Appendix A

Supporting Information for Purpose and Need

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A. Supporting Information for Purpose and Need

This appendix supplements information in Chapter 1 pertaining to the Project Participants' Purpose and Need. It includes a brief overview of Colorado water law as it applies to the proposed SDS Project, and descriptions of the Participants' existing water systems, water conservation programs, and previous water resource planning. Detailed descriptions of the Participants' demand forecasts and water needs also are included.

A.1 Overview of Colorado Water Law

The following broad overview of Colorado water law provides a simple explanation of water law without excessive legal jargon or citations. This section should not be construed as a legal basis for the Participants' Proposed Action, No Action, other Action Alternatives, or their associated water rights.

A.1.1 Introduction

In the 1860s, laws regarding water use and land ownership were established because the demand for water often exceeds the availability of water in most parts of the state. Although they have undergone changes over time, the principles of these laws remain the same and are referred to as the Colorado Doctrine. The principles are (CFWE 2003):

1) All surface and ground water in Colorado is a public resource for beneficial use by public agencies and private persons;
2) A water right is a right to use a portion of the public's water resources;
3) Water rights owners may build facilities on the lands of others to divert, extract, or move water from a stream or aquifer to its place of use; and
4) Water rights owners may use streams and aquifers for the transportation and storage of water.

A.1.2 Prior Appropriation System

The Colorado Constitution mandates the use of the prior appropriation system for the regulation of surface water and tributary ground water in the state. The system lays out an orderly procedure for securing and administering water rights, and includes the following main components:

1) Water users with earlier water rights (or senior water rights) have the priority of use during short supply over those with later water rights (or junior water rights). This is often referred to as "first in time, first in right."
2) Water users appropriate (or take) water when water is put to a beneficial use. The water users must have a plan to divert, store, or otherwise capture, possess, and control the water for beneficial use. Types of beneficial use include but are not limited to irrigation, stock watering, domestic, municipal, industrial, commercial, power generation, instream flows, and recreation.
3) Water rights are adjudicated (or made legal) through the water court system, giving the water user a legal basis for administration of the appropriated water. Adjudication sets the priority

date, amount, point of diversion, type, and place of use for the water right. It also confirms that the water right will not injure existing water rights holders. The water court issues a water right "decree" for each adjudicated water right that explains the terms of the adjudication.

4) Water rights are administered according to the terms and priority date in their decree by the Division Engineer. Division Engineers are assigned to each of the seven water divisions in Colorado (generally divided by river basins) and report directly to the State Engineer, which is in the Division of Water Resources, Department of Natural Resources.

A.1.3 Water Rights and Decrees

Two main types of water rights are direct flow rights and storage rights. Direct flow rights make immediate use of the water, while storage rights put water in storage for later use. Subsets of direct flow rights include augmentation, change, exchange, recreational in-channel diversion, and instream flow rights. These are generally defined as follows (CFWE 2003):

- Augmentation Water Rights – Allows a water user to divert water out of priority and replace depletions made to the stream system with other sources. Augmentation water rights are typically used for tributary ground water rights and are required because pumping tributary ground water can cause depletions to nearby surface streams.
- Change of Water Rights Decree – This type of decree changes the use, point of diversion, or place of use of an existing water right while maintaining the original decreed priority date. Typically, changes of water rights are limited to the rights' original consumptive use (that is the amount of water actually consumed by the original water right use), and must maintain historical return flow patterns and other conditions necessary to prevent injury to other water rights.
- Exchange Decree – Allows a water user to divert the water that would usually flow to a downstream diverter at an upstream location. The upstream diverter must then provide a suitable replacement supply of water in amount, timing, and quality at a downstream location. The exchange cannot result in injury to senior water rights.
- Recreational In-Channel Diversion Right – A water right held by local government entities for structures that control the flow of water for rafting and kayaking.
- Instream Flow Water Right – A water right held by the state to protect or improve the water-dependent natural environment.

In addition to the types of water rights, water rights also can be either conditional or absolute. A conditional water right is issued when a water user plans to make use of the water but currently does not have the facilities in place to do so. A conditional water right allows entities to have assurances that a water right can be decreed before constructing facilities. The conditional water right retains the priority from the original decree. Once the facilities are in place, the water right becomes absolute by putting the appropriated water to beneficial use. Until a water right is perfected (i.e., made absolute), the water user must show "due diligence" in progressing toward beneficial use of the water.

Water rights in Colorado are private property rights that are subject to market transactions similar to any other private property right. Water rights may be purchased, sold, leased, rented, and transferred between parties subject to their decrees and the laws of the state.

Water rights are subject to abandonment if the water right is not exercised during a 10-year period or if due diligence cannot be proven for a conditional water right during a 6-year period. Abandonment is commonly referred to as "use it or lose it."

A.1.4 Administration

Colorado is divided into seven divisions for purposes of water right administration. Water rights are administered by the Division Engineer and Water Commissioners that work within each district in the division. The Arkansas River Basin makes up Division 2, and contains several different districts generally divided by watershed.

Many river basins within the state, including the Arkansas River, are considered to be "overappropriated." This occurs when the amount of water appropriated exceeds the amount of water generally available for diversion. Water use during times when not all adjudicated water rights can be fully met is limited to those entities that have water rights senior to the calling water right. A river call occurs when a water user is unable to divert its full entitlement due to inadequate water availability at the point of diversion. The water user contacts its designated official and "calls" for water. The Water Commissioner then shuts off water to junior water rights until adequate water is available to the senior user. If the call cannot be met with all junior water rights shut off, then the water user cannot divert their full entitlement. The "calling" water right is the water right that is only partially being met; all junior water rights are shut off and all senior water rights are met.

In the Arkansas River Basin, the river is nearly always administered by the calling water right. During extremely wet conditions, there may be a "free river" when all adjudicated water rights are met and any unadjudicated appropriations can divert water.

A.1.5 Transmountain Water Rights and Reusable Water Rights

Transmountain water is water that is diverted from one river basin into another river basin. The most significant transmountain diversion projects in Colorado are those that divert water from the Colorado River Basin to either the South Platte River Basin or the Arkansas River Basin.

For native water rights, or those rights that are used in their original basin of origin, the water right is typically decreed for a single use only. That is, the water user cannot "reuse" that portion of the diverted water that is not fully consumed. However, because transmountain water is not native to the basin in which it is used, the return flows that accrue to the surface water after its initial use typically are not subject to the prior appropriation system and can be reused by the original water right owner. In fact, this water can typically be reused repeatedly until there are no return flows left. This is often referred to as "use to extinction." Water users typically refer to the return flows that can be reused as "reusable return flows."

In addition to transmountain diversions, water rights that are changed to allow a water user to use the consumptive use portion of the original water right are usually allowed to reuse return flows that are generated from the delivery of consumptive water by the new water right owner. This is because the original consumptive use portion was fully removed from the stream system (typically through crop consumption) and never returned back to the stream system. Therefore, any return flows derived from these consumptive use waters under its new use (typically municipal use) would be in excess of what was historically returned to the stream;, thus, reuse of these return flows would not injure senior water rights holders.

Not all transmountain water or consumptive use water is reusable; each decree contains specific language on if and how the water can be reused.

A.1.6 Arkansas River Compact

Interstate compacts apportion that amount of water that can be used by each state from a particular river system. The water in the Arkansas River is apportioned between Colorado and Kansas according to a 1948 Arkansas River Compact. In general, the Compact divides water in the Arkansas River inflows to John Martin Reservoir between Colorado (60 percent) and Kansas (40 percent). The 1980 Operating Principles provide for storage accounts in John Martin Reservoir and release of water from those accounts for Colorado and Kansas water users. If the reservoir pool is depleted, and Colorado is required to administer priorities below John Martin Reservoir, then Kansas is not entitled to water flowing into the reservoir (CWCB 2002).

Colorado and Kansas have been in litigation regarding the Arkansas River since the early 1900s. Recent decisions by the Supreme Court have lead to the appointment of a "Special Master" and the promulgation of well rules by Colorado that limit the amount of well pumping in the lower Arkansas River Basin to bring Colorado into compliance with the Compact.

A.2 Participants' Water Systems

This section describes the existing supply of each SDS Participant and the water rights that each Participant would use in the SDS Project. Each Participant's existing supply, when coupled with its anticipated demand, forms the basis for the need for the SDS Project.

A.2.1 Colorado Springs

Colorado Springs is the largest metropolitan area in southeast Colorado. Colorado Springs Utilities provides electric, water, wastewater, gas, and street light services. Colorado Springs' water service area includes most of Colorado Springs and some of the surrounding suburban residential areas. The military installations of Fort Carson, Peterson Air Force Base, and the U.S. Air Force Academy receive water, electricity, and gas from Colorado Springs. Peterson Air Force Base also receives wastewater treatment service from Colorado Springs. In 2004, Colorado Springs provided water to about 405,900 people.

A.2.1.1 Existing Water Supply

Current Untreated Water Supplies

Colorado Springs currently obtains untreated water supplies from nine different sources: Local System, Blue River System, Otero (Homestake) System, Twin Lakes System, Fry-Ark Project via the Fountain Valley Authority (FVA) System, Arkansas River Exchanges, Colorado Canal System exchanges, Ground Water System, and Turquoise Lake Colorado Fuel and Iron Corporation (CF&I) Decree (Table A-1). These supplies provide a firm yield of 119,000 ac-ft/yr (about 106 mgd). Delivery of Colorado Springs' firm yield, however, is constrained by several factors,

Table A-1. Colorado Springs' Current Water Supplies*.

System	Firm Yield[‡]		SMAD[Ψ]	
	ac-ft/yr	mgd	ac-ft/yr	mgd
Local System - Direct Flow Water Rights	18,800	16.8	38,000	33.9
Local System - Water From Storage[†]	17,200	15.4	100	0.1
Blue River System	7,800	7.0	8,100	7.2
Homestake Delivery System	64,700	57.8	71,500	63.8
Fountain Valley Authority System	8,300	7.4	12,600	11.3
Ground Water System[ϕ]	2,200	2.0	1,900	1.7
Total	**119,000**	**106.3**	**132,200**	**118.0**

[‡]Definitions of Firm Yield and SMAD are found in Chapter 1.

[Ψ]SMAD reflect reusable return flows at 2046 demand.

[†] Firm system yield is higher than firm hydrologic yield due to the benefits of storage.

[ϕ] Ground water average yield is less than that of firm yield because Denver Basin ground water supplies are used only during dry-year conditions. Otherwise, Denver Basin ground water is not used.

*Existing Conditions do not include Pueblo Flow Management Program. This allows the analysis of the alternatives to consider effects of implementation of the Pueblo Flow Management Program

Source: MWH 2005.

which are discussed in the following *Water System Limitations* section.

Each untreated water supply source is conveyed to Colorado Springs' water service area for treatment and distribution using one of four main untreated water conveyance systems. The four main conveyance systems are the Local System, Blue River System, Homestake System, and FVA System (Table A-2). Untreated water supplies are delivered primarily through the facilities shown in Table A-1. These conveyance systems in combination are sized to allow delivery of peak flows. Actual deliveries are constrained by water supplies from various collection systems and demands within the Colorado Springs municipal service area. Ground water is not conveyed through a specific system, but treated at the wells and delivered directly to Colorado Springs' water distribution system.

The water system has untreated water storage capacity of about 188,000 ac-ft in 24 reservoirs. All but two of the untreated water storage reservoirs (Lake Henry and Lake Meredith) can deliver water directly to the system's treatment plants. Untreated water from Lake Henry and Lake Meredith reservoirs is transferred to other storage reservoirs by exchange for subsequent delivery and treatment. Under existing contractual arrangements, Colorado Springs' participation in the Fryingpan-Arkansas Project (Fry-Ark Project), through the FVA, provides about 55,700 ac-ft/yr of additional untreated water storage capacity for Fry-Ark Project water in Pueblo Reservoir.

Local System

Colorado Springs began developing water supply systems on the flanks of Pike's Peak in

Table A-2. Colorado Springs' Water Conveyance Systems Delivery Capacity.

Conveyance System	Existing Delivery Capacity (mgd)	Supplies Delivered by System
Local Delivery System	73.0	Local System waters
Blue River System	20.0	Blue River System waters
Otero Delivery System (Homestake) †	64.6	Twin Lakes, Homestake, Colorado Canal, Exchange, and Turquoise Lake CF&I waters
FVA System	12.8	Fryingpan-Arkansas Project and Exchange waters
Ground Water System	4.5	Ground water Supplies
Total	**174.9**	

† Physical capacity is 68 mgd; however, 3.4 mgd is used to supply water to the City of Woodland Park.

Source: MWH 2005.

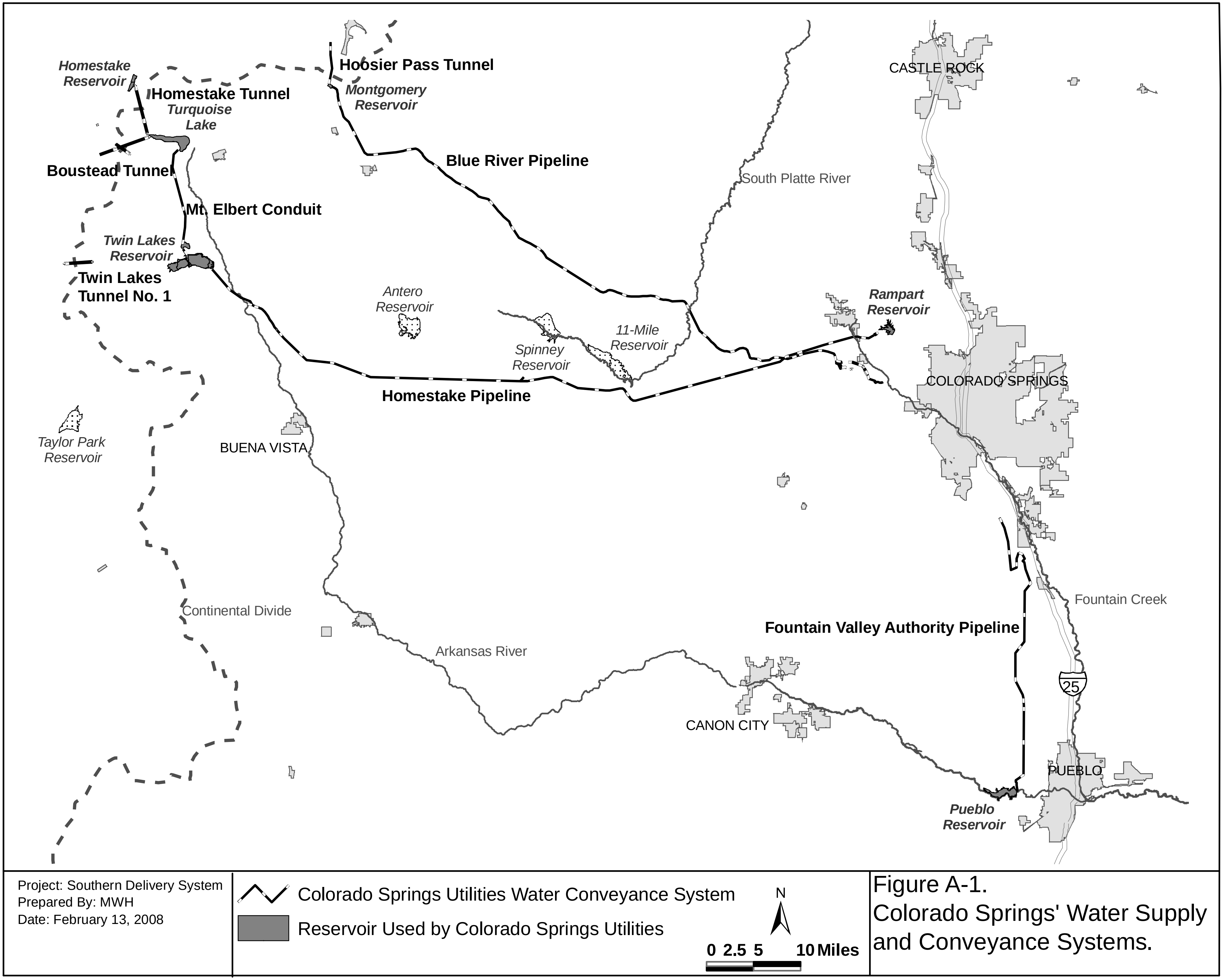
1871 to streams in the Fountain Creek Basin that flowed through town. The Local System includes nine subsystems on and around Pike's Peak. These systems have a firm yield of 36,000 ac-ft/yr (about 32.2 mgd), which includes releases of 17,200 ac-ft/yr (about 15.4 mgd) from storage. The SMAD of the Local System is 38,100 ac-ft/yr (about 34.0 mgd). Local System yields include the use of Colorado Springs' local exchange program.

Blue River System

Built in the 1950s, the Blue River System was the first transmountain system operated by Colorado Springs. The Blue River project diverts water from the Blue River and its tributaries above Breckenridge, Colorado. The Blue River is tributary to the Colorado River. Diverted water is conveyed under the Continental Divide to Montgomery Reservoir on the Middle Fork of the South Platte River. At Montgomery Reservoir, Blue River water is combined with a small amount of water diverted from the South Platte River and conveyed to Colorado Springs via the Blue River pipeline. The firm yield of the Blue River System is 7,800 ac-ft/yr (about 7 mgd) and the SMAD is 8,100 ac-ft/yr (about 7.2 mgd).

Homestake Delivery System

The Homestake Delivery System consists of the Otero Pump Station, the Twin Rock Pump Station, and the Upper and Lower Homestake pipelines. The system typically delivers water to Colorado Springs from the Homestake, Twin Lakes, Arkansas River Exchange, Colorado Canal, and Turquoise Lake CF&I Systems. These projects are briefly described in the following sections. The firm yield delivered from the Homestake Delivery System is 64,700 ac-ft/yr (about 57.8 mgd), which includes releases from storage. The SMAD for the Homestake Delivery System is 71,500 ac-ft/yr (about 63.8 mgd). With a delivery capacity of 64.6 mgd, this system operates near maximum capacity to provide a SMAD of 64 mgd.



Project: Southern Delivery System
Prepared By: MWH
Date: February 13, 2008

Figure A-1.
Colorado Springs' Water Supply and Conveyance Systems.

Homestake Project

The Homestake Project is a transmountain project that diverts water from the headwaters of Homestake Creek and its tributaries. Homestake Creek is a tributary of the Eagle River, which is a tributary of the Colorado River. Diverted water is stored in Homestake Reservoir, and is conveyed to Turquoise Lake via the Homestake Tunnel and Lake Fork Creek. Water is conveyed to Colorado Springs via the Homestake Pipeline and the Otero Pump Station. The yield from the Homestake System is shared equally between Colorado Springs and the City of Aurora.

Twin Lakes System

The Twin Lakes System conveys trans-mountain diversions from the Roaring Fork River and its tributaries, and from Lake Creek, which is a tributary of the Arkansas River. It was built in two phases; the Twin Lakes were built in the 1890s and the Twin Lakes Transmountain Diversion System was built in the 1930s. Flows diverted from the Roaring Fork River and its tributaries are stored in Grizzly Reservoir and conveyed under the Continental Divide through Twin Lakes Tunnel No. 1, then into Lake Creek and Twin Lakes. Twin Lakes is on Lake Creek, where Lake Creek diversions provide additional water. From Twin Lakes, water is conveyed to Colorado Springs via the Homestake System. The Twin Lakes System is owned and operated by the Twin Lakes and Canal Company, a Colorado mutual ditch and reservoir company. Colorado Springs owns 54.7 percent of stock in the company.

Arkansas River Exchange

Many of Colorado Springs' water supplies are reusable sources, and its Arkansas River Exchange Program allows it to exchange its reusable wastewater effluent (return flows) flowing into Fountain Creek with various diversions in the upper Arkansas River Basin. Part of Colorado Springs' reusable water supply is discharged into Fountain Creek and ultimately the Arkansas River through wastewater effluent discharges. Another portion of Colorado Springs' reusable water supply is returned to Fountain Creek through irrigation return flows. These flows are the portion of irrigation water that is not used by growing plants or lost to evaporation. Eventually, these return flows enter Fountain Creek either through surface or subsurface flows. Effluent discharge and irrigation return flow derived from imported water can be stored, used, and exchanged by the importer. As population in the Colorado Springs' water service area increases, so will the opportunity for Arkansas River exchanges. Additional exchanges will be possible because of additional use and reuse of transmountain imports and consumptive use water. Between 1990 and 2003, the average annual yield of exchanges into Pueblo Reservoir (including reusable return flows from Fountain Creek and the Colorado Canal system) was approximately 22,300 ac-ft/yr (MWH 2005).

Colorado Canal System

The Colorado Canal System, originally an irrigation system but presently used mainly for municipal supply, is north of the Arkansas River and east of Pueblo. It is composed of three Colorado mutual ditch and reservoir companies partially owned by Colorado Springs. The companies and Colorado Springs' ownership percentage of each are the Colorado Canal Company (56.4 percent), the Lake Meredith Reservoir Company (51.9 percent), and the Lake Henry Reservoir Company (77.2 percent). The yield from this system can only be used through exchange upstream to existing delivery systems. The current yield from the Colorado Canal System is highly variable because of the junior nature of these water rights.

Turquoise Lake Storage and Colorado Fuel and Iron (CF&I) Rights and Storage
Turquoise Lake is on Lake Fork Creek, a tributary of the Arkansas River. Colorado Springs purchased water rights and 17,416 ac-ft/yr of storage space in Turquoise Lake from CF&I Steel Company. Colorado Springs uses the reservoir to regulate Homestake yield and to store water that is part of its Arkansas River Exchange Program.

Fountain Valley Authority System
The Fry-Ark Project was built between 1964 and 1975 and is a multipurpose transmountain water diversion and delivery project in southern and central Colorado. The United States owns and Reclamation operates all facilities associated with the Fry-Ark Project. Under contract with Reclamation, the FVA operates a pipeline that conveys Fry-Ark Project water from an outlet of Pueblo Dam to a water treatment plant about 17 miles southwest of Colorado Springs (Figure A-1). The pipeline is west of I-25 and near Fort Carson. Colorado Springs, Fountain, Security, the Stratmoor Hills Water District, and the Widefield Water and Sanitation District are FVA participants. Colorado Springs' firm yield from the Fry-Ark Project through FVA, including releases from storage, is 8,300 ac-ft/yr (about 7.4 mgd). The SMAD for the FVA System is 12,600 ac-ft/yr (about 11.3 mgd).

Ground Water System
Colorado Springs has developed 2,200 ac-ft/yr (about 2 mgd) of tributary and non-tributary ground water to help supplement existing potable supplies. Non-tributary ground water is water that is not hydrologically connected to a surface water source. It is similar to transmountain water because it is considered reusable. Non-tributary ground water contributes to Colorado Springs' reusable supplies.

Non-Potable Water System
Colorado Springs reuses a portion of its reusable return flows in its non-potable water system. The non-potable water system diverts reusable return flows from local streams and delivers the water to non-potable uses (primarily landscape irrigation) throughout the city, including golf courses, parks, and other landscaped areas. The Non-potable Water Master Plan, a component of the Water Resource Plan (Black & Veatch 1996), was completed in December 2001 (Black & Veatch 2001a). Several projects identified in the Master Plan have been completed or are currently under development. These projects have approximately doubled the amount of non-potable water use. The Master Plan is being updated to optimize the use of non-potable water. In addition, Colorado Springs is finalizing a non-potable water strategy project with the objective of improving its long-term plan for the development, management, and use of its non-potable water resources.

Untreated Water Treatment and Distribution
Colorado Springs' untreated water treatment capacity is about 205 mgd (about 630 ac-ft/day) from six untreated water treatment facilities; its treated water storage capacity is about 105 million gallons (about 322 ac-ft) using 34 covered reservoirs and tanks. Maximum peak water use in a single day was about 182 million gallons (558 ac-ft) in July 2001, nearly 90 percent of capacity. Treated water is supplied to five primary pressure zones (geographic areas) mainly by gravity

through a system of distribution mains, pressure reducing valves, and storage reservoirs. These five primary pressure zones (Briargate, Templeton, Northfield, Highline, and Lowline) are divided into numerous secondary service levels (Figure A-2).

Water System Limitations

Delivery capacity is the amount of water available to meet demands through the combination of delivery system components. Because of the interconnected and complex nature of the Colorado Springs water system, and supply and distribution limitations, delivery capacity is not the sum of the firm yields of the individual water systems. Rather, it is the amount of the demand that can be met by the entire water system.

The firm yield of Colorado Springs' supplies (119,000 ac-ft/yr or 106 mgd, shown in Table A-1) is less than the existing infrastructure's delivery capacity (196,100 ac-ft/yr or 174.9 mgd, shown in Table A-2). This difference of 77,100 ac-ft/yr (68.8 mgd) is due to limitations of water supply, timing of those supplies to the conveyance systems, and limited demand in some portions of the distribution system. Major system limitations are described in the following section.

Local Delivery System

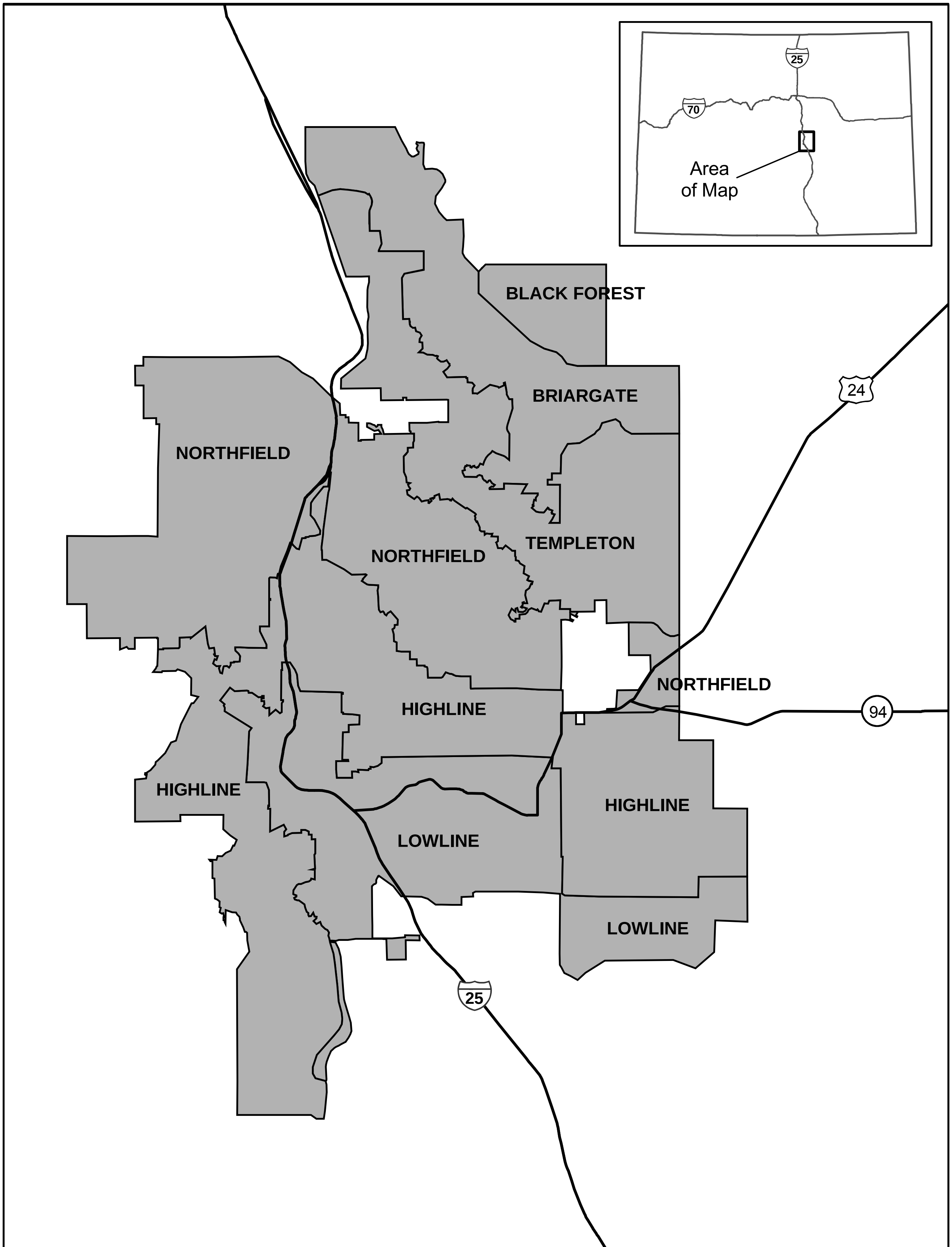
The physical pipeline capacity of the Local Delivery System is about 73.0 mgd (81,800 ac-ft/yr), which exceeds the available firm water supply (38,900 ac-ft/yr or 34.7 mgd of yield) by about 38.3 mgd (42,900 ac-ft/yr). Use of the Local System is constrained by a combination of four related factors.

First, the amount of water physically available on an annual basis is less than the instantaneous hydraulic capacity of the collection and delivery systems. These facilities are designed to capture high flows during the peak runoff season. However, these available high flows have a relatively short duration in the spring. During the balance of the year, these facilities are not used to their full capacity because of lower available flow rates.

Second, a large portion of the water that can be collected and delivered through the Local System is diverted under direct flow water rights, which cannot be stored and must be put to immediate use. During peak flow conditions, such as spring runoff, the supply from the local sources far exceeds the demand for water at the time it is available. Colorado Springs historically has sized its direct flow diversion structures and pipelines to capture a large portion of these flows and is implementing improvements to optimize the use of this water. However, because of limited demand, Colorado Springs cannot put the excess portion of these peak flows to use.

Third, the Mesa water treatment plant, which treats the Local System water, serves the two lowest (elevation) pressure zones in the water distribution system (Lowline and Highline shown on Figure A-2), and these pressure zones have a demand that is typically less than the available local water supplies. Elevation differences between the Mesa plant and the higher pressure zones and limitations in the distribution system currently limit delivery of this water to higher service levels.

Lastly, four different delivery systems feed into the Mesa plant pressure zones (Lowline and Highline). These are the Local System, the Blue River System, the FVA System, and a portion of the Ground Water System. These supplies are all available to serve the limited demands available in these service levels, so when demand is low, one or more of these systems are not currently needed to deliver water at their full capacity.



Project: Southern Delivery System
Prepared By: ERO Resources Corp.
Source: Colorado Springs Utilities
Date: August 25, 2005

Colorado Springs' Primary Water Service Levels

0 1.5 3 Miles

Scale 1 Inch = 3 miles

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Figure A-2. Colorado Springs' Primary Pressure Zones.

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Colorado Springs recently completed construction of a pipeline connecting the Highline and Northfield pressure zones. This project will allow water to be moved from a lower to a higher pressure zone, reducing the latter two limitations.

Blue River System

The delivery capacity of Blue River pipeline is constrained to the amount of water legally available. The physical pipeline capacity of about 22,400 ac-ft/yr (20 mgd) exceeds the firm yield of 7,800 ac-ft/yr (7 mgd) and the SMAD of 8,100 ac-ft/yr (7.2 mgd). Because this system is remotely located and physically isolated, no other developed sources of water can be delivered through this system.

Homestake Delivery System

As discussed previously, this system is operated at capacity. A portion of Colorado Springs' water supplies on the Arkansas River cannot be delivered because of the capacity constraints.

FVA System

Demand and distribution system constraints limit this system's capacity. The FVA pipeline provides water to the lowest elevations of Colorado Springs, primarily the Lowline pressure zone. It is anticipated that the Highline to Northfield project will enable Colorado Springs to increase its use of the FVA System.

Ground Water Systems

The Denver Basin Ground Water System delivers water from a confined aquifer, a non-renewable resource, directly to the potable water distribution system. Therefore, this system is limited by pumping capacity of the existing wells and City of Colorado Springs policy that recognizes the non-renewable nature of this supply.

Another well system (Pinello Ranch Wells) supplies the Lowline pressure zone, and is subject to the same demand and distribution constraints discussed previously. Withdrawals of water from the Widefield Aquifer are limited by various agreements. Due to this limitation, Colorado Springs can only make use of about 1,100 ac-ft/yr (1.0 mgd).

Existing Water Rights

Colorado Springs' existing water rights portfolio includes numerous decreed water rights on local streams in the Fountain Creek Basin (Local System), decreed exchange rights in the Local System and the Arkansas River, and interests in federal and non-federal water projects that divert water from the Arkansas, Colorado, and South Platte River basins. This diverse water rights portfolio provides Colorado Springs a safe and reliable water supply to its service area. Most of these water rights are used currently by its existing customer base; therefore, only a portion of the water rights portfolio is proposed for use with the SDS Project.

In addition to the direct flow surface water rights, Colorado Springs has the right to make exchanges of water in the Arkansas River Basin and Fountain Creek Basin through its Exchange Program and associated decrees. Several of Colorado Springs' water sources are reusable sources, including all transmountain water and Colorado Canal waters. These waters can be reused in Colorado Springs' non-potable distribution system, used for well augmentation, exchanged upstream in the Fountain Creek Basin or exchanged upstream in the Arkansas River Basin. These exchange water rights are Colorado Springs' primary supplies for the SDS Project.

Exchange decrees require that the quality of the exchange water be sufficient for historical use by downstream users. In general, for Colorado Springs, this means that any reusable return flows released for exchange purposes must be suitable for irrigation. Chapter 3 includes a water quality study that evaluates the effects of the alternatives on water quality.

Priority of Use

Colorado Springs' priority of use of its water rights is dictated primarily by the exercise of water rights in priority as administered by the Colorado Division of Water Resources in Water Divisions 2 and 5 and to a limited extent Division 1. Overall, within the water rights priority system, Colorado Springs' first operational consideration is to maximize the use of the Local System. Other considerations include: 1) maximizing beneficial use of reusable sources by moving water from carryover storage and Arkansas River Basin to local terminal storage systems described previously; and 2) maximizing exchanges to maintain adequate reservoir storage levels. Ground water is used to a limited extent to supplement both the non-potable and potable systems, as well as for emergency use.

Reuse of Imported Water Return Flows

Both direct and exchange reuses are employed by Colorado Springs. Direct reuse involves using reclaimed wastewater or similar return flows for beneficial uses such as turf watering. Exchange reuse involves discharging treated wastewater into the Arkansas River via Fountain Creek to replace untreated water delivered from the Arkansas River higher in the watershed (Figure A-3). Exchange reuse also includes replacing diversions in local watersheds, and augmenting well pumping.

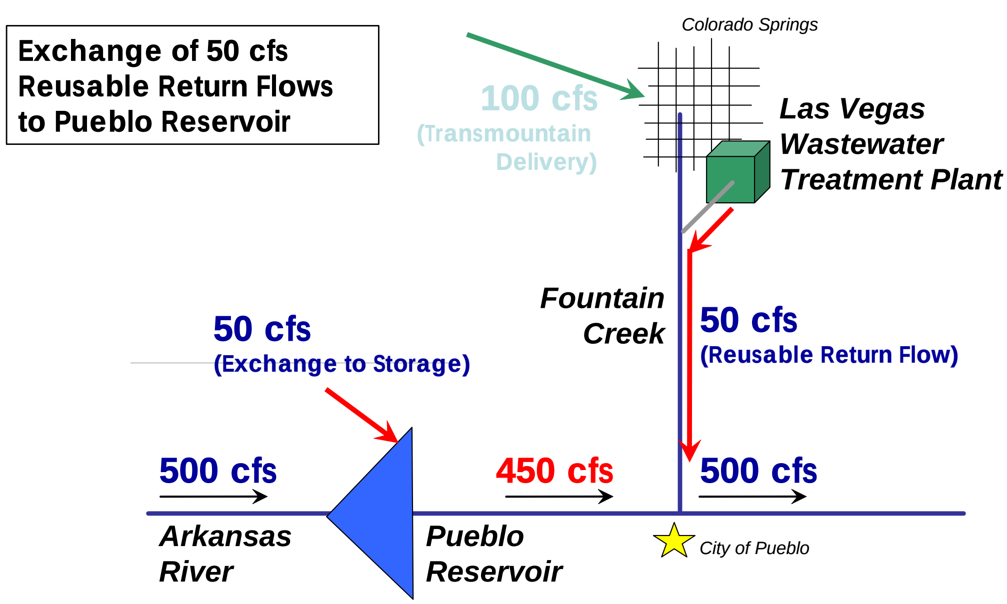


Figure A-3. Hypothetical Example of an Exchange.

The amount of water available for reuse depends on the amount of reusable water delivered to the system and the consumptive use within the distribution system. Based on present projections, the total return flow available in 2046 for reuse, either directly or by exchange, is expected to be about 82,900 ac-ft/yr when all reusable water sources to which Colorado Springs currently has rights are developed. These return flows can then be reused until all reusable water is used to extinction.

Ground Water Rights

Colorado Springs estimates it could develop a limited amount of ground water from several aquifers in the northern and northeastern parts of Colorado Springs. These aquifers are part of the Denver Basin Ground Water System and are considered non-tributary and non-renewable (Colorado Division of Water Resources n.d.). Colorado Springs' policy limits water use from the Dawson, Denver, Arapahoe, Laramie-Fox Hills, and Dakota aquifers to emergency situations and limited irrigation purposes (Colorado Springs City Council Resolution 233-86). Colorado Springs is considering modifying this policy to allow limited, non-emergency use and use of ground water in firm yield estimates.

Colorado Springs also has a blanket augmentation plan (Division 2, case number 89CW036) that allows for the limited development of shallow, tributary ground water within the decreed augmentation plan area. Development of this source is limited by decree and local alluvial geology. Use of this water also requires full replacement of depletions to the stream system from other sources; therefore, this shallow ground water system does not add any yield to the total Colorado Springs water system.

A.2.1.2 Fountain

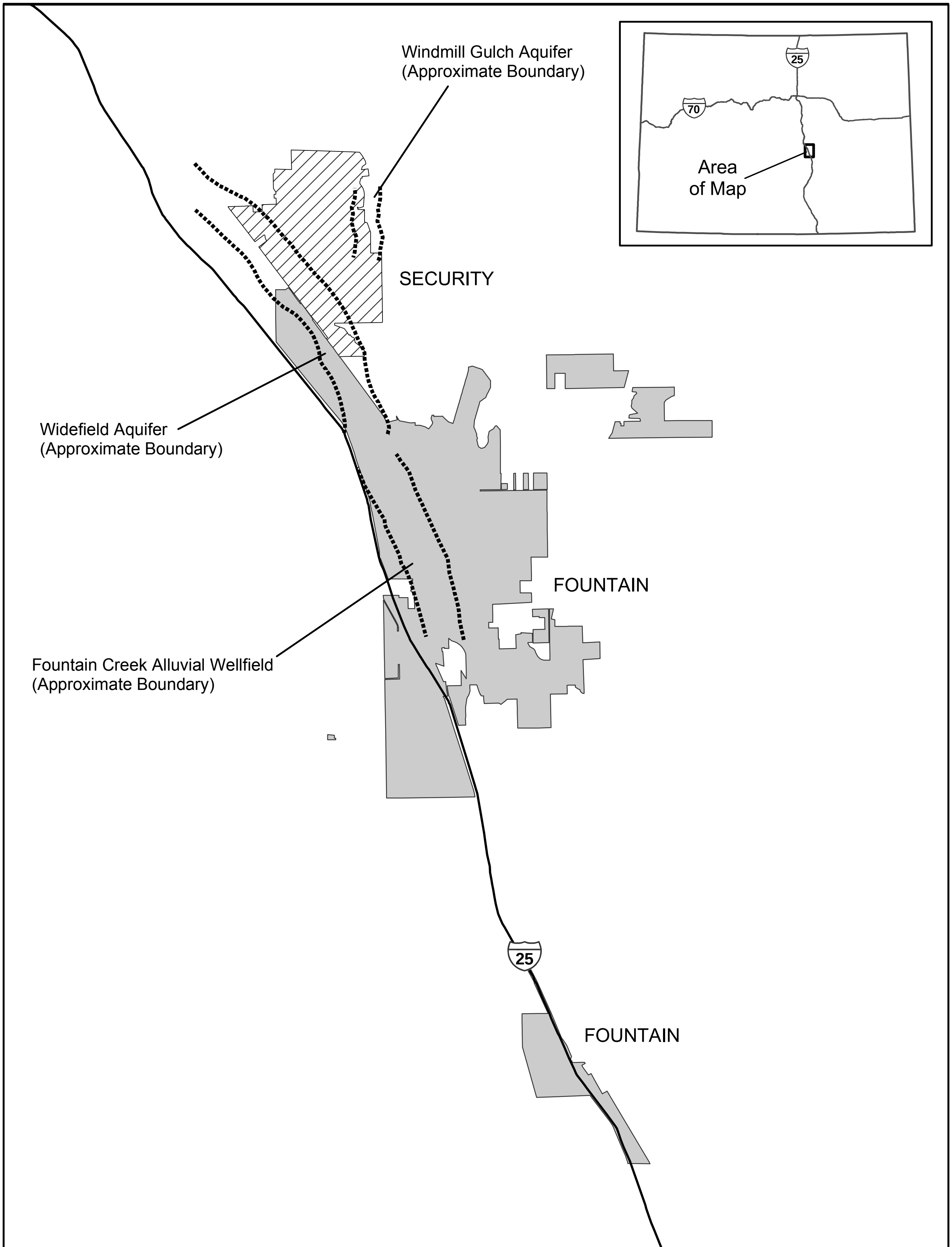
The City of Fountain is located in the south central Front Range of Colorado in the Fountain Valley (Figure A-4). The City has a population of about 15,000 people (Bureau of Census 2000). The City provides electric and water service. The water service area includes most of Fountain, but some residents obtain water from other sources. No water is imported or exported from the City's water system to other cities or water districts. Fountain's water system served about 13,370 people in 2000, representing about 88 percent of the City's population; Widefield and Security serve the City's remaining population. Fountain owns wells, storage reservoirs, pumps, regulating valves, and a network of distribution mains.

Existing Water Supply

The water supply for Fountain is from two sources: the Ground Water System and Fry-Ark Project through the FVA System (Table A-3). Existing water supplies are capable of providing a firm yield of 5,500 ac-ft/yr (4.9 mgd) and a SMAD of 6,700 ac-ft/yr (6 mgd) from surface water and ground water sources.

Fountain's share of the water conveyed through the FVA System provides Fountain with a firm yield and SMAD of 1,900 ac- ft/yr (1.7 mgd).

The Fountain Creek Alluvial Wellfield System is a collection of five wells that withdraw ground water from a shallow alluvial aquifer. The portion of the Fountain Creek Alluvial Wellfield used by Fountain generally is located between Fountain Creek and the Union Pacific Railroad near Fountain (Figure A-4). Fountain's wells are used during high demand periods primarily to supplement supplies. The current firm yield from this system is about 3,600 ac-ft/yr (3.2 mgd) and the SMAD (also



Project: Southern Delivery System
Prepared By: ERO Resources Corp.
Source: ERO Resources Corp.
Date: August 25, 2005

Fountain's Service Area
Security's Service Area

0 1 2 Miles
Scale 1 Inch = 2 miles

N

Figure A-4.
Fountain's and Security's Fountain Creek Alluvial Wellfield, Widefield Aquifer, and Windmill Gulch Aquifer Systems.

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Table A-3. Fountain's Current Water Supplies.

Source	Firm Yield		SMAD	
	ac-ft/yr	mgd	ac-ft/yr	mgd
Fountain Valley Authority System	1,900	1.7	1,900	1.7
Fountain Creek Alluvial Wellfield System[†]	3,600	3.2	4,800	4.3
Total	**5,500**	**4.9**	**6,700**	**6.0**

[†] SMAD and maximum yield are equal for ground water systems that are not affected by weather conditions.

Source: Black & Veatch 2004a, 2005, 2007.

the maximum yield) is 4,800 ac-ft/yr (4.3 mgd).

An additional 3.0 mgd of water may be obtained through a water exchange agreement with Widefield and Security.

Existing Water Rights

Fountain's existing water rights portfolio includes numerous decreed water rights on local streams in the Fountain Creek Basin, Fountain Creek alluvial aquifer rights, decreed exchange rights in the Arkansas River, and interests in federal and non-federal water projects that divert water from the Arkansas and Colorado River basins. Many of Fountain's water rights are used for augmentation of Fountain Creek alluvial aquifer withdrawals. Because most of Fountain's water rights are currently diverted with existing infrastructure to supply its existing customer base, only a portion of Fountain's existing water rights portfolio is proposed for use with the SDS Project.

A.2.1.3 Security Water District

The Security Water District is a public water district that is organized as a special district in the State of Colorado. Security supplies municipal water to properties inside its district boundary. The service area includes the community of Security and the surrounding area between the services areas of Colorado Springs and Fountain (Figure A-4). Located in the south central Front Range of Colorado in the Fountain Valley, Security serves about 18,000 people.

Existing Water Supply

Security's water supply is from four sources: Widefield Aquifer, Fry-Ark Project, Windmill Gulch Aquifer, and leased water (Table A-4). These supplies provide Security with a firm yield and SMAD of 4,614 ac-ft/yr (4.1 mgd).

Widefield Aquifer System

Security's Widefield Aquifer System is a collection of wells that withdraw ground water from a shallow aquifer. The portion of the Widefield Aquifer used by Security generally parallels Fountain Creek near the communities of Security and Widefield (Figure A-4). Security's use of the Widefield Aquifer is governed by stipulations and the Widefield Aquifer Management Plan. Under the most recent (2004) stipulations (Case No. W-116, District Court, Water Division 2, Colorado), Security has the right to use about 2,228 ac-ft/yr (2 mgd) from the Widefield Aquifer (Table A-4). It also has the right to an additional 670 ac-ft/yr (0.6 mgd) of the aquifer if adequate recharge is provided. The additional 670 ac-ft/yr is not shown in Table

Table A-4. Security's Current Water Supplies.

Source	Firm Yield and SMAD	
	ac-ft/yr	mgd
Widefield Aquifer	2,228	2.0
Fountain Valley Authority	1,546	1.4
Windmill Gulch Aquifer	240	0.2
Clear Springs Ranch lease[†]	600	0.5
Total	**4,614**	**4.1**

[†]Security leases water from Colorado Springs; lease expires in 2012.

Source: Security Water District 2003.

A-4 because Security will need to develop effective recharge capability before it could be used. Security has entered into a lease of an additional Widefield Aquifer allocation of approximately 600 ac-ft/yr (0.5 mgd) beginning in 2012 that will replace the 600 ac-ft/yr (0.5 mgd) of Clear Springs Ranch water when the lease expires in 2012. Security's Widefield Aquifer water is treated at each well and piped to the distribution system.

Fryingpan-Arkansas Project
Security also participates in the Fry-Ark Project. Security's water from the project is received through its participation in the FVA, which provides a firm yield and SMAD of 1,546 ac-ft/yr (1.4 mgd)/yr.

Clear Springs Ranch Lease
Security's Clear Springs Ranch lease is a water supply agreement with Colorado Springs, which owns and operates the Clear Springs Ranch wells. This agreement provides Security up to 600 ac-ft/yr (0.5 mgd) of untreated water through 2012. The water is pumped from three wells on Pinello Ranch to a receiving pit and pump station. The water is then treated and pumped to the distribution system in Security.

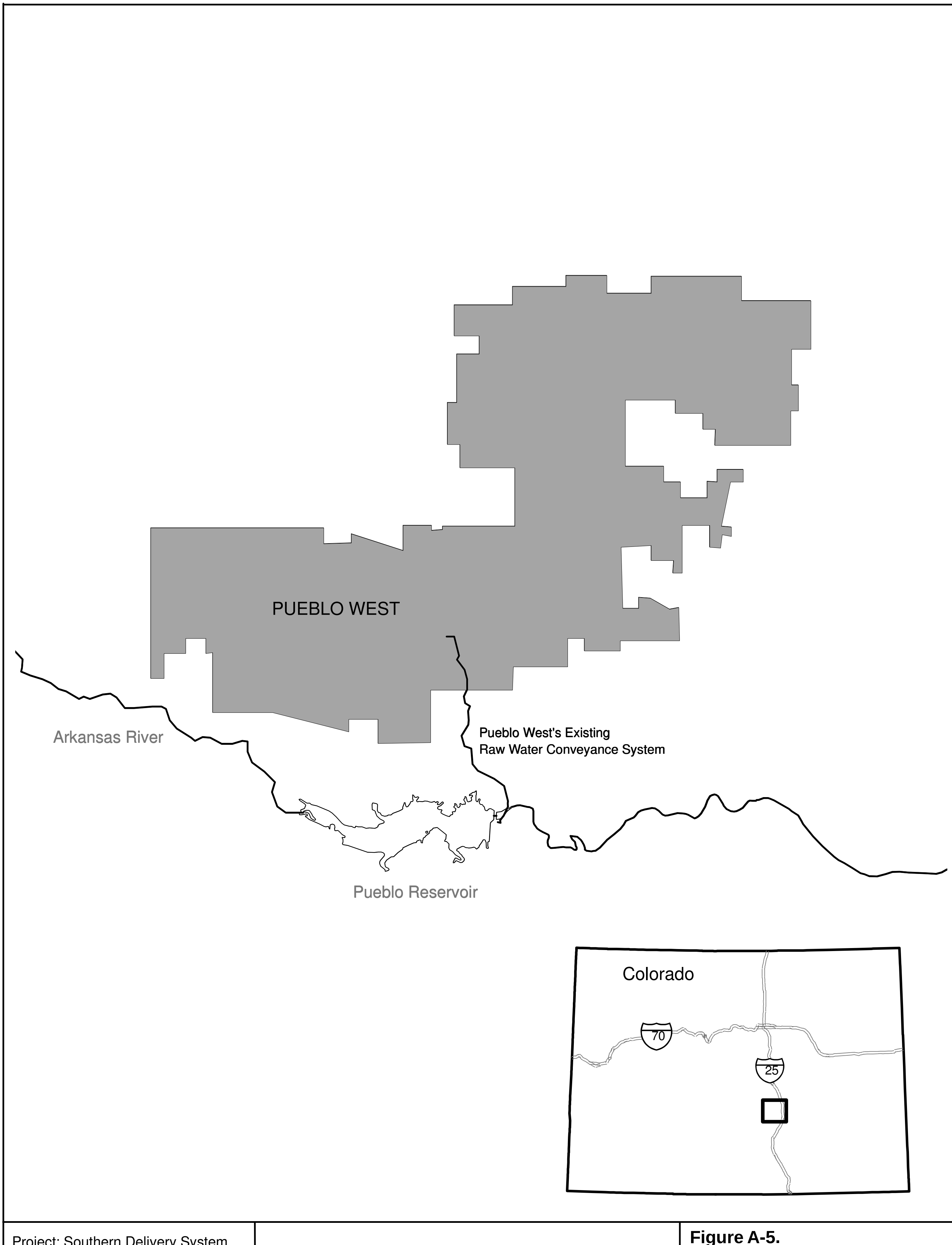
Windmill Gulch Aquifer
Security uses three wells in the Windmill Gulch Aquifer. The water is treated and pumped to the distribution system in Security. Additional wells may be developed. The yield for this aquifer is estimated to be 240 ac-ft/yr (0.2 mgd).

Existing Water Rights
Security's existing water rights portfolio includes numerous decreed water rights on local streams in the Fountain Creek Basin, Widefield and Windmill Gulch aquifers rights, decreed exchange rights in the Arkansas River, and interest in the Fry-Ark Project. Many of Security's water rights are used for augmentation of Widefield Aquifer withdrawals. Because a majority of Security's water rights are currently diverted with existing infrastructure to supply its existing customer base, only a portion of the water rights portfolio is proposed for use with the SDS Project.

A portion of Security's FVA return flows currently used to augment depletions associated with Widefield Aquifer withdrawals would be used in the SDS Project through exchanges. Security likely would obtain about 600 ac-ft/yr of local ditch shares to replace this augmentation water.

A.2.1.4 Pueblo West
Pueblo West is a community about 10 miles west of Pueblo, Colorado (Figure A-5). Pueblo West is a Metropolitan District that provides water, sewer and fire protection services, as well as maintenance of streets and parks to about 17,000 people.

Existing Water Supply
Pueblo West relies on one main water delivery system, which delivers a portion of it's surface water rights. The remaining surface water



Project: Southern Delivery System
Prepared By: MWH
Source: Pueblo West Metropolitan District
Date: August 25, 2005

Figure A-5.
Pueblo West Service Area and Conveyance System.

Filepath: [G:\GIS\AppA\PW_System_A-5.mxd rights would be delivered either through the SDS Project or a new pipeline from the Arkansas River. The existing delivery system consists of a pipeline originating at Pueblo Dam and terminating at Pueblo West's existing water treatment plant. A parallel pipeline was built in 2005 to provide redundant conveyance capacity. Pueblo West's existing water supply provides a firm yield of about 5,900 ac-ft/yr (5.3 mgd) and SMAD of 10,800 ac-ft/yr (9.6 mgd) from several water rights.

Six wells south of Highway 50 are currently used to supplement non-potable irrigation water to Pueblo West's golf course. Historical use of these wells was up to 894 ac-ft/yr (WRC Engineering 1998).

Existing Water Rights

Pueblo West's existing water rights portfolio includes a mixture of surface, ground water, and exchange rights. Surface water from the western slope of Colorado is diverted to Pueblo West through its ownership in the Twin Lakes and Canal Company. Non-tributary ground water is available to Pueblo West through 18 wells located throughout the district. Arkansas River Basin supplies include Pueblo West's partial ownership in Twin Lakes and Canal Company, Wheel Ranch Ditch right, and Colorado Canal water rights. The Wheel Ranch Ditch right and Colorado Canal water rights provide no firm yield. Reusable sewered return flows have been decreed to Pueblo West.

A.3 Participants' Conservation Programs

This section describes the water conservation programs for Colorado Springs, Fountain, Security, and Pueblo West. Conservation and reuse are common to all of the alternatives and is being implemented independently of the SDS Project.

A.3.1 Colorado Springs Water Conservation Programs

On December 31, 2007, Colorado Springs submitted an updated water conservation plan to the Colorado Water Conservation Board (CWCB) for review and approval (CSU 2007). The plan was approved by the CWCB on January 30, 2008. The 2008-2012 Water Conservation Plan complies with the Water Conservation Act of 2004 and follows the Water Conservation Plan Development Guidance Document and Model Plan established by the CWCB to assist water providers in developing water conservation plans. The draft plan was made available for public review and comment from November 15, 2007 through December 15, 2007.

The scope of the 2008-2012 Water Conservation Plan includes a statement of water conservation goals, followed by an analysis and description of selected programs. In addition, the plan addresses the process by which Colorado Springs identified, screened, and selected programs for implementation. The plan further describes how Colorado Springs will implement and monitor individual programs. Copies of the plan are available on Colorado Springs' web site at www.csu.org.

The conservation goals identified in the 2008-2012 Water Conservation Plan include:

- Maintain low residential use per capita, already among the lowest in Colorado and the Southwest
- Gain a better understanding of how commercial customers use water in order to reduce commercial use per customer
- Reduce peak day demand, specifically in geographic areas with high

residential use per capita and high peaking factors

- Develop and maintain collaborative relationships that encourage water conservation and efficient water use throughout the region
- Establish a reputation as a national leader in water conservation and efficient water use by implementing programs that are sustainable.

The implementation strategies identified in the 2008-2012 Water Conservation Plan include:

- Continue a strong focus on education
- Continue to encourage conservation through block rates for residential customers and seasonal rates for commercial customers
- Introduce a residential new construction program that includes education, incentives and regulations
- Introduce a commercial and industrial program that includes indoor and outdoor water use audits, efficiency incentives plus access to automated meter reading data
- Partner with large water users (i.e., parks, schools, military) to improve water efficiency

While developing the 2008-2012 Water Conservation Plan, Colorado Springs evaluated conservation measures by category (i.e., education, rates, rebates, audits, and regulations) and by market (i.e., indoor vs. outdoor, residential vs. commercial, new vs. existing construction). Final programs were selected based on water savings, cost-effectiveness, social acceptance, likelihood of success, and business and system impacts.

Using 1999 as the baseline year, Colorado Springs expects to save 30 billion gallons of water by 2017, which represents approximately 7.6 percent of the water demand forecast.

In total, Colorado Springs plans to develop and manage a portfolio of twenty-three conservation programs. Implementation of new programs identified in the 2008-2012 Water Conservation Plan will begin as early as 2008. For each individual program, a detailed implementation plan will be developed. Colorado Springs will involve the public through customer surveys and working groups in the development of individual programs. The following new programs are planned for implementation in the 2008-2012 timeframe:

- Builder Incentive Program
- Commercial Car Wash Certification
- Commercial High-Efficiency Toilet Rebate
- Commercial High-Efficiency Urinal Rebate
- Commercial Indoor Audit Program
- Commercial Indoor Efficiency Incentives
- Commercial Outdoor Audit Program
- Commercial Outdoor Efficiency Incentives
- Commercial Smart (ET) Controller Rebate
- Landscape Establishment Permits
- Pre-Rinse Spray Nozzle Retrofit
- Residential Smart Irrigation Rebate
- Residential Sprinkler Check Program
- Water Waste Ordinance

In addition to the new programs identified in the 2008-2012 Water Conservation Plan, Colorado Springs will continue to support existing conservation programs that are consistent with state regulations, operational needs, and community values. These include:

Conservation Education. Colorado Springs has a comprehensive education program, which includes a Xeriscape Demonstration Garden and a Conservation and Environmental Center that is free and open to the public. Educational materials are distributed through the Conservation and Environmental Center, customer newsletters, schools, community events, the web site, and local media. Free classes, tours, and speakers are offered to students, homeowners, and civic and business groups. The school program features curriculum developed in partnership with local educators. Colorado Springs also co-sponsors the annual Peak to Prairie Landscape Symposium, which draws 200 to 400 attendees interested in water-wise landscaping in the semi-arid west.

Residential Block Rates. Increasing rate structures, or tiered rate structures, encourage conservation by increasing the cost of water with increasing use. Inclining block rates were introduced to residential customers in 2002. In 2006, the block rates were changed from seasonal to year-round. The block rates provide an affordable rate for essential indoor use, a moderate rate for typical outdoor use and an aggressive rate for excess use.

Commercial Seasonal Rates. Seasonal rates were introduced to the largest water users in 1994. In 1999, the remaining commercial and industrial customers were added to the seasonal rate. In 2002, all master-metered residential customers were added to the seasonal rate. The commercial seasonal rates encourage conservation during the summer months when the greatest demands are placed on the water system.

Commercial Landscape Code and Policy. In 1998, Colorado Springs adopted a Landscape Code requiring water-efficient landscaping for newly developed commercial, industrial, and multi-family sites. Colorado Springs plans to update the Landscape Code and Policy in the coming years. Given recent advancements in irrigation technology and changing customer expectations, the existing code needs review. Elements under consideration include stricter enforcement procedures and smart (ET) controller requirements. Colorado Springs will engage key stakeholders in the code review process.

Residential Rebates. Colorado Springs began offering rebates in 2002, when the community first entered mandatory water restrictions. From 2002 through 2006, Colorado Springs issued just over 10,000 rebates for the purchase of ENERGY STAR™ clothes washers. Colorado Springs also offers rebates for high-efficiency toilets. For outdoor use, Colorado Springs offers rebates to residential customers for installing efficient irrigation equipment, including irrigation controllers, rain sensors, spray heads with check valves and rotating multi-stream nozzles.

Water Mains Replacement Program. Colorado Springs, like many other communities, is experiencing an increase in breaks in its potable water distribution pipelines due to aging infrastructure. Most pipeline breaks can be attributed to corrosive soils, faulty materials, ground movement, and water pressure. The purpose of the Water Mains Replacement Program is to proactively and strategically manage the Colorado Springs' rehabilitation and replacement efforts to optimize the investments made to the system.

To select the most beneficial projects, assessment of infrastructure records, environmental conditions and field maintenance activity logs are conducted.

Projects are prioritized according to a risk prediction rating. Considerations impacting prioritization include leak history, leak cause, soil characteristics, water pressure and pipe material, age and diameter. Implementation of the program helps stabilize service reliability, reduce system losses, and streamline costs by coordinating work with other agencies (i.e., street resurfacing).

Other programs include Online Water Efficiency Profiles and the Home Efficiency Assistance Program (HEAP).

A.3.2 Fountain Water Conservation Program

On November 7, 2008, Fountain submitted an updated water conservation plan to the CWCB for review and approval (Wheeler 2008). The plan is presently under review by the CWCB. The Water Conservation Plan 2008 Update and Revision complies with the Water Conservation Act of 2004. The draft plan was made available for public review and comment in September and October 2008. Copies of the plan are available on Fountain's web site at www. fountaincolorado.org.

Fountain's plan includes the use of water-efficient fixtures and appliances, installation of low-water-use landscapes, efficient irrigation, and development of water-efficient industrial and commercial processes, water reuse systems, distribution system leak repair, information dissemination, water rate structures and billing systems, regulatory measures, conservation incentives, and other measures.

Fountain expects conservation to reduce its 2046 demand by about 3,300 ac-ft, which represents a reduction of about 20 percent.

Fountain is fully metered and has implemented a tiered rate structure. Residential and commercial customers are charged according to an increasing block rate structure. Residential and commercial customers have a five-tiered rate that increases with increasing water use. Additionally, rates differ by tap diameter. For typical residential customers, the first tier is a minimum rate of $22.82 for up to 3,000 gallons. Rates for tiers two through five are applied for additional increments of 3,000 to 5,000 gallons and increase by 10 to 18 percent with each tier.

