily selected. In the absence of any

Response to Comment 3446.015 Mean monthly flows were used within the hydrologic analysis, and are justified within those sections and appendices of the DEIS. The habitat analysis used the results of the hydrology for its determinations.

Response to Comment 3446.016 Please see General Response to Comments 7. Rio Grande silvery minnow. The low flow number used is based on a low flow for project operations. This flow was then used to examine the potential for biological harm. Section 3.24 presents the results.



biological basis for the low flow number, the analysis of low flow is meaningless.

3446.017

(g) The analysis of the loss of habitat is similarly flawed. The DEIS defines habitat as suitable if the habitat has a depth greater than .66 ft. and a flow velocity less than .325 ft./sec. Table 3.24. Nothing in the analysis suggests that even in slow moving water, minnows are present in significant numbers at depths greater than 16 inches. The DEIS also defines as suitable habitat a river depth as low as 1 inch. *Id.* The undersigned has seen nothing that suggests that the RGSM makes use of such shallow areas. Further, "marginal" habitat is defined as 10 sq. ft. or less, but no scientific justification is given for the selection of this habitat size.

3446.018

(h) The DEIS states that there will be only small changes in depth and velocity under the DWP. Hydrology App. 5-31 *et seq.* However, there will be a substantial change in width and amount of habitat available. The DEIS notes that there will be a decrease in width of 20 to 30 feet within a range of 70 to 130 ft. DEIS \_\_\_\_\_. This is a 23 to 29% decrease in width. This translates into a much smaller area or amount of water for the fish to live in. Further, Tables 3.24-9 and 10 and 3.24-11 show that there will be very little habitat for silvery minnows between the proposed dam near Paseo del Norte and the SWRP when the project is operated under low flow conditions. With less water to live in, it is possible that few fish can be supported. There is no evaluation of what this means to the minnow or to other aquatic species. There is no evaluation of the mortality that can be expected from the shrinking of usable habitat that will result from continuing to operate the project during times of low flow and what this mortality would mean to the efforts to recover minnow populations.

3446.019

(i) The DEIS attempts to gloss over any harm that might result from low flow by stating that the changes in depth, velocity, and width would be temporary and would be eliminated when flows were again elevated. DEIS 3-41. It concludes that

aquatic resources would not be "lost" but rather redistributed based on the availability of habitat. Even if individuals were harmed in the process, there is no evidence to support these losses having permanent resource level effects.

*Id.* No evidence is cited to back up this analysis. The DEIS does not evaluate

Response to Comment 3446.017 Ten square feet is marginal and occurs under a variety of conditions where minnows have been found in other areas of the river. The data base of where minnows have been found was used to define suitable and marginal habitats. The most current minnow monitoring data can be accessed on the Reclamation web site. The monitoring used in the DEIS is presented within Table 3.24-4. The areas where minnows have been located are the current basis for designing fish habitat structures and facilities by the Middle Rio Grande ESA Workgroup. Please refer also to the general response to comments 6 and 7. In addition, the field monitoring data and other best technical data available, and the opinions of project team and outside biologists was used in formulating the effects analysis and the mitigation measures.

Response to Comment 3446.018 The results of the HEC-RAS/habitat analysis indicate that suitable, even if marginal, habitat remains under low flow conditions. With appropriate mitigation, minnows, if successfully introduced into the reach, should be able to sustain themselves. It should be noted that conditions attributable to the project are similar to those encountered within natural or existing variations within the river. Specific project take and conservation measures will result from the ongoing Section 7 ESA consultation. The Fish and Wildlife Coordination Report is provided within Appendix J of the FEIS.

Response to Comment 3446.019 Aquatic life is assessed within Section 3.7, 3.212 and 3.24. Related sections are 3.1 and 3.27. Please refer to the general responses to comments number 6 and 7. Based upon the analysis of hydrologic factors, stream and geo-mophology, fish monitoring, design of fish screens and fishway, water quality, and HEC-RAS habitat modeling the impacts, after mitigation measures have been properly assessed.

3446.019  
(Cont)

the status of aquatic organisms, how extensive such losses might be or how this would, in fact, effect the populations and genetic diversity of aquatic organisms. This conclusion appears to be entirely speculation. Redistribution of all aquatic organisms seems highly unlikely.

(j) The DEIS states:

The analysis of habitat and river conditions within the Middle Subarea, or depletion zone, indicates no adverse physical effects to the habitat of the RGSM, or a loss of river connectivity under the operating criteria defined for the project. When extrapolated to other aquatic species, there are no cumulative effects of the DWP to aquatic life. Effects associated with the changes in water velocity, depth, river width and river connectivity would not result in permanent changes to aquatic habitat or aquatic species.

3446.020

DEIS 3-45. No scientific justification is given for extrapolating effects on the silvery minnow to effects on all other aquatic organisms, and, in any case, the effects on the silvery minnow are not evaluated, as discussed above. Moreover, "permanence" of any changes is not the only issue: temporary changes, especially repeated temporary changes and especially with respect to a species close to extinction and with little remaining genetic diversity such as the silvery minnow, can also significantly harm species. Further, the DEIS analyzes the effect on aquatic life only by looking at recreational fisheries. It does not evaluate the effect on non-game aquatic species. The DEIS fails to adequately evaluate the effects of the project on aquatic species.

3446.021

6. Slackwater pool. The Hydrology Appendix states that there will be a 1000-2000 foot pool behind the dam. However, it does not analyze whether this will have any effect on the silvery minnow or other aquatic species. A substantial slackwater pool is a significant change in the river and needs to be evaluated for any environmental impacts it may have.

Response to Comment 3446.020 Please see General Response to Comments 6. Fish Passage and Fish Screens and 7. Rio Grande silvery minnow. It is appropriate to use the most sensitive species in a system as an indicator. Changes and impacts upon habitat are commonly used to analyze environmental effects, and were used in this case. Looking at recreational fisheries, aquatic habitat as reflected by depth, velocity and substrate conditions in a variety of flow conditions, evaluating conditions for the most sensitive member of the aquatic community, and analyzing hydrologic conditions is accurate and effective. In addition, the extensive and detailed mitigation measures must be considered (Appendix O) for both temporary, or construction effects, and operational effects of the DWP. The RGSM was used as an indicator species for aquatic organisms. Habitat analysis is an appropriate mechanism for determining effects upon aquatic species. The fish monitoring data used in the analysis is presented in Table 3.24-4. The analysis was completed using the variety of techniques described in comment 3446.019. Evaluation criteria for aquatic life were determined at workshops during 1998, and when combined with habitat analysis, HEC-RAS analysis for the RGSM, and changes to the stream physical characteristics are also considered, a suitable analysis results. In addition to recreational fisheries, a non-game species, the RGSM was also evaluated.

Response to Comment 3446.021 A slack water pool may in fact help develop areas of habitat enhancement for the minnow. The pool may provide some limited over bank flooding, thus providing water to fish nesting and nursery areas. The pool may also provide a variety of depth and flow conditions to riverine fishes, particularly along the edges of the river. Text has been added for clarification to the FEIS.

September 12, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette NW, Suite 1313  
Albuquerque, NM 87102

Dear Ms. Roberston:

This letter is a summary of comments on the Bureau of Reclamation's Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project. While the document represents a good first attempt there are aspects that require drastic change in order to meet NEPA standards. The following comments reflect three general areas:

3447.001

- 1) inclusion of community input and public comments received in hearings, which require bilingual translation during the process as well as posting of public notices;
- 2) Environmental justice; and
- 3) Socioeconomics.

Response to Comment 3447.001 Public comment and input processes and results are provided in Section 4 and Appendices B,C and D of the DEIS. The newspaper notifications are also found in the appendices.

3447.002

The DEIS recorded comments from the public in the document, but did not incorporate those comments into the working analysis of the document. For example, residents in South Valley commented on possible impacts to groundwater and potential draw down of private and municipal wells. Simply recording comments without providing response with corresponding informational contacts and resources to assist in public input is a part of public process that has been ignored.

3447.003

The DEIS document is lacking definition of environmental justice. Again, the document merely restates environmental policy without adequately addressing adverse impacts to low-income minority populations in the interest of human health and safety, a component of the environmental justice mission. Potential and actual disproportionate impacts to low-income communities of color as a result of the proposed project must be described and discussed in order for the public to critique the DEIS document properly.

3447.004

Lastly, socio-economics implies people impacted by the economic conditions due to the project's construction, operation, and maintenance of the surrounding impacted areas. The DEIS provides costs that are conservative figures and do not include real world scenarios influencing the plan that include: 1) weather conditions, precipitation and recharge rates; 2) costs to remove arsenic; and 3) wastewater treatment and facilities that can accommodate existing loads as well as planned future loads that can meet action levels for down river users i.e., Isleta Pueblo etc. Using citations from the NAIP does not constitute an independent review of costs and burdens (actual) to taxpayers. Quality of life is a great concern due to over consumption of the aquifer currently not being addressed by the City of Albuquerque's Conservation program. There have been

Response to Comment 3447.002 Public comments are addressed by a listing within Appendices B,C or D, where the reader is directed to an appropriate section of the DEIS. Main scoping issues for each resource area are introduced at the start of each pertinent resource section. As an example from the comment, ground water and potential drawdown are addressed in Section 3.16, under the introduction to the section. Each resource section identifies scoping issues, and then relates them to impact. In addition, there is a summary provided by Table 1.4-1, and Section 1 (1.4) addresses scoping issues.

Response to Comment 3447.003 Environmental justice is defined and evaluated within Section 3.11 and Human Health and Safety is evaluated within Section 3.15. Minority communities were identified, mapped, and project construction overlays were used to determine any effects (Section 3.11). There were no disproportionate impacts or elevated risk to minority communities health and safety.

Response to Comment 3447.004 Please see General Response to Comments 1. Alternatives, 2. Conservation, and 8. Water Quality. The costs of the project and some discussion of the costs of arsenic compliance have been revised and placed within Section 3.22.2 and Section 3.22.3.

measures in place to reduce water use with very little success meanwhile non-contiguous development has been encouraged by the City's administrative officials. The DEIS presents a contradiction by stating that it purports to solve some of Albuquerque's problems when in fact it actually creates even larger ones with respect to water, its policy and management. Some examples include removing water from its point of origin for urban over consumption, supporting ordinances that require restaurant patrons to ask for glasses of water meanwhile approving outside development interests that abuse the limits of water, and not producing an ordinance that can be enforced regarding development proposals who must prove water availability prior to approval. Assuming there is a full allotment of surface water, the City has not gone beyond the concept phase of what it will take to mitigate poorly defined and planned development proposals that depend on municipal water. Taxpayers are being asked to foot the bill once again without input of legitimate concerns and without any response to critical questions such as the ones raised above. For these reasons, we believe the DEIS falls short of meeting standards that protect human health and the surrounding environment.

Sincerely,

Frances T. Ortega  
Southwest Research and Information Center

Jaime Chavez  
Water Information Network

Cynthia Gomez  
Amigos Bravos

### 4.3 OTHER COMMENTS FROM ORGANIZATIONS

1. Albuquerque Economic Development Inc.
2. Albuquerque Metropolitan Board of Realtors Inc.
3. Albuquerque Hispano Chamber of Commerce
4. Alvarado Realty Company
5. American Council of Engineering Companies (ACEC) New Mexico
6. American Society of Civil Engineers (New Mexico Section)
7. Associated General Contractors of America
8. Bohannon Huston Inc.
9. Build New Mexico
10. Cauwels & Associates Inc.
11. Commercial Association of Realtors
12. Economic Forum
13. Home Builders Association of Central New Mexico
14. Maestas and Ward Commercial Real Estate
15. National Association of Industrial and Office Properties (NAIOP)
16. National Heating and Ventilating Company Inc.
17. New Mexico Grocers Association
18. New Mexico Land Title Association
19. New Mexico Roofing Contractors Association
20. New Mexico Society of Professional Engineers
21. Sivage-Thomas Homes Inc.
22. Ventana Ranch
23. Western Building Supply

## SECTION 5

### SUMMARY OF PUBLIC HEARINGS

#### 5.1 INTRODUCTION

Three public hearings were held to give the public the opportunity to voice questions and concerns regarding the Draft Environmental Impact Statement for the City of Albuquerque Drinking Water Project. The public hearings were held in Albuquerque, New Mexico on July 2, 2002, Socorro, New Mexico on July 9, 2002, and Española, New Mexico on July 10, 2002. The public hearings were conducted by a hearing officer with the Department of Interior. Comments or statements from the public were recorded by a court reporter. In accordance with Reclamation policy, a summary of public hearing oral comments and Reclamation responses are provided below by comment category. All relevant comments that directly pertain to the DEIS document are identified and answered. Table 5.1 shows the individuals who testified during the public hearings. Each summarized comment includes a code identifying the public hearing (Albuquerque (A), Socorro (S), or Española (E)), and the individual who expressed the concern, followed by the response.

**TABLE 5.1  
PUBLIC HEARING DESIGNATIONS AND SPEAKERS**

<b>Designation</b>	<b>Speaker Name</b>	<b>Representing</b>
A-1	Derrick Lente	Pueblo of Sandia
A-2	Mike Malloy	Self
A-3	Brian Burnett	Business Water Task Force
A-4	Martin Zehr	NMGP/MRGWA
A-5	Mark Doppke	Self
A-6	Daniel Bracken	Self
A-7	Deborah Hibbard	Rio Grande Restoration
A-8	Jean Brocklebank	Self
A-9	Steve Harris	Rio Grande Restoration
A-10	Jeanne Pahls	NM Solidarity Network
A-11	John Black	Westword Realty
A-12	Susan Gorman	ABQ Water Customer
A-13	David Simmons	Self
A-14	William J. Miller	Rio Grande Restoration
A-15	Bill Landin	Self
A-16	Liz Cottonwood (Elizabeth Tamborra)	Self

**TABLE 5.1 (Continued)**  
**PUBLIC HEARING DESIGNATIONS AND SPEAKERS**

<b>Designation</b>	<b>Speaker Name</b>	<b>Representing</b>
A-17	Bob Anderson	Green Party
A-18	Mary Miello	Self
A-19	Martin Haynes	Self
A-20	Doug Dailey	Self
A-21	Robert Sulnick	Self
A-22	Richard Barish	Self
A-23	Brian Eagan	Self
A-24	Dave Hill	Grubb & Ellis
A-25	John Hawley	Hawley Geomatters
A-26	Mary Murnane	Bernalillo County
A-27	B. Zimmerman	HDR
A-28	Eileen Grevey Hillson	Self
A-29	Janet Jarratt	Self
A-30	Elaine Hebard	Self
A-31	Kara Gillon	Defenders of Wildlife
A-32	Paul Gorder	Self
A-33	Jean Bassett	NMPIRG
A-34	Craig Hoover	Bohannon Huston
A-35	Howard Stone	Bohannon Huston
A-36	Cynthia Gomez	Self
A-37	Marilyn Cooper	Self
S-1	Robbie Bhasker	Mayor of Socorro
S-2	Bob Bowman	Self
S-3	Ken Wright	Self
S-4	Larry Whitefield	Socorro SWCD
S-5	Gordon Herkenhoff	Self
S-6	Kathy Albrecht	Self
S-7	P.V. Ford	Self
S-8	Doug May	Self
E-1	Lynn Montgomery	Acequia La Rosa de Castilla
E-2	Wilfred Guttierrez	Self
E-3	Mark Sundin	BLM
E-4	Andrew Kelton	Amigos Bravos
E-5	Antonio Garcia	Self
E-6	Steve Harris	Rio Grande Restoration
E-7	John Buchser	Sierra Club
E-8	Donna House	Vecinos del Rio
E-9	Paul Garcia	Self



## 5.2 SUMMARY OF PUBLIC HEARING COMMENTS AND RECLAMATION RESPONSES

### Action Alternative

**The Drinking Water Project should be permitted and constructed as soon as possible to benefit the citizens of Albuquerque to reduce depletion of aquifer (A-2, A-3, A-11, A-12, A-13, A-15, A-18, A-19, A-20, A-23, A-24, A-25, A-26, A-27, A-28, A-32, A-34, A-35).**

Comment noted.

**An estimated 3,200 households in the north and south valley are in need of water service (A-26).**

Comment noted.

### Agricultural Impacts

**No mention is made of impacts to agriculture and the Middle Rio Grande Conservancy District (A-6, A-14). The preferred alternative impacts downstream agriculture (A-21). Agricultural impacts should be considered (S-8).**

Agricultural impacts are addressed in Sections 3.16 Hydrology, Section 3.17 Indian Trust Assets, and Section 3.27 Water Quality of the DEIS. Also please note the comments of the MRGCD incorporated in this appendix.

### Alternatives Development

**More emphasis should be made in water conservation, Albuquerque is using too much water, and/or per capita goals should be lowered to 140 to 150 gallons per capita per day. A water conservation alternative should be analyzed (A-5, A-7, A-8, A-9, A-33, S-6, E-1, E-4, E-6, E-7, E-8). Water conservation efforts must be continued (A-12). Water conservation is the most cost-effective alternative (A-14). People who conserve water should be allowed to choose where that water goes, perhaps to the environment (A-21).**

Water conservation is an integral component of the Albuquerque Water Resources Management Strategy and was considered in detail in the development of alternatives. Both the No Action and Action alternatives include the continuation of the City's water conservation program and the reduction of per capita water use from 250 gallons per capita per day to 175 gallons per capita per day by the year 2005. The City is part way through the program of reducing per capita water use and current per capita usage is approximately 197 gallons per capita per day.

**The City of Albuquerque should set an example in its own water conservation practices (A-7).**

The City is setting an example in the new construction of City facilities and in the development of alternative supplies to meet non-potable uses. Retrofitting and/or redesign to enhance water conservation of existing facilities will take a period of years.

**Concern raised that the City does not have a water budget (A-7).**

A City water budget is shown in DEIS Appendix L, the Hydrology Report.

**The project does not represent the values of the community with respect to agriculture and the bosque (A-7).**

This DEIS provides a venue for community input on values and other any related issue that will be incorporated into the FEIS.

**Council on Environmental Quality (CEQ) Section 1502.14 requires a rigorous and objective evaluation of all reasonable alternatives (A-8).**

The DEIS provides such an analysis.

**The costs of maintaining a healthy bosque, a river that supports endangered species without resorting to out of channel breeding of endangered species may be attributed to the project (A-9).**

Costs for environmental mitigation that is an outcome of this EIS will be a project cost.