Non-potable ground water is used for landscape irrigation at several locations and opportunities for expansion of this program are being evaluated. Fountain's conservation program is being implemented independent of the SDS Project. The effects of these conservation efforts are reflected in Fountain's future water use projections.

A.3.3 Security Water Conservation Program

Security's water conservation program is described in its Water Conservation Plan (Security Water District 2004). Security became fully metered in 2003 and has implemented a tiered rate structure. Residential and commercial customers have a four-tiered rate that increases with increasing water use. For residential customers, the first tier is a minimum rate of $7.50 for up to 7,500 gallons for residential customers and $10.00 for commercial customers. Rates for tiers two through four are applied on a per 1,000-gallon basis and increase by 18 to 25 percent with each tier. Security is investigating development of a water reuse program involving recharge of the Widefield Aquifer, described previously. Security anticipates about 450 ac-ft/yr (0.4 mgd) of its future demand will be fulfilled through conservation.

A.3.4 Pueblo West Water Conservation Program

In 1999, Pueblo West adopted a Community Plan (PWMD 1999) that outlined water conservation goals. Pueblo West developed a xeriscape demonstration garden and offers free seminars, demonstrations, and counseling. A tiered rate structure was developed to charge residential and commercial customers according to an increasing block rate structure.

Pueblo West also has a water conservation and drought contingency plan (PWMD 1987) that provides water conservation measures in each of five stages of drought. Conservation measures include voluntary and mandatory watering restrictions, increased water rates, and restrictive use of hydrants and car washes. Violators can be issued a warning, or fined up to $500 and have their water service discontinued.

A.4 Participants' Previous Water Resource Planning

A.4.1 Colorado Springs

Colorado Springs conducted numerous studies since the late 1980s regarding alternatives for increasing water supplies to its service area (Black & Veatch 1989, 1994). These studies culminated in the 1996 Water Resource Plan (Black & Veatch 1996). An early version of the SDS Project was included as one of these initial alternatives. In addition, improvements to existing facilities were considered for increasing deliveries via the existing systems.

In 1996, Colorado Springs prepared a Water Resource Plan (Black & Veatch 1996) to define a water supply planning and management strategy through 2040. The 1996 Water Resource Plan identified untreated water conveyance system limitations and included recommendations for improvements to existing untreated water conveyance systems and recommendations regarding long-term major regional water supply projects. The 1996 Water Resource Plan concluded that Colorado Springs' firm yield from its various existing supply sources exceeded its ability to convey these flows into Colorado Springs for treatment and distribution. Accordingly, several improvements to the untreated water conveyance systems were considered and recommended for implementation. These improvements were completed by 2004, and increased the overall untreated water delivery capacity by about 20 mgd.

The 1996 Water Resource Plan determined that available water supply exceeds delivery capacity and that projected future demand would exceed available supply and existing delivery capacity. The Plan identified that a new delivery system from the Arkansas River to Colorado Springs is necessary.

Several projects have been implemented or are currently being implemented to increase the use of existing supplies. Some of these projects include distribution system improvements and transfer pipelines to increase the use of local water supplies. Projects for increasing existing systems are not described in this FEIS. The increased yield and capacity from these projects is reflected in Table A-1.

The 1996 Water Resource Plan evaluated seven new major water delivery system alternatives. These alternatives included three projects in the mountains west of Colorado Springs, two southern projects, and two wastewater reclamation projects. The Water Resource Plan also described the public involvement process used in identifying a recommended plan. The public involvement process included a series of public and agency meetings, focus groups, telephone surveys, questionnaires, and interviews. Public meetings were held at multiple locations throughout the Arkansas River Basin. The recommended alternative was the SDS Project with local terminal storage at Jimmy Camp Creek Reservoir augmented by Pueblo Reservoir storage and exchange storage at Williams Creek Reservoir. Key factors in selecting the recommended alternative were favorable environmental characteristics, public consent, and low cost (Black & Veatch 1996).

In 2001, the configuration and details of the SDS Project were re-evaluated to incorporate information developed after the 1996 Water Resource Plan, to include regional partners (Fountain and Security) in the system, and to update project costs (Black & Veatch 2001b). In 2002, a supplemental alternatives analysis was conducted to verify the cost effectiveness of the recommended system (Black & Veatch 2002). The 2002 alternatives analysis compared five alternatives and one subalternative. These alternatives were all variations of the southern delivery alternative and the wastewater reclamation alternatives described in the 1996 Water Resource Plan. Colorado Springs planned the SDS Project because of its comparatively low cost and superior non-cost characteristics.

After the 2002 alternatives analysis, Colorado Springs began detailed planning for the SDS Project. More detailed assessments of the project relative to actual site conditions and more detailed hydraulic analyses were conducted. These efforts were used to further refine the estimated project costs and configuration. Because these analyses resulted in higher estimated costs, Colorado Springs performed a final verification of the alternatives analysis in early 2003 (CH2M HILL 2003).

A.4.2 Fountain

Black & Veatch completed a Water System Master Plan for the City of Fountain in 2006 (Black & Veatch 2007). The Master Plan provided Fountain with a plan through 2046 for improvement and expansion of its water distribution system to meet water demands from anticipated population growth and commercial development within Fountain's service area. Using Fountain's (1999) Comprehensive Development Plan, and PPACG growth projections, the Master Plan forecasted a 2020 population of 42,000 and a 2046 population of 72,000 in Fountain's service area. Average day demand in the Plan was projected to increase from 2 mgd in 2000, to 6.8 mgd in 2020. The maximum day demand was projected to increase from its 2000 level of 5.2 mgd to 21.2 mgd in 2020. The Master Plan anticipated the SDS Project would meet this increased demand.

In 2004, Fountain completed a Water Resource Study to evaluate alternatives to supply water from Fountain's water rights in Fountain Creek and the Arkansas River (Black & Veatch 2004a). The study provided Fountain with information to assist it in determining its participation in the SDS Project. In 2006, Fountain completed a Water Master Plan (Black & Veatch 2007), which reaffirmed Fountain's participation in the SDS Project. This plan projected an average day demand of 11.8 mgd in 2046, and a maximum day demand of 30.2 mgd. Potential sources to supply the additional demand were ground water wells along Fountain Creek, the SDS Project, and other smaller supplies. Fountain decided to meet future demands with 2.25 mgd from the SDS Project, with the remainder from Fountain Creek ground water.

A.4.3 Security Water District

The Security Water District-Water System Master Plan was prepared by Security Water District and GMS, Inc. (2001). The Plan describes actual system demands from 1997 through 2001, and projected system demands from 2002 to 2022. Developable sites within the District were identified, and anticipated demands for each site estimated. Security assumed each single-family equivalent would use 0.5 ac-ft/yr. The analysis also projected demand for wet, average, and dry years. Wet and dry years varied from average years by 15 percent. The plan identified a future demand of 6,486 ac-ft/yr during dry years. Security uses projected dry year demands in planning its infrastructure and supply needs.

A.4.4 Pueblo West

The Pueblo West Metropolitan District Water Supply Analysis (WRC Engineering 1998) evaluated options to meet future water demands for Pueblo West. The analysis determined that existing supplies at that time were not sufficient to meet the projected water demand at build-out. Ground water development and acquisition of shares in two canal companies were compared. Acquisition of Colorado Canal/Lake Meredith shares and obtaining untreated water storage at or near Pueblo Reservoir were recommended.

In 2003, Reclamation completed an Environmental Assessment for the Pueblo West Pipeline and Pumping Station Project (Reclamation 2003). Reclamation issued a Finding of No Significant Impacts (FONSI) in the same year. The project includes construction, operation, and maintenance of River Pump Station No. 2, a 36-inch untreated water pipeline, diversion and river intake structure and generator. As discussed previously, the 36-inch untreated water pipeline was constructed in 2005. The balance of the proposed project is now Pueblo West's No Action Alternative in this FEIS.

Because this project has already been approved by Reclamation, Pueblo West is a conditional participant in the SDS Project. Should Reclamation select an alternative that does not meet Pueblo West's purpose and need, Pueblo West would likely proceed with development of the project approved by Reclamation in 2003.

A.5 Demand Forecasts

A.5.1 Colorado Springs

A.5.1.1 Approach

Colorado Springs uses a model that forecasts water demands based on population growth, historical use trends, price, economic activity, weather, and seasonal factors. Colorado Springs uses this model for a variety of purposes including sales and revenue forecasting, and capital planning. The primary model variable is the population projection by the Colorado State Demography Office for El Paso County. Colorado Springs periodically updates its forecast to ensure it accurately represents anticipated future conditions.

Colorado Springs developed a forecast for use in this FEIS in 2005 covering the period 2005 to 2027. The forecast supersedes previous forecasts and is used in all planning studies (Colorado Springs Utilities 2005a). Colorado Springs extended this forecast to 2046 using a stabilized growth rate at the end of the 2005 to 2027 forecast.

To assist in planning for future demands, Colorado Springs developed two demand scenarios: the "revenue forecast" scenario; and the "planning forecast" (Figure A-6). These

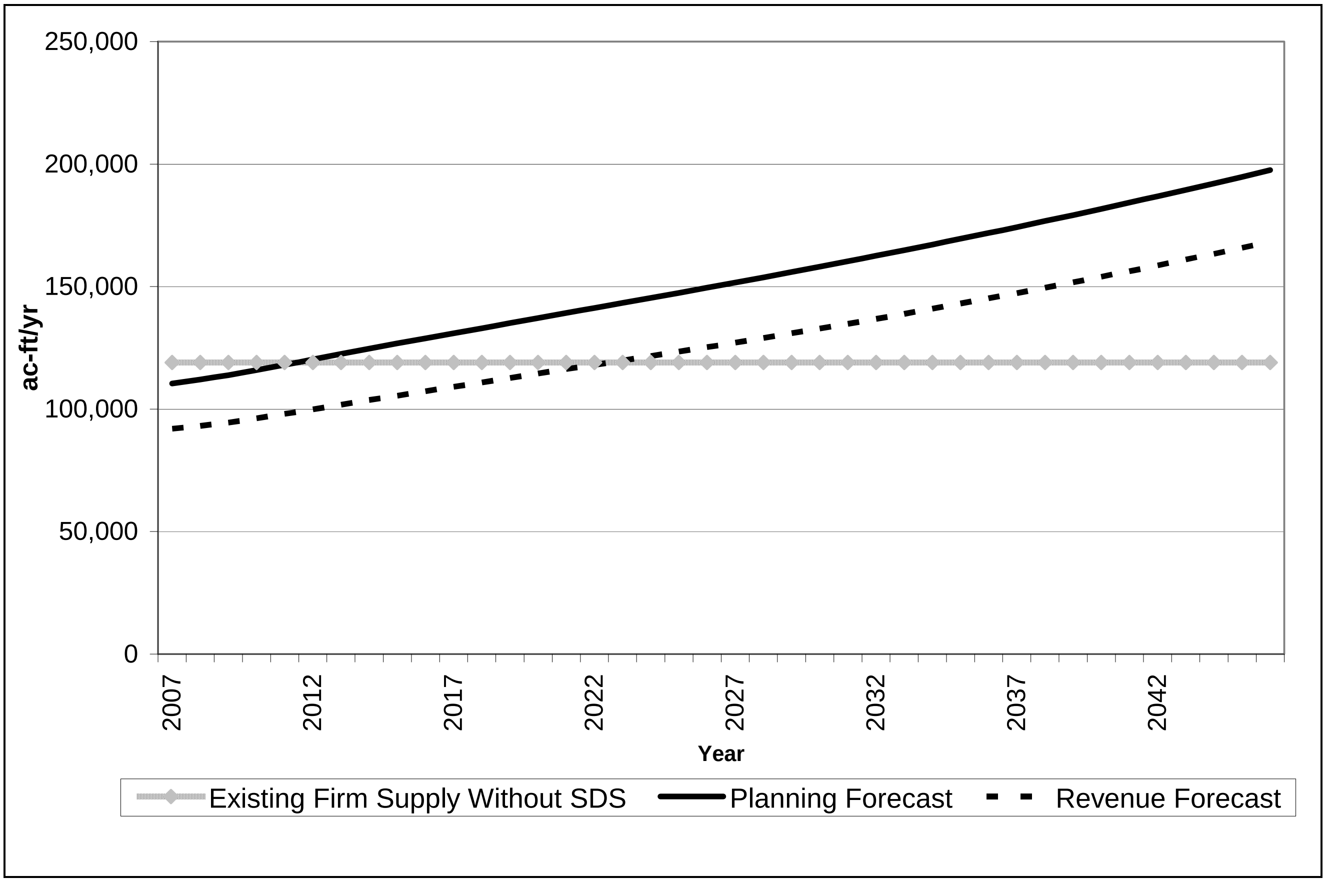


Figure A-6. Colorado Springs' Future Water Demands.

Source: Colorado Springs Utilities 2005a.

two forecasts serve distinctly different purposes.

The revenue forecast is a median forecast with equal probability of being high or low. It is used to predict future utility income, and provides a basis with which to plan future budgets and customer rates. Because the revenue forecast is used for these purposes, assumptions are made for median water use and revenue generated on average. For this reason, the revenue forecast assumes average weather conditions.

The planning forecast is used to ensure reliable water service and timing of major projects. The planning forecast is based on the revenue forecast. The planning forecast represents a water demand forecast for which actual water demands will be at or below the forecast at least 95 percent of the time. In terms of annual water demand, the planning forecast is higher than the revenue forecast because it reflects historical variation in weather and economic growth. Colorado Springs uses the planning forecast to estimate the likely water demand in each year.

A.5.1.2 Revenue Forecast

The revenue forecast uses the 2004 Colorado State Demography Office population projection and incorporates an 8 percent average annual growth in water rates from

2005 to 2013. Rate increases are based on anticipated future capital expenditures and expenses reflected in Colorado Springs Utilities' financial model. Water rates for 2013 to 2027 are assumed to grow at the same rate as the rate of inflation, which is about 2.6 percent per year. This is known as a "zero real" price forecast and results in price having no influence on the forecast, either up or down. The revenue forecast projections use the State Demography Office's growth rate of 1.4 percent for El Paso County population through 2027. Weather conditions, such as precipitation and temperature, are assumed to be normal for the period of 1971 to 2000.

In 2002, Colorado Springs started water restrictions for residential and commercial customers in response to the widespread drought in the western United States. Water-use restrictions have reduced water consumption significantly since 2002, and are an important consideration in the first several years of these forecasts. In both forecasts, two-day per week water restrictions are assumed to remain in place through 2005. No water restrictions are assumed after the spring of 2006 (Colorado Springs Utilities 2005b). Although the total water demand increases over time, the revenue forecast assumes there will be reductions in water use per customer because of the drought and watering restrictions. This is referred to as the "drought shadow" and is estimated to reduce use per customer about 5 percent below where it would have been. Other important assumptions in the revenue forecast are:

- Annual residential customer growth averaging 1.9 percent for the 2005 to 2014 period
- No new semi-conductor manufacturing, beyond the 2005 expansion of the Intel plant
- Water restrictions in 2005 and not thereafter

A.5.1.3 Planning Forecast

The planning interval forecast is developed from the statistical uncertainty in the regression equations used to develop the revenue forecast. The variation due to weather implicitly reflects hot, dry weather. The variation in economic growth is also reflected in the range provided by the planning interval forecast.

A.5.1.4 Single Family Residential Water Use

Water demand is sometimes examined and compared in terms of gallons per capita-day (gpcd). These projections assume that each Colorado Springs single family residential water customer will serve 2.83 people (Bureau of Census 1990, 2000). The approach and results are comparable with the Smart Water study by Western Resource Advocates (2003) (Figure A-7). The revenue forecast estimates residential water usage level of 111 gpcd.

A.5.2 Fountain

Like Colorado Springs, Fountain needs additional water to supply future population growth. Fountain uses revenue forecast and planning forecast scenarios. The planning forecast is similar to Colorado Springs' 95 percent confidence interval forecast. It is used for untreated water capacity planning purposes to ensure that adequate water infrastructure is in place to meet consumer demand. Both scenarios use PPACG population forecasts. Fountain estimates its population, excluding existing and future residents served by Widefield Water District, will increase from 13,370 in 2000 to 42,000 in 2046 using the revenue forecast. Estimated population in 2046 using the planning forecast is 72,000,

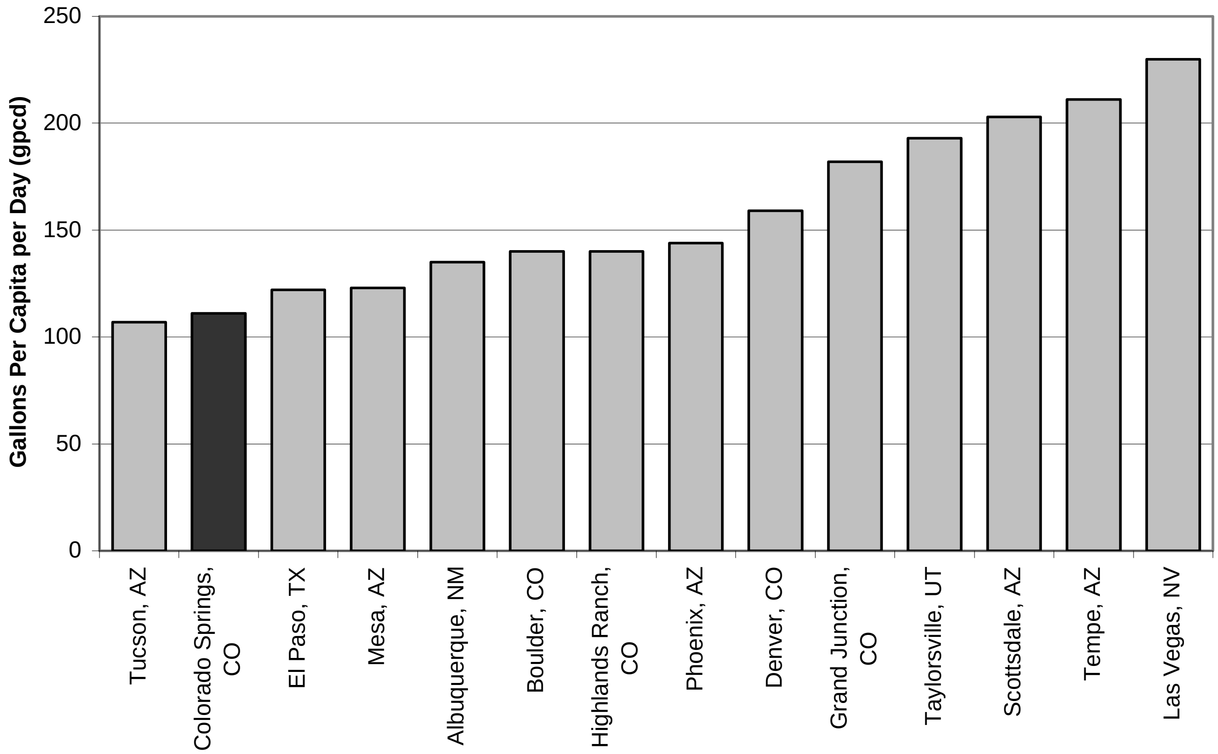


Figure A-7. Comparison of Single Family Residential Water Use.

Source: Western Resource Advocates 2003; Colorado Springs Utilities 2005a

excluding existing and future residents served by Widefield Water District (Black & Veatch 2007).

Based on the number and magnitude of development plans submitted to the City of Fountain, Fountain is basing future water demands on the planning forecast. The projected populations were used in conjunction with historical water use characteristics and an assumed reduction in average day residential demand of 20 percent through conservation to estimate future water requirements (Black & Veatch 2007). Using the planning forecast, Fountain's annual demand will increase from about 3,300 ac-ft/yr in 2006 to 13,200 ac-ft/yr in 2046 (Table A-5). The SDS Project would provide Fountain up to 2,500 ac-ft/yr. The balance of the annual demand would be met by development of local ground water supplies.

Table A-5. Fountain's Water Demand and Existing Supplies.

Year	Existing Supplies (ac-ft/yr)	Demands (ac-ft/yr)	Unmet Demand (ac-ft/yr)
2006	5,600	3,300	0
2016	5,600	6,500	900
2026	5,600	8,800	3,200
2036	5,600	11,100	5,500
2046	5,600	13,200	7,600

Source: Black & Veatch 2004b, 2007.

A.5.3 Security Water District

Similar to other Participants, Security needs additional water to supply future population growth. Security has prepared demand forecasts using wet, dry, and average years. The average year forecast is similar to the other Participants' revenue forecasts and the dry year forecast is similar to the other Participants' planning and 95 percent confidence interval forecasts.

Security estimates annual water demand based on single family equivalents (SFEs) and an assumed water demand of 0.5 ac-ft/yr per SFE for average years and 0.575 ac-ft/yr per SFE for dry years. Using the dry year forecast, Security's demand will increase from 5,353 ac-ft/yr in 2006 to 6,486 ac-ft/yr in 2022. At build-out, in 2025, Security will have an unmet demand of 2,472 ac-ft/yr (Table A-6).

Security anticipates needing the SDS Project to meet demands by about 2009. The SDS Project would provide up to 1,500 ac-ft/yr; about 410 ac-ft/yr will come from conservation, and the remaining will be supplied by a future water project.

Security has entered into a lease of an additional Widefield Aquifer allocation of approximately 600 ac-ft/yr (0.5 mgd) beginning in 2012 that will replace the 600 ac-ft/yr of Clear Springs Ranch water in case that lease is not renewed when it expires in 2012. If the Clear Springs lease is renewed, then the additional allocation that has been acquired will be used for peak demand. Under the most recent stipulation regarding the Widefield Aquifer management plan, Security can with draw up to an additional 670 ac-ft/yr from the aquifer if it provides effective recharge. Security is currently evaluating a Widefield Aquifer recharge project, which would provide additional water for peak demand.

Table A-6. Security's Water Demand and Existing Supplies.

Year	Existing Supplies (ac-ft/yr)	Demands (ac-ft/yr)	Unmet Demand (ac-ft/yr)
2006	4,614	5,353	739
2009	4,614	5,827	1,213
2015	4,014	6,388	2,374
2020	4,014	6,480	2,466
2025	4,014	6,486	2,472
2046	4,014	6,486	2,472

Source: Security and GMS, Inc. 2001.

A.5.4 Pueblo West

Similar to other Participants, Pueblo West needs additional water to supply future population growth. Pueblo West prepared both planning and revenue forecasts (PWMD 2004). Pueblo West estimates an increase in water taps served based on historical growth. The planning forecast assumes 700 taps added per year, and the revenue forecast assumes the 553 taps added per year, which was the average amount added between 2000 and 2004. Population is estimated based on a correction for commercial taps (about 8 percent of all water taps in Pueblo West) and assumes an average household size of 2.8 persons per household (Bureau of Census 2000).

Using the planning forecast, Pueblo West's demand will increase from 6,062 ac-ft/yr in 2006 to about 10,525 ac-ft/yr in 2018. At build-out in 2018, Pueblo West will be able to meet demand on an annual basis (Table A-7). However, Pueblo West will have an unmet peak-day demand of about 13 mgd (40 ac-ft/day) (Table A-7). Peak day demand of Pueblo West's water system is 1.4 times the average day demand (10-year average of annual maximum daily rate). Pueblo West's peak day demand supplied by the SDS Project would be 18 mgd. Pueblo West estimates that the cumulative annual firm yield from the SDS

Project would be 450 ac-ft/yr and the average yield from the SDS Project would be 1,100 ac-ft/yr (Higgins 2005).

Pueblo West anticipates needing the SDS Project to meet peak day demands by about 2009. Peak day shortfalls occurring prior to 2009 would be managed using water stored in tanks within Pueblo West's existing water distribution system.

Table A-7. Pueblo West's Peak Water Demand and Existing Capacity.

Year	Existing Capacity (mgd)	Peak Demands (mgd)	Unmet Peak Demand (mgd)
2006	12	14	2
2016	12	23	11
2026	12	25	13
2036	12	25	13
2046	12	25	13

Source: PWMD 2004.

A.6 References

Black & Veatch Corp. 1989. Raw Water Delivery Study for Colorado Springs, Colorado.

Black & Veatch Corp. 1994. Update to Raw Water Delivery Study for Colorado Springs Utilities.

Black & Veatch Corp. 1996. Water Resource Plan for Colorado Springs Utilities. Water Resources Department.

Black & Veatch Corp. 2001a. Nonpotable Master Plan. Black & Veatch Project No. 97271-0100. December 6.

Black & Veatch Corp. 2001b. Southern Delivery System Update for Colorado Springs Utilities.

Black & Veatch Corp. 2002. Supplemental Evaluations for Regional Water Infrastructure Authority.

Black & Veatch Corp. 2004b. Appendix A to Water Resource Study for Fountain, Colorado.

Black & Veatch Corp. 2005. Fountain Responses to EIS – Firm and Average Yields. Memorandum to Larry Patterson, City of Fountain.

Black & Veatch Corp. 2007. 2006 Water Master Plan. Prepared for City of Fountain. March.

CH2M HILL, Inc. 2003. Water Reclamation Assessment Cost Update for Colorado Springs Utilities.

City of Fountain (Fountain). 1999. City of Fountain Comprehensive Development Plan.

Colorado Division of Water Resources. n.d. Adjudication of Denver Basin Ground Water Rights. <http://water.state.co.us/groundwater/DenBasin_FAQ.asp>.

Colorado Foundation for Water Education (CFWE). 2003. Citizen's Guide to Colorado Water Law.

Colorado Springs Utilities. 2007. 2008-2012 Water Conservation Plan. Water Services Division, Water Supply Department, Water Conservation Section. Submitted to Colorado Water Conservation Board. December.

Colorado Springs Utilities. 2005a. Sales and Load Forecast 2005-2027.

Colorado Springs Utilities. 2005b. E-mail from Keith Riley to Bill Van Derveer (MWH) regarding comparison of Colorado Springs Utilities single family water use to Smart Water Report by Western Resource Advocates. 11 February.

Colorado Water Conservation Board (CWCB). 2002. Arkansas River Basin Facts.

Higgins, D. (Treatment Supervisor, Pueblo West Metropolitan District). 2005. “RE: Southern Delivery System Environmental Impact Statement - Information Request”. E-mail to Bill Van Derveer (MWH Americas, Inc.). August 9.

MWH. 2005. Raw Water Yield Study. Prepared for Colorado Springs Utilities.

Pueblo West Metropolitan District (PWMD). 1987. Article 12. Water Conservation and Drought Contingency Plan, Title 4 Water and Sewer, Rules and Regulations of Pueblo West Metropolitan District.

Pueblo West Metropolitan District (PWMD). 1999. Community Plan.

Pueblo West Metropolitan District (PWMD). 2004. Water Consumption Analysis.

Security Water District. 2003. Purpose and Need Questionnaire: Proposed Southern Delivery System.

Security Water District. 2004. Water Conservation Plan.

Security Water District and GMS, Inc. 2001. Security Water District: Water System Master Plan.

U.S. Bureau of Reclamation (Reclamation). 2003. Final Environmental Assessment for the Pueblo West Pipeline and Pumping Station Project, EC-1300-03-01. Reclamation, Eastern Colorado Area Office, Loveland, CO.

U.S. Census Bureau (Census). 1990. <http://factfinder.census.gov>.

U.S. Census Bureau (Census). 2000. <http://factfinder.census.gov>.

Western Resource Advocates. 2003. Smart Water: A Comparative Study of Urban Water Use Efficiency Across the Southwest. Western Resource Advocates, Boulder, CO.

W.W. Wheeler. 2008. City of Fountain, Water Conservation Plan 2008 Update and Revision. Prepared for City of Fountain, November 2008.

WRC Engineering, Inc. 1998. Pueblo West Metropolitan District Water Supply Analysis of Twin Lakes and Colorado Canal/Lake Meredith Water Rights. Prepared for Pueblo West Metropolitan District.

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Appendix B

Comments and Responses on the Draft Environmental Impact Statement

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B. Comments and Responses on the Draft Environmental Impact Statement

B.1 Responses to Government Agency and Elected Official Comments

The first section of this appendix presents copies of letters received from federal agencies, state agencies, local governments, and elected officials on the DEIS. Alongside each reproduced letter is Reclamation's response to those comments. Letters included in this appendix are listed in Table B-1.

All comment documents received are available for public inspection at the Reclamation address listed in the abstract at the front of the FEIS.

Table B-1. Government Agency and Elected Official Commenters.

Letter Number	Commenter	Organization
1	Thomas H. Pilingsrud, Florence City Manager	City of Florence
2	Terry R. Book, Director of Operations	Pueblo Board of Water Works
3	Lt. Col. Deborah A. McMurtrey	U.S. Air Force Academy
4	Don Moore, P.E., Fremont County Engineer	Fremont County
5	Andy McElhany, Minority Leader	State Senator, District 12
6	Jeri Howells, Mayor	City of Fountain
7	Rick Hearn, Chairperson, City of Fountain Planning Commission	City of Fountain
8	Stella Garza-Hicks	State Representative, District 17
9	Doug Lamborn	U.S. Representative, 5th District, Colorado
10	Denis Hisey, Chair, Board of County Commissioners	El Paso County
11	Dan Prenzlow, Southeast Regional Manager	Colorado Division of Wildlife
12	John P. Morse	State Senator, District 11
13	Donald Borda, Chief, Regulatory Division	U.S. Army Corps of Engineers
14	Robert S. Gardner	State Representative, District 21
15	Steven H. Gunderson, Division Director, Water Quality Control Division	Colorado Department of Public Health and Environment
16	Lionel Rivera, Mayor	City of Colorado Springs

Letter Number	Commenter	Organization
17	Amy Stephens	State Representative, District 20
18	Susan C. Linner, Colorado Field Supervisor	U.S. Fish and Wildlife Service
19	Jerry Forte, P.E., Chief Executive Officer	Colorado Springs Utilities
20	Paul D. Butcher, Director, Parks, Recreation, and Cultural Services Department	City of Colorado Springs
21	Ronald L. Mitchell, Public Works Director	City of Colorado Springs
22	William T. Healy, Director, Planning and Community Development	City of Colorado Springs
23	Steven W. Cox, Interim City Manager	City of Colorado Springs
24	Thomas L. Warren, Deputy Garrison Commander	U.S. Army Fort Carson
25	Dean Winstanley, Director	Colorado State Parks
26	Gerald Knapp, Arkansas/Colorado River Basin Manager	Aurora Water
27	John Fredell, Southern Delivery System Project Director	Colorado Springs Utilities
28	David Barfield, P.E., Chief Engineer	Kansas Department of Agriculture
29	Col. Manual A. Hidalgo, Commander, 21st Mission Support Group	Peterson Air Force Base
30	Environmental Services Department	El Paso County
31	Gary R. Martinez, County Manager	Summit County
32	Roy L. Masinton, Field Manager	Bureau of Land Management
33	Larry G. Liston	State Representative, District 16
34	David Schultheis	State Sentator
35	Phil Steininger, Chairman	Pikes Peak Regional Water Authority
36	Glenn Everett, Chairman	Upper Arkansas Water Conservancy District
37	H.E. “Cap” Proal, Chairman of the Board of Directors	Security Water and Sanitation District
38	Larry Liston	State Representative, District 16
39	Tyler Stevens, Chair	Pikes Peak Area Council of Governments
40	Michael Cantin, President, District Board of Directors	Colorado Centre Metropolitan District
41	Robert W. Hamilton, Director of Engineering and Resource Management	Southeastern Colorado Water Conservancy District
42	Cindy Monroe	Colorado Centre Metropolitan District
43	Ray Petros Jr., Esq	Pueblo County
44	Mark Earle, Director of Aviation	Colorado Springs Airport
45	Larry Svoboda, Director, NEPA Program	U.S. Environmental Protection Agency, Region 8

B.2 Responses to Individual Comments

During the DEIS comment period, Reclamation received about 400 letters, comment cards, or statements (in meeting transcripts) from individuals. Each document was reviewed carefully and each substantive comment was coded using a four-digit number. The comment codes are not sequential because some of the codes were either not used or combined with other codes. Table B-2 beginning on page 223 provides the name of each individual that submitted a document with a substantive comment. This table is sorted by last name.

Responses to individual comments follow Table B-2 listing the commenters. Responses are provided for each substantive comment. To reduce repetition and provide a comprehensive and consolidated response, repeated substantive comments were grouped and addressed with a consolidated response. To find how Reclamation responded to a specific commenter's comment, find that commenter's name in Table B-2 and then look up the comment code in the response section. Commenters without substantive comments are not listed in Table B-2 Reclamation appreciates the public's review and comment on the DEIS.

Comments were considered substantive if they:

- Question, with reasonable basis, the accuracy of the information in the document
- Question, with reasonable basis, the adequacy of the environmental analysis
- Present reasonable alternatives other than those presented in the Environmental Impact Statement
- Cause changes or revisions in the alternatives
- Provide new or additional information relevant to the analysis

Where appropriate, the text of the DEIS was revised for the FEIS in response to comments.

B.3 General Conventions for this Appendix

In general, comment responses in this appendix conform to the following conventions:

- References are made to the chapter or section of the DEIS within which relevant information was provided.
- References are made to the chapter or section of the FEIS within which revisions were made in response to a comment.
- Documents that were referenced in the DEIS are identified by a citation in the text (e.g., "Smith 1993") of a comment response. These citations refer to documents listed in chapter 5 of the DEIS.
- Complete bibliographic information is provided for documents that were used in a comment response but were not listed in chapter 5 of the DEIS.
- Some supporting technical documents that were used to prepare the DEIS were partially or completely replaced during preparation of the FEIS. Responses to comments retain references to the original technical documents (i.e., those used to prepare the DEIS). Information on technical documents used to prepare the FEIS is provided in section 3.4 of the FEIS.

Comment	Letter 1	Response

CITY OF FLORENCE

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www.florenceco.govoffice2.com

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RECLAMATION
FEB 11 2008
Date
Code 1300
Copy to 1002

February 7, 2008

U.S. Bureau of Reclamation
Eastern Colo Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Draft SDS EIS Hydrologic Model Documentation Report Comments

Dear Ms. Lamb:

By way of introduction, my name is Tom Piltingsrud, and I am the City Manager for the City of Florence. The purpose of this letter is to provide some comments regarding the Hydrologic Model Documentation Report as it concerns the City of Florence. I am forwarding these comments separately as I have not yet had the opportunity to review the other sections of the Draft EIS report. Should my review of those other sections require that I comment I will forward those comments separately.

In reviewing Table 21, "Major Direct Flow and Storage Water Rights on Arkansas River Basin in Study Area", I discovered a couple of potential issues.

The priority date for the Minnequa Ditch reads "12/31/1863". Later in the study there are references to "Minnequa/Union". In fact, these are two separate ditches. The Minnequa Ditch conveys the Union Ditch to its head gate west of Florence, where 14 cfs of the Union Ditch meanders through an agricultural area west of Florence, then the City of Florence, then through an agricultural area called "East Florence", and eventually reenters the Arkansas River west of Highway 115. The remainder of the Union Ditch continues down the Minnequa Canal. The Union Ditch has a priority date of November 30, 1861 (48cfs). If the Minnequa Ditch referred to in table 24, line 5, is in fact the Union Ditch, then the priority date should be changed to reflect 11/30/1861.

While not an expert on the Minnequa Canal, I believe they have five or six separate ditch rights, three of them very senior. The table on the second page illustrates what I understand are the Minnequa Ditch rights:

1

Official File Copy	
File Code	ENV-6.00
Project	382
Folder I.D.	
Control No.	

SDS

Response to Letter: The DEIS and supporting documentation, specifically the Hydrologic Model Documentation Report (MWH 2007c), section 4.3.3, Diversion Data, section 4.3.4, Water Rights Data, and Appendix C, page C3-1 – reporting and simulation of the Minnequa and Union Ditches are correctly portrayed in the documentation. As noted in section 3.4.7 of the DEIS, and in compliance with 40 CFR 1502.21, the Hydrologic Model Documentation Report is incorporated by reference and was available for public review and comment. The report was incorporated by reference.

Union Ditch water rights are conveyed within the Minnequa Ditch. Therefore, in section 4.3.3 of the Hydrologic Model Documentation Report (MWH 2007c) and in the Daily Model itself, the Minnequa and Union Ditches are simulated as a singular entity at its point of diversion. Returns from the Minnequa Ditch are simulated at a separate node in the model. Similarly, the Colorado Division of Water Resources includes diversions of Union Ditch (structure ID 835) water in the total diverted at the Minnequa Ditch (structure ID 12-511) headgate and is reported as such in Table 21 of the report.

Comment Letter 1 continued | Response

Priority Date	Ditch Name	cfs
07/22/1861	Arkansas Valley Ditch	2 cfs
07/02/1863	Arkansas Valley Ditch	48 cfs
07/02/1864	Arkansas Valley Ditch	20 cfs
12/19/1881	Oak Creek Mining & Irrig.	4.7 cfs
12/13/1890	Bragg	1.64 cfs
92/24/1933	Minnequa Canal	150 cfs

The second page of Table 21 references the "Minnequa Canal" with a priority date of 02/24/1933 and attributes 150 cfs. Obviously with such a junior right this 1933 right is almost never in priority.

Table 21 correctly noted that the five senior rights listed in Table 21, including the "Minnequa Ditch (48 cfs) are in priority 100% of the time. Clearly the Union Ditch, with a priority date of November 30, 1861 (if that is the "Minnequa Ditch" reflected in Table 21), would be in priority 100% of the time.

However the Arkansas Valley Ditch rights owned by Rocky Mountain Steel (formally CF&I), could also be in the 100% priority column. Perhaps the "Minnequa Ditch" reflected in Table 21 is the 07/02/1863 right of 48 cfs owned by Rocky Mountain Steel. I would suggest you contact Pete Tandberg, Maintenance and Engineering Manager, 719-561-6334, for details regarding the Minnequa and Union Ditch rights. (Tandberg is also the President of the Union Ditch Company.)

What I am attempting to point out--given the above--is the amount of water diverted by the Minnequa Canal, which diverts west of Florence and returns the water at the steel mill in Pueblo, may not be reflected in Table 21. Table 21's caveat references only amounts of 50 cfs or greater are included in the study, or those "important to analysis" (presumably very senior rights).

If this is the case, then the model developed from this data may be flawed because the Union Ditch, and the Arkansas Valley Ditch rights owned by Rocky Mountain Steel and conveyed in the Minnequa Canal, might reflect more senior priority water being diverted than Table 21 reflects. This "shortfall", if it exists in your model, could have an affect on minimum flows, and exchanges postulated by the study.

Sincerely Yours,

Thomas H. Piltingsrud

Thomas H. Piltingsrud
Florence City Manager
719-784-4848 ext. 222 pilt@florencecolorado.org

Encl: Page 52, 4.3.2 Diversion Data (including Table 21), Hydrologic Model Documentation Report

cc: Council
Fremont County Board of Commissioners

2

Table 24 of the Hydrologic Model Documentation Report presents the approximate amount of time that "Major" direct flow and storage rights are in priority. As stated in note (1) of the table, these primarily include water rights greater than 50 cfs and those that are important to the study, and that entities may have water rights in addition to those shown in the table. Page C3-1 in Appendix C of the Hydrologic Model Documentation Report lists those water rights that are directly simulated by the Daily Model, and includes all water rights for both the Minnequa and Union Ditches mentioned by the commenter.

Creek are well defined throughout the study period. For purposes of the SDS EIS analysis, streamflows in Jimmy Camp Creek and Williams Creek require simulation. Streamflow data are available for Jimmy Camp Creek at its mouth in Fountain. However, streamflow data are not available for Williams Creek or other locations in Jimmy Camp Creek. Disaggregation and estimation of data needed for the model in these creeks is discussed later in this section.

Table 20. Gaging Stations in Daily Model – Fountain Creek and Monument Creek

Station ID	Station Name	Period-of-Record
07103700	Fountain Creek Near Colorado Springs, Co.	4/58-Present
07103747	Monument Creek At Palmer Lake, Co.	2/77-1/90
07103780	Monument C Ab N.Gate Blvd At USAF Academy, Co.	4/85-Present
07103790	Monument Cr Bel Sewage Tr Plant At USAF Academy,	4/00-11/00, 4/01-11/01, 4/02-Present
07103800	West Monument Creek At Air Force Academy, Co.	5/70-Present
07103900	West Monument Creek Near Pikeview, Co.	10/57-4/70
07103940	Monument Cr At South Boundary USAF Academy, Co	3/00-Present
07103970	Monument Cr Abv Woodmen Rd At Colorado Springs	10/96-Present
07103990	Cottonwood Creek At Mouth, At Pikeview, Co.	12/85-Present
07104000	Monument Creek At Pikeview	1/76-Present
07105500	Fountain Creek At Colorado Springs	1/76-Present
07105530	Fountain Cr Bl Janitell Rd Bl Colo. Springs, Co.	10/89-Present
07105800	Fountain Creek At Security	10/64-Present
07105900	Jimmy Camp Creek At Fountain, Co	1/76-Present
07106000	Fountain Creek Near Fountain	10/49-9/54, 7/85-Present
07106300	Fountain Creek Near Piñon	4/73-Present
07106500	Fountain Creek At Pueblo	10/49-9/65, 2/71-Present

Notes:
(1) Source of data is CDWR.

4.3.2. Diversion Data

Demands within MODSIM are populated with either historical diversion data or estimated future diversion data. For calibration, the Daily Model uses historical diversion data for all diversions. For existing and future scenario simulations, the model uses historical diversion data for most agricultural diversions and smaller municipal diversions, and existing and estimated future diversions for the larger municipal diversions (existing and future diversion data are discussed in Sections 8 and 9). In addition, calculation of historical ungaged gains and losses use historical demands. All diversion data are available on a daily time-step. Monthly diversion data within the study period for the major diversions are contained in Appendix B, while daily diversion data are available electronically.

The primary source of diversion data was the Colorado Division of Water Resources' Hydrobase Database (CDWR 2005). The database contains all recorded diversions within the Arkansas River Basin. The database sorts diversions based upon state structure number and water source (direct flow right, storage and transmountain), and is available as average daily diversion.

A limited amount of historical diversion data were also obtained from Reclamation, either directly from the Great Plains Region's Hydromet data system (Reclamation 2003b) and/or the Pueblo Field Office. These data were primarily limited to those facilities in which Reclamation has direct influence on operation of the structure, such as the Twin Lakes pipeline and the Fountain Valley Conduit.

Historical diversion data for the Arkansas River is shown in Table 21. Although each of the diversions listed in the table is shown as a node in the Daily Model, only a portion of these diversions are explicitly modeled (that is, the return flows from these diversions are dynamically calculated by the model).

Table 21. Simulated Diversion Structures – Arkansas River

Structure ID	Structure Name	Period-of-Record
11-529	Otero Pump Station Intake	5/70-10/71, 1/77-12/77, 1/79-12/80
12-504	South Cañon Ditch	4/11-10/11, 1/12-Present
12-505	Cañon City Hydraulic Ditch	4/11-Present
12-503	Cañon City Water Works	6/1896-10/1896, 4/11-10/13, 11/24-10/88, 11/89-Present
12-3397	Oil Creek Ditch	(2)
12-510	Fremont County Ditch	4/11-Present
12-511	Minnequa/Union Ditch	9/23-10/23, 10/39, 11/43-Present
14-533	Bessemer Ditch	10/65-Present
14-663	Pueblo West Diversions	2/80-10/85, 11/98-Present
10-859	Fountain Valley Authority Diversions	11/94-Present (3)
(5)	Pueblo Fish Hatchery Releases	1/90-Present
14-535	West Pueblo Ditch	1/11-10/19, 11/23-10/95
14-534	Hamp Bell Ditch	5/13-9/13, 4/66-10/86
14-618	Comanche Power Plant Diversion	11/75-Present
14-589	PBWW Northside Diversion	5/15-10/19, 11/23-10/73, 11/75-5/81, 11/86-9/90, 11/97-10/2002
14-590	PBWW Southside Diversion	5/15-10/16, 11/17-10/19, 11/23-10/86
14-536	Riverside Dairy Ditch	11/65-10/99, 11/01-Present
14-537	Booth Orchard	5/15-10/15, 4/18-10/19, 11/23-10/69, 3/71-10/71
14-539	Excelsior Ditch	5/11-10/16, 6/18-10/19, 4/24-8/88, 11/98- Present
14-538	Collier Ditch	5/11-7/12, 6/32-8/33, 5/37-6/39, 4/41-7/44, 5/47-6/91, 4/00-Present
14-540 (4)	Colorado Canal	1/11-9/19, 11/23-Present
14-542 (4)	Rocky Ford Highline Canal	1/11-10/19, 11/23- Present
14-541 (4)	Oxford Ditch	1/11-10/19, 11/23- Present
14-639	PBWW Pueblo Dam Outlet	7/02-Present
14-645	St. Charles Water District Pump Station	1/80-10-97
14-713	Southern Colorado Power (Aquila)	4/97-10-97, 11/03-Present
17-557	Otero Ditch	5/11-9/18, 5/20-Present
17-552	Catlin Canal	11/10- Present
17-554	Holbrook Canal	12/10-10/18, 5/20- Present
17-558	Rocky Ford Canal	11/10-10/18, 5/20-Present
17-648	Fort Lyon Storage Canal	1/13-8/16, 6/20-3/39, 5/41-8/65, 11/69- Present
17-553	Fort Lyon Canal	11/10-Present
17-556	Consolidated Ditch	11/10-10/18, 5/20-Present
17-652	Las Animas Town Ditch	11/10-11/71

Notes:
(1) Unless otherwise noted, source of data is Division 2 Engineer database.
(2) No data available.
(3) Data from Reclamation.
(4) Data since 1992 recorded in Division 17
(5) No structure number.

Historical diversion data for Fountain Creek and Monument Creek are shown in Table 22. Diversions on Fountain Creek are typically much smaller than those on the Arkansas River. However, many of the smaller diversions on Fountain Creek were included so that the model could define in more detail the SDS EIS affected reaches within Fountain Creek. All of the diversions shown in the table were included as nodes in the model. However, none of the diversions in Fountain Creek are explicitly modeled.

Table 22. Simulated Diversion Structures – Fountain Creek

Structure ID	Structure Name	Period-of-Record
10-883	33rd Street Pump Station	89-Present (Data prior to 1989 estimated in previous studies, MW 1998)
10-736	FMIC Diversion	11/50-Present
10-567	Stubbs and Miller Ditch	4/22-10/28, 4/30-8/41, 11/56-5/90, 9/03-Present
10-747	Chilcotte Ditch	2/50-Present
10-596	Crabb Ditch	4/22-9/28, 4/30-8/51, 1/53-10/58, 1/60-10/90
10-857	Lock Ditch	6/86-8/86, 4/91-9/91
10-857	Lock Ditch No 2	6/86-8/86, 4/91-9/91
10-583	Liston and Love Ditch	4/22-8/55, 1/58-9/89
10-577	Owen and Hall Ditch	5/22-10/54, 3/57-Present
10-704	Reed Ditch No 2	3/23-9/27, 4/29-8/31
10-568	Talcott &Cotton Ditch	4/22-9/55, 5/57-Present
10-600	Dr. Rogers Ditch	4/22-4/52, 2/54-7/54, 12/59-2/77, 5/87-Present
10-806	Jackson and Burke Ditch	7/20, 3/22-10/29
10-605	Burke Ditch	5/22-Present
10-761	Toof & Harmon Ditch	11/64-7/67, 4/69-6/71, 11/76-10/80, 3/83-12/87, 3/93-Present
10-764	Young and Callaway Ditch	11/72-10/73
10-763	Wood Valley Ditch	3/65-Present
10-751	Hobson Ditch No 2	4/66-7/67, 11/76-9/78

Notes:
(1) Source of data is Division 2 Engineer database.

In addition to physical diversions on the river, historical exchange accounting is also required. Colorado Springs and the City of Aurora made a majority of historical exchanges, and historical exchange data were available from these entities. Additional exchange data, where required for any remaining historical exchanges on the river, were obtained from the Division Engineer's office.

Future municipal diversion data were obtained for the larger municipal diversions within the basin. This included data for Colorado Springs, the PBWW, the City of Fountain, and Pueblo West. For many of the smaller diversions, especially those that are at least partially dependent upon Fry-Ark deliveries, estimates of future Fry-Ark demands were made (see Section 4 of this document). Estimates of future diversion data are provided in later sections of the documentation.

4.3.3. Historical Storage Data

Historical storage data were primarily required for historical gain/loss calculations and model calibration. Seven existing reservoirs and their associated accounts are explicitly simulated, while one reservoir (Holbrook Reservoir) is partially explicit and partially implicitly simulated. These reservoirs are shown in Table 23. More detailed information on these reservoirs is contained in Section 5, while historical data are presented in Appendix B.

Turquoise Reservoir, Twin Lakes, and Pueblo Reservoir are owned and operated by Reclamation. Historical daily contents for these reservoirs was available through the Hydromet website (Reclamation 2003b). More detailed reservoir account information was be supplied by Reclamation's Pueblo Field Office from historical data. Clear Creek Reservoir is owned and operated by the PBWW, which provided historical reservoir contents since 1997 (Ward, 2004). Historical storage data for Lake Meredith and Lake Henry were obtained from the Colorado Canal Company (Ringle 2004).

Comment	Letter 2	Response

Board of Water Works
of Pueblo, Colorado

P. O. Box 400 - Pueblo, Colorado 81002-0400 - 719/584-0250 • www.pueblowater.org

April 15, 2008

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Bureau of Reclamation
11056 W. County Road 18E
Loveland, CO 80537-9711

Attention: Ms. Kara Lamb

Subject: SDS Project DEIS

Dear Ms. Lamb:

I am writing on behalf of the Board of Water Works (Board) to reiterate a concern we have with the capacity of the Municipal Outlet (MO) at Pueblo Reservoir (See attached letter from Alan C. Hamel to Pat Mangan dated November 14, 2005). For all alternatives that connect to the MO, the proposed 96 million gallons per day (mgd) additional demand from the SDS will produce a maximum flow in the MO that significantly exceeds the nominal maximum allowable flow under the original design of the MO. Colorado Springs Utilities (CSU) staff has indicated to Board Staff that, under the Participant' Proposed Action (Alternative 2), CSU will replace the existing 48" butterfly valves that have a limiting velocity of 16 feet per second (fps) with high velocity butterfly valves that will allow velocities up to 20 fps. Since Alternatives 3 & 5 also show SDS connecting to the MO we assume CSU would change out the valves if either of these alternatives is selected. While changing out the valves will increase the nominal capacity of the MO to nearly the total flow required with all anticipated uses, it will also significantly increase the head loss when operating at the higher flow rates. Since we have been through the contract negotiating process with Reclamation, we understand that the Board will have the opportunity to comment on any contract for connection to the MO but the Board has certain rights, including preservation of specific of gravity flow conditions, under its existing contract with Reclamation (Contract No. 009D6C0048) that we want to protect. There are also operational and O&M cost sharing issues that would have to be worked out by the affected parties. Following is paragraph 4 b. of the Board's contract with Reclamation that details the Board's rights to flow by gravity through the MO:

b. The Contractor has planned for a high-capacity, gravity feed source to supply their 278.5 cfs of water to its treatment plant(s). In the event the South Outlet Works and Delivery Manifold are operated or modified to achieve a capacity greater than 359 cfs, the Parties agree that the Contractor's right to receive water under the head and flow conditions that would have existed but for the operation or modification to achieve a greater capacity will be protected.

Page 1 of 2

Response to Letter: The DEIS described in chapter 2, page 53 the existence of previously-allocated capacity in the Joint Use Manifold and identified the eventual need for the SDS Participants to construct a connection to the River Outlet Works to accommodate increased demands by other Joint Use Manifold users. This need was also considered in the development of SDS alternatives (Reclamation 2006a). SDS alternatives that include a connection to the Joint Use Manifold also include a connection to the River Outlet Works and, therefore, should have no effect on the use of previously-allocated capacity. The cost for dual connections is reflected in the cost of those alternatives that would use such connections.

The possible effect of an SDS connection to the Joint Use Manifold on head loss for existing and potential future connections is uncertain and was not evaluated in the DEIS. Changes in head loss could potentially be caused by numerous factors other than an SDS connection, such as other connections to the Joint Use Manifold, environmental conditions such as zebra mussels, and changes in physical condition of the facilities. Because the likelihood of these factors occurring in the future is difficult to determine, no estimation of the effects was evaluated as part of the DEIS.

Comment | Letter 2 | Response

Bureau of Reclamation
Attention: Ms. Kara Lamb
SDS Project DEIS
April 15, 2008

Allowing the higher velocity (20 fps) through the 48" outlets will increase the head loss and decrease the head available to the Board for gravity flow. Having had some experience with unbalanced flow through equal sized, parallel outlets, we believe that the hydraulics of the two 48" outlets is such that flows will not be balanced. We believe that may require sophisticated flow control valves (cone, ball or sleeve valves) that will further increase the head loss through the Municipal Outlet and reduce the head available to the Board for gravity flow. We want to make sure our gravity flow rights are protected.

We appreciate the opportunity to comment on the SDS DEIS and look forward to your response to our questions and concerns.

Please contact me at 719 584-0233 if you have questions.

Sincerely,

Terry R. Book

Terry R. Book
Director of Operations

cee

atc.

copy: Alan C. Hamel
Board Members
Roy Vaughan, Bureau of Reclamation
John Fredell, Colorado Springs Utilities
Don Saling, Pueblo West Metropolitan District

Page 2 of 2

Chapter 5 of the FEIS contains an environmental commitment for development and implementation of a head pressure monitoring program to isolate effects attributable to SDS and to mitigate those effects if they were to occur. This program would be developed over a 3-year period from the date that water is first delivered from the Joint Use Manifold for the SDS project. Development of the monitoring program would include involvement of all other Joint Use Manifold users.

Comment Letter 3 Response

DEPARTMENT OF THE AIR FORCE
10TH MISSION SUPPORT GROUP
USAF ACADEMY COLORADO

22 APR 2008

Lt Col Deborah A. McMurtrey
Commander
10th Civil Engineer Squadron
8120 Edgerton Drive, Ste 40
USAF Academy CO 80840-2400

Ms. Kara Lamb
US Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland CO 80537-9711

Dear Ms Lamb

Thank you for the opportunity to allow my staff to review the draft Environmental Impact Statement (EIS) Summary for the Southern Delivery System (SDS). We are in receipt of the draft EIS and offer the following comments:

The US Air Force Academy (USAFA) supports the proposed pipeline construction since it will increase water service reliability to the Academy. Of particular note is the draft EIS Summary states, "…the Participants [a group of cities which includes Colorado Springs] rely on major pipeline delivery systems for most of their water supply. This is unique among Colorado's Front Range communities and places additional vulnerability on the Participants that is not experienced by other Front Range water providers. This vulnerability to a potential loss of water supply is derived from aging infrastructure, the need for major maintenance activities requiring planned outages, unplanned outages from system failures, and future pipeline replacement. Redundancy is needed to mitigate these risks and provide greater overall service reliability…There would be substantial increases in the cost of water service for customers of Colorado Springs Utilities … under the No Action Alternative and all Action Alternatives." USAFA receives its water supply from Colorado Springs Utilities. The improved reliability, redundancy, and vulnerability mitigations expected from the SDS should benefit USAFA's mission of training and educating cadets to be our future leaders of character but any rate increases will require negotiation through the GSA Area Wide Utilities Contract.

Although USAFA supports the SDS pipeline construction, we are in no position to recommend which of the seven alternative routes for the pipeline is most appropriate as none of the alternatives are located on USAFA property.

Once again, thank you for the opportunity to review the SDS draft EIS. The US Air Force Academy supports the proposed SDS pipeline but offers no technical comments/opinions on the most appropriate pipeline and welcomes the improved reliabilities/redundancies expected. Please contact Mr Mark Malone, 719-333-5414, if you have any questions.

Sincerely

DEBORAH A. McMURTREY, Lt Col, USAF

Serve ~ Maintain ~ Protect

Thank for your comment.

Comment	Letter 4	Response
	FREMONT COUNTY County Engineer 615 Macon Avenue – Room 210 Canon City, Colorado 81212 Telephone (719) 276-7367 Fax (719) 276-7374 Email don.moore@fremontco.com May 16, 2008 Ms. Kara Lamb, Bureau of Reclamation RE: Southern Delivery System DEIS Eastern Colorado Area Office 11056 West County Road 18E Loveland, CO 80537-9711 Subject: Review of Southern Delivery System Draft Environmental Impact Statement Review comments are based on possible effects to Fremont County from: Changes in flow-rates and water quality of the Arkansas River; Traffic changes; Floodplain management; and Land use issues. Questions and Comments:	
4-1	1. The "No Action" alternative is a misnomer. It really means that there will be no action that involves Bureau of Reclamation water storage facilities. Under the no action alternative (and alternative 7), the project will still construct a pump station across from the Florence River Park that will remove 74.5 million gallons per day from the Arkansas River. At a 24-hour pumping rate, that equals 115.5-cfs. The DEIS should describe the pumping schedule for Alternatives 1 & 7.	Response to comment 4-1: The No Action Alternative in the DEIS and FEIS is consistent with Reclamation's NEPA guidance (Reclamation 2000, page 8-7) and Department of the Interior regulations (43 CFR 46.420). In this DEIS, the proposed activity is the execution of federal contracts between the Participants and Reclamation. Consequently, the No Action Alternative would be those actions the Project Participants would take to provide a safe and dependable water supply without Reclamation contracts. In response to the second part of this comment, a table depicting mean monthly SDS Project diversions by alternative has been added to Appendix D, section D.3 of the FEIS to clarify this matter.
4-2	2. Section 3.2.6.1 discusses the Upper Arkansas Voluntary Flow Management Program, and the agreement that participants will endeavor to maintain minimum flows at the Wellsville gage at a level ranging from minimum 250-cfs year-round, to 700-cfs in July and August. That section states that Colorado Springs participates in that program. The DEIS should clearly state that Colorado Springs Utilities is also a participant, and that program support will continue under all of the seven alternatives.	Response to comment 4-2: Information presented in the DEIS has been modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. Commitments for adherence to the UAVFMP have been included in the environmental commitments. These requirements are based on potential effects of the Preferred Alternative for the SDS Project. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

Comment	Letter 4 continued	Response
4-3	3. Page 38 discusses the Highway 115 untreated water intake station. The DEIS should expand the discussion about disposal of the sediment from the stilling basin at the Lester & Atterberry Ditch to clarify how the sediment will be removed, and its disposal. Pumping the sediment back into the River will have significant downstream effects.	Response to comment 4-3: Chapter 2 of the FEIS (see section 2.2.1.1 and 2.2.4.1, Untreated Water Intake subsections) describes how the Participants would handle removed sediment.
4-4	4. Changes to Arkansas River flow rates are discussed in the numerous documents under the heading of "Surface Water Hydrology. The DEIS presents conclusions in Figure 36 and Table 24, that none of the seven alternatives will cause more than a 1% change to river flow rates in Fremont County above Portland. That figure and table should be accompanied by similar information for the average high flow and average low. Otherwise, a false sense of "no significant effect" is given. Showing this info as "Mean Annual Streamflow" glosses over a probable negative effect that will be magnified in dry years. I realize that the information may be gleaned from diligent research within the thousands of supporting document pages on hydrology, but conclusions of high and low effects should be a part of the main body of the DEIS. This same comment also applies to the other aquatic parameters for which conclusions were presented based only on mean annual stream flow.	Response to comment 4-4: The Surface Water Hydrology Effects Analysis, pages 72 through 88 and associated appendices contained the requested information. As noted in section 3.4.7 of the DEIS, and in compliance with 40 CFR 1502.21, the material in the Surface Water Hydrology Effects Analysis (MWH 2007d) is incorporated by reference and was available for public review and comment. However, Reclamation included additional hydrology information in Appendix E of the FEIS.
4-5	5. Page 40 of the main EIS tells of a 2.5-million gallon forebay at pump stations 2 and 3. Since this is only about 45 minutes storage of a day's pumping volume, the County should ensure that sufficient flow channel is available to safely convey a large overflow in the event of a controller failure.	Response to comment 4-5: Information presented in the DEIS was modified in the FEIS (see Appendix D). Information was added to section D.8 that discusses pump stations, including operations and design features in case of emergency.
4-6	6. Municipal water and sewer are also not readily available at the Highway 115 pump station number 1. See page 40.	Response to comment 4-6: Reclamation concurs with this comment. Accordingly, the content of the FEIS has been modified to reflect this public input. In particular, chapter 2 of the FEIS (see section 2.2.1.1, Untreated Water Intake subsection) contains information that has been updated since publication of the DEIS pursuant to this, and other, public input. This revision does not significantly change the impact analysis or results presented in the DEIS.
4-7	7. The DEIS should provide clarification that the substantial electrical power needs of the Fremont County pump stations will not decrease existing capacity of the transmission system, and thereby limit other development in the area.	
4-8	8. The DEIS should clarify why compliance with target flows of the Upper Arkansas Voluntary Flow Management Program will not be required for the "No Action" alternative. See page 49.	
4-9	9. The wetland and Arkansas River alternatives (3 & 4) don't remove additional water from the Arkansas above Pueblo Reservoir. Both add 85-mgd of treated wastewater to the Arkansas River at the Florence River Park. The discharge point should be relocated to the area of the existing Fremont Sanitation District wastewater effluent discharge point. Otherwise, the	

Comment	Letter 4 continued	Response
		Response to comment 4-7: The decision to provide power to any SDS facility in any alternative would be made by the local electrical utility provider. The Participant's believe electrical power would be available for all SDS facilities in all utilities. The need for additional transmission capacity for other development should SDS be implemented would be made by the local electrical utility provider. Response to comment 4-8: See comment response 4-2. Response to comment 4-9: Information presented in the DEIS has been modified in the FEIS (see section 3.14) to further describe water quality changes in the area and the potential effects on those changes on recreation at the Florence River Park. Effects on water quality are described in the section 3.7 of the EIS. Based on the water quality analysis, the wastewater discharge at this location in alternatives 3 and 4 would result in minor increases in bacteria and nutrients/algae, but would not exceed water quality standards.