**Other alternatives should be explored such as to trap and use rainwater, use of grey water to flush toilets (A-10, E-8); other alternatives unspecified (A-17, A-33); other alternatives including aquifer recharge or water storage (A-21); the City should take delivery of its San Juan Chama water as described on page 192, use it, put it into its aquifers, and not take twice the amount (S-4); the City should treat and use its effluent (E-7); the City should work with agriculture to save water and use the savings for municipal use (E-7); the City should install a pipeline to transport water (E-9).**

The City will continue to develop and implement measures as they are required and described by the AWRMS.

**The alternatives proposed violate the fundamental premise that public water supply should be taken from the highest quality source, which is the groundwater supply of the Middle Rio Grande (A-14).**

The water supplies are taken from the highest possible source, continued sole reliance on groundwater supplies would be non sustainable.

**The location of the preferred alternative is not identified (A-21).**

The DEIS describes the location of the preferred alternative and presents the location in an aerial photograph Figure 2.5-3.

**Albuquerque should plan for seven generations (A-30).**

Planning and development of the AWRMS will continue. The DWP is an important step in this process, and has been planned and implemented by the City Council.

**Were the alternatives that were ostensibly looked at by the City rejected based on the capital costs (A-9, E-6)?**

A description of alternatives considered and the reasons they were dismissed are included in DEIS Section 2.6.

## **Aquatic Life**

**The proposed Paseo del Norte surface diversion will block fish migration (A-5).**

The proposed Paseo del Norte dam will include fish passage so as to not block fish passage. Detailed information is included in the description of alternatives in Section 2, as well as in Sections 3.7 and 3.24.

**Fish flows in the Chama should have a minimum in the range of 150 cfs to 175 cfs year round (E-6).**

Winter fisheries releases are maintained for all modeled scenarios (Pages 3-147-148 DEIS).

## **Biological and Geomorphological Conclusions**

**The models used to support the biological and geomorphological conclusions used by the consultant are proprietary models (A-9).**

The models used are not proprietary.

## **Cultural**

**The river should not dry up due to the project as it is a historical site and because what it means to the different populations (E-8).**

The DWP will not dry the river.

## **DEIS Public Comment Process**

**Requests for time extensions up to 30 days or comments relating to the time available to date for public input (A-5, A-8, A-9, A-14, A-21, A-31, A-33, A-36, A-37, E-4, E-5, E-6, E-7).**

A 30-day time extension for the receipt of public comment was granted by Reclamation.

**Concerns raised that the Biological Assessment, Fish and Wildlife Coordination Act Report, and/or the Cumulative Effects sections were missing (A-5, A-8). Cumulative impacts should be studied (A-29).**

The Biological Assessment and Fish and Wildlife Coordination Act Report will be provided with the FEIS. The Cumulative Effects section is provided in Section 3.30 of the DEIS.

**CEQ guidelines require a supplemental EIS (A-8).**

All comments received as a part of the DEIS public comment process have been responded to and a supplemental EIS is not required.

**The DEIS is too long and exceeds CEQ guidelines (A-8).**

The DEIS is comprehensive and has been developed in accordance with both the CEQ and Reclamation's NEPA Handbook.

**The DEIS is incomplete, inadequate, needs to be rewritten and redeveloped (A-17).**

Disagree. The DEIS was developed with proper and substantive public and agency input (See Appendices B, C and D, and others and Section 4.) Alternatives were developed and evaluated, all in accordance with CEQ and Reclamation's NEPA Handbook.

**The DEIS misstates that environmentalists support the plan (A-17).**

The DEIS states that the AWRMS was endorsed by environmental groups, which is correct.

**More effort should be made to communicate the efforts of the City to develop a sustainable water supply (A-18).**

Comment noted.

**Another public hearing is needed as the information was just presented (E-5).**

There is a comment period and the completion of a FEIS before a record of decision. Public scoping and involvement steps and results are detailed within Appendices B,C and D and others, Section 4 of the DEIS, and Section 2 of the DEIS.

**The DEIS public hearings should be announced using radio and newspaper ads (E-5), more advertising (E-7).**

Ads were placed in local media and within the Federal Register.

## **Geographic and population growth**

**The City should not consider additional expansion without adequate water supplies (A-10, E-1, and E-2).**

The DWP, if permitted, allows for the development of sufficient water supplies to meet the needs of City population growth anticipated through 2040.

**Population projections should be taken into account (A-29).**

Population projections were taken into account.

**Growth should be limited (S-6) growth should be sustainable (E-7).**

Comment noted.

## **Human Health and Safety**

**The guidelines provided under the ISO environmental management standards should be utilized (A-12).**

Appropriate safety and environmental standards will be adhered to during construction and operation of the DWP facilities. In addition, permitting requirements may place additional restrictions on construction, operations and maintenance.

## **Hydrology**

**The DEIS does not consider the effects of the recent drought (A-4).**

The DEIS does consider both operation under times of drought in the DWP curtailment procedure and in the use of the existing City of Albuquerque groundwater wells as a supply during drought conditions.

**The DEIS should analyze the competition for water with agriculture and impacts to irrigators who have guarantees under the Rio Grande Compact and two international water treaties (A-9, A-14, E-4). Texas will sue New Mexico for compact failures to deliver adequate water (A-21) compact obligations (A-29, A-30). The DEIS should also address the Colorado River Compact and agreements with Arizona (E-2).**

The proposed DWP consumes water solely contracted by the City of Albuquerque. Section 3.16 discusses downstream impacts. The Colorado River Compact and agreements with Arizona are outside the area of influence of this DEIS. SJC water must be used in New Mexico.

**The hydrologic baseline is not accurately presented; the Middle Rio Grande valley is entitled to about 400,000 acre-feet of water and the City of Albuquerque is going to take an additional 100,000 acre-feet of water; the effects of past groundwater pumping are not accurately portrayed, and under no action the San Juan Chama water is not accounted for (A-9). The removal of the San Juan Chama water from the baseline is unreasonable (E-6).**

The hydrologic baseline and discussion as to its appropriateness are presented in Appendix L. As part of the DWP alternative the City will consume 47,000 acre-feet SJC. No “additional” water is proposed for consumption. At this time all of the City’s needs are met through pumping groundwater which eventually comes from the Rio Grande. The DWP imports water from

another basin, therefore reducing its reliance on and consumption of water from the Rio Grande. The effects of past groundwater pumping are presented in Appendix L and are accounted for with the OSE model. San Juan Chama water is included in the descriptions of both the No Action Alternative (Section 2.4) and DWP scenarios (Section 2.5).

**The San Juan/Chama Project water loss rates used will result in impairment of existing uses of native Rio Grande water; the loss rates used are the same for the Angostura and Paseo alternatives even though they are separated by a distance of 18 miles (A-14).**

SJC loss rates used are consistent with the current accounting methods employed by the BOR.

**There is not adequate support for the statement that the stream flow impact from the diversion of surface water at Paseo del Norte and return at the south side reclamation plant a distance of 15 miles is quite similar to the impacts of groundwater pumping that can only be estimated and likely extend over a distance of 40 miles (A-14). Groundwater pumping effects should be more carefully considered (E-6).**

Groundwater effects are considered within Section 3.16 and Appendix L.

**Analysis of the baseline to remove the City San Juan Chama water should not be made on an annual basis; the reduction of the base flow in the Middle Valley from 250 cfs to 70 cfs or lower has not been adequately considered (A-14).**

Baseline removal of the City's SJC water was made on a monthly basis. Impacts in the Middle Valley have been addressed in the DEIS.

**The SS Papadopoulos study states the Middle Rio Grande is currently out of water (A-29).**

Comment noted.

**Is the San Juan Chama water currently being used to offset effects of current pumping (A-30)?**

No. Historic and current pumping effects are met through the City's return flow and the consumption of the City's native water rights. Table E-1 in Appendix L indicates that releases of City SJC water would be required to offset historic and current effects in approximately 2050.

**The loss rates shown on page 173 showing a release of 66 cfs and diversion of 65 cfs are not real and the river depletions in Albuquerque under RG 960 of 65 cfs over a 14 mile reach are not correct (S-4). Who will bear these losses (E-6)? Summer losses are greater than winter loss rates (E-6). Loss rates will be 70% (E-9).**

SJC loss rates used are consistent with the current accounting methods employed by the BOR. The OSE permitting process may result in the determination of new loss rates.

**To limit the flow of the river to 70 cfs is insane, that river rushes at an average 20,000 cfs past Taos in the springtime (S-6).**

The DWP alternative does not propose to limit the river to 70 cfs but rather to discontinue City operations during times of drought when flows are low. The average flow of the Rio Grande below Taos at the Embudo gage in Spring (May) is 2,397 cfs, not 20,000 cfs.

**Pumping in Albuquerque affect Placitas and Las Huertas Creek (E-1).**

Completion of the DWP will reduce any pumping related effects.

**Removal of San Juan Chama water from the system will affect agriculture and the bosque (E-4).**

Impacts to the downstream user and the bosque are identified in Sections 3.21 and 3.24.

**Erosion issues in the Chama have not been considered; damages occur from the conveyance of water through the Chama; the City has no right to convey water using the Chama (E-5, E-8).**

It is anticipated that conveyance on the Chama will not change from current practices.

**The City believes that water for the City, downstream water users, and the RGSM is more important than water for users on the Chama (E-5).**

The City believes that all water right holders have a right to use their water.

**Concern over the City diverting twice the San Juan Chama water (E-7, E-8).**

The City proposes to divert and return some native Rio Grande water to be used as carry water in a similar fashion as typical irrigation practices. Because this water will not be consumed, downstream users will not be affected.

**Concern over the City proceeding without having its water adjudicated (E-8).**

The DWP proposes to consume City SJC water which because it is imported water is not subject to an adjudication procedure.

**Is the Rio Chama the only portion of the river that is adjudicated (E-5)?**

No.

**Española puts 1,000,000 gallons per day into the river and only gets credit for 800,000 gallons per day. How about the other 200,000 gallons per day (E-5)?**

Española's return flow is outside of the scope of this DEIS.

**Albuquerque's operation on the river damages the rock and tree diversion structures. Who is paying for that (E-5)?**

Albuquerque's use of SJC water at a constant release rate will be small compared to both typical native flows and irrigation releases.

## **Mitigation**

**The project mitigation measures must be carefully maintained and dedicated funding should be established for these measures (A-12).**

The mitigation measures will be maintained and appropriate funding will be established.

**The San Juan Chama contractors should prepare a regular three year, five year, and ten year examination of San Juan Chama water use and water discharged (S-1).**

The City will have an accounting procedure in place to monitor its water uses. Other contractors are not subject to City requirements and are outside the City jurisdiction.

**Stronger mitigation measures should be required due to effects on agriculture and the bosque (E-4).**

The project does not affect agriculture. Please refer to DEIS Sections 3.16, 3.18 and others. Impacts upon the bosque are properly mitigated and supervised by City Open Space.

## **Other**

**Individual property rights and those of Albuquerque should be honored (A-5).**

Comment noted.

**In Saigon, people draw water one to two hours per day (S-7).**

Comment noted.

## **Project Name**

**Concern rose that the name Drinking Water Project does not identify that the water is used for multiple residential, commercial, and industrial purposes including outdoor landscaping, toilets, washing machines, and uncovered swimming pools (A-7, A-8).**

The project is named the Drinking Water Project since the water will be treated to meet drinking water quality standards as required by the EPA under the Safe Drinking Water Act.

**Concern of the use of the term sustainable in describing the project (A-7).**

The term sustainable is used as the preferred alternative promotes a sustainable use of Albuquerque's water supplies, including groundwater.

## **Project Operations**

**Who will oversee, operate, and monitor this dam (A-7)?**

The City of Albuquerque will operate the proposed Paseo del Norte diversion in accordance with the permits granted as a result of this EIS and actions in other permitting forums.

**The proposed curtailment flow of 70 cfs must be carefully evaluated and a higher minimum should be chosen if adverse affects are found (A-12). The proposed curtailment flow does not seem to protect people, farms, or the river (E-7).**

The proposed curtailment flow of 70 cfs was carefully evaluated and does not result in adverse effects.

**The DEIS should address more fully the DWP operation during flood discharges from the AMAFCA North diversion channel which carries high level of bacteria and impacts from upstream wastewater treatment plant operations (A-14).**

Comment noted.

## **Recreation**

**Concern expressed about the City withdrawing its support for the program of voluntary cooperation of releasing summer recreational flows from Heron reservoir to Abiqui Reservoir without compensation (E-3).**

The DWP will not impact reservoir operations (Section 3.16 and Appendix L). The City will cooperate with other water management entities to the extent possible.

**As a result of the adoption of baseline conditions, the impacts on recreation and fisheries are not adequately considered at Angostura Reservoir, which will be drained, and no San/Juan Chama Project water stored in the future (A-14).**

There is no reservoir at Angostura.

## **Request for Government to Government Consultation**

**The Pueblo of Sandia Tribal Council requests government to government consultation with the City of Albuquerque and all participating federal agencies as soon as possible (A-1).**

Reclamation invited the Pueblo of Sandia to consultation on a government to government basis (see Letters in Appendix F, dated March 02, 1999 and September 03, 1999). A meeting was held with Sandia Pueblo, presenting the project on November 29, 1999. A government to government meeting was arranged on August 28, 2003, but was cancelled by the Pueblo.

## **Riparian Impacts**

**Cottonwoods in the Middle Rio Grande deserve protection and the City proposal to reduce native flows should be opposed (A-16).**

No impacts will occur to cottonwoods as a result of the Paseo del Norte diversion, please see DEIS Section 3.21 Riparian Areas.

**The City should use forbearance bosque restoration (A-21).**

The City's mitigation plan as shown in Appendix O includes bosque restoration.

**The City should use its proposed diversion dam to practice controlled flooding of the bosque (E-7).**

As a mitigation measure, this may not be feasible.

## **San Juan Project**

**There is a technical error on page 4 that states that the San Juan/Chama Project was authorized by the Boulder Canyon Project Act (A-14).**

Comment noted. Text changed where appropriate.

## **Threatened and Endangered Species**

**The DEIS does not mention the Endangered Species Act (ESA) until p 209 (A-8).**

ESA compliance is referenced in the first table of Section 1 of the DEIS.

**The DEIS should look at the impact of the operation of the proposed fish screens and fish bypass on the RGSM (A-14), also the proposed dam will prevent movement of fish and other aquatic species (A-22).**

The DEIS carefully reviews the impacts of the operation of the proposed fish screens and fish bypass in DEIS Sections 3.7 and 3.24.

**The preferred alternative will affect the RGSM (RGSM) (A-21).**

The impacts to the RGSM have been reviewed in DEIS Section 3.24.

**How will project operational depletions and downstream impacts affect the RGSM and the Southwestern Willow Flycatcher (S-2)?**

The project operational impacts to the RGSM and the SWWF have been analyzed in DEIS Section 3.24.

## **Water Quality**

**The DEIS should consider upstream sources of contamination from LANL as a result of the Cerro Grande fire as documented in "The Analysis of Exposure and Risk to the Public from**



**Radionuclides and Chemicals released by the Cerro Grande fire at Los Alamos” and from hormones and other contaminants that are in the river (A-4, A-10, A-17, A-21).**

Potential upstream contaminants are addressed with the Water Treatment Plant described in Section 3.27.

**Treated water from the DWP should not be re-injected into the aquifer due to water quality concerns (A-10, A-17).**

Please refer to Section 2.6, Alternatives Considered but Eliminated.

**How will the City comply with the new arsenic rule when City demands are to be met with groundwater and will the individual wells that exceed the new arsenic standard be treated (A-14)?**

Arsenic (As) compliance with the drinking water project is completed primarily by relying on wells with As concentrations below the EPA standard. When necessary, wells exceeding the standard will be used by blending the water with lower As water to meet the standard. During annual peak production, it may be necessary to provide treatment of some higher As wells to meet supply. In contrast, because the No Action alternative must meet all demands all of the time with groundwater, it has less flexibility to use different wells. Employing a strategy similar to the DWP would result in excessive drawdowns in the lower As wells, thus requiring more As treatment. Whereas, because the DWP employs surface water most of the time, the lower As wells are not required on a continuous basis and therefore heavy use can be limited to a relatively short term basis.

**The City should look at the downstream water quality impacts to Socorro from the project (S-1, S-2, S-3, S-4).**

Water quality impacts are addressed in Section 3.27 and by reference in Thompson and Chwirka (2002). This report will be incorporated by reference in the FEIS.

**As a result of the adoption of baseline conditions, the impact on water quality below the new diversion dam has not been adequately considered, particularly the impacts of increased levels of suspended fisheries and on water users served by the 19 acequia’s below Abiqui Dam (A-14).**

Water quality has been further addressed by the report completed by Thompson and Chwirka (2002). This report will be incorporated by reference in the FEIS.

## SECTION 6

### COMMENTS FROM INDIVIDUALS

#### 6.1 INTRODUCTION

Letters were submitted by 28 individuals and included formal written letters, faxes, and e-mail. Table 6.1 below includes the names of all persons submitting individual letters next to the document reference number for their comments.

**TABLE 6.1  
INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3448	Anderson, Robert L.
3449	Bailey-Bowman, Karen
3450	Bailey-Bowman, Karen
3451	Baur, Paul
3452	Brill, Barbara
3453	Brocklebank, Jean
3454	Brown, B. Blair
3455	Foster, Marlene
3456	Gorman Susan
3457	Gould, Maggie
3458	Grier, Thomas
3469	Hibbard, Deborah
3460	Hulley, Kathleen
3461	Isaacs, Judith
3462	Johnson, Curtis E.
3463	Johnson, Peggy
3464	Key, Maya
3465	Lopez, Andrew Leo, CPA
3466	Malvino, Mario
3467	May, Douglas

**TABLE 6.1 (Continued)**  
**INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3468	Pahls, Jeanne
3469	Robinson, Amy
3470	Spensley, Steve
3471	Stockton, Gail
3472	Stupin, David M.
3473	Von Riesemann, Walter A., PhD, P.E.
3474	Wheelock, Dave
3475	Woodard, Marianne
3476	Zehr, Martin
3477	Zehr, Martin

**6.2 COMMENTS AND RESPONSE TO COMMENTS**

# City of Albuquerque Drinking Water Project Draft Environmental Impact Statement

## COMMENT CARD

To have your comments on the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project become a part of the official hearing record, you may fill out this card, or submit any other written comments via mail, email or fax. To be most helpful, comments on the DEIS should be as specific as possible and address the adequacy of the document or the merits of the alternatives. Written comments must be received by the Bureau of Reclamation no later than August 13, 2002.

COMMENTS:

3448.001

From my reading of the document it fails to adequately explore the alternatives of ending large corporate users, i.e. Intel, draw of the aquifer. The document assumes this will continue. I believe this amounts to corporate welfare and places the burden on the individual tax payers. Usage for profit uses of our water should not be in an equal status as non-profit citizens. If anything the corporate users should build their own water supply division and the public use the aquifer.