Comment	Letter 4 continued	Response
	public's perception of clean, clear river water at the River Park will be diminished, and swimmers at the park will be directly impacted. Also, during any upset at the wastewater treatment plant in Colorado Springs, the partially treated slug of effluent will be clearly within public view from the park and the nearby River bridge. If the discharge point is not relocated downstream, the DEIS should be amended to include this direct impact to the public at the Florence River Park and River bridge.	Response to comment 4-10: A detailed evaluation potential indirect potable reuse alternatives was conducted. The DEIS addressed this issue in chapter 2, pages 82 to 89 and in the Alternatives Analysis Addendum (Reclamation 2007a), which was incorporated by reference. Six potential alternatives that met the Purpose and Need for the SDS Project and involved substantial reuse were evaluated. All of these alternatives were eliminated from detailed analysis in the DEIS due to unacceptably high costs and failure to respond to significant scoping issues better than other alternatives. This evaluation considered energy costs and industry practices, recommendations, and proposed regulations for blending. An alternative analyzed in detail in the DEIS that includes about 16 percent indirect potable reuse is the Downstream Intake Alternative. This alternative was retained for detailed evaluation in the DEIS but was not assigned label of a "reuse alternative" due to the percentage of reuse.
4-10	10. During the screening process for alternatives, at least one viable alternative was not given due consideration. The DEIS should include expanded discussion in Section 2 concerning the reuse of treated wastewater by the population that produced it. This would apply only to that portion of the effluent that has the proper water right. That alternative, or modification to several chosen alternatives, would reduce the size of the effluent discharge pipeline and related facilities. A cursory discussion is on pages 85-86 as indirect reuse. Why wasn't more reuse contemplated, or at least indirect reuse at an input/mix point located closer to the City. Abandoning an alternative because it only could provide 16% of Colorado Springs Utilities annual need may be shortsighted. That's a lot of water to ignore.	
4-11	11. Page 91 discusses easements for buried and overhead facilities, and "fee title purchases" of land parcels for surface facilities. Land requirements as low as 6-acres were discussed. Purchased lands will likely require subdivision of parcels under County regulations. If 6-acre parcels are needed, locations on existing parcels less than 41-acres should be avoided. Otherwise, the remaining parent parcel may be in violation of the 35-acre minimum parcel rules, if 6-acres are split-off in a subdivision process.	
4-12	12. The statement on page 283 that stream flow (geomorphic) effects will be negligible at Portland is not well defended for the "No Action" alternative in dry years.	
4-13	13. Page 313 is the only clear indication I found that states minimum stream flow in portions of Fremont County will be reduced up to 16 percent of the time. This should be clarified earlier in the EIS, especially on Table 24.	
4-14	14. Some of the EIS is written to minimize effects of removing 110-cfs from the River at Florence. The statements about effects of the alternatives on boating and angling on page 404 are not well defended. The use of "annualized data" is definitely misleading from the perspective of customers in a raft parked on a rock in the middle of the River. Effects of some project alternatives in dry years appear significant.	

Comment	Letter 4 continued	Response
		Response to comment 4-11: The Participants have the ability to acquire land for which they have a valid purpose and need, even if it is only a portion of a total tract. To the extent that such an acquisition reduces the remaining unacquired acreage to less than 35 acres, such that the owner is left with a parcel that would then be subjected to additional regulatory requirement of the Colorado subdivision statute or its use becomes limited in economic value due to the reduction in acreage, the Participants would be ordered by a court to pay just compensation. In such a case, just compensation might include reimbursement to the parcel owner for the cost to comply with the subdivision laws and regulations. However, the acquisition would not be prohibited. Such damages would be measured by a determination to the diminution in market value of the remainder before and after the taking. It is unlikely that a remaining parcel would have such insubstantial economic value that the Participants would be ordered to take the entire parcel. Response to comment 4-12: The DEIS addressed this issue in chapter 3, pages 276 to 289. Changes in baseflow and peak flow between the No Action Alternative and Existing Conditions would be negligible. Further detail of these negligible effects was provided on pages 62 to 63 of the Water Resources Effects Analysis (MWH 2008d) report.

Comment	Letter 4 continued	Response
		Response to comment 4-13: See comment response 4-4. Throughout the DEIS, complete daily hydrologic model results were used by individual resource areas to draw conclusions on resource-specific issues. Therefore, there may be discussion of hydrologic effects throughout the DEIS that are not included in the general discussion of hydrologic effects in section 3.5. Response to comment 4-14: The DEIS discloses that the No Action Alternative would result in minor adverse effects to boating in the reach of the Arkansas River downstream of Florence. Compared to No Action, the effects of the Highway 115 Alternative on these flows and recreation would be negligible. The remaining alternatives would result in increased flows and subsequent benefits to boating along this reach of the river compared to No Action. While this reach of the river is not known to be a popular destination for boating or angling, the discussion has been revised in the FEIS (chapter 3, section 3.14) to describe the effects of hydrological changes on boating and angling in average, wet, and dry years.

Comment	Letter 4 continued	Response
4-15	15. The DEIS should include a section on predicted effects on existing water rights for each alternative during an average low flow year. There is ample information presented in the supporting documents about water rights, but I found no conclusions on what effects the alternatives will actually have on those rights with reasonably high priorities. Over 80 pages of water rights are listed in the 700 page Water Resources Technical Report, with no conclusions about which are likely to be affected.	Response to comment 4-15: The DEIS chapter 1, pages 16 to 17, chapter 3, page 149, and section 4.3.4 of the Surface Water Hydrology Effects Analysis (MWH 2007d) discuss water rights. Reclamation made editorial revisions to the FEIS, in chapter 3, section 3.5.5 to clarify this matter. Additionally, Reclamation notes that the Water Resources Technical Report (MWH 2007a) documents existing conditions, while surface water hydrology effects are presented in the Surface Water Hydrology Effects Analysis report.
4-16	16. The discussion of direct effects upon the Arkansas River by addition of 85-million gallons per day of wastewater treatment plant effluent in Section 3.7.5, seems to ignore the existing effluent discharge from the Fremont Sanitation District, and the industrial use at the Holcim cement plant. The DEIS should address how this project will affect those two entities. The District's discharge is listed in Table 46 as Rainbow Park WWTF. There is no apparent basis for the conclusion on page 224 that a 10% increase in sulfate and salinity, along with another 85-MGD of effluent, will not have some impact.	Response to comment 4-16: The DEIS addressed this issue in chapter 3, pages 222 to 250 and by reference to the Water Quality Effects Analysis (MWH 2008b). One of the methods used in the water quality effects analysis is to determine if the SDS alternatives would affect attainment of surface water quality standards. These standards are set by CDPHE to protect the "beneficial uses" of water. Reclamation is not aware of any special water quality needs of the Holcim plant, therefore, potential effects on the Holcim cement plant should be covered by the discussion of effects to beneficial uses/water quality standards attainment in this reach. These effects are summarized on page 205 of the DEIS, and show that Alternatives 3 and 4 would result in minor changes in water quality in this stream segment, but that water quality standards attainment is not likely to be affected.
4-17	17. Page 283 and Table 80 have the only mention I found for the effects of the project upon sedimentation in the Arkansas River near Highway 115. In dry years, various alternatives will either halve, or double, the flow rate in the River. That will have a significant effect on sedimentation and erosion. The DEIS should expand on that perspective, rather than concentrate only on mean annual flow rates.	
4-18	18. Figures 90 and 91 show that the no action alternative will have only moderate adverse effect on aquatic resources in the major fishery between Granite and Buena Vista. The statement on page 313 quantifies that as a 32% decrease in habitat availability for trout. Since page 321 says that is a 25% decrease in the number of fish, that is more than a moderate effect. The DEIS should expand on the negative aspects of that decrease in habitat, as well as the 16% decrease in trout habitat downstream of Canon City.	
4-19	19. The DEIS should include another column at the beginning of the tables in Appendix B, which concerns surface water diversions. The flow numbers for existing conditions are missing from each table.	
4-20	20. I suggest expanding the table of contents to include the tables of content of the supporting documents.	
	Additional comments will be provided directly to Colorado Springs Utilities as planning and design information for actual facilities in Fremont County is provided.	

Comment	Letter 4 continued	Response
		In the DEIS and FEIS, sulfate and salinity are evaluated in terms of their potential effects on municipal water supply and agriculture. As discussed on page 224 of the DEIS, there are no substantial agricultural or municipal water diversions from the Arkansas River between the upstream return flow pipeline and the Arkansas River. Therefore, as discussed in the text, although Alternatives 3 and 4 would result in increased salinity, that increase would not affect current uses of the water in this stream reach. Effects on WWTFs are summarized in the DEIS and described in more detail in the Water Quality Effects Analysis report (MWH 2008b) (discussion for the Rainbow Park WWTF in particular begins on page 57). The Water Quality Effects Analysis was incorporated into the DEIS by reference. The simulated increase in sulfate and salinity would not affect the Rainbow Park WWTF because it does not have an effluent limit for either parameter. In addition, if either Alternative 3 or 4 were implemented, the low flow value used in calculation of the WWTF's permitted effluent limits would increase, providing the treatment plant with more credit for dilution.

Comment	Letter 4 continued	Response
		Response to comment 4-17: The DEIS addressed this issue in chapter 3.9, pages 267 to 294. Changes in baseflow associated with SDS diversions would be the only potential effect that would lead to geomorphic effects in this reach. There would be no changes in peak flow sediment transport capacity, which would be responsible for short-term geomorphic effects. Baseflow is associated with long-term gradual geomorphic effects and prolonged differences in baseflow would be needed for any geomorphic effects to occur. Fluctuations in baseflow for short periods of time, including periods of dry years, would not result in geomorphic effects. Long-term changes in baseflow over longer periods of time would be necessary to result in geomorphic effects, which is why changes in long-term baseflow are used to determine potential geomorphic effects in this reach of the Arkansas River. Further detail of the potential effects associated with changes in baseflow as a result of SDS operations are provided on pages 283 to 284 of the DEIS. Response to comment 4-18: The DEIS addressed these issues in chapter 3.10, pages 306, 313, and 321 and in Table 87. Concerning the first comment pertaining to the 32 percent decrease in trout habitat availability (page 313) and the more than 25 percent decrease in the number of trout (page 321) in the upper Arkansas River from Granite to Buena Vista (Segment 2), this was appropriately characterized as a moderate adverse effect.

Comment	Letter 4 continued	Response

I appreciate the opportunity to review this DEIS, and sincerely hope the comments provided are helpful as this project progresses. The documents are very clear and well prepared. The layout of the presentation generally facilitates easy review.

Don Moore, P.E.
Fremont County Engineer
615 Macon Avenue, Room 210
Canon City, CO 81212

719-276-7367
don.moore@fremontco.com

A moderate adverse effect was defined as a reduction in fish biomass of 25 to 50 percent on page 306 and in Table 87 of the DEIS. A reduction of more than 25 percent is within this range. Characterizing a difference in this range as a moderate effect was consistent throughout chapter 3.10.

Concerning the 16 percent decrease in several flow parameters (not trout habitat availability, as stated in this comment) in the upper Arkansas River downstream of Canon City (Segment 7), this was appropriately characterized as a minor adverse effect as described on page 306 and in Table 87.

Response to comment 4-19: The table referred to in the comment compares surface water diversions for SDS supply only. Because the SDS Project is not included in existing conditions, an extra column in the table would be meaningless.

Response to comment 4-20: The DEIS addressed this issue in chapter 3, page 144. Titles and citations for supporting documents are provided and adding tables of contents for all 23 supporting documents would increase the size of the EIS unnecessarily.

Comment	Letter 5	Response

ANDY McELHANY
State Senator

2830 Orion Drive
Colorado Springs, CO 80906-1063
Home: (719) 473-9400
Capitol: (303) 866-4880

SENATE
STATE OF COLORADO
DENVER

Senate Minority Leader

COMMITTEES
Member of:

Legislative Council &
Executive Committee of Legislative Council

May 21, 2008

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U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

First and foremost, I would like to extend my appreciation for all the hard work from the Bureau of Reclamation preparing the Draft Environmental Impact Statement (DEIS) for the Southern Delivery System (SDS). The range of alternatives considered shows a true commitment to finding the best available course of action. It is because the Bureau has worked tirelessly in preparing the document that I support their choice in the Initial Preferred Alternative. The Preferred Alternative best provides for the protection and well-being of the good people of El Paso County.

SDS will affect Colorado Springs, Fountain, Security and Pueblo West. The three affected municipalities in El Paso County fall in my Senate District. In the next 20 years, El Paso County is set to be the most populous county in Colorado. Immediate action needs to be taken to ensure the protection of the hardworking men and women of El Paso County. We need to respond to the thirst of current residents and future generations.

Water is critical to the safety of the American people and to the health of local economies. As stated before, three of the four project participants reside in my county and each of those municipalities is rapidly growing. In the next twenty years, Colorado Springs is expected to add 150,000; Security will add 11,000; and Fountain will more than double in population. Governments have the duty to provide for the wellbeing and safety of the people it serves. A failure to move forward with a

Thank you for your comment.

U.S. Bureau of Reclamation
May 21, 2008
Page Two

common-sense plan for SDS could be catastrophic. Several of the project participants will exceed their storage and capacity needs. I urge the Bureau of Reclamation to move forward with a plan of action that cost-effectively utilizes taxpayer money, protects the environment and provides backup water delivery infrastructure.

It is important that we act now to respond to incoming growth for the good of El Paso County and the good of the region. I support the Bureau's Preferred Alternative as the best way to continue providing water in a safe, dependable and cost-efficient manner.

Sincerely,

Andy McElhany
Minority Leader
Senate District 12

City of Fountain
Pure Colorado

116 S. Main St.
Fountain
Colorado
80817
719/322-2010
FAX: 719/322-2011

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May 13, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

Thank you for the opportunity to comment on the Southern Delivery System (SDS) Draft Environmental Impact Statement (DEIS) and thank you for extending the comment period to allow for a more thorough review by the municipalities and the citizens of the area. Fountain currently serves approximately 21,600 people and distributes approximately 4.1 million gallons of water per day to its residents. Our continuing commitment is to "provide the highest quality of water at the lowest price available." It is because of this commitment that we support Alternative 2, the Bureau of Reclamation's Preferred Alternative, and we ask the Bureau to move forward quickly to implement Alternative 2 in the Final EIS and the Record of Decision.

Fountain is one of the fastest growing areas in El Paso County. As we continue to grow, we will need to increase our water supplies. In 2000, Fountain had a population of 15,197. By 2030, Fountain's population is expected to grow to 49,970, according to figures in the DEIS. This annual growth rate of 4 percent means Fountain will more than double in less than thirty years.

In addition to the growth we see in our general population, the majority of which comes from our own children and grandchildren, we are seeing an influx from Fort Carson. Fifty percent of Fort Carson's new growth will be directed to Fountain because of the proximity for soldier citizens with their families and its housing growth. According to working papers from the Pikes Peak Area Council of Governments, the number of military personnel stationed at Fort Carson will reach 31,800 troops by 2013 with more than 40,000 military dependents living in the region.

As stated previously, our mission is to provide the highest quality of water at the lowest price available. Of the seven alternatives analyzed, Alternative 2 had the lowest total capital cost of about $1.11 billion. This alternative would allow us to continue fulfilling our commitment to our water users.

Thank you for your comment.

Again, we thank you for the opportunity to comment on this very important project. We support Alternative 2 and urge the Bureau to implement the alternative for the health and security of Fountain residents.

Sincerely,

Jeri C Howells

Jeri Howells, Mayor
City of Fountain

Comment Letter 7 | Response

City of Fountain
Pure Colorado

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Project 382
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116 S. Main St.
Fountain
Colorado
80817
719-322-2000
FAX: 719-322-2001

May 27, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

I am writing this letter in support of the Southern Delivery System's Participants' Proposed Action because it will provide additional water resources to Fountain in a cost efficient and environmentally sensitive manner and because it is substantially consistent with the City's 2005 Comprehensive Development Plan.

The Proposed Action Provides For Foreseen Growth, Protects Quality Of Life.
Fountain is experiencing an annual growth rate of 6 percent and is expected to more than double in population by 2030. The Southern Delivery System will provide an additional 2,500 acre-feet of treated water to Fountain in 2012, which will service 5,000 households. The Proposed Action also causes the least permanent disturbances to the environment and has the lowest carbon dioxide emissions of the seven alternatives. These examples are consistent with the Comprehensive Development Plan's overall community goal #1 of ensuring the "growth and development within the City of Fountain enhances the quality of life for present and future citizens…and does not adversely affect community services or the natural environment."

The Proposed Action Provides Fountain With Adequate, Cost-Effective Public Facilities.
The Proposed Action has the lowest overall project cost of the seven alternatives. It most effectively utilizes existing infrastructure to convey water. Furthermore, it has the smallest increase in water rates for Fountain water users. Fountain serves approximately 21,600 people and distributes approximately 4.1 million gallons of water per day to its residents. The Proposed Action will allow Fountain to continue its mission of providing "the highest quality of water at the lowest price available." In addition to being consistent with Overall Community Goal #7 (cost-effective public facilities), the

Thank you for your comment.

U.S. Bureau of Reclamation
May 27, 2008
Page 2

Proposed Action is also consistent with the Comprehensive Development Plan's overall community goal #8 of ensuring "that adequate water supply and wastewater treatment is available and maintained for current and future residents and businesses of the City."

Thank you for the opportunity to comment on this project. I support the Southern Delivery System's Participants' Proposed Action and urge the Bureau to expedite a decision supporting the Proposed Action.

Sincerely,

Rick Hearn, Chairperson
City of Fountain Planning Commission

Comment	Letter 8	Response

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Date JUN 0 9 2008

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Copy to

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System: Draft Environmental Impact Statement

Dear Ms. Lamb:

I am a firm believer that government exists to preserve a system where we, its people, can all to build better lives for ourselves and for our children. As the Representative for House District 17 – comprised of the southeast area of Colorado Springs to the Pueblo County line including Fort Carson – I see firsthand how critical a dependable water supply is to the health and wellbeing of local communities and economies. In less than four years, Colorado Springs will exceed its water-delivery capacity. If we don't act now and work to provide an adequate, safe, affordable and consistent water supply, we cannot hope to provide for our future generations.

In early 2008, the Bureau of Reclamation, hereafter referred to as the Bureau, published its Draft Environmental Impact Statement (DEIS) for the Southern Delivery System (SDS). The SDS project affects the municipalities of Colorado Springs, Fountain, Security, and Pueblo West. The most common-sense alterative (Alternative 2) utilizes excess capacity storage space in Pueblo Reservoir and conveyance through the Fry-Ark facilities, primarily through existing Pueblo Dam outlet works. And most importantly, would provide for our citizens through 2046.

We need to adequately and cost-efficiently provide water for our citizens for the next 35 years, which is so important given that Colorado Springs has experienced an average annual growth rate of 1.2 percent and will exceed 800,000 by 2050. As stated previously, my district encompasses Fort Carson, which swept the number one employer for Colorado Springs. Based on national troop movement measures, Fort Carson is going through an expansion with another expansion on the way. We need to make sure we have enough water for the good people of Colorado Springs and the men and women protecting our freedom.

I greatly appreciate the Bureau's hard work in putting the DEIS together. I support the Bureau's Preferred Alternative as the best course of action.

Sincerely,

Rep. Stella Garza-Hicks

State Representative Stella Garza-Hicks
House District 17

Response: Thank you for your comment.

Comment	Letter 9	Response

DOUG LAMBORN
5TH DISTRICT, COLORADO

COMMITTEE ON NATURAL RESOURCES

COMMITTEE ON VETERANS' AFFAIRS

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House of Representatives
Washington, DC 20515–0605

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May 14, 2008

No Need to Reply

Honorable Robert W. Johnson
Commissioner
US Department of Interior, Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

RE: Draft Environmental Impact Statement for the Southern Delivery System

Dear Commissioner Johnson,

First and foremost I would like to take this opportunity to extend my gratitude to the Bureau for its tireless work preparing the Draft Environmental Impact Statement for the Southern Delivery System (SDS). It is obvious from the quality of work of the document the Bureau is committed to excellence and ensuring the good folks of Southwest Colorado have adequate water resources. I also commend the Bureau for listening to the public and extending the comment period to provide more time for through review of the document and preparation of comments. Above all else, we need to ensure the citizens of Colorado Springs, Pueblo West, Security and Fountain – hereafter referred to collectively as the Project Participants – have adequate water supplies.

The four Project Participants need water supplies the biggest need comes from the State's second largest city, Colorado Springs. As stated in the Project Need, "Without the SDS Project and with aggregate local terminal storage 100 percent full, [Colorado Springs'] local terminal storage could meet current demand for about 289 days and 2046 demand for about 131 days." It is clear that the SDS Project is not was not undertaken capriciously; there is a real, impending need for more water. I thank the Bureau for ensuring that the discussion regarding SDS is about how best to deliver water and not if we should deliver water.

Of the wide range of alternatives assessed, the Participants' Proposed Action, also deemed the Bureau's Preferred Alternative, best provides for the needs of the Project Participants with the lowest carbon footprint, the lowest cost to individual water users and the most benefits to other land users.

Response:

Thank you for your comment.

Again, I thank you for your work on this document. I strongly support Participants' Proposed Action and ask the Bureau and the cooperating agencies to extend their support for the Preferred Alternative.

Sincerely,

Doug Lamborn

Doug Lamborn
Member of Congress

Cc: U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

EL PASO COUNTY

Commissioners:
Dennis Hisey (Chair)
Jim Bensberg (Vice Chair)

Sallie Clark
Wayne Williams
Amy Lathen

BOARD OF COUNTY COMMISSIONERS
DENNIS HISEY, CHAIR
DISTRICT #4

June 9, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

El Paso County is the fastest growing county in Colorado. Because three of the four Project Participants reside in El Paso County, we support Reclamation's initial Preferred Alternative. This alternative best protects and enhances cooperation on water-resource planning, promotes environmental awareness and responsibility, and preserves and enhances historical resources in the County.

Protect And Cooperate With Water Resource Planning:
We are pleased to see the four Project Participants (Colorado Springs, Fountain, Security, and Pueblo West) working together to come up with a cooperative, sustainable strategy for water delivery over the next 40 years. We support Alternative 2 as this alternative will support a mutually beneficial arrangement among water providers and consumers more cost effectively than the other options studied. We also support this project because it encourages the Project Participants to engage in ongoing communication and collaboration on water-related issues.

Communities in El Paso County are leaders in conservation techniques and we hope that those communities will continue to promote conservation throughout the life cycle of the SDS. Of all the Front Range cities, Colorado Springs has the lowest single-family residential water use and Colorado Springs is projected to save 30 billion gallons of water by 2017, or 7.5 percent of the water forecast demand. The City of Fountain has also engaged in a water-conservation program by sponsoring Xeriscape gardens around the City limits. And the City of Security has promoted in-home water conservation techniques. We support Alternative 2 as it will most efficiently provide increased water delivery and storage capacity for the four participants and support Project Participants' cooperation to continue promoting the already-established County water conservation educational programs and techniques which have proven to conserve water.

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dennishisey@elpasoco.com

Thank you for your comment.

Promote Environmental Awareness And Responsibility:

Water infrastructure projects, such as reservoirs, pipelines and treatment plants, can be anticipated to have site-specific land use impacts. All water and wastewater infrastructure projects need to be sited and designed in a manner which promotes compatibility with adjoining uses, and reasonably mitigate any adverse visibility and other environmental impacts. We support Alternative 2 as the alternative with the lowest project-related environmental disturbances with the condition that the Project Participants work with the County Parks and Recreation Department to increase trail networks and water-related recreation opportunities on SDS-related infrastructure.

Encourage Preservation And Enhancement Of Cultural Resources:

Many early settlements were located along migration and hunting trails that were used for centuries by Native American tribes including the Comanche, Ute, Apache and Pueblo. Settlements such as Colorado City and Colorado Springs were able to succeed due in part to traffic generated from several intersecting regional trails. Although the era of the Old West has ended, preservation of pioneer trails and remnants of historic sites ensure that the County's colorful past will endure as part of the nation's history. A considerable amount of the region's history lies buried and archaeologists continue to unearth artifacts of earlier cultures.

However, according to the Draft Environmental Impact Statement no Paleoindian, large prehistoric habitation villages or deeply buried trader sites have been found within the project area. No Indian Trust assets have been identified within the SDS Project analysis area.

One site of particular cultural importance is found around Jimmy Camp Creek. We support Alternative 2 as it causes the least amount of direct effects to County cultural sites with the added provision that the cultural resources around Jimmy Camp Creek Reservoir are handled appropriately. We are pleased the Draft Environmental Impact Statement calls for a Programmatic Agreement among Reclamation, the Advisory Council on Historic Preservation, Colorado Springs and the Colorado State Historic Preservation Office that specifies the measures to be taken to identify and evaluate historic properties, to develop a treatment plan to resolve adverse effects, and to address the anticipated and unanticipated discovery of historic properties or human remains.

Thank you for the opportunity to comment on this very important project and ask the Bureau to expedite a decision supporting Alternative 2 for the Southern Delivery System.

Sincerely,

Dennis Hisey
Chair
Board of County Commissioners

Comment Letter 11 Response

STATE OF COLORADO

Bill Ritter, Jr., Governor
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WILDLIFE

AN EQUAL OPPORTUNITY EMPLOYER

Thomas E. Remington, Director
6060 Broadway
Denver, Colorado 80216
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COLORADO DIVISION OF WILDLIFE

For Wildlife-
For People

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Project 382

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May 6, 2008

Ms. Kara Lamb
Bureau of Reclamation
Eastern Colorado Area Office
11056 West County Road 18E
Loveland, Colorado. 80537-9711

Re: Review of Draft Environmental Impact Statement for Southern Delivery System Project.

Dear Ms. Lamb,

11-1 The Division has reviewed the draft environmental impact statement (DEIS) for the Southern Delivery System (SDS) project. As conveyed through the DEIS and general information about the SDS project, it is our understanding that the proposed project would delivery up to 96 million gallons per day from the Pueblo Reservoir or the Arkansas River to Colorado Springs via a pipeline and a newly constructed reservoir. We offer the following comments on the SDS DEIS and cumulative impacts related to the SDS project to strengthen your assessment of proposed project environmental impacts.

Aquatic Biology and Fishing Recreation Issues

The following comments refer to "Aquatic Resources Effects Analysis".

The proposed action is considered to be the construction and operation of the Southern Delivery pipeline, as well as excess capacity storage contracts between Colorado Springs Utilities (CSU) and the Bureau of Reclamation (BOR). The extent of detrimental or beneficial impacts to the aquatic habitats, biota and fishing recreation within the proposed project area depend upon the particular water operations of the proposed alternatives. Primary considerations are the quantity, timing, and duration of stream flows and reservoir operations as well as the water quality alterations that could be expected with the proposed action. More specific and detailed analysis of aquatic impacts of the DEIS is listed in Appendix A to this letter.

The CDOW analysis of aquatic resources was based on a comparison of all alternatives against existing conditions – and in particular instead of comparing alternatives 2-7 to alternative 1. For that reason, many of our conclusions on potential impacts to aquatic resources differ from those expressed by the DEIS and in the Aquatic Resource Effects Analysis

Response to comment 11-1 and the Letter's Appendix A: Throughout the DEIS, the alternatives were compared to the No Action Alternative in accordance with Reclamation's NEPA guidance (Reclamation 2000, page 8-7).

Terrestrial Biology

The following comments refer to "Affected Environment and Environmental Consequences – Wildlife".

11-2 Pg. 373 - Section 3.13.4.4 Raptors, Herons and other Migratory Birds:

It is stated in this section that there is possible adverse impact to a golden eagle nest (near Bradley Road) as a result of some of the proposed alternatives. The Division recommends avoiding all raptor nests, to the extent practical. We recommend no surface activity (beyond that which historically occurred in the area) within ¼ mile of known golden eagle nest sites and no human encroachment or construction activity within ¼ mile of any active nests during the time frame of December 15th through July 15th.

Pg. 390 - Section 3.13.5.4 Mitigation Measures:

Several mitigation measures are mentioned in this section for wildlife species that have the potential to be adversely impacted by the proposed project. The division recommends the addition of the following mitigation measures:

11-3

- During pipeline construction, install wildlife crossovers (trench plugs) with ramps on each side at maximum ¼ mile intervals and at well defined game trails to facilitate passage of big game across the open trench and to allow trapped wildlife to escape the trench.
- Survey for swift fox den sites along pipeline corridor and proposed reservoir sites and avoid surface disturbance within 1/4 miles while young are den dependent (March 15 to June 15).
- Restrict use of pesticides for rodent control in swift fox overall range.

Wetlands

The following comments refer to "Affected Environment and Environmental Consequences – Wetlands, Water, and Riparian Vegetation".

Pg. 327 – 3.11.3.2 Methods: Direct Effects

11-4 The Division is familiar with the Montana Method of assessing wetland functions and we believe that any attempt to differentiate wetlands of high quality from low quality is an appropriate exercise. Species of particular interest to include in the Montana Method of wetland functional assessment include but are not limited to: Arkansas darter, flathead chub, northern and plains leopard frogs. In addition, the Arkansas darter is a federal candidate species and the northern leopard frog has been petitioned for listing under the Endangered Species Act and as such should be treated differently than a state listed and state species of special concern.

11-5 We believe that changing the status on these two species could change the Montana Method rating of several wetlands. Wetland impacts along Jimmy Camp Creek and Fountain Creek are within the above listed species range and should be reflected in the Montana Method analysis, in particular JCCH1, JCCH2, CHIL 3, and several wetlands within the Jimmy Camp Creek and Williams Creek reservoir sites in which northern leopard frogs were observed.

We have concerns about seasonal timing of some of the original wetland delineations. We assume that the Montana Methodology was conducted in the field at the time of the wetland delineation. Wetland delineations that were completed in the fall and winter could produce false-negative findings in regard to the presence of amphibians and fish as outlined in the Montana Method of wetland functional assessment. We recommend addition field surveys during the most appropriate time of year to determine if above listed species are present.

Response to comment 11-2: The Bradley Road realignment in Alternatives 2 and 3 was modified to be routed on the south side of Upper Williams Creek Reservoir in these two alternatives. Mitigation for all alternatives would include seasonal restrictions around active raptor nest sites and heron rookeries during construction following the guidelines listed in the CDOW "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptor Nests."

Response to comment 11-3: The proposed mitigation has been added to the wildlife mitigation in chapter 3, section 3.13.5.4.

Response to comment 11-4: The DEIS addressed this issue in chapter 3, pages 324 to 332. CDOW provided comments on the wetlands functional assessment prior to the DEIS issuance, and changes were incorporated into the DEIS. While the revised functional assessment changed some of the final functional points for some wetlands, it did not significantly change most categories.

Response to comment 11-5: The DEIS addressed this issue in chapter 3, pages 324 to 332. Information on the presence of the Arkansas darter, other fish, and amphibians presented in the DEIS were used in the wetland functional assessment.

Comment	Letter 11 continued	Response
11-6	Overall, we like the approach of assessing wetland functions and values; however, we recommend the additional analysis of state listed species and state species of special concern. The additions would more accurately represent the function and values of wetlands impacted by the Southern Delivery System Project.	Response to comment 11-6: As described in the DEIS, a preliminary assessment of the potential mitigation sites using the Montana Method was completed to determine if the sites would fulfill similar functions and values to the wetlands being impacted. Based on this analysis, the proposed mitigation sites would be of similar or higher quality and the same acreages as the affected wetlands. Wherever practicable, the proposed mitigation sites would be of the same wetland type, hydrogeomorphic environment, and be within the same watershed. The Corps will use this information in setting mitigation ratios. Additionally, Colorado Springs would work with Corps of Engineers to determine if the proposed mitigation sites would be jurisdictional.
	Comments on *Conceptual Wetland Mitigation Plan* The broad concepts discussed in the mitigation plan provide a basis for future mitigation options. However, the DOW requests some additional considerations. The recommendations are at this point (DEIS) general in nature, but much more detail on the specifics will be made available once a Preferred Alternative is selected. We have reviewed the conceptual wetland mitigation plan and are familiar with the proposed mitigation sites. We realize that the mitigation plan is conceptual at this time and instead of making site specific comments, we would like to keep comments to a conceptual level. We view compensatory wetland mitigation as replacing the same: • wetland acreages • wetland type • hydrogeomorphic environment • within the watershed • quality of wetland • jurisdictional determination This type of mitigation should be done on at least a 1:1 mitigation ratio. We recommend using the Montana Method to evaluate potential mitigation sites and determining if sites would be fulfilling the same functions and values as wetlands being impacted. These species specific concepts are touched on in the Aquatic Mitigation section for Arkansas darters but the concept would hold true for northern leopard frogs as well. **Vegetation** The following comments refer to "Affected Environment and Environmental Consequences – Vegetation". Pg. 352-361 3.12.5 Environmental Consequences:	
11-7	The Division is concerned about the lack of quantitative analysis with regard to the potential adverse impacts of noxious weeds, in particular tamarisk. We understand that the direct impacts as it relates to the infrastructure footprint of SDS are located in Table 92. However, the Division has concerns about the indirect impacts as they relate to reservoir water levels in Pueblo, Henry, Meredith and Holbrook. All of the above listed reservoirs have varying degrees of tamarisk infestations. Despite our request during the scoping phase, this requested analysis has been ignored. We believe that a proper environmental impact statement should analyze varying reservoir water levels and the associated adverse impact on tamarisk invasions of shoreline habitat. We realize that this may fall outside the affected environment but recommend some type of quantitative analysis occur for each alternative. Pg. 363 3.12.5.4 Mitigation Measures:	Response to comment 11-7: The Wetlands, Waters, and Riparian Vegetation section (3.11) was modified to disclose the anticipated effects on changing reservoir water levels on tamarisk.
11-8	With regard to noxious weeds, the Division recommends that the participating partners of the SDS project be responsible to mitigate for the increased tamarisk invasion as a result of changes in hydrology on the above listed reservoirs. In that regard, the Division suggests that the project participants initiate and maintain an Arkansas River Tamarisk Coalition to address tamarisk concerns along the Arkansas River. This type of organization would be a clearing house for tamarisk issues within the watershed. This organization could not only tackle tamarisk control as it relates to SDS impacts but help organize and educate Arkansas valley landowners and water users on noxious weed issues related to tamarisk.	Response to comment 11-8: The mitigation in the FEIS was modified. The Participants would work with the Colorado Department of Agriculture's Colorado Noxious Weed Management Team (CNWMT) on tamarisk issues in the Arkansas Valley including submitting a request for partnership evaluation.

The Division appreciates having this opportunity for input. These comments are representative, if not all inclusive of the Division's scoping issues and concerns. We welcome the opportunity to provide further assistance or to answer any question regarding these comments.

Sincerely,

Dan Prenzlow, Southeast Regional Manager
Colorado Division of Wildlife

Cc: Doug Krieger, Southeast Aquatic Manager
Seth McClean, Southeast Wildlife Conservation Manager
Brian Dreher, Southeast Terrestrial Manager
Shaun Deeney, Area Wildlife Manager, Colorado Springs
Jim Aragon, Area Wildlife Manager, Salida
Mike Trujillo, Area Wildlife Manager, Pueblo
Travis Black, Area Wildlife Manager, Lamar

Appendix A
Comments on SDS Draft EIS – Aquatic Resources

The following comments refer to "Environmental Consequences – Aquatic Life". Most references will be made relative to the "*Aquatic Resources Effects Analysis*" document which is a support document to the DEIS.

General Comments

Pg3 – 1.3.1 IHA methodology

11-9 As we stated in our scoping comments we are not convinced that IHA is a useful tool for evaluating impacts to the aquatic habitat. The assumption is made that changes to habitat will be reflected in fish populations (species, biomass, etc). However, there is no literature or studies that we are aware of that have quantified the relationship of IHA output to fish populations.

Only generalized relationships are described in section 1.3.1. For instance, high flows and low flows are both considered as decreasing habitat (and assumed negative for fish biomass or density), however there is no resolution provided for immediate flows which still have some affect on habitat and fish. The use of IFIM in some, but not all stream segments, helps to provide better estimation of fish habitat versus flow.

In reservoirs the relationship of water volumes to fish populations is even more complex. It should be considered that water elevation is not the only defining characteristic. Physical and biological attributes, turnover rate (or conversely – retention time), season, outlet design and species are all important to consider for defining water management effects on fish habitat and fish populations. Changes to aquatic habitat, particularly in reservoirs, cannot be totally or adequately defined by the menu of IHA parameters used in the draft EIS. This will be discussed later in the comments.

Pg 4 – 1.3.3 Simulated hydrology

11-10 The figures which are provided to illustrate median daily flows by month for the year are helpful to differentiate water flows/levels between alternatives. They also provide some visual sense of how flows and reservoir levels of the various alternatives relate to existing conditions, as we are very much hampered by the lack of quantified data (table values) by which to compare alternatives to existing conditions (see discussion below).

In some circumstances (described later in these comments) the generalized graphs for median daily monthly flows/levels do not have the necessary resolution by which to make comparisons of alternatives to effects on aquatic resources. The Surface Hydrology – Appendix A was reviewed for its usefulness to provide more definite values for stream flows and for reservoir hydrology parameters (volume – surface acres – water surface elevation). However there were complications in utilizing this data as it reflected an arithmetic average, whereas the Aquatic Resource Effect Analysis used entirely median values. In addition, there were errors in data for some of the alternatives for reservoir storage volumes as related to reservoir surface acreage (which was confirmed by project hydrologists).

Reclamation concurs that the General and Specific Comments in the Letter's Appendix A identified some important relationships between flows and aquatic life in the streams and reservoirs in the analysis area. Accordingly, the FEIS has been modified to reflect this input. In particular, section 3.10 of the FEIS contains information that includes some of these relationships in the evaluation of the effects of the project alternatives.

Responses to the General Comments to the DEIS and the Aquatic Resources Effects Analysis report are presented below. Most of these General Comments were originally raised in a CDOW review of a draft of the Aquatic Resources Effects Analysis in the fall of 2007 and addressed at that time. The later version of the report (GEI 2008), as well as the DEIS, incorporated many of the CDOW comments. Other comments and suggestions were not considered to be appropriate for modifying the effects report or for incorporation into the DEIS. Therefore, many of the responses to the General Comments below are similar to the responses from 2007.

The Specific Comments in the Letter's Appendix A are a reanalysis of the relative effects of the alternatives compared to existing conditions. As such, the Specific Comments cannot be incorporated into the FEIS and no responses are provided. However, as noted above, there are important relationships identified in the Specific Comments that have been included in the FEIS.

Comment | Letter 11 continued | Response

For some of the graphs (figures) the colored lines for each alternative can not be distinguished. Although that circumstance suggests very little difference in flow/volume between the alternatives, it would still be helpful to see better resolution. We would suggest that in the final EIS that the figures be altered (Y-axis scale be expanded?) to provide more resolution between the alternatives (see for instance Figure 28 for Turquoise Reservoir, or Figure 14 for lower Arkansas River, segment 3).

Pg 4 – 1.3.4 Effects Analysis

11-11 A particular concern stated in DOW's earlier scoping comments was the definition of the baseline by which project alternatives would be compared. The comparison of alternatives (2-7) to the No Action alternative, rather than the Existing Conditions made it extremely difficult to make valid comparisons of alternatives. The use of the existing conditions as a basis for comparison would be much more appropriate and useful, and would allow DOW to make use of baseline fishery data by which to provide the analysis of effects based on a comparison of each alternative to existing conditions. Only comparing the no action alternatives to the existing conditions (and all of the rest of that alternatives compared to no action) makes it difficult to evaluate comparisons, increases the complexity by which alternatives are compared and effects concluded, and in some cases results in incorrect or misleading conclusions.

We specifically asked for some fishery sampling to be included as part of the DEIS so that we would have a solid baseline of data on which to evaluate changes from the various alternatives. Although that data was collected, with DOW assistance, the baseline (or existing conditions) was not effectively used throughout the document for purposes of comparison. Our knowledge and understanding of the aquatic resources affected by SDS has been gained through extensive sampling and management of those resources over the past 20 years or more. It is from that knowledge base that we, as a resource agency, can best assist the BOR in evaluating the true impact of the alternatives.

Only Alternative 1 (No Action) was compared against Existing Conditions – while Alternatives 2-7 were compared to the No Action alternative. The No Action alternative, in fact, includes major actions which, although not Federal actions, are nonetheless as substantial as the remaining alternatives. The DEIS therefore uses a highly altered water system as a baseline by which to compare other equally altered water delivery options. Using this alternative as a baseline (Existing Conditions) makes it increasingly more difficult and complex for the DOW to compare all of the alternatives against the aquatic resource that exists at the present time.

Many of the tables (example would be Table 32) that are central to understanding the changes to hydrology and their impact to aquatic habitat (by IHA or IFIM parameters) are much less useful because there is no comparisons to the existing conditions for Alternatives 2-7. Percent changes to IHA parameters are the linkage used to define minor, moderate or major adverse/beneficial effects. However, those comparisons are not made from the basis of the existing conditions (baseline) but rather a much altered Alternative 1. We were told at our 9/5/07 meeting at MWH that the No Action alternative had to be used as a basis for comparisons to all the other alternatives and that any other comparisons (to the Existing Conditions) would have to be done by DOW or other readers of the document. That creates a daunting task that is not helpful to the DOW, or the public who will struggle to understand the effects of each alternative against baseline conditions.

Response to comment 11-9: The DEIS addressed this issue in chapter 3, pages 295 to 312. This issue was also considered in response to CDOW comments in the fall of 2007. The flow parameters included in IHA and used in the DEIS and FEIS have a long history of use in predicting effects to fish populations, although IHA itself has not been widely used. The CDOW reanalysis in the Specific Comments section also used these parameters, further demonstrating that these are widely used parameters.

Response to comment 11-10: The DEIS addressed this issue in an appendix to the Aquatic Resources Effects Analysis (GEI 2008), which was incorporated by reference into the DEIS. In response to this comment in the fall of 2007, daily flow data were added as an appendix to the Aquatic Resources Effects Analysis report. This provides all the available flow data for a reanalysis of the relative effects of the alternatives, such as that conducted by CDOW in the Specific Comments.

Response to comment 11-11: In response to a similar comment in the fall of 2007, Reclamation stated that the comparison approach was developed to be consistent with Reclamation's (2000) NEPA guidance, discussed on page 142 of the DEIS. Additionally, see response to comment 11-1.

If such a comparison (Alternatives 2-7 compared to Alternative 1) is actually required by NEPA, the DEIS should have added some additional comparisons for better understanding. For instance, the DEIS should have provided at least the percent changes (found in the lower 1/3 of the tables) for all of the alternatives compared to Existing Conditions.

It is important to recognize that due to the above factors, the DOW, for purposes of providing comments on the DEIS, made nearly all comments related to aquatic resources based on a comparison of alternatives to existing conditions.

Pg 5 – 1.3.5 Interpretation of effects

11-12 IHA or IFIM changes of less than 10% were assumed to have a negligible or no detectable impact to the aquatic resource. Yet the DOW has found (see BLM 2000, Water Needs Assessment used as part of this DEIS) that slight changes in flow can have direct and substantial impacts on brown trout in the Arkansas River in late summer. Changes in flow of less than 10% resulted in significant changes to IFIM HUA and were measured in changes to brown trout biomass of thousands of pounds. Caution is advised when making broad assumptions, particularly using relatively untested methodology like IHA.

Pg 21-22 – 3.1.1.1 Fish Parameters

11-13 The statement in this section relative to stocked fish ("*Stocked fish species can also be affected by these factors, but their numbers and population levels are controlled to a large extent by decisions on the numbers, size, frequency, timing, and species of fish stocked by the management agencies, such as the CDOW.*") does not fairly reflect the situation. Stocked fish, particularly warmwater species like walleye, saugeye, wipers, largemouth bass, are stocked at small size to compensate for the lack of natural spawning areas or conditions necessary for completion of life cycles. However, once these young fry or fingerlings are stocked, they are very much dependant upon the same water quantity, water quality, abiotic and biotic factors that affect those species that naturally reproduce. And in most cases these stocked species comprise the most beneficial and utilized portion of the entire fishery for the warmwater reservoirs. The phrase "large extent" is inaccurate and suggests that stocked species are an artificial aspect of the aquatic resource and not sensitive to water alterations. This is also true for rainbow trout that are stocked in the upper Arkansas River, where they become an important and valuable component of the fishery (again the statement that "*Rainbow trout are controlled by stocking*" is inaccurate and misleading. This same situation is true for other salmonids that are stocked as smaller fish in the upper reservoirs – lake trout and brown trout, for example.

Pg 23-28 - 3.2.1 & 3.2.1.1 Indicators of Hydrologic Alteration & Relevant Parameters

The document states the assumption that only large scale hydraulics lead to population

11-14 determinations. This again neglects the subtleties of what we understand about fish populations in relation to the water regime and dynamics. In general, utilizing a limited range of pre-selected IHA parameters does not provide for adequate evaluation of the subtleties between fish and their habitat that are sometimes controlled by limited water alterations, particularly at certain times of the year. We suggest that there are some other comparisons that are very important to aquatic resources that ought to be provided in the EIS, but that are not considered using IHA parameters.

Response to comment 11-12: This comment does not accurately reflect the information published in the Aquatic Resources Effects Analysis (GEI 2008) and the DEIS, chapter 3, pages 295 to 312. However, Reclamation has made editorial revisions to the FEIS, in section 3.10.3.5 to clarify this matter. Reclamation agrees that the Water Needs Assessment presents some IFIM curves that indicate changes in habitat availability (WUA) of more than 10 percent for changes in flow of less than 10 percent over some parts of the flow range. Information has been added to clarify that these IFIM curves were used in the analyses in the Aquatic Resources Effects Analysis (GEI 2008) and the DEIS. The curves were used to simulate habitat availability with daily hydrology data, not with IHA output. Consequently, IHA parameters, regardless of their percent change, were not considered in the IFIM analysis.

In the IHA evaluation, a difference in any one of the key IHA parameters of 10 percent or greater was used to indicate that aquatic resources may be potentially affected and warranted further analysis. Differences in key IHA parameters of less than 10 percent would be unlikely to result in adverse or beneficial effects on aquatic biota due to the natural variability in the hydrological and biological data, which would result in differences less than 10 percent being undetectable. Reclamation believes that using the absence of a 10 percent or greater change in any single IHA parameter, from among the array of parameters evaluated, to detect potential effects is reasonable.

Comment	Letter 11 continued	Response
	Also note that Table 3 does not accurately reflect the parameters for reservoirs (group 1), which had been changed based on previous DOW comments.	Response to comment 11-13: The quotation does not accurately reflect the content of section 3.1.1.1 of the Aquatic Resources Effects Analysis (GEI 2008) but may reflect a draft version that CDOW reviewed in 2007. Nonetheless, Reclamation agrees that stocked species can be directly affected by changes in habitat availability and water quality in addition to stocking decisions by resource management agencies. Section 3.10 of the DEIS and FEIS reflect this perspective.
11-15	Pg 29 – 3.2.2.2 Life Stages and Periodicity We do not agree with the species selection for Fountain Creek as used for IFIM analysis. Red shiners are very rare and are not found in upper Fountain Creek and inclusion of that species for IFIM is questioned. Sand shiners are more common and inclusion of that species is appropriate. The DOW previously requested that the flathead chub be used as an evaluation species, and the addition of that species and IFIM curves for it provide a better tool for evaluation. The flathead chub is a former federal candidate species, and is still considered to be uncommon or of management concern in most of its range. However, Fountain Creek remains a stronghold for this species within Colorado. Other species should also be considered for inclusion and evaluation, for instance creek chub (and the only consistent predatory fish in the drainage) and central stoneroller, both of which are common in the Monument and Fountain creek drainages.	Response to comment 11-14: The FEIS has been modified to reflect this input. In particular, chapter 3 of the FEIS contains information that has been updated since publication of the DEIS. In response to this comment in the fall of 2007, additional IHA parameters were added to the Aquatic Resources Effects Analysis (GEI 2008) and the DEIS. The reanalysis pursuant to Comment 11-14 identifies other important relationships that were not previously identified. These relationships were incorporated into the analyses presented in the FEIS.
11-16	Pg 35 – 3.2.2.4 Limitations on IFIM This section suggests bias in the use of IFIM to justify a preference for IHA over IFIM. It is unfair to consider limitations on IFIM due to a consideration "*that direct relationships between modeled habitat availability (WUA) and fish density or biomass have been demonstrated only rarely.*" Since IFIM is being compared to IHA it should be pointed out that there are, in fact, no evaluations of the link between IHA and fish habitat, let alone fish biomass or density. A balanced discussion of the limitations of these two models should have been reported.	Response to comment 11-15: Reclamation agrees that red shiners do not commonly occur in the upper segments of Fountain Creek and removed this species from the evaluations for Segments 1 and 2 of this stream. The content of the FEIS was modified to reflect this change. Concerning habitat evaluations for creek chubs and central stonerollers, appropriate IFIM suitability curves are not available for these two species. Habitat availability for these species cannot be added to the evaluation.
11-17	Pg 36-38 – 3.3 Approach to Effects Analysis As stated previously it is extremely difficult to conduct an effects analysis when Alternatives 2-7 are compared to a baseline of Alternative 1, rather than from the heavily data-supported knowledge of Existing Conditions. **Therefore, the DOW based their assessment of impacts of alternatives against existing conditions – rather than comparing alternatives 2-7 to alternative 1.** For that reason, many of our conclusions on potential impacts to aquatic resources differ from those suggested by the DEIS.	
11-18	Pg 39-42 - 3.3.2 Interpretation of Effects This section is not well supported and makes unsubstantiated linkage between IHA values to fish speciation and biomass. There are no scientific studies which have correlated IHA with fish habitat, let alone fish biomass/density. Instead, for this DEIS, some general trends between hydrology and fish are simply assumed. As an example the DEIS makes the broad statement that increased "higher" flows on Fountain Creek result in less suitable habitat for fish, but at some flow level or change of flow level (the specifics of which are not documented) increased flows levels are considered beneficial (i.e., for Monument Creek). Another example would be the statement that a change of less than 10% in the IHA values is assumed to be inconsequential. We know that some fish populations (or the primary/secondary productivity on which they depend) in the project area are indeed affected by changes in flows of less than 10%. This is particularly true of the upper Arkansas River and Twin Lakes Reservoir where such impacts have been measured. Some other resources may also be sensitive to water flows/elevations at certain periods of critical life stages – and we note those for the specific	

waters below. Generally, however, the <10% hydrologic change can be accepted where it can be documented that such flow variation is within the natural flow/level variation, and that there exists no information that suggests a certain fishery actually is impacted at flows/levels below this 10% threshold.

A more egregious conclusion for the DEIS is the assumed connection between described levels of impact and the actual fish populations that are presented in Tables 5-7. We strongly disagree that the presented levels of impacts are indicative of the associated label (minor, moderate, major). Definitions of those impacts do not align well with what the DOW would recognize as changes to population levels. For instance, minor adverse effects for coldwater streams are suggested to be loss of one fish species. In the Arkansas River the fish community is very limited and composed of two sport species (brown and rainbow trout), white suckers and one or two small bodied fish species. Loss of even one of those species would be a major concern based on fishery management. In addition, a decrease in biomass of 25% lower than the historic range would also be considered substantial, particularly for salmonids. This would also be true in the case of warmwater reservoirs where self-sustaining (or stocked species as we have illustrated earlier in these comments) would be reduced by 25%. A 25-50% loss in biomass, as suggested in Table 4 as a "moderate" impact, would be considered by DOW management standards to be a critical and unacceptable level of loss. The "major" impacts, where more than a 50% loss of biomass or loss of half of the fish species would be realized, would be thought of by the DOW (and most likely the public) as an unmitigated disaster for our wildlife management purposes.

Furthermore, the resulting interpretation of the effects does not follow from the level of impacts that are presented. For instance, direct impacts to Meredith Reservoir from Alternative 2-4 would result in Group 2 IHA values for minimum levels up to 30% or more (Table 44), however the DEIS interpretation was that this substantial adverse impacts would be "minor" (middle of page 159).

Specific Comments

Pg 43 - 4.1.1 Lake Fork – Downstream of Turquoise Reservoir

Few significant changes to the hydrology regime on Lake Fork would suggest that impacts to the fishery will be minimal. Most alternatives (except 7) result in a reduction in 1-day maximum, which could benefit the fishery. High pulses are reduced in all alternatives from 2 to 1, although the number of reversals increase with most alternatives (except 1, 7). Cumulative impacts are similar with some minor benefits to the fishery from lower 1, 7, 30-day maximums, however the number of reversals are increased from existing conditions for most alternatives (except 1, 7). Generally, it appears that alternatives 3, 4, and 5 provide some minor beneficial impacts, while alternatives 1, 2, 6, 7 produce flows which will result in very little change to aquatic habitat or fisheries for the existing conditions.

Response to comment 11-16: The DEIS addressed this issue in chapter 2, pages 307 to 308. The DEIS included a paragraph on the limitations of IHA.

Response to comment 11-17: Thank you for your comment.

Response to comment 11-18: These issues were addressed in response to CDOW comments in the fall of 2007. The linkages assumed between IHA and fish populations in the Aquatic Resources Effects Analysis (GEI 2008) and the DEIS are similar to the linkages assumed by CDOW in the reanalysis in the Specific Comments section. In both the cases of the DEIS and the CDOW Specific Comments reanalysis, professional judgment was used, based on experience, because no specific relationship between flow parameters and fish populations have been formalized.

Comment	Letter 11 continued	Response

<u>Pg 46 – 4.2.1 Lake Creek – Downstream of Twin Lakes</u>
Most alternatives result in increased flows for most of the year, particularly for alternatives 1 and 7, compared to the existing conditions. This along with the higher 7-day maximum could actually result in decreases to trout habitat throughout the year. With no low pulse counts under existing conditions, all the alternatives increase this negative attribute (highest for alternative 2). The channel will likely experience some erosion in response to a higher flow regime. Spawning may be limited under conditions imparted by alternatives 1 and 7 if winter (incubation) flows drop proportionately from spawning flow levels of late October. Cumulative impacts are seen as similar to direct. Overall, compared to existing conditions, any alternative (except 1 or 7) will likely maintain status quo.

<u>Upper Arkansas River</u>
There have been two prominent studies conducted on the upper Arkansas River that elucidate the relationship between flow and trout growth (Anderson and Krieger 1994), body condition, and habitat (Bridges et al. 2000). The later study is referred to as the Water Needs Assessment (WNA). There has also been a great deal of fish population data collected by the Colorado Division of Wildlife since 1981 that collaborates the findings from these studies. This data was collected in a wide range of water year types, from extremely dry to very wet. The low flow conditions created from the 2002 drought dramatically illustrate the inverse relationship between water flow and fish growth/ body condition. The following discussion summarizes these findings with relevance to the SDS DEIS.

The Instream Flow Incremental Methodology (IFIM) used in the WNA quantifies the relationship between discharge and fish habitat. Trout habitat is optimized from 250 to 450 cfs (measured at the Wellsville gauge) for all life stages of both brown and rainbow trout from above Granite to Canon City. This flow range applies throughout the year. A flow of 450 cfs at Wellsville equates to 251 cfs at Granite, 399 cfs at Nathrop, and 538 cfs at Parkdale.

Fish habitat has an optimum value at a certain velocity and depth. The further the variable is from the optimum value, the less likely that position is going to be occupied by a trout. Currently, high flows frequently produce unfavorable habitat conditions in the Arkansas River. As flow increases above 400 cfs at Wellsville, depth and velocity increase disproportionately compared to width. Higher velocity accounts for large drops in suitable habitat, particularly for small fish. Velocity is generally recognized as the most critical variable in microhabitat selection by lotic trout. Suitable habitat actually declines at a lower discharge at the other IFIM sites because the channel is more confined in these reaches causing velocity to become unsatisfactory. Certain periods of the year are critical for brown trout (the dominant species in the Arkansas) growth and survival. There continues to be a strong correlation between brown trout growth and discharge, particularly in August.

Trout growth is a good indicator of the health of an aquatic ecosystem because it integrates all the biotic and abiotic variables impacting organisms and reflects secondary effects of chronic stress. Brown trout occupy positions in a stream that maximize net energy gain during foraging. The potential profitability of a specific position should be predictably related to growth of a fish and, therefore, profitability is also a function of flow. Many authors have suggested the carrying

Concerning the issue of levels of impact, the minor-moderate-major designations were applied to all alternatives in a consistent manner and are appropriate for distinguishing the relative effects of the alternatives. This is appropriate in light of the variability in fish populations from year-to-year in the water bodies in the analysis area. For example, the Water Needs Report (Bridges et al. 2000; full citation provided that the end of Comment Letter 11) shows the catch of fish in Twin Lakes and Turquoise Lake over the years. In Twin Lakes, the average number of rainbow trout caught in gill nets by CDOW between 1987 and 1997 ranged from approximately 1 to 18. In 1992, the catch was 18; in 1993 the catch was 1, a 93 percent reduction in one year.

In 1994, the catch was 15, a 1,400 percent increase from the previous year. In Turquoise Lake, the catch of lake trout varied threefold, from 20 to 60 between 1984 and 1997. Fifty percent variation in trout biomass associated with a major effect designation has already been documented in the analysis area under existing conditions.

capacity of a stream may be determined by available habitat and number of foraging sites. Greater depths and increased velocities not only increase the metabolic cost associated with foraging, but also create conditions that reduce the capture of drifting insects. As stated above, trout habitat is optimized at 250-450 cfs measured at the Wellsville gauge. Macroinvertabrate densities are also strongly influenced by flow. Optimum velocity parameters are exceeded at flows above 500 cfs at Wellsville.

The drought of 2002 created an extremely dry water year in the Arkansas River basin. This presented a unique opportunity to document the benefit of low flow on the fish population and to validate past studies. Augmentation water for recreational boating was not available throughout the summer and no water was released to maintain discharge at 700 cfs through August 15. Average monthly flow on the Arkansas River was 278 cfs in July and 260 cfs in August 2002. This compared to a mean discharge of 1457 cfs in July and 1048 cfs in August 1999, an average water year. Numbers were intermediate between these values in 2003-2007. Mean July and August flows have steadily risen since 2002, where they remain well above the optimum flow range for trout.

The brown trout population responded dramatically to improved habitat conditions in 2002 with notable fish growth and improved body condition. Growth was significantly improved for all age classes in 2002. Most notably, the number of brown trout per acre over 14 inches increased dramatically to a value of 56.3 at the Wellsville site. This parameter had not risen above 10 since 1981. Low flows throughout the growing season (May through September) created habitat conditions that optimized feeding efficiency. The favorable habitat conditions created in 2002 resulted in a record number of brown trout over 14 inches for five consecutive years, even though summer flows were less than optimum from 2003-2007. Trout population biometrics and growth has steadily declined since 2002, a consequence of increasing water flow. Recruitment of fish over 14 inches has diminished to historic levels. Small flow changes in July and August have profound impacts on useable habitat and subsequent fish growth and fitness, particularly when flows are in the 500 to 700 cfs range. Even though the number of brown trout over 14 inches remained good in 2004 and 2006, their fitness (plumpness relative to length) steadily declined. Both the number of large fish and their condition diminished to historic levels in 2007.

This illustrates the importance of the relationship between flow and trout growth, body condition, and habitat. The Voluntary Flow Management Program (VFMP) generally recognizes these optimum fishery flow values while calling for a summer augmented flow for rafting (target 700 cfs flow from July 1 to August 15). This program is a compromise between fishery and rafting interests but recognizes that flows over 400 cfs are detrimental to the fishery.

None of the alternatives outlined in the SDS DEIS for the upper Arkansas River provide optimum habitat for trout. Flows typically exceed recommended maximum flows (400-450 cfs at the Wellsville gauge) throughout the year in all of the alternatives. Consequently, alternatives that decrease flows relative to existing conditions are generally preferred. April and August flows, maximum periodicity, and effect of flow on trout habitat were considered to be the most important variables when commenting on the various alternatives.

Pg 49 – 4.3.1 Segment 1, Lake Fork to Granite
Essentially, the hydrology does not appreciably alter rainbow or brown trout habitat during the year compared to existing conditions. The 1-day maximum is higher than exiting conditions for most alternatives (except 3, 4), but come at a time of the year (late June to early July) where changes in habitat area for the trout do not typically alter biology due to runoff conditions and cold water temperatures (habitat is much lower than optimum seen at 450cfs). With little variation of flows induced by the alternatives compared to existing conditions, it is anticipated that alterations to habitat and aquatic resources is limited in any of the alternatives. Cumulative impacts are similar to direct impacts.

Pg 54 – 4.3.2 Segment 2, Granite to Buena Vista
Lower February flows result from all alternatives (except 3), with continued lower flows into March for alternative 1, compared to existing conditions. This will negatively affect adult trout habitat during the low flow period of the year, particularly with flows resulting from alternative 1. Generally, winter conditions are not severe on the Arkansas and adults are able to maintain adequate body condition during cold water periods. It is unlikely that incubation will be negatively impacted by the lower winter flows, but will depend on flow levels experienced during the previous fall which determines location of egg deposition. No information is provided in Table 12 on which to compare the fall flows, but Figure 5 portrays a rather flat hydrologic regime from fall to spring that should be adequate for incubation flows. Low pulse counts are increased (compared to existing conditions) for alternatives 1 and 2 producing some negative impact to habitat, while high pulses are increased under alternatives 2, 3, 5 and 7. The timing of these pulses may induce some meaningful changes to habitat, but it is not clear from the data provided when they may occur except for the obvious spike in flows in late March under alternative 7 which could impact fry emergence.

IFIM data (Table 13 and Figure 6) indicates that habitat for adult and juvenile brown and rainbow trout will be reduced for all of the alternatives when compared to existing conditions, particularly for alternative 1. This may result from lower 1, 7 and 30-d minimum flows induced by alternative 1, and to a lesser extent with alternative 7. Both of these impacts are more pronounced in dry water years.

Generally, it appears that alternatives 3 and 4 affords some minor benefits (from reduced August flows, and better WUA in wet years) for trout habitat compared to existing conditions when considering direct impacts. Alternative 3 has similar effects under cumulative impact analysis.

Pg 61 – 4.3.3 Segment 3, Buena Vista to Browns Canyon
The most significant change to hydrology compared to existing hydrological conditions is seen in the group 2 parameters with reductions in the 1, 7, and 30-d maximums seen for the no action alternative (1). This would impart some favorable conditions for brown and rainbow habitat. Alternative 6 generates some consistently higher flows, and although the data does not provide details on year-round timing of such flows – generally increased flows in this segment would be realized as a negative impact to aquatic resources. August flows are lower for alternatives 2 and 3, but exhibited for all alternatives compared to existing conditions. Flow levels in August are most critical for habitat and trout growth with higher flows bringing about more negative conditions. Therefore, when compared to existing hydrology, all the alternatives generate

increased favorable conditions during this late summer period with likely increases to trout growth. Alternative 2 (considering both negative and positive effects) is the most favorable alternative (followed closely by alternative 3) for this segment when considering both direct and cumulative impacts. It also affords increased habitat units for both adult rainbows and brown trout. This is supported by IFIM output for WUA for brown trout for a typical water year, although less so for dry and wet years.

Pg 66 – 4.3.4 Segment 4, Browns Canyon to Coaldale

As was seen in segment 3, critical August flows are reduced as a result of hydrology generated by all of the alternatives (except 7). A decrease in the group 2 parameters for 1, 7 and 30-d maximum is evidenced for alternatives 1, 2 and 7, again compared to existing conditions. Minimum 1-d flows are reduced for alternative 1, but not appreciably. Habitat units for adult rainbow and brown are not significantly different between alternatives, but under wet and dry years some improved conditions are seen under alternative 1 and 7 compared to existing conditions. Those alternatives also generally afford the greatest reduction to the 1, 7 and 30-d maximum with benefits accrued to potential habitat. As far as cumulative impacts, a reduction in August flows are also realized with most alternatives, but in this case alternative 5 results in the most beneficial conditions, when compared to existing conditions. Minimum flows are constant or improved (higher) under alternatives 2, 5 and 7; while maximum flows appear to provide some limited improvement in habitat for trout for alternatives 1, 5 and 7.

Pg 71 – 4.3.5 Segment 5, Coaldale to Texas Creek

Due to lack of gage data in this segment, the hydrology is modeled similarly as in segment 4, however, IFIM was conducted in this segment to provide some insight into habitat changes with hydrology. Habitat units are similar to that exhibited for existing conditions for all alternatives under a typical hydrological year. Under dry year conditions habitat is maximized under the flow regimes induced by alternative 1 for both adult brown trout (+33%) and rainbow (+24%), and to a lesser amount under alternative 7. However, in a simulated wet year there is increased habitat for both species and most life stages under all alternatives with the most improvement seen with alternative 1 (+52% for brown adult) and with slightly less improvement in alternatives 3, 4, 6 and 7. Cumulative impacts suggest similar effects as direct impacts.

Pg 74 – 4.3.6 Segment 6, Texas Creek to Canon City

In consideration of direct impacts, alternative 2 furnishes the most beneficial August flows, maintains or slightly improves conditions for minimum periods and also provides some decrease in 1, 7, and 30-d maximum periods compared to existing conditions. August flows also result in some lesser increased benefits with alternatives 4 and 5, but alternative 6 does not alter flows compared to existing conditions. Improvement to February low flow conditions are also realized under all of the alternatives when compared to existing conditions, and March flows are better (higher) with hydrology afforded by alternatives 2, 5, and 7. By the April period, flows for all alternatives have centered on those seen under current existing conditions. Alternative 2 also provides some relief on 1 and 7-d maximum flows, while 30-d maximum is improved, but not much, with flows yielded by alternatives 3, 4, 6 and 7. IFIM output suggests that trout habitat does not change to any important degree for all alternatives when compared to existing conditions in a typical water year. Alternative 1 does indicate some improvement in adult trout habitat for dry years and again in wet years (along with some increases imparted by alternatives

6 and 7). Cumulative impact projections suggest some slightly different flow-habitat comparisons. Alternative 2 also indicates some attenuation in August flows and to a lesser degree for alternative 5, than 4. February low flows are improved under all alternatives compared to the existing conditions, and those higher low flows are continued into March and April for alternative 2. Maximum values for flow are improved somewhat under alternatives 2, 5 and 7.

Pg 79 – 4.3.7 Segment 7, Canon City to Pueblo Reservoir
This segment in characterized as a transition reach on the Arkansas River from a brown trout dominated fishery at Canon City to a fish community composed of native fish and some sport fish (out of Pueblo Reservoir) inhabiting the lower portion of the segment. As such defining beneficial versus detrimental flows becomes more complex. From a cold water position there are some benefits from the increase flows exhibited during the low flow period and for all of the minimum periods (most dramatic under alternatives 3 and 4 – however the increases seen for those two alternatives would be realized only below Florence and for the most part for non-salmonids), however those higher flows are also realized during August and during the 1, 7, and 30-d maximums which would be a negative to trout. With the lower elevation in this segment winter conditions during the low flow period are not considered limiting, so some improvement there does not offset the higher flows during peak and August periods. On the other hand, the warmwater component fishery in the lower reaches of this segment would likely experience some minor benefits from increased flows and expanded shallow water margin habitat with the higher flows imparted under alternatives 3 and 4. However, the increased nutrient loading that would be expected below the return flow confluence is considered to be detrimental to the fish populations (mostly cool or warm water species). This negative factor may be partially offset by the moderating water temperatures that would be expected. Perhaps the most beneficial compromise flow regime (balancing needs of cold and warmwater species) appears to be under alternative 2 which affords some higher minimum flows, but also improves (decreases) the 1, 7, and 30-d maximum flows – both compared to existing conditions. Cumulative impacts are seen as similar to direct.

The DEIS states that increases to salinity, selenium, nitrogen and phosphorus, particularly with alternatives 3 and 4, and to a lesser degree with alternative 6. The nutrient increases "*would not be high enough to exceed standards, but the increases could result in higher biological productivity in Segment 7 for Alternatives 3and 4*". While these increased levels of salinity and selenium may not have a major affect on this river reach, we would expect that an increase in nitrogen and phosphorus in the lower reaches of this segment will result in increases of vegetation growth in the river which could reduce the availability of clean substrate. Furthermore, gradual accumulation of salts or selenium in the upper reaches of Pueblo Reservoir may result in depressed water quality to that resource.

Projections of changes to water temperature for this segment are anticipated to be realized for some distance downstream from the point of entry of return flows in alternatives 3 and 4, according to the DEIS. Based on field assessments, trout habitat now extends all the way to the reservoir so we question that there will be increased trout habitat downstream due to moderated water temperatures. Even though the trout densities are low throughout this reach, it is normal for the existing habitat and the system to be balanced between sport fish and non sport fish. A shift that increases trout abundance may result in a decrease in native minnows in this reach.

Increased erosion is also expected in segment 7 with increased flows due to alternatives 3 and 4. The material that is eroded from this segment due to higher flows may, as suggested in the DEIS be transported downstream, but the coarser substrate remaining with higher flows will only be beneficial if it is not covered by algae and vegetation that may occur with nutrient loading in this segment. In addition, the sediment from this segment will eventually end up in Pueblo Reservoir, which will accelerate the sedimentation of the reservoir; shorten reservoir life by decreasing available storage in the reservoir; and covering desirable rock and gravel habitat within the reservoir. This habitat is currently used by bass, bluegill crappie and walleye within the reservoir especially during spawning periods. The rock habitat is also important to crayfish populations within the reservoir. In addition, increased turbidity in the upper end of Pueblo Reservoir (or lower end of Arkansas – segment 7) may restrict sight feeding by predators, such as walleye, wipers, bass and trout. These conditions should be considered as adverse impacts of Alternatives 3 and 4.

Lower Arkansas River (below Pueblo Dam)

Pg 83 – 4.4.1 Segment 1, Pueblo Dam to Wildhorse Creek

Aquatic resources of concern for this segment are for maintenance of the rainbow fishery (which is established through a stocking program using catchable sized fish) and the brown trout fishery (established by fingerling plants), the invertebrates necessary to support the fishery, and the fishing recreation that is very much dependent upon the quality of the fishery and the flow regime through this segment.

Low winter flows are considered a controlling factor to fish populations, fishing, but also to invertebrates. The winter flows (Jan/Feb and March – at least until the end of WWSP on March 15) are improved (increased) with hydrology associated with alternative 4, and to a lesser degree with alternative 3 compared to existing conditions. Conversely, this period suffers from lower overall flows with alternatives 6 and 7. Group 2 parameters for 1, 7 and 30-d minimums are also increased (improved) with alternatives 3 and 4. Unfortunately, alternative 4 flows also generate moderate increases to the 1, 7 and 30-d maximums compared to existing conditions; and to a lesser extent under the flows indicative of alternative 3. The quality of the aquatic resources is characteristically controlled not only by low flows during the winter (period of the Winter Water Storage Program) but again by exceedingly high flows during the irrigation season. Any alternatives (likely 3, 4, and 6) that result in increases in summer flows above existing conditions would be detrimental to the trout population in this segment due to loss of fish from velocity exceedance. Higher summer flows would also tend to restrict wade fishing and discourage that recreation. The ideal flow alternative would be one that moderated these extremes (higher in winter and lower in summer); however none of the alternatives furnishes such relief. As compromise alternatives, 2 and 5 support some beneficial gains for both time periods, but they afford only limited improvement. Because the fishery is regulated by peaks and valleys of regulated flows, and as none of the alternatives improve this situation, the habitat units (WUA) for both rainbow and browns (Table 23 and Figure 12) exhibit very little variation across alternatives in typical and dry years, particularly for rainbow – the dominant species – except for brown trout with alternative 7 (which may result from the high number of low pulses). Only moderate differences are seen in wet years for alternatives 1 and 2, compared to existing conditions and WUA. The general trends in flows/habitat and aquatic resources for cumulative impacts are similar to direct impacts described.

Pg 90 – 4.4.2 Segment 2, Wildhorse Creek to Fountain Creek

The moderation of water temperatures resulting from releases out of Pueblo Dam that support the cold and cool-water fishery and invertebrate community in Segment 1, is lost in Segment 2. In addition, habitat for sport fishes and invertebrates decreases in quality below the Wildhorse Creek confluence. Nonetheless, the aquatic resource values in this segment shift to native species and some warmwater sport fish.

The most critical factor to consider in maintenance of the aquatic resources in this segment is simply continuous flow. This segment has historically been vulnerable to very low flows, approaching or reaching no flow at times. Due to the nature of the channel configuration, very little flow is needed to provide at least some refuge habitat for small bodied fishes, but zero flow values realized with some of the alternatives can result in massive fish kills if environmental conditions are also depressed. Under those very low flow conditions the wetted substrate is largely dewatered at the expense of invertebrate populations. Most of the alternatives (except for 3, 4 and 5) result in 1-d minimum flows that reach 0 and also greatly increase the number of low pulse counts compared to the existing conditions, and would be expected to critically impact aquatic resources by reduction of numbers and biomass, and perhaps eliminate them altogether. Alternatives 4 (mostly), and 3 and 5 (to a lesser extent), bring about improved (higher) winter flows and would improve the 1-d minimum to a varying degree, plus some additional increases for the 7 and 30-d minimums for alternative 4 only. Alternatives 3 and 4 (but not 5) also have the disadvantage of increasing the 1, 7 and 30-d maximum flows, however that degree of increase is not as important as the gains realized to minimum flows.

Pg 94 – 4.4.3 Segment 3, Fountain Creek to Colorado Canal

The aquatic resources within this segment of the lower Arkansas River are characterized by native fish species and invertebrate populations that are tolerant of the shifting sand substrates. However, this segment is recognized for its potential habitat for suckermouth and plains minnows – two state-listed endangered species.

The hydrological regimes that can impact aquatic habitat and resources in this segment appear to be similar for all of the alternatives when compared to existing conditions. Winter, spring and summer flows that result from the alternatives (and illustrated in Table 25 and Figure 14) show very little variation. The document narrative for this segment of the Arkansas River below Fountain Creek suggests that flood flows and erosion will be reduced due to the existence and operation of Williams Creek Reservoir as part of alternatives 1, 2, 5, 6 and 7. Surprisingly, none of the IHA parameters listed in the table appears to provide any evidence of that (i.e. 1-d maximum for alternatives 2-7 are all essentially equal in value). Cumulative impacts reflect only minor changes to the hydrology for all of the alternatives, and are functionally equal in terms of direct impacts.

Pg 97 – 4.4.4 Segment 4, Colorado Canal to John Martin Reservoir
The similarity of hydrology between alternatives seen in the previous segment (segment 3) is also seen in this reach from Colorado Canal to the bottom of the affected environment at John Martin Reservoir. The minor changes in flow scenarios associated with each alternative are unlikely to produce any discernable differences in their affect on the aquatic habitat or resources. Again, the table data does not adequately illustrate any reduction in flood or erosive flows that are mentioned to occur with alternatives 1, 2, 5, 6 and 7. None of the Group 2, 3, 4 or 5 IHA parameters are apparently sensitive to flood or spike flows – as they indicate nearly identical values. The added flows created by alternative 1 (no action) could be beneficial to river fishes by the creation of additional spawning and cover habitat.

Monument Creek

Pg 101 – 4.5.1 Monument Creek, Garden of the Gods Road to Fountain Creek
This segment is inhabited by creek chubs, longnose dace, fathead minnows, longnose and white suckers, sand shiners, and flathead chubs. Red shiners have not been found in this reach.

Monthly flow (IHA parameter group 1) data is very similar between the alternatives, as compared to existing conditions, with monthly mean flows increased by 25-30%. Group 2 parameters again are nearly identical across all alternatives, except for 1-d minimum flows which are higher (about 60% higher than existing conditions) for alternatives 1, 3, 4, 6 and 7; while those minimums increase to a lesser extent for alternatives 2 and 5. All other group 2 parameters are increased anywhere from 6% (1-d max) to 65% (70-d min) from existing conditions. Low pulse counts are reduced and high pulse counts remain similar to flows seen with existing conditions. The date of maximum flow occurs in mid-June for all alternatives, however the minimum flow is some months can occur in May (alternative 1, 3 and 4).

Generally higher flows in Monument Creek will tend to benefit the small-bodied chubs, dace and minnows by affording more wetted stream bed and increased macroinvertebrate habitat and abundance. Spawning of these small fishes, which occurs in late spring to early summer, would be enhanced with steadily rising and higher flows during this period. Maximum flows in June (true of all alternatives) would be preferred, however a minimum flow in May (alternatives 1, 3, 4) would be considered moderately detrimental.

It should also be noted that the No Action alternative (1) includes significant well pumping in aquifers that are already experiencing declines due to increased pumping in more areas within northern El Paso County. Increased well pumping of some shallower aquifers has been shown to reduce surface flows. As a result, constructing well fields as part of alternative 1, ground and surface water would be expected to decrease. Although not specifically addressed in the DEIS, these decreases may be manifested in lower flows in the spring fed tributaries of Monument Creek proper upstream of Garden of the Gods Road or they may impact drainages outside of the DEIS study area including Big Sandy Creek, as well as Black Squirrel and Chico creeks, as well as other smaller tributaries within the Fountain/Monument creek drainages.

Fountain Creek

Fishery surveys have been conducted on Fountain Creek since the late 1970's, but has been more intensively inventoried (annually) since 2003. Species sampled include: flathead chub, longnose dace, fathead minnow, creek chubs, white and longnose sucker, central stoneroller, sand and red shiners, brook stickleback, Arkansas darter, plains killifish, and occasionally green sunfish, brown trout, and carp. Fish collections have been historically conducted at Nevada and Janitell (both within segment 1); at Security (segment 2); Hannah Ranch (Segment 3); and at Pinon and at Pueblo (both in segment 4). There is roughly a transition in habitat and fish community structure between Segment 1 and 2, where the creek is more confined and has a more varied substrate, and the fishery is primarily composed of longnose dace, white sucker, creek chub, longnose sucker, fathead minnows and flathead chubs (in that order). The longest reach of Fountain Creek (segments 3 and 4) is characterized by a broader, braided channel with primarily sand substrate. Fish community in these segments is by far dominated by flathead chub, a former federal candidate species and one that is generally considered to be uncommon or of management concern in most of its range (Canada, central US plains states, CO, NM, OK and to IL). Fountain Creek remains a stronghold for this species within Colorado, and is particularly abundant from Security south to the confluence with the Arkansas River. Besides flathead chub, other commonly found fish species in this reach (segments 2, 3, 4) include central plains stoneroller, sand shiner, longnose dace, fathead minnow, red shiner, Arkansas darter, and some plains killifish, sunfish and carp.

Pg 104 – 4.6.1 Segment 1, Monument Creek to Academy Blvd

Flow hydrology for IHA parameter groups 1 and 2 exhibit consistently higher flows for alternatives 1, 2, 5, 6 and 7 as compared to flows reported for existing conditions. According to Table 28 there is roughly a 50% increase in mean monthly flows for most months, a nearly doubling of minimum flow and a more moderate increase for 1, 7, 30, and 90-d maximum flows (all compared to existing conditions). In addition, low pulse counts are reduced from existing conditions for alternatives 1 and 7, and are greatly reduced for alternatives 2, 5 and 6. Conversely, flows produced by implementation of alternatives 3 and 4 reduce monthly flows compared to the existing hydrology by 30-50%, and 1, 7 and 30-d minimums are reduced by over 65%. The group 2 maximums are also reduced, by a lesser amount (about 20%), under alternatives 3 and 4 compared to existing conditions, except for the 1-d maximum which is just slightly increased. However, a slight increase (6%) in flow fluctuations may be evident in all of the alternatives when compared to the existing hydrology, as reversals are increased over existing.

Based on IFIM completed for this segment of Fountain Creek, the DEIS suggests that alternatives 3 and 4 (with lower flows compared to existing) will result in improved habitat and conditions for sand shiners and red shiners (the latter of which has not been sampled in this segment). On the other hand habitat units for white sucker and flathead chub is described to dramatically decline under flows with those two alternatives (Table 29). The DEIS acknowledges that the flathead chub IFIM curves may be biased erroneously for a winter depth requirement of greater than 1', which is usually not available in Fountain Creek regardless of the alternative. Since flathead chubs are abundant in Fountain Creek throughout its length we agree that this depth criteria is not truly a limiting factor and the zero habitat unit result (shown for alternatives 3 and 4 for adult flathead in Table 29) is misleading. In fact, the scientific literature for flathead chub describes this species preference for higher velocities where it typically selects the highest velocity microhabitat within stream/river habitats. Therefore, even though a zero habitat situation would unlikely occur under alternative 3 and 4, we would expect that the resulting habitat and conditions from those alternatives would be much reduced compared to existing conditions. Overall, we would conclude that alternatives 3 and 4 may slightly increase habitat for small-bodied fishes like sand shiners, longnose dace and fathead minnows by reducing flows and velocities, result in significant reduction in habitat for larger-bodied white sucker, and also likely reduce habitat for the ecologically important flathead chub. Alternatives 1, 2, 5, 6 and 7 would have the opposite impacts and provide benefits to flathead chub and white sucker, but would have detrimental effects on small-bodied minnows and dace. Figure 17 also illustrates that the yearly flow hydrology pattern for those alternatives generally follows the same trend as existing conditions, but at an incrementally higher flow level. A rising flow hydrology that begins in April, peaks in May and remains high in June is a beneficial characteristic that affords good conditions and a trigger for spawning for flathead chubs as well as other species.

Based on fishery surveys completed in the past five years, there is some evidence of declines of flathead chub and other species in this segment. It is speculated that the installation of grade control structures and utility protection revetments (both using large and grouted boulders) throughout this segment may be restricting upstream movement. These blockages to upstream migration could be limiting the ability of small fishes to recolonize upstream after spawning or being displaced due to sudden high velocity flows. The DEIS does not address these habitat restrictions, nor discuss how changes in hydrology might affect passage, but it is surmised that these large boulder "dams" will continue to pose potential problems for small native fishes regardless of the increases or decreases in flows.

Pg 113 – 4.6.2 Segment 2, Academy Blvd to Security

The fishery composition in this segment is similar to that found in segment 1, and is dominated by longnose dace, white suckers, creek chubs, longnose suckers, flathead chubs, fathead minnows and a few sand shiners.

Table 30 and Figure 21 provide anticipated hydrological changes with implementation of the alternatives and IFIM habitat units that are listed in Table 31. Mean monthly flows are increased by 30-40% for all months under alternatives 1, 2, 5, 6 and 7 as compared to existing hydrology. Alternatives 2, 5 and 6 generally afford equal increases, and alternative 1 and 7 show increases, but to a lesser amount. The IHA group 2 parameters for minimum flows for these same alternatives provide 50-60% increases in flows compared to existing conditions. In addition, group 2 maximums vary from no change (1-d) to larger increases in flow for 7, 30 and 90-d (9-25% higher). Low pulses are also reduced under these same alternatives compared to existing levels. In comparison, alternatives 3 and 4 have generally the opposite affect on flow hydrology. Those alternatives will reduce flows in all months compared to existing conditions (as illustrated in Figure 21) in the range of 30-35%. Even more dramatic are the reductions in flow to the channel seen in the 1, 7, and 30-d minimums (50%). Maximum flows reported for group 2 IHA parameters are also reduced for alternatives 3 and 4, compared to existing flows, but only at limited levels.

The simulated hydrological changes that are anticipated with the SDS alternatives in Segment 2 are very similar to Segment 1, and with comparable fishery species compositions between these two reaches, the impacts to aquatic resources will largely be the same. Therefore, it is expected that alternatives 3 and 4 will slightly increase habitat for small-bodied fishes like sand shiners, longnose dace and fathead minnows by reducing flows and velocities, but habitat for larger-bodied white sucker may see a larger decrease in habitat. More importantly, alternatives 3 and 4 are anticipated to reduce habitat for flathead chub. Conversely, alternatives 1, 2, 5, 6 and 7 (and in particular 2, 5 and 6) are expected to have the opposite impacts and provide benefits to flathead chub, but detrimental affects on small-bodied minnows and dace. Figure 21 again demonstrates the rising and high flow levels during April-June that are conducive to inducing spawning activity and for improving conditions for spawning, incubation and hatching.

Pg 119 – 4.6.3 Segment 3, Security to County Line
This section currently supports some better and more consistent habitat, and conditions for transition zone fish communities. The reach from Security downstream to Pueblo benefits from improved water quality, amelioration and dampening of short-term (spike) flows that originate in the metro area due to stormwater runoff, and more complexity of habitat. During more intensive fish sampling efforts in the past five years, numbers of flathead chubs have greatly dominated the fish samples.

Table 32 and Figure 22 provide anticipated hydrological changes with implementation of the alternatives and IFIM habitat units that are listed in Table 33.

Mean monthly flows that are listed in Table 32 for alternatives 1, 2, 6, and 7 (but not alternative 5 - as was the case for Segments 1 and 2) are increased in the range of 35-65% compared with existing conditions, with higher increases realized in the summer (Jun-Jul) than in winter (Jan-Feb). Minimum flows (IHA Group 2 parameters) are shown as increasing over current hydrology for these same alternatives, more so for alternatives 6 and 7, and to a lesser degree for alternatives 1 and 2. Maximum flows also are somewhat higher (1-d), while the 7, 30, and 90-d maximums are projected to increase to a greater extent (20% or more) over existing conditions. Figure 22 portrays year-around data which shows two distinct high flow periods, one in April to June (also seen in Segments 1 and 2), but with an additional peak period in July-August. Low pulse counts are reduced for alternatives 1 and 7, but particularly for 6, compared to existing conditions. While high pulse counts are reduced over existing hydrology data for all alternatives but 5. Alternatives 3, 4 and 5 have generally the opposite affect on flow hydrology in Segment 3. Those alternatives will reduce flows moderately in all months compared to existing conditions (as illustrated in Figure 22). This is also true for all of the minimum and maximum flows shown for IHA Group 2 parameters.

The simulated hydrological changes that are anticipated with the SDS alternatives in Segment 3 are generally similar to Segment 1 and 2 and impacts to aquatic resources will also be largely the same. Therefore, it is expected that alternatives 3, 4 and 5 may increase habitat for small-bodied fishes like sand shiners, longnose dace and fathead minnows by reducing flows and velocities, however this very small positive may not be realized by the populations. Changes of habitat for larger-bodied white sucker are also projected to be slight. Table 33 also indicates that IFIM habitat output predicted nearly equal WUA for all species between alternatives. Flathead chubs predominate in Segment 3 and alternatives 3, 4 and 5 would be expected to reduce habitat for flathead chub. However, the reduction in flows which could reduce flathead chub habitat for those three alternatives is minimal compared to that which they are experiencing under current conditions. Alternatives 1, 2, 6 and 7 (and particularly 6) are expected to have more defined benefits to flathead chub as we believe that increased flows tend to favor this species. However, some minor detrimental affects on small-bodied minnows and dace may also result. In addition, Figure 22 demonstrates the rising and high flow levels during April-June and a later high flow period in July-August that may induce spawning activity and improve conditions for spawning, incubation and hatching.

The narrative in the DEIS states that there would also be differences in sediment deposition among the seven alternatives. We assume that expected changes would mean a minor increase for alternative 1; minor to moderate increases for alternatives 2, 3, 4, and 6; a major increase for alternative 5; and no changes for alternative 7 (all compared to existing conditions). It is apparent that sediment deposition is already occurring in this segment of Fountain Creek, sometimes at tremendous rates. Substrate is primarily comprised of sand and some gravel, but increases in sediment deposition would likely change bottom substrate towards a higher proportion of sand, especially for alternative 5. Furthermore, we would anticipate that stormwater flows will continue to increase sedimentation regardless of the alternative. An increase in turbidity may have some benefits to flathead chub, as the species has been reported to have an affinity to higher and more turbid flows.

Pg 126 – 4.6.4 Segment 4, County Line to Arkansas River

Monthly flows for alternatives 3, 4, and 5, as shown in Table 34, are predicted to be slightly lower or nearly equal to existing conditions. However, monthly flow increases under the other alternatives (1, 2, 7 and especially 6) are much more dramatic. On average (for those four alternatives) flows increase 37% for January, 43% for March, and about 80% for August, as compared to existing flow hydrology. Minimum flows (IHA Group 2) by month for alternatives 3, 4 and 5 also show little change from current conditions. Minimum flows are increased for the other alternatives (1, 2, 6, and 7) and the increases for the 7-d minimum range from 65% (alternative 2) to 163% (alternative 6). Maximum flow groups have some similar trends, but not for all. Again, values are shown to be nearly identical for alternatives 3, 4, and 5 (as compared to existing conditions), while increases for the other alternatives are more dramatic. The 7-d maximums increase in range from 22% (alternative 6 and 7) to 40% (alternative 2), but are less than the increases to the minimum flow values. The bi-modal peak flows are not as recognizable as seen for Segment 3, but the May-June peak is still prevalent, but less so for July-August.

The simulated hydrological changes that are anticipated with the SDS alternatives in Segment 4 differ somewhat from the other Fountain Creek segments. It is expected that alternatives 3, 4 and 5 may provide some minor habitat benefits for small-bodied fishes like sand shiners, longnose dace and fathead minnows with minor reductions in flows and velocities, however this very small positive may not be realized by the populations. Habitat changes for larger-bodied white sucker are also projected to be slight to indistinguishable.

Flathead chub habitat would not be expected to change due to the minor reductions in flow seen for alternatives 3, 4 and 5. On the other hand, alternatives 1, 2, 6 and 7 (and in particularly 6) are expected to have more defined benefits to flathead chub as we believe that increased monthly flows tend to favor this species. Changes to the 1, 7, 30, and 90-d maximum flows are very slight between alternatives. Some minor detrimental affects on small-bodied minnows and dace may also result. In addition, Figure 23 demonstrates the rising and high flow levels during April-June may prove beneficial for spawning, with another more subtle peak in July-August.

Pg 133 – 4.7.1 Jimmy Camp Creek, Segment 1, Proposed reservoir site to Fountain
Pg 136 – 4.7.2 Jimmy Camp Creek, Segment 2, Fountain to Fountain Creek
Based on indirect impacts (not associated with proposed alternatives), it is suggested in the DEIS that flows in Jimmy Camp Creek would become perennial from Bradley Road downstream to the confluence with Fountain Creek. As stated on page 133 (Aquatic Resources Effects Analysis) these flows would be totally comprised of non-sewered return flows from landscape irrigation. Although the DEIS reports that water quality was not evaluated in the stream section, we would disagree with the DEIS that water quality from these sources would be of sufficient quality to support significant aquatic life, including Arkansas darters (state-threatened and federal candidate species). Generally, water derived from these sources can have significant detrimental impacts to aquatic life in receiving waters due to higher nitrogen and phosphorous content. All alternatives (except 3) include construction of Jimmy Camp Creek Reservoir. Although flows out of this reservoir are not planned, there may be some benefits to groundwater flows by the development of this large reservoir and the water pressure associated with it(there is reference to this possibility in the DEIS- Aquatic Resources Effects Analysis).

We feel that the DEIS inappropriately suggests benefits for perennial residential run-off that is considered a foreseeable event (with urban expansion), but which is not within the control of CSU and this project. Based on experience with assessing and evaluating the aquatic impacts from residential development in the Colorado Springs area, conditions resulting from land development for residential housing do not support healthy and viable riparian conditions that would be necessary for maintaining perennial surface/groundwater flows. In most cases, stream corridors within development areas are specifically designed to pass stormwater quickly (to the detriment of downstream habitat) and development of riparian vegetation and sinuosity of stream channels are discouraged and avoided. As a result, urban drainages typically have very little aquatic species diversity (e.g. Schooks Run, Spring Creek upstream of Valley Hi, and at Wagner Park). Based on proposed development within this region, it is unclear how the single day maximum would only be 39-50 cfs, and that a perennial flow of 6-8 cfs would be maintained. With very limited native flows or groundwater influences, we would argue that such perennial flows can be maintained, particularly during the winter, non-irrigation season.

Jimmy Camp Creek contains a population of Arkansas darter and contains habitat that shows promise of expansion. This species is a state-threatened and federal candidate species and a recovery plan has been in place to increase and stabilize the abundance and distribution of the species throughout the Arkansas River basin. The preservation and/or enhancement of Arkansas darter habitat located in the lower reaches of Jimmy Camp creek, within segment 1, should be considered a priority and any detrimental impacts upstream of the known occupied habitat will certainly put that population at risk. Currently, a very important population of Arkansas darters resides in the lower section of segment 1 with a smaller, but significant population residing in segment 2. We feel that the habitat and population in Jimmy Camp Creek would be detrimentally impacted with anticipated flow and habitat conditions. However, there are measures that could be taken under SDS project constraints that could minimize the impacts of the project on this species, and other aquatic resources within Jimmy Camp Creek (see conceptual mitigation plan).

Pg 139 – 4.8.1 - Williams Creek, Segment 1, Proposed Reservoir Site to Hanover Road
Pg 143 – 4.8.2 - Williams Creek, Segment 2, Hanover Road to Fountain Creek
Impacts to Williams Creek at the location of the proposed reservoir site would be realized with the loss of a series of small ponds that currently are inhabited by fish and other aquatic life. These resources would not be lost with alternative 4, as this reservoir is not an element of that alternative (rather Upper Williams Creek Reservoir will be constructed). Downstream detrimental impacts, primarily in segment 2 would be extensive based on the current proposed alternatives. Some alternatives (1, 2 and 7) include construction of Williams Creek Reservoir. Although continual daily releases from this reservoir are not planned, there may be some benefits to groundwater flows by the development of this large reservoir and the water pressure associated with it(there is reference to this possibility in the DEIS- Aquatic Resources Effects Analysis). The DEIS also assumes that water quality will be suitable to support aquatic life, however this assumption is not supported with a water quality assessment.

Very little aquatic life current inhabits Williams Creek in the upper sections (segment 1). Except for the existing ponds most of the reach is considered dry. The release and conveyance of up to 300 cfs anticipated for some of the alternatives (1, 2 and 7), particularly released via spiked flows (see Figure 26 and 27) and the morphology of the current stream channel, will result in considerable erosion and will contribute significant amounts of sediment to both the lower section of Williams Creek as well as Fountain Creek proper. Those proposed high flow events, will produce subsequent high sediment load; excessive velocities, siltation, and habitat alteration which will have significant, detrimental, and likely catastrophic impacts to the lower wetland/riparian area (within segment 2) and aquatic species which inhabit that reach. Among those species is the state-threatened Arkansas darter which maintains populations in what is now in very suitable habitat. This habitat would be expected to be eliminated or severely impacted with the flow hydrology of alternatives 1, 2, and 7. However, as is the case with Jimmy Camp Creek segments, there are measures that could be taken within proposed SDS alternatives that could minimize the impacts of the project on this species, and other aquatic resources within this drainage (see conceptual mitigation plan).

Upper Arkansas Reservoirs (Twin and Turquoise)
The following comments pertain to both reservoirs. Cumulative effects were analyzed over direct effects because it was felt this approach better represented potential fishery effects. The DEIS compares alternatives to the no action alternative instead of existing conditions, however for reasons already stated we feel that comparisons of the alternatives to the existing conditions allows more accuracy and relevancy. As an example, Table 81 under cumulative impacts, it would appear that Twin Lakes' water volume in August with alternative 2 would increase by 8500 ac-ft (about 3 vertical feet) compared to alternative 1 (or the No Action Alternative). But

when compared to existing conditions the reservoir would actually decrease by 5000 ac-ft (drop 2 vertical feet). This is a 5 vertical foot discrepancy between the two analyses. Turquoise Reservoir would appear to drop 3 vertical feet under alternative 2. These elevation changes may be very significant, particularly during the critical food production period in August.

It appears that water levels will be less at both reservoirs year-round (Figures 57 and 58) compared to existing conditions, and particularly at Twin Lakes. But the analysis provided in the DEIS tends to minimize this fact because it uses the No Action alternative as a basis. Reservoir elevations and flushing rates would surely change significantly compared to existing conditions with any of the SDS alternatives.

Pg 260 – 5.9 Turquoise Reservoir

To understand our basis for alternative analysis some background on the Turquoise Reservoir aquatic system is important. Turquoise Reservoir has a high flushing rate, is dimictic, well oxygenated, but slightly acidic and relatively unbuffered (Nesler 1981). It is ultra-oligotrophic based on total dissolved solids, algal nutrients and chlorophyll concentrations. The time of year and depth of water withdrawal impacts lake productivity and the resulting fishery. Turquoise Reservoir has a bottom outlet. Surface waters (epilimnion) are warmer and most productive in the summer (July and August). Summer drawdown exposes littoral habitat at a critical time period. This shallow water habitat is important for benthic and macrophyte production. Phytoplankton and zooplankton (pelagic organisms) production is at its peak in the summer. These organisms form the base of the food chain and their presence is critical to establishing a robust fishery. Zooplankton diel movements in the summer make them vulnerable to flushing from the reservoir. Nitrates, chemical building blocks of the food chain, are concentrated on the bottom in the summer. Releases encourage flushing of these important chemicals. Nutrients and zooplankton are quite susceptible to flushing during turnover, a period of nutrient recycling. Steps to minimize withdrawals during turnover are important to sustain a viable fishery. During the winter season, nutrients are concentrated on the bottom and most zooplankton over-winter in the egg stage or a diapause on the bottom. Releases near the bottom can deplete the reservoir of phosphate and nitrates and food organisms. Primary and secondary production is relatively low in Turquoise Reservoir, translating into limited food supplies for fish species. Highest production occurs in the warmer months of July and August in the euphotic zone. Thermal stratification at this time, coupled with major adjustments in water levels, increases flushing of nutrients from the reservoir. Maintaining lake levels and controlling flushing rates are critical for successful fishery management, particularly for lake trout and its life stages. To foster maximum biotic production and to protect and maximize littoral habitat during the summer months, water surface elevation should be held at some stable, non-fluctuating level.

Filling and maintaining water levels in Turquoise Reservoir as much as possible prior to October 1 ensures inundation of shorelines which provide spawning habitat for lake trout adults. Lake trout spawn during October and November. Maintenance or continued filling during the winter ensures eggs remain inundated until hatching and fry emergence in February or March. Stable water levels from March to June provides habitat for fry and juveniles until they move to deeper water by June.

Adjustments to water levels from June to August decrease primary and secondary production. Maintaining stable water levels from August to October lends stability to the reservoir, further enhancing productivity. Angler use would be correspondingly affected by reservoir operations that affected lake productivity.

Angler use is a good measure of the quality of a fishery, the better the fishery the higher the use. The Turquoise Lake fishery was significantly better prior to Fry-Ark operations (pre-1982). From 1972 to 1980 Turquoise supported 11,800 annual anglers (Nesler 1981; Finnell 1977). Fishermen numbers declined to 9180 in 1997 and 3796 in 2006. This is a significant decline likely impacting the local economy. Creel census by the CDOW was conducted at Turquoise Reservoir in 1997, and most recently in 2006. It was also surveyed in 1988 and 1990. These surveys provide useful comparisons of fisherman use, catch, and satisfaction post Fry-Ark. Angler use was similar in 1988 (37,000 angler hours), 1990 (31,000 angler hours), and 1997 (34.000 angler hours), but declined to 14,000 angler hours in 2006. Total catch has also declined since 1988 (15,000 fish) and 1990 (20,000 fish) compared to 7,000 fish caught in 1997, and 3,000 in 2006. Seventy-five percent of anglers rated fishing action to be slow or worse in 1997 and 79% of respondents rated their overall satisfaction with the fishery as neutral or worse in 2006. This data illustrates the direct link between lake productivity and fishing use and success. Reservoir operations that affect lake productivity and the fish population will in turn affect angler use and satisfaction.

August storage (Parameter group 1), maximum water level (Parameter Group 2), fluctuation (Parameter Groups 3, 4, and 5), and water surface elevation are considered to be the most important DEIS variables of interest when comparing aquatic resource impacts between alternatives for Turquoise Reservoir. This is because water surface elevation and fluctuation have the greatest potential to affect primary and secondary food production and resulting fisheries particularly in August but throughout the year. Any diminishment of these variables will incrementally impact lake productivity and aquatic biota, not only primary and secondary productivity but up the food chain through trout species to mackinaw, and ultimately fishermen. Water surface elevation declines in October through April also have the potential to affect mackinaw spawning, egg incubation, hatching, and/or fry emergence.

August storage and elevation for Alternative 1 is similar to existing conditions, and along with alternative 7 (to a lesser extent) would afford the least impact to August hydrology which is important for maintaining aquatic productivity and limiting water exchange (turnover) at that critical time. Alternative 2 results in a drop of 3 vertical feet compared to alternative 1 where water elevation similar to status quo would be maintained. Alternative 2 has the potential to be the most detrimental to the fishery because it represents the highest decrease in August storage of any of the alternatives.

Group 2-5 parameters are similar for all alternatives but maximum storage (1, 7, and 90-d maximum) and pulse count, pulse duration, and number of intervals (indicators of fluctuation) would be most favorable for alternatives 6 or 7.

Water surface elevations would continuously decline from October through April with all of the alternatives compared to existing conditions. This may impact mackinaw reproduction and recruitment as explained above. Alternatives 3 and 4 would be the most favorable while alternative 1 has the greatest impact. Turquoise Reservoir already experiences significant drawdown during this period, and therefore this variable is not considered to be as important as August storage and fluctuation is to the fishery.

Alternatives that increase and prolong storage particularly in August are preferred. It appears that water level will be lower on a year-round basis for all alternatives when compared to existing conditions (Figure 57). Based on IHA parameters, and given the understanding of the reservoir biology and function described above, we would anticipate that alternative 2 would result in conditions least favorable to aquatic resources for the reservoir. Conversely, Alternatives 1 and 7 would afford the most protection of the fishery compared to the other alternatives.

Pg 262 – 5.10 Twin Lakes

Twin Lakes are oligotrophic (BOR 1993). Primary and secondary production is relatively low at Twin Lakes, translating into limited food supplies for fish species. Highest production occurs in the warmer months of July and August in the euphotic zone. Thermal stratification at this time, coupled with major adjustments in water levels, increases flushing of nutrients from the reservoir. Maintaining lake levels and controlling flushing rates is critical for successful fishery management, particularly for lake trout and its life stages. To foster maximum biotic production in these reservoirs and to protect and maximize littoral habitat during the summer months, water surface elevation should be held at some stable, non-fluctuating level. Filling and maintaining water levels in Twin Lakes as much as possible prior to October 1 ensures inundation of shorelines, which provide spawning habitat for lake trout adults. Lake trout spawn during October and November in Twin Lakes. Maintenance or continued filling during the winter ensures eggs remain inundated until hatching and fry emergence in February or March. Stable water levels from March to June provides habitat for fry and juveniles until they move to deeper water by June. Twin lakes are surface release reservoirs. Surface waters (epilimnion) are warmer and most productive in the summer (July and August). Summer drawdown exposes littoral habitat at a critical time period. This shallow water habitat is important for benthic and macrophyte production. Phytoplankton and zooplankton (pelagic organisms) production is at its peak in the summer. These organisms form the base of the food chain and their presence is critical to establishing a robust fishery. Zooplankton diel movements in the summer make them vulnerable to flushing from the reservoir. Nutrients and zooplankton are quite susceptible to flushing during turnover, a period of nutrient recycling. Steps to minimize withdrawals during turnover are important to sustain a viable fishery. The opportunity to manage Twin Lakes for a lake trout sport fishery is limited by any reservoir management that reduces the carrying capacity of the ecosystem or disrupts the environmental factors that would contribute to increased productivity, i.e., non-fluctuating water surface elevation; less induced mixing of the euphotic zone, or increased hydraulic residence time. Angler use would be correspondingly affected.

Angler use is a good measure of the quality of a fishery, the better the fishery the higher the use. The Twin Lakes fishery was significantly better prior to Fry-Ark operations (pre-1982). From 1972 to 1982 Twin Lakes supported 20,000 annual anglers (BOR 1993; Nesler 1981). Fishermen numbers declined to 3,000 in 1995 and 7,000 in 2006. This is a significant decline likely impacting the local economy. Creel census was conducted by the CDOW at Twin Lakes in 2006. It was also surveyed in 1988 and 1995. These surveys provide useful comparisons of fisherman use, catch, and satisfaction post Fry-Ark. Angler use in 1988 was 78,000 angler hours, declining to 14,000 angler hours in 1995 and rebounding slightly to 25,000 angler hours in 2006. Total catch also declined from 62,000 fish in 1988 to 1,600 fish in 1995, rising to 15,400 in 2006. Lake trout total catch declined from 3,500 in 1988 to 900 in 1995 and 500 in 2006. Rainbow trout comprise 97% of the total catch, demonstrating their importance to the fishery. This data illustrates the direct link between lake productivity and fishing use and success. Reservoir operations that affect lake productivity and the fish population will in turn affect angler use and satisfaction.

August storage (Parameter group 1), maximum water level (Parameter Group 2), and fluctuation (Parameter Groups 3, 4, and 5) and water surface elevation are considered to be the most important DEIS variables of interest when comparing aquatic resource impacts between alternatives for Twin Lakes. This is because water surface elevation and fluctuation have the greatest potential to affect primary and secondary food production and resulting fisheries particularly in August but throughout the year. Any diminishment of these variables will incrementally impact lake productivity and aquatic biota, not only primary and secondary productivity but up the food chain through trout species to mackinaw, and ultimately fishermen. Water surface elevation declines in October through April also have the potential to affect mackinaw spawning, egg incubation, hatching, and/or fry emergence.

Alternative comparison for Twin Lakes is more difficult because of vast differences between variables for the existing conditions and alternative 1. For example, August storage for existing conditions is 128,700 ac-ft and 115,200 ac-ft for alternative 1. Comparing alternative 2 to the alternative 1 would result in a water storage increase of 8500 ac-ft in August (about 3 vertical feet) but when comparing alternative 2 to existing conditions a 5000 ac-ft water storage **drop** would actually occur (about 2 vertical feet). This discrepancy makes comparison between the alternatives very difficult and misleading. Looking at August storage and elevation, it would appear Alternative 7 is the most detrimental to the fishery while the rest of the alternatives are very similar as to impact. The most desirable situation is to have as much water stored in August as possible regardless of how the analysis is done. Therefore, alternative 7 has the potential to impact the fishery the most of any alternative. In reality, all alternatives will result in less year-round water volume when compared to existing conditions (Figure 58). Simply comparing percentage changes between alternatives relative to alternative 1 (no action) can produce misleading conclusions. For example, August storage percent effect for alternative 7 is -1% and for alternative 2 it is +7%. This suggests alternative 2 would increase water storage in Twin Lakes in August. In reality the reverse effect is realized - a drop in water storage compared to current hydrology.

Group 2-5 parameters are similar for all alternatives except alternative 1 which is least favorable. Maximum storage (1, 7, and 90-d maximum) and pulse count, pulse duration, and number of intervals (indicators of fluctuation) would be most favorable for alternative 3.

Water surface elevations would continuously decline from October through April with all of the alternatives compared to existing conditions. This may impact mackinaw reproduction and recruitment as explained above. Alternatives 3 and 4 would be the most favorable while alternatives 1 and 7 have the greatest impact. Twin Lakes already experience significant drawdown during this period, and therefore this variable is not considered to be as important as August storage and fluctuation is to the fishery.

Overall, alternatives 1 and 7 are the least favorable while the remaining alternatives are very similar as to fishery affect at Twin Lakes. Alternatives 3 and 4 may produce slightly more benefit compared to the other alternatives.

Pg 152 – 4.11 Pueblo Reservoir

All months of the year can be important periods for the fishery in Pueblo Reservoir, depending on the aquatic resource and life stage. A water elevation fluctuation plan that favors cool and warm water fisheries really functions in three separate time segments. The first segment would be the period from mid-March through mid-June, when spawning of sport fishes (walleye, yellow perch, bass, bluegill and crappie) takes place, and it is also a critical time for gizzard shad (the dominant forage fish) reproduction. It is important that water levels remain at the highest levels possible during this period and that any changes in elevation are implemented very gradually. Virtually all of these species spawn in shallow water, and the egg development and hatch require constant water elevations for some time post-spawn. Moderate or severe drawdown during this period can result in eggs being exposed to air, subsequent failure of the spawning effort, and a total or partial loss of a year class of fish for a given species. Because of the need for consistent water elevation at this time a 3-6 foot elevation change, particularly one that occurs rapidly, could be potentially harmful to the fishery. Although such losses have potential to be mitigated with the use of stocked fish, some species such as yellow perch, bluegill and crappie are largely self-sustaining in the reservoir and can not be easily supplemented with hatchery stock.

The second time segment of a beneficial fluctuation plan is the period from mid to late June until late October. During this period negative changes in elevation or a drawdown would be beneficial to the fishery. As a result of the drawdown, shoreline areas and banks become exposed to air, resulting in rock and gravel areas being cleaned and organic material in rock and gravel areas being converted to a more usable status. This process also involves the growth of rooted vegetation on these shores. This process shifts nutrients from organic matter on the banks and in the soil into green vegetation, which becomes very important in the third segment of the fluctuation plan. For the purposes of the fishery only, rapid drawdowns that expose shorelines earlier in the growing season become much more acceptable and beneficial to the fishery. The second benefit to fisheries from drawdowns during this time involves predator prey relationships. Late summer and fall drawdowns shrink the reservoir pool and forces predators and prey into the same habitats. This process allows predators to more effectively feed on forage populations and maximize growth during the season. In a proper fluctuation plan that favors fisheries, the summer drawdown would not exceed a level that would exposes shorelines that could not be later inundated with water during the third time segment of the plan.

The third segment of the fluctuation plan is the period from late October through mid March, when the reservoir would be refilled. During this phase water storage levels need to increase until all of the exposed shorelines have been inundated. Refill rates are more beneficial when done in a slow controlled manner that is completed in the first half of March. This stage benefits fisheries in a couple of ways. First, it inundates the shorelines that were rejuvenated during the summer drawdown period which provides suitable spawning habitat. The second benefit occurs when vegetation (that grew on the exposed shorelines during the second phase) dies when covered with water and begins to decompose. The nutrients from this decomposition fuel both phytoplankton and zooplankton production in the reservoir. This plankton is the first line of productivity and is a critical food source for juvenile fish.

Comparing all of the DEIS to the preferred fluctuation plan described above, all fall short of producing the suite of desired water levels and elevation timing requirements. Therefore, evaluation of alternatives requires some level of "best fit" to the preferred Pueblo Reservoir hydrology scenario that tends to benefit the fishery. Towards that end, the spring period (first phase) of the fluctuation plan should be considered the most important since the initial production of a year class is likely the most critical part of the system. Negative conditions during this period can result in reproductive failure, leading to collapse of the fishery. The second most critical time segment would be the winter refill segment. It is essential to inundate spawning habitat which will result in the most beneficial habitat conditions for the following year's young fish production. In light of this requirement, alternatives 3 and 4 produce the most negative elevation changes during the spawning season. Alternative 7 appears to provide the smallest change in elevation during the spawning season, but does so at the expense of reservoir storage. Existing conditions and the No Action Alternative (alternative 1) appear to provide the least amount of fluctuation during the spawning season and yet maximize storage in the reservoir. Alternative 5 may also provide some benefits, but the hydrology of that alternative produces some rather rapid, yet minor drawdowns during this time that could adversely impact the fishery to a limited degree.

Results of hydrologic modeling considering cumulative effects change the preferred options recommendations significantly. All options with the exception of existing conditions greatly reduce the amount of storage in the reservoir. Alternative 4 becomes the second best option when evaluated strictly for reduced spring elevation changes and maximized storage in the reservoir only. All of the other alternatives produce spring water levels that result in significant negative elevation changes during the spawning season. The cumulative effects modeling suggests some increases in flushing flows (or conversely, and decrease in reservoir retention time). Flushing rates play a vital role in determining conditions important to aquatic ecosystem function in Pueblo Reservoir. Flushing flows is a term used to describe a process that reduces the amount of time water spends in a reservoir situation before it is moved downstream and replaced with new water. Limited or moderate retention time and flushing rate is beneficial to a reservoir system. However, excessive retention time and flushing can adversely affect the existing fishery. Resident time of water in a reservoir results in a variety of functions that benefit fisheries. Nutrients in retained water as well as nutrients that leach from decaying organic material provide for plankton production. The water will also absorb temperature units and warm during the growing season which is important in the production of the plankton and growth of fish. Fish are cold blooded vertebrates and growth is heavily related to optimum temperature for given species. Increased flushing flows that shorten retention time can result in removing (reducing) nutrients from the system before they can be utilized by plankton. In addition, this higher exchange rate precludes water temperatures from warming to optimum temperatures for growth. Both of these factors vary greatly depending on the location of the reservoir and all of the factors that influence the reservoir including climate, inflow, lake morphology and the type of fishery. Since Pueblo Reservoir resides in a steep-sided and deep canyon basin that is filled via a cold water river and is influenced by only a moderate climate, it benefits from a longer retention time that encourages nutrient utilization and increases water warming. Developing a balance in Pueblo Reservoir between retention time and flushing flows is critical, and relates directly to storage volume. When the reservoir is full, retention time becomes longer, but temperatures moderate more slowly. Although this may reduce productivity slightly, nutrient utilization is improved and tends to maximize thermal trout habitat (cooler water) in the reservoir. When the reservoir is low, retention time becomes shorter and temperatures moderate faster. The higher temperatures reduce trout thermal habitat (warmer water). The higher temperatures likely increase the productivity of the reservoir, but are somewhat offset by flushing flows and the removal of nutrients from the system.

A low reservoir with low retention time and high flushing flows will also create a detectable current that is attractive to some species and results in these species orientating to that flow and becoming vulnerable to emigration (leaving the reservoir). Because of their attraction to current, walleye are most susceptible to this loss from the reservoir. Increases to detectable flows (for a lower reservoir with higher exchange rate) are considered extremely adverse to the walleye fishery in Pueblo Reservoir (the most important sport fish in the lake). Considering this aspect in evaluating alternatives suggest that existing conditions provide the most beneficial hydrology, followed by alternative 5 to a lesser extent. These alternatives will likely provide the highest average storage and the minimum flushing flows for the reservoir. Alternatives 3 and 4 provide a little higher storage at certain times of the year, but have a much higher fluctuation and likely a much higher flushing flow. The DEIS states that this flushing flow would actually be beneficial to the fishery as it would dilute the nutrient loading that would occur with these options. While it is possible that some dilution could occur with these options, they do not address the temperature modification issues or the issue of fish movement and loss from the reservoir due to flushing flows.

Furthermore, the DEIS states that the nutrient loading even after the flushing flows will shift the reservoir from a "*low end of the mesotrophic (moderately productive)"* system to a "*low end of the eutrophic (highly productive)"* system. Eutrophication is the process by which a lake becomes more productive, usually by aging. Nutrient loading increases, and therefore provides for higher plankton production and benefits the development of the fishery food chain. The most desirable fishery conditions usually occur before a water reaches a eutrophic level, where nutrient and phytoplankton levels are high. This reduces clarity of the water and likely can limit zooplankton production. As a result, foraging becomes more difficult for "sight feeders" like bass, bluegill, crappie, walleye and wiper. In addition, excess nutrient loading can result in troublesome algae blooms, some of which are harmful to humans and aquatic life, and an increase in filamentous algae that degrade rock and gravel areas which are key spawning areas for bass, bluegill, crappie and walleye. The claim that Alternatives 3 and 4 would make the reservoir more productive may be true, but the resulting productivity may be in a form that is highly undesirable to the fishery and the people who use it. A potential reduction in water clarity, decreased zooplankton and an adverse affect on spawning areas could lead to a decline in abundance in the sport fish populations (bass, trout, bluegill, walleye and wiper) and an increase in the populations of shad, carp, suckers and catfish. Alternatives 3 and 4 would become much better alternatives if return flows were processed to a significantly cleaner level

Alternative 1 (No Action) results in less fluctuation than all alternatives, except existing conditions. The existing hydrology exhibits the least fluctuation with the maximum storage. All of the other DEIS alternatives generate increased fluctuations and with the added disadvantage of reduced reservoir volume at virtually all periods of the year. Less water results in less habitat and less habitat for fish biomass of all species. We would expect a direct relationship between the percentage of smaller pool and percentage decline in fish abundance in the reservoir. Other factors may shift species abundance and diversity, but reduced pool will result in a reduction in fish biomass.

The hydrology expressed in the cumulative effects for the DEIS alternatives for Pueblo Reservoir sets up a difficult trade-off analysis between increased storage volumes afforded by alternatives 3 or 4, which generate potential negative impacts from nutrient loading and flushing flows, or selection of other alternatives which bring about reduced reservoir volume and better water quality, but higher fluctuation patterns. In either situation, conditions will be less favorable to maintaining the current level of fishery resources.

Pueblo Reservoir is a significant and important fishery resource for Colorado with angler use of 150,000 days per year and catches in excess of 100,000 fish per year. Pueblo also provides 30-40% of the walleye eggs gathered during annual spawn-taking operations, needed each year to supply the state's demand. The alternatives presented are expected to reduce the quality of fishery resources at Pueblo Reservoir for a number of physical, chemical and biological reasons expressed above. Mitigation options will be essential to offset this reduction. To illustrate, the drastic decreases in median daily volumes (Table 82) poses the likelihood of inducing a commensurate reduction in biomass and numbers for the Pueblo Reservoir fishery by up to 50 percent. In comparison with the existing conditions it is anticipated that all other alternatives evaluated as part of cumulative effects will prove detrimental. Of the other alternatives, Alternatives 3 or 4 might be considered preferred alternatives, but only if hydrological conditions in these alternatives were modified. These recommended alternative conditions will be covered in the conceptual mitigation section but include increased processing of return flows and modified storage plans could provide a more beneficial fluctuation scenario.

Alternatives 6 and 7, as presented with cumulative effects, afford the most favorable fluctuation model for the Pueblo Reservoir fishery, although those fluctuation patterns were not as pronounced for direct effects. However, these two alternatives result in lower reservoir volumes that are detrimental to the fishery.

Pg 156 – 4.12 Lake Henry

Based on information in the DEIS alternatives 1-2 would have minimal impacts and alternatives 3-7 would appear to induce hydrology that would substantially reduce water volumes in Lake Henry during the year and especially the months April – June. Adverse effects would be more severe with alternatives 2, 3, 4, and 6. It is expected that populations of black crappie would be negatively influenced, due to the timing of the spawn coinciding with low lake levels and very limited availability of spawning habitat. Lake Henry is a large shallow lake with limited aquatic habitat in terms of depth variation, shoreline development or structure. Lower lake levels would further reduce this habitat by eliminating productive shorelines inundating terrestrial vegetation. It is anticipated that natural reproduction on crappie would likely decrease up to 50% under alternatives 3 & 4, and up to 30% for alternatives 5-7. To maintain a viable crappie population, hatchery produced crappie fingerlings would need to be increased and coupled with aquatic habitat improvement (see conceptual mitigation plan).

Populations of saugeye and wiper will also be negatively influenced by the DEIS alternatives. The success of spring-stocked saugeye and wiper fry will likely decrease due to the low lake levels during the year. Alternatives 1and 2 would have little or no impact, whereas alternatives 3 and 4 could reduce wiper and saugeye recruitment by up to 50%. Alternatives 5-7 could reduce recruitment by 25% - 40%. In addition, nursery habitat for juvenile fish (typically shallow flooded vegetation) would be very limited, subjecting the stocked fish to higher than normal mortality rates. To maintain a saugeye and wiper fishery of the quality now realized at Lake Henry with the reservoir hydrology generated by alternatives 2-7 will require significant mitigation strategy including construction of artificial habitat structures and possible revegetation of exposed lake bed during the lower volume periods (see conceptual mitigation plan)

Catfish populations should fare better, as they are less affected by the changing water levels. Also, catfish fingerlings are stocked later in the summer, when water levels appear to be higher (according to Fig. 31). Artificial spawning containers are annually placed in Lake Henry to provide catfish adequate spawning cover. The lower lake levels with alternatives 2-7 would necessitate moving the containers to more suitable areas.

Populations of gizzard shad could potentially become unbalanced with the declining lake levels experienced under alternatives 2-7. If predatory species decline in number, as discussed above, gizzard shad populations will increase proportionally and result in overabundant forage for the Henry Lake fishery.

Generally, it is expected that the relative abundance of the fish biomass will shift toward less desirable species. Total fish biomass would shift from the current percentage of 65% sport fish and 35% forage fish to a less desirable ratio of 25% sport fish and 75% forage fish. This type of detrimental species shift has been evidenced in other lower Arkansas basin reservoirs that were subjected to longterm water volume declines.

Pg. 159 – 4.13 Lake Meredith

Recent history has shown that lower lake levels at Lake Meredith have a deleterious effect on the fishery as well as on recreation at the lake. High rate of turnover (low retention time) has historically been the most detrimental impact to establishment of a consistent fishery. It has been common to lose entire year-classes of fish (walleye, saugeye, wipers, and white bass) from the reservoir. Although the fishery can sometimes provide an excellent fishery, it suffers from excessive fish emigration – at great cost in stocked fish and loss of fishing recreation.

The reservoir also suffers from the establishment of large weed beds and excessive aquatic vegetation growth during low-water summer months. Meredith Reservoir is a large shallow lake and has a large expanse of available littoral zone (area of light and aquatic plant growth). As the lake recedes during summer due to high water releases, sunlight penetrates the clear water and induces accelerated weed growth. These weed beds can literally cover the entire lake, making boating and fishing impossible. All alternatives create lower summer lake levels and will only make this problem worse.

Lake Meredith was restocked in 2005 after being drained in 2004. The fishery is still in early stages of development. Alternatives 3-7 will create lake levels lower than existing conditions. The corresponding loss of aquatic habitat will slow the recovery of the fishery. Lake Meredith is a very large (3300 ac.) shallow lake. As such, small reductions in reservoir storage will have an impact on the aquatic habitat.

Alternatives 3-7 appear to reduce lake levels slightly from existing conditions. Generally, available water volumes should be adequate to maintain moderate levels of saugeye and wipers, and catfish should not be adversely affected. More specifically, alternatives 3 and 4 hydrology indicates storage levels below current conditions during peak spawning periods of April and May. This will negatively effect populations of black crappie by reducing spawning habitat or dewatering areas used by spawning fish. Potential negative impacts to the crappie spawn by alternatives 3 and 4 could result in 15% - 20% reduction in spawning success.

Alternatives 3 and 4 would have an effect on saugeye and wiper recruitment. Saugeye and wiper are stocked in the spring as fry. With alternatives 3 and 4, a 20% - 25% reduction in recruitment of stocked fry to the population would be expected. Alternatives 5-7 would have a minor impact on saugeye and wiper recruitment. I would expect reductions of less than 10% in recruitment of stocked fry.