3448.002

The river water and surface water contamination from radio-nuclides is not adequately addressed in the document. The Corrosion by-product was never contemplated when this diversion project was a wet dream.

of rock  
at  
Los  
Alamos

Response to Comment 3448.001 Intel water rights or water use are outside the analysis of this DEIS. Corporate users in Sandoval County would be responsible for meeting the stipulations of their own use permits.

Response to Comment 3448.002 Please see comment 3443.091.

Add additional sheets as necessary.

YOUR NAME: Robert L. Anderson  
PHONE NUMBER: Box 4591 958-0882  
ADDRESS: Albuquerque, NM 87103  
YOUR ORGANIZATION (IF ANY): Green Party

TO MAIL, PLEASE FOLD COMMENT CARD IN THIRDS, MAKING SURE THAT THE BUREAU OF RECLAMATION ADDRESS IS SHOWING. TAPE CLOSED AND APPLY PROPER POSTAGE.

YOU MAY ALSO EMAIL YOUR WRITTEN COMMENTS TO LORI ROBERTSON AT [lrobertson@uc.usbr.gov](mailto:lrobertson@uc.usbr.gov), OR FAX TO (505) 248-5308.

**Billings, Rick**

**From:** Karen Bailey-Bowman [kbailey@nmt.edu]  
**Sent:** Wednesday, July 17, 2002 7:39 PM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** City of ABQ Drinking Water Project DEIS Response

Dear Lori,

I am a landowner and operator of a small agricultural business in Polvadera, just below San Acacia in Socorro County. I irrigate 15 acres from the MRGCD and water my personal vegetable garden with a shallow well that taps into Rio Grande water.

3449.001

I have read over the executive summary of the ABQ Drinking Water Project DEIS, and I don't agree that ABQ should be allowed to divert twice the amount of water from the Rio Grande so that their share of the SJC water can be fully utilized by the City.

3449.002

My main objection is that the native Rio Grande water diverted does not belong to Albuquerque, and it will not be returned to the river for downstream users like me in pristine condition. Granted, the effluent from the sewage treatment plant will meet current drinking water standards most of the time, but new research is uncovering more and more problems with effluent water. Namely, I am concerned about the levels of medications, such as estrogen and Prozac, that will not be removed with treatment and which will be part of the effluent returned to the river. The media has drawn my attention to the problems of these medications contaminating sewage effluent, even past modern treatment plants. Even though current drinking water standards don't address these chemicals yet, I am not comfortable with the risk of putting more recycled water from toilets and showers back in the river for me to use as irrigation water on my garden and my fields.

3449.003

Besides, what right does Albuquerque have to the 46,000 acre feet/year of native water? Could it be that the city is using downstream users' water by right without our consent?

My suggestion is that the City of Albuquerque divert only the water it is entitled to, namely 47,000 ac-ft/yr, of SJC water.

To fully use its allotment, the City should then recycle the treated effluent by piping water out of the sewage treatment plant up to the top end of its water system and mix it in with the water taken from the river at the designated point of diversion to be treated and then distributed in the city water system. Or, the treated effluent could be piped to the

Response to Comment 3449.001 Please see General Response to Comments 7. Diversion Permit. The City of Albuquerque's rate of diversion from the Rio Grande will be authorized and regulated by the terms and conditions of the diversion permit issued by the New Mexico Office of State Engineer. Native water is not consumed. (Section 1.3 and Table 1.1-1)

Response to Comment 3449.002 The EPA is responsible for promulgating water quality standards. The City fully expects to comply with future EPA standards. Potential medically derived anthropogenic contaminants if present will be discharged in the same concentrations (Section 3.27) for the DWP and the No Action alternatives. Further, the City's curtailment strategy will provide more water downstream of Albuquerque during low flow events.

Response to Comment 3449.003 Please see General Response to Comments 4. Diversion Permit. The City has completed one project, and has started another to use non-potable and recycled water for turf irrigation and some other uses. The City diverts native water as carry water in a similar fashion to current irrigation practices. Diverted native water is not consumed. Large-scale recharge with effluent was considered in the initial alternatives formulation. However, based on OSE water balance calculations, it was determined that the City's SJC water could not be fully consumed in this manner (Section 3.16.1).

3449.003  
(Cont)

many  
golf courses, parks, schools, and other places that need large amounts of water to sustain lawns and trees. Or, the city could re-inject this sewage effluent back into the water table and pump it out with one of the existing city wells. This is a technology that has a positive track record.

3449.004

The second thing I object to is the assumption, based on computer models, that diverting 94,000 ac-ft./yr from the river will cause no noticeable drop in the level of the river. The assumption is that the reduced pumping from the city's wells will cause the water table to rise and provide the needed recharge to the river to maintain its flow. However, I understand that these models were based on the 20 year period between 1970 - 1990, some of the wettest years in the river's history. What if runoff from tributaries and the mountains is diminished significantly as we enter a prolonged drought, one perhaps like the early 1950s? How can we assume that the water table will rebound so quickly? These questions can't be answered because the modeling is a hypothetical scenario, and complex natural systems like rivers are notoriously hard to characterize, especially if you are basing the model on unnaturally wet years.

3449.005

I say if we aren't allowed to let the river dry up to water farm fields down here in Socorro, then Albuquerqueans shouldn't be allowed to do the

very same thing so that they can continue water their grass, wash their cars, take long showers, and hit a few holes of golf on a nice green course. I think it's time that people in Albuquerque have to make some lifestyle sacrifices like farmers are doing down here to ensure that the

Rio flows for its entire reach.

In short, I think the city is trying to play a fast one on the smaller, less politically powerful communities downstream. Taking more water than

it is entitled to is the first tightening of the noose that will eventually strangle downstream farmers whose livelihoods depend upon a steady supply of clean, healthy river water. And when the farmers leave Socorro County, and the valley turns brown and unappealing, what will happen to small towns like Polvadera, Lemitar, and Socorro? Our property values will drop, we won't have a tax base to support county services, and the economy will nosedive. Then we'll all have to move up to Albuquerque to get jobs!

If you have ever seen the wasteland south of Phoenix, you'll know what we will look like downstream from Albuquerque if our water is expropriated from us. It's only a matter of time.

You know the saying, "Water runs uphill to money."

That's why I don't want to let any upstream city or development take a drop more water than it is entitled to.

Karen C. Bailey-Bowman  
dba The Write Woman

Writing and editing  
(505) 835-3853

Response to Comment 3449.004 It is assumed based on standard hydrologic principles, that a reduction in pumping will result in a water table rise. However, the river is expected to continue leaking to the aquifer. It is not expected that the water table rise will result in net recharge to the river. The 1970 to 1990 period includes some very wet years. However as discussed in Section 3.16, the average condition in this period corresponds to the average flow condition of the long term record. Moreover, an artificial long-term drought was inserted into the record to examine the potential for something similar to the prolonged drought of the 50's. See Section 3.16 of the DEIS.

Response to Comment 3449.005 The DWP as proposed in the DEIS, Albuquerque will not cause the river to dry up, see especially Section 3.16 and Appendix L.

**Billings, Rick**

---

**From:** Karen Bailey-Bowman [kbailey@nmt.edu]  
**Sent:** Thursday, July 18, 2002 8:10 AM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** City of ABQ native water rights

Dear Lori,

Looking through the CD of the Drinking Water DEIS, I can't find an explanation of Albuquerque's rights to 46K ac-ft/yr of native Rio Grande water. Does Albuquerque own the water rights to allow it to divert that much native water to essentially irrigate its city water system? If so, where in the DEIS is this explained?

I am planning to write an opinion piece on this topic, so your reply will be appreciated. (I am a correspondent for a local paper here in Socorro County.)

Or, you can telephone me at my Socorro number below, or my ABQ cell number: 980-1834.

Thanks

Karen C. Bailey-Bowman  
dba The Write Woman

Writing and editing  
(505) 835-3853

3450.001

Response to Comment 3450.001 The 47,000 acre-feet of native water would be diverted and returned to the river at the City's SWRP in a manner similar to that used by irrigation districts in the state. Please see response to comment 3451.02. The DWP proposed in the DEIS attempts to address over-pumping of the aquifer and provide a sustainable supply. See Section 3.16 and Appendix L of the DEIS.

## City of Albuquerque Drinking Water Project Draft Environmental Impact Statement

### COMMENT CARD

To have your comments on the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project become a part of the official hearing record, you may fill out this card, or submit any other written comments via mail, email or fax. To be most helpful, comments on the DEIS should be as specific as possible and address the adequacy of the document or the merits of the alternatives. Written comments must be received by the Bureau of Reclamation no later than August 13, 2002.

COMMENTS:

*I am strongly opposed to the City's preferred alternative for the following reasons:*

- *The diversion. There should NOT be a new diversion on the Rio Grande, especially considering that diversions are the cause of many of the river-related problems that now exist. Also, the diversion will make it more difficult to reintroduce endangered species.*
- *The City must not be allowed to remove 47,000 acre/ft of native water along the 15 mile stretch between diversion and Isleta. Reduced flows will affect habitat and downstream senior water rights.*
- *The City's plan could likely negatively affect water quality for downstream users.*
- *Albuquerque has not made enough progress on conserving water. The city must become more efficient, and less wasteful before it can be considered a partner in solving water problems with its municipal, farming, and Tribal neighbors.*

3451.001

3451.002

3451.003

3451.004

Add additional sheets as necessary.

YOUR NAME: Paul Bauer  
 PHONE NUMBER: (505) 835-4014  
 ADDRESS: 200 Paisano, Socorro NM 87801  
 YOUR ORGANIZATION (IF ANY): \_\_\_\_\_

**TO MAIL, PLEASE FOLD COMMENT CARD IN THIRDS, MAKING SURE THAT THE BUREAU OF RECLAMATION ADDRESS IS SHOWING. TAPE CLOSED AND APPLY PROPER POSTAGE.**

**YOU MAY ALSO EMAIL YOUR WRITTEN COMMENTS TO LORI ROBERTSON AT [lrobertson@uc.usbr.gov](mailto:lrobertson@uc.usbr.gov), OR FAX TO (505) 248-5308.**

Response to Comment 3451.001 Please see appropriate sections of the DEIS (3.16, 3.24 and others) for impacts and proposed mitigation measures.

Response to Comment 3451.002 Please see General Response to Comments 4. Diversion Permit. Effects to habitat are quantified in DEIS Sections 3.7 Aquatic Life, 3.8 Biodiversity, 3.21 Riparian Areas, 3.24 Threatened and Endangered Species, 3.26 Upland Vegetation, 3.28 Wetlands, and 3.29 Wildlife. Proposed mitigation measures are described in these sections and in Appendix O. Downstream senior water rights will not be affected. For a discussion of streamflow effects downstream of Albuquerque, please see DEIS Table 3.16-1.

Response to Comment 3451.003 Please see General Response to Comments 8. Water Quality

Response to Comment 3451.004 Please see General Response to Comments 2. Conservation.



**Billings, Rick**

**From:** bbrill@ose.state.nm.us  
**Sent:** Tuesday, July 02, 2002 10:26 AM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** FW:



-----Original Message-----

**From:** Barbara Brill  
**Sent:** Tuesday, July 02, 2002 11:21 AM  
**To:** 'lrobertson@uc.usbr.gov'  
**Subject:**

A LETTER OF SUPPORT FOR THE ALBUQUERQUE WATER RIGHTS PROTEST

Dear Mayor Chavez and members of the Albuquerque City Council:

Decisions being made today to expand the water supply for New Mexico's principal city will profoundly influence the health and prosperity of people and ecosystems downstream of Albuquerque. Therefore, it is appropriate that the City proceed with great care in developing its water supply project.

3452.001

We, the undersigned citizens, are disturbed by the City's present Surface Water Diversion proposal, that it does not reflect proper care and deliberation. In particular, it fails to anticipate the adverse impacts of the proposed diversions from the Rio Grande:

- \* more frequent seasonal dewatering of the river,
- \* reduction of downstream supplies,
- \* potential concentration of toxic contaminants and
- \* threats to aquatic and riparian ecosystems.

3452.002

In addition, the proposal does not adequately reckon with the fact that Albuquerque is already effectively depleting a considerable quantity of water from the Rio Grande, through aquifer pumping.

3452.003

It proposes to continue to supply water to satisfy what can only be described as excessive rates of consumption, to a customer base that is growing with alarming rapidity. This despite the fact that, at present rates of consumption and population expansion, its water demands cannot long be met by the available supplies, including its San Juan-Chama Project entitlements.

3452.004

It proposes still another diversion dam in a river already fragmented by decades of construction. It proposes to reduce minimum river flows from the present 250 cubic feet/second to 70 cfs. It proposes to divert twice the water to which it is reasonably and legally entitled.

3452.005

In so doing, the proposal seemingly disregards the rights of downstream users, whose supply it jeopardizes. At risk are the farmers in nearby Valencia and Socorro Counties, our more distant neighbors in the valleys below Elephant Butte Reservoir, whose supplies are supposedly guaranteed by interstate compact and international treaty, and the Rio Grande ecosystem. These are uses no less vital than Albuquerque's .

We stand in support of the coalition of public interest and agricultural groups who have challenged the City's proposal before the New Mexico Office of the State Engineer and join with them in demanding that

Response to Comment 3452.001 The DEIS carefully describes the effects of the proposed Surface Water Diversion proposal in DEIS Sections 3.16, Hydrology; 3.27 Water Quality; 3.7 Aquatic Life; and 3.21 Riparian Areas.

Response to Comment 3452.002 Effects of current and future groundwater pumping have been calculated, please see DEIS Appendix L Hydrology report. Please also see Purpose and Need, Section 1 of the DEIS.

Response to Comment 3452.003 The Purpose and Need (Section 1) for the planned action details the importance of water resources in the Albuquerque area. The aquifer must be protected and would be through the beneficial aspects of the planned action. "Excessive rates of consumption", are addressed by the ongoing conservation program. See General Response to Comments 2.

Response to Comment 3452.004 The Paseo del Norte Alternative will include a diversion dam in the river, the proposed dam will not fragment habitat since the fishway, the sluiceway, and the time when the dam is not raised will be effective mechanisms for fish passage as discussed in DEIS Section 3.8 Biodiversity. No minimum flow of 250 cfs exists for this segment of the Rio Grande; at the curtailment rate Albuquerque will cease diverting. The rate of diversion will be permitted through the New Mexico Office of State Engineer. Diversion of the 94,000 ac-ft is allowable as one half of this amount is returned at the SWRP.

Response to Comment 3452.005 Downstream impacts have been addressed, please see DEIS Section 3.16, note especially Table 3.16-1.

economic and ecological protection be assured before environmental and regulatory approvals are given for this project.

We urge Albuquerque to diligently avoid the harm its proposed water project may cause.

- \* It should forestall or mitigate all prospective damages.
- \* It ought not be permitted to secure new supplies until it can demonstrate that it is using its existing supplies with the greatest balance and efficiency.
- \* It should develop an alternative to its environmentally harmful diversion dam.
- \* It should make explicit water management agreements that thoughtfully protect the Rio Grande and all of its dependents.
- \* To make its future water supply truly sustainable, the City must exercise restraint in promoting short term growth at the expense of future generations.

We are convinced that viable alternatives to the present proposal do exist. Albuquerque's leaders must now diligently seek and implement them. We believe that whatever the costs of choosing an environmentally sound water supply alternative, the present generation must accept them, so that citizens of the valley may continue to enjoy clean, sufficient drinking water, locally produced food supplies and a healthy environment.

Draft EIS  
City of Albuquerque Drinking Water Project

Comments by Jean Brocklebank  
9 September 2002

**Failure to Include a Reasonable Alternative**

3453.001

The dEIS submitted by the Bureau of Reclamation (DOI) and prepared by Parsons Engineering Science, Inc. for the City of Albuquerque has failed to meet both the letter and the spirit of NEPA and the Council on Environmental Quality's guidelines, by eliminating before-the-fact and with no analysis, a Conservation Alternative for a project in the arid southwest that is in the third year of a prolonged drought.

Section 1502.1 Purpose states that an EIS "...shall provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts..." Specifically, subsection (a) calls for the agency to "**Rigorously explore and objectively evaluate all reasonable alternatives...**"

3453.002

The No Action Alternative which includes "implementation of conservation measures" is NOT a conservation alternative. And although page 2-6 states that the City has developed and implemented a "rigorous conservation alternative plan that is proving effective," citizen participation throughout the scoping process has shown that the City has not yet begun to think creatively and has accepted less than achievable conservation goals. Three other large populated cities in the same climate regime as Albuquerque (Tucson, El Paso and San Antonio) have substantially surpassed Albuquerque's per capita goal for water conservation usage. Not only is a Conservation Alternative a "reasonable" alternative under NEPA, it is an imperative alternative.

3453.003

According to spokesmen from Parsons Science Engineering Science, Inc. (at the first public hearing on the dEIS), it was the City who instructed them not to do a Conservation Alternative in the dEIS.

3453.004

Regardless of who said what, the Bureau of Reclamation has on record a history of public participation requesting a Conservation Alternative to the City's plans for using the already overtaxed Rio Grande for its urban expansion. Appendix B of the dEIS has September 28, 1999 Scoping Comments from Steve Harris of Rio Grande Restoration that included a Recommendation #1 of establishing "a target of 150 gallons/person/day" and assessing "the need for the project based on that figure."

3453.005

In addition, a group of citizens (representing several organizations and therefore speaking on behalf of thousands of residents) met with the City in early 2001 and asked its representative for inclusion of a Conservation Alternative. He flatly denied that any more could be done with conservation and that the City intended

Response to Comment 3453.001 Please see General Response to Comments 2. Conservation.

Response to Comment 3453.002 Please see General Response to Comments 2. Conservation.

Response to Comment 3453.003 Please see General Response to Comments 2. Conservation. The commenter was also referred to those sections at the first public hearing for information on how the alternatives within the DEIS were brought forward for analysis.

Response to Comment 3453.004 Please see General Response to Comments 2. Conservation.

Response to Comment 3453.005 Please see General Response to Comments 2. Conservation.

to put the diversion dam at Paseo Del Norte (its preferred alternative in the dEIS).