Reductions in habitat due to lower reservoir volume for all of the alternatives, and the more pronounced impacts due to alternatives 3 and 4 can be somewhat minimized by an aggressive program of crappie stocking, habitat improvement and weed control (see conceptual mitigation plan).

Pg. 162 – 4.14 Holbrook Reservoir:
All alternatives (except 1, the no-action alternative) show reduced water storage at Holbrook Reservoir. This lake was drained recently and has since partially refilled. Stocking efforts have not resumed due to insufficient water stability. Alternatives that include reduced storage levels could delay or even prevent the re-establishment of the fishery at Holbrook.

Pg 164 – 4.15.1 Terminal Storage Reservoirs
Jimmy Camp Creek Reservoir:
The negative aquatic impacts associated with the construction of the proposed reservoir would be minor when compared to the benefits accrued by alternatives 1, 2, 4, 5, 6, and 7 through the development of a high quality two-tier fishery and the recreational benefits realized by the recreational fishery. Good water quality, limited water fluctuation, and the potential to plan and

develop the reservoir basin – are all attributes that will help assure the creation of a diverse and productive fishery. In addition, fishing recreation lakes of this size and close proximity to the metro area are currently non existent near Colorado Springs. Construction of this reservoir would significantly increase the sportfishing opportunities within El Paso County. A fishery management plan that would be recommended by the DOW would most likely include a warmwater as well as a seasonal coolwater component. Provided that restrictive-use boating is allowed, this reservoir would be expected to generate approximately 60,000- 80,000 angler hours per year.

Although other water based recreation is envisioned in the document, some of those could have negative impacts to fishing recreation if not managed properly (i.e. personal water craft). Wildlife viewing would also be an attractive and beneficial component of public use at the reservoir.

Upper Williams Creek Reservoir:
This reservoir would be a component of only alternative 3, but would provide overall positive impacts to aquatic resources similar to Jimmy Camp Creek Reservoir. However, this reservoir – being larger in surface area but shallower in depth – will provide a fishery and fishing recreation that will certainly be beneficial but not as high of quality as that for Jimmy Camp Creek Reservoir. Establishment of some species (possibly trout) may not be possible due to limited stratification during warm water months. However, most warm and cool water species will likely perform well in this reservoir environment, and some species with affinity for warmer water (largemouth bass, as an example) may find more suitable habitat conditions than for Jimmy Camp Creek Reservoir.

For both terminal storage reservoirs the DOW would recommend some reservoir design and operation parameters that would further improve the fishery and fishing recreation amenities (see conceptual mitigation plan).

Pg 166 – 4.15.2 Williams Creek Reservoir
Williams Creek Reservoir is a project component in alternatives 1, 2, 5, 6, and 7 and will store return flows to be later released for exchange needs. The reservoir is not considered for public use. Reservoir volume will be highest under alternative 1 (28,470 ac-ft, with a surface area around 1,050 acres); less under alternatives 2 and 5 (about 19,000 ac-ft, with a surface area about 750 acres); and lowest storage under alternative 6 and 7 (3,200 ac-ft, and about 250 acres). Except for limitations for alternative 5, the DEIS states that water quality should be adequate to sustain fish and other aquatic life, but eutrophic conditions will exist. Without water quality data, we would not necessarily reach the same conclusion. An example would be Big Johnson Reservoir in Colorado Springs which is fed off of the Fountain Mutual Ditch just downstream from the Las Vegas Street wastewater discharge. That reservoir is a shallow, warm and very eutrophic reservoir. However, fish sampling of that reservoir during the past five years found no evidence of fish. This is a very unusual situation in that even in very eutrophic lakes some tolerant fish species (carp, suckers) are typically found. If Williams Creek Reservoir also receives water of similar quality, the results may be the same – and devoid of fish.

With no public access the reservoir would not be actively managed as a sport species fishery. However, there may be opportunities to utilize the reservoir as a brood stock lake or experimental culture facility for a number of warmwater sport or forage species. In addition, there is potential for this reservoir to serve as habitat, refuge or propagation of amphibians, crustacean, and other aquatic species of interest.

Williams Creek Reservoir will likely have more aquatic resource benefits with alternative 1 and 2, and to a lesser degree with alternatives 6, 7, and 5.

Summary of Aquatic Impacts

A summary of aquatic impacts is provided in the matrix below. The expected level of impact is denoted by symbols representing minor, moderate and major levels for both beneficial and adverse. These impacts following from the assessment and analysis completed for each resource segment (stream/river reach and reservoir) and described in the narrative above.

It bears repeating that the analysis of aquatic resources was based on a comparison of ALL alternatives against existing conditions – and in particular instead of comparing alternatives 2-7 to alternative 1. For that reason, many of our conclusions on potential impacts to aquatic resources differ from those expressed by the DEIS and in the Aquatic Resource Effects Analysis.

The effect of each SDS alternative on aquatic resources varied, and sometimes greatly, between each resource. Therefore for any given alternative the effects on the entire suite of resource segments (up to 29) could range from major beneficial to major adverse.

A single alternative was not chosen as a "best" or "worse" overall. But the matrix, in conjunction with specific detailed analysis described in the narrative, can be used to assess the range of impacts to the resources within the project area. It should be noted, however, that the DOW recognizes that some of the resource segments are considered of higher priority than others based on the quality of the aquatic resource (numbers of species, biomass, density, complexity, stability); uniqueness (of the species, species community, and/or habitat); or its recreational or economic importance. Therefore, Pueblo Reservoir, Upper Arkansas River-Segments 3-5, Lower Arkansas River-Segment 1, and Fountain Creek-Segments 3 and 4, have exceptional attributes.

Nonetheless, all of the resource segments provide important and substantial fisheries for the Arkansas basin. It is the policy of the DOW to maintain the quality and quantity of those resources, and to minimize impacts to the degree feasible and possible. Secondly, if negative impacts are encountered, we would request and utilize various levels and techniques of mitigation.

Summary of Impacts to Aquatic Resources by Alternative

Resource Unit	Alternatives						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Lake Fork Ck – below Turquoise	0	0	+	+	+	0	0
Lake Creek – below Twin Lakes	--	0	0	0	0	0	--
Upper Arkansas R. – Segment 1	0	0	0	0	0	0	0
Upper Arkansas R. – Segment 2	-	0	+	+	0	0	-
Upper Arkansas R. – Segment 3	+	++	+	0	0	-	-
Upper Arkansas R. – Segment 4	++	0	0	0	+	0	+
Upper Arkansas R. – Segment 5	++	0	0	0	0	0	+
Upper Arkansas R. – Segment 6	0	++	0	+	+	0	0
Upper Arkansas R. – Segment 7	+	++	-	-	0	0	+
Lower Arkansas R. – Segment 1	0	++	-	0	++	-	+
Lower Arkansas R. – Segment 2	--	--	+	++	+	--	-
Lower Arkansas R. – Segment 3	0	0	-	-	0	0	0
Lower Arkansas R. – Segment 4	0	0	0	0	0	0	0
Monument Creek	-	+	-	-	+	+	+
Fountain Creek – Segment 1	++	++	--	--	++	++	++
Fountain Creek – Segment 2	++	++	--	--	++	++	++
Fountain Creek – Segment 3	+	+	-	-	-	++	+
Fountain Creek – Segment 4	+	+	-	-	-	++	+
Jimmy Camp Creek	+	+	+	+	+	+	+
Williams Creek	---	---	0	0	0	-	---
Turquoise Reservoir	0	--	-	-	-	-	0
Twin Lakes Reservoir	--	-	-	-	-	-	--
Pueblo Reservoir	-	-	--	--	-	---	---
Lake Henry	+	-	---	---	--	--	--
Lake Meredith	0	0	---	---	--	--	--
Holbrook Reservoir	+	-	--	--	-	--	-
Jimmy Camp Creek Reservoir	+++	++	+++	+++	++	+++	+++
Upper Williams Ck Reservoir	0	0	++	0	0	0	0
Williams Creek Reservoir	++	+	---	---	+	+	+

Adverse: **- - - (Major)** **- - (Moderate)** **- (Minor)**
Beneficial: **+++ (Major)** **++ (Moderate)** **+ (Minor)**
Neutral: **0**

Comments on *Conceptual Aquatic Resources Mitigation Plan*

The broad concepts discussed in the mitigation plan provide a basis for future mitigation options. However, the DOW requests some additional considerations. The recommendations are at this point (DEIS) general in nature, but much more detail on the specifics will be made available once a Preferred Alternative is selected.

Mitigation Strategies

Minimization – Streams:
The general outline of flow management options provided in the conceptual mitigation plan gives some excellent concepts to be explored. The DOW, working with numerous water agencies, irrigation companies and municipalities, have been able to reach agreement on flow management schemes that avoid losses of fish habitat, and provide positive benefits for some stream reaches – while at the same time allow the water management agency to meet their water delivery needs. It is this type of win-win situation that is possible with consideration for mitigation of this project. The Bureau of Reclamation as operating agency for the Fryingpan-Arkansas Project is in a pivotal role to coordinate and execute such agreements for the Arkansas River and the Fry-Ark reservoirs (as follows).

Minimization – Reservoirs:
Each of the reservoirs within the project area has a unique set of physical and biological characteristics that drive a need for varying water levels. Timing of low and high volumes, turnover rates (or conversely retention time), needs for periods of sustained levels, and rate of filling or evacuation are all important (but varying) conditions to the fishery potential. As such the exact prescription for water operations for each reservoir (Twin, Turquoise, Pueblo, Meredith, Henry, Holbrook, or terminal storage reservoirs) is too involved and restricts a full discussion here. However, specific comments provided for each reservoir furnish some details on how hydrological alterations could benefit the reservoir fisheries.

Generally, for warm water reservoirs a yearly water management plan would entail capturing water during a wintertime period (November – March), a full reservoir in spring (April-May) followed by a gradual and moderate drawdown from late summer to fall (August – October). For coldwater reservoirs, again a wintertime filling is preferred. However, the peak production period (usually mid-June through mid-August) is sensitive to water drawdown which can disrupt phyto- and zooplankton production, essential as the basis of the reservoir food chain. Water evacuation and turnover rates are to be avoided during those times.

It is requested that aquatic ecological studies be initiated to evaluate the impacts of the SDS project on the fishery resources in the project area, particularly for the impoundments. Many of the potential impacts to the reservoir ecology will occur at the primary and secondary productivity level (phyto- and zooplankton; aquatic plants and invertebrates). The changes that are anticipated due to project alternatives (water quality/quantity, elevations, surface area) on reservoirs will have the most direct affect on the primary and secondary productivity. Although the DOW typically conducts fishery surveys, more detailed productivity studies are not routinely completed. However, research on reservoir productivity is more commonly undertaken by Bureau of Reclamation Science and Technology Services.

Compensatory Strategies

Habitat Improvement – Streams:
The strategies outlined in the draft mitigation plan are appropriate for improving aquatic resources within the streams of the project area. The DOW has had an active and aggressive statewide program for stream habitat improvement and can provide details and project suggestions for nearly all of the stream resources affected by SDS. That would include habitat enhancement opportunities in all segments of the Arkansas River, Lake, Lake Fork, Fountain, Monument, Williams, and Jimmy Camp creeks. As an example, the DOW has already had discussion on improvements to Lake Creek in Lake County which would include not only reduction of peak high flows, but structural changes to the channel that could increase productivity and habitat.

Although a large-scale habitat improvement project was conducted on the Arkansas River below Pueblo Dam, a great deal of potential exists to provide additional benefits with increasing the number of structures of similarity to those already placed. The DOW also feels that in addition to flow modifications for Jimmy Camp and Williams creeks there is excellent potential to increase native fish (including Arkansas darter) populations by providing structural enhancements to the existing channels, or to actually construct new artificial channels paralleling the existing channels with flows that could be controlled via use of headgates off of the main channel. Currently Fountain Creek appears to be limiting to native fish due to structural constraints and fish passage issues. Although these are not a result of SDS, there would be opportunities for enhancements on Fountain Creek which would benefit the system as a whole.

Improvements to water quality is also recommended, and in particular, if Alternatives 3 or 4 were selected. Discussion of impacts of those alternatives on the Arkansas River (segment 7) and Pueblo Reservoir was discussed in the comments. Although the DEIS considers the addition of nutrients to the system from return flows as a positive attribute, particularly for increasing the productivity of Pueblo Reservoir – we do not agree with that conclusion. The addition of those nutrients could define a tipping point for productivity at the reservoir, and to a lesser extent to the river. For that reason, those alternatives are considered to be more detrimental than others. However, if return flows could be subjected to a higher level of treatment and thus reducing the impacts of additional nutrients – those alternatives would be more favorable to the environment of the reservoir and Arkansas River-Segment 7.

Habitat Improvement – Reservoirs:
Most of the reservoirs in the project area are limited by bottom and shoreline (littoral area) habitat. Artificial habitat structures have been added to many of the warmwater reservoirs in the form of trees, tires, or a combination of concrete, PVC, or other materials. These structures are beneficial but the amount of habitat provided (compared to total surface area) has been limited.

Large scale habitat projects would provide a greater impact to fish and also to fishing. For new terminal reservoirs, the DOW would request that fishery needs are considered in the design of the reservoir basin and structures. Reservoir basin contouring, development of shoreline habitat structures, use of existing trees/vegetation, and angler use facilities would be of interest. Other improvement techniques are applicable to the lower reservoirs, including seeding of shoreline areas prior to inundation and control of excessive vegetation that is an impediment to fisheries and fishing (Meredith).

Structures that could be designed or retrofitted to existing reservoir outlets should be considered to avoid loss (emigration) of fish from the reservoirs. One such outlet works has already been added to one of the reservoirs in the project area, with assistance from the irrigation company.

Operational or design concepts have been discussed for many years as a way to increase the productivity and fish in Twin and Turquoise reservoirs. Alternatives for physical construction alternatives, productivity enhancement through nutrient enrichment, or facilities upgrades would have to be evaluated for effectiveness and cost.

Flow Modification:
The upper Arkansas River does not typically suffer from low flows. In fact, during the drought of 2002 low flows during the summer actually allowed brown trout populations to take advantage of preferred flow ranges, suitable water temperatures and availability of abundant forage and flourish. However, the confined channel found throughout much of the upper Arkansas River is particularly vulnerable to high flows and the high velocities which are generated by "stacking up" water in the channel. Reduction of late season (July and August) flows allow for feeding opportunities after run-off and before spawning season and are most beneficial for trout populations. Even with adherence to the VFMP flows, flows close to 700 cfs in July and August have been found to improve conditions for brown trout when compared to flows at 800 cfs.

The Arkansas River below Pueblo Dam is characterized by high maximum flows and low minimum flows, both of which are detrimental to fish habitat, fish and fishing. Recent habitat improvements have attempted to provide fish with habitat at both extremes, but in such a large segment that habitat improvement was still lacking to achieve greater fishery (and fishing recreation) gains in this important and popular fishery. In addition, limitations to the fish populations are affected by flows which approach 0 during the spring. Any measure which would assure flows of 50 cfs or more during February and March (later stages of WWSP) would be extremely beneficial.

Fish populations in Fountain and Monument creeks must also contend with extreme variation in flows. Mitigation flow scenarios that would curtail low and high flows would normally provide positive benefits to small native fishes. Also, fish passage along the Fountain Creek corridor is currently restricted due to

Both Williams and Jimmy Camp creek hold potential for good native fish habitat (as demonstrated at lower ends of both of these drainages), but some alternatives for Williams Creek produce some very detrimental peak flows. Designs which would allow for a minimum flow (even at 1 cfs) would provide substantial habitat in these stream channels. Of most interest, would be to provide flows that would benefit Arkansas darter, a state-listed species and federal listing candidate.

Fish Stocking (Recreational):
Construction of terminal storage reservoirs, particularly Jimmy Camp Reservoir, and to a lesser degree, Upper Williams Creek Reservoir provide for potential fishery development but with commensurate needs for fish stocking. In addition, DOW comments on DEIS indicate negative consequences for at least some of the alternatives on all of the warmwater reservoirs. Depending on the preferred alternative selected in this EIS process, we would anticipate a demand for substantial numbers of fry and fingerling warmwater species like walleye, saugeye, wiper, catfish, bass, crappie, and forage species. Furthermore, the DOW recognizes the need for additional trout stocking for some resources that could be impacted by SDS development.

An obstacle to attaining the benefits from new fisheries is the fact that the DOW is reaching capacity on its abilities to produce both the warmwater and coldwater (trout) fish necessary for adequate stocking (for existing waters). Due to recent water issues affecting the Republican River, one of our only three warmwater hatcheries may face severe restrictions in water and the resulting fish production. The other two units (Pueblo and Las Animas Hatcheries) are not able to expand their production capacities to fill the void. Assistance with acquiring a new warmwater unit or improvement of the two existing hatcheries would be of much benefit to realizing new fishery potential as part of SDS. The DOW has also been unable to produce enough catchable-sized trout needed to meet current stocking demands – and has been forced to buy fish from commercial sources to fill that gap. Although buying privately produced fish has been beneficial to the state's fishery program – the DOW's goal is to increase in-house production to fully meet our current and growing needs.

Pueblo Hatchery was built as mitigation for the construction of Pueblo Reservoir as part of the Fryingpan-Arkansas Project; however that mitigation remains unfulfilled even after many years. There are no direct flow rights guaranteed to this hatchery, even with a connection to Pueblo Reservoir. The only water that is currently provided to the hatchery is 17 cfs agreement between the Pueblo Board of Water and Colorado Trout Unlimited. The hatchery lacks sufficient water in which to run all of its ponds and raceways – therefore its potential as a fish production unit has never been realized. The hatchery is capable of using 39 cfs. Providing for flows that would fill the gap between 17 and 39 cfs would provide capabilities for the Pueblo Hatchery to provide adequate fish for Pueblo, Meredith, Henry, and Holbrook reservoirs and the new potential that may be afforded by Jimmy Camp Reservoir. Increased flows to the hatchery would also provide for an increase in the hatchery's production of trout, which could be stocked into Pueblo Reservoir and Jimmy Camp Reservoir on a seasonal basis. With additional secure water, Pueblo would be able to produce both warmwater species and trout that would be required to improve or maintain reservoirs, depending on the preferred alternative selected.

Fish Stocking (Native, Threatened and Endangered):
The DOW current produces Arkansas darters at its Native Species Restoration Facility in Alamosa. In addition, the hatchery is refining techniques to produce suckermouth and plains

minnows (both state-listed endangered species) which are scheduled to be stocked into the Arkansas River below Fountain Creek within the project area. Additional nursery and pond production facilities are still needed at the developing Native Species Hatchery.

To increase production of Arkansas darter also entails protection of existing resources in Jimmy Camp, Williams and Fountain creeks, plus acquisition of new habitat. The potential exists for habitat improvement or channel construction in Jimmy Camp and Williams creeks as earlier described. In addition, there are some excellent darter habitat existing (but unprotected and not enhanced) along Fountain Creek near Pinon. This area currently maintains a viable Arkansas darter population supported from spring water sources, but there is excellent potential to acquire, protect and enhance this habitat (immediately adjacent to Fountain Creek) and preserve another critical piece of Arkansas darter habitat.

References Cited in the Aquatic Resources Comment Section

Arkansas River

Anderson, R.M. and D.A. Krieger. 1994. Impact Analysis of a Flow Augmentation Program on the Brown Trout Fishery of the Arkansas River, Colorado. Special Report Number 70. Colo. Div. Wildl. 24 pp.

Bridges C., M. Elkins, D. Gilbert, and G. Policky. 2000. Natural Resource Assessment. In Arkansas River Water Needs Assessment. Smith, R.E., and L.M. Hill, eds. USDI Bureau of Land Management, USDI Bureau of Reclamation, USDA Forest Service, and Colrado Department of Natural Resources.

Turquoise Reservoir

ERO Resources Corporation, BBC Research and Consulting, CEC, 2006. Fryingpan-Arkansas Project Land Use and Recreation Study, Analysis and Plan Elements of Land Use and Recreation Opportunities in Lake County, Colorado. Prepared for Southeastern Colorado Water Activity Enterprise and Lake County. 147 pp.

Nesler, T.P. 1981. Studies of the Limnology, Fish Populations, and Fishery of Turquoise Lake, Colorado-1979-80. Bureau of Reclamation Report No. REC-ERC-82-5. 31pp. Denver, CO.

Finnell, L.M. Fryingpan-Arkansas Fish Research Investigations. Colorado Division of Wildlife Final report F-52-R, 96 pp. 1977.

Twin Lakes

Nesler, T.P. 1981. Twin Lakes Studies: A Characterization of the Twin Lakes Fishery via Creel Census with an Evaluation of Potential Effects of Pump-Storage Power Generation. US Bureau of Reclamation No. REC-ERC-82-4. Denver.

U.S. Department of Interior. 1993. *Aquatic Ecology Studies of Twin Lakes, Colorado 1971-86: Effects of a Pumped-Storage Hydroelectric Project on a Pair of Montane Lakes.* Engineering and Science Monograph No. 43. 200 pp.

Comment	Letter 12	Response

JOHN P. MORSE
State Senator
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Home: (719) 302-5697
Email: john.morse.senate@state.co.us
Senate District 11

Senate Chamber
State of Colorado
Denver

COMMITTEES
Chair of:
Appropriations
Member of:
Joint Budget Committee
Ethics Board

June 2, 2008

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U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attention: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Draft Environmental Impact Statement for the Southern Delivery System

Dear Ms. Lamb:

This letter is in reference to the Southern Delivery System ("SDS") Draft Environmental Impact Statement ("DEIS").. Of the seven alternatives discussed in the DEIS, Alternative 2, or the Preferred Alternative, best provides increase water storage and delivery capacity with the lowest overall project costs

The Preferred Alternative utilizes excess capacity storage space in Pueblo Reservoir and conveyance through the Fry-Ark facilities, primarily through existing Pueblo Dam outlet works. This alterative has one of the lowest increases to the average annual cost per household and has the lowest CO_2 emissions of all alternatives.

The alternative chosen must not hurt the hardworking families of El Paso County. The Bureau has a duty to choose the alternative with the lowest overall project costs and a reasonable increase to water-bill costs.

I urge the Bureau to move forward with the Preferred Alternative because it is the least expensive of all the alternatives. If the Bureau decides to move forward with another course of action, they must analyze what increased costs will do to low-income families and those on fixed incomes.

Sincerely,

Senator John P. Morse
Colorado Senate District 11

Response:

Thank you for your comment.

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE, NM 87109-3435

REPLY TO
ATTENTION OF:

June 13, 2008

Regulatory Division

Ms. Kara Lamb
U.S. Department of the Interior
Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, Colorado 80537-9711

Dear Ms. Lamb:

Thank you for inviting the U.S. Army Corps of Engineers (Corps) to become a Cooperating Agency on the Southern Delivery System (SDS) project proposed by the City of Colorado Springs, the City of Fountain, the Security Water District, and the Pueblo West Metropolitan District (Participants), in the state of Colorado. The Corps appreciates the opportunity to comment on the Draft Environmental Impact Statement (DEIS) that has been circulated by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation).

The comments provided in this correspondence represent the Corps responsibilities under the National Environmental Policy Act, as well as Section 404 of the Clean Water Act (Section 404). The Corps Regulatory Division is responsible for determining the least environmentally damaging practicable alternative (LEDPA) when evaluating a project for purposes of a Department of the Army permit under Section 404.

13-1 For purposes of Section 404, the Corps cannot support the third listed need for the project; to perfect and deliver existing Arkansas River Basin water rights. Existing property rights already owned by the Participants should not be included in the purpose and need statement and/or the overall project purpose when applying for a Section 404 permit.

13-2 In general, the Corps cannot support the findings of the DEIS for Section 404 purposes because the document does not substantiate that the Participants' proposed action, Alternative 2, represents the LEDPA. There is no detailed 404(b)(1) analysis within the DEIS and the LEDPA has not been identified. It would appear that there is sufficient information in the DEIS to justify Alternative 3, the Wetlands Alternative, as the LEDPA. In addition, there would seem to be additional costs associated with Alternative 2, specifically in relation to the treatment of return flow waters entering Fountain Creek, an impaired water, as well as costs associated with flood control and sediment reduction.

Response to Comment 13-1: Reclamation has determined that this need is appropriate for purposes of its NEPA compliance. Section 404 of the Clean Water Act requires approval by the Corps for discharge of dredged or fill material into the waters of the United States. The potential need for a 404 permit is identified in section 2, pages 92 to 93 and in chapter 3, pages 325 to 326. Information presented in the DEIS has been modified in the FEIS (see section 1.3, 2.1.2, 2.4.4, and 3.11.2) pursuant to this specific comment, as well as other public comments. Revisions have been made to clarify that 404 permitting of any SDS Project alternative would be a wholly independent process from Reclamation's NEPA compliance, which is fulfilled by the SDS FEIS. The Participants would continue working closely with the Albuquerque District, Regulatory Division, of the Corps, to address Clean Water Act requirements, including compliance with the 404(b)(1) Guidelines for the Project.

Comment	Letter 13 continued	Response
13-3	The Corps recommends that all impacts and activities integrally related to the overall project be identified in the permit application, along with a detailed 404(b)(1) analysis. The Corps intends to evaluate all proposed work as a single and complete project under one CWA Section 404 Individual Permit review. Thank you for this opportunity to participate in the EIS process. If I can be of further assistance, please contact me at 505-342-3282, or contact Mr. Van Truan in our Southern Colorado Regulatory Office located in Pueblo, Colorado, at 719-543-6915. Sincerely, Donald Borda Donald Borda Chief, Regulatory Division	Response to Comment 13-2: The Participants have proposed to change the Proposed Action Alternative after completing an analysis needed to comply with the 404(b)(1) Guidelines. The change also responds to agency and public comment on the Participants' Proposed Action and Reclamation's Preferred Alternative in the DEIS. Based on the analysis, the Project Participants believe the combination of Upper Williams Creek and Williams Creek reservoir sites is the least environmental damaging practicable alternative. This analysis has been referenced in Section 1.1.6 of the FEIS. Reclamation notes that a 404(b)(1) analysis is not a required element of an EIS. Response to Comment 13-3: This recommendation has been communicated to the Project Participants. Should an individual 404 permit be required to implement Reclamation's alternative selected in the Record of Decision, the Project Participants would prepare a 404 permit application and the Corps would complete its 404(b)(1) analysis.

Comment | Letter 14 | Response

State Representative
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Colorado State Capitol
200 E. Colfax Ave., Room 271
Denver, CO 80203
Capitol: 303-866-2191
E-mail: bob.gardner.house@state.co.us

Member:
Judiciary Committee
Local Government Comm

COLORADO
HOUSE OF REPRESENTATIVES
STATE CAPITOL
DENVER
80203

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June 9, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System--Draft Environmental Impact Statement

Dear Ms. Lamb:

As a State Representative for significant portions of Colorado Springs and El Paso and Fremont Counties, I want to take the opportunity to comment on the Southern Delivery System Draft Environmental Impact Statement (DEIS). I applaud the Bureau for its work on the document. It is clear that the greater Colorado Springs' area is growing and it is clear we need more water.

Of the seven (7) alternatives, the best for all Parties is the Participants Proposed Action or Alternative 2 as it allows for efficient access to existing water rights with the lowest project cost and the lowest energy requirements. If this alternative is not chosen, I ask the Bureau to utilize the Highway 115 Alternative or Alternative 7, as it will benefit Fremont County as well.

As you move forward with the Final EIS, I ask that you take the following into consideration when making a decision for this project:

- This project will use taxpayer money. Therefore, costs must be reasonable. The Downstream Intake Alternative's costs are unreasonable in relation to its water delivery;
- This project is responding to growth in the region and therefore, we need a concerted planning effort. The worst alternative is the No Action Alternative;
- Colorado Springs is already over reliant on an aged pipeline. A failure to act could put Colorado Springs in jeopardy; and
- These are water rights already owned by the Project Participants. They need to be able to efficiently utilize their rights.

To reiterate, I primarily support the Participants Proposed Action or Alternative 2 because it allows those involved to efficiently access their existing water rights with the lowest project cost and the lowest energy requirements. If however, Alternative 2 is not chosen, I ask the Bureau to utilize the Highway 115 Alternative or Alternative 7 as it will benefit Fremont County.

Sincerely,

Robert S. Gardner
State Representative

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Thank you for your comment.

SDS #5
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STATE OF COLORADO

Bill Ritter, Jr., Governor
James B. Martin, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department of Public Health and Environment

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Gould 1004		

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June 17, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 West County Road 18E
Loveland, Colorado 80537-9711
Attention: Kara Lamb

RE: Comments on the Southern Delivery System Draft EIS

Dear Ms. Lamb:

This letter summarizes the principal concerns of the Water Quality Control Division regarding the above-referenced Draft Environmental Impact Statement (DEIS) addressing the Southern Delivery System (SDS), a regional water delivery project that will remove water from the Arkansas River near the City of Pueblo for delivery east of Colorado Springs. The stated purpose of the project is to meet the current and long term water needs of Colorado Springs, Fountain, Security and possibly Pueblo West to the year 2046.

The Water Quality Control Division is a regulatory agency within the Colorado Department of Public Health and Environment with responsibility for maintaining and protecting the quality of state waters, and for administering the Safe Drinking Water Act which ensures safe potable water supplies for public consumption. The division has reviewed the water quality sections of the DEIS, and found them to be relatively accurate and complete. We have also reviewed the alternatives that are being considered, and recognize the challenges the Bureau faces in selecting one that will allow development and protection of the water source in an environmentally and economically sound manner.

15-1

Over the last few years, the division has been actively involved in a number of the projects that are being implemented on Fountain Creek and therefore wants to make certain that the alternative selected will not exacerbate the problems that the communities and stakeholders are working so diligently to correct. Specifically, the added volume of water that will accompany the SDS has the potential to significantly increase the erosion and sediment loading discharged into Fountain Creek. Although the DEIS does address both sediment and bacteriological impacts resulting from the proposed alternative, it does not describe the potential cumulative effects of the associated growth that will result from the SDS project. Urban nonpoint source pollution, as well as increased stormwater runoff, will further contribute to the existing sediment and bacteriologic problems if not properly mitigated. The DEIS should address the potential cumulative effect of the proposed SDS.

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Response to comment 15-1: The DEIS addressed the erosion and sedimentation portion of this issue in chapter 3, pages 284 to 286 and addressed cumulative effects on water quality in Fountain Creek in chapter 3 of the DEIS, pages 245 to 248. These topics were also addressed in the Water Quality Effects Analysis (MWH 2008b) and Water Resources Effects Analysis (MWH 2008d), which were incorporated by reference into the DEIS. Cumulative geomorphic effects associated with reasonably foreseeable actions (i.e., urban development and the Colorado Springs' Stormwater Enterprise) also were evaluated. As described on pages 299 to 301 of the DEIS, cumulative effects would include increased erosion from increased stormwater runoff and treated wastewater discharge. Additionally, the cumulative effects on bacteria and suspended sediment are thoroughly described. Subsequent to DEIS issuance, Reclamation prepared additional analyses of potential water quality effects, including *E. coli* in Fountain Creek. This information was published in the Supplemental Information Report and is included in section 3.7 of the FEIS.

Comment	Letter 15 continued	Response
15-2	There are currently five surface water segments within the Fountain Creek watershed that are listed on the 2008 303(d) list listed as impaired due to non-attainment of either selenium or *E. coli* standards. Again, the DEIS does not address the cumulative impact that the associated urban growth may have on these water bodies that are currently in nonattainment. Additional details and description of the Colorado Springs Stormwater Enterprise would be helpful in assessing potential cumulative impacts on current 303(d) listed segments.	Response to comment 15-2: The DEIS addressed this issue in chapter 3, pages 245 to 248. The DEIS addressed cumulative effects on selenium and *E. coli* in Fountain Creek, including the effects of urban growth specifically and a discussion of the Stormwater Enterprise and the effects of development. There is additional discussion of the Stormwater Enterprise on pages 125 to 126 of the DEIS. The Water Quality Effects Report (MWH 2008b), which was incorporated by reference into the DEIS, includes a more detailed description of cumulative effects on bacteria on page 146. Subsequent to DEIS issuance, Reclamation prepared additional analyses of potential water quality effects, including selenium and *E. coli* in Fountain Creek. This information was published in the Supplemental Information Report and is included in section 3.7 of the FEIS.
15-3	The Water Quality Control Division appreciates the opportunity to comment on the SDA project, and recognizes the impact of the decision that will be rendered. In light of this, the potential water quality impacts to Fountain Creek should factor significantly into the selection of an acceptable and appropriate alternative. The protection of existing water quality and restoring impaired stream segments throughout the area affected by the project must be considered in all proposed alternatives. Continued protection and restoration of water quality in Fountain Creek is critical as urban development in the watershed continues to grow. Sincerely, Steven H. Gunderson Division Director Water Quality Control Division Cc: Dick Parachini, WQCD Greg Naugle, WQCD Kathleen Reilly, WQCD	Response to comment 15-3: Thank you for your comment. Water quality was identified as a significant issue for the SDS Project and will be an important issue in Reclamation's selection of a Preferred Alternative in the Record of Decision.

Comment	Letter 16	Response

LIONEL RIVERA
MAYOR

CITY OF COLORADO SPRINGS

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June 6, 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

The Southern Delivery System (SDS) project is critically important to our City. We are duty bound to ensure that our citizens have an adequate, safe and reliable water supply. We also are obligated to ensure that our water supplies are utilized in an environmentally-sensitive and cost-efficient manner. Reclamation's DEIS is an important step toward satisfying both of these important goals.

Clean, dependable water is vital to the future economic viability of our community. We know that it is equally important to the health of our broader region, including our neighboring communities. We understand that our economy and our well being are intertwined with our neighbors. Colorado Springs seeks mutually beneficial solutions for our region.

The City of Colorado Springs fully supports Reclamation's selection of the Participants' Proposed Action as its Initial Preferred Alternative. We want to do what is best for our citizens, of course, but we also want to balance appropriately the important interests of our neighbors. The Participants' Proposed Action will allow our City to continue to provide for the needs of today's residents and future generations. It will allow us to use our existing water rights efficiently, with the great advantage of drawing our supply directly from Pueblo Reservoir at the lowest total project cost and energy requirements. Following are key needs the SDS project meets:

Water for our Future -- The Colorado Springs area is experiencing an annual growth rate of 1.2 percent, and we must have safe, reliable water for our expanding community. Most of our growth comes from the birth of the children and grandchildren of those already living in the region. The Colorado State demographer estimates that 800,000 people will reside in Colorado Springs by 2050. We must ensure these residents have safe water to drink.

As our regional population increases, our existing water delivery systems are increasingly taxed. Colorado Springs is one of the few Front Range cities not located on a major river system, and so we rely heavily on our pipeline delivery systems. This unique circumstance is at the heart of why we need SDS. As our pipeline systems age, we must invest in additional pipeline resources to ensure our citizens have a reliable, safe, and fairly-priced water supply.

SDS uses the participants' existing water rights and will not infringe upon or injure anyone else's water rights.

107 North Nevada Avenue, Suite 300 • TEL 719-385-5986 FAX 719-385-5495
Mailing Address: Post Office Box 1575, Mail Code 1549 • Colorado Springs, Colorado 80901-1575

Thank you for your comment.

Military Growth -- El Paso County is home to Fort Carson, Peterson Air Force Base and Air Force Academy. Fort Carson is the second largest employer in the State of Colorado and the largest employer in Colorado Springs. Colorado Springs Utilities supplies Fort Carson's drinking water.

Fort Carson's is expanding substantially, and our City must prepare for and support these arriving troops. According to the Pikes Peak Area Council of Governments Fort Carson draft regional growth plan, in 2007 Fort Carson was estimated to have about 12,600 military personnel, with about 23,000 dependents living in the region. Under the "Expected Growth Scenario" in the draft growth plan, by 2011 an expected "total population growth associated with the troop increase at Fort Carson is expected to be roughly 33,800, consisting of approximately 11,400 newly authorized troops, 21,300 military dependents, 430 civilians, and 690 civilian dependents" which would bring the total to about 60,000 troops and dependents. Based on recent announcements from the Department of the Army, that composite number is expected to total to as much as 75,000 by 2013.

Our communities welcome the opportunity to serve so many great Americans, and while Fort Carson should be commended for doing their part to responsibly manage resources, we must ensure an adequate water supply is available for our men and women in the Armed Forces and their families. Colorado Springs must have a safe, efficient, reliable water system large enough to meet their needs. SDS will help Colorado Springs to supply water to our military personnel as they protect our country.

Conservation and Reuse of Wastewater -- Colorado Springs has strongly encouraged water conservation and wastewater reuse as two strategies that will help to build our water supply system through 2050. We are very proud that Colorado Springs, of all the Front Range cities in Colorado, has the lowest single-family per capita residential water use. Through conservation, the citizens of Colorado Springs are projected to save 30 billion gallons of water by 2017, approximately 7.5 percent of our forecast demand. Similarly, Colorado Springs has been a pioneer in the reuse of water, and our reuse certainly will increase in the future. However, conservation and reuse alone will not meet our projected demand for water.

Investment in the Fryingpan Arkansas Project -- SDS provides to our citizens a very valuable return upon their ongoing investment in the Fryingpan Arkansas Project. The Southern Delivery System — through the Proposed Action — will use many parts of the Fryingpan Arkansas Project. These include use of excess capacity storage space in Pueblo Reservoir, conveyance through the Pueblo Dam outlet works, and various water exchanges.

The annual maintenance and operation costs of the Fryingpan Arkansas Project are funded largely by the citizens of El Paso County, through the Southeastern Colorado Water Conservancy District. El Paso County has been a member of the District since 1965. The citizens of El Paso County — where three of our four project participants are located and many of the beneficiaries of the Southern Delivery System live — pay 73 percent of the property tax revenues that help fund the Fryingpan Arkansas Project. This totals more than $65 million to date.

Keeping Water Rates Affordable -- The water users who will benefit directly from SDS, including families in Colorado Springs, Security, Fountain and Pueblo West, will bear the cost of this necessary project. Because individual citizens will pay for this investment, it is imperative for Reclamation to

Comment Letter 16 continued Response

June 6, 2008
Ms. Kara Lamb
U.S. Bureau of Reclamation 3

approve a Record of Decision that ensures ratepayer monies are spent prudently and efficiently and ratepayer costs are as low as possible.

Of the seven alternatives examined in the DEIS, the Downstream Intake Alternative fails the cost-screening criteria used by Reclamation. This alternative should not be selected by Reclamation since this alternative is not cost effective for our residents.

As the least costly alternative, the Proposed Action is the most fiscally responsible alternative option for our customers. The additional water delivery infrastructure and the storage contracts in Pueblo Reservoir are vital to operate SDS. Without the Southern Delivery System, our most likely future would involve building the No Action alternative. Because this option does not include contracts with Reclamation for storage in Pueblo Reservoir, it would limit our ability to maximize our community's significant investments – more than $65 million – in the Fryingpan-Arkansas Project. According to the DEIS, the No Action alternative would lead to water rates increasing 13 percent more than the Proposed Action by 2015. It is also probable in the long-term that Colorado Springs will be required to rely on limited, non-renewable Denver Basin ground water resources if we are forced to build the No Action alternative. Colorado Springs will need to increase water rates with or without SDS. Yet, of the seven alternatives examined in the DEIS, the Proposed Action will have the lowest overall rate increases while providing for Colorado Springs' current and future needs.

Protecting Fountain Creek -- Colorado Springs is committed to, and heavily invested in, protecting Fountain Creek. Colorado Springs has acted aggressively to resolve past problems with Fountain Creek. We participate in regional cooperative efforts to protect Fountain Creek, including the Fountain Creek Vision Task Force and co-funding the Fountain Creek Corridor Master Plan with the Lower Arkansas Water Conservancy District. Colorado Springs has invested more than $100 million for wastewater collection systems, $40 million to upgrade to the Las Vegas Wastewater Treatment Plant, $80 million on the JD Phillips Plant and a $10 million commitment for the Fountain Creek Recovery Project. By 2025, Colorado Springs will have invested $250 million in our wastewater system over the preceding 20 years.

SDS alternatives that discharge water into Fountain Creek will increase water flowing down the creek, but not enough to increase the risk of flooding. The flooding that occurs along the creek comes from the runoff during major storms. The Colorado Springs City Storm Water Enterprise is aimed specifically at improving the city's ability to control stormwater runoff.

Some have suggested Reclamation include flood control along Fountain Creek. As the DEIS shows, flooding along Fountain Creek stems from issues unrelated to the SDS.

The DEIS also concluded that water quality in the creek will not be adversely impacted. In fact, some additional water in the creek is considered beneficial because it dilutes compounds naturally found in the creek, such as naturally occurring salts and selenium.

Energy Consumption and Climate Change – While Colorado Springs keeps infrastructure costs as low as possible for our ratepayers, we also pride ourselves on being a good municipal neighbor and a responsible steward of the environment. Our City also understands the need to keep our environmental footprint as small as possible. These two goals correspond directly to the Bureau of Reclamation's statutory mission to "manage, develop and protect water and related resources in an environmentally and economically sound manner in the interest of the American public."

Our City is concerned about energy consumption, and we take action to reduce it. The Proposed Action for the SDS does not use as much power as other alternatives. It has an estimated total power usage through 2046 of 6,046 gigawatt-hours, and estimated energy consumption for 2046 of 683 megawatt hours per day. By comparison, the Downstream Intake Alternative's estimated 2046 daily power consumption is more than double the Proposed Action — expending 1,419 megawatt hours per day.

In this regard, the Downstream Intake Alternative fails to meet Reclamation's cost-screening analysis. It also leaves a larger environmental footprint for our children. The Downstream Intake Alternative's capital construction cost is $200 million more than the Proposed Action and the operation and maintenance costs for the Downstream Intake Alternative are $500 million more than the Proposed Action Alternative. The Downstream Intake Alternative would use twice as much electrical power as the preferred action to deliver the same amount of water. Its reverse osmosis process would generate 270,000 additional tons of CO_2 emissions per year, and would create brine residuals in the amount of about 7,500 cubic yards annually. This corresponds to two truckloads per day which would need to be shipped and disposed of at a permitted disposal site.

Colorado Springs supports the Participants' Proposed Action as the best means to meet our water delivery and storage need throughout 2050. The Proposed Action will help ensure we have sufficient water resources to support our expanding military bases in the region. It has the lowest overall project costs and causes the fewest environmental impacts. It provides additional storage capacity for additional drought protection. The Proposed Action will not compete with other communities who are reliant on Denver Basin ground water for their drinking water. It is important for the SDS project to move forward to provide a cost effective, operationally efficient, environmentally responsible and dependable source of water supply.

Thank you again for the opportunity to provide you our feedback.

Sincerely,

Lionel Rivera
Mayor, City of Colorado Springs

Comment Letter 17 | Response

State Representative
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Monument, CO 80132
Capitol: 303-866-2924
Fax: 303-866-2218
E-mail: amy.stephens.house@state.co.us

Member:
Business Affairs & Labor Committee
Judiciary Committee

COLORADO
HOUSE OF REPRESENTATIVES
STATE CAPITOL
DENVER
80203

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June 7, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711
Attn: Kara Lamb

Re: Southern Delivery System Environmental Impact Statement

Dear Ms. Lamb:

I support the current efforts of Colorado Springs Utilities to develop the SDS project as El Paso County, CO needs a safe and reliable water delivery system. It is my hope that the SDS system will at some point serve Northern El Paso County – the Monument/Tri Lakes region.

It is my continued goal to help Colorado Springs Utilities in any way possible to achieve implementation of the SDS project and they have done an outstanding job of educating and informing the Colorado Springs community of their efforts.

I remain supportive of SDS and all other efforts to bring a safe and stable delivery of water to Northern El Paso County.

Sincerely,

Amy Stephens

State Representative Amy Stephens
Northern El Paso County – House District 20

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Cc: Jerry Forte, CEO, CSU
Wayne Vandeschuere, CSU
Andy Colosimo, CSU

Response to comment Letter: Response to Letter: Expanding this proposed SDS Project to incorporate the Monument/Tri Lakes region is outside of the scope of this EIS. The EIS evaluates the effects of Reclamation entering into long-term contracts requested by the City of Colorado Springs, City of Fountain, Security Water District, and Pueblo West Metropolitan District for development of a regional water supply. Reclamation has no basis for changing the Participants in a project for which a Reclamation contract is requested.

Comment Letter 18 | Response

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
P.O. Box 25486, DFC (65412)
Denver, Colorado 80225-0486

IN REPLY REFER TO:
ES/CO: T&E/SDS

JUN 1 0 2008

MEMORANDUM

To: Kara Lamb
Eastern Colorado Area Office

From: Susan C. Linner, Colorado Field Supervisor Susan C. Linner

Subject: SDS DEIS Comments

These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.).

The Fish and Wildlife Service was provided opportunities to comment at various stages of document preparation. Therefore, we have no further comments on the completed DEIS.

Adam Misztal continues be the Service contact person; he can be contacted at (303) 236-4753 or via e-mail at adam_misztal@fws.gov

Response:

Thank you for your comment.

Comment	Letter 19	Response

Colorado Springs Utilities
It's how we're all connected

RECEIVED
JUN 1 3 2008

June 12, 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Draft Environmental Impact Statement for the Southern Delivery System Project

Dear Ms. Lamb:

On behalf of Colorado Springs Utilities, I submit these comments on the Draft Environmental Impact Statement (DEIS) for the Southern Delivery System Project (SDS) to the United States Bureau of Reclamation (Reclamation).

Springs Utilities supplies drinking water to more than 400,000 people in Colorado Springs and neighboring areas. Each person who drinks our water deserves the close and serious look at the environmental effects of the SDS that is reflected in the DEIS. Each person also deserves the open and fair process Reclamation has used to keep the public informed of its work every step of the way.

Springs Utilities strongly supports Reclamation's choice of the Participants' Proposed Action as its Initial Preferred Alternative in the DEIS. Importantly, the Participants' Proposed Action allows the people of Colorado Springs to utilize the water rights they already own. The project uses excess storage capacity in Pueblo Reservoir. Using Pueblo Reservoir as our regulating storage will allows us to manage our water supply system in a much more effective and efficient way. The Participants' Proposed Action also has the lowest carbon footprint and lowest overall project cost of all the alternatives.

SDS is vital to the future of our city and our project partners – Fountain, Security and Pueblo West. The project partners' water needs are projected to almost double between 2007 and 2046. A new, safe and reliable system to transport water is essential and needed very soon. Based on the water forecast used in the DEIS, Colorado Springs' water demand could exceed current capacity in 2012 — and Fountain, Security and Pueblo West's water needs may exceed current capacity even sooner.

Colorado Springs has an annual growth rate of 1.2 percent. About half of our growth comes from the birth of the children and grandchildren of those already living in the region. The Colorado State demographer estimates that 800,000 people will reside in Colorado Springs by 2050. Springs Utilities supplies the water to Fort Carson, Peterson Air Force Base and the U.S. Air Force Academy, two of which are currently undergoing expansions.

121 South Tejon Street, Fifth Floor
P.O. Box 1103, Mail Code 950
Colorado Springs, CO 80947-0950

Thank you for your comment.

Comment Letter 19 continued Response

Ms. Kara Lamb
U.S. Bureau of Reclamation
June 12, 2008
Page 2

Colorado Springs and its project partners have strongly encouraged water conservation and wastewater reuse as two strategies that will help to build our water supply system through 2050. We are very proud that Colorado Springs has the lowest single-family per capita residential water use when compared to other large Front Range cities in Colorado. And we are proud to see other community leaders, like Fort Carson working to promote sustainability techniques on the base. However, conservation alone will not meet our projected demand for water.

Without the SDS, Colorado Springs would run short of water. Our citizens would face increased risk and frequency of water restrictions. We would need to use our emergency supply of water from the nonrenewable Denver Basin, an undesirable result for us and for other water users dependent on the Denver Basin ground water for drinking water. Without the SDS, our rates would increase dramatically and unnecessarily. It is no exaggeration to say that our quality of life in Colorado Springs and our economy would be jeopardized without this project. It is vitally important to the City of Colorado Springs that our water rates remain affordable as we move forward with the additional water delivery infrastructure and storage contracts in Pueblo Reservoir needed to operate SDS. Colorado Springs will need to increase water rates with or without SDS. However, without the Southern Delivery System, our most likely future would involve building the No Action alternative. According to the DEIS, the No Action alternative would lead to water rates increasing 13 percent more than the Proposed Action by 2015. It is also probable in the long-term that Colorado Springs will be required to rely on limited, non-renewable Denver Basin ground water resources if we are forced to build the No Action alternative. Of the seven alternatives examined in the DEIS, the Proposed Action will have the lowest overall rate increases, yet still provide for Colorado Springs' current and future needs.

The SDS is carefully designed to answer many of our water needs. For example, it will provide a much-needed redundant delivery for our water supply. Our last major water-delivery infrastructure was built in the 1960s, a time when our population was half of what it is today.

The people of Colorado Springs already have experienced long-term water supply outages caused by pipeline failures in its aging system. Without the SDS, we face a future with increasing likelihood of these types of outages.

This type of unreliability is unacceptable in any water system, but especially in the municipal water supply system for the second largest city in Colorado. The SDS addresses this need.

The Participants' Proposed Action provides valuable return upon the ongoing investment the City has made in the Fryingpan-Arkansas Project. The Proposed Action will use many parts of the Fryingpan-Arkansas Project, including the storage capacity and Municipal Outlet Works of Pueblo Reservoir. The annual maintenance the Fryingpan-Arkansas Project is funded through the Southeastern Colorado Water Conservancy District of which El Paso County has been a member since 1965. The citizens of El Paso County have paid 73 percent of the property tax revenues that have helped fund the Fryingpan-Arkansas Project.

Ms. Kara Lamb
U.S. Bureau of Reclamation
June 12, 2008
Page 3

Springs Utilities has made a commitment to protecting and – in some cases – improving water quality in the region. Springs Utilities has aggressively invested and participated in regional cooperative efforts to protect Fountain Creek, including the Fountain Creek Vision Task Force and co-funding the Fountain Creek Corridor Master Plan with the Lower Arkansas Valley Water Conservancy District. The City of Colorado Springs has invested more than $100 million for improvements to our wastewater collection systems, $40 million to upgrade the Las Vegas wastewater treatment plant, $80 million for the new, state-of-the-art J.D. Phillips Water Reclamation facility, and $10 million for the Fountain Creek Recovery Project. By 2025, the City of Colorado Springs will have invested $250 million in our wastewater system over the preceding 20 years.

Springs Utilities has also made a commitment to protect aquatic habitat. The SDS project will not increase the amount of water taken from the Fryingpan-Arkansas Project. It is true that by 2046 Springs Utilities plans to draw an additional 4,000-6,000 acre-feet of non-project West Slope water regardless of whether SDS is implemented or not. The affects of diverting this water has been studied in the Biological Opinion for Endangered Species in a 15-mile Reach on the Colorado River. Also, Springs Utilities has shown its commitment to protecting aquatic life in the region through the participation in the Upper Arkansas Voluntary Flow Management Program and the Inter-Governmental Agreement to participate in the Pueblo Flow Management Program. Both of these programs will help minimize the impacts of the SDS project.

Springs Utilities is particularly mindful of the energy benefits of the Participants' Proposed Action. Lower energy costs will keep our rates lower for the people we serve, and less energy consumption to provide water means fewer greenhouse gas emissions caused by the project.

The Participants' Proposed Action has one of the lowest estimated total power requirements among the alternatives studied for the period of 2012 through 2046. It follows that the Participants' Proposed Action and the Highway 115 alternative also will emit less climate-warming carbon dioxide than the other alternatives – since the amount of carbon dioxide emitted from an activity is directly proportional to the amount of energy used. By comparison, the Downstream Intake Alternative has emission levels almost double to the Participants' Proposed Action with energy estimates exceeding the Proposed Action by 106 percent. This factor alone is a powerful reason that argues against the selection of this alternative.

We have informed Reclamation that Springs Utilities' second choice among the alternatives in the DEIS is the Highway 115 alternative — in the event we are unable to proceed with the Proposed Action. The Highway 115 alternative also allows us to use our existing water rights, has low energy requirements – in comparison to the other alternatives – and would result in a lower cost to the consumer. The principal factor missing in the Highway 115 alternative is that it does not have the benefits of taking water from reservoir storage in Pueblo Reservoir.

To ensure the continued delivery of safe and reliable water supplies, it is very important to our community to ensure the Purpose and Need are fulfilled in the final SDS Environmental Impact Statement and the Record of Decision and that this process is completed as scheduled.

Ms. Kara Lamb
U.S. Bureau of Reclamation
June 12, 2008
Page 4

Without the SDS to provide water to the project participants, the continued viability of our communities and our regional economy vitality is at risk. This project will ensure we can supply our water resources to our growing populations. The Proposed Action is the least expensive and will have the fewest environmental impacts.

Sincerely,

Jerry Forte, P.E.
Chief Executive Officer

Comment Letter 20 | Response

PARKS, RECREATION & CULTURAL SERVICES

CITY OF COLORADO SPRINGS

RECEIVED

JUN [illegible]

June 6, 2008

Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road, 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

This letter is in reference to the Southern Delivery System ("SDS") Draft Environmental Impact Statement ("DEIS"). It is of the utmost importance to the City of Colorado Springs Parks, Recreation, and Cultural Services Department ("Parks Department") to protect the interests of open spaces, recreational opportunities and cultural artifacts. Of the seven alternatives discussed in the DEIS, Alternative 2, or the Preferred Alternative, best addresses the issues of cultural preservation and recreational enhancement on and around Jimmy Camp Creek Reservoir with the lowest overall project costs and energy-use requirements.

The Preferred Alternative utilizes excess capacity storage space in Pueblo Reservoir and conveyance through the Fry-Ark facilities, primarily through existing Pueblo Dam outlet works. The project will cost $1.1 billion in 2007dollars. This alterative has one of the lowest increases to the average annual cost per household and has the lowest CO2 emissions of all alternatives.

The utilization of Jimmy Camp Creek Reservoir, as proposed in the Preferred Alternative, would result in major benefits to recreation opportunities to the Colorado Springs region and would increase boating opportunities. The Jimmy Camp Creek Park, not yet open for public use, could be a major recreational asset for the Community. It is estimated that the Park will attract between 50,000-80,000 visitors per year, based on numbers from other Front Range reservoirs with similar public uses, and will serve as the junction for the planned extension of the Rock Island trail and The Jimmy Camp Creek Trail. Angler and motorboat usage are envisioned on the reservoir. This site has been long envisioned as part of the Parks Department's open space, parks and recreational plans for the last decade. If the Preferred Alternative is chosen, it will allow the Parks Department to carry out its vision for the Jimmy Camp Creek area.

The utilization of Jimmy Camp Creek Reservoir would also result in major benefits to cultural artifact preservation. Currently, the Jimmy Camp Creek area is not zoned for utilities usage. It is owned by a private landowner. The site has an abundance of cultural artifacts; of analysis conducted, it was found that there are 84 sites eligible for including in the National Register of Historic Places (49 prehistoric, 22 historic, and 13 multi-component sites). The area also holds

TEL 719-385-5940 • FAX 719-385-6599
1401 Recreation Way • Colorado Springs, Colorado 80905-1024

Thank you for your comment.

the potential to yield Paleoindian-age components and is within close proximity to the Banning-Lewis Ranch which produced early ceramic sites. Utilizing the Jimmy Camp Creek area will require the land to be re-designated as utilities. Since Springs Utilities is a government agency, it is required by law to protect and preserve cultural artifacts found. The use of Jimmy Camp Creek Reservoir will ensure Colorado Springs has sufficient water-resources and it will also ensure that our historic treasures are preserved.

In closing, the City's Parks, Recreation, and Cultural Services Department support the Preferred Alternative as a means to enhance recreation opportunities and protect cultural assets for Jimmy Camp Creek Reservoir. We thank you for your hard work and dedication to the project and look forward to SDS moving forward.

Sincerely,

Paul D. Butcher
Director
City of Colorado Springs
Parks, Recreation, and Cultural Services Department

CITY OF COLORADO SPRINGS

We Create Community

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JUN 1 3 2008

PUBLIC WORKS

June 6, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System (SDS) Draft Environmental Impact Statement (DEIS)

Dear Ms. Lamb:

The City of Colorado Springs Public Works Department supports the Agency's Preferred Alternative (Alternative #2) and would like to offer the following comments on SDS and the DEIS:

- SDS is important for the future of Colorado Springs, the Pikes Peak Region and the military bases in this region.

- The Preferred Alternative accomplishes the objectives of SDS at the least cost and the least impact to the environment, and in particular to Fountain Creek.

- Impacts to Fountain Creek would be minimized because the Preferred Alternative would decrease channel instabilities and therefore decrease impacts to vegetation.

    - The portion of Fountain Creek between Jimmy Camp Creek and Williams Creek would have slightly lower flow rates, reducing the current instabilities.

    - Water storage reservoirs on Williams Creek and Jimmy Camp Creek would reduce flood flows from these tributaries slightly, lessening the downstream flood hazard along Fountain Creek.

    - Impacts on vegetation along the stream bank would be less than the No Action Alternative because groundwater levels in the shallow aquifers adjacent to Fountain Creek would be elevated to near existing conditions.

Thank you for your comment.

June 6, 2008
Page 2

- The No Action Alternative would result in significant changes in the quantity of water in Fountain Creek during times of both non-storm conditions and floods.
    - Increased wastewater treatment plant discharges would increase flow in Fountain Creek during low flow periods.
    - Pumping shallow aquifers adjacent to Fountain Creek would lower groundwater levels and reduce the density and health of vegetation along the stream bank.
- SDS supports the City's strategic goals, including quality of life, sustainable growth, economic vitality and provision of city services. A thriving economy will result in adequate revenue for properly managing Public Works infrastructure systems, including Stormwater and Transportation.

In consideration of the very comprehensive Draft EIS and the preceding comments, the Public Works Department fully supports SDS and the Agency's Preferred Alternative 2. We believe that the Preferred Alternative best achieves the project's objectives with the least environmental impact.

Thank you for the opportunity to provide our comments on this important project.

Sincerely,

CAM McNair

for Ronald L. Mitchell
Public Works Director

c: Steve Cox, Interim Assistant City Manager

Comment	Letter 22	Response

PLANNING & COMMUNITY DEVELOPMENT
William T. Healy, Director

CITY OF COLORADO SPRINGS

RECEIVED
JUN 13 2008

June 10, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

Thank you for the opportunity to submit comments on the Southern Delivery System ("SDS") Draft Environmental Impact Statement ("DEIS"). We offer the following comments:

1. **Water from the SDS project is needed to accommodate future growth.** The State Demographer's projection indicates that El Paso County will retain its position as the most populous county in Colorado. By 2050, 800,000 people will reside in Colorado Springs. "The SDS Project would provide the Participants with additional water, using existing water rights, to meet most or all of their projected future demand through 2046". The project is in response to growth and does not incite growth. Net natural increases presently account for about two-thirds of the region's population growth, with only one-third resulting from in-migration. Relying on surface water via SDS avoids further depletion of the groundwater resource. The timing for SDS is critical because water demand is expected to surpass supply in 2012.

2. **The Planning and Community Development Department supports Alternative 2 (the Preferred Alternative) for the following reasons:**

   ✓ The Preferred Alternative utilizes excess capacity storage space in Pueblo Reservoir and conveyance through the Fry-Ark facilities, primarily through existing Pueblo Dam outlet works. (The Fry-Ark Project's annual maintenance and operation has been largely funded by the Southeastern Colorado Water Conservancy District, of which El Paso County has been a member since 1965. The citizens of El Paso County have paid 73 percent (more than $70 million) of the property tax revenues received by the Southeastern Colorado Water Conservancy District.)

   ✓ Total capital cost for the Preferred Alternative would be about $1.071 billion. Total operations and maintenance cost between 2012 and 2046 would be about $665 million.

30 South Nevada Avenue, Suite 301 • TEL 719-385-5358 • FAX 719-385-5167
Mailing Address: Post Office Box 1575, Mail Code 316 • Colorado Springs, Colorado 80901-1575

Response: Thank you for your comment.

- ✓ The Preferred Alternative would produce 247,600 tons of carbon dioxide emissions per year; this alternative, tied with Alternative 5, has the lowest emissions of all alternatives.
- ✓ The Preferred Alternative results in the smallest increase in future tap fees for all time periods (Table 9) and results in the lowest 2025 average annual cost per household (Table 10).
- ✓ The majority of the pipeline alignments in El Paso County are located parallel and adjacent to existing utility corridors, with Colorado Springs Utilities acquiring their own utility easements adjacent to the existing easements.
- ✓ The Preferred Alternative will provide needed water recreation opportunities. The proposed Jimmy Camp Creek Park and reservoir would have beneficial effects because of new opportunities for boating and fishing. Between Florence and Pueblo Reservoir, there would be moderate to major benefits to boating because of a substantial increase in streamflow during the fall that would extend the boating season. There would be minor to moderate benefits to boating opportunities through Pueblo because the Pueblo Flow Management Program targets would be met more frequently. There would be moderate benefits on water-based recreation on Lake Meredith.