3453.006

This EIS is complicated by the fact that it is the City of Albuquerque that is initiating the proposed action, yet it is a Federal agency that is charged under the law with analyzing the proposed project and presenting the EIS for public review. So, although it is the City which apparently precluded a "reasonable" alternative under the law, and called the No Action alternative sufficient for conservation measures, it is the agency (Bureau of Reclamation) that must be called to task legally under Section 1502.2 (f): Agencies shall not commit resources prejudicing selection of alternatives before making a final decision and (g): Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

The argument cannot be made that conservation is not within the purview of the Bureau of Reclamation, because Section 1502.14 (c) states that the agency is to "Include reasonable alternatives not within the jurisdiction of the lead agency."

**Incomplete or Unavailable Information**

Section 1502.22 is very clear about the basis upon which missing information may be allowed:

- (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

3453.007

Missing from the dEIS on a project that includes at least two endangered species is the Biological Assessment (BA). In fact, the USF&WS had not seen the Reclamation's BA prior to the publication of the dEIS. Nor had the USF&WS returned its Biological Opinion (BO) to Reclamation before the deadline for comments by the public.

Reclamation claims that the BA and BO are not needed for inclusion in a draft EIS. Yet how can there be an analysis of impacts to floral and faunal species without this important information? How is the public supposed to know whether Reclamation has given impacts to endangered, threatened, and sensitive species a fair and reasonable analysis as required by both NEPA and the Endangered Species Act?

**Confusion of the Public**

3453.008

The public has been extremely confused by the title of this document. This may seem like a picayune point. However, if comments from the public are derived on misleading statements, then this is very important. The City had called this a "drinking water" project. Who is not for "drinking water" for its residents? In

Response to Comment 3453.006 Please see General Response to Comments 1. Alternatives.

Response to Comment 3453.007 The baseline, analysis, literature review and other DEIS material are used to develop the BA. See Section 3.24 of the DEIS.

Response to Comment 3453.008 The purpose and need of the project is defined in Section 1 of the DEIS. The title of the project is appropriate.

3453.008  
(Cont)

point of fact, this is a project for "potable" water for industrial, commercial, and municipal as well as for residential use. When asked why this clearly misleading term was used instead of "potable" (or even the more accurate "water development for continued growth"), there was apparently either no understanding of how misleading the word "drinking" is, or there was understanding. Either way, this is prejudicial and manipulative.

**Mitigation and The Endangered Species Act**

3453.009

Hidden to most reviewers, exhausted with the reading of over 500 pages of the dEIS and its appendices on page 3-263 is an important conclusion: "The City intends to mitigate these adverse effects but the fish screens and fishway are unproven technologies; therefore there will be uncertainty regarding impacts to the Rio Grande Silvery Minnow." After this forthright statement is made, the following contradictory conclusion is found: "No substantial temporary or long-term adverse effects on the RGSM would result from implementation of the Action Alternatives."

If the City can use information in such a twisted and illogical way, then perhaps the entire document can be manipulated for a foregone conclusion.

**Summary**

3453.010

This dEIS is clearly insufficient and prejudicial and perfunctory, ignoring both the letter and the spirit of NEPA. It is a perfect candidate for a supplemental dEIS under CEQ guidelines:

Section 1502.9 (a): "If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion."

I expect nothing less.

Response to Comment 3453.009 Please refer to the General Response to Comments 6 and 7 for the RGSM and the fishway and fishscreens. The organization of the DEIS is pursuant to 40 CFR Part 1502.

Response to Comment 3453.010 Comment noted.

**B. Blair Brown**  
2226B Wyoming Blvd NE, Suite 272  
Albuquerque, NM 87112 USA

Tel: 505-259-7190  
E-mail: bblairb2@aol.com

August 10, 2002

Lori Robertson  
Bureau of Reclamation, Albuquerque Office  
505 Marquette NW, Suite 1313  
Albuquerque, NM 87102

**Re: Comments on Albuquerque Drinking Water Project Draft Environmental Impact Statement**

Dear Ms. Robertson,

I am a resident of Albuquerque and a City of Albuquerque water customer. I have reviewed the Draft Environmental Impact Statement on Albuquerque's Drinking Water Project and have attended most of the public meetings. I have the following comments.

First, I want to commend the Bureau and the City Department of Public Works/Water Resources for producing this comprehensive analysis of the project. As the product of years of efforts by many people, it does a commendable job of describing the task to be accomplished, identifying alternatives, analyzing the impacts and finally choosing the alternative that accomplishes the objective of using our San Juan - Chama water in the most efficient way with the least impacts.

Now that this work has culminated in the DEIS, many have chosen to voice their opinions that the City 'didn't do this' or 'didn't consider that' and that the DEIS isn't good enough. I disagree with that and feel the City has looked at the reasonable (and even some not so reasonable) alternatives and has chosen the best one that has been identified. Having said that, I hope that the information gathered is sufficiently accurate so that the choices and conclusions made are correct.

At the same time, you (the Bureau of Reclamation) and the City should not 'sit on your laurels' and believe the work is done. As the project proceeds into final design and construction and the operating plans for the Project are refined, the impacts should be constantly be reevaluated and adaptations made. A statement indicating the intention to have a strong 'adaptive management' approach in place for the project, along with a Technical Implementation Team to perform this ongoing review, would help to support any statements concluding that the environmental impacts are manageable that are made in the Final DEIS.

My comments on the DEIS are as follows:

It is clear from the analysis of the No Action alternative, that not proceeding with the Drinking Water Project is NOT a reasonable alternative and it is therefore essential for the City to implement the Project. Continuing to utilize groundwater for our total municipal water supply will result in significant environmental damage, the most significant being to the aquifer as it is drawn lower and lower, and to the River as greater and greater seepage occurs due the lowering of the aquifer. The sooner the Project is online and pumping from the aquifer is reduced, the better off we will be.

3454.001

Response to Comment 3454.001 There are provisions for a monitoring and adaptive management program. See Appendix O of the DEIS.

3454.002

Response to Comment 3454.002 Comment noted.

With the completion of the Drinking Water Project, the City should be assured of a dependable source of water for water customers for the immediate future, while accommodating variations in seasonal and annual river flows in order to protect the Rio Grande and Rio Chama ecosystems and flow regimes. Based on the analysis in the DEIS, the design, operation and management of the Preferred Alternative can meet these requirements.

3454.003

At the same time, the execution of the Drinking Water Project has the potential to do harm to the river and the bosque, both during construction and during ongoing operations. While this potential harm is not insignificant, it is also well defined and understood and with proper care, can hopefully be reduced to a minimal level that will result in no long lasting effects.

Mitigation measures, including those described in the DEIS must be implemented and ongoing dedicated funding should be established for these measures. The City and all interested parties should remain willing to consider modifications to these measures as well as additional measures during the life of the project.

Conscientious management by the City combined with continuous oversight by state and federal agencies, elected officials, upstream and downstream neighbors and City water customers will be essential to minimize harm.

My comments relating to specific aspects of the Project follow:

3454.004

Our riverside bosque is one of the assets of this community valued highly by all citizens. There is much concern that the diversions of water anticipated for the Project will reduce flows in the Rio Grande to such low levels that damage to our bosque may occur. The analysis in the DEIS suggests that this impact will be minimal, but ongoing evaluation of the impacts through the 'adaptive management' process described above is essential to ensure no degradation of this resource.

3454.005

Relating to the effects of the Drinking Water Project Preferred Alternative on the Rio Grande Silvery Minnow, the DEIS states, "While there may be loss of individuals under any of the action alternatives, the effect of those individual losses when coupled with the mitigation proposed, will not adversely effect Rio Grande Silvery Minnow populations in the Middle Rio Grande."

To ensure that adverse effects to Rio Grande Silvery Minnow populations are avoided:

- the proposed minimum flow of 70 cfs must be carefully evaluated and higher minimum flows maintained if needed to prevent adverse effects on the Minnow.
- management of the dam and the diversions must recognize and take into account the needs of the Minnow and flows adjusted at critical times, such as spawning to minimize adverse impacts.
- the actual operation of the fish screens must be monitored and modifications should be made if the screens result in a take above allowed numbers.
- monitoring of the fish passageway must be done when the project is in operation to determine whether the Minnows are able to travel upstream and downstream through the fishway without harm and modifications should be made if the fishway results in a take above allowed numbers.

3454.006

The new water treatment facility will be handling several regulated chemicals, including ferric chloride, hydrogen peroxide, hydrofluorosilicic acid and sulfuric acid. An environmental management system should be put in place to ensure that environmental aspects of the operation are handled safely. The guidelines provided under the ISO 14,000 environmental

Response to Comment 3454.003 Comment noted.

Response to Comment 3454.004 Comment noted.

Response to Comment 3454.005 Please see Response to General Comments 6. Fish Way and Fish Screens and 7. Rio Grande silvery minnow.

Response to Comment 3454.006 Comment noted. All chemical storage, use and management would be in accordance with EPA and other regulations.

3454.007

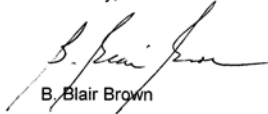
management standards could be utilized to develop and implement the environmental management system.

Finally, the implementation of the Drinking Water Project does not lessen the absolute necessity for every person to practice water conservation on a continuous basis. We all must remember that we are in this together. As decisions on the annual and day to day management and operation of the project are made, all of us should respect each others needs for water.

It is also important to keep in mind that the City can not solve its water problems through conservation alone as the City's usage are materially in excess of the amounts recharged. We must encourage conservation as a 'source' of water and recognize that greater conservation will only delay the time when our demand for water exceeds the supply. Therefore, I see no reason to delay the Project because alternatives with varying levels of Conservation were not included in this DEIS.

I appreciate this opportunity to comment on this project. Please keep me informed of future opportunities to participate in this project.

Sincerely,



B. Blair Brown

Response to Comment 3454.007 Please see General Response to Comments 2. Conservation.



**Billings, Rick**

---

**From:** marl483@netscape.net  
**Sent:** Thursday, June 27, 2002 1:45 PM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** diversion of the Rio Grande

Dear Mayor Chavez and the Albuquerque City Council:

I am opposed to the proposal to expand Albuquerque's water supply by extracting yet more water from the Rio Grande River, which is already stressed by over pumping of the acquifer. Decades of construction and excessive rates of consumption have already depleted and fragmented the once mighty river. This proposal is likely to kill it off altogether. We as citizens of Earth need to stop behaving like a virus or parasite that kills off our own environment for short term benefit.

3455.001

An alternative must be developed to the environmentally harmful diversion dam being proposed. Albuquerque needs to consider the principles of sustainability and exercise restraint in promoting short term growth at the expense of future generations. The River belongs to all of us, not just to the City.

Viable alternatives to the present proposal do exist. Whatever the costs of choosing an environmentally sound water supply alternative, we MUST make those difficult choices in order that all of our citizens may continue to enjoy the benefits and the beauty of a river, whose death will not only be an ecological tragedy but a cultural one as well. This is NOT an exaggeration! This is a DESERT! We do NOT have unlimited supplies of water, and those we do have must be managed for the health and well being of all New Mexico's citizens and future citizens yet to be born.

Sincerely,  
Marlene Foster  
60 Camino Torcido Loop  
Santa Fe, NM 87507

---

Your favorite stores, helpful shopping tools and great gift ideas.  
Experience the convenience of buying online with Shop@Netscape!  
<http://shopnow.netscape.com/>

Get your own FREE, personal Netscape Mail account today at  
<http://webmail.netscape.com/>

Response to Comment 3455.001 Environmental effects and mitigation for 26 resource categories are developed within the DEIS, and the alternative development and disclosure process, with a substantial amount of public and agency involvement, are detailed within Section 2. In addition to its conservation efforts, the City participates in numerous water resources groups and restoration efforts.

**Susan Gorman**

2226B Wyoming Blvd NE  
Suite 272  
Albuquerque, New Mexico 87112 USA

505-259-7190  
bblairb@aol.com  
www.pioneerwest.net

August 10, 2002

Lori Robertson  
Bureau of Reclamation, Albuquerque Office  
505 Marquette NW, Suite 1313  
Albuquerque, NM 87102

**Re:  
Comments on Albuquerque Drinking Water Project  
Draft Environmental Impact Statement**

Dear Ms. Robertson,

As a resident of Albuquerque and a City water customer, I have a definite interest in the progress that the City is making to implement the Water Resources Management Strategy. I have attended many of the public meetings and read most of the reports on the Drinking Water Project so I have substantial knowledge of the Drinking Water Project.

I have reviewed the Draft Environmental Impact Statement on Albuquerque's Drinking Water Project and I commend the City Department of Public Works/Water Resources for producing this comprehensive analysis of the project.

The essential necessity for the City to proceed with the Drinking Water Project is clear from the analysis of the No Action alternative. Albuquerque cannot continue to depend on groundwater for its sole water source as we move into the future.

The Drinking Water Project should provide an assured source of water to Albuquerque water customers while accommodating variations in seasonal and annual river flows in order to protect the Rio Grande and Rio Chama ecosystems and flow regimes. Based on the analysis in the DEIS, the design, operation and management of the Preferred Alternative can meet these requirements.

3456.001

At the same time, the Drinking Water Project has the potential to do harm both during construction and during ongoing operations. Conscientious management by the City combined with continuous oversight by state and federal agencies, elected officials, upstream and downstream neighbors and City water customers will be essential to minimize harm.

The mitigation measures described in the DEIS must be implemented and dedicated funding should be established for these measures. The City should remain willing to consider modifications to these measures as well as additional measures during the life of the project.

3456.002

Specifically, relating to the effects of the Drinking Water Project Preferred Alternative on the Rio Grande Silvery Minnow, the DEIS states, "While there may be loss of individuals under any of the action alternatives, the effect of those individual losses when coupled with the mitigation proposed, will not adversely effect Rio Grande Silvery Minnow populations in the Middle Rio Grande."

Response to Comment 3456.001 Please see General Response to Comments 9. Mitigation.

Response to Comment 3456.002 Please see General Response to Comments 2. Conservation, 6. Fish Passage and Fish Screens, and 7. Rio Grande Silvery Minnow.

3456.002  
(Cont)

To ensure that adverse effects to Rio Grande Silvery Minnow populations are avoided, the proposed minimum flow of 70 cfs must be carefully evaluated and higher minimum flows should be implemented if adverse effects are found.

Relating to the fish screen, the DEIS states "concepts presented for the fish screens are provisional, adjustments would be made as appropriate during the final design to incorporate and new finding from the ongoing fish passage and fish swim speed studies being conducted by the City, ISC and Reclamation."

To ensure that adverse effects to the Rio Grande Silvery Minnow are avoided, the actual operation of the completed fish screens must be monitored and modifications should be made if the screens result in a take above allowed numbers.

Relating to the fishway, monitoring must be done when the project is in operation to determine whether RGSM are able to travel upstream and downstream through the fishway without harm and modifications should be made if the fishway results in a take above allowed numbers.

3456.003

Relating to the effects of the DWP on surface water hydrology, the summary of the analysis that is discussed in the DEIS and the full report, *Hydrologic Effects of the Proposed City of Albuquerque Drinking Water Project on the Rio Grande and Rio Chama Systems*, included in the Appendix, appears to be rigorous but impossible for the public to validate. The AWRMS River Model that has been developed as a tool to develop the surface water hydrology analysis is a valuable tool that should continue to be used and can be validated by actual experience as the DWP is implemented.

3456.004

Relating to the new water treatment facility, this facility will be handling several regulated chemicals, including ferric chloride, hydrogen peroxide, hydrofluorosilicic acid and sulfuric acid. An environmental management system should be put in place to ensure that environmental aspects of the operation are handled safely. The guidelines provided under the ISO 14,000 environmental management standards could be utilized to develop and implement the environmental management system.

Finally, the implementation of the Drinking Water Project does not lessen the absolute necessity for every person to practice water conservation on a continuous daily basis. We all must remember that we are in this together. As decisions on the annual and day to day management and operation of the project are made, all of us should respect each others needs for water.

Thank you for the opportunity to comment on this Draft Environmental Impact Statement and I hope that these comments are constructive and helpful.

Sincerely,

  
Susan Gorman

Response to Comment 3456.003 Comment noted. The analysis is needed to allow the scientific community to evaluate the process as well. The analysis also supports the City diversion permit process, as required by the OSE.

Response to Comment 3456.004 Please see 3454.006.

**Billings, Rick**

**From:** Maggie Gould [maggiegould@comcast.net]  
**Sent:** Monday, July 22, 2002 8:40 AM  
**To:** robertson@uc.usbr.gov  
**Subject:** (no subject)

A LETTER OF SUPPORT FOR THE ALBUQUERQUE WATER RIGHTS PROTEST

Dear Mr Robertson,

Decisions being made today to expand the water supply for New Mexico's principal city will profoundly influence the health and prosperity of people and ecosystems downstream of Albuquerque. Therefore, it is appropriate that the City proceed with great care in developing its water supply project.

We, the undersigned citizens, are disturbed by the City's present Surface Water Diversion proposal, that it does not reflect proper care and deliberation. In particular, it fails to anticipate the adverse impacts of the proposed diversions from the Rio Grande:  
? more frequent seasonal dewatering of the river,  
? reduction of downstream supplies,  
? potential concentration of toxic contaminants and  
? threats to aquatic and riparian ecosystems.

In addition, the proposal does not adequately reckon with the fact that Albuquerque is already effectively depleting a considerable quantity of water from the Rio Grande, through aquifer pumping.

It proposes to continue to supply water to satisfy what can only be described as excessive rates of consumption, to a customer base that is growing with alarming rapidity. This despite the fact that, at present rates of consumption and population expansion, its water demands cannot long be met by the available supplies, including its San Juan-Chama Project entitlements.

It proposes still another diversion dam in a river already fragmented by decades of construction. It proposes to reduce minimum river flows from the present 250 cubic feet/second to 70 cfs. It proposes to divert twice the water to which it is reasonably and legally entitled.

In so doing, the proposal seemingly disregards the rights of downstream users, whose supply it jeopardizes. At risk are the farmers in nearby Valencia and Socorro Counties, our more distant neighbors in the valleys below Elephant Butte Reservoir, whose supplies are supposedly guaranteed by interstate compact and international treaty, and the Rio Grande ecosystem. These are uses no less vital than Albuquerque's .

We stand in support of the coalition of public interest and agricultural

Response to Comment 3457.001 Please see General Response to Comments 1. through 8 and response to comments 3452.001, .002, .003, .004, and .005.

3457.001

groups who have challenged the City's proposal before the New Mexico Office of the State Engineer and join with them in demanding that economic and ecological protection be assured before environmental and regulatory approvals are given for this project.

We urge Albuquerque to diligently avoid the harm its proposed water project may cause.  
? It should forestall or mitigate all prospective damages.  
? It ought not be permitted to secure new supplies until it can demonstrate that it is using its existing supplies with the greatest balance and efficiency.  
? It should develop an alternative to its environmentally harmful diversion dam.  
? It should make explicit water management agreements that thoughtfully protect the Rio Grande and all of its dependents.  
? To make its future water supply truly sustainable, the City must exercise restraint in promoting short term growth at the expense of future generations.