3. Significant downsides to the Downstream Intake Alternative (Alternative 6) exist

- ✓ Total capital cost for the Downstream Intake Alternative would be about $1.272 billion. Total operations and maintenance cost between 2012 and 2046 would be about $1.175 billion.
- ✓ Both estimates are considerably higher than the Preferred Alternative. The Downstream Intake Alternative (which does not utilize Pueblo Reservoir) has a capital construction cost of $200 million more than the Preferred Alternative and operation and maintenance costs of $500 million more than the Preferred Alternative.
  - The Downstream Intake Alternative requires an additional raw-water pump station and advanced water treatment facilities.
  - The Downstream Intake Alternative requires water to be treated via reverse osmosis. It would use twice as much electrical power as the Preferred Alternative to deliver the same amount of water and generate 270,000 additional tons of CO_2 emissions per year and create brine residual.
  - Downstream Intake Alternative would produce 514,300 tons of carbon dioxide emissions per year; this alternative has the highest emissions of all alternatives.

4. Significant downsides to the No Action Alternative (Alternative 1) also exist

- ✓ Total capital cost for the No Action Alternative would be about $1.305 billion. Total operations and maintenance cost between 2012 and 2046 would be about $710 million.
- ✓ There would be no regional sharing of project facilities, resulting in duplication of services and much higher costs.
- ✓ The No Action Alternative would not meet Pueblo Flow Management Program target flows as often as other alternatives.
- ✓ Colorado Springs would be forced to utilize nonrenewable Denver Basin ground water. City Council resolutions bar depletion of Denver Basin water rights to protect other water users including Monument, Woodmoor, Gleneagle, Palmer Lake, and Black Forest. If the No Action Alternative was chosen, City Council resolutions would need to be changed and could put the aforementioned communities (whose sole water supply is the Denver Basin) at risk.
- ✓ The Denver Basin is currently only used in times of extreme emergency; the No Action Alternative would force Colorado Springs to exhaust its emergency water supply.
- ✓ The No Action Alternative does not meet the SDS EIS Project Need.
- ✓ The No Action Alternative would produce 252,600 tons of carbon dioxide emissions per year; about 5,000 tons more than the Preferred Alternative.

In consideration of the foregoing comments, the Planning and Community Development Department fully supports SDS Preferred Alternative 2. We believe that the Preferred Alternative best achieves the project objectives with the least environmental impact.

Thank you again for the opportunity to submit comments.

Sincerely,

William T. Healy

William T. Healy, Director

cc: Honorable Mayor and Members of City Council

Comment	Letter 23	Response
		Thank you for your comment.

OFFICE OF THE CITY MANAGER

CITY OF COLORADO SPRINGS

June 11, 2008

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JUN 1 3 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: **Southern Delivery System Draft Environmental Impact Statement**

Dear Ms. Lamb:

Thank you for the opportunity to comment on the Southern Delivery System Draft Environmental Impact Statement. Attached are three (3) letters from the City of Colorado Springs department heads.

The City of Colorado Springs strongly supports Alternative 2 or the Participants' Proposed Action as the Agency Preferred Alternative. Each of the attached letters provides further detail for the justification and rational for supporting the Participants' Proposed Action.

The Southern Delivery System would provide much needed water resources to Colorado Springs, Fountain, Security and Pueblo West and the Proposed Action is the common-sense course of action because it provides enough water resources at the lowest cost and with a lower carbon footprint than the other alternatives.

Based on planning forecasts, Colorado Springs could exceed its water capacity and delivery capabilities by 2012. The other Project Participants could exceed their delivery and storage capabilities even earlier. Colorado Springs has experienced a growth rate of 1.2 percent and is expected to have a population of 800,000 by 2050. Without SDS, Colorado Springs would need to seek other means to get more water for a growing population, such as tapping Colorado Springs' emergency Denver Basin water resources.

Colorado Springs is one of the few Front Range cities not located on a major river system; therefore, we rely heavily on our pipeline delivery systems. The last major upgrade to the water delivery system was made in the 1960s when the population was half of what it is now. Colorado Springs has already seen long term outages to its water delivery system due to technical or environmental related problems. SDS will provide an additional back-up system to ensure the citizens of Colorado Springs will be protected in the event of a problem.

Thank you for allowing the City of Colorado Springs to voice its support for the Southern Delivery System.

Sincerely,

Steven W. Cox
Interim Assistant City Manager

c: Honorable Mayor and Members of City Council

107 North Nevada Avenue, Suite 205 • TEL 719-385-5900 FAX 719-385-5488
Mailing Address: Post Office Box 1575, Mail Code 1547 • Colorado Springs, Colorado 80901-1575

Comment	Letter 24	Response

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT CARSON
6101 WETZEL AVENUE, RM 223
FORT CARSON, CO 80913-4145

REPLY TO
ATTENTION OF

June 10, 2008

Office of the Deputy Commander

Subject: Southern Delivery System Environmental Impact Statement

OFFICIAL FILE
RECLAMAT
Date JUN 13
Code | Surname
Copy to 404

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

Official File Copy
File Code
Project
Folder I.D.
Control No.

Dear Ms. Lamb:

The following comments are provided reference subject:

(1) General.

In consideration of the overall scope of analysis conducted, and in particular those which remain lacking regarding the Alternatives, my provision of commentary and overall support of this subject EIS and recommendations must remain qualified.

(2) Urban Development and Land Use.

24-1 The overall expected growth in El Paso County is ~370,000. The anticipated growth of Fort Carson (by 8,500 soldiers) accounts for approximately 2.0 % of this growth, yet is singled out in the first paragraph. This statement is somewhat misleading as to impacts considered from the specific aspect associated with military growth and in my belief should be made clearer.

(3) State Threatened and Endangered Species and Species of Special Concern.

24-2 Fort Carson is part of the No Action and Hwy 115 Alternatives, yet Fort Carson is not mentioned, nor potential impacts to the Mexican Spotted Owl, or Prairie Dog /Burrowing Owl habitats, which do occur at Fort Carson, was included within the analysis. The area of impact from either alternative that affects Fort Carson administered lands would require further study before any legitimate analysis of impact could be stratified.

Response to comment 24-1: Specific reference to the Army's (2007) projected growth of Fort Carson's troops, support personnel, and their dependents has been omitted from the FEIS.

Response to comment 24-2: Biological resources on Fort Carson were addressed. Summary information on the impacts to wildlife, including the Mexican spotted owl, prairie dog, and burrowing owl for each alternative was presented in the DEIS based on detailed analysis presented in the Wildlife Resources Technical Report (ERO 2007g). The analysis presented in the technical report was based on reconnaissance surveys and prairie dog mapping conducted on Fort Carson, a review of the Fort Carson Integrated Natural Resources Management Plan and other documents, and correspondence with staff biologists from Fort Carson and Piñon Canyon. Section 3.13 of the FEIS contains information on the Mexican spotted owl, prairie dog, and burrowing owl that has been updated since DEIS issuance.

Response to comment 24-3 (on next page): Wetlands were delineated within the Fort Carson study area boundary and presented in the Wetlands, Waters, and Riparian Resources Technical Report (ERO 2007f). The DEIS addressed impacts to wetland and riparian vegetation by each alternative in chapter 3, pages 332 to 341.

Comment	Letter 24 continued	Response
	2	

24-3 (4) Specific Comment.

The area of impact that potentially affects Fort Carson (No Action and Hwy 115 Alternatives) has been overlooked throughout Chapter 3 (i.e. training impacts, impacts to land use, trails, cultural and biological resources, or any other significant environmental resource media areas). If either of these two alternatives were to be selected, additional detailed NEPA analysis would be required. Again, the area of impact from either alternative that affects Fort Carson administered lands would require further study before any legitimate analysis of impact could be stratified.

(5) d. 3.15.2 Regulatory Framework

24-4 It should be mentioned within the document that no formal written agreements have been made with regard to Fort Carson being able to accommodate any Alternative of the proposed SDS pipeline that would impact the Installation's training lands and environmental resources.

As with most customers of Colorado Springs Utilities, Fort Carson appreciates the continued provision of a dependable source of potable water. Like your activity and sharing responsibilities as stewards of the public trust, Fort Carson will continue to support and deploy sustainability and conservation efforts wherever and whenever possible; such as been demonstrated by our 45% reduction in water usage since the 2002 base year. Recognizing as well your mission responsibilities, if the Utility considers that conservation alone will not cover the demand over the long term and must therefore develop additional appropriated water resources because of growth and related influences of aging infrastructure, it appears that implementation of the preferred alternative will have the greatest potential for minimization of potential impacts to the environmental resources of the region in general and military training mission at Fort Carson specifically. Therefore, I can state a preference for and support of the Preferred Alternative.

Sincerely,

Thomas L. Warren
Deputy Garrison Commander
Transformation/PCMS

Response

Fort Carson maintains a 9-mile network of hiking and horseback riding trails within the 1,200-acre Turkey Creek Recreation Area, located near the northern portion of the installation. About three miles of these trails are located along the eastern edge of the Colorado 115 right-of-way, but are not located immediately within the study area. There would be no effects on trails through Fort Carson from any of the alternatives.

Regarding cultural resources, no eligible or unevaluated sites were present within the proposed pipeline where it crosses Fort Carson. This determination is based on a review of Fort Carson's records and a report prepared by Fort Carson staff for the SDS Project (Cowen, P. 2006. Cultural Resources Survey and Evaluation for the 2006 Fort Carson Military Reservation/Southern Delivery System Pipeline Project. Prepared by the U.S. Army for WCRM, Inc. Unpublished report on file with the Colorado Office of Archaeology and Historic Preservation, Denver).

Effects including those within Fort Carson were adequately disclosed in the DEIS. Information has also been added to section 3.15 the FEIS to describe potential short-term effects of pipeline construction on military training. The Participants would work with Fort Carson to minimize impacts to training during construction.

Response to comment 24-4: The FEIS has been modified to note that Participants have not yet applied for special use permits or right of way grants for any of the alternatives.

Comment	Letter 25	Response

Colorado State Parks

1313 Sherman Street, Room 618 • Denver, Colorado 80203 • Phone (303) 866-3437 • FAX (303) 866-3206 •
www.parks.state.co.us

June 13, 2008

Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Dear Ms. Lamb:

Thank you for the opportunity for Colorado State Parks ("Parks") to comment on the Southern Delivery System Draft Environmental Impact Statement ("DEIS"). Our review is complete and the following remarks should be considered as comprehensive on behalf of our agency.

25-1 The DEIS considers 7 alternatives for providing water to Colorado Springs, Fountain, Pueblo West, and Security. The vast majority of Colorado State Parks' comments involve all of the alternative's contemplation of a 10,000 acre-foot exchange annually between Pueblo Reservoir and the upper reservoirs of Twin and Turquoise Lakes. The DEIS states that the Voluntary Flow Program (VFMP) has been evaluated regarding impacts of all the alternatives on stream flow and recreation. However, Parks has not been provided a review of any stated modeling, its assumptions, or the management and operations of such exchanges. A review of this information is important to Parks because of the potential impacts these exchanges will have on water availability, notably the Bureau of Reclamations ability to potentially deliver 10,000 + acre feet of water each year for the implementation of the VFMP. At this point, conclusions stated in the DEIS identifying impacts to the VFMP are not verifiable and, therefore, are not satisfactory to Parks.

25-2 Also, from our review of the DEIS, it is our understanding that the Project Participants have not agreed to earlier suggestions from State Parks (and others) that the DEIS protect VFMP flows in accordance with earlier agreements between our agency and other entities such as the City of Aurora. Most notably, Parks recommends the following two concepts: 1) prohibiting contract exchanges if VFMP stream flow targets at Wellsville are not realized, or potentially could not be realized; and 2) the implementation of "exchange indexing" during specific times of the year to ensure adequate flows for the fishery and recreational uses in the upper reaches of the Arkansas River. Currently, inclusion of such adequate VFMP language is lacking and, in conjunction with the inadequate review of the DEIS' modeling, Parks' concerns for the protection of the VFMP remain.

Response to comment 25-1: Information presented in the DEIS was modified in the FEIS (see section 3.2.6 and 3.5.5) pursuant to this specific comment, as well as other public comments. The description of the UAVFMP in section 3.2.6 was modified to include the requirement that deliveries in excess of 10,000 acre-feet should be subject to review and consideration by Reclamation and the SECWCD. The discussion of the hydrologic effects on the UAVFMP in section 3.5.5 of the FEIS was expanded to include discussion and information on each component of the program, including year-round flows, incubation flows, spring flows, recreation flows, and the ability to deliver Fry-Ark Project water for the program.

Response to comment 25-2: Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the Preferred Alternative for the FEIS and the development of environmental commitments for the Preferred Alternative. Commitments for adherence to the UAVFMP and PFMP have been included. These commitments are based on potential effects of the Preferred Alternative for the SDS Project. Due to minimal effects of the Preferred Alternative on the UAVFMP, exchange indexing was not required. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

Comment	Letter 25 continued	Response
25-3	U.S. Bureau of Reclamation – June 13, 2008 – Page 2 Finally, Alternatives 4 and 7 list a variety of new structures at the Arkansas Headwaters Recreation Area (AHRA) Blue Heron Recreation Site. However, mitigation for such structures to recreational use at Blue Heron is not disclosed. As a result, State Parks requests that the DEIS include adequate mitigation measures to minimize impacts to recreational and environmental uses at the Blue Heron site. Colorado State Parks greatly appreciates the opportunity to provide comments to your office and, if necessary, is willing to meet with Reclamation's staff to discuss these items further. We look forward to working with you on this project to resolve the issues outlined in this letter. Thank you for your attention hereto. Sincerely, Dean Winstanley Director, Colorado State Parks cc: Gary Bostrum, Colorado Springs Utilities Tony Keenan, Arkansas River Outfitters Assoc. Roy Masinton, U.S. Bureau of Land Management STATE OF COLORADO • COLORADO STATE PARKS Bill Ritter, Jr., Governor • Harris D. Sherman, Executive Director, Department of Natural Resources Dean Winstanley, Director, Colorado State Parks Colorado Board of Parks and Outdoor Recreation: • Dr. Tom Ready, Chair, Natural Areas Representative Tom Glass, Member, GOCO Representative • Bill Kane, Member • Allegra "Happy" Haynes, Member • Lenna Watson, Member	Response to comment 25-3: Mitigation for effects at the Blue Heron site was discussed on page 413 of the DEIS. In alternatives that include facilities at the Blue Heron Property (No Action, Wetland, Arkansas River, and Highway 115 alternatives), the Project Participants would work with the BLM to establish new long-term river access points that are compatible with proposed facilities at the site. This mitigation would be required if the Wetland, Arkansas River, or Highway 115 alternative is the alternative selected in the Record of Decision. Reclamation believes the proposed mitigation is adequate for the anticipated effects.

Comment Letter 26 Response

City of Aurora

AURORA WATER

Water Department
Water Resources
15151 E. Alameda Parkway, Suite 3600
Aurora, Colorado 80012
Phone: 303-739-7275
www.aurorawater.org

June 13, 2008

US Bureau of Reclamation
Eastern Colorado Area Office
11056 West County Road 18E
Loveland, CO 80537-9711

ATTN: Kara Lamb

SUBJECT: Comments on Draft Environmental Impact Statement/Southern Delivery System

Dear Kara:

On behalf of the City of Aurora, we are submitting the following comments regarding the Southern Delivery System Draft Environmental Impact Statement, February 2008.

Our comments provided below.

26-1

1. In September 2008, the City of Aurora entered into a contract with the Bureau of Reclamation (Contract# 07XX6C0010) for the use of excess capacity in the facilities of the Frying Pan-Arkansas Project. Section 8 of this contract addresses Aurora's environmental compliance and commitments. Aurora agreed to implement environmental commitments set forth in the EA and FONSI (EC-1300-06-09). Section 8 specifies that the failure to implement the environmental commitments allows the Bureau to cease storage, exchange, and delivery of non-project water until the commitments are implemented to the satisfaction of the Reclamation, failure to comply with the environmental commitments may also result in termination of the contract at the sole discretion of the United States.

In addition, Section 2.3.7 of the final EA (Reclamation 2007), Aurora made general and specific commitments regarding water rights associated with the operation of the exchange.

Response to comment 26-1: Mitigation presented in the DEIS was modified in the FEIS for all alternatives and for Reclamation's Preferred Alternative (see chapter 5). Environmental commitments were based on the effects of the Preferred Alternative on environmental resources. Because the effects of the SDS Project would differ from those anticipated for Aurora's contract, proposed mitigation may or may not be consistent with environmental commitments developed as part of the Aurora EA. The Record of Decision will contain a list of environmental commitments for the selected alternative.

Comment	Letter 26 continued	Response
	In reviewing the SDS DEIS, we note that specific commitments are absent. Instead, commitments are discussed in the terms of what could or would happen. It is also stated that between the issuance of the draft EIS and final EIS on the SDS project, Reclamation and the participants will develop specific environmental commitments. Aurora requests that the type and level of commitments Aurora made in its final EA with respect to water rights and the environmental commitments be included in Reclamation's Record of Decision on the SDS environmental impact statement, with appropriate adjustments taking into account the specific differences between the two projects. Those same terms and conditions should be included in the contract and associated exhibits.	
26-2	2. Aurora has reviewed the environmental impact statement with respect to impacts on the Upper and Lower Arkansas River. The assessment of impacts appears to be reasonable.	Response to comment 26-2: Thank you for your comment.
26-3	3. Section 3.1.3.3 Selected Actions Considered Existing, page 130, SDS DEIS lists two actions that were "considered to be existing because they were expected to be completed by the time the EIS is complete". These include the Arkansas River Fisheries Habitat Restoration and "Aurora Contract Exchange and Storage Agreement, sponsored by the City of Aurora." We understand that inclusion of Aurora's agreement as an existing condition means that all hydrologic impacts of Aurora's long-term contract have been incorporated into the modeling to define impacts the SDS project in the DEIS. If this is not the case, please let us know immediately.	Response to comment 26-3: The comment is correct. Aurora's long-term contract and its hydrologic effects were incorporated into the existing conditions for the SDS hydrological modeling.

If you have any questions regarding these comments, please contact me at 719-254-7984.

We appreciate the opportunity to provide these comments.

Sincerely,

Gerald Knapp

Gerald Knapp
Arkansas/Colorado River Basin Manager

cc: Mark Pifher
John Dingess

Comment | Letter 27 | Response

Colorado Springs Utilities
It's how we're all connected

June 13, 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Draft Environmental Impact Statement for the Southern Delivery System Project

Dear Ms. Lamb:

On behalf of Colorado Springs Utilities Southern Delivery System Project Department, I submit these comments on the Draft Environmental Impact Statement (DEIS) for the Southern Delivery System Project (SDS) to the United States Bureau of Reclamation (Reclamation). Please review them in conjunction with comments submitted by Colorado Springs Utilities Chief Executive Officer Jerry Forte.

1. **The "purpose and need" for the SDS project described in the DEIS is valid; based upon planning scenarios, the four SDS Project Participants may exceed water storage and delivery capacity in the next four years.**

   The SDS project statement of "purpose and need" in the DEIS is appropriate for the following reasons:

   - Based on planning scenarios in the DEIS, Colorado Springs could exceed its water storage and delivery capacity by 2012.
   - Population forecasts estimate that El Paso County will be the most populous county in Colorado by the year 2030, with most of that growth occurring in the SDS participants' cities and towns (Colorado Springs, Fountain and Security).
   - Participants' water needs are projected almost to double between 2007 and 2046.
   - Current system capacity will not provide enough water for this expected growth and a new source of water will be needed.
   - Project need dates for Colorado Springs Utilities were developed using a demand forecast model that incorporates population growth, historical use trends, price, conservation, economic activity, weather and seasonal factors.
   - Two demand scenarios were developed – the "planning forecast" and the "revenue forecast."

Thank you for your comment.

- The planning forecast reflects historical changes in weather and economic growth, and typically predicts a higher demand than the revenue forecast, which uses average (or normal) weather and water use.
- The planning forecast establishes a "need" date (the date when demand surpasses supply) of 2012, while the revenue forecast predicts a need date of around 2022.
- The planning forecast was used to minimize potential water shortages because, unlike electricity where a utility can go to the grid for additional power if needed, there is no easily available additional emergency source of water for Project Participants.
- Colorado Springs Utilities must ensure that there is enough water to meet peak demand at all times. The planning forecast considers the possibility that hot, dry weather and high economic growth could drive up demand. The system is then planned to be constructed to meet the projected demand at least 95 percent of the time.
- The revenue forecast assumes normal weather in order to determine the amount of revenue that will be collected on average.
- Actual demand is expected to be higher than the revenue forecast half the time and lower than the revenue forecast half the time.
- Therefore, the revenue forecast is not the forecast to use for planning capacity additions to ensure a reliable water supply. A fifty percent chance of running out of water is unacceptable for a water supply. A supply that contemplates shortages half of the time is not acceptable.
- Colorado Springs Utilities' planning forecast projects that water demand will exceed current capacity in 2012.
- Fountain, Security and Pueblo West's need dates lie between 2009 and 2012.
- In the past, Colorado Springs Utilities has experienced long-term outages on both the Otero and the Fountain Valley Authority (FVA) pipelines due to system failures, landslides and other weather events.
- The Otero pipeline is more than 40 years old and provides more than 50 percent of Colorado Springs' water supply. As the population grows, Colorado Springs' reliance on the Otero pipeline creates an unacceptable level of risk, as outages could cause severe water shortages.
- The Pine Valley and McCullough Treatment Plants produce about 70 percent of the city's drinking water supply. As demand grows, SDS would provide adequate backup if one of the plants had to shut down — because there would be an additional water treatment plant constructed with the SDS project.
- The FVA Pipeline, operational in 1985, provides water to Fountain, Security and Colorado Springs. It provides Fountain with 56 percent of its water. As its growth continues, Fountain will need another delivery system to ensure an adequate water supply.
- Security relies on shallow groundwater from the Widefield Aquifer and the FVA pipeline for its water supply. The SDS project would reduce its reliance on groundwater in the future.
- Colorado Springs Utilities has heavily encouraged water reuse and conservation. Of all the Front Range cities in Colorado, Colorado Springs has the lowest single-family per capita residential water use.

Comment | Letter 27 continued | Response

- Colorado Springs Utilities also has existing conservation programs which have proven widely successful.
- While Colorado Springs, and the other Project Participants, will continue to promote existing conservation and reuse programs and continue to seek out new methods for water conservation and sustainability, these measures do not replace the need for additional water resources.
- Colorado Springs existing water rights are valuable, irreplaceable assets.

2. Reclamation met and exceeded NEPA's requirements for the public comment on the DEIS, as the public was afforded many opportunities to obtain information, ask questions, review underlying documents, and provide comments.

As the following facts show, the opportunity for public comment on the DEIS was robust and thorough.

Reclamation Public Involvement

- Due to the large amount of information contained in the technical support documents underlying the DEIS, Reclamation released these documents to the public on January 29, 2008. This was one month ahead of the schedule for public comment. Thus, Reclamation provided substantial extra time for review and comment. The early release provided the public 4½ months to review the DEIS technical documents.
- Reclamation provided notice by email of the early release of the DEIS technical documents and start of the public comment period. This notice was sent to elected officials, key community stakeholders, environmental groups and other interested groups.
- Reclamation maintained an extensive SDS project web site, www.sdseis.com, that housed electronic copies of the DEIS and related technical documents, notice of public meetings, project information and project contacts – available to the public.
- Reclamation paid for a series of display advertisements, in publications reaching communities along the Arkansas Valley, informing the public of the release of the DEIS technical documents, the release of the DEIS and the associated public comment period. Advertisements appeared in the Canon City Daily Record, the La Junta Tribute, the Salida Mountain Mail, the Pueblo Chieftain, the Colorado Springs Gazette, the Colorado Springs Independent, the Colorado Tribune, the Hispania News, the Pueblo West View, the Rocky Ford Gazette, the Chafee County Times, the Woodmen Edition and the Fountain Valley News. Reclamation ran a series of additional advertisements informing the public of the release of the DEIS and associated public comment period. The combined ads ran 57 times starting January 27, 2008, through March 23, 2008.
- News coverage about the availability of the DEIS ran in local media outlets including the Pueblo Chieftain, Colorado Springs Gazette, Canon City Daily Record, La Junta Tribune Democrat, Colorado Springs Independent, Pueblo West View, Pueblo West Horizon, military newspapers, Cheyenne and Woodman Editions, radio station KCSJ and television stations 5, 30 and 11.
- In response to requests from the public, Reclamation extended the public comment period for the DEIS period by 45 days from its original expiration date. The extension of the public comment period provided the public with 4½ months to review the DEIS.

3

- Reclamation held six information open house meetings in communities along the Arkansas Valley – Buena Vista, Pueblo, La Junta, Fountain, Colorado Springs and Cañon City – during the public comment period. The public meetings were scheduled from 6 to 9 p.m., allowing participants the flexibility to attend at a time most convenient to their schedule. The format of these meetings allowed the public to view posters, maps and DEIS findings by the key resource areas studied. The technical experts who conducted the analysis for each of the resources areas were available at each meeting to answer questions, provide information and clarification. People attending the meetings were encouraged to submit their comments orally to a court reporter, on comment cards or by letter at a later date. Reclamation estimates that approximately 400 people attended the six meetings. News coverage recapped each of the meetings in communities in which the meetings were held.
- Reclamation presented the DEIS to the Fremont County Commissioners, at their request, to answer questions specific to the DEIS and Fremont County.
- Reclamation provided an overview of the DEIS process for the Pueblo City Council in a televised meeting held March 17.
- In addition to access to technical experts during the public comment period, Reclamation made a public information officer available to answer questions during the public comment period.
- After a public request, Reclamation hosted an additional public meeting as a "listening session." This meeting was held on May 29 in Pueblo to hear and record additional public comments. Approximately 75 members of the public attended that session.

Colorado Springs Utilities Public Involvement

- In addition to the outreach efforts of Reclamation to publicize and take comment upon the DEIS, Colorado Springs Utilities conducted its own extensive outreach efforts. Colorado Springs Utilities has worked with individuals and groups along the Arkansas River Basin.
- From January to June 2008, Colorado Springs Utilities staff met with or made presentations to the following organizations:
  - Air Force Academy
  - American Council of Engineering
  - Arkansas River Basin Roundtable
  - Associated Landscape Contractors of Colorado
  - Canon City Chamber of Commerce
  - Chaffee County Commissioners
  - Colorado Basin Roundtable
  - Colorado Department of Public Health and Environment
  - Colorado Centre residents
  - Colorado Springs Airport
  - Colorado Springs Business Users Group
  - Colorado Springs Chamber of Commerce
  - Colorado Springs City Council
  - Colorado Springs Council of Neighborhoods and Organizations
  - Colorado Water Congress

- Community Associations Institute
- Economic Development Corporation
- El Paso County Commissioners
- El Paso County Water Authority
- Florence City Council
- Fort Carson Army Base
- Fountain Creek Vision Task Force Consensus Committee
- Fountain Planning Commission
- Fremont County Commissioners
- Fremont County property owners
- Housing and Building Association of Colorado Springs
- Lower Arkansas Valley Water Conservancy District
- Peaceful Valley Home Owners Association
- Penrose Water District
- Peterson Air Force Base
- Pikes Peak Area Council of Governments
- Pikes Peak Association of Realtors
- Pueblo City Council
- Pueblo West Metropolitan District
- Rotary Club of Canon City
- Rotary Club of Colorado Springs
- Security Water and Sanitation District
- Sertoma Club of Colorado Springs
- Sierra Club
- Southeastern Colorado Water Conservancy District
- Trout Unlimited
- Upper Arkansas Water Conservancy District
- Western Resource Advocates

Information about how to obtain the DEIS and the opportunity for public comment period were described at these meetings.

- Colorado Springs Utilities launched an SDS project web site, www.sdswater.org, with extensive descriptions of the SDS project, links to Reclamation's web site, and information on the public comment period. The launch was well publicized.
- Colorado Springs Utilities distributed a letter encouraging public review of the DEIS, complete with a CD-Rom of DEIS technical documents, to Colorado's U.S. Congressional delegation, regional elected officials and community leaders in key communities along the Arkansas Valley during the same time period.
- Colorado Springs Utilities announced the availability of the DEIS and the public comment period to its list of interested stakeholders via email. It similarly distributed a newsletter nine times during the public comment period.
- Colorado Springs Utilities ran a series of advertisements encouraging the public to review and comment on the DEIS. Advertisements ran in nine publications -- Colorado Springs Gazette, Colorado Springs Business Journal, Cheyenne Edition, Woodmen Edition, Colorado Springs Independent, Pueblo West Horizon, Pueblo West View, Fountain Valley News and the Pueblo Chieftain -- with a total of 29 ad placements.

- Colorado Springs Utilities participated in a televised panel discussion of the DEIS in Pueblo on May 5, 2008, hosted by the Pueblo City Council. Approximately 75 people attended that session.
- To aid the public's understanding of the DEIS, Colorado Springs Utilities prepared a series of issues papers summarizing key issues studied in the DEIS and key findings. Copies of these issues papers were posted on Colorado Springs Utilities' SDS project web site.

3. **Reclamation examined in detail all reasonable alternatives to the SDS project. The alternatives were well conceived, thoroughly evaluated, and developed in accordance with NEPA and Council on Environmental Quality regulations.**

The DEIS contains a detailed investigation of all reasonable alternatives to the SDS project.

- Reclamation provided a "hard look" in the DEIS on topics such as wildlife, aquatic habitat, water quality and quantity, socioeconomics, land use, environmental and wetland-associated impacts.
- Reclamation properly analyzed the No Action Alternative pursuant to 40 CFR Section 1502.14(d), U.S. Department of Interior Bureau of Reclamation's National Environmental Policy Act Handbook (draft) Section 8.6.1, and 46 Fed. Reg. 18026 March 23 1981 (40 Most Asked Questions Concerning CEQ National Environmental Policy Act Regulations) (Question 3).
- The No Action Alternative analyzed in the DEIS properly addresses a situation likely to occur if Reclamation decides not to take the action requested by the Project Participants – and, therefore, decides not to award the contracts and undertake the other activities requested of it. In that situation, the Project Participants would turn to other activities to secure their needed water supplies, activities which do not require Reclamation action. Those are the activities correctly analyzed in the No Action Alternative in the DEIS.
- This extensive study was conducted over a four and one-half year period. Its cost, through April 2008, totals approximately $14 million dollars. The DEIS effort is thorough and robust.
- Reclamation considered the guideline requirements under Section 404(b)(1) of the federal Clean Water Act, concerning dredged and fill material discharge permits.
- Reclamation is incorporating compliance with those requirements through a parallel process with Reclamation, EPA and US Army Corp of Engineers to permit the least environmentally damaging practicable alternative.
- Up-to-date information to evaluate each identified alternative was provided by Colorado Springs Utilities, the other Project Participants, CH2MHill, other federal agencies and cooperating agencies.
- Options were evaluated on three levels. Reclamation looked at substantial logistical, technical, or environmental deficiencies for each alternative. Options with one or more substantial logistical, technical, or environmental deficiency were eliminated from further analysis.
- In response to public interest, Reclamation completed a detailed examination of several alternatives that were initially eliminated for cost or other reasons.

- The DEIS recognizes that Colorado Springs will pursue construction of a project that uses its valuable existing water rights, whether or not Reclamation approves the use of Pueblo Reservoir by awarding the requested storage, conveyance and exchange contracts for SDS.
- The format used in the DEIS is appropriate because it compares the action alternatives to a reasonable future, the No Action Alternative.

4. The "Cost Threshold" criteria described in the Alternatives Analysis Report (Reclamation, 2006) – one of the several criteria used to screen SDS alternatives – is valid because it uses data from real, comparable projects, several of which are being implemented at this time.

The cost threshold used during alternatives analysis is appropriate for the following reasons:

- The cost threshold was just one of several criteria used during a sequential screening process. Other criteria included environmental characteristics, and significant issues from public scoping performed in 2003.
- The cost threshold was based on the cost of other similar-scale water development projects along the Front Range, including:
    - Windy Gap Firming Project for the Northern Colorado Water Conservancy District;
    - Northern Integrated Supply Project (NISP) for the Northern Colorado Water Conservancy District;
    - Moffat Collection System Project Screen No. 1, for Denver Water;
    - Rueter-Hess Reservoir Final Environmental Impact Study, prepared by the U.S. Army Corps of Engineers;
    - Cost of Colorado Big Thompson Project Units; and
    - Colorado River Return Project Reconnaissance Study Summary Report, prepared by Boyle Engineering Corporation for Colorado Water Conservation Board, 2003.
- Reclamation's NEPA guidance allows elimination of alternatives that are prohibitively greater in cost than other alternatives, and under the Corps of Engineers' 404(b)(1) Guidelines, an alternative that is unreasonably expensive to the applicant, in this case the Project Participants, is not considered practicable.
- Several of these projects have proceeded to implementation, and thus they collectively form a representative sampling of implementable and practicable projects along the front-range in Colorado.
- The cost thresholds of $25,000/ac-ft of firm annual yield, and $21,000/ac-ft for average annual yield were sufficiently high that forty-eight alternatives (about 30 percent of alternatives considered) met the threshold, resulting in a wide variety of eligible alternatives.
    - Cost estimates for alternatives included all capital and O&M costs associated with delivery of untreated water requiring conventional water treatment only, prior to delivery to customers.

- For alternatives whose water quality was sufficiently poor to require greater levels of treatment than conventional treatment, the added costs for this extra treatment above conventional levels was included in the cost estimate for the alternative.

- Two alternatives that exceeded the cost threshold, but that had strong support based on scoping comments, were added back into the group carried forward for detailed analysis in the Draft EIS (Alternatives 6 and 7).

5. **It is vitally important that Project Participants are granted access to federal facilities for the SDS project, including Pueblo Reservoir and Pueblo Dam.**

Information in the DEIS and discussed during the public comment period underscores the Project Participants' need for access to Pueblo Dam and Pueblo Reservoir for the SDS project.

- Colorado Springs Utilities wholeheartedly supports Reclamation's initial agency preferred alternative as a means to utilize existing infrastructure on Pueblo Reservoir and existing Fryingpan-Arkansas Project facilities. This is the Project Participants' Proposed Action.
- The Southeastern Colorado Water Conservancy District is the agency responsible for allocating Fryingpan-Arkansas Project water, and it holds associated water rights. The District also operates the Fryingpan-Arkansas facilities, either by itself or using contract assistance.
- In 1965, the Southeastern Colorado Water Conservancy District entered into a contract with the federal government concerning the Fryingpan-Arkansas Project. It agreed to pay a portion of the construction costs and the annual operation and maintenance costs of the Fryingpan-Arkansas Project.
- To pay those costs, the District uses three different taxpayer mill levies in the nine counties that are in the District, in addition to other sources of revenue.
- The citizens of El Paso County, where three of the SDS Project Participants are located, have paid approximately 73 percent of the tax revenues received by the District – a total of more than $65 million.
- One of the main purposes for constructing Pueblo Reservoir was to create a stable and reliable source of water.
- A reservoir source of water is much preferable to a river source because the fluctuation in water supply is much less from a reservoir. That is why Project Participants prefer to use Pueblo Reservoir and Pueblo Dam as the source for SDS project water.

6. **The DEIS addresses many issues and finds that there will be no major adverse effects to the environment and the economics of the region. Moreover, the DEIS suggests possible mitigations.**

Surface Water Flow and Water Quality

The proposed project will not adversely affect surface water flows in Fountain Creek, Jimmy Camp Creek, Williams Creek, or the Arkansas River. Water quality in Fountain Creek, Jimmy Camp Creek, Williams Creek, or the Arkansas River will not affect other water users through water diversions or wastewater return flows.

- Treated effluent from Colorado Springs Utilities' wastewater treatment facilities typically has a lower concentration of E. Coli and other bacteria than the receiving stream.
- The DEIS considers in great detail the impacts of the SDS project on Fountain Creek. It requires Colorado Springs Utilities to take steps to mitigate any impacts on Fountain Creek.
- To help mitigate the potential impacts on Fountain Creek, Colorado Springs Utilities has invested and participated in a number of activities separate from the SDS project.
    - Colorado Springs Utilities participates in the Fountain Creek Vision Task Force.
    - Colorado Springs Utilities co-funds the $600,000 Fountain Creek Corridor Master Plan along with the Lower Arkansas Valley Water Conservancy District.
    - In the 1990's, Colorado Springs Utilities invested $40 million to upgrade the Las Vegas wastewater treatment plant.
    - Since 2000, Colorado Springs Utilities has invested more than $100 million for wastewater collection system improvements, $80 million for the new, state-of-the-art J.D. Phillips Water Reclamation facility, and $10 million for a unique Fountain Creek Recovery Project.
    - Colorado Springs Utilities voluntarily participates in the Upper Arkansas Voluntary Flow Management Program and participates in the Pueblo Flow Management Program pursuant to an intergovernmental agreement. These programs support recreation and aquatic habitat.

Geomorphology

Colorado Springs Utilities will adopt measures to mitigate adverse geomorphic effects of increased base flows in Fountain Creek and Williams Creek Reservoir exchange flow releases, due to the project.

- Development of a constructed channel in a currently unchannelized area just downstream of the reservoir, in order to improve conveyance efficiency and reduce erosion potential.
- Removal or modification of multiple small dams along William's Creek to improve the conveyances capacity and efficiency.
- Along Williams Creek, flattening of side slope, installation of buried riprap, and installation of erosion control blankets and vegetative protection at locations determined susceptible to geomorphic effects associated with exchange releases.
- Increased erosion in other regions of the study area may occur as a result of higher baseflows associated with increased wastewater return flows from Colorado Springs. Because of the anticipated difficulty of separating the direct effects of the SDS project from non-project effects, a more comprehensive, watershed approach will be taken to address these additional geomorphic issues for all alternatives.
- Through coordination with the Fountain Creek Watershed Study and evaluation of various sites within the study area, channel stabilization work at the following locations is proposed.

- Fountain Creek from Upstream of Fountain Boulevard to Upstream of Colorado 85/87 at Sand Creek Confluence
- Fountain Creek between CR 102 (upstream) and Young Hollow Road (downstream) at Young Hollow Confluence
- Jimmy Camp Creek from Upstream of Fontaine Boulevard to Downstream of Peaceful Valley Road

- The geomorphic mitigation plan for the SDS Project also includes a monitoring and maintenance program to monitor the river system, upgrade bank stabilization along the proposed stabilization sites, or introduce bank stabilization measures along other reaches as needed as a result of SDS Project operations.
- A long-term monitoring program will be established to evaluate and mitigate any long-term effects on fluvial geomorphology associated with the alternatives.
- Monitoring and adaptive management will be a part of the mitigation strategies regardless of the alternative selected.
- An integrated adaptive management program will be developed for the project that will coordinate with the participants' existing monitoring programs and environmental management systems.

Fountain Creek

The SDS project will not substantially affect channel stability on Fountain Creek and will not increase flooding concerns along Fountain Creek.

- Return flows would increase slightly along most of Fountain Creek as water is released to Fountain Creek to satisfy water rights obligations, slightly increasing channel instabilities during non-storm conditions.
- Under the Proposed Action, the portion of Fountain Creek between Jimmy Camp Creek and Williams Creek would have slightly lower flow rates, reducing the current instabilities.
- Water storage reservoirs on Williams Creek and Jimmy Camp Creek would reduce flood flows from these tributaries slightly, lessening the downstream flood hazard along Fountain Creek.
- Impacts on vegetation along the stream bank would be positive under action alternatives because groundwater levels in the shallow aquifers adjacent to Fountain Creek would be elevated to near existing conditions.
- The SDS project will not cause flooding along Fountain Creek.
- It has been well documented that flooding comes from storm runoff.
- To the extent practicable, Colorado Springs' new Storm Water Enterprise strives to match future and historical hydrographs in the City, despite new development.
- Colorado Springs is investing $17 million a year in this effort to continue making storm water improvements.
- The Army Corps of Engineers is studying flood control for Fountain Creek. That study, to be completed this year, is the most realistic opportunity our region has to control flooding in a way that will make real sense.

Wildlife, Fish and Other Aquatic Life

The SDS project will not adversely affect wildlife or wildlife habitat. The SDS project will not adversely affect aquatic habitat; impacts to aquatic habitats will be mitigated to ensure protection of aquatic life.

- The DEIS adequately addresses wildlife in the project area.
- The Project Participants will implement additional avoidance and minimization techniques during final design after the Record of Decision has been released.
- The Project Participants will implement compensatory mitigation for unavoidable adverse effects that remain after all appropriate and practicable minimization has been achieved.
- There are several possible aquatic mitigation techniques and opportunities to minimize potential unavoidable project effects on fish and invertebrates listed in the DEIS.
- Additional specific opportunities to minimize effects on aquatic resources will be identified during project final design after Reclamation identifies a preferred alternative.
- Once a preferred alternative for the proposed project is selected, a detailed mitigation plan will refine the type of final mitigation techniques and specific mitigation projects that will be implemented.
- An integrated adaptive management program will be developed for the project that will coordinate with the participants' existing monitoring programs and environmental management systems.
- Colorado Springs Utilities is investigating options to avoid Williams Creek Channel wetland impacts to the Arkansas Darter.
- Colorado Springs Utilities has shown its commitment to protecting aquatic life in the region through the participation in the Upper Arkansas Voluntary Flow Management Program and the inter-governmental agreement to participate in the Pueblo Flow Management Program.

Wetlands and Other Waters

The SDS project will not adversely affect wetlands and waters in the project area and waters outside the project area. Impacts to wetlands and waters in the project area will be mitigated to ensure protection. Waters outside the project area have undergone significant study and review.

- The need for Section 404 dredged and fill material permits was taken into consideration during alternative creation and the completion of the DEIS.
- Actions related to wetland mitigations are compliant with Section 404(b)(1) and related guidelines.
- Wetlands were delineated for the DEIS following the 1987 Corps of Engineers Wetlands Delineation Manual. The SDS effects on jurisdictional and isolated wetlands have been avoided and minimized to the maximum extent practicable.
- Further avoidance and minimization of wetlands will occur during final design.

- The Project Participants will implement compensatory mitigation for unavoidable adverse effects that remain after all appropriate and practicable avoidance and minimization have been achieved.
- Permanent and temporary effects on wetlands from the alternatives would range from 8.1 acres for the Wetland Alternative to 35.4 acres for the No Action Alternative.
- For the proposed project, compensatory wetland mitigation opportunities were considered in the following order: on-site wetland creation, off-site wetland creation, and private land acquisition that allows preservation or enhancement of existing wetlands.

Western Slope Non-Project Waters

Reclamation properly decided not to analyze Western Slope water in the DEIS.

- The SDS project will not increase the amount of project water taken from the Fryingpan-Arkansas Project.
- By 2046, Colorado Springs Utilities plans to draw an additional 4,000-6,000 acre-feet of non-project Western Slope water. This diversion will occur regardless whether the SDS project is implemented. The effect of diverting this water has been studied in a biological opinion concerning endangered species in a 15-mile reach on the Colorado River.

Agriculture

The DEIS addresses in detail the effects of the SDS project upon the agricultural industry, with specific attention to the agriculture-based economies of the Arkansas River Valley. The DEIS finds — and Colorado Springs Utilities agrees — that there already exist high levels of salinity in the Lower Arkansas River Valley, and that the SDS project will not be a major adverse contributor of salinity levels.

- Agriculture in the Lower Arkansas River Valley (Crowley, Otero and Bent counties) employs about 14 percent of the population, compared to 2 percent statewide.
- In this area, farmlands produce about $240 million in agricultural products annually.
- The DEIS evaluated existing conditions in the Lower Arkansas Valley and those anticipated under a number of alternatives for the SDS project.
- The DEIS findings show there would be no effect on the quantity of water available for irrigation from the SDS project. There would be only a slight increase in salinity under the SDS project, and it would affect crop yields less than one percent.

Energy Consumption

The Proposed Action, Colorado Springs Utilities preference for the SDS project, has one of the lowest energy consumption totals of the alternatives examined in the DEIS.

- It has an estimated total power usage through 2046 of 6,046 gigawatt-hours.
- And an estimated energy consumption for 2046 of 683 megawatt hours per day.

- By comparison, the daily power consumption of the Downstream Intake Alternative in 2046 is more than double that of the Proposed Action — expending 1,419 megawatt hours per day.
- The Downstream Intake Alternative would use twice as much electrical power as the Proposed Action to deliver the same amount of water.
- The reverse osmosis process needed for the Downstream Intake Alternative would generate 270,000 additional tons of CO_2 emissions per year, and would create brine residuals in the amount of about 7,500 cubic yards annually.
- This corresponds to two truckloads per day which would need to be shipped and disposed of at a permitted disposal site.

Recreation Resources

The proposed action will increase the type, location, and amount of recreational activities in the area.

- In addition to protecting these very important resources in the area, utilizing Jimmy Camp Creek has been envisioned as part of the Colorado Springs Parks Department's open space, parks and recreational plans for the last decade.
- It is estimated that the park at Jimmy Camp Creek would attract between 50,000-80,000 visitors per year, based on numbers from other Front Range reservoirs with similar public uses.
- It would serve as the junction for the planned extension of the Rock Island trail and The Jimmy Camp Creek trail.
- The proposed Jimmy Camp Creek Park and Reservoir would provide new opportunities for boating and fishing.
- Between Florence and Pueblo Reservoir on the Arkansas River, compared to Existing Conditions and using the Preferred Alternative as a measure, there would be moderate to major benefits to boating because of an increase in stream flow during the fall that would extend the boating season.
- There would be minor to moderate benefits to boating opportunities through Pueblo because the Pueblo Flow Management Program targets would be met 15 more days during the boating season compared to the No Action Alternative, and 4 more days than Existing Conditions.
- There would be moderate adverse effects to fishing in Lake Henry, due to decreased water storage in dry years compared to Existing Conditions, and minor to moderate benefits on water-based recreation on Lake Meredith, due to increased water levels in dry years compared to Existing Conditions.
- There would be minor adverse temporary effects (i.e., 400 feet out of 17 miles of trail) on the Pueblo Reservoir trail during construction of the Pueblo West intake and western untreated water pipeline.

Cultural and Paleontological Resources

Specific individual cultural resources effects, and the extent of those effects, will be determined during the final project design. To date, several mitigation approaches and agreements have been completed.

- A "Programmatic Agreement" among Reclamation, the Advisory Council on Historic Preservation, Colorado Springs Utilities and the Colorado State Historic Preservation Office specifies the measures to be taken to identify and evaluate historic properties, to develop a treatment plan to resolve adverse effects, and to address the unanticipated discovery of historic properties or human remains and for the handling of those finds (Appendix F of DEIS Report).
- A Conceptual Cultural Resources Mitigation Plan has been prepared (Appendix G of DEIS Report).
- Potential effects on paleontological resources were adequately evaluated and disclosed in the DEIS, along with conceptual mitigation measures that will be refined and incorporated into final project design. The Project Participants are aware of the unique and valuable paleontological resources within the proposed Jimmy Camp Creek reservoir site.
- Regardless of the terminal storage reservoir site chosen, Colorado Springs Utilities will mitigate effects to protect the cultural, historic and paleontological resources in the affected area.
- As a government agency, Colorado Springs Utilities complies with state laws and regulations which mandate the protection of cultural, historic and paleontological resources.
- The Jimmy Camp Creek site currently is zoned for private residential property. Under current zoning, there is no requirement to protect or uncover cultural, historic and paleontological resources.
- If residential development were to occur, all the cultural, historic and paleontological resources would be at risk of being adversely affected.
- If Jimmy Camp Creek is determined to be the best site for a reservoir, Colorado Springs Utilities will work with appropriate governments, paleontologists and cooperating agencies to assess and protect the plant, mammal and reptile fossils known to occur in the Jimmy Camp Creek Valley.

Thank you for the opportunity to submit our comments to the Bureau of Reclamation on this critically important project.

Sincerely,

John Fredell

John Fredell
Southern Delivery System Project Director
Colorado Springs Utilities

Comment | Letter 28 | Response

KANSAS
DEPARTMENT OF AGRICULTURE

Kathleen Sebelius, Governor
Adrian J. Polansky, Secretary

www.ksda.gov/dwr

June 13, 2008

VIA FAX AND MAIL

Kara Lamb
Bureau of Reclamation
11056 West County Road 18E
Loveland, CO 80537-9711
Fax: (970) 663-3212
E-mail: klamb@gp.usbr.gov

RE: SOUTHERN DELIVERY SYSTEM – DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Ms. Lamb:

I appreciate the opportunity to provide comments on the draft Environmental Impact Statement (DEIS) for the Southern Delivery System (SDS), issued in February 2008. Kansas Division of Water Resources staff has reviewed the DEIS and associated documents. It is our understanding that the Bureau of Reclamation (Bureau) is requesting comments primarily on the Preferred Alternative. However, our preference would be Alternative #4 which purports to minimize water quality degradation to the lower Arkansas River. Based on our review, we have several concerns related to the SDS DEIS which are discussed below.

28-1

Compact Compliance

In our review of the DEIS, we did not find any reference to the need for compliance with the Arkansas River Compact (Compact) which has been extensively litigated between the States of Colorado and Kansas. The Compact is a Federal law which provides an obligation to the Bureau to assure Compact compliance. As far as we can determine, the DEIS conclusion that downstream water users will not be affected is based on a modeling assumption, not an analysis by the Bureau. That assumption is that historic flows will be maintained for Arkansas River at Las Animas (SDS DEIS, Section 3.5.5.1, pg. 173). Given that actual operations may differ from this assumed operations under the model, it is important to recognize the obligation for Compact compliance in the final EIS. We recommend that a Compact compliance section be added to the final EIS and that the obligation of the federal government and state of Colorado and its subsidiaries to comply with the Compact be included in any contract(s) that might be entered

DIVISION OF WATER RESOURCES • David W. Barfield, Chief Engineer
109 SW 9th St., 2nd Floor; Topeka, KS 66612-1283 • (785) 296-3717 • Fax: (785) 296-1176

Response to comment 28-1: Section 2.4.4 of the FEIS was revised to provide additional discussion of the Arkansas River Compact. In addition, the following environmental comment was added to chapter 5:

If Reclamation receives credible information that operations under the contract are causing a violation of the Arkansas River Compact, Reclamation would immediately initiate discussions among the parties, including the party alleging the Compact violation, to develop a solution and remedy the violation.

The Colorado State Engineer is responsible for assuring compliance with the Arkansas River Compact. Reclamation does not believe it has a responsibility to oversee the State of Colorado's administration of its compact obligations or to require a monitoring program to assure compliance with the compact.

Response to comment 28-2: Reclamation is considering a long-term contract because short-term contracts are intended to meet short-term needs, and SDS has a long-term need. The issuance of long term contracts are consistent with the principles of Reclamation's Water 2025 Initiative, by better utilizing existing infrastructure while not jeopardizing existing authorized Fry-Ark Project purposes.

Comment	Letter 28 continued	Response
	Kara Lamb Bureau of Reclamation, Eastern Colorado Area Office Page 2 June 13, 2008 into between the parties. We would also be willing to work with the Bureau and/or SDS proponents to develop a monitoring plan to assure Compact compliance.	Specific mitigation measures are being proposed. Please refer to comment response 28-3 for water quality mitigation, monitoring, and adaptive management.
28-2	**Contract Length** Although the contract is not specifically the subject of this DEIS, it is our understanding that a forty (40) year contract is being contemplated. Many of our comments below are based on the potential uncertainty of the changing conditions over the next forty years. The length of the contract should have been considered in the DEIS. Since the Bureau offers a contract period between 10 and 40 years, the effect of the minimum 10-year contract as compared to the maximum 40-year contract should have been evaluated in the EIS. There are many projects being contemplated in the Arkansas River Basin and their cumulative effects are unknown at this time. A shorter term contract would allow for meaningful review of operations and their affects as related to SDS, leading to any appropriate adjustments. A minimum contract period of 10 years would be more appropriate due to the uncertainty expressed in the Final EIS related to impacts due to the long-term contract on the Arkansas River basin. An alternative would be to provide for 10- year operational reviews with the opportunity for public input and comment.	Response to comment 28-3: The DEIS addressed uses of the surface water hydrology model to provide input to water quality analyses in chapter 3, pages 209 to 215 and by reference to the Water Quality Effects Analysis Approach Technical Memorandum (2008a). Refer to comment response 28-1 for the hydrology portion of this comment. The DEIS addressed the water quality monitoring program issue in chapter 3, pages 248 to 249. Water quality monitoring combined with adaptive management was proposed as a mitigation measure. One of the proposed monitoring locations – Arkansas River near Avondale Gage – would provide water quality information that is relevant to potential effects on the lower Arkansas River. Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the Preferred Alternative and the development of environmental commitments for the Preferred Alternative. Commitments for monitoring and the adaptive management program have been retained in the FEIS, and are based on potential effects of the Preferred Alternative for the SDS Project.
28-3	**Water Quality** Kansas is very concerned with the potential for further water quality degradation at the Colorado-Kansas Stateline due to cumulative, long-term impacts of this and other projects in the basin being contemplated. Water quality impacts associated with SDS could become more pronounced as additional water-related projects are implemented in the Arkansas River basin. Additionally, water *quality* modeling was done based on the results of the water *quantity* model. Therefore, the water quality model results are then based on the same assumption that flows for Arkansas River at Las Animas remain the same as historic conditions. If flows are reduced from the historic conditions, water quality would very likely be degraded as well. A mitigation measure in the final EIS should include long-term water quality monitoring due to the uncertainties related to cumulative and long-term impacts. Failure to address this issue will only heighten Kansas' anxiety with each future contract, operation or project involving the Arkansas River.	
28-4	**Flood Flow Attenuation** The DEIS notes benefits related to "incidental attenuation of flood flows" (pg. 29, Southern Delivery System Draft Environmental Impact Statement Summary, February 2008). Reducing peak flows would affect which Colorado water right is in priority and entitled to divert and could impact Compact conservation storage in John Martin Reservoir. A mitigation measure should quantify any operational impacts of flood flow attenuation and corrective measure should be taken if Compact conservation storage is reduced as a result.	

Enforcement and funding of environmental commitments would be made through the Project Participants' contract(s) with Reclamation, and are described in chapter 5. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

Response to comment 28-4: The DEIS addressed this issue in chapter 3, pages 257 to 267. Incidental flood control storage would be operated in compliance with regulations by the Colorado State Engineer. There would be no effects on surface water hydrology downstream of John Martin Reservoir (effects were shown to be negligible upstream of the reservoir, and there would be no SDS components that could cause effects downstream of the reservoir). As described in Colorado Revised Statutes (C.R.S), "no water storage facility may be operated in such a manner to cause material injury to the senior appropriative rights of others" (C.R.S. 37-87-101(1)(a)). The DEIS describes benefits to some portions of the study area for incidental flood attenuation because the State Engineer is required to employ remedial measures necessary to protect life and property during flood conditions (C.R.S. 37-87-108.5(1)).

Comment	Letter 28 continued	Response

Kara Lamb
Bureau of Reclamation, Eastern Colorado Area Office
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Cumulative Impacts

28-5 As is noted above, the SDS's impact on water quantity and quality could become more pronounced over time, especially as other projects become operational. These contemplated projects were not considered in the DEIS despite the fact many are likely to be implemented within the next forty (40) years. River conditions also may change over this period. Therefore, it is important that provisions be added to any contract between the parties that will allow for modification(s) or termination if the SDS impacts adversely affect either water quantity or quality.

Temporary Excess Capacity Contracts

28-6 We want to confirm that the total available volume of short term excess capacity contracts will be reduced by the amount of the contract associated with this project, should a contract be executed prior to 2010. This would be per the Temporary Excess Capacity Contracts 2006-2010 Environmental Assessment (EA No. EC-1300-06-02).

Conclusion

28-7 It is our understanding that detailed mitigation measures will be developed for the Record of Decision. Any developed mitigation measures should be reviewed by those impacted, including Kansas. The same would go for monitoring programs either created or leveraged by SDS and its proponents.

I ask that the Bureau review the comments herein and consider the objections presented as a contract is being created between the Bureau and the SDS Proponents. Please keep my office informed of future meetings and any work product that results from this review.

Sincerely,

David W Barfield

David Barfield, P.E.
Chief Engineer

DB/kls

pc: Randy Hayzlett, Kansas ARCA Representative
David Brenn, Kansas ARCA Representative
John Mitchell, Kansas Department of Healthy and Environment
Tom Stiles, Kansas Department of Healthy and Environment
Don Whittemore, Kansas Geological Survey
Kevin Salter, Garden City field office

Response

However, the State Engineer "shall order the release from storage of any water he finds to have been illegally or improperly stored and shall make sure orders as are necessary to insure that such released waters are delivered to those owners or users of water rights who are entitled to the same and to insure that the release will not cause damage" (C.R.S 37-92-502(3)). Based on meetings with the Division 2 State Engineer's Office on July 12, 2004 (MWH 2004) and verified with the Assistant Division 2 Engineer on September 3, 2008 (MWH 2008e), the State and Division Engineer operate existing reservoirs, and would operate future reservoirs, in a manner consistent with these regulations, so that no senior appropriators are injured during flood control operations of reservoirs.

Response to comment 28-5: The DEIS addressed this issue in chapter 3, pages 121 to 130. All reasonably foreseeable actions were included and analyzed as part of the cumulative effects analysis. The actions identified as reasonably foreseeable in the DEIS were classified as such based on available information. Refer to comment response 28-3 for water quality mitigation, monitoring, and adaptive management.

Comment	Letter 28 continued	Response
		Response to comment 28-6: The environmental commitments for Reclamation's Preferred Alternative (chapter 5) would include a reduction in the amount of available short-term excess capacity contracts by the amount requested and contracted for as part of the Preferred Alternative per the Temporary Excess Capacity Contracts 2006-2010 Environmental Assessment. Response to comment 28-7: The final mitigation measures for Reclamation's Preferred Alternative are presented in chapter 5 of the FEIS. The Record of Decision will contain a list of environmental commitments for the selected alternative. Public comment is allowed during the contracting process.

Comment Letter 29

DEPARTMENT OF THE AIR FORCE
21ST SPACE WING

JUN 13 2008

Colonel Manuel A. Hidalgo
Commander, 21st Mission Support Group
135 Dover St, Suite 2052
Peterson AFB CO 80914

Ms Kara Lamb
US Bureau of Reclamation
11056 W. County Road 18E
Loveland CO 80537-9711

Dear Ms Lamb

My thanks to you and your staff for the recent briefs and updates on the Southern Delivery System (SDS) to our base leaders. Peterson AFB continues to need a stable, reliable source of water to support our missions, airmen, and civil-servants hosted here.

Like our neighbors in the greater Colorado Springs community, water supply for Peterson AFB relies on the capacity and distribution from Colorado Springs Utilities. Peterson AFB's workforce population has increased in recent years, and as we look forward to the future viability of Peterson AFB through Blueprint 2050 Plan, our base General Plan, SDS should benefit the various space and command missions hosted by Peterson AFB. Because SDS provides pipeline redundancy in case of maintenance and repair of existing infrastructure, we're encouraged by these particular aspects of reliability and improved vulnerability mitigation.

Although Peterson AFB welcomes the benefits of the SDS pipeline construction, we cannot endorse any particular pipeline route due to the fact that no proposed alternative traverses Peterson AFB. We defer to the technical expertise of your office to pursue an alternative that is cost-efficient, environmentally friendly and dependable for years to come.

Our many thanks again for sharing the SDS construction information and the potential benefits of increased service reliability to Peterson AFB. If you have any questions feel free to contact me or my deputy Lt Col Craig Biondo, 719-556-7338.

Sincerely,

MANUEL A. HIDALGO, Colonel, USAF
Commander

STRENGTH AND PREPAREDNESS

Response

Thank you for your comment.

Comment | Letter 30 | Response

EL PASO COUNTY

COMMISSIONERS
DENNIS HISEY (CHAIR)
JIM BENSBERG (VICE CHAIR)

SALLIE CLARK
WAYNE WILLIAMS
AMY LATHEN

MEMORANDUM

Date: June 11, 2008

To: Bureau of Reclamation
Eastern Colorado Area Office

From: El Paso County, Colorado

Subject: Administrative Department Comments – Draft Environmental Impact Statement / Southern Delivery System

Please find below comments from various El Paso County administrative departments regarding the Draft Environmental Impact Statement (EIS) for the Southern Delivery System. The El Paso County Environmental Services Department, Department of Transportation, Development Services Department, and Parks and Leisure Services Department appreciate the opportunity to comment, and will be pleased to provide additional requests for review of the proposed Southern Delivery System.

Environmental Services Department

El Paso County Environmental Services Department (ESD) has prepared comments related to the following items: general wildlife resources, Federal and State listed threatened and endangered species, wetlands, noxious weeds, and hazardous materials.

General Wildlife Resources:

30-1 The management of wildlife-human conflicts is an essential part of contemporary wildlife management. The EIS thoroughly encompasses all aspects of wildlife management and has provided environmentally sound and ecologically responsible controls.

30-2 **Threatened and Endangered Species:***

ESD recommends consultation with the U.S. Fish and Wildlife Service for Threatened and Endangered species issues. Please note that currently, all areas in El Paso County within 300 feet of the 100 year floodplain or centerline of a stream, whichever is greater, must be evaluated for potential Preble's meadow jumping mouse impacts.

3275 AKERS DRIVE COLORADO SPRINGS, CO 80922

Response to comment 30-1: Thank you.

Response to comment 30-2: Reclamation has been conducting informal consultation with the U.S. Fish and Wildlife Service throughout the EIS process (see letter 18). If Reclamation's Preferred Alternative may affect threatened or endangered species, Reclamation will submit a Biological Assessment as required under Section 7 of the Endangered Species Act.