We are convinced that viable alternatives to the present proposal do exist.  
Albuquerque's leaders must now diligently seek and implement them. We believe that whatever the costs of choosing an environmentally sound water supply alternative, the present generation must accept them, so that citizens of the valley may continue to enjoy clean, sufficient drinking water, locally produced food supplies and a healthy environment.

**Billings, Rick**

---

**From:** Thomas Grier [robots@sprintmail.com]  
**Sent:** Sunday, June 30, 2002 3:14 AM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** Albuquerque's extravagant water use

6/30/02

Dear Sir:

I am writing to express certain concerns about water use in Albuquerque.

1. Everyone knows how water-starved the colonias are in and around Ciudad Juarez, a city of 2 million people. If Albuquerque proceeds with plans to withdraw more water from the Rio Grande, what will happen to the users downstream who are dependent on that same water?

2. Intel uses thousands of gallons of water every day and claims that it returns this water to the aquifer as clean as it was before being used. If it is so clean, why don't they just re-use it?

3. I am a mail carrier and there is an acequia along my route. In May it was announced that water flow in the ditch system would be curtailed in June. However the acequia has been full and flowing all month and was flowing yesterday, 6/29.

I believe water use in Albuquerque is extravagant and that people here are spoiled by what, in the past, has been a superabundance of water. This City needs to undergo a revolution in order to deal with a whole new set of circumstances. Frankly I am sick of watching West Side developers extending their ticky-tacky ever farther out into the desert. How can the water supply go on sustaining the insanity of this ugly urban sprawl?

yours,

Sincerely

Tom Grier

318

Princeton  
SE, #11

1

3458.001

Response to Comment 3458.001 The City of Albuquerque proposes to use only the water rights that it is legally entitled to divert. The Colonias and Ciudad Juarez are outside of the region of influence that has been defined for this project.

3458.002

Response to Comment 3458.002 Intel operations, permits and water requirements are outside the scope of the DEIS.

Hand-carried

**Comments on Draft Environmental Impact Statement (DEIS),  
City of Albuquerque Proposed Water Project**

TO: Lori Robertson, Bureau of Reclamation, Albuquerque Area Office

FROM: Deborah Hibbard, River Advocate and Albuquerque resident

DATE: September 12, 2002

The primary focus of my concern about the DEIS is the absence of a Water Conservation Alternative for the City of Albuquerque. The Long Range Water Conservation Strategy Resolution (City Council Bill No. R-173, Enactment No. 40-1995, sponsored by Angela Robbins), adopted by the Albuquerque City Council in 1995, states upfront as a *Whereas* that "conservation can extend the City's supply at a fraction of the cost of other alternatives" and that "conservation will be a prerequisite for the state and federal permits necessary to begin using surface water resources in more effective ways." Current drought conditions have made the Water Conservation Alternative more imperative as an option to be considered.

On page 2-6 of the DEIS, first paragraph, first sentence, the City conservation plan is termed as "rigorous" and "effective." Yet, more careful scrutiny reveals that Albuquerque's per capita water consumption, by its own admission (from City of Albuquerque Water Conservation website, [www.cabq.gov/waterconservation](http://www.cabq.gov/waterconservation)), "is the highest among comparable cities," while the City's water rates "are among the lowest in the Southwest."

And, while the City program has succeeded in reducing use from 250 gal per person per day to 205-209 gal per person per day, Albuquerque has a great distance to go before it can achieve its current goal of 175 or a more ambitious goal of 140-150. Comparable cities, such as Tucson, El Paso, and Santa Fe have well-surpassed Albuquerque's performance, with current per capita use of 140-160.

What is it that these other communities are doing that Albuquerque has yet to undertake?

- 1) *Mandatory restrictions* - According to the City's water conservation website, residential usage accounts for 70% of the City's total, yet the vast majority of statutes apply only to industrial, institutional, and commercial consumers ((Water Conservation Landscaping and Waste Water Ordinance, 6-1-1-1). Most residential water restrictions are voluntary. Would people voluntarily stop at a red light in this City? We have reached a red light in terms of our water supply. The City should consider mandatory restrictions as a component of a serious residential water conservation program.
- 2) *Water rates/surcharges/penalties* - The aforementioned City Council resolution (Long Range Water Conservation Strategy -1995) states, "raising the price of water is probably the most effective method of reducing its usage." The City's current water use surcharge is 58 cents per 748 gallons, raised from 21 cents on

Response to Comment 3459.001 Please see General Response to Comments 2. Conservation.

3459.001

July 1, 2002. (Gasoline is currently averaging \$1.35-1.50/gal in the City.) Santa Fe's surcharge ranges from \$2.50-5.00 per unit and is linked to volume consumed. Rate structures should reward those who conserve water and penalize those who waste it. Penalty fees in Albuquerque are negligible, ranging from \$20 for the first violation to \$200 for the seventh. Other southwestern communities have penalties of as much as \$1,000 and/or jail time. A community's value of water is reflected in its water rates, surcharges, and penalties.

- 3) *Landscaping* - An estimated 40% of the City's residential water use is applied to outdoor landscaping (I could find no estimates for business and industrial percentages for landscaping). Kentucky bluegrass is a substantial water consumer, a fact recognized by the communities of Santa Fe and Tucson and, thus, native landscape is now prevalent in those cities. In Albuquerque, high water use grasses are still predominant, in numerous parks and golf courses and throughout business districts and neighborhoods. While a 25% of area restriction has been placed on high water use turf in new developments, places like Jefferson Drive (between Osuna and Paseo del Norte), along Academy Drive, and areas along Rio Grande Boulevard seem more appropriate to Connecticut than the southwest. Percentage of acreage restrictions could be adopted for existing landscapes, greatly reducing the amount of high water use turf in the City. Golf courses also could greatly reduce water use by installing lower water use turf as well as reducing the amount of turf. In addition, Albuquerque's xeriscape rebates are low to modest. El Paso, as an example, found that higher rebates help to facilitate the rate of conversion.
- 4) *Watering Restrictions* - Albuquerque's current watering restrictions are minimal when compared to other southwestern communities. The ordinance applies only to spray irrigation, between 10am and 6pm. Santa Fe restricts all watering during those hours and has adopted an alternate day watering schedule. Some municipalities prohibit at-home car washing. In drought conditions, watering is usually limited to once/week.
- 5) *Water meters* - Section 9, F, No. 2 of the above mentioned 1995 City Council resolution calls for a "Meter maintenance and replacement program to identify, repair, and/or replace inaccurate or malfunctioning meters." Seven years later, the problem still exists. There were numerous local news stories this spring and summer about major problems with City water meters. Within the past two weeks, an acquaintance living on the West Mesa discovered a water leak that had been emitting an estimated 500 gallons of water per day for the past year. She learned from her plumber that this is not uncommon because of a type of pipe that has been used in developments throughout the City.
- 6) *Efficiencies* - A major retrofitting program could be undertaken, to replace high water use toilets (one individual interviewed at the recent Earth Summit called toilets a "mindless technology"). We wouldn't think of flushing gasoline or, for that matter, beer down the toilet; water is the one element that is essential to every living being, and yet we flush it away at a rate of 6-10 gal/flush! The rebate for water efficient washing machines could be increased to make them more affordable. Covers could be required for swimming pools to reduce evaporation losses.

Response to Comment 3459.001 (Cont)

3459.001  
(Cont)



DEIS Comments / Hibbard – three

3459.001  
(Cont)

- 7) *Reuse* – What about rainwater harvesting and conversion to gray water systems? Yes, retrofitting costs money, but so does the San Juan-Chama Project and the City's proposed preferred alternative (and the supply is not assured during a prolonged drought). Perhaps the dollars would be more wisely spent on conservation initiatives and better stewardship of the existing aquifer.
- 8) *Recharge* – The City also rejected the Recharge of Treated Wastewater as an alternative, yet the quality of water to enter the ground would be the same as that now released from the wastewater treatment facility into the Rio Grande and deemed an acceptable standard by the City.
- 9) *Communication/education* – The City Water Conservation Program, without question, has produced some high quality resources (publications, videos, etc.) about conservation. Yet, there are still many in the community who are not hearing the message and others who are not yet inspired to conserve. The City's Water Conservation website observes that the top half of Albuquerque's water consumers are devouring three times the amount as the bottom half. A more pro-active outreach effort could be undertaken to reach the high water users, before (or after) penalties are assessed. A Water Conservation education requirement could be imposed on repeat offenders.

A Water Conservation Alternative offers vast and creative opportunities to significantly reduce the City's water consumption and to live, responsibly and respectfully, within the confines of a renewable water supply provided by our aquifer.

3459.002

Albuquerque has been a poor steward of its aquifer, pumping more water than can be replenished each year. The City has no community water budget. The City has yet to adopt a drought plan, and enacted absolutely no additional water restrictions this summer during the worst drought New Mexico has experienced in 50 years.

3459.003

The Proposed City Water Project is described as "sustainable." It is not.

A common definition of "sustainable" is to provide for the present population and assure an adequate supply for future populations. A forty-year supply is not sustainable. Nor is a sixty or one hundred-year supply. Sustainable means living within our means, so that we use only the amount of water that is available to us and can be replenished annually.

Sustainable does not mean seeking more and more water to maintain an enormously water-wasteful lifestyle. That is a futile endeavor. The City of Albuquerque has yet to demonstrate through its policies and actions an understanding and respect for the preciousness and true value of water.

3459.004

The DEIS process requires that all reasonable alternatives receive the same consideration as the preferred alternative. The issue of water conservation has been raised throughout the process and has been perfunctorily dismissed. The Council on Environmental Quality (CEQ) guidelines recommends that creativity be applied to such a process. A creative Water Conservation Alternative may well be the most prudent, achievable, and responsible alternative for the City of Albuquerque. It should be more fully considered as the preferred alternative.

Response to Comment 3459.001 (Cont)

Response to Comment 3459.002 The DWP proposed in the DEIS addresses pumping of the aquifer and provides a sustainable supply. See Section 3.16.

Response to Comment 3459.003 See Section 1 and Section 3.16 of the DEIS.

Response to Comment 3459.004 See General Response to Comments 1. Alternatives and 2. Conservation.

**Gronning, Lloyd**

---

**From:** Kathleen Hulley [knhulley@yahoo.com]  
**Sent:** Friday, June 28, 2002 9:12 AM  
**To:** robertson@uc.usbr.gov  
**Subject:** Water Use

3460.001

Dear Mayor Chavez and members of the Albuquerque City Council:  
While I live upstream, in Santa Fe, I have always been disturbed by New Mexico's thoughtless use of its limited water supplies. Rampant development in a desert state with limited water supplies makes no sense, especially if cities are not focused on teaching citizens about the most efficient use of water and enforcing such efficiency on business.

Decisions being made today to expand the water supply for New Mexico's principal city will profoundly influence the health and prosperity of people and ecosystems downstream of Albuquerque. Therefore, it is appropriate that the City proceed with great care in developing its water supply project.

We, the undersigned citizens, are disturbed by the City's present Surface Water Diversion proposal, that it does not reflect proper care and deliberation. In particular, it fails to anticipate the adverse impacts of the proposed diversions from the Rio Grande:  
more frequent seasonal dewatering of the river,  
reduction of downstream supplies,  
potential concentration of toxic contaminants and  
threats to aquatic and riparian ecosystems.

In addition, the proposal does not adequately reckon with the fact that Albuquerque is already effectively depleting a considerable quantity of water from the Rio Grande, through aquifer pumping.

It proposes to continue to supply water to satisfy what can only be described as excessive rates of consumption, to a customer base that is growing with alarming rapidity. This despite the fact that, at present rates of consumption and population expansion, its water demands cannot long be met by the available supplies, including its San Juan-Chama Project entitlements.

It proposes still another diversion dam in a river already fragmented by decades of construction. It proposes to reduce minimum river flows from the present 250 cubic feet/second to 70 cfs. It proposes to divert twice the water to which it is reasonably and legally entitled.

In so doing, the proposal seemingly disregards the rights of downstream users, whose supply it jeopardizes. At risk are the farmers in nearby Valencia and Socorro Counties, our more distant neighbors in the valleys below Elephant Butte Reservoir, whose supplies are supposedly guaranteed by interstate compact and international treaty, and the Rio Grande ecosystem. These are uses no less vital

1

Response to Comment 3460.001 Please see General Response to Comments 1. through 8 and response to comments 3452.001, .002, .003, .004, and .005.

than Albuquerque's .

We stand in support of the coalition of public interest and agricultural groups who have challenged the City's proposal before the New Mexico Office of the State Engineer and join with them in demanding that economic and ecological protection be assured before environmental and regulatory approvals are given for this project.

We urge Albuquerque to diligently avoid the harm its proposed water project may cause.

It should forestall or mitigate all prospective damages.

It ought not be permitted to secure new supplies until it can demonstrate that it is using its existing supplies with the greatest balance and efficiency.

It should develop an alternative to its environmentally harmful diversion dam.

It should make explicit water management agreements that thoughtfully protect the Rio Grande and all of its dependents.

To make its future water supply truly sustainable, the City must exercise restraint in promoting short term growth at the expense of future generations.

We are convinced that viable alternatives to the present proposal do exist. Albuquerque's leaders must now diligently seek and implement them. We believe that whatever the costs of choosing an environmentally sound water supply alternative, the present generation must accept them, so that citizens of the valley may continue to enjoy clean, sufficient drinking water, locally produced food supplies and a healthy environment.

---

Do You Yahoo!?  
Yahoo! - Official partner of 2002 FIFA World Cup  
<http://fifaworldcup.yahoo.com>



ORIGINAL

Curtis E. Johnson  
P. O. Box 392  
Cedar Crest, NM 87008  
505 281-0616

July 1, 2002

Bureau of Reclamation  
ATTN: Lori Robertson  
505 Marquette NW Suite 1313  
Albuquerque, NM 87102

Dear Ms. Robertson:

I urge you to protect the Rio Grande, the bosque, and all the wildlife that depends on the river.

3462.001

Please, do not divert water from the river to take care of continued economic and population expansion. I support conservation and a very long term plan, anticipating the next fifty to one hundred years.

Please don't take the easy, least expensive path which endangers our wildlife.

Thank you,

  
Curtis E. Johnson

CEJ/ds

ALBUQUERQUE AREA OFFICE  
RECEIVED FOR  
OFFICIAL FILE COPY

JUL 5 2002

Classification EW-6.00  
Project  
Control No. 2001955  
Folder No.

ACTION

DATE	INITIALS	CODE
7/09/02	mc	153

Response to Comment 3462.001 Comment noted. See General Comments – Conservation.

# City of Albuquerque Drinking Water Project Draft Environmental Impact Statement

## COMMENT CARD

To have your comments on the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project become a part of the official hearing record, you may fill out this card, or submit any other written comments via mail, email or fax. To be most helpful, comments on the DEIS should be as specific as possible and address the adequacy of the document or the merits of the alternatives. Written comments must be received by the Bureau of Reclamation no later than August 13, 2002.

COMMENTS:

I protest Albuquerque's preferred alternative because it is poorly reasoned and doesn't consider the impacts on the river environment and downstream users. Specifically:

- 1) The City needs to make much better progress in conserving water.
- 2) The 47,000 ac of native water must not be diverted from the Albuquerque stretch, for many reasons.
- 3) Water quality impacts have not been adequately addressed in the City plan.
- 4) Building a new diversion on the river is ludicrous. If they must divert water, use the existing structure at Angostura.
- 5) The City plan will adversely impact downstream users who hold more senior water rights.

Add additional sheets as necessary.

YOUR NAME: Peggy Johnson  
 PHONE NUMBER: 835-5819  
 ADDRESS: 2000 Paisano, Socorro NM 87801  
 YOUR ORGANIZATION (IF ANY): \_\_\_\_\_

TO MAIL, PLEASE FOLD COMMENT CARD IN THIRDS, MAKING SURE THAT THE BUREAU OF RECLAMATION ADDRESS IS SHOWING. TAPE CLOSED AND APPLY PROPER POSTAGE.

YOU MAY ALSO EMAIL YOUR WRITTEN COMMENTS TO LORI ROBERTSON AT [lrobertson@uc.usbr.gov](mailto:lrobertson@uc.usbr.gov), OR FAX TO (505) 248-5308.

- 3463.001
- 3463.002
- 3463.003
- 3463.004
- 3463.005

Response to Comment 3463.001 Please see General Response to Comments 2. Conservation and Sections 1 and 3.16 of the DEIS.
Response to Comment 3463.002 Please General Response to Comments 1. Alternatives and 2. Conservation.
Response to Comment 3463.003 Please see General Response to Comments 8. Water Quality and Section 3.27 of the DEIS.
Response to Comment 3463.004 The alternatives development and evaluation process is discussed in Section 2. The evaluation of effects from each alternative are evaluated in Section 3 including use of the existing structure at Angostura.
Response to Comment 3463.005 Please see General Response to Comments 4. Diversion Permit.

**Billings, Rick**

**From:** mekey [mekey@macconnect.com]  
**Sent:** Monday, August 12, 2002 9:32 AM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** Albuquerque DWP DEIS Comments

*Maya Key*

I have a couple of comments regarding the Albuquerque DWP DEIS:  
(by the way, are you aware that the cover page to the DEIS says the  
comment  
period goes until August 13, and the website to download says Sept. 13?)

3464.001

1. Regarding the injection of treated water into the aquifer to increase  
aquifer storage. Injection of water (treated or untreated) will  
necessarily  
cause a degradation of water quality in the aquifer (except possibly for  
reducing arsenic levels). The groundwater is of a generally good quality  
currently, but injection of water would introduce foreign chemical  
constituents, causing a degradation of the water quality in the aquifer.  
Treated water would contain chemical byproducts from the treatment  
process,  
different amounts of nutrients from the existing groundwater, all of  
which  
could change the biodiversity of the subsurface in unknown ways and  
result  
in pumped water that is not as good quality as it currently is. In  
addition  
there are compounds like prescription drugs and hormones that do not get  
removed from the water in most treatment processes. This cocktail of  
compounds is constantly changing, and with the complexity of drugs now  
available, they are not always removed in wastewater treatment.  
Injecting  
them into the aquifer introduces a contaminant plume with unknown  
chemicals  
into the previously pure water. From there on out, the groundwater  
pumped  
from the aquifer will never be as good quality because those compounds  
will  
disperse throughout and never completely disappear.