Comment	Letter 30 continued	Response
30-3	**Wetland Mitigation:*** Current regulatory requirements affecting wetlands require the sequencing of avoidance, minimization and damage compensation. ESD agrees that short-term wetland effects require on-site restoration and any permanent wetland effects may require compensatory mitigation. *It should be noted that the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service have regulatory jurisdiction over wetlands and threatened and endangered species, respectively.	Response to comment 30-3: The DEIS addressed this issue in chapter 3, page 326. Avoidance of wetland impacts, followed by minimization and then compensatory mitigation would be implemented for all alternatives.
30-4	**Noxious Weeds:** Anytime a project results in ground disturbance, noxious weeds are a concern. Disturbed areas should be re-seeded with native plants as soon as possible to minimize infestation of noxious weeds. Each habitat is unique, requiring a site specific adaptive integrated vegetation management program.	Response to comment 30-4: The DEIS addressed this issue in chapter 3, page 363. As stated in the DEIS, disturbed areas would be re-seeded with appropriate native species to the extent practicable to minimize infestation of noxious weeds. To provide additional assistance to preventing noxious weed infestations, monitoring after construction was added to the mitigation requirements in the FEIS.
30-5	**Hazardous Materials:** ESD agrees that none of the seventeen identified contaminated sites within the proposed SDS project boundaries are likely to have an adverse affect on the soil and/or ground water at any of the project facilities. ESD notes that due to "reasonably ascertainable" records there may be additional sites containing hazardous substances or petroleum products within the proposed SDS area. ESD recommends that when and if a site is identified, a hazardous materials assessment on the affects of soil and/or groundwater contamination should be conducted. **<u>Department of Transportation</u>** ***<u>General Comments</u>*** Construction projects in unincorporated El Paso County shall comply with the criteria found within the El Paso County <u>Engineering Criteria Manual (ECM)</u>.	Response to comment 30-5: The DEIS addressed this issue in chapter 3, page 519. As stated in DEIS: "If soil and/or ground water contamination is encountered during construction of project facilities, mitigation procedures would be implemented to minimize the risk to construction workers and to the future operation of the project."
30-6	**Water System Blow-offs:** Blow-off locations planned near/adjacent to public road right-of-way or within defined swales or channels on private property must adhere to "suitable outfalls" criteria found in El Paso County's <u>ECM and the City/County Drainage Criteria Manual (DCM)</u>. Release of discharge directly into the road Rights-of-Way, i.e. roadside ditches, is prohibited. The EIS states that the release rate will be based on channel-forming flow for the 2-year storm. However, information from the Fountain Creek Watershed Study indicates that this storm recurrence interval produce significant erosion and sedimentation. Analysis of measures to control volume / velocity of discharge at these blow-off locations before release into the waterways to minimize sedimentation and damage to the release point is required. A Hydraulic study addressing these locations shall be submitted in a report format to be reviewed and approved by the County Engineer prior to issuance of a construction permit in the County.	

Comment	Letter 30 continued	Response
		Response to comment 30-6: The DEIS addressed this issue in chapter 2, page 99. Blowoff discharge would not exceed the channel-forming discharge, which would have the largest influence on geomorphic effects. Additionally, as described on page 96 of the DEIS, the energy associated with outflow from the blowoff valves would be dissipated using energy dissipation structures at the blowoff valves. The area downstream of blowoff valves would also be monitored during blowoff events, and additional channel protection and/or reductions in blowoff rate would be implemented as needed to prevent geomorphic effects. Blowoff discharges to some areas may not be permissible under local regulations. Information was added to section 2.5.3 of the FEIS to clarify that blowoffs located in urban areas would be directed toward streets or storm drains where possible and allowed under local regulations. The need for additional regulatory requirements and permitting, such as county construction permits, is addressed in the DEIS chapter 2, pages 92 to 94.

Comment Letter 30 continued Response

Comment	Letter 30 continued	Response
30-7	**Public Reservoirs:** Submittal of a Final Drainage Report level of study to the County Engineer is required for new reservoirs in the unincorporated County. Depending upon the functionality of the reservoir, the studies may need a specialized drainage report format, including maintenance recommendations and emergency preparedness plan. Reservoirs meeting sizing requirements for jurisdictional dam classification will require submittal to the State Engineer's Office, Division of Water Resources.	Response to comment 30-7: Information presented in the DEIS has been modified in the FEIS (see section 2.4.4). The requirement for dam permitting through the State Engineer's Office has been added. The requirement for local permitting was included in the DEIS in section 2.4.4.
30-8	**Work in El Paso County Rights-of-Way:** Required Permits must be obtained prior to work in the Rights-of-Way, including but not limited to: Erosion and Stormwater Quality Control Permit (ESQCP), Work in Right-of-Way Permits, Access Permits, Utility Cuts, and Special Transport Permits. Common Use Agreements may be required for permanent utility lines and/or appurtenances to remain in the County Right-of-Way. Access Permits for locations where occasional maintenance access across County Rights-of-Way will be required. Early coordination with this department is recommended during the design process to ascertain where these agreements will be required.	Response to comment 30-8: The DEIS addressed easements in chapter 2, pages 91 to 92. Easements and land acquisition were discussed in the DEIS. Permits to work in the El Paso County Right-of-Way are construction permits that would be obtained by the construction contractors.
30-9	**Permits:** New construction in unincorporated El Paso County shall be in conformance with regulations found in the Land Development Code and the ECM. Construction permits will be required for all public improvements. Stormwater Post-Construction Best Management Practices (New Development BMPs) are required for projects that include complete development/redevelopment equal to or exceeding one (1) acre in size. Colorado Springs Utilities must coordinate with El Paso County Stormwater Management to develop Post-Construction BMP's that address water quality issues that will exist following completion of the project. Stormwater Management Plans and Erosion Control and Grading Plans must be developed for land disturbance equal to or greater than 1 or 2 acres respectively. Erosion and Stormwater Quality Control Permit(s) (ESQCPs) must be obtained before construction begins. It is expected this project will involve multiple phases and will require permitting of individual phases.	Response to comment 30-9: The requirement for local permitting was included in the DEIS in section 2.4.4.
30-10	**Trenches:** The EIS states that highway crossings of new pipeline will be accomplished with trenchless technology. This is satisfactory and preferred, as long as all County requirements for work in the right-of-way and construction runoff control are met. In the event trenching becomes required, repair/replacement of surface improvements and trench restoration shall be completed in accordance with requirements found in the ECM.	Response to comment 30-10: See comment response 30-9.
30-11	**Master Drainage Planning Issues:** Drainage Basin Planning Studies or similar studies that provide equivalent data may need to be amended based upon final location for the system, especially the new reservoirs. Diversion of existing condition runoff is generally not permitted without restudy of the respective basin(s).	Response to comment 30-11: The DEIS addressed this issue in chapter 3.8, pages 250 to 266. Potential effects on Drainage Basin Planning studies are described in the DEIS and would only be beneficial (i.e., reduced peak flows downstream of the proposed Williams Creek Reservoir for alternatives with the proposed reservoir). Nonetheless, any additional work needed for drainage basin planning studies would be the responsibility of the Project Participants.

Comment	Letter 30 continued	Response
30-12	***Specific Comments*** **Wetland Alternative:** Regarding the Upper Williams Creek Reservoir option identified in the "wetland alternative," a number of issues of concern should be raised. This alternative would result in extensive impacts to the County Road system, particularly the $10 million Bradley Road extension which was constructed in 1999. After an extensive public process and roadway planning effort, this roadway extension was funded through Defense Access Road funding. The coordination effort involved local military installations, primarily Schriever and Peterson Air Force Bases in providing greater mobility for commuter traffic for AFB employees as well as specific defense purposes. This roadway is a segment of the overall Curtis Road Corridor which will result in a rural arterial "loop" on the eastern side of the metropolitan region terminating on the north side at Stapleton-Briargate Parkway. The current classification allows higher speed postings, and the roadway is currently posted at 65mph. The realignment depicted for this reservoir option is circuitous, requiring a reclassification of the roadway to a collector status. Other than the obvious reduction in mobility, this realignment would severely impact the ability of constructing the future arterial loop, and is in conflict with agreements regarding the Defense Access Road.	Response to comment 30-12: Information presented in the DEIS has been modified in the FEIS (see section 2.2.2) pursuant to this specific comment, as well as other public comments. The Bradley Road realignment has become part of the Participants' Proposed Action and the Wetland Alternative. The road would be routed on the south side of Upper Williams Creek Reservoir in these two alternatives and would comply with Defense Access Road requirements.
30-13	**Participant's Proposed Action Alternative:** The "Participant's Proposed Action" alternative appears to be the lowest cost alternative and includes impacts to Fountain Creek as a result of increased return flow. Proposed structural improvements, Best Management Practices, and their costs, should be clearly identified in mitigation of these downstream impacts to Fountain Creek.	Response to comment 30-13: Information presented in the DEIS has been modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of mitigation plans and environmental commitments for the Preferred Alternative. At the time of the DEIS, because a final Preferred Alternative had yet to be defined, mitigation measures were presented at a conceptual level only. The estimated capital cost presented in the DEIS for each alternative included 25 percent contingency for variable costs (CH2M HILL 2007i). Environmental mitigation costs were estimated to be 2.5 percent of the estimated construction cost and were grouped into the variable costs category (Judd 2008). For the final Preferred Alternative, mitigation techniques identified through the public comment period were evaluated along with the mitigation measures identified in the DEIS and included in the environmental commitments as necessary to avoid, minimize, rectify, reduce or eliminate the effects of the Preferred Alternative. Environmental commitments for the Preferred Alternative are identified in chapter 5 of the FEIS.
30-14	<ins>**Development Services Department**</ins> **Approval of Location:** Section 2.4.4 of DEIS identifies the permitting requirements of Pueblo County and Chaffee County through their implementation of 1041 Regulations (HB1041 approved in 1974), but fails to recognize the role of El Paso County in utilization of the statutory provisions of CRS 30-28-110. While El Paso County has not adopted 1041 regulations, the El Paso County Land Development Code applicable to unincorporated areas of El Paso County provides that Approval of Location from the El Paso County Planning Commission is required to determine if a public use, structure, or utility conforms to the adopted Master Plan (Master Plan for the physical development of the County). The Approval of Location process applies to the various components of the project, and would appear to apply to all alternatives, including the No Action Alternative. Specific individual components subject to this process would appear to include, but not be limited to: ▪ Each reservoir site located partially of wholly outside of incorporated jurisdictions ▪ Pump Stations ▪ Water Treatment facilities ▪ Water pipelines (raw and finished) ▪ Wastewater Treatment Facilities (Clear Springs Ranch)	

30-15 **Site Development Plan:**
Local land use authority extends to the physical construction of buildings and structures, requiring approval of a Site Development Plan including any screening and landscaping, prior to construction. Additionally, as the project moves to the local permitting and then construction phase, any applications will be required to identify and receive approval of specific construction staging areas if they are within the unincorporated areas.

30-16 **No Action Alternative:**
The no action alternative is not supported since it results in a potential substantial increase in well pumping of the Denver Basin aquifers, which would have deleterious effects to the long term sustainability of these drinking water supplies relied upon by majority of the residents in northern El Paso County.

30-17 **Wetlands Alternative:**
The Wetlands Alternative, as the only alternative referencing the Upper Williams Creek Reservoir, is not supported due to the required relocation and probable downgraded road classification of Bradley Road (Defense Access Road). Alternatives to the location of this reservoir should be explored prior to the Wetlands Alternative being selected.

30-18 **Joint Utility Corridors:**
While partial joint use of existing utility corridors is proposed in most alternatives, several of the departures from existing corridors for the Raw Water Pipeline would appear to result in a greater impact to existing or approved development. Examples:

- The pipeline jog to the west in the location of the Fountain Landfill avoids impacts to the landfill and is a logical departure, but should also take into account the potential relocation of the existing power lines which pass through the center of the Fountain Landfill, so that the joint use of utility corridors can be implemented.
- The existing power line corridors near the intersection of the pipeline and Bradley Road should be considered for use even though this would increase the length of the pipeline. The currently proposed pipeline location could significantly affect planned land uses within two new developments in this area, the Lorsen Ranch and Rolling Hills Ranch developments, especially if a use restricted corridor is implemented.

30-19 **Other Alternatives:**
Any of the alternatives which result in an increase of flow to Fountain Creek must be carefully analyzed to ensure that water quality, streamflow, sediment mobilization, or stream erosion impacts are fully considered.

30-20 **Downstream impacts:**
The downstream impacts resulting from potential new water releases from Williams Creek Reservoir may be significant and result in substantial channel improvement costs, and potential ongoing maintenance responsibilities. Consideration should be given to direct piping instead of in channel releases. If channel releases are approved as a part of the

Judd, L. 2008. Principal Project Manager. CH2M HILL. E-mail to B. Van Derveer, Principal/Location Manager, MWH Americas, Inc. Environmental Mitigation within BACE Variable Cost. October 6.

Response to comment 30-14: The need for county land use approvals for SDS Project components in El Paso and Fremont counties was added to section 2.4.4.

Response to comment 30-15: See comment response 30-9.

Response to comment 30-16: Thank you for your comment.

Response to comment 30-17: See comment response 30-12.

Response to comment 30-18: The DEIS addressed this issue in chapter 3, page 440.

Response to comment 30-19: The DEIS addressed this issue in chapter 3, pages 160 to 186 for streamflow, pages 222 to 250 for water quality, and pages 276 to 302 for sediment and erosion. Effects on streamflow, water quality, erosion, and sedimentation associated with changes in Fountain Creek streamflow have been analyzed and are documented in the environmental consequences subsections of sections 3.5, 3.7, and 3.9. These

Comment	Letter 30 continued	Response
	selected alternative, a more detailed drainage analysis of the impacts will be required in association with El Paso County review of the reservoir location.	Response to comment 30-19 (cont'd): effects were also addressed in the Surface Water Hydrology Effects Analysis (MWH 2007d), Water Quality Effects Analysis (MWH 2008b) and Water Resources Effects Analysis (MWH 2008d), which were incorporated by reference into the DEIS.
30-21	**Analysis of North raw water pipeline:** Specific analysis of the project impacts to the following areas of El Paso County (from south to north) will be requested when the project involving the North raw water pipeline is submitted for Approval of Location, noting that due to the long term construction timeline, additional impacted areas could result from new development: ▪ Rancho Colorado area where the existing Fountain Valley Pipeline is located within platted subdivision lots which had not been developed at the time of initial pipeline construction. ▪ New subdivision called El Dorado Village in the Rancho Colorado area, where the impact of pipeline corridor to platted lots will require evaluation. ▪ Fountain Creek Crossing near I-25 is at or near the location of a proposed gravel mining operation currently seeking approval from El Paso County. ▪ Relationship of the pipeline corridor to the Fountain Landfill, as previously noted. ▪ Impacts of the pipeline corridor to the Lorsen Ranch and Rolling Hills Ranch developments. ▪ Any impacts of the finished water pipeline in the Cimarron Hills area.	Response to comment 30-20: Information presented in the DEIS has been modified in the FEIS (see section 2.2.2). All alternatives that include Williams Creek Reservoir have been modified to include conveyance of stored reusable return flows to Fountain Creek via a pipeline. This change avoids potential effects on the Williams Creek channel that were described in the DEIS. The requirement for local permitting was included in the DEIS in section 2.4.4.
30-22	**Analysis of Highway 115 raw water pipeline:** Specific analysis of the project impacts to the following areas of El Paso County (from south to north) will be requested when the project involving the Highway 115 raw water pipeline is submitted for Approval of Location, noting that due to the long term construction timeline, additional impacted areas could result from new development: ▪ Developed areas along Highway 115, including Pinons at Turkey Canon Ranch Subdivision ▪ Utilization of existing county road right of way in the Red Rock Valley area	Response to comments 30-21 and 22: The Project Participants would provide specific impact information during the Approval of Location process.
30-23	**El Paso County Policy Plan:** The following Goals and Policies from the El Paso County Policy Plan, which is one element of the Master Plan, would appear applicable to and provide a basis of review for any of the alternatives located within the jurisdiction of El Paso County: *GOAL 3.1 Protect and enhance the quality, quantity and dependability of water supplies.* POLICY 3.1.1 Support the development of environmentally sensitive and safely designed surface water impoundments if these serve to enhance local water supply or service capability. *GOAL 3.2 Encourage cooperative approaches in planning for the long term water supply throughout the County.*	Response to comment 30-23: The DEIS addressed this issue in chapter 3, page 422. The El Paso County Policy Plan is identified in the DEIS.

POLICY 3.2.1
Support mutually beneficial arrangements among water providers and consumers to reduce cost and protect the County's groundwater and environment.

POLICY 3.2.2
Encourage formal agreements among water districts to mitigate potential water supply shortages among individual suppliers.

GOAL 3.3 *Promote awareness of environmental issues associated with water use.*

POLICY 3.3.1
Encourage water and wastewater infrastructure projects to be sited and designed in a manner which promotes compatibility with adjoining uses, a reasonable mitigation of any adverse visibility and other environmental impacts.

POLICY 3.3.8
Consider and if appropriate, address the impacts water supply and treatment systems may have on the natural hydrologic system.

GOAL 3.4 *Promote opportunities to conserve water.*

POLICY 3.4.1
Maximize opportunities for effective and environmentally acceptable potable and non-potable water re-use including augmentation.

GOAL 10.2 *Promote planning and management approaches which protect the integrity of the County's water and wastewater systems and ensure that the levels of water and wastewater service are adequate to meet the needs of existing and future County residents.*

POLICY 10.2.1 Encourage regional approaches to planning for water supply and wastewater treatment.

POLICY 10.2.3 Promote cooperative ventures such as water authorities which maximize water supply options and economies through the pooling of resources.

POLICY 10.2.4 Encourage the linking of systems among water providers in order to provide the highest assurance of available service.

POLICY 10.3.3 Reduce the adverse visual impacts of water storage tanks and other facilities through a combination of careful site selection, design, screening and use of natural colors

Comment	Letter 30 continued	Response
30-24	**Parks and Leisure Service Department** **Overview:** El Paso County Parks has identified Fountain Creek, open space within the Fountain Creek drainage corridor, and regional trail connections to Pueblo County along Fountain Creek (known as the Colorado Front Range Trail) in our Master Plan as areas of interest and intended development. **Summary:** From a recreational perspective, the Proposed Action Alternative (#2) has the potential for both positive and negative affects to the El Paso County park system. The positive aspects would include potential trail linkages using the Chilcott Ditch and utility easements. An argument could also be made that developing wetlands within Fountain Creek Park could be seen as having recreational value, especially if new wetlands were created on park property. The negative affects might include use of Fountain Creek Park wetland areas as potential mitigation sites for SDS, thereby limiting use of these properties mitigating county projects. The only alternatives that appear to have minimal affects on El Paso County Parks are the Wetland and Arkansas River Alternatives. The remaining five alternatives all show use of Fountain Creek Park / Chilcott Ditch. From a land stewardship perspective, the Fountain Creek Alternative appears to have the potential for minimizing affects of increased/decreased stream flows on established wetlands and wildlife, but includes a higher price tag since it adds a return flow pipeline to Pueblo from Colorado Springs, instead of using Fountain Creek to return the water as in the Proposed Action Alternative. Use of the Chilcott Ditch and Fountain Creek Park are used for in Fountain Creek Alternative, so the potential positive and negative impacts for El Paso County Parks remain unchanged from the Proposed Action Alternative. The remaining six alternatives all show use of Fountain Creek for return flows to Pueblo and the Arkansas River with the potential for increased erosion, sedimentation, loss of wetlands and wildlife habitat, etc. **Option Descriptions:** Option 1 – No Action Alternative This option represents the most likely option without proposed Federal action. Construction of a pipeline from the Arkansas River and both reservoirs and treatment facilities are still required. *Pros:* Possible trail down Chilcott Ditch. *Cons:* Potential loss of Fountain Creek Park wetlands for SDS mitigation. Decreased flows in upper Arkansas River. Increased flows in Fountain Creek from Colorado Springs to Pueblo. Option 2 – Proposed Action Alternative The Proposed Action Alternative appears to be the preferred option by Colorado Springs Utilities. *Pros:* Possible trail down Chilcott Ditch. *Cons:* Potential loss of Fountain Creek Park wetlands for SDS mitigation. Increased flows in Fountain Creek from Colorado Springs to Pueblo.	Response to comment 30-24: The DEIS addressed geomorphology in chapter 3, pages 267 to 281 and in the Conceptual Geomorphology Mitigation Plan. Wetlands are addressed the DEIS in chapter 3, pages 324 to 332 and in the Conceptual Wetland Mitigation Plan. The mitigation plans would continue to develop during the permitting and contracting process. The approach in the DEIS addressed this issue in an appropriate fashion, because potential erosion and sedimentation effects are disclosed, and potential mitigation strategies to address effects are described. Additionally, Colorado Springs is not considering Fountain Creek Park as a potential mitigation site because it prefers compensatory mitigation to occur on property that it owns.

Option 3 – Wetland Alternative

The Wetland Alternative appears to be designed to minimize disturbance to wetlands.

Pros: Preserves existing wetlands along Fountain Creek and its tributaries.

Cons: Increases Upper Arkansas River flows from Florence to Pueblo Reservoir with potential affects to Upper Arkansas River wetlands and recreational use of the river for whitewater rafting, fishing, etc.

Option 4 – Arkansas River Alternative

The Arkansas River Alternative appears to be designed to provide the highest minimum flow in the Arkansas River through Pueblo and to minimize water quality effects on the lower Arkansas River.

Pros: Minimal affects to Fountain Creek flows and Lower Arkansas River water quality.

Cons: Increases Upper Arkansas River flows from Florence to East of Pueblo with potential affects to Upper Arkansas River wetlands and recreational use of the river for whitewater rafting, fishing, etc. It is assumed that increased sedimentation and erosion could be issues.

Option 5 – Fountain Creek Alternative

The Fountain Creek Alternative appears to be designed to minimize geomorphic and water quality effects on Fountain Creek by minimizing the use of Fountain Creek and its tributaries for receiving and conveying reusable return flows to the Arkansas River.

Pros: Possible trail down Chilcott Ditch.

Cons: Potential loss of Fountain Creek Park wetlands for SDS mitigation. Decreased flows from Pueblo Reservoir to return flow discharge east of Pueblo.

Option 6 – Downstream Intake Alternative

The Downstream Intake Alternative would use an untreated water intake from the Arkansas River downstream of Fountain Creek and was developed to address public interest in an alternative location for diversion of water.

Pros: Possible trail down Chilcott Ditch.

Cons: Potential loss of Fountain Creek Park wetlands for SDS mitigation. Increased flows in Fountain Creek from Colorado Springs to Pueblo. Increased flows from Fountain Creek/Arkansas confluence to intake station east of Pueblo.

Option 7 – Highway 115 Alternative

The Highway 115 Alternative would convey untreated water through a pipeline that generally follows Colorado 115 between the Arkansas River and Colorado Springs and was developed to address public interest in an alternative pipeline location.

Pros: Possible trail down Chilcott Ditch.

Cons: Potential loss of Fountain Creek Park wetlands for SDS mitigation. Increased flows in Fountain Creek from Colorado Springs to Pueblo. Decreased flows in Upper Arkansas River from Florence to Pueblo.

Conclusion:

Thank you for allowing El Paso County to comment on the draft EIS. Please contact our Environmental Services Department at (719) 520-7818 if you have questions or need additional information.

SUMMIT COUNTY GOVERNMENT
Colorado

OFFICIAL FILE RECLAMATION
JUN 1 6

June 13, 2008

Via U.S. mail and e-mail (klamb@gp.usbr.gov)
U.S. Bureau of Reclamation
11056 W. County Road 18E
Loveland, CO 80537-9711
Attn: Ms. Kara Lamb

Re: Draft Environmental Impact Statement for the Proposed Southern Delivery System

Dear Ms. Lamb:

This letter is submitted on behalf of the Board of Commissioners of Summit County, Colorado (the "County") to provide Reclamation with the County's comments on the Draft Environmental Impact Statement for the Southern Delivery System ("SDS") proposed by the City of Colorado Springs Utilities ("CSU"), City of Fountain, Security Water District, and Pueblo West Metropolitan District (collectively, the "Participants").

A. Background

The County's interest in the SDS stems from the fact that a significant portion of CSU's water supply is derived from the Blue River by diversions through its Continental-Hoosier System or Blue River Project. These diversions are authorized by, and are subject to the limitations of, the October 12, 1955 Decree in Consolidated Cases 2782, 5016, and 5017, U.S. District Court for the District of Colorado (the "Blue River Decree"). The Blue River Decree was ratified by Congress in the 1956 Colorado River Storage Project Act, 43 U.S.C. § 620j, and again by reference in the 1968 Colorado River Basin Project Act, P.L. 90-537, 1968 U.S. Code Congressional and Administrative News, at pp.1045-46:

> The Final Judgment, Final Decree and stipulations incorporated therein in the consolidated cases of United States of America v. Northern Colorado Water Conservancy District, et al., Civil Nos. 2782, 5016 and 5017, in the United States District Court for the District of Colorado, are approved, shall become effective immediately, and the proper agencies of the United States shall act in accordance herewith.

43 U.S.C. § 620j.

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The County has a compelling interest in ensuring that CSU's use of water in connection with the SDS complies with the terms and conditions of the Blue River Decree. In addition to limiting CSU's use of Blue River water to municipal purposes within its metropolitan area, the Decree also requires the reuse of all water diverted by CSU from the Colorado River Basin.

The Findings of Fact and Conclusions of Law entered October 12, 1955 incorporate the terms of the October 5, 1955 Stipulation, as amended on October 10, 1955, that is referenced in the Decree. Section 4(f) of the Stipulation includes a requirement that Colorado Springs and Denver maximize their use of water diverted from the Blue River by reuse, successive use, and exchange. The relevant provisions of the Stipulation are as follows:

> (e) To the extent that the importation and the use of water from the Colorado River System, over and above the quantity of water diverted from that source during the last year being October 1st, 1954 to September 30, 1955, by reason of the return flow from the municipal systems of said cities increase the amount of water said cities may lawfully utilize from all sources in order to supply their municipal needs, through exchange or otherwise, to that same extent the right to divert water from the Blue River shall be correspondingly decreased, if such exchange is not exercised; provided, however, that the obligation to utilize water from the Colorado River System by exchange or otherwise shall be subject to the conditions, limitations, and safeguards as set forth in the following subdivision, the same being subdivision (f) of this paragraph.
>
> (f) In order to accomplish the objectives set forth in the immediately preceding subdivision hereof, the same being lettered (e), each city undertakes to exercise due diligence, within legal limitations and subject to economic feasibility. To that end, the City and County of Denver and the City of Colorado Springs shall, respectively, submit to the Secretary of the Interior on or before December 31st of each calendar year, beginning with the year 1957, a report showing by months for the water year ended September 30th last past, the quantities of water diverted by the reporting city from the Colorado River System, and whether and to what extent such water was used directly or placed in storage. After each city commences use of Blue River water said report shall also show by months for the same period the quantities of return flow from their municipal uses of such Colorado River water accruing to the South Platte River and to Fountain Creek, respectively, as measured at the gauging stations provided for herein. Each such report shall also show what steps, by legal action or otherwise, the reporting city has taken during the period

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> covered by the report to utilize such return flow by exchange or otherwise to the extent water of the Colorado River System is included therein, so as to reduce or minimize the demands of such city upon Blue River water. The United States of America reserves the right, at any time after use of Blue River water commences hereunder, to apply to this Court for injunctive or other remedial orders, suspending or proportionately reducing diversions or imposing conditions upon the taking of Blue River water by the particular city, if the United States shall establish as a fact that the particular city has failed to exercise due diligence in taking with respect to return flow of water of the Colorado River System, all steps which in view of legal limitations and economic feasibility, might reasonably be required of such city in establishing, enforcing, utilizing or operating a plan designed to accomplish said reduction by such city of its Blue River water use.

31-1 The Colorado Supreme Court relied on the provisions of the Blue River Decree in holding that the City and County of Denver has the right to reuse and make successive use of foreign waters and should do so "to the maximum extent feasible." City & County of Denver v. Fulton Irrigating Ditch Co., 179 Colo. 47, 54, 506 P. 2d 144, 148 (1972). See Denver v. Englewood, 826 P.2d 1266 (Colo. 1992).

Any decision approving the SDS must ensure that water made available to the Participants through or in connection with project facilities complies fully with the limitations of the Blue River Decree. In particular, but not by way of limitation, the final EIS must consider, and any decision approving the project must ensure, that the SDS is designed and operated to fully use and reuse to extinction water diverted from the Colorado River Basin, "so as to reduce or minimize the demands of such city upon Blue River water."

The United States' role in the Blue River adjudication is as a "trustee responsible for the protection of western slope interest." United States v. Northern Colorado Water Conservancy District, 608 F. 2d 422, 429 (10th Cir. 1979). See also City and County of Denver v. Northern Colorado Water Conservancy District, 130 Colo. 375, 417, 276 P. 2d 992 (1954). Those parties who were the beneficiaries of the Blue River Decree and Senate Document 80, on which was the Decree was based, are entitled to realize the benefit of the stipulated provisions protecting western slope interests. United States v. Martin, 267 F. 2d 764, 769 (10th Cir. 1959) (enforcement of Senate Document 80 protections for western slope users affected by the operation of the Colorado-Big Thompson Project).

Accordingly, in reviewing and approving the SDS under NEPA and other authorizing legislation, Reclamation must comply with its fiduciary obligations to protect western slope interests.

Response to comment 31-1: Reclamation has and will continue to monitor operations of the Blue River Project through Colorado Springs' annual Blue River Report. The SDS Project includes Colorado Springs' (through its Utilities enterprise) obligation to reuse Blue River water to extinction per the decree.

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B. Reclamation's Rationale for Rejecting the Indirect Potable Reuse Alternatives is Flawed

The Draft EIS recites that Reclamation considered but eliminated from detailed analysis under NEPA six alternatives involving indirect potable reuse of water available to CSU. That consideration was documented in the Alternatives Analysis Addendum dated December, 2007 (the "Addendum"). For several reasons, that analysis is flawed and cannot support a decision to proceed with the SDS under NEPA.

31-2

1. Scoping Themes and Criteria for Alternatives Screening. The alternatives to be considered in the EIS were screened against categories of scoping themes and purpose and need criteria. Scoping themes include a series of environmental factors identified by Reclamation. The purpose and need criteria include: "use developed and undeveloped water supplies to meet most or all projected future demands through 2046," "use the Participants' existing Arkansas River Basin water rights to make deliveries by the 2012 need date," and "perfect and deliver the Participants' existing Arkansas River Basin water rights." However, the scoping themes and screening criteria make no reference to the controlling obligations of CSU and Reclamation under the Blue River Decree and Colorado law, which require the reuse of water diverted from the Colorado River Basin to the maximum extent feasible so as to reduce or minimize the demands upon the Blue River. Had this factor been considered along with the other themes and criteria, the benefits of the reuse alternatives in relation to other alternatives considered would likely have increased. The failure to screen all alternatives against these legal and factual criteria is inconsistent with Reclamation's fiduciary obligations under the Blue River Decree and Senate Document 80.

31-3

2. Blending Ratio. As discussed in §5.3.1 of the Addendum, one of the design criteria used in development of the reuse alternatives was the ratio of blending water to mix with reuse water prior to advanced water treatment. The ratio that was assumed in the Addendum was 50% reuse water and 50% blending water. This assumed ratio is a principal determinant of the cost of the reuse alternatives. However, the selection of this ratio was apparently based only on the limited set of reference materials cited in the Addendum, which date back to 1996 and do not include a comprehensive survey of guidelines and operating experience with indirect potable reuse projects. Nor does this assumed ratio reflect an empirical analysis of the quality of the reuse water and the blending water or treatment technologies that could be adopted to meet Colorado drinking water standards while minimizing the cost of the project.

31-4

3. Costs. Based on the assumptions used in the Addendum, Reclamation concluded that the reuse alternatives failed the comparative cost screening criteria. However, because of the very limited information on the costs of the alternatives that was provided to the public in Appendix B to the Addendum the County is unable to comment on the sufficiency of that analysis.

31-5

4. Evaluation of Indirect Potable Reuse Alternatives. A critical element in Reclamation's rejection of the reuse alternatives is its professed belief that "[b]ecause of their

Response to comment 31-2: The DEIS addressed potable reuse in the DEIS on page 85 and in the Alternatives Analysis Addendum, section 5.5.4. The Addendum was incorporated by reference into the DEIS. All reuse alternatives analyzed passed the screening criterion for the purpose and need requirement to use existing water rights. These rights include the Blue River Decree which requires reuse of Blue River water to the maximum extent feasible. The alternatives retained for the DEIS, as stated in chapter 1, page 6, primarily supply the SDS Project through exchange of reusable return flows. These alternatives also passed the screening criterion to use existing Arkansas River Basin water rights. Under the Blue River Decree, as shown in the text from the previous comment, reuse of transmountain water can be accomplished through exchanges. Case 84CW203 discusses Colorado Springs Utilities adjudicated exchange locations for transmountain waters and calls out water from the Blue River Project as being a "trans-mountain source." Only currently decreed exchange locations were analyzed in the SDS Project modeling for exchange and supply (see Hydrologic Model Documentation Report (MWH 2007c) chapter 5.4.6).

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dependence on treated wastewater, all reuse alternatives would be considered less desirable from a standpoint of public health protection than alternatives that minimize or do not rely on potable use of treated wastewater." This assertion is apparently based on one National Research Council publication, cited as follows: "NRC (1998) determined that '…indirect potable reuse is an option of last resort. It should be adopted only if other measures – including other water sources, non-potable reuse, and water conservation – have been evaluated and rejected as technically or economically infeasible.'" Addendum at 44.

This conclusion, and the reference on which it is based, are flatly inconsistent with current research and experience in the industry. Indirect potable reuse is rapidly developing across the nation, with dozens of projects already operating in California, Florida, Georgia, Virginia, Texas, New Mexico and Arizona. Technology is not a barrier to indirect potable reuse. H.P. Jansen, et al., *Development of Indirect Potable Reuse in Impacted Areas of the United States*, 55 WATER SCIENCE & TECH. 357 (2007). Developments in membrane treatment have reduced the cost of indirect potable reuse and virtually eliminated health risks associated with potable reuse. *Id.* at 362, 364; *see also* U.S. EPA, 2004 GUIDELINES FOR WATER REUSE, at 41 (2004); and materials available at www.watereuse.org/Foundation; www.awwa.org; and www.wef.org. Reuse provides a highly competitive and cost-effective means of augmenting water supplies. Peter D. Nichols & Douglas S. Kenney, *Watering Growth in Colorado: Swept Along by the Current or Choosing a Better Line*, 6 U. Denv. Water L. Rev. 411, 443 (Spring 2003). "Indeed, in some situations, indirect potable reuse may be the next best alternative to make beneficial use of the resource." U.S. EPA at 43.

Exhibit A to these comments is a summary of only some of the indirect potable reuse projects that are in operation or under development in the United States and other countries. This list includes the City of Aurora's Prairie Water project, which serves as an example of how
31-6 a major water utility in Colorado could legally, technically, and environmentally develop an indirect potable reuse project if it chose to do so.

C. Conclusion

Reclamation's rejection of indirect potable reuse as an alternative to the SDS was based on a flawed and incomplete analysis of the available technology. The failure to conduct an objective evaluation of the reuse alternatives is inconsistent with both NEPA and Reclamation's fiduciary obligations to water users in the Colorado River Basin under the Blue River Decree and Senate Document 80.

Response to comment 31-3: The DEIS addressed this issue in the Alternatives Analysis Addendum (Reclamation 2007a), pages 16 to 17. The best available sources of information (NRC 1998; California DWR 1996) were used to develop this goal. More recent federal guidelines from the EPA (2004) were reviewed, but did not contain guidance on appropriate blending ratios. Additionally, Colorado does not have water reuse guidelines available for reference.

Response to comment 31-4: Appendix B of the Alternatives Analysis Addendum provides substantial information on how cost estimates were developed for the reuse alternatives. The Appendix also references a previous memorandum pertaining to screening-level cost estimating for SDS Project alternatives (CH2M HILL. 2005. Southern Delivery System – Alternative Cost Estimates, TM 6-H.16. August 26.) This and all other sources incorporated into SDS NEPA documents by reference are readily available to the public and could have been obtained within the time allowed for comment on the DEIS.

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Sincerely,

Gary R. Martinez, County Manager

GRM
cc: Eric Kuhn, Colorado River Water Conservation District
David Hallford

Response to comment 31-5: The commenter is concerned that reuse water supplies should not be ruled out because they would be less desirable from a public health perspective than other sources of potable water. This comment does not accurately reflect the information in the Alternatives Analysis Addendum (Reclamation 2007a), pages 16 to 17 and pages 39 through 50. After reviewing this comment, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion because the Alternatives Analysis Addendum, which was incorporated by reference into the DEIS, makes no assertion that potable reuse is infeasible or should not be done. The high cost of reuse alternatives is the principal screening criterion that is not met by the reuse alternatives, which resulted in the failure of the potable reuse alternatives to pass the alternatives screening process. As a result, the statement in the Alternatives Analysis Addendum that is concerning to the commenter did not affect the resulting alternatives that were carried forward for review in the DEIS.

Response to comment 31-6: The DEIS addressed this issue in chapter 2, pages 82 to 89. See comment responses 31-1 through 31-5.

EXHIBIT A
INDIRECT POTABLE REUSE PROJECTS

NAME & LOCATION	YEARS OF OPERATION	ADVANCED WATER TREATMENT (AWT) PROCESS	ENVIRONMENTAL BUFFER	PRODUCTION/PROPORTION OF SUPPLY	COST	NOTES
CALIFORNIA						
WATER FACTORY 21 Orange County, CA	1976-2004	Feed water: secondary effluent. AWT: Lime clarification, Ammonia stripping, Recarbonation/filtration, Granular Activated Carbon, Chlorination, Reverse Osmosis (1977), Advanced Oxidation	Groundwater Injection; Seawater barrier	15 mgd (46.05 afd) 3.2% total OC water 4.8% OC groundwater	Total Capital & Construction Costs: $20.84 million (mid-70's) Total Operating Cost per acre foot: $306	Water injected into Talbert Gap seawater intrusion barrier to prevent saltwater ingress to freshwater aquifer. Approx. 95% of injected water ends up in aquifer. RO added in 1977 (ammonia stripping decommissioned). Advanced oxidation (UV/hydrogen peroxide) added 2001 for NDMA removal.
INTERIM WATER FACTORY 21	2004-2007	Feed water: secondary effluent AWT: Microfiltration, Reverse Osmosis (RO), Ultraviolet (UV) and advanced oxidation.	Groundwater Injection; Seawater barrier	2.6 mgd (7.98 afd) 1% OC groundwater		Interim arrangement to maintain Talbert Gap seawater intrusion barrier during construction of GWR.
GROUNDWATER REPLENISHMENT SYSTEM (GWR), Orange County, CA	2007-	Feed water: secondary effluent AWT: Microfiltration, RO, UV/advanced oxidation.	Groundwater Injection; Seawater barrier	63.3 mgd (194.33 afd) 18% OC groundwater		Advanced oxidation by UV radiation and hydrogen peroxide (H2O2).
WHITTIER NARROWS WATER RECLAMATION PLANT, Los Angeles County, CA	1962-	Primary: settling ponds Secondary: activated sludge and flocculation. Tertiary: coal, sand and gravel filtration, and disinfection by	Groundwater recharge via Rio Hondo (570 acres) and San Gabriel Coastal Spreading Grounds (128 acres)	45 mgd (138.15 afd) *website claims: "Current operations at these recharge facilities conserve an average of approximately 150,000 acre-feet of local,		a.k.a. Montebello Forebay, which is the geologic formation where groundwater recharge forms seawater intrusion barrier. Rio Hondo Spreading

Name & Location	Years of Operation	Advanced Water Treatment (AWT) Process	Environmental Buffer	Production/Proportion of Supply	Cost	Notes
		hypochlorite, chlorine and bisulfite. AWT: groundwater recharge		imported, and reclaimed water annually."		Grounds: Fifty-two shallow (4 to 6 feet deep) basins have been excavated to form 20 larger and deeper (6 to 10 feet) basins.
San Jose Water Reclamation Plant, Los Angeles County, CA	1971-	Primary: settling ponds Secondary: activated sludge and flocculation. Tertiary: coal, sand and gravel filtration, and disinfection by hypochlorite, chlorine and bisulfite. AWT: groundwater recharge	Groundwater recharge via Rio Hondo (570 acres) and San Gabriel Coastal Spreading Grounds (128 acres)	Total (potable/nonpotable): 35 mgd (107.45 afd)		Total groundwater replenishment from San Jose Creek and Whittier Narrows (FY04-05): 24.96 mgd (28.03 afd) Between 1962-1977 the % of reclaimed water in extracted potable water supply ranged from 0-11%.
West Basin Municipal Water District, El Segundo, CA	1995-	WBMWD produces 6 different qualities of recycled water. For groundwater recharge (indirect potable reuse) it uses Softened Reverse Osmosis Water: Secondary treated wastewater pretreated by either lime clarification or microfiltration, followed by reverse osmosis (RO) and disinfection for groundwater recharge, which is superior to state and federal drinking water standards.	Groundwater recharge via 100 injection wells	Total potable/nonpotable (FY04-05): 8 billon gallons (24,560 af) 2006 Expansion: 12.5 mgd		$55 million Phase IV Expansion Project, scheduled for completion in summer 2006, will increase the production of recycled water for the West Coast Basin Seawater Barrier by up to 5 million gallons
Chino Valley Basin, San	2005-	Feed water: Secondary Effluent	Groundwater recharge	9 mgd (27.63 afd) reused (incl. recharge and		Extensive distribution system planned in phases

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NAME & LOCATION	YEARS OF OPERATION	ADVANCED WATER TREATMENT (AWT) PROCESS	ENVIRONMENTAL BUFFER	PRODUCTION/PROPORTION OF SUPPLY	COST	NOTES
Bernardino County, CA		AWT: Sand Filtration, Chemical and UV disinfection.		nonpotable use) Total Recycled Water recharged FY06: 2,989 AF		over the next 10 years. Could offset between 30 and 40 mgd of potable water use.
SOUTHEAST						
UPPER OCCOQUAN SEWAGE AUTH., Fairfax County, VA	1978-	Feed water: secondary effluent AWT: Lime clarification, 2 stage recarbonation w/ intermediate settling, Multimedia filtration, Granular activated carbon, Post carbon filtration, Chlorination, Dechlorination.	Upper Occoquan Reservoir (major raw water source for Fairfax County and Washington D.C.)	Current: 31.6 mgd (97.01 afd) Avg: 8-10%; max 90% of inflow to UO Res. Proposed Expansion: 52.7 mgd (161.79 afd)		
CLAYTON COUNTY WATER AUTHORITY, Atlanta GA	1980-	Feed water: secondary effluent AWT: Land application by sprinklers; or constructed wetlands. All raw water treated by filtration and UV disinfection prior to introduction into potable system.	Effluent applied to 2,400 of forested lands; since 2006, also discharged into constructed wetlands. Groundwater replenishes raw water reservoir. Residence time: 180-500 days.	Land Application: 5 mgd (15.35 afd) Wetlands: 2007: 10 mgd (30.70 afd) 2009: 13 mgd (39.91 afd) Up to 30% of raw water reservoir capacity.	$1.50-$2/gal. AWT $5/gal including WWT	Until recently, AWT was solely by land application. Maintenance of sprinkler systems and land availability forced change to more compact constructed wetlands site.
GWINNETT COUNTY, GA	2007-	high-pH lime clarification, re-carbonation, sand filtration, ozone disinfection, granular activated carbon, membrane treatment.	Lake Lanier	Phase I – 20 mgd (61.4 afd) Phase II – 40 mgd (122.80 afd) Final – 60 mgd (184.2 afd)	$450 million	
WEST PALM BEACH WETLANDS-BASED	Scheduled to begin	Feed water: secondary effluent	Wetland application	10 mgd (30.7 afd)	Projects costs to date:	Claims to be the first of its kind in Florida.

NAME & LOCATION	YEARS OF OPERATION	ADVANCED WATER TREATMENT (AWT) PROCESS	ENVIRONMENTAL BUFFER	PRODUCTION/PROPORTION OF SUPPLY	COST	NOTES
RECLAMATION AND AQUIFER RECHARGE SYSTEM, City of West Palm Beach, FL	operating in the Spring of 2006	AWT: deep bed filtration, ballasted flocculation, polishing filters and UV light disinfection.	(108,900 Acres) Retention Time: 2 yrs. Potable water pumped from wetlands well field to treatment plant.		$34,879,000	
HOWARD F. CULLEN AWT PLANT, Tampa, FL	1987-1989	Secondary Treatment: pre-aeration, lime treatment, recarbonation, gravity filtration, and ozone disinfection. AWT: granular activated carbon (GAC), reverse osmosis, and ultrafiltration were evaluated after gravity filtration and before disinfection.	Augmented Hillsborough Reservoir through Tampa Bypass Canal system	Demonstration Plant		The testing program showed that the production of a reuse water that is acceptable as a raw water source is technically feasible with a process train including preaeration, lime treatment and recarbonation, gravity filtration, GAC adsorption, and ozone disinfection. The reuse water produced through supplemental treatment does not present significant microbiological or toxicological risks. The quality of the reuse water produced is equivalent to or exceeds the quality of other typical raw water sources, including the Hillsborough River.
SOUTHWEST						
NORTH TEXAS MUNICIPAL WATER	Draft EA published	Feed water: secondary effluent.	Secondary effluen: discharged to East	Goals: 81,400 af/yr in 2010	$246 million	

Page 4 of 6

Name & Location	Years of Operation	Advanced Water Treatment (AWT) Process	Environmental Buffer	Production/Proportion of Supply	Cost	Notes
District, Suburban Dallas, TX	Feb., 2006.	AWT: mixing effluent with raw water in East Fork of Trinity River. Mixed river/effl. water pumped to constructed wetlands (1,840 acres).	Fork of Trinity River; then diverted and pumped to constructed wetlands. Wetland outflow pumped to Lake Lavon, mixed with raw water.	96,400 af/yr in 2020 102,000 af/yr in 2030		
Fred Hervey Water Reclamation Plant, El Paso, TX	1985-	The ten-step treatment process includes screening, degritting, primary clarification, equalization, flow equalization, two-stage powdered activated carbon (PAC) treatment, lime treatment, two-stage recarbonation, sand filtration, ozonation, GAC filtration, chlorination, and storage.	Hueco Bolson aquifer via 10 injection wells (800 ft deep): average retention time 6 yrs.	Plant capacity: 10 mgd (30.7 afd) 7.5 mgd injected (23.03 afd)		Bacteriological tests to date show avg total of 0 coliforms per 100 mL of effluent. Avg. reduction for TOC is approx. 96%.
Scottsdale Water Campus, Scottsdale, AZ	1998-	Feed Water: Tertiary effluent. AWT: Continuous Microfiltration (CMF) and RO	Groundwater Recharge	10 mgd (30.7 afd) recharges aquifer during non-irrigation season.		Water Campus being expanded to 20 mgd. During irrigation season, 12 mgd of tertiary treated wastewater is used for golf course irrigation.
Northwest Water Reclamation Plant Mesa, AZ	Unknown	Treatment includes screening, grinding, sedimentation, organics removal, nutrient removal, filtration, clarification, and disinfection.	Groundwater recharge by percolation.	18 mgd (55.26 afd)		In addition to aquifer recharge, effluent also provided for direct nonpotable reuse.
Cloudcroft, NM	2007-	Primary WWTP converted to membrane bioreactor (MBR)	Stored and blended with existing spring	MBR capacity: 0.1 mgd (0.31 afd)	$3 million	

Comment | Letter 31 continued | Response

Name & Location	Years of Operation	Advanced Water Treatment (AWT) Process	Environmental Buffer	Production/Proportion of Supply	Cost	Notes
		process. Discharge disinfected w/ monochloramines, and then gravity fed to RO and UV/H2O2 disinfection. Blended water receives ultrafiltration (UF) and granular activated carbon (GAC) prior to entering potable system.	and groundwater; portion used for aquifer recharge.	Yields 0.18 mgd of blended water. 50% of municipal potable supply.		
Colorado						
Prairie Waters Project, Aurora, CO	Proposed	Water withdrawn from S. Platte alluvium by shallow wells. Delivered to Aquifer Recharge and Recovery (ARR) sites. Pumped to AWT. AWT process: softening, advanced oxidation (inlc. UV), and granular activated carbon absorption.	ARR & Aurora Reservoir	Delivery to AWT facility: 2012: 9 mgd (27.63 afd) 2015: 21 mgd (64.47 afd)		Alluvial wells will operate pursuant to aug plan. Case No. 06CW104; and/or SWSP
International						
NEWater, Singapore	2003-	Feed water: clarified secondary effluent; AWT: Microfiltration, RO, UV disinfection	Raw Water Reservoir	2003: 3.6 mgd (11.05 afd) 1% of municipal supply 2007(goal): 24.3 mgd (74.6 afd)		Indirect potable reuse component to supply 2.5% of muni supply by 2012.

Page 6 of 6

Comment	Letter 32	Response

United States Department of the Interior

Bureau of Land Management
3170 East Main Street
Cañon City, Colorado 81212

TAKE PRIDE IN AMERICA

In Reply Refer to:
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June 12, 2008

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CERTIFIED MAIL
Return Receipt Requested

Kara Lamb
U.S. Bureau of Reclamation
Eastern Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Dear Ms. Lamb:

This letter provides formal comments on the Southern Delivery System Draft EIS from the Bureau of Land Management, which is a cooperating agency for this project. Overall, BLM commends Reclamation for the thoroughness and accuracy of this document. However, there are a handful of important issues that BLM believes require further attention before Reclamation moves to a final EIS and Record of Decision:

32-1 1. BLM very much appreciates Reclamation's modeling effort to identify the impacts of the proposed action on the Upper Arkansas Valley Flow Management Program (UAVFMP). However, there is no explanation in the text of the assumptions used in this modeling effort. At a minimum, BLM believes the document should include a summary of the timing and flow rate of exchanges that were modeled to make this determination. In addition, BLM believes it is important, for National Environmental Policy Act purposes, to disclose whether this modeling effort considered the impact of operating exchanges from contract storage on:

- The ability of Reclamation to have 10,000 acre feet available in storage - in the correct project reservoir location and at the correct time - for release for the UAVFMP.)
- The effectiveness of Reclamation's releases from storage to meet UAVFMP flow targets if exchanges that reduce stream flows are operated during the July 1 to August 15 period.

32-2 2. BLM acknowledges that Reclamation needs to make determinations about which impacts of the project may be significant. However, there needs to be disclosure that certain impacts considered insignificant by Reclamation may be considered significant by other parties. For example, Reclamation concludes that a reduction of two days in meeting UAVFMP targets isn't significant. If flow program targets aren't met for two days on a weekend between July 1 and August 15, rafting and recreation interests would consider these impacts to be highly significant. This disclosure would

Response to comment 32-1: The DEIS addressed modeling assumptions for all alternatives in chapter 3, pages 150 to 152, the Hydrologic Model Documentation Report (MWH 2007c), section 6.2.3.1, *Upper Arkansas Voluntary Flow Management Program Operations*, and the Surface Water Hydrology Effects Analysis, section 5.1.3.

Information presented in the DEIS was modified in the FEIS (see section 3.2.6 and 3.5.5) pursuant to the comment regarding disclosure of effects on the UAVFMP. The description of the UAVFMP in section 3.2.6 was modified to include the requirement that deliveries in excess of 10,000 acre-feet should be subject to review and consideration by Reclamation and the SECWCD. The discussion of the hydrologic effects on the UAVFMP in section 3.5.5 was expanded to include discussion and information on each component of the program, including year-round flows, spawning flows, spring flows, recreation flows, and the ability to deliver Fry-Ark Project water for the program.

Response to comment 32-2: Information presented in the DEIS was modified in the FEIS (see section 3.2.6, *Upper Arkansas Voluntary Flow Management Program* subsection). Reclamation revised the recreation section to clarify the relative importance of the July 1 through August 15 period for boating and the associated interagency coordination efforts.

Comment	Letter 32 continued	Response

be improved if, in the introductory section to the UAVFMP, Reclamation disclosed that July 1 to August 15 is a particularly critical time of year for UAVFMP and that BLM, State Parks, and several municipal water supplies coordinate efforts to provide boatable flows throughout that time period.

32-3 3. BLM believes that the Record of Decision should contain terms, conditions, and mitigating measures that insure the project does not injure the operation of the UAVFMP over the short term or long term. BLM believes the following conceptual terms and conditions (which would require further development in discussion with the applicants) would serve to protect the flow management program:

> A prohibition on operation of exchanges from contract storage space during the July 1 to August 15 period, when such exchanges would cause Arkansas River flows at the Wellsville gage to drop below flow management program targets.
>
> A requirement to index exchange rates to streamflow rates the remainder of the year, with the objective of allowing some exchange potential during most flow conditions, but encouraging exchanges during time periods that have the least impact to the flow management program.

32-4 4. Alternative 4 incorporates a wastewater outfall at the Blue Heron property site. There is no disclosure of recreation impacts associated with water quality issues at this site. Odors, inadvertent spills of untreated water, and stigmas associated with recreating in wastewater may discourage recreational users from visiting the site.

32-5 5. Alternatives 7 and the no action alternative incorporate construction of a new diversion structure at a location on the Blue Heron property where an existing irrigation diversion exists. The NEPA document needs to disclose that if the alternative is implemented, a new diversion structure would have to be built that would allow for irrigation diversions, municipal diversions, and safe boat passage around the structure.

32-6 6. Alternative 4 and 7 and the no-action alternative envision use of the Blue Heron for water supply infrastructure. The EIS document should also disclose that the Blue Heron property was acquired by BLM using funds appropriated by Congress, and BLM has an obligation to manage the property for recreation purposes. Any use of the property for non-recreational purposes will have to be configured to minimize impact to recreational values, and enhance recreational values if possible.

The BLM appreciates the opportunity to provide these comments and to serve in a cooperating agency role during this EIS process. If you have any questions concerning these comments, please contact Roy Smith at 303-239-3940.

Sincerely,

Roy L. Masinton
Field Manager

cc: Gary Bostrom, Colorado Springs Utilities
David Robbins, Hill and Robbins, PC
Roy Smith, Bureau of Land Management

Response to comment 32-3: See comment response 25-2.

Response to comment 32-4: The DEIS addressed effects on water quality in chapter 3, pages 204 to 222. Based on the water quality analysis, the discharge of reusable return flows at this location in the Wetland and Arkansas River alternatives would result in minor increases in bacteria, nutrients/algae, but would not exceed water quality standards. Because the proposed discharge location is across the river from the City of Florence wastewater treatment facility location, concerns about the "stigma" of the area should not be unique to the proposed SDS alternatives. The discussion in the FEIS (see section 3.14) has been revised to further describe water quality changes in the area and the potential effects (actual or perceived) on those changes on recreation at the Blue Heron Property site.

Response to comment 32-5: Information presented in the DEIS has been modified in the FEIS (see section 2.2.1.1, *Untreated Water Intake* subsection) pursuant to this specific comment, as well as other public comments. Reclamation has made editorial revisions to clarify that the new intake structure would maintain deliveries to the Lester & Attebury Ditch at its historical flow rate and would include provisions for boat passage

Comment	Letter 32 continued	Response
		Response to comment 32-6: Based on the recreational concepts outlined by the BLM in its Draft EA for the Blue Heron Property and current uses of the area, the proposed SDS facilities are not expected to conflict with current or planned recreation facilities at the site. The FEIS has been revised to further describe the BLM's obligations for the site and the need to minimize or enhance recreational values as part of the proposed SDS Project.

State Representative
LARRY G. LISTON
Colorado State Capitol
200 E. Colfax Ave., Room 271
Denver, CO 80203
Cell: 719-649-9742
Capitol: 303-866-2965
Fax: 303-866-2218

Member:
Business Affairs & Labor Committee
Local Government Committee

COLORADO
HOUSE OF REPRESENTATIVES
STATE CAPITOL
DENVER
80203

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April 11, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

Dear Ms. Lamb:

RE: Southern Delivery System: Draft Environmental Impact Statement

Please accept my comments on the Draft Environmental Impact Statement of DEIS for the Southern Delivery System or SDS. As the State Representative serving House District 16, I am concerned for the safety and well-being of my fellow Colorado Springs' neighbors.

Population analysts have noted that in the next twenty years El Paso County will be the most populated county in the great State of Colorado and Colorado Springs will exceed 800,000 people by 2050. It is therefore essential that we ensure Colorado Springs, El Paso County, and its neighboring counties, have an adequate, affordable water supply. Of the seven well-researched alternatives in the DEIS, I strongly support Alternative 2, also referred to as the Bureau's Preferred Alternative. Alternative 2 will allow the Project Participants to respond to increased population growth and increase the water storage capacity in response to anticipated future population growth.

The folks who will directly benefit from SDS, including the constituents of Colorado Springs, Security, Fountain and in some cases Pueblo West, will share the costs of this necessary project. Because we are using public lands and taxpayer dollars, I urge the Bureau to move forward with a course of action that will adequately respond to the increased need for water, allow the Project Participants to utilize their existing water rights efficiently, and use the plan with the lowest energy requirements for construction and operation.

I thank the Bureau for its tireless work in preparing this monumental project. I urge the Bureau to move forward with the Preferred Alternative because it is the only alternative that will allow Colorado Springs to respond to its future population needs by better utilizing its existing water rights with the lowest total project costs and energy-use requirements.

Sincerely,
Rep. Larry G. Liston

Larry G. Liston
State Representative
House District 16

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Thank you for your comment.

DAVID SCHULTHEIS
State Senator
200 E. Colfax Ave.
Denver, Colorado 80203
Capitol: (303) 866-4835
Fax: (303) 866-2012
david.schultheis.senate@state.co.us

Senate Chamber
State of Colorado
Denver

COMMITTEES
Member of:
Health & Human Services
State, Veterans, & Military Affairs

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April 7, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Colorado Springs Needs The Southern Delivery System To Respond To Growth

Dear Ms. Lamb:

This letter is regarding the Draft Environmental Impact Statement (DEIS) for the Southern Delivery System (SDS). Before I delve into my reasons for supporting SDS as a means to respond to Colorado Springs' incredible population growth, I would like to thank the Bureau of Reclamation (Bureau) for its tireless work preparing the document. The Bureau's thoughtful and thorough research is evident by the range of alternatives considered. It is because of the Bureau's in-depth analysis that I support the Bureau's initial Preferred Alternative, or Alternative 2. The Preferred Alternative best provides for the protection and well-being of the good people of Colorado Springs.

The proposed action would bring water to Colorado Springs through a 43-mile pipeline starting at Pueblo Dam using water rights already owned by the city and the other Project Participants – Fountain, Security and Pueblo West. As the State Senator for Senate District 9, which includes Northern Colorado Springs, the Air Force Academy and the Black Forest, I understand the necessity for preparing for future population growth.

It is critical for a governing body to provide the basic necessities for its constituents, like clean, safe, dependable, affordable water. We can all gain perspective from President Bush's comments regarding California's energy crisis. President Bush stated that the crisis stemmed from years of neglect in building refineries and over-controlling production. In the case of Colorado Springs, the last major water delivery project was built in the 1960s. Population was half of what it is now. And in the next fifty years, Colorado Springs is expected to exceed 800,000 people according to the State Demographer. The inability to provide water for our constituents would be catastrophic. We have to act now. Colorado Springs is reliant on an aged pipeline system for water delivery. The City needs an additional cost-efficient pipeline and storage facility to respond to growth and to ensure that in the event of a pipeline failure, the hard-working people of Colorado Springs can continue to receive clean, dependable water.

recycled paper

Thank you for your comment.

Strategies regarding Colorado water use seem as old as the rivers themselves and the problems associated with growth and water delivery won't be solved without cooperative support from all parties involved. I urge all interested parties to work together to ensure that we respond to the growth of the region and continue providing water in a safe, dependable and cost-efficient manner.

Sincerely,

Dave Schultheis
State Senator

Comment Letter 35

Pikes Peak Regional Water Authority
P.O. Box 572
Monument, Co 80132

May 30, 2007

U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711
Attn: Kara Lamb

Re: Southern Delivery System Environmental Impact Statement

Dear Ms. Lamb:

In September 2006, our predecessor organization, the Palmer Divide Water Group, commented on the Purpose and Need statement of the SDS EIS, since we also need a safe, reliable water supply as defined. We then supported, and continue to support, the SDS project.

Our previous comments suggested that the project encompass the entire Pikes Peak region, and we offered to participate in SDS. We also began our own initiative to develop such a sustainable water supply.

The Pikes Peak Regional Water Authority has since pursued independent development of a delivery pipeline from the Arkansas River below the Fountain Creek confluence to northern El Paso County. We remain open and willing to work with Colorado Springs Utilities in pursuit of a regional water supply.

Thank you for your consideration.

Sincerely,
PIKES PEAK REGIONAL WATER AUTHORITY

Phil Steininger
Chairman

cc: Directors, PPRWA
Colorado Springs City Council
Jerry Forte, CEO, CSU

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Response

Response to Letter 35: Expanding this proposed project to incorporate the Pikes Peak Regional Water Authority as a Participant is outside of the scope of this EIS. The DEIS evaluates the effects of Reclamation entering into long-term contracts requested by the City of Colorado Springs, City of Fountain, Security Water District, and Pueblo West Metropolitan District for development of a regional water supply. Reclamation has no basis for changing the Participants in a project for which a Reclamation contract is requested.