3464.002

2. This plan is a very short sighted plan if it only addresses water  
needs  
for 1 generation (until 2040). The EIS needs to address in more detail  
possible ways to deal with that "New Source" that is projected to be  
necessary in 2040 to prevent groundwater mining again. This needs to  
take  
into account projected growth of Albuquerque and all of the surrounding  
regions. Without this discussion of possible sources (or other solutions  
to  
the problem), the DWP doesn't achieve anything at all except take a  
problem  
of ours and leave our children to deal with it. Would it be so horrible  
to  
admit that Albuquerque and the surrounding towns cannot continue to grow  
at  
the present rate and continue the live with the same quality of life?

Response to Comment 3464.001 The proposed DWP contains an Aquifer Storage and Recovery (ASR) component. However, the ASR component would be derived from excess supply of surface water from the drinking water plant in the winter months. As stated in response to comment 3467.017, the treatment process is rigorous and robust enough to remove pharmaceuticals. See Section 2, Section 3.16, and Appendix L of the DEIS.

Response to Comment 3464.002 The history of water requirements for Albuquerque is discussed in Section 2 of the DEIS. The Purpose and Need for the project, to protect the aquifer Albuquerque depends upon for maintaining quality of life and providing for the security and future of our citizens are considered within Section 1. The City will continue to plan for future water trends.

**ANDREW LEO LOPEZ**  
**Certified Public Accountant**

---

California & New Mexico

P. O. Box 12035  
Albuquerque, NM 87195-0035  
Email: allopezcpa@bwn.net

Tel (505) 242-0412  
FAX (505) 242-0412

September 12, 2002

Ms. Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, NW, Suite 1313  
Albuquerque, NM 87102

**HAND DELIVERED**

Re: Public comment on draft environmental impact statement related to Albuquerque drinking water project.

Dear Ms. Robertson:

My interest arises from 1) residency in the South Valley; 2) representation of two business associations; 3) representation of some neighborhood associations; 4) and, representation of many private individuals in land use matters before all quasi-judicial bodies in Bernalillo County that rule on land use issues.

In addition, at the request of some of the Democrat Ward Chairs of the South Valley, three neighborhood associations, and some private parties, I carried the major portion of the successful opposition to location of the water treatment plant in either of the two preferred locations in the South Valley and argued successfully for the site that is now contemplated for the water treatment plant.

**Clarifying focus:**

For my purposes, doing nothing cannot continue because the aquifer cannot produce indefinitely and damage from subsidence becomes inevitable. The Algodones option involves other sovereign entities where political risk becomes problematical and entirely avoidable.

The piping method requires more in construction, operation, and maintenance costs. Therefore, I disregard this method of diversion.

A stated diversion preference contemplated for Paseo del Norte does not mean that some modification should not be examined.

I suggest that portions of the dam to raise water levels be retractable [open side to side] to periodically flush with river water accumulated siltage.

**General:**

In my view, there are two general comments about the impact statement. The size of the document, an appendix of approximately equal size, and the order of presentation of the contents were a deliberate attempt to make working with these materials user-unfriendly. Second, deliberate ambiguity in the contents of the statement invites mistrust and unnecessary

3465.001

Response to Comment 3465.001 As discussed in Section 3.16 and 2.5.2, the current dam design allows for flushing of silt though lowering of the dam close to bed level.



litigation to clarify in the worst of all venues the meaning of language used to address material matters presented and complete absence of discussion of some material matters not presented.

**Specific**

Specifically, the National Environmental Protection Act [NEPA] addresses the issue of environmental justice. However, merely repeating language from NEPA in the statement cannot substitute for addressing the matters below, which directly impact any reasonable notions of environmental justice.

From where will the city obtain 47, 000 acre-feet of native water in view of the demands already placed on stream flow? Merely stating that the city will file an application with the state engineer does not begin to establish the existence of this water.

Taking as true that the city will somehow increase its wastewater, processing rate from 46.0% at present to 50.0% [47,000 of 94,000 acre feet of annual use], where will this wastewater processing take place?

The South Valley plant is at capacity and in some circles is operating in excess of its rated capacity. Forget about adding capacity to the plant in the South Valley. Moreover, residents have already defeated another waste treatment facility contemplated for the Pajarito area. In addition, legislators are ready to battle by every means possible on the side of the residents to prevent additional capacity or additional treatment plants in the South Valley.

Therefore, I suggest that additional waste treatment capacity be built nearby the processing plant. A waste treatment plant next to the water treatment plant would most likely cost more than additional capacity at the South Valley facility, but proximity to the wastewater that would mainly flow downhill would allow for substantial savings in transportation and capital costs associated with transporting waste water for an unnecessarily long distance.

In addition, dumping processed wastewater into the river near the Paseo del Norte diversion would eliminate in all material respects any actual or perceived adverse impact on about a fifteen-mile stretch of river [Rio Bravo (present dumping point) north to Paseo Del Norte].

The flexible dam to raise water levels to channel the water into the diversion channel does not contemplate retractable construction at intervals to open and then flush accumulated siltage with natural flow. If a waste treatment plant were nearby, water from it would also be available to help alleviate the siltage problem.

Lastly, diagrams in the statement show that there is piping contemplated to cross the river to the west side. Fuelling west side growth in this manner is like sending more blood vessels to a tumor.

Wells on the west side, which are the worst offenders for arsenic content, should be plugged in exchange for water from the drinking water project. The later measure would of course cease mining from that portion of the aquifer.

Very truly yours,

  
Andrew Leo Lopez, CPA

ALL: si.

Response to Comment 3465.002 Specific Environmental Justice issues and evaluations are detailed within Section 3.11, where scoped issues, methods and results are recorded. The DEIS does use environmental justice terminology within the introduction, which is appropriate to establish affected environment and method of analysis. The questions regarding the issues that he commenter believes relate to environmental justice follow. The application for permit from the New Mexico State Engineer is a lengthy and detailed process, with its' own evaluation of water rights, environmental concerns and public disclosure requirements. This permit and administrative hearing process is necessary above and beyond the disclosures and analysis in the DEIS. The commenter is referred to the City of Albuquerque Permit Application, State Engineer Diversion Permit – City of Albuquerque Drinking Water Project – Prepared by CH2M Hill, May 2001 and currently pending before the State Engineer. This process will determine the legal right of the City to divert water, and in what amounts, as discussed within numerous sections of the DEIS, including Section 2 and Section 3.16. The project does not increase the waste load at the existing wastewater reclamation plant in the South Valley. There is no identified need for increasing wastewater treatment from the Drinking Water Project. Reference is made to Section 2, Description of Alternatives, and to Table 3.16-6 for discussion and a listing of flow effects associated with the reclamation plant. Pump back alternatives were evaluated within Section 2, and at the public alternatives workshop held in March, 2000 in Albuquerque. As discussed in Appendix L, the diversion dam is constructed in sections that can be raised and lowered independently, therefore allowing for the flushing of sediments.

Response to Comment 3465.003 Comment noted, water for the DWP will serve all of Albuquerque including the west side. Individual well head treatment will be utilized to ensure that City wells will meet the arsenic standard. While in general, wells on the west side have higher As, there are wells on the east that also have elevated As concentrations.

**Billings, Rick**

---

**From:** Mario Malvino [mariomalvino@mac.com]  
**Sent:** Thursday, July 11, 2002 12:00 AM  
**To:** lrobertson@uc.usbr.gov  
**Subject:** Albuquerque Water rights please

Dear Mayor Chavez and Albuquerque City Council:

I think the decisions being made to expand the water supply for New Mexico's principal city will be bad for the health and prosperity of people and ecosystems downstream of Albuquerque. Therefore, It's appropriate that the City be very careful developing its water supply project.

I am disturbed by the City's present Surface Water Diversion proposal, that it does not reflect proper care and deliberation. In particular, it fails to anticipate the adverse impacts of the proposed diversions from the Rio Grande:  
? more frequent seasonal dewatering of the river,  
? reduction of downstream supplies,  
? potential concentration of toxic contaminants and  
? threats to aquatic and riparian ecosystems.

I think the proposal does not adequately reckon with the fact that Albuquerque is already effectively depleting a considerable quantity of water from the Rio Grande, through aquifer pumping.

It proposes to continue to supply water to satisfy what can only be described as excessive rates of consumption, to a customer base that is growing with alarming rapidity. This despite the fact that, at present rates of consumption and population expansion, its water demands cannot long be met by the available supplies, including its San Juan-Chama Project entitlements.

It proposes another diversion dam in a river already fragmented by decades of construction. It proposes to reduce minimum river flows from the present 250 cubic feet/second to 70 cfs. It proposes to divert twice the water to which it is reasonably and legally entitled.

The proposal seemingly disregards the rights of downstream users, whose supply it jeopardizes. At risk are the farmers in nearby Valencia and Socorro Counties, our more distant neighbors in the valleys below Elephant Butte Reservoir, whose supplies are supposedly guaranteed by interstate compact and international treaty, and the Rio Grande ecosystem. These are uses no less vital than Albuquerque's .

I support the coalition of public interest and agricultural groups who have challenged the City's proposal before the New Mexico Office of the State Engineer and join with them in demanding that economic and ecological protection be assured before environmental and regulatory approvals are given for this project.

Response to Comment 3466.001 Please see General Response to Comments 1 through 8. See response to comments 3452.001, .002, .003, .004, .and .005.

3466.001

I urge Albuquerque to think of the harm its proposed water project may cause.  
? It should forestall or mitigate all prospective damages.  
? It ought not be permitted to secure new supplies until it can demonstrate that it is using its existing supplies with the greatest balance and efficiency.  
? It should develop an alternative to its environmentally harmful diversion dam.  
? It should make explicit water management agreements that thoughtfully protect the Rio Grande and all of its dependents.  
? To make its future water supply truly sustainable, the City must exercise restraint in promoting short term growth at the expense of future generations.

I believe viable alternatives to the present proposal exist. Albuquerque's leaders must implement them. We believe that whatever the costs of choosing an environmentally sound water supply alternative, the present generation must accept them, so that citizens of the valley may continue to enjoy clean, sufficient drinking water, locally produced food supplies and a healthy environment.

Mario Malvino  
214 Fiesta Street  
Santa Fe, NM 87501

**Billings, Rick**

---

**From:** Douglas May [dougmay@sdc.org]  
**Sent:** Saturday, July 13, 2002 10:30 AM  
**To:** lrobertson@uc.usbr.gov  
**Cc:** Herkenhoff, Gordon  
**Subject:** Albuquerque Drinking Water Project



ATTACHMENT.TXT

July 13, 2002

Lori Robertson  
Bureau of Reclamation Albuquerque Area Office

In reference to the Albuquerque Drinking Water Project Draft Environmental Impact Statement I have an observation and two recommendations:

3467.001

Observation) The number of farms along the Middle Rio Grande in Valencia and Socorro Counties are not many, but they are all the farms we have in both counties. In Socorro County less than 1% of the land area has sufficient water to sustain farming. Each year we are losing what little farm land we have to residential and commercial development. Although a small proportion of the population, our farmers are important to our quality of life and should be appreciated and not hindered. They are an endangered species. To sustain these farms it is important to have sufficient water, on a predictable basis, which is free from contaminants.

3467.002

Recommendation 1) All environmental studies, whether from the Bureau of Reclamation, any other governmental agency or any private environmental group, that would effect the water available to farmers, be submitted to the Middle Rio Grande Conservancy District as soon as it is available. This would give the District the opportunity to examine the data in these studies and submit corrections or additional data.

Recommendation 2) That the water in the Rio Grande be checked, at least weekly, for any substances that might effect its potability and suitability for agriculture at, or near, the Bernalillo/Valencia County line. These reports should be given to the Middle Rio Grande Conservancy District as soon as they are available.

Submitted by,

Douglas May  
915 Bursum Place  
Socorro NM 87801-4710  
(505) 835-9648

I am not representing any organization.

Response to Comment 3467.001 Agriculture and related water rights are not impacted by any of the action alternatives. Reference Sections 3.16 and 3.23, and Appendix L.

Response to Comment 3467.002 Please see Comment from MRGCD 3440. NPDES permitting for the City's stormwater is outside of the scope of this DEIS.

# City of Albuquerque Drinking Water Project Draft Environmental Impact Statement

## COMMENT CARD

To have your comments on the Draft Environmental Impact Statement (DEIS) for the City of Albuquerque Drinking Water Project become a part of the official hearing record, you may fill out this card, or submit any other written comments via mail, email or fax. To be most helpful, comments on the DEIS should be as specific as possible and address the adequacy of the document or the merits of the alternatives. Written comments must be received by the Bureau of Reclamation no later than August 13, 2002.

### COMMENTS:

3468.001

Radionuclides have been found in Cochiti Lake, and a person who eats 10 pounds of fish a year risks health problems. If we divert, treat + use the river water, we'll be drinking these radionuclides + also pumping them into the aquifer.

It seems that there are other strategies to try before giving our children radionuclides to drink:

- 1) Allow for graywater recycling.
- 2) Use recycled water or river water for toilets.
- 3) Deny aquifer water to Intel + Kirtland rather than giving them aquifer water while families drink radionuclides.
- 4) Stop the west side expansion. We don't have enough water for the city now, or so we are being told. Expansion of the city without enough water seems foolish and profit-oriented.

Add additional sheets as necessary.

YOUR NAME: Jeanne Pahls  
PHONE NUMBER: 858-0882  
ADDRESS: PO 4591 Albuquerque NM 87196  
YOUR ORGANIZATION (IF ANY): \_\_\_\_\_

TO MAIL, PLEASE FOLD COMMENT CARD IN THIRDS, MAKING SURE THAT THE BUREAU OF RECLAMATION ADDRESS IS SHOWING. TAPE CLOSED AND APPLY PROPER POSTAGE.

YOU MAY ALSO EMAIL YOUR WRITTEN COMMENTS TO LORI ROBERTSON AT [lrobertson@uc.usbr.gov](mailto:lrobertson@uc.usbr.gov), OR FAX TO (505) 248-5308.

Response to Comment 3468.001 Radionuclides have been found in the bottom sediments of Cochiti lake. Radionuclides are associated with particulates. Although it is unlikely that particulates associated with the bottom sediments of Cochiti will enter the DWP diversion, any radionuclides that are not either settled in the sedimentation basin or filtered in the filtration system will be bound in granular activated carbon. See Section 3.27.

Response to Comment 3468.002 Please see Section 2 for the description and evaluation of alternatives.

Amy Robinson, M.D.  
P.O. Box 392  
Cedar Crest, NM 87008  
August 4, 2002

Bureau of Reclamation  
Attn: Lori Robertson  
505 Marquette, NW Suite 1313  
Albuquerque, NM 87102

Dear Lori:

3469.001

I am writing to express my concerns regarding the city's plan to divert Rio Grande water for city use. This plan is environmentally unsound for a number of reasons. The plan is projected to reduce minimum flows by about 70%. This will be harmful to the ecosystems downstream and will likely affect the water table.

3469.002

It is my understanding that the accounting in this proposal neglected to consider the costs to the environment, to the individuals downstream, and to the overall reduced quality of the river water. We are at an important crossroads at which we must consider the costs of a shortsighted proposal versus the benefit of planning for a sustainable future. An emphasis on conservation and decreasing the rate of depletion of our water resources makes more sense.

3469.003

Please discard the river diversion proposal and generate a new proposal with an emphasis on conservation, not only by homeowners but also by the big water users: industry and agriculture.

Sincerely,



Amy Robinson

Response to Comment 3469.001 The project alternatives will not reduce flows 70 percent as indicated within Section 3.16 (Hydrology).

Response to Comment 3469.002 Accounting, impacts to individuals, water quality and impacts to 25 resource areas are detailed within Section 3. Conservation and the selection and development of alternatives, including the No Action Alternative, are presented within Section 2. See also Section 1, Purpose and Need.

Response to Comment 3469.003 Please see General Response to Comments 1. Alternatives and 2. Conservation.

**Billings, Rick**

---

**From:** Steve Spensley [spenco1@msn.com]  
**Sent:** Monday, August 19, 2002 4:54 PM  
**To:** lrobertson@uc.usbr.gov  
**Cc:** Steve Spensley  
**Subject:** San Juan Water Project



ATTACHMENT.TXT

Ms. Robertson, my name is Steve Spensley and I am a third-generation Albuquerquean and a local businessman. I am writing this letter to express to you what I feel is a necessary project to sustain our city's water needs for the future. While I may dispute some of the rhetoric regarding the depletion of our aquifer (which I understand to be approximately 32,000 to 36,900 feet deep and stretching from Pilar to Estancia), I also feel that contingency plans are in order and therefore I fully support the City of Albuquerque's Drinking water Project and I would encourage a favorable record of decision for the preferred alternative as outlined in the Draft Environmental Impact Statement. I appreciate your consideration. Sincerely Steve R. Spensley.

3470.001

Response to Comment 3470.001 The Albuquerque aquifer generally extends from Cochiti to San Acacia. For more information regarding its geographic extent and depth at various locations please see DEIS reference: Kernodle, J.M., 1998. Simulation of Ground-Water Flow in the Albuquerque Basin, Central New Mexico, 1901-95, with Projections to 2020. U.S. Geological Survey Open-File Report 96-209, Albuquerque, New Mexico. See Section 3.16 and Appendix L of the DEIS.

Ms. Lori Robertson  
U.S. Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette, N.W., Suite 1313  
Albuquerque, Nm 87102

Dear Ms. Robertson:

I have one comment regarding the Draft Environmental Impact Statement For The City of Albuquerque Drinking Water Project:

ALBUQUERQUE AREA OFFICE  
RECEIVED FOR  
OFFICIAL FILE COPY  
SEP 10 2002  
Classification \_\_\_\_\_  
Project \_\_\_\_\_  
Control No. \_\_\_\_\_  
Folder No. \_\_\_\_\_  
DATE \_\_\_\_\_ TIME \_\_\_\_\_ INDEX \_\_\_\_\_

3471.001

In describing the preferred alternative diversion structure in the draft EIS, the City may want to consider describing a heading structure as a variation of the diversion dam, as well as the full river diversion. A heading structure (whether having a portion collapsible or not) would not require construction of fish passage since it would not be a full river diversion dam. Such structures are used by acequias for diverting water where there is a natural bend in the river or natural flow division, as appears to be the case at Paseo del Norte. The structure intercepts a portion of the river flow at an elevation to get the required head to enable flow into the ditch. Examples of heading structures that I know about are on the Animas, and on the Ojo Caliente. These are gabion structures that the Corps built but I am sure there are others that the NRCS has constructed that are in use. Possibly Reclamation has some of these designs, as well. The structure has a sluice to maintain an open channel and reduce deposition of sediment in the diversion channel.

If this type of diversion structure has been considered and discarded because the conditions are not there for it to work, the draft EIS should so state.

Sincerely,

Gail Stockton  
3110 El Pinon, SW  
Albuquerque, NM 87105

Response to Comment 3471.001 A gabion type heading structure is not appropriate in this reach of the river. Natural sediment loads could not be properly flushed through the sluice way given the diversion requirements. See Section 2.3 and 3.16.



**Billings, Rick**

---

**From:** David Stupin [David.Stupin@Prodigy.net]  
**Sent:** Monday, August 12, 2002 5:19 PM  
**To:** lrobertson@uc.usbr.gov



ATTACHMENT.TXT

David M. Stupin  
51 Vista Redonda  
Santa Fe NM 87506  
david.stupin@prodigy.net  
Monday, August 12, 2002

Lori Robertson  
Bureau of Reclamations Albuquerque Area Office  
lrobertson@uc.usbr.gov.

Subject: Written comment for DEIS of City of Albuquerque Drinking Water Project

Dear Ms. Robertson,

First, your proposal to provide additional drinking water to the City of Albuquerque is innovative. I admire the creativity of the collapsible diversion dam in the Rio Grande. Second, when I attended the EIS meeting in Espanola, I found that almost everyone in the audience had no idea what you were proposing before they attended the meeting. Thus, they were not prepared to provide all the possible alternatives to your proposal or to critique it adequately.

You probably met all the legal requirements for public notice of the meeting, and if you wanted to push through the project and have it built you could probably do so. However, if you had a better-publicized meeting with enough advance information about the project, you would probably end up with a better and, perhaps, less expensive plan.

At the Espanola meeting I heard about problems with erosion and water flow down the Rio Chama. The DEIS does not adequately address erosion of the Rio Chama and the Rio Grande due to increased water flow from the San Juan Chama Project. It also does not address other problems the additional flows will cause to people living alongside these rivers.

I also heard an idea for using the treated water from the Albuquerque waste treatment plant as drinking water in Albuquerque and two or three other ideas that I cannot remember.

3472.001

3472.002

Response to Comment 3472.001 Please see General Response to Comments 1. Alternatives.

Response to Comment 3472.002 The City of Albuquerque will convey its San Juan Chama water at a nearly constant rate year round so that the erosion issues due to varying release schedules will be minimized. The use of reclaimed wastewater for a water supply was previously analyzed by the City and is addressed in Table 2.2-4 of the DEIS. Currently, releases made for rafting, agriculture, fish spawning, and for the RGSM exceed those proposed by the City. Use of wastewater for drinking water was rejected as an unacceptable alternative, see Section 2.6.

A better publicized meeting with more advance information may provide better and less expensive ideas.

I recommend that you extend the deadline for comments and schedule another set of DEIS meetings that are publicized better than the first meetings.

Sincerely,

David M. Stupin

David Stupin  
51 Vista Redonda Road  
Santa Fe, NM 87506  
505-983-1481 e-mail: David.Stupin@Prodigy.net  
"Clothes make the man.  
Naked people have little or no influence on society." -- Mark Twain

Walter A. von Riesenmann, PhD, PE  
7928 Woodhaven Dr. NE  
Albuquerque, NM 87109-5261

Telephone 505-822-0548  
Fax 505-822-1975  
e-mail waltvonr@aol.com

September 9, 2002

Lori Robertson  
Bureau of Reclamation  
Albuquerque Area Office  
505 Marquette NW  
Suite 1313  
Albuquerque, NM 87102

Subject: Comments on "Draft Environmental Impact Statement for  
Albuquerque Drinking Water Project," dated June 2002

ALBUQUERQUE AREA OFFICE		
RECEIVED FOR OFFICIAL FILE COPY		
SEP 10 2002		
Classification _____		ACTION
Project _____		
Control No. _____		
Folder No. _____		
The City of _____		
DATE	INITIALS	CHECK

Dear Ms. Robertson:

Attached are my comments on the subject report. A few "caveats" are perhaps in order.

Though I am vice-president of the District 4 Coalition of Neighborhood Associations, comments are my own. The members of the Coalition may or may not agree with the comments. The report is too large and the time too short to obtain a consensus from the Coalition. Though one statement can be made, and that is there is a strong consensus that water for Albuquerque is a major concern and forward planning is a necessity.

Due to both time restrictions and limited expertise in some areas, only limited portions of the report were studied.

I am an engineer by training and experience, and though my comments are what some may say are detailed, I feel strongly that the status quo cannot be maintained and that a solution as presented in the DEIS must be pursued.

I do not know the exact requirements of a DEIS, and because of this, I may have commented on material that is "outside" of a DEIS.

Some of my comments may have been addressed within the many pages of the report, but the reader should not have to be forced to read every page, for key points.

To be sure the DEIS is time dated, and some of my comments may be related to recent activities, such as using treated effluent to irrigate parks and golf courses in the Southeast Heights and South Valley (Abq. Journal, August 6, 2002).

Sincerely yours,



3473.001

**Overall Comment:**

The report should clearly state the service area for the City of Albuquerque water supply. As an example, is KAFB included? What about other areas outside of the geographical boundaries of the City?

Though consolidation of the City and County are possible in the near future, I believe it is best to proceed with the current DEIS.

**Specific Comments:**

1. The word “sustainable” is used in several places (e.g. p. 1-1) without defining the term. It is a “feel good” term that is frankly overused. The City “Planned Growth Strategy (PGS)” (page 205) states “...a safe and sustainable water supply to 2060.” Yet, this is incomplete without specifying the amount of water that is required and the assumptions on population and the requirements of industry and commerce. The DEIS on page 1-10 states 2040, but in Fig. 1.3-1 the year 2060 is used.

Disturbing, is a footnote in Table 1.3.1, that states that a “sustainable” supply is only available until 2040. This fact is noted on page 1-10.

An additional comment on this matter is made below.

3473.002

2. Project **region of influence** (p. 1-1) is given without stating what the influence is. I assume under the entire Albuquerque aquifer. Will Appendix K, cover the effects on say, agriculture?

3. **Arsenic.** (pages 1-7

The discussion on arsenic is incomplete and possibly inconsistent.

Though the EPA states that arsenic concentrations shall not exceed 10 micrograms per liter, I have not read whether this is an average over a given time period or is it that any sample cannot exceed the limit of 10. I doubt the latter, but the method of checking compliance must be known in order to establish a plan for either treatment or dilution.

There is a considerable variation within the City and variations within wells (Water Quality Report, October 1999, pages 6-7). I doubt if it is due to seasonal variations, since the temperature of the aquifer is constant. One well, number 17, had a variation of 10 to 45 ppb. No details are given. The statement on page 1-7, that the City average is around 13 ppb is misleading.

On page 1-10, the cost of arsenic treatment with DWP is not given. However, on page 3-200, -202 arsenic treatment is given as \$40 million. How the \$110 million is saved (over the estimated cost of \$150 million), is not stated. Will dilution be used on some or all wells, or will wells be closed?

On June 5, 2002, the City placed a notice in the Albuquerque Journal for a RFP for an Arsenic Treatment Pilot Plant. This is not discussed in light of the above.

3473.004

**Water Budget**

WAvR

1

Sept. 9, 2002

Response to Comment 3473.001 Figure 1.2-1 detailing the water service area has been added to Section 1, Purpose and Need.

Response to Comment 3473.002 The proposed action is sustainable to the extent that the purpose and need of the project is met (Section 1.3). The DWP is a component of the City water resources management strategy to fully utilize existing water resources, protect and replenish the local aquifer and to facilitate the conjunctive use of surface and ground water resources.

Response to Comment 3473.003 The region of influence (area of potential impact) is given graphically on Figure 1.1-1. Section 3.2 describes the project area evaluated in the DEIS.

Response to Comment 3473.004 Please see comment 3443.102 for a discussion of Arsenic (As) compliance and costs under both DWP and No Action. Large variations in As concentration are common in ground water samples.

The Arsenic Rule states that compliance will be based on an average arsenic concentration determined by an annual quarterly running average. No one sample can exceed 40 ug/L. The compliance point is the point where the water enters the water system known as Entry Point to the Distribution System (EPDS). Blending can occur prior to the EPDS, so that the blended water entering the distribution system is in compliance with the arsenic MCL.

The arsenic concentrations in the water from the City’s wells does show some variation, however for the most part, the arsenic levels are relatively consistent. Variations in arsenic levels sometimes occur when the water is sampled early during the initial startup of the well. This results from arsenic adsorbing to corrosion by-products in the well casing. Regardless of the individual well variations, the mass average citywide average arsenic concentration is around 13 ug/L. Some wells have arsenic levels approaching 50 ug/L while others seem to show no arsenic at all (below detection limit).

Please see the revised discussion of arsenic costs in Section 3.22.3. This text has been added to the FEIS.

Figure 1.3-1, Table 1.3.1, and associated text (pp 1-10-13)

3473.005

I have difficulty in following the text. There appears to be double usage of some of the SJC water, and a "new unnamed source of water".

3473.006

In the figure the demand that is "saved" by Conservation is misleading, and not fully explained. To be sure, Conservation is an important factor in the City planning. However, specifics must be given. In my mind, it is best to speak about it and give details but omit it from the figure. Or, state that without conservation, the water demand would be the higher value. Perhaps not said the best, but I am sure you get the point. In addition, the assumptions use in arriving at the magnitude of the savings due to Conservation must be given. That is the estimates for population, and residential, industrial and agricultural water requirements. Variables that will affect the estimate should be discussed.

I do not understand the Renewable arrowheads.

Calling the aquifer (ground water) renewable is a "stretch." The problem is that it is not recharging to previous levels. A citation must be given for the statement that the sustainable yield of the aquifer as 67,500 ac-ft., Table 1.3-1.

Since the aquifer lies under many communities and these communities withdraw water, what control is there on withdrawal? Do all of the users agree that in Albuquerque the withdrawal stated above is sustainable?

3473.007

In the table, the assumptions (population, consumption by residents, industry, government, etc.) used in obtaining the Total Demands must be given. In addition, as before, variabilities must be addressed.

The City allocation of SJC water is 48,200 ac-ft (many places in report), on page, 1-9 diversion of 47,000 ac-ft is stated. Appendix L (page 1-3) notes that the difference is due to losses from the Heron reservoir to Albuquerque.

The Total non-potable Water usage includes the usage of 3,900 ac-ft of SJC water for a project in the northeast heights to irrigate parks and golf courses (City Nonpotable Surface Water Reclamation Project). (There is a footnote that 3,025 ac-ft of Mesa del Sol reclaimed effluent is also included. I have no knowledge of this matter.) This means that 3,900 ac-ft of SJC water is counted twice.

A minor point, the values in the Table do not add up, from left to right.

A summary table showing, by month, source of the water and its usage must be included.

**Then there is the incredulous comment that sources of 16,968 ac-ft of water in 2050 and 33,278 ac-ft in 2060 have NOT BEEN IDENTIFIED.**

If this were money, it might be believable, but water! In addition, values are given to the nearest acre-foot. It appears the table was developed from right to left. That is, knowing the right hand column (total demand), the values were determined by what was missing.

Response to Comment 3473.005 The City's SJC water will be used in both the nonpotable water supply projects and the Drinking Water Project up to the total amount of the City's interest in the SJC project. The new unnamed sources are those that are projected to be required after the year 2050.

Response to Comment 3473.006 The amount of water attributed to conservation in Figure 1.3-1 is based on the reduction of water demand from 250 gallons per capita per day to 150 gallons capita per day. A portion of the ground water is called renewable if it is used by pumping within the natural recharge rate. The source for the sustainable yield will be cited as CH2M Hill, Walter Hines, personal communication. The City ground water pumping is administered by the Office of State Engineer Permit RG-960. See General Response to Comments 2. Conservation.

Response to Comment 3473.007 It should be noted that the Non-potable diversion is for a total annual demand of 2,975 acre-feet not 3,900 as stated. While the DWP does fully consume the City's annual supply of SJC water, water for the non-potable project is supplied through the City's storage and through unused supply during drought years. Rounding in the table in question leads to the minor discrepancy noted. While sustainable sources of supply have not been identified from 2040 and into the future, the City fully intends to pursue additional sources in a timely manner to ensure that supply is available. Further, for this analysis it was assumed that future supply could come from groundwater resources. Due to the DWP, this source will be available in the future to meet water demands. However, additional water rights will be required to offset the City's effects. 96,000 acre-feet of water will be diverted and treated. Of this amount 47,000 acre-feet will be consumed with the remaining returned to the river. The amount diverted and returned will be monitored through a metering program. It is anticipated that the OSE will require monthly reporting of these amounts. Text has been added to the FEIS.

3473.007  
(Cont)

The statement on page 1-10, that demands only through 2040 are met, unless new sources of water are identified, is tied into a footnote. this deserves a paragraph of explanation. Moreover, is in conflict with the draft Planned Growth Strategy.

Page 1-9, Table 1.3-1, Page 2-11 (DD3) **47,000 Acre Feet of Native Rio water** will be diverted. An assumption is made that 50% of the total amount of diverted water, i.e 47,000 ac-ft will be returned to the river as treated effluent. The treated water consists of ground water, SJC water and native Rio Grande water. Will the amount of treated water be 47,000 ac-ft more than nominal? How will the amount be monitored?

The DEIS is time dated, and some of the comments may be related to recent activities, such as using **treated effluent** to irrigate parks and golf courses in the Southeast Heights and South Valley (Abq. Journal, August 6, 2002). The article states that 5.7 million gallons per day would be diverted from the waste treatment plant. This equates to a yearly usage of 6,380 ac-ft. However, one has to be very careful in comparing daily, monthly, seasonal and yearly values, and even from year to year. Therefore, unless stated, one does not know whether the 5.7 million gallon usage was based on the *yearly value and divided by twelve, or is the peak value in the summer.*

This project will affect the amount of water discharged back into the Rio.

3473.008

As studied in detail in Section 3 and 4 of Appendix L, there is a large variation in the supply of Rio Grande and supposedly SJC water. Likewise, consumption is not uniform. The report should be clear what value is used and if there are variations throughout the year, they must be noted. One could imagine that the supply is adequate on a yearly basis but that there are shortfalls in the summer, when consumption is at its peak and supply is at a minimum.

3473.009

Page 2-5 4<sup>th</sup> Bullet – should the statement read “...use SJC and Rio Grande water...” see Table 1.3-1 and page 2-11 (DD3).

Response to Comment 3473.008 As noted in Section 2.3, 2.5, and 3.16, the San Juan Chama water will be diverted at a nearly constant rate and variations in the pattern of consumption will be supplied through the use of existing wells. San Juan Chama supply varies from year to year. However, variations in water supply delivery are kept relatively uniform from year to year. The reservoir provides a project firm yield such that the City's allotment of SJC water is available in any given year.

Response to Comment 3473.009 The referenced text is correct.

**Billings, Rick**

---

**From:** Wheelock, Dave [DWheelock@admin.nmt.edu]  
**Sent:** Thursday, June 27, 2002 3:55 PM  
**To:** 'robertson(a)uc.usbr.gov'

Mayor Chavez  
Albuquerque City Council

6/27/02

As a member of the Socorro community I demand that you apply the Precautionary Principle to any plans to secure additional water supplies.

The Precautionary Principle, in case you are not familiar with the workings of governments elsewhere, states that there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof.

The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

I believe your proposed plans to divert water from the Rio Grande do at least pose threats which are not yet fully known, enough so that we need to proceed on such a basis as outlined above.

Dave Wheelock

3474.001

Response to Comment 3474.001 Comment noted. The preparation of the DEIS was guided by CEQ's NEPA regulations and Bureau of Reclamation rules.

**Billings, Rick**

---

**From:** Marianne Woodard [hdc75b@flash.net]  
**Sent:** Thursday, September 12, 2002 3:48 PM  
**To:** Lori Robertson  
**Subject:** DES 02-23 Albuquerque Drinking Water Project



ATTACHMENT.TXT

For the process to be meaningful, it seems that the public hearings should have been held at later dates, rather than almost simultaneous with the disclosure of the contents of the draft EIS. The extension of time to respond is helpful for technical review by specialists, but perhaps not so helpful for the general public as it would have been if the hearings had been held at later dates.

Marianne Woodard Po Box 1961 Albuquerque NM 87103

Response to Comment 3475.001 The results of Public Scoping Meetings and Hearings are in Appendix B, C, and D and other of the FEIS.



**Billings, Rick**

---

**From:** Gronning, Lloyd  
**Sent:** Monday, August 05, 2002 1:57 PM  
**To:** 'Lori Robertson'  
**Cc:** Billings, Rick  
**Subject:** FW: DWP Report

Questions enclosed for the record.....Lloyd

-----Original Message-----  
From: JStomp@cabq.gov  
Sent: Tuesday, July 16, 2002 3:56 PM  
To: Gronning, Lloyd  
Subject: DWP Report

Lloyd:

Here are the other questions. What to do? JMS  
----- Forwarded by John M. Stomp/PWD/CABQ on 07/16/02 03:46 PM -----

"Martin Zehr"  
<mjz49@earthlink.net>  
To: jstomp@cabq.gov  
cc:  
Subject: DWP Report  
  
07/09/02 12:15  
PM  
Please respond  
to mjz49

John,

Thanks for getting back to me so promptly. I hope to be at the Socorro meeting tonite but in case I can't get there, and just for the record here are a few inquires regarding the DWP proposal.

1, On page 1-4 the report states: "Full consumptive use of the SJC for a drinking water supply is the only means available to provide a sustainable supply and allow groundwater levels in the aquifer to recover and serve as a drought reserve."

And yet on page 2-5 the report states: "While all studies indicate that using water the City already owns is the surest and least expensive, and environmentally preferred way to achieve a safe and sustainable drinking

3476.001

Response to Comment 3476.001 The two statements describe the development of water supplies over two separate time periods. The first relates to the current need to develop water to reduce the mining of the aquifer and the second relates to the need to develop additional water supplies after the year 2060. See Figure 1.3-1.

water supply, other sources of water are potentially available and merit investigation. Over the long term, additional supplies will be needed."

Aren't these two statements at odds with each other?

3476.002

2. The 1985 and 1987 water deliveries of SJC water were not delivered to the City. This amounts to 96,400 acre-feet. Is the City credited with this amount for future deliveries? Why or why not?

3476.003

3. The arsenic levels of the 40 wells are not able to reach compliance of Federal standards. How much water does this amount to and how will its withdrawal impact on the water plan?

3476.004

4. On page 1-7 The report indicates that the water conservation measures enacted in 1995 provided for a 30% conservation of City water usage. To date, according to the report the City is not in compliance with this standard. How much is the 7% not conserved amount to in gallons, or acre feet? What, if any, are the enforcement measures provided for by this measure?

3476.005

5. What are the projected dates for implementation for the 2 projects in the planning stage (the Water Reclamation Project and the Southside Water Reclamation Plant Reuse Project)? Are the conservation figures of 6,389 ac-ft/yr currently being used in water budget figures?

3476.006

6. page 2-64 states: " Additionally, the safety of the water supply would be in question because ground-water contamination exists in this area." What is the nature of this contamination? Does it impact on the surface water contamination as well, or was it in fact a result of surface water contamination from Los Alamos?"

3476.007

7. I am confused about the origin of the statement that "public water supplies should be taken from the highest-quality source" on page 2-64. Is this a specific policy that is delineated in statutory guidelines, if so what are they? How has this guideline been consistently applied in regards to other measures, aside from the changed arsenic standards?

Thanks for your attention to these matters. It is my sincerest hope that this input will be of some benefit in the public comment and the subsequent review of the DWP. I look forward to your reply, and will be continuing to read the report in depth, and sending inquires as they occur.

With regards,

--- Martin Zehr  
--- mjz49@earthlink.net  
--- EarthLink: The #1 provider of the Real Internet.

Response to Comment 3476.002 The City took delivery of its SJC water in 1985 and 1987. Partial delivery was made in 1987 because Heron and Abiquiu were full and repair work on the delivery tunnels was required. The City receives no "credit" for water not delivered. However, in some years, excess flood flows on the San Juan have been diverted and been made available to contractors for use or storage beyond their normal contract.

Response to Comment 3476.003 The 40 impacted wells account for approximately 40% of the City's total production capacity. With the DWP, in the short term, this capacity can be made up in other wells. For the No Action alternative, treatment of these wells will be required to fully meet demands. Please see 3443.102 for additional discussion.

Response to Comment 3476.004 Please see General Response to Comments 2. Conservation. The 30% reduction is a 10 year goal beginning in 1995; therefore the 23% saved today the current status of the program. Multiplying current demand of approximately 110,000 ac-ft/yr. 7% is 7,700 ac-ft. Enforcement measures are set forth in the City Water Conservation Landscaping and Water Ordinance found at [www.cabq.gov](http://www.cabq.gov).

Response to Comment 3476.005 The projected dates for the implementation and the projected water supply of the projects are shown in Table E-2, in Appendix L Hydrology Report.

Response to Comment 3476.006 Contamination associated with this area is related to the Rio Grande Restoration alternatives. The Rio Grande Restoration alternatives were addressed specifically in Section 2.6. No cited contamination is related to Los Alamos.

Response to Comment 3476.007 This long standing policy has been developed by the American Water Works Association (AWWA), Statement of Policy on Public Water Supply Matters and is detailed in the AWWA Officers and Committee Directory 2001-2002, page 238.

**Gronning, Lloyd**

---

**From:** Gronning, Lloyd  
**Sent:** Monday, August 05, 2002 2:56 PM  
**To:** 'Lori Robertson'  
**Cc:** Billings, Rick  
**Subject:** FW: DPW Report

Questions enclosed for the record.....Lloyd

-----Original Message-----  
From: JStomp@cabq.gov  
Sent: Tuesday, July 16, 2002 3:55 PM  
To: Gronning, Lloyd  
Subject: DPW Report

Lloyd:

Questions from the gentlemen regarding the Draft EIS. What was I supposed to do? JMS  
----- Forwarded by John M. Stomp/PWD/CABQ on 07/16/02 03:45 PM -----

"Martin Zehr"  
<mjz49@earthlink.net>  
To: JStomp@cabq.gov  
cc:  
Subject: DPW Report  
  
07/14/02 01:05  
PM  
Please respond  
to mjz49

John,

As I continue reading the report in depth more questions come to mind. Here they are.

1. page 2-54 The Non-Potable Surface water reclamation Project provides "3,038 ac-ft/yr to irrigate 900 acres of parks, golf courses and greenbelts in the Northeast Heights area" and the Southside water Reclamation Plant Reuse Project supplies 2,455 ac-ft/yr to 700 acres. Please specify areas referred to as greenbelts, are they presently or in the proposal stage of development by commercial or residential developers, if so by whom? Are the

3477.001

Response to Comment 3477.001 All irrigation areas considered as part of the Non-Potable Surface Water Reclamation Project and the Southside Water Reclamation Plant Reuse Project are current irrigated areas. These areas include City parks, schools, and golf courses as well as privately owned irrigated areas. Fees for hook-up to this system have not yet been determined.

parcs referred to all public parks maintained by the city? At what cost are private owners of golf courses and greenbelt developers charged for this water delivery and infrastructure expense?

3477.002

2. Are there currently options on the drawing board to increase irrigation using reclaimed or recycled storm water for school grounds, soccer fields and public parks?

3477.003

3. page 2-60 indicates: "The Drinking Water Project will require a potable water line crossing of the Rio Grande to provide water to the west side of the city." How will that investment in infrastructure impact on the rate of development in that area, and how can the costs incurred be reclaimed given the County's recent reduction of impact fees?

3477.004

Further, in the process of this construction it will require the contractor to "dewater the soil" of the Rio Grande, half its width at a time. A. Will the EPA or other agency, evaluate the impact of this on endangered species? B. Are there other options for the delivery of this water other than the "trench excavation method"? C. What will be the impact of this pipeline on sedimentation in the river? D. Can you provide some examples of this method being utilized with the desired effects you seem to be indicating?

3477.005

4. What is the metered water flow of the San Juan River in the past 50 years and what can be the impact of a sustained drought on that flow?

3477.006

5. What is the evaporation rates at El Vado Reservoir, Heron Reservoir, and Abiquiu Reservoir?

3477.007

6. Are there any prior rights claimants to the San Juan/Chalma water? I have heard that the Ute Nation is currently in litigation regarding the diversion.

3477.008

7. On page 3-41 The DPW Report summarizes the impact on river flows as". Therefore, these changes in velocity, river channel width, and water depth are not properly characterized as 'losses', rather they are temporal effects.hence aquatic resources would not be 'lost' but rather redistributed based on availability of habitat. Even if individuals were harmed in the process, there is no evidence to support these losses having permanent resource level affects." For clarity sake, I suggest you not use quotations around the words like losses or lost. Especially, when dealing with endangered species, there are no such things as temporal or individual losses that don't impact on their ability to thrive and survive. Further, the term used "redistributed" seems to presume a habitat just as conducive to sustainability of the species as the prior one.

3477.009

8. page 3-51 states: "Only the Pueblo of Sandia has expressed any concerns

Response to Comment 3477.002 The City has completed one project, and has started another to use non-potable and recycled water for turf irrigation and some other uses. See Section 3.30. The current DWP does not increase irrigation for schools, soccer fields, or public parks. Only existing demands are met through the used of reclaimed and recycled water.

Response to Comment 3477.003 The stated purpose and need for the project, Page 1-10 of the DEIS, reflects the fact that the City will need to provide a sustainable water supply for its citizens, even if the population does not increase. In addition, the project is needed to preserve the aquifer, and create a drought reserve. The project has been conceived to equitably supply water throughout the City, using new infrastructure and existing facilities. The cost of the project has been agreed to by the City Council, which has approved a series of rate increases (Section 3.22).

Response to Comment 3477.004 The USACE regulates construction within the river through 404 CWA permitting requirements. Endangered species effects, if any, are evaluated during this process, as well as through the Section 7 ESA process. The City has secured a 404 permit for the non-potable project just below Alameda, where similar construction methods to those proposed within the DEIS would be implemented. The method was used during the installation of the Atrisco siphon. The trench excavation and dewatering method for installation of underground piping is a commonly used method.

Response to Comment 3477.005 Activity and droughts within the San Juan Basin are outside the region of influence for this project.

Response to Comment 3477.006 Evaporation rates and operational rates for those reservoirs can be obtained from the operating manuals for each reservoir.

Response to Comment 3477.007 Litigation regarding San Juan Basin activity is outside the scope of this DEIS.

Response to Comment 3477.008 When aquatic habitat is changed or altered in a natural flow condition, this is not referred to as a loss of habitat. The condition is temporary, and would be expected to change with a different flow condition. The aquatic habitat, in this situation, is not lost but altered, and aquatic species would move to seek a suitable habitat. The losses, in this case, refer to temporary modifications of available habitat that would become available with a different flow condition, thus mimicking natural conditions. Redistributed is exactly that, and suitable habitats would be sought by the aquatic species. Text has been revised in the FEIS.

Response to Comment 3477.009 on next page.

about the DWP.\* What has been the input process, outside of public comment meetings, to evaluate the Pueblos' responses?

Thanks for your energy and dedication. As you can tell I am less than halfway through the report. Your responses will help to clarify the exhaustive work that has already been done in the DFW Project.

--- Martin Zehr  
--- mjz49@earthlink.net  
--- EarthLink: The #1 provider of the Real Internet.

Response to Comment 3477.009 The process used to consult with Native Americans is detailed within Appendix F of the DEIS. Initial letters formally requesting consultation were sent in March 1999, September 1999 and January 2002. In addition to public NEPA scoping meetings, and numerous public meetings within Albuquerque regarding various aspects of the project (alternatives workshop, preferred alternative town hall, site selection meetings), Reclamation has attended meetings with Sandia Pueblo. Some Pueblo and BIA officials have regularly attended the interagency workgroup meetings, and other processes (see Section 4 of the DEIS, Consultation and Coordination).

## **6.4 OTHER COMMENTS FROM INDIVIDUALS**

## SECTION 7

### OTHER COMMENTS

#### 7.1 INTRODUCTION

Letters were submitted by 27 other non-governmental organizations who expressed support for the preferred alternative. Several of the letters indicated that they believed the preferred alternative was the most economically and environmentally feasible way for Albuquerque to provide for both its present and future water needs. In addition, 174 individuals also submitted letters expressing similar support for the preferred alternative. These comments from both the organizations and individuals have been acknowledged by Reclamation, however responses are not appropriate. A list including the names of the organizations submitting such comments and their document reference numbers are presented in Table 7.1. Table 7.2 lists the individuals next to the document reference number.

**TABLE 7.1  
OTHER NON-GOVERNMENTAL ORGANIZATION LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Organization</b>
3478	Albuquerque Economic Development Inc.
3479	Albuquerque Hispano Chamber of Commerce
3480	Albuquerque Metropolitan Board of Realtors Inc.
3481	Alvarado Realty Company
3482	American Council of Engineering Companies (ACEC) New Mexico
3483	American Society of Civil Engineers (New Mexico Section)
3484	Apartment Association of New Mexico
3485	Associated General Contractors of America
3486	Bohannon Huston Inc.
3487	Build New Mexico
3488	Cauwels & Associates Inc.
3489	Commercial Association of Realtors
3490	Economic Forum
3491	Greater Albuquerque Chamber of Commerce
3492	Greater Albuquerque Innkeepers Association
3493	Home Builders Association of Central New Mexico
3494	Maestas and Ward Commercial Real Estate

**TABLE 7.1 (Continued)**  
**OTHER NON-GOVERNMENTAL ORGANIZATION LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Organization</b>
3495	National Association of Industrial and Office Properties (NAIOP)
3496	National Heating and Ventilating Company Inc.
3497	New Mexico Grocers Association
3498	New Mexico Land Title Association
3499	New Mexico Roofing Contractors Association
3500	New Mexico Society of Professional Engineers, Albuquerque Chapter
3501	New Mexico Society of Professional Engineers
3502	Sivage-Thomas Homes Inc.
3503	Ventana Ranch
3504	Western Building Supply

**TABLE 7.2**  
**OTHER INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3505	Abruzzo, Louis C.
3506	Abruzzo, Richard
3507	Aguirre, Daniel S.
3508	Allen, Brad B. CCIM, SIOR
3509	Alvidrez, Richard L.
3510	Ambrogi, Fred
3511	Anderson, William S.
3512	Argue, Carol
3513	Armstrong, Scott
3514	Banda, Lynn
3515	Bandoni, Keith
3516	Banker, Rich W.
3517	Barbour, Lawrence T.
3518	Barela, Jon
3519	Barnhart, Charles E.
3520	Bauer, Stephen R.
3521	Beene, David M.
3522	Beltramo, Rick L.
3523	Benham, Alan, R.
3524	Benham, Elizabeth, P.E.
3525	Bennett, Jay and Angela
3526	Black, Joan H.



**TABLE 7.2 (Continued)  
OTHER INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3527	Black, John F.
3528	Black, Tina
3529	Bohannan, Donna J.
3530	Bohannan, Ronald R., P.E.
3531	Brazil, Barbara
3532	Breen, Elaine
3533	Breen, Laurence
3534	Broughton, Glenn S.
3535	Brown, Douglas M.
3536	Brown, Ethan, M.
3537	Browning, Kurt
3538	Burke, Barbara H.
3539	Burnett, Brian G., P.E.
3540	Burns, Jim
3541	Campbell, David S.
3542	Carter, Mary
3543	Chacon, Wade
3544	Coffman, Kaycee
3524	Benham, Elizabeth, P.E.
3525	Bennett, Jay and Angela
3526	Black, Joan H.
3527	Black, John F.
3528	Black, Tina
3529	Bohannan, Donna J.
3530	Bohannan, Ronald R., P.E.
3531	Brazil, Barbara
3532	Breen, Elaine
3533	Breen, Laurence
3534	Broughton, Glenn S.
3535	Brown, Douglas M.
3536	Brown, Ethan, M.
3537	Browning, Kurt
3538	Burke, Barbara H.
3539	Burnett, Brian G., P.E.
3540	Burns, Jim
3541	Campbell, David S.
3542	Carter, Mary

**TABLE 7.2 (Continued)  
OTHER INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3543	Chacon, Wade
3544	Coffman, Kaycee
3545	Cole, Mary
3546	Collatz, Arlan
3547	Collister, Douglas, H.
3548	Cowham, Kathi
3549	Cronister, Lee
3550	Crow, Susan
3551	Davis, Barft
3552	Davis, Kerry L.
3553	DeWane, Julie
3554	DeWitte, Michael D.
3555	Dicome, Kym E.
3556	Dixon, Deobrah K.
3557	Dozier, David, P.E.
3558	Dozier, Debbie
3559	DuBois, Edward A. Jr.
3560	Eagan, Brian
3561	Egemen, Ege, Ph.D., E.I.
3562	Eichorn, Jack
3563	Engel, John J.
3564	Fellows, Glen H. AIA
3565	Fernandez, Ron
3566	Fitchner, E. Gary
3567	Flint, James V.
3568	Garcia, Barbara A.
3569	Garcia, Cheryl D.
3570	Gauert, Wm. Brooks, M.D.
3571	Gaulden, Tim
3572	Gilletly, John
3573	Givens, R. LeRoy
3574	Gonzales, Amy
3575	Gonzalez, Michael A.
3576	Gray, Kenneth L.
3577	Grieves, David H.
3578	Harley, George T.
3579	Harley, Wayne C
3580	Haynes, Carol H.

**TABLE 7.2 (Continued)**  
**OTHER INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3581	Haynes, Martin J.
3582	Henderson, J. B.
3583	Henrie, Michelle
3584	Hernandez, Louis J.
3585	Higgins, Wm. Bruce
3586	Hill, Dave
3587	Hoffman, Rachel
3588	Hoover, Craig, P.E.
3589	Howard, Ellen E.
3590	Hudson, Karen L.
3591	Huerta, Dominic
3592	Huning, John L.
3593	Jesinowski, Jeff
3594	Jones, Tammy L.
3595	Keleher, William B.
3596	Kilbreth, Lisa
3597	Klingenhagen, Tom
3598	Landgraf, Gerald
3599	Lanier, Charles S.
3600	Leonard, Richard E.
3601	Leung, Nina
3602	Marcotte, Karen, AICP
3603	Marlow, Cheryl
3604	Martin, Matthew
3605	Matthews, Bart
3606	Maybery, Betty
3607	McDonough, Tim
3608	McNaney, Tim
3609	Medina, Donna
3610	Melville, Sean
3611	Mahoric, Mark
3612	Montano, Carlos
3613	Murphy, Bob
3614	Otteni, Ken
3615	Parker, Gerald K.
3616	Patton, Kevin, P.E.
3617	Piazza, James A.
3618	Pizzonia, Vinny

**TABLE 7.2 (Continued)**  
**OTHER INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3619	Polk, Virgil L.
3620	Reynolds, Hollie
3621	Reynolds, William M
3622	Rice, John R.
3623	Richardson, Rob
3624	Riordan, Michael J.
3625	Rodriguez, Daniel
3626	Ruggles, Kelly L.
3627	Ruiz, Colleen M.
3628	Salas, Michelle Y.
3629	Sandin, Dennis
3630	Sandoval, Dennell
3631	Schmittle, Paul
3632	Schmittle, Tammie
3633	Schulz, Michael, PMP
3634	Schwarz, Larry
3635	Scott, Jennifer
3636	Shepard, Robert R.
3637	Solverman, Paul L.
3638	Simon, Robert
3639	Simmons, Dave
3640	Simmons, Linda
3641	Snyder, Mary L.
3642	Sowards, Paul A.
3643	Speakman, Janet E.
3644	Stauber, Zachary L.
3645	Stern, Jeffrey R.
3646	Stickman, Stan
3647	Stidworthy, Bruce P. E.
3648	Stone, Howard C. P.E.
3649	Suazo, Silas V.
3650	Swan, D. F. "Duffy"
3651	Taylor, C. H.
3652	Taylor, Joleen
3652	Parsons
3653	Teater, Dick
3654	Thies, Pamela, P. E.
3655	Thomas, Albert M., P.E.

**TABLE 7.2 (Continued)**  
**OTHER INDIVIDUAL LETTER DESIGNATIONS**

<b>Document Number</b>	<b>Author</b>
3656	Thomte, James C.
3657	Toler, Joyce L.
3658	Topmiller, James R.
3659	Triolo, Adam Q.
3660	Turner, Doug
3661	Vaio, Aldo, M. P.
3662	Vineyard, Jeffrey L.
3663	Vreeke, William L.
3664	Walhood, Gordon, A., Jr., PE
3665	Walther, Jeanette A.
3666	Ward, Phil
3667	Webster, William W., PE
3668	Welch, Chris
3669	Wertheim, Robert
3670	Wheeler, Mariann
3671	Whittington, Scott
3672	Wiley, Dallas
3673	Wiley, Diana
3674	Willard, Larry D.
3675	Wrage, Eric J.
3676	Wymer, Paul M.
3677	Zimmerman, Bill, PE
3678	Zucker, Michael J.