Comment	Letter 36	Response
36-1	(see letter below)	Response to Comment 36-1: Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the Preferred Alternative and the development of environmental commitments for the Preferred Alternative. A commitment not to construct or operate the Preferred Alternative in a manner that differs substantively from that evaluated in the FEIS, except under emergency conditions, has been included. Continued use of Colorado Springs' capacity in the Otero Pump station was included in the FEIS analyses. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

UPPER ARKANSAS
WATER CONSERVANCY
DISTRICT

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May 29, 2008

Ms. Kara Lamb
Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Southern Delivery System DEIS

Dear Ms. Lamb;

On behalf of the board of directors of the Upper Arkansas Water Conservancy District I would like to offer the following comments:

36-1 Generally a pipeline from Pueblo Dam to Colorado Springs for delivery of water placed in storage in Pueblo Reservoir derived from Arkansas River water rights or from trans-mountain water, either from storage or by exchange from Fountain Creek to Pueblo Reservoir, does not pose concerns for the Upper Arkansas District. Insofar as this exchange reduces exchanges from Fountain Creek upstream to the Otero Pipeline or exchanges to upper basin reservoirs such as Twin Lakes, this option for water delivery to Colorado Springs may benefit flows in the upper basin. However, in the event this exchange reduction is offset by a commensurate increase in exchanges by out-of-basin entities for export out of the Arkansas Basin through the utilization of space made available by Colorado Springs in the Otero Pipeline, the development of a Southern Delivery Pipeline could reduce available water for all uses in the upper basin and have detrimental effects. It is understood that Colorado Springs' intention in construction of a Southern Delivery route is to provide system redundancy. Therefore we believe that Colorado Springs should commit to not selling their Otero capacity to other entities.

PHONE: 719-539-5425 • FAX: 719-539-7579 • P. O. BOX 1090 • SALIDA, COLORADO 81201

Comment	Letter 38 Continued	Response
36-2	Ms. Kara Lamb May 29, 2008 Page Two Some of our board members expressed a desire that future public forums be conducted in a traditional format with formal presentations by the proponent with a period for questions and dialogue between the proponent representatives and the public. Thank you for this opportunity to provide comments. Sincerely, Glenn Everett Glenn Everett Chairman Cc: Southern Delivery System P.O. Box 1103, MC 940 Colorado Springs, CO 80947	Response to Comment 36-2: Reclamation appreciates this feedback. An open house format was selected for the DEIS public meetings because that format facilitates one-on-one dialog between members of the public and technical specialists that were involved with preparation of the DEIS and supporting analyses. In response to requests, Reclamation held a public listening session in Pueblo on May 29, 2008 to allow interested persons to express their concerns in a public forum.

Security Water and Sanitation Districts / Enterprises
231 SECURITY BLVD. • COLORADO SPRINGS, COLORADO 80911
TELEPHONE 719-392-3475 • FAX 719-390-7252
www.securitywsd.com

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May 21, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Draft Environmental Impact Statement

Dear Ms. Lamb:

On behalf of the Security Water District, I would like to thank the Bureau of Reclamation for the opportunity to comment on the Southern Delivery System (SDS) Draft Environmental Impact Statement (DEIS). It is clear that the Bureau has carefully reviewed this document and has listened to the concerns of the public. We applaud the Bureau for extending the comment period to allow for a more thorough review by the municipalities and the citizens of the area.

Security, Colorado is overly reliant on two water delivery systems: the Widefield Aquifer and the FVA Pipeline. This reliance on two delivery systems for most of Security's water supply poses an unacceptable risk. We need another major delivery system to provide delivery system backup and redundancy.

In 1987, the Widefield Aquifer was contaminated with a Volatile Organic Compound used as a degreaser. The compound is currently being mitigated by the company who owned the facility where the contamination originated with oversight by the Colorado Department of Public Health and Environment (CDPHE). Affected Security wells were either shut down, or water treatment systems were installed to remove the contamination. The contamination highlighted one of the risks associated with Security's reliance on a shallow aquifer for more than half of its water supply.

Without action by the Bureau of Reclamation, Security would be forced to implement one of the following three actions: (1) acquiring new exchange water rights on the Arkansas River for delivery through Colorado Springs' No Action Alternative, (2) acquiring new rights to ground water in the Fountain Creek alluvial aquifer, or (3) acquiring an additional allocation of ground water from the Widefield Aquifer, all of which cause increased environmental impacts and are less desirable than the Participants' Proposed Action.

We need a backup model for our water delivery, and of the seven alternatives analyzed, the most cost-efficient alternative that will give us the backup is the Participants' Proposed Action which calls for the utilization of excess capacity storage space in Pueblo Reservoir and conveyance through the Fry-Ark facilities, primarily through existing Pueblo Dam outlet works. Participants' Proposed Action, in addition to providing much-needed redundancy, will be partially funded by Security and Colorado Springs. This cost sharing will ensure that Security's water-users are not unduly burdened.

Thank you for your comment.

Kara Lamb
Page 2

We cannot continue to rely completely on our current water delivery systems. We need the Participants' Proposed Action to provide a backup for our community.

Sincerely,

H.E. "Cap" Proal, Chairman of the Board of Directors
Security Water District

Comment Letter 38

"Kara Lamb"
<KLAMB@gp.usbr.gov>
06/12/2008 04:02 PM

To "LARRY MARY LISTON" <llliston16@q.com>
cc
bcc
Subject Re: Colorado Springs Sounthern Delivery system

Dear Representative Liston,
Thank you for your comment. I will make sure it is incorporated into the NEPA process.

Best,
Kara

Kara Lamb
Public Information
Eastern Colorado Area Office
Bureau of Reclamation
(970) 962-4326

>>> LARRY MARY LISTON <llliston16@q.com> 06/11/08 1:51 PM >>>
Dear Ms. Lamb,

I am writing you to express my support for the Colorado Spring s's Southern Delivery System, aka SDS. As you well know by now there has been much press and commentary on this important project of our city. I will not attempt to rehash all the comments, which you are aware of yourself. I am writing you as a citizen of this community for over 40 years and and as a Colorado State Representative to the Colorado State House.

I have been observing the process of the SDS and the statements about it for the past two or three years and know that some decisions must be soon made for the SDS to stay on track and ultimately on budget. I know that our city "Fathers" and plannners have spent considerable time, money and effort in working with all the stakeholders for the SDS, and now is the time to make a decision on the this worthwhile project.

I urge you and your colleagues in your area to support the SDS and allow our city to build this water delivery system for the future of our city, its citizens and for the citizens of the other affected communities. Please don't allow the demagoguery of one publisher of a newspaper, derail the hard and dedicated work of enlighten professionals who have worked with so many others to make the SDS a reality. I thank you for your time and attention to this matter.

Sincerely

Rep. Larry Liston
House Dist. # 16

Response

Thank you for your comment.

Comment | Letter 39 | Response

Pikes Peak Area
Council of Governments
Communities Working Together

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June 11, 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Draft Environmental Impact Statement for the Southern Delivery System Project

Dear Ms. Lamb:

Please find attached the Pikes Peak Area Council of Governments (PPACG) resolution supporting the Southern Delivery System (SDSD) Draft Environmental Impact Statement and the Bureau of Reclamation's findings contained within the document.

It is clear there is critical need to complete the approval process for the SDS Draft Environmental Impact Statement. SDS is vital to the region. Project participants' water needs are projected to almost double between 2007 and 2046. Based on the water forecast used in the DEIS, the Project Participants' water demand could exceed current capacity before 2012.

The Pikes Peak Area Council of Governments believes there is a critical need to complete the approval process for the SDS Draft Environmental Impact Statement and expedite the implementation of the recommendations contained within the SDS Draft Environmental Impact Statement.

Tyler Stevens
Chair

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15 South 7th Street, Colorado Springs, CO 80905 ~ Voice (719) 471-7080 ~ Fax (719) 471-1226 ~ www.ppacg.org ~ ppacg@ppacg.org

Thank you for your comment.

Pikes Peak Area
Council of Governments
Communities Working Together

RESOLUTION BY
THE PIKES PEAK AREA COUNCIL OF GOVERNMENTS
BOARD OF DIRECTORS
SUPPORTING THE SOUTHERN DELIVERY SYSTEM
DRAFT ENVIRONMENTAL IMPACT STATEMENT

June 11, 2008

WHEREAS, The Pikes Peak Area Council of Governments (PPACG) was formed in 1967 under the Colorado laws regarding regional planning (CRS 30-28-105), and

WHEREAS, PPACG was designated by the State of Colorado as the Water Quality Management Agency for El Paso, Teller and Park counties under Section 208 of the Federal Clean Water Act and pursuant to 25-8-105, and

WHEREAS, PPACG has reviewed the information contained in the Southern Delivery System Draft Environmental Impact Statement, and

WHEREAS, the Colorado Springs Area is experiencing an annual growth rate of 1.2 percent and it is estimated that 800,000 people will reside in Colorado Springs by 2050 and there will not be an adequate water supply.

WHEREAS, PPACG believes there is a critical need to complete the approval process for the Southern Delivery System Draft Environmental Impact Statement and expedite the implementation of its recommendations.

WHEREAS, the Participants' Proposed Action (Alternative 2) has the lowest overall project cost of all the alternatives and minimal environmental impacts.

NOW, BE IT THEREFORE RESOLVED, the PPACG Board of Directors endorses and recommends approval of the Southern Delivery System Draft Environmental Impact Statement so that an analysis can be completed to ensure adequate water supply for the region.

BE IT FURTHER RESOLVED, the PPACG Board of Directors supports the findings in the Southern Delivery System Draft Environmental Impact Statement.

RESOLVED, APPROVED, AND ADOPTED by the Board of Directors of the Pikes Peak Area Council of Governments this eleventh day of June 2008 at Colorado Springs, Colorado.

Tyler Stevens
Chair

ATTEST:
Leni Walker
Leni Walker
Secretary

15 South 7th Street, Colorado Springs, CO 80905 ~ Voice (719) 471-7080 ~ Fax (719) 471-1226 ~ www.ppacg.org ~ ppacg@ppacg.org

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Colorado Centre Metropolitan District

4770 Horizonview Drive, Colorado Springs, Colorado 80925
Telephone: 719-390-7000 ; Facsimile: 719-390-3709
E-mail: cocemedi@earthlink.net Web: www.coloradocentre.org

June 6, 2008

Via Electronic Mail and U.S. Mail

U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 West County Road 18E
Loveland, CO 80537-9711

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Attn: Kara Lamb (klamb@gp.usbr.gov)

Re: Comments on Draft Environmental Impact Statement (EIS), Proposed Southern Delivery System (SDS)

Dear Ms. Lamb:

The Board of Directors of the Colorado Centre Metropolitan District (CCMD) are submitting the following comments on the draft EIS (hereafter EIS) prepared by the Bureau regarding the proposed SDS. CCMD representatives attended three of the open house meetings held by the Bureau regarding this proposed project and appreciated the opportunity to ask questions of the consultants present at those meetings.

40-1 In general, CCMD believes the EIS analysis is inadequate because not all reasonable alternatives to the "preferred alternative" have been examined adequately. More specifically, potential or reasonably probable impacts to the CCMD community due to the presence of a large-scale reservoir upstream of the community do not appear to have been examined at all, nor were adequate mitigation measures proposed or examined. This includes the lack of any analysis on the potential impacts to the CCMD community from a dam breach or an operational error in managing reservoir levels.

Introduction

CCMD is a Colorado special district formed in 1986 pursuant to the Colorado Special District Act and a subdivision of the State of Colorado; it provides a number of municipal services to its residents, including water service. CCMD currently has [717] homes and approximately 2300 residents; it is governed by a citizen Board of Directors, a District Manager and four full-time support staff providing administrative and field services to the community.

Response to comment 40-1: Reclamation concurs with the comment that potential effects of reservoirs upstream of urban development should be analyzed. Accordingly, the content of the FEIS has been modified to reflect this public input. In particular, section 3.8 of the FEIS contains information about potential dam failures of all proposed new dams.

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	Kara Lamb, U.S. Bureau of Reclamation Re: Draft EIS – Proposed Southern Delivery System June 6, 2008 Page 2 **Via Electronic & US Mail**	
40-2	As a water service provider and a member of the El Paso County Water Authority, CCMD appreciates the SDS participants' needs for a reliable water source to meet future water demands. CCMD is committed towards ensuring its future as a strong, independent district while collaborating with neighboring communities and governments to find responsible solutions to regional issues, such as a long-term water supply. To this end, CCMD supports an economically reasonable solution to enhance the participants' water supply which also does not impose an undue burden on the CCMD community or the end users of the water supply. CCMD believes that any solution selected out of the current EIS process must be conditioned on irrevocable commitments from the SDS participants to use all reasonable water conservation and use efficiency methods available. This should include adopting current and future technologies and implementing state water law mechanisms to maximize their current and future water supply. Doing this likely involves making difficult, and in the short term politically unpopular, choices on how water may be used by the end consumer and where to develop new supplies.	Response to Comment 40-2: Each of the Project Participants has a conservation program that is being implemented independently of the proposed SDS Project. These programs have been submitted to Reclamation under the Reclamation Reform Act. Any approved contract would have a requirement to continue to submit these programs.
40-3	General Preliminary Comments At no time prior to the draft EIS being published did anyone from the Bureau or the SDS participants contact CCMD directly to review the potential effects that a proposed 30,500 acre-foot reservoir to be located seven miles upstream of the CCMD community might have on our community. Up until now, apparently there was no consideration of this at any time during the public process. CCMD would have appreciated an opportunity to present and work through its concerns to get them addressed in advance. At minimum, CCMD believes it should have been formally invited to the public agency scoping meeting held October 27, 2003, but it was not. The lack of any prior communication seems to indicate that the Bureau and the SDS participants made an affirmative decision not to include CCMD in prior discussions to avoid upfront objection by CCMD to a reservoir on Jimmy Camp Creek. This also indicates the Bureau and SDS participants decided, in advance, that the potential effects on the CCMD community were of no consequence. Since there was a lack of any meaningful review and analysis of those potential effects, CCMD believes the EIS is fundamentally flawed.	Response to Comment 40-3: Reclamation has welcomed comments from all parties throughout preparation of the DEIS. Metropolitan districts, such as CCMD, were not invited to the agency scoping meeting in October 2003. However, anyone was welcome to the five public scoping meetings held in September and October 2003 and the five public meetings on alternatives in October 2005. Reclamation also used a website to make materials available to the public. Effects to resources near CCMD were disclosed in the DEIS, with additional analyses presented in the FEIS.
40-4	Comment: Not all reasonable alternatives to the "preferred alternative" have been examined The EIS reviews seven alternatives, and all but one of these propose a reservoir on Jimmy Camp Creek. The only alternative considered by the Bureau that would not include construction of Jimmy Camp Creek reservoir is the third alternative, or the "Wetlands alternative". This alternative proposes a terminal storage reservoir to be constructed on Williams Creek. A Jimmy Camp Creek reservoir would pose potentially significant risks to the lives of our community residents and their property. In contrast, the relatively sparse human population along Williams Creek would avoid the potential of any flood event due to the operation or failure of a dam causing loss of life and/or significant property damage.	Response to Comment 40-4: The Participants modified their Proposed Action to eliminate the Jimmy Camp Creek site as a terminal storage reservoir site, and to use the Upper Williams Creek site. Jimmy Camp Creek reservoir site remained in five alternatives analyzed in detail in the FEIS. See comment responses 40-1 and 40-11 regarding the potential of a flood event from dam failure.

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	Kara Lamb, U.S. Bureau of Reclamation **Via Electronic & US Mail** Re: Draft EIS – Proposed Southern Delivery System June 6, 2008 Page 3	Response to Comment 40-5: See comment response 40-4.
	There are alternatives that would avoid a Jimmy Camp Creek reservoir altogether and still provide the firm yield quantities the participants anticipate from the proposed project. Here are but a few examples:	
40-5	*Combination of Preferred Alternative and Wetlands Alternative*. One reasonable alternative that appears not to have been considered is a combination of the preferred alternative and the Wetlands alternative. It would involve constructing terminal storage on Williams Creek and directing return flows down Fountain Creek through return flow storage on lower Williams Creek. Like the Wetlands alternative, this would avoid the potential risks to the CCMD community presented by a reservoir on Jimmy Camp Creek. It also avoids the costs associated with constructing a return flow pipeline and pumping return flows down Highway 115 as the Wetlands alternative proposes.	
40-6	*Conjunctive Use*. Another reasonable alternative that appears to have been touched upon as part of the No Action alternative but not further examined is a localized (for Colorado Springs only) or regionally-based (for all SDS participants) conjunctive use plan using exchanged surface water rights, managed surface and subsurface storage and increased ground water use. This alternative would involve constructing a series of surface and subsurface storage in specific locations within or near Colorado Springs (and near Fountain and/or Security, if they participated) to store surface flows when moisture conditions are above average, and constructing wells facilities both near the subsurface vessels and in other locations so as to allow more efficient use of currently available surface and ground water supplies. CCMD believes this alternative should be combined with, or compliment, an aggressive water conservation and reuse strategy, as further discussed below, to maximize its effectiveness. Doing so potentially reduces or eliminates the need to physically import large quantities of surface water from the Arkansas River, thus avoiding the need for a new pipeline and terminal storage on Jimmy Camp Creek. It also provides better assurance that water supplies will be more available in drought conditions; the EIS recognizes that Colorado Springs uses Denver Basin ground water as a supplemental emergency supply (Section 2.2.1.1, p. 38). The SDS participants, individually and collectively, also possess the current or potential capability to operate a well-managed conjunctive use plan.	Response to Comment 40-6: The DEIS addressed this topic in chapter 2, page 83, with supporting documentation provided in the Alternatives Analysis (Reclamation 2006a) and its reference to an Aquifer Storage and Recovery Feasibility Study (MWH 2004). Three potential conjunctive use options were considered, none of which provided a significant evaporation savings or reduction in terminal storage reservoir size. Consequently, all were eliminated from detailed analysis. Two types of ground water storage were considered for surface and ground water conjunctive use: Denver Basin aquifer storage and recovery (ASR) and alluvial aquifers recharge and subsequent ground water pumping. Options including Denver Basin ASR were determined to be infeasible because of low potential pumping rates from the Denver Basin Aquifers to meet peak demands. Options including alluvial aquifer recharge and subsequent ground water pumping were determined to be infeasible because of limited storage capacity and poor water quality in available alluvial aquifers. MWH. 2004. Aquifer Storage and Recovery Feasibility Study. Prepared for Bureau of Reclamation. December.
40-7	*Conservation & Reuse*. CCMD believes the EIS reference material was too quick to dismiss aggressive conservation and reuse strategies as an alternative. The EIS notes that conservation plans are incorporated into each of the alternatives examined, and thus no further analysis is provided; however, none of the seven alternatives examined fleshes out in more detail the potential conservation savings if more intensive conservation efforts are made. The EIS notes (Section 2.4.2., p. 87) that "(c)ontinuing water resource planning has reduced Colorado Springs' per person usage (compared to similar areas). **Non-potable water development is anticipated to account for 13 percent of future water delivered**." (emphasis added). Using 197,000 af as a baseline for water delivered (this figure representing Colorado Springs' anticipated future demand), 13 percent of 197,000 af equals 25,610 af. This quantity	

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constitutes almost one-third of Colorado Springs' additional anticipated water requirement in 2046 and more than half of the firm yield anticipated under the preferred alternative.

CCMD recognizes the past and current efforts by Colorado Springs toward conservation and acknowledges this as a hopeful trend. If the effort were made to fully maximize water conservation, reclamation and reuse, Colorado Springs could meet its future needs. For example, increasing conservation and reuse to 25% of current water delivered would virtually solve Colorado Springs' need for additional water up to 2046. If a conjunctive use strategy were implemented and/or additional surface water exchanges effected, the need for additional surface water imports would be greatly reduced if not eliminated altogether.

The EIS alternatives analysis (December 2007) recognizes that reuse could supply Colorado Springs with the entire additional firm-yield supply that SDS would provide through any of the more thoroughly examined, proposed alternatives. Despite this, the alternatives analysis concludes that cost and quality concerns eliminated those reuse alternatives. CCMD does not question that the SDS participants have an obligation to make every effort to deliver a water supply to their customers at a reasonable cost. By the same token, any proposed water project by the SDS participants should not impose undue burdens and unacceptable potential risks upon the CCMD community. Any project approval ultimately granted to the SDS participants should mandate the use of conservation and/or reuse .strategies to avoid the construction of any large terminal storage dam.

Other Comments

Flood hydrology; erosion. The EIS is somewhat equivocal on the effects the proposed Jimmy Camp Creek reservoir would have on flooding and erosion. The following is an excerpt from Section 3.8.1, p. 250:

"Direct and indirect effects of all alternatives would be beneficial (i.e., peak flows and floodplain stages and widths would be reduced) as a result of construction of the proposed reservoirs. Although none of the reservoirs would have dedicated flood control space, some incidental attenuation of flood flows would occur. The most substantial direct and indirect effects would occur for alternatives with Williams Creek Reservoir (No Action, Participants' Proposed Action, Fountain Creek, Downstream Intake, and Highway 115 alternatives). For these alternatives, peak flows and floodplain stage and width would be reduced relative to Existing Conditions. The incidental flood control benefit of Williams Creek Reservoir would carry downstream in Fountain Creek and the Arkansas River. **Although the direct and indirect effects would be primarily beneficial, there may also be minor channel encroachment (e.g., growth of riparian vegetation along the streambank) that may reduce channel capacity over time as reduced flood flows increase the ability for vegetation to establish**." (emphasis added)

Response to Comment 40-7: The DEIS addressed conservation in chapter 2, pages 87 to 90 and Appendix A, pages A-20 to A-23 and reuse in chapter 2, pages 82 to 89 and by reference to the Alternatives Analysis Addendum (Reclamation 2007a). All alternatives include conservation, with non-potable reuse as a component (also refer to comment response 40-2). A detailed evaluation of potential indirect potable reuse alternatives was performed. In the Alternatives Analysis Addendum, six potential alternatives that met the Purpose and Need for the SDS Project and involved substantial reuse and were evaluated thoroughly. All of these alternatives were eliminated from detailed analysis in the DEIS due to unacceptably high costs and failure to respond to significant scoping issues better than other alternatives.

Response to Comment 40-8: Refer to comment response 40-1.

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	Kara Lamb, U.S. Bureau of Reclamation Re: Draft EIS – Proposed Southern Delivery System June 6, 2008 Page 5 **Via Electronic & US Mail** However, the EIS is very clear (Section 3.8.2, pp. 251-52) that the proposed dam would be a "high hazard" structure per Colorado State Engineer regulations "where loss of human life would be expected in the event of a dam failure." Section 3.8.2, pp. 251-52 states: "The proposed dams would be considered "high hazard" dams until the [Colorado State Engineer Office] permit is applied for and flood modeling is completed to determine flood conditions associated with a dam failure."	Response to Comments 40-9. The DEIS addressed this issue in section 3.9, page 287. As the DEIS discussed, the predicted moderate to major erosion of Jimmy Camp Creek streambanks in all alternatives would be the result of increased nonsewered return flows (lawn irrigation, stormwater runoff) in the Jimmy Camp Creek and not a direct result of SDS. Geomorphic effects were disclosed and geomorphic mitigation strategies were identified in the DEIS's Conceptual Geomorphology Mitigation Plan to address the potential effects. Included in the mitigation strategies were bank stabilization for Jimmy Camp Creek and also a monitoring and evaluation program to determine whether the proposed mitigation would be effective and if additional mitigation would be necessary following completion of the proposed Jimmy Camp Creek stabilization. Funding for the geomorphic mitigation strategies described in the Conceptual Mitigation Plan would be provided by the Project Participants and not from the residents of Colorado Centre Metropolitan District. The mitigation plans would continue to develop during the permitting and contracting process.
40-8	The EIS appears to completely overlook the fact that the CCMD community is located immediately downstream of a massive reservoir. Even without flood modeling it should be self-evident that a significant dam failure would have catastrophic effects on the CCMD community, even if stream bank improvements are made to "attenuate" the effects of any flood event.	
40-9	The EIS also recognizes that stream bank erosion for any alternative with a Jimmy Camp Creek reservoir would be significant. Section 3.9.1, p. 267; Section 3.9.2, p. 287. The CCMD community already suffers significant erosion problems with the natural flow of Jimmy Camp Creek. The consultants at the open house tried to assure CCMD representatives that this would not be a problem; however, some CCMD residents have lived in the area for ten years, and every time there is a heavy rainfall the creek rises, runs faster and creates more stream bank erosion. However skilled the dam operators would be, they could not assure that dam releases or storm run-off would not cause further significant erosion as this water passes our community. The preferred alternative proposes to shore up less than one-third of the stream banks along Jimmy Camp Creek between the dam and the confluence with Fountain Creek. Unless the stream banks were reinforced all up and down the creek channel, the erosion effects could be so severe that they would have to be fixed, and Colorado Centre residents could well end up having to pay for repair costs totaling hundreds of thousands if not millions of dollars.	
40-10	*Wetlands.* With potentially increased flow down Jimmy Camp Creek, there would be an increase in wetlands. This will increase the habitat for mosquitoes which in turn will increase the health risk to our neighborhood for the West Nile Virus and other water bourn diseases. Colorado Centre currently has a far less problem with this than other locations because we have very few wetlands in our area. This would be another negative impact to our community without compensation, just so other communities can increase their water supply for future economic expansion.	Response to Comment 40-10: Increased flow in Jimmy Camp Creek would be the result of increased nonsewered return flows, which would be the same for all alternatives. Information has been added to section 3.10 of the FEIS to disclose effects of the alternatives on mosquitoes and the West Nile Virus.
40-11	*Socioeconomic effects.* The EIS does not appear to adequately explain or assure that homes or businesses in CCMD will not be located in a flood plain as a result of a Jimmy Camp Creek reservoir. The EIS concludes there would be "offsetting" and thus "negligible" socioeconomic effects as a result of a large dam relatively close to our community. Section 3.15.5.1, p. 430. CCMD believes the contrary to be true, since the presence of a massive dam nearby could simultaneously increase home owners insurance and also decrease property values within CCMD. Thus CCMD believes there is inadequate explanation for the Bureau's conclusion.	

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	Kara Lamb, U.S. Bureau of Reclamation Re: Draft EIS – Proposed Southern Delivery System June 6, 2008 Page 6 Via Electronic & US Mail The estimated costs of all the alternatives considered are astronomical. The total cost for the alternatives examined in the EIS ranges between $1.7 billion and $2.5 billion (as rounded) for capital and O&M combined. Nonetheless, the EIS also concludes the cost remains "affordable" to the end users:	Response to Comment 40-11: Additional analyses to determine socioeconomic effects downstream of the proposed Jimmy Camp Creek Reservoir have been added to section 3.15 of the FEIS.
40-12	"There would be substantial increases in the cost of water service for customers of Colorado Springs Utilities and Security Water District under the No Action Alternative and all Action Alternatives. Despite these increases, water rates are projected to remain affordable (well below 2 percent of median household income levels) for customers of both of these Participants." Section 3.15.1, pp. 414-15. A recent local news article further confirms that "substantial" increases in water costs over "several years" are probable even without SDS. Article, "Utilities: 'Substantial' Hikes Ahead – Conservation, Fewer Housing Starts Bring Cash Shortage", The Gazette, V. 137, No. 60, Metro section (May 22, 2008) (copy enclosed). The cost screening criteria identified in the alternatives analysis (March 2006) uses $25,000/af for firm yield; CCMD presumes this estimate is consistent with the current cost of fully consumable water in our region. The EIS also confirms the preferred alternative is the cheapest of all the alternatives considered in the EIS. It would seem there has to be a more economical way to get the water the SDS proponents are seeking without spending $1.7 billion for the preferred alternative. For example, the "system loss" for Colorado Springs associated with "unauthorized uses" (*i.e.*, main leaks or breaks) is approximately 2.8 percent annually, or about 3,200 af per year. Colorado Springs Utilities Water Conservation Plan 2008-2012, p. 61. If the water lost is valued at $25,000/af, then Colorado Springs is losing about $80 million worth of water each year; and in total dollars, it will lose the equivalent of the preferred alternative capital cost in 13 years. If the value of the current water supply is at or near $25,000/af, addressing system loss to reduce it to near zero should be a major priority for Colorado Springs.	Response to Comment 40-12: Reclamation concurs that minimization of system loss due to unauthorized uses (i.e., water main breaks and leaks) is important. The content of the FEIS (see Appendix A, section A.3.1) has been modified to reflect this public input. A water main replacement program, focused in part on reducing system losses, is a component of Colorado Springs' 2008-2012 Water Conservation Plan (CSU 2007). This plan is incorporated into the DEIS by reference on page A-20. Additionally, reductions in Colorado Springs' water demand due to conservation are reflected in the water demand forecasts used in the DEIS (pages 90 and A-21).
40-13	Because of the estimated costs involved, the preferred alternative seems to be an economically-based decision rather than one based on environment and community effects; again, it is the cheapest of all the alternatives considered and would cost about $32,000 per acre-foot when O&M costs are factored in. If "economic" water is the goal, it is actually more cost effective under the Wetlands alternative because of the greater firm water yield under this alternative. Although costing about 25 percent more than the preferred alternative, the Wetlands alternative would also yield up to 75 percent more firm yield water for the incremental cost. In this sense, the SDS beneficiaries get more "bang for the buck" under this alternative while also avoiding all the potential effects associated with terminal storage on Jimmy Camp Creek.	Response to Comment 40-13: See comment response 40-4.
	It is noted that the preferred alternative includes transporting treated wastewater to the proposed Williams Creek reservoir from the Clear Spring Ranch Water Reclamation Facility (CSRWRF) to be owned and operated by Colorado Springs Utilities (CSU). Section 2.2.2.1, p. 58; Section 2.2.1.1, p. 47; Figure 20. The Wetlands alternative also would use the referenced CSRWRF with treated wastewater pumped from this facility back to CSU's Las Vegas Wastewater Treatment Plant (LVWWTP) before being pumped down Highway 115. Section 2.2.3.1, pp. 64-65; Figure 22. CCMD understands that the Clear Spring Ranch facility will not be constructed per sworn	

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	Kara Lamb, U.S. Bureau of Reclamation Re: Draft EIS – Proposed Southern Delivery System June 6, 2008 Page 7 **Via Electronic & US Mail**	Regarding the basis for identification of a Preferred Alternative or the relative cost-effectiveness of the Wetland Alternative, the DEIS addressed these issues in chapter 2, pages 26, 27, and 102 and by reference to the Alternatives Analysis (Reclamation 2006a). Identification of a Preferred Alternative in the DEIS considered the relative environmental effects and merits of the alternatives. All of the alternatives examined in the DEIS would meet most or all the Project Participants' projected future water demand through 2046. Some alternatives would have a higher firm yield and lower unit cost than others; however, the purpose and need for the SDS Project does not include maximizing yield.
40-14	testimony provided by a CSU representative at a Colorado Water Quality Control Commission hearing in November 2007. CCMD further understands that Colorado Springs will capture wastewater flows from the Banning Lewis Ranch property and treat them at the current LVWWTP. The reusable return flows from the LVWWTP in turn could gravity-feed treated water back to the proposed Williams Creek reservoir. Therefore, the preferred alternative needs to be revised to remove the reference to CSRWRF and account for return flows coming from LVWWTP. Additionally, for purposes of the Wetlands alternative, since the pipeline between CSRWRF and the LVWWTP will not be constructed the associated cost of this pipeline should be deducted from the total cost for this alternative.	Response to Comment 40-14: Elimination of the CSRWRF has been reflected in all alternatives and resource analyses throughout the FEIS.
40-15	*Geology; Paleontology.* The EIS addresses seismicity for the reservoir locations. Section 3.22.5.1, p. 503. CCMD understands this to include the frequency and/or the strength of earthquakes in a given area. The EIS appears to conclude that dam construction standards will exceed the potential risk any earthquake presents. However, one commenter at the May 29 meeting in Pueblo raised concern about potential earthquake impacts. CCMD would appreciate a more detailed explanation to assure this issue has been reviewed thoroughly.	Response to Comment 40-15: The Project Participants have considered seismicity in their conceptual dam designs (GEI 2005a, 2005b; CH2M HILL 2007g). Only a few small to moderate earthquakes are known to have occurred along the Front Range in historical times. Based on historical records and observation, the region is generally considered to have low to moderate seismic activity and low level of seismic hazard. A local magnitude of 6.5 (ML 6.5) is a reasonable estimate of the maximum credible earthquake for a random earthquake in this region based primarily on the occurrence of an 1882 earthquake (Unruh et al., 1996). This scenario, or a similar scenario, was used by the Participants at each reservoir site.
40-16	The EIS also confirms that "(i)mportant paleontological resources would be adversely affected by Jimmy Camp Creek Reservoir inundation." Section 3.22.1, p. 495. The EIS also indicates that a mitigation plan will be required if paleontological resources are affected. Section 3.22.5.4, p. 504. CCMD is aware that other comments submitted by paleontology professionals question the adequacy of the paleontology review to date. Specifically, a paleontology consultant retained as part of the EIS analysis writes: "Having now read the combined geology and paleontology section of the [EIS], I have to say that it is an inadequate treatment of paleontological resources for an area where there are known critical resource concerns, and it also contains factual errors about the paleontology and geology of the study area. The mitigation for paleontology has an insufficient level of detail, and is not consistent with current standards of other Federal agencies." Undated letter from Paul C. Murphey, Ph.D. to Kirk R. Johnson, Ph.D., Chief Curator and Vice President of Research and Collections, Denver Museum of Nature and Science (copy enclosed). Given this critique by a professional retained for this portion of the EIS, it appears an expanded review of paleontological resources is needed to comply with legal requirements.	

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Conclusion

Not all reasonable alternatives were examined from the perspective of CCMD, and important issues appear to require further analysis. The estimated costs for the alternatives examined demand that the SDS participants, and Colorado Springs in particular, implement aggressive conservation and reuse plans at minimum as a condition of any project approval. It is CCMD's opinion that adopting such measures along with a conjunctive use plan would greatly reduce the need for any large terminal storage such as Jimmy Camp Creek reservoir if not eliminate the need for such a reservoir entirely. A hybrid of the preferred and Wetlands alternative would also serve the SDS participants' needs without a massive reservoir a short distance upstream of the CCMD community. If economics are the driving force of any project approval, the Wetlands alternative appears to be the most cost-effective of the alternatives examined in the EIS, and the cost for this alternative actually should be less than the current estimate since the pipeline between CSRWRF and LVWWTP will not be constructed. However, CCMD believes technology advances ultimately will make conservation and reuse strategies equally viable in terms of cost, thus eliminating the need for an SDS altogether.

The CCMD community was established in the early 1980s, more than a decade before the SDS was first proposed. We did not choose to live downstream of a large dam and all the potential and actual risks and effects associated with it. Since CCMD does not stand to benefit from the SDS, we also should not be forced to accept its potential impacts to our community. Other reasonable alternatives are available to meet the SDS participants' needs without posing the risks to our community the preferred alternative presents.

Thank you again for your consideration of these comments.

Sincerely,

Michael Cantin, President
District Board of Directors

cc: Al Testa, District Manager
Cindy Monroe, Assistant District Manager
Paul Anderson, General Counsel
Steve Meylan, Cuchares Ranch Metropolitan District

Unruh, J.R., Wong, I.G., Knudsen, K.L., Bott, J.D.J., Becker, A., Silva, W.J., and Lettis, W.R. 1996. Seismotectonic Evaluation, Rattlesnake and Flatiron Dams, Colorado-Big Thompson Project, North-Central Colorado, Unpublished Report Prepared by William Lettis & Associates and Woodward-Clyde Consultants for U.S. Bureau Of Reclamation, Denver, Colorado.

Response to Comment 40-16: The effects on paleontological resources were disclosed on pages 499 and 500 of the DEIS. The analysis used the best available information to document the presence of paleontological resources in the Jimmy Camp Creek reservoir site. Reclamation and Colorado Springs Utilities met with the Denver Museum of Nature and Science to discuss the paleontological analysis and proposed mitigation. The proposed mitigation in the FEIS was revised based on the meeting.

Kirk R. Johnson, Ph.D.
Chief Curator and
Vice President of Research and Collections
Denver Museum of Nature and Science
2001 Colorado Boulevard
Denver, Colorado 80205

Dear Kirk:

The purpose of this letter is to explain and clarify my role as a consultant for the Southern Delivery EIS (SDS EIS). This project has recently caused me professional difficulties and frustration because of the perception in the paleontological community that I performed the paleontological analysis for this project. As a paleontologist that has spent most of my professional career working in natural history museums and as a consultant, I pride myself on my objectivity, integrity and understanding of the discipline of paleontology. Because this project has caused some members of the Colorado paleontological community to question my professionalism and scientific ability, I decided that writing this letter to you as both a colleague and as the Chief Curator at the Denver Museum of Nature and Science (DMNS) would be the best course of action in order to set the record straight, and because I feel that doing so is ethically correct. As far as I'm concerned, you are welcome to share it with others who are concerned with the lack of adequate consideration for paleontological resources associated with the SDS EIS. I am also submitting a copy of this letter as a public comment to the Bureau of Reclamation, the lead agency for the project.

I was contracted to identify and evaluate Holocene-age mammal bones eroding out of stream terrace deposits located along Jimmy Camp Creek within the SDS EIS study area. The purpose of this work was to support the cultural resources (i.e. archaeological) investigation, not to perform any paleontological work per se. More specifically, the scope of my work was to determine whether any of these bones were associated with cultural resources. Thus, my work was limited to younger (post-Pleistocene) non-fossilized animal remains. In my draft report, I presented the complete results of my component of the archaeological study. Additionally however, because I was aware of the paleontological importance and high sensitivity of the Denver Formation and associated rock units in the Jimmy Camp Creek area, I recommended that a full paleontological assessment of the study area be completed as part of the EIS process. I must stress once again that this paleontological assessment was outside of my scope of work. As you know, the Denver Formation within the SDS EIS study area and the general vicinity has yielded scientifically significant fossils from multiple previously recorded localities. Unfortunately, the recommendation for a complete paleontological assessment was removed from my draft report, as was any reference to the paleontological importance of the area. I later assumed that another paleontologist had been contracted do this work as it was both needed and justified. Now with the release of the DEIS, it is clear that it was never done.

Subsequent to the recent release of the DEIS, I have been contacted by a number of professional paleontologists including yourself. Dr. Jaelyn Eberle of the University of Colorado Museum (UCM) and you (among others) have current research projects that include the geology and paleontology of the Denver Formation in the Jimmy Camp Creek area and elsewhere around the Denver Basin. This research involves Federal funding, and relies on the participation of many scientists, students and volunteers. Both the UCM and DMNS have numerous recorded fossil localities in the important Denver Formation sequence in the Colorado Springs area. The Jimmy Camp Creek area contains the Cretaceous-Tertiary boundary which is not well understood in the Colorado Springs area, and is deserving of detailed study within the SDS study area where the stratigraphic interval that preserves it is exceptionally well exposed.

Unfortunately, my colleagues in the Colorado paleontological community assumed that because I am associated with the SDS project (albeit the cultural resources study only), I am also responsible for the paleontological resources section of the DEIS, and was therefore not aware of the aforementioned facts attesting to the paleontological importance of the SDS study area. Furthermore, while I acknowledge that I am not listed as the author of the paleontological resources section in the DEIS, because my report in support of the cultural resources investigation is cited in the paleontological resources section of the document, I have had to actively engage in damage control to preserve my reputation. I feel that this is a misrepresentation, although not necessarily intentional, of my involvement with the SDS DEIS.

I have been retained to do technical research and analysis, including field work if warranted, in support of numerous EIS's across the western United States. I have also written numerous paleontological resource sections for EIS's. Having now read the combined geology and paleontology section of the SDS DEIS, I have to say that it is an inadequate treatment of paleontological resources for an area where there are known critical resource concerns, and it also contains factual errors about the paleontology and geology of the study area. The mitigation for paleontology has an insufficient level of detail, and is not consistent with the current standards of other Federal agencies. The effects analysis should be quantitative and is meaningless as is. In general, paleontological resources were not given adequate treatment under NEPA considering the much more detailed level of analysis undertaken for other resources. In summary, considering the high sensitivity of the area and the presence of numerous previously known scientifically significant fossil occurrences within and adjacent to it, there is absolutely no question in my mind that paleontological resources were not given proper consideration in the SDS EIS.

Please let me know if you have any questions.

Yours Sincerely,

Paul C. Murphey, Ph.D.

Utilities: 'Substantial' hikes ahead

BY PAM ZUBECK
May 22, 2008 - 12:17AM

Colorado Springs residents' reward for conserving water will be a yearly string of rate increases beginning this summer.

That's because cityowned Colorado Springs Utilities' water operation faces a $33 million revenue shortfall, largely because of lower water usage and plummeting housing starts.

Utilities chief planning and financial officer Ed Easterlin said staffers haven't computed how much more customers will pay but added, "It's substantial. It's going to take numerous years."

The news came during a Utilities Board meeting Wednesday where the City Council, acting as the board, got a 45-minute briefing on the situation.

"We were begging people to conserve, and the community responded. They've done everything right," Councilman Scott Hente said. "I'm worried about the message. If you listen to us, we'll punish you."

Planned cuts include a hiring freeze, possible axing of positions through attrition, reassigning contract duties to staffers, a freeze on travel for which Utilities budgeted $4.2 million this year, a 20 percent cut in corporate memberships, debt refinancing and deferring consulting work and purchasing of vehicles and equipment.

Council members suggested a pay freeze and reducing the roughly $700,000 Utilities gives to local charities each year.

Councilman Jerry Heimlicher suggested the situation might delay the proposed $1 billion Southern Delivery System, because demand likely won't be there in 2012 when the pipeline is to begin delivering water from Pueblo Reservoir.

"We will be examining all projects," Easterlin said.

Mayor Lionel Rivera said it would be impossible to cut $30 million from the $100 million water operation and retain reliable service. He suggested a pay freeze and deeper cuts of corporate sponsorships.

"I don't think we should leave anything off the table," he said. "Everyone in the community is being impacted and I think we all should share" that pain.

Easterlin's explanation:

- Utilities forecast 2,100 housing starts for 2008 but recently revised it to 1,700. Housing starts translate to cash for Utilities because builders pay the city thousands of dollars per home for water and wastewater hookups. Those fees made up 28 percent of water revenues in 2004 but dipped to 10 percent this year. As of this month, development fee revenues are $23.5 million below budget.

- New customers on whom Utilities was relying to drive up water sales aren't there. While new customers grew at a pace of 2.5 percent per year for several years until mid-2006, the tempo has slowed to 1.1 percent since then, Easterlin said.

- Residential usage has declined through April by 11 percent compared with the same period in 2007. Usage has declined 18 percent in the past four years.

Commercial usage has dropped by 5 percent since four years ago and 3.2 percent compared with the first four months of 2007.

"Our customers are using water wisely," Easterlin said, noting water sales revenues are $9.5 million below budget.

He warned against trying to ride out the downturn by hoping for a hot, dry summer, because Utilities' measures of economic stability already are below forecasts and expected to drop further this year.

That's key to the city's bond rating. If the rating slips from AA to A, it could cost the city $50 million in borrowing costs through 2012, he said.

Utilities: 'Substantial' hikes ahead

BY PAM ZUBECK
May 22, 2008 - 12:17AM

Colorado Springs residents' reward for conserving water will be a yearly string of rate increases beginning this summer.

That's because cityowned Colorado Springs Utilities' water operation faces a $33 million revenue shortfall, largely because of lower water usage and plummeting housing starts.

Utilities chief planning and financial officer Ed Easterlin said staffers haven't computed how much more customers will pay but added, "It's substantial. It's going to take numerous years."

The news came during a Utilities Board meeting Wednesday where the City Council, acting as the board, got a 45-minute briefing on the situation.

"We were begging people to conserve, and the community responded. They've done everything right," Councilman Scott Hente said. "I'm worried about the message. If you listen to us, we'll punish you."

Planned cuts include a hiring freeze, possible axing of positions through attrition, reassigning contract duties to staffers, a freeze on travel for which Utilities budgeted $4.2 million this year, a 20 percent cut in corporate memberships, debt refinancing and deferring consulting work and purchasing of vehicles and equipment.

Council members suggested a pay freeze and reducing the roughly $700,000 Utilities gives to local charities each year.

Councilman Jerry Heimlicher suggested the situation might delay the proposed $1 billion Southern Delivery System, because demand likely won't be there in 2012 when the pipeline is to begin delivering water from Pueblo Reservoir.

"We will be examining all projects," Easterlin said.

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- New customers on whom Utilities was relying to drive up water sales aren't there. While new customers grew at a pace of 2.5 percent per year for several years until mid-2006, the tempo has slowed to 1.1 percent since then, Easterlin said.

- Residential usage has declined through April by 11 percent compared with the same period in 2007. Usage has declined 18 percent in the past four years.

Commercial usage has dropped by 5 percent since four years ago and 3.2 percent compared with the first four months of 2007.

"Our customers are using water wisely," Easterlin said, noting water sales revenues are $9.5 million below budget.

He warned against trying to ride out the downturn by hoping for a hot, dry summer, because Utilities' measures of economic stability already are below forecasts and expected to drop further this year.

That's key to the city's bond rating. If the rating slips from AA to A, it could cost the city $50 million in borrowing costs through 2012, he said.

Comment	Letter 41	Response
		Response to Letter 41: Refer to comment response 2-1.

SOUTHEASTERN COLORADO
Water Conservancy District
"Your investment in water"

June 13, 2008

Ms. Kara Lamb
Bureau of Reclamation
11057 W. County Road 18E
Loveland, CO 80537-9711
By e-mail klamb@gp.usbr.gov

Subject: Southern Delivery System (SDS) Draft Environmental Impact Statement (DEIS)

Dear Ms. Lamb:

The Southeastern Colorado Water Conservancy District (District) as the repayment agency for the Fryingpan-Arkansas Project has concerns that the operations of the Joint Use Manifold of the South Outlet Works would require substantial coordination with Reclamation and the other users of the South Outlet Works as mentioned in the DEIS.

The District is actively promoting the construction of the Arkansas Valley Conduit (AVC.) The District and the AVC participants must be assured that they will have the ability to receive their full thirty-one cubic feet per second (31 cfs) at anytime especially in relationship to the flow requests of the SDS. Any additional costs for retro-fitting the existing infrastructure to meet the flow requests of the SDS should be borne entirely by the SDS participants.

The District appreciates the opportunity to comment on the SDS DEIS, and is certain that you will consider our comments.

If you have any questions, please contact me at (719) 948-0083 or by e-mail bob@secwcd.com

Sincerely,

Robert W. Hamilton

Robert W. Hamilton
Director of Engineering and Resource Management

Cc: James W. Broderick
Board Members
Roy Vaughan, Bureau of Reclamation

31717 UNITED AVENUE • PUEBLO, CO 81001 • PHONE (719) 948-2400 • FAX (719) 948-0036
web site: www.secwcd.org

Comment | Letter 42 | Response

Kara Lamb - Petitions Reflecting Opposition to Construction of Reservoir on Jimmy Camp Creek

From: "CCMD" <COCEMEDI@EARTHLINK.NET>
To: <klamb@gp.usbr.gov>
Date: 6/13/2008 6:39 PM
Subject: Petitions Reflecting Opposition to Construction of Reservoir on Jimmy Camp Creek
CC: <KRILEY@CSU.ORG>, "Al Testa" <al.testa@proconinc.net>

Ms. Lamb,

Please find attached petitions signed by 172 residents in the Colorado Centre community. These residents strongly oppose the proposed construction of the 30,500 acre-foot reservoir on Jimmy Camp Creek. Due to time constraints, these signatures only represent a small sampling of the 717 families residing in Colorado Centre. Only three residents refused to sign the petitions. Thus, at least 98% of the residents presented with this petition were opposed to the reservoir location on Jimmy Camp Creek.

Thank you for your consideration of the requests expressed on the attached petitions.

Sincerely,

Cindy Monroe

From the Desk of: Cindy Monroe
Colorado Centre Metropolitan District
4770 Horizonview Drive
Colorado Springs, Colorado 80925
Phone: 719-390-7000
cocemedi@earthlink.net

Comment	Letter 42 Continued	Response
42-1 42-2 42-3 42-4 42-5 42-6	Attention: Ms. Kara Lamb Page 1 of 4 PETITION To whom it may concern: We the residents of Colorado Centre Metropolitan District strongly oppose the proposed construction of the 30,500 acre-foot reservoir on Jimmy Camp Creek. With the completion of the houses under construction on Cucharas Ranch adjacent to us there will be @ 1000 homes 7 miles directly below this High Hazard Dam! This dam could have significant effects on our community in terms of **potential flooding, erosion of Jimmy Camp Creek** (which is already significant behind our houses)**, a decrease in our property values, an increase in our homeowners insurance, the creation of a mosquito problem** (which we currently do not have)**, as well as interfering with the habitat for the only pronghorn antelope in Colorado Springs which live along this corridor.** We know you have the option of putting this dam south of us at Williams Creek and request you do so. names addresses phone # Please see attached 3 pages for signatures.	Response to Comment 42-1: Information presented in the DEIS was modified in the FEIS to disclose the potential effects of a dam breach of all proposed reservoirs (see section 3.9). Response to Comment 42-2: The DEIS addressed potential flooding in chapter 3.8, pages 257 to 275. Potential effects on flooding downstream of the proposed reservoir would only be beneficial (i.e., incidental flood control storage in the reservoir would slightly reduce peak flow hydrology and the associated floodplain stage and width). Consequently, there would be no adverse effects on Jimmy Camp Creek floodplains. Response to Comment 42-3: The DEIS addressed erosion in chapter 3.9, pages 276 to 302. Geomorphic effects were accurately disclosed and geomorphic mitigation strategies were identified in the Conceptual Mitigation Plan to address the potential effects. Included in the mitigation strategies were bank stabilization for Jimmy Camp Creek and a monitoring and evaluation program to determine whether the proposed mitigation would be effective and if additional mitigation would be necessary following completion of the proposed Jimmy Camp Creek stabilization. The mitigation plans would continue to develop during the permitting and contracting process.

Comment	Letter 42 Continued	Response

Page 2 of 4

PETITION

NAMES	ADDRESS	PHONE #
Michael E. Terry	4528 Anvil Drive, CS, CO	(719) 391-9374
Karen E. Terry	4528 Anvil Drive, CS, CO	(719) 391-9374
[illegible]ndy Banuelos	4535 Anvil Drive, CS, CO	(719) 392-2333
Christel2 [illegible]	4544 [illegible]	719-390-3027
[illegible] Montagna	4548 Anvil DR	719 231-1251
[illegible] Setern	4549 Anvil Dr.	719-[illegible]-1152
[illegible]hristine VanSickle	4521 Levi Lane	719-392-5580
[illegible] Wilson	4521 Levi Lane	719-392-5580
[illegible] Coats	4525 Levi Lane	719-392-5525
[illegible] Andersen	4517 Levi Ln	226-5097
C[illegible] Schuler	4576 Bramble Ln	[illegible]
[illegible] Davis	4577 Bramble LN	654-5969
[illegible]	4573 Bramble Ln	226-8851
[illegible]	4565 Bramble Ln	390-1571
McDowell Sandra	4568 Bramble Ln	719-231-0725
Joseph Arses	4556 Bramble LN	(719) 433-0431
Richard Molly	4548 Bramble LN	(719) 391-5199
[illegible]teven MERCER	4537 Bramble Ln.	(719) 359-3154

Response to Comment 42-4: See comment response 40-12.

Response to Comment 42-5: See comment response 40-11.

Response to Comment 42-6: The draft EIS addressed pronghorn antelope in chapter 3, section 3.13.4.5. According to the Colorado Division of Wildlife (as reported in the Wildlife Resources Technical Report (ERO 2007g)), pronghorn habitat occurs throughout most of the corridor east of Colorado Springs, including the entire Jimmy Camp Creek drainage basin.

Page 3 of 4

PETITION

NAMES	ADDRESS	PHONE #
[illegible]	4525 [illegible] Ln	[illegible]
Susan Ulrum	4525 Bramble Ln.	271-3489
Abe Watts	4525 Bramble Ln	
Julia Garcia	4433 Bramble Lane	930-3631
Miguel Garcia	4433 Bramble Lane	213-6701
Erin [illegible]	4428 Bramble Lane	216-4497
[illegible]	4420 Bramble lane	390-3985
[illegible]	4417 Bramble lane	392.5400
[illegible]	4416 Bramble Ln	391-2358
Deborah K Lowe	4409 Bramble Ln	390-6608
James C Lowe	4405 Bramble ln	714 470 4712
Megan Hackett		
Korey Stilson	4337 Bramble LN	719-649-5352
[illegible] DeLeone	4333 Bramble	659-9504
Mike Campbell	4329 Bramble Ln	254-423-6703
Richard Mann	4325 Bramble Ln	719-339-5026
Heidi Ray	4316 Bramble Ln	(719)-636-1717
Darla M. [illegible]	4313 Bramble Ln	719 392-6149

Page 4 of 4

PETITION

NAMES	ADDRESS	PHONE #
Jeff Santorito	4312 Bramble LN	719-302-5311
JERRY FRAZIER	4309 BRAMBLE LN	392-0198
Rudy Pacheco	4308 Bramble LN	391-9574
Melissa Combs	4304 Bramble Ln.	391-2250
Sabine Howard	4308 Anvil Dr.	390-8659
KIRK SUNGLIENG	4305 ANVIL DR.	321-8734
Lindsay Steen	4309 Anvil dr.	391-5118
Victoria A Clayton	4321 Anvil dr	391-9782
MARCO A. ORTIZ	4320 ANVIL DR	392-8385
Debbie Burghardt	4325 Anvil DR	390-5440
Jim Burghardt	4325 Anvil DR	390-5440
Rebecca Marty	4329 Anvil Dr	719 576 8051
John Marty	4329 Anvil Dr	719 576 8051
Tom Clayton	4321 ANVIL	719 391-9782
[illegible] Boudreaux	4323 Anvil	392 [illegible]
Christine Genger	4413 Anvil Drive	380-0173
Charles R Graham III	4413 ANVIL Dr	380-0173

Attention: Ms. Kara Lamb Page 1 of 3

PETITION

To whom it may concern:

We the residents of Colorado Centre Metropolitan District strongly oppose the proposed construction of the 30,500 acre-foot reservoir on Jimmy Camp Creek. With the completion of the houses under construction on Cucharas Ranch adjacent to us there will be @ 1000 homes 7 miles directly below this High Hazard Dam! This dam could have significant effects on our community in terms of **potential flooding, erosion of Jimmy Camp Creek** (which is already significant behind our houses), **a decrease in our property values, an increase in our homeowners insurance, the creation of a mosquito problem** (which we currently do not have), **as well as interfering with the habitat for the only pronghorn antelope in Colorado Springs which live along this corridor.**

We know you have the option of putting this dam south of us at Williams Creek and request you do so.

names	addresses	phone #
Troy & Tina Clapp	9359 Hazy Morning	310-4150
Rick Van Haven	9367 Hazy Morning	391-8826
Hilda Waddy	9351 Hazy morning	392-0158
Chris Wendel	9335 Hazy Morning Dr	597 5358
Joseph Perez	9319 " "	3919037
Chris Scroggins	9311 Hazy Morning Dr	391-6883
Curt Dinsmore	9336 Hazy Morning Dr	357-7428
Cheryl Sisto	9312 Hazy Morning Dr	313-9616
Carol Baker	9344 Hazy Morning Dr	316/214-6784
Alex Ham	9360 Hazy morning Dr	719-210-1864
Cynthia Thomas	9368 Hazy Moring	719 632-1186
George N. Pacheco	9376 Hazy Morning Dr.	(719) 393-0417
Robert B. Holland	4352 E. Anvil Dr	719 382-7585
Mandi Safran	4348 E. Anvil Dr	719-391-6129
Christina Rodriguez	4344 E Anvil dr	719-371-7737
Joshua Rodriguez	4344 E. Anvil dr	719 371-7737

Page 2 of 3

PETITION

NAMES	ADDRESS	PHONE #
Anson Sitton	4340 E ANVIL	434-7570
Jason Cole	4336 E. Anvil Dr	[illegible]
Nicholas Simmons	4356 E Anvil Dr	210-1870
[illegible]	4332 E ANVIL DR	391 9148
PATRICIA MULLEN	4332 E. ANVIL DR	391 9148
Janell & Steve Lontz	9524 Pony Gulch Way	574-4058
James Hough	9510 Pony Gulch Way	390-7401
Diane Hall	9509 Pony Gulch Way	393-1215
Amber King	9523 Pony Gulch Way	390-2842
Steve King	" "	338-1097
Gary Kettle [illegible]	9551 Pony Gulch Way	393-7517
Tim & Chris Oursler	9537 Pony Gulch Way	391-8846
Kaitlyn Oursler	" "	"
Summer Willis	9496 Pony Gulch Wy	575-1561
Thomas Corpuz	4348 Bronco Gulch CT	391-0089
Chad Oster	4316 Bronco Gulch CT.	510-2603
	4315 Bronco Gulch CT	598-0450
Richard Jamison	4315 Bronco Gulch CT	598-0450
Lea Jamison	4331 Bronco Gulch ct.	393-1946
Helena Zarayka		
Jason Carlson	4354 Wagon Mound Ct	355-5085
JoANN YARD	4318 Wagon Mound Ct.	201-8778
Joyce Ragle	4317 Wagon Mound Ct.	393-7744
Herbert Ragle	" " " "	" "
Shane Sandstrom	9332 Jackrabbit Lane	315-3092

Page 3 of 3

NAMES	ADDRESS	PHONE #
Christina + Ryan Strauss	9324 Jackrabbit Ln	719.392.4422

Attention: Ms. Kara Lamb

PETITION

To whom it may concern:

We the residents of Colorado Centre Metropolitan District strongly oppose the proposed construction of the 30,500 acre-foot reservoir on Jimmy Camp Creek. With the completion of the houses under construction on Cucharas Ranch adjacent to us there will be @ 1000 homes 7 miles directly below this High Hazard Dam! This dam could have significant effects on our community in terms of **potential flooding, erosion of Jimmy Camp Creek** (which is already significant behind our houses)**, a decrease in our property values, an increase in our homeowners insurance, the creation of a mosquito problem** (which we currently do not have)**, as well as interfering with the habitat for the only pronghorn antelope in Colorado Springs which live along this corridor.**
We know you have the option of putting this dam south of us at Williams Creek and request you do so.

names	addresses	phone #
Greg + Andrea Maddox	4011 Shining Star Dr	391-7505
Sarah Hare	3967 Shining Star Dr.	719-640-9126
Paige Riedle	3959 Shining Star Dr	719-391-8733
William B. Stanley	3951 Shining Star Dr.	719-392-7904
Deborah Stanley	" " "	" "
Ginger & Gordon Stange	3919 Shining Star Dr.	391-2249
Dawn DeGroot	3911 Shining Star Dr	393-7798
Daniel Gray	3903 Shining Star Dr.	391-5168
William Dean	3904 Shining Star Dr	
Debra Dean	4550 Bramble Lane	
Todd & Jeanne Charbonneau	3912 Shining Star Dr	391-2338
Alan & Judith Arndt	3920 Shining Star Dr	393-0815
Gerri & Greg Reise	3936 Shining Star Dr	550-9125
Teresa Ward	3932 Shining Star Dr.	391-1423
Carl Askew	4012 Shining Star Dr.	390-4724
Sharon Askew	4012 Shining Star Dr	390-4724

Page 2 of 3

PETITION

NAMES	ADDRESS	PHONE #
Barbara + Charles Pugliese	4020 Shining Star Dr.	719-495-[illegible]
James & Kathy Dunlap	4028 Shining Star Dr	719-268-0515
Hallie Tramell	4036 Shining Star	7193909081
Joaquin Diaz	4035 Shining Star Dr	392-5283
Brenda Nelson	4027 Shining Star Dr	391-0361
Randy Nelson	4027 Shining Star Dr	391-0361
DEBORAH PORTER	9359 PEACEFUL MEADOW DR.	251-382-1015
Larry Porter	9359 Peaceful Meadow St	210 587 7863
LARRY + KATHY LAWTON	4012 BREAKING DAWN Dr.	391-2623
Gary + Michelle Nuttall	4128 Sleepy Creek Dr	719-649-3501
James Copeland sn	4120 Sleepy Creek Dr	719-390-6305
Laura + Justin Carrington	9503 Brisk Breeze Ct	719-637-766-
Alice & Biaggio McPhee	9512 Brisk Breeze Ct	719-391-7928
Megan Marchand	4044 Sleepy Creek Dr.	
Richard & Annette Ogodzen	4028 Sleepy Creek Dr.	719-392-5877
Masami Aragon	4012 Sleepy Creek Dr	719 641-9702
William Aragon		
[illegible] Probert	3960 Sleepy Creek Dr.	(719)391-0447
[illegible] Probert	~~[illegible]~~	
" Johnson	3952 Sleepy Creek	(719)390-5502

Page 3 of 3

PETITION

NAMES	ADDRESS	PHONE #
Damon L Smith	3820 Breaking Dawn	719-390-2845
Bruce M. Punday	3860 Breaking Dawn St	(719) 391-8269
Scott Tabor	9428 Tranquil Morning Terr.	719-321-5304
Luisa Pollette	9436 Tranquil Morning Terr.	(719) 355-8995
Susan Pollette	9436 Tranquil Morning Terr.	(719) 355-8995
Linda Kessler	9436 Dew Drop Ct	719-392-9483
Miguel Gomez	9436 Dew Drop Ct	719-392-9483
Julie Heade	9420 Setting Moon Ct.	719-963-3116
[illegible] Sandoval	9412 Setting Moon Ct.	719-576-2588
[illegible]	9435 Setting Moon Ct	719-390-3879
[illegible]	9448 Daystar Terr.	719-392-4018
[illegible]	9420 Daystar Terr	719-391-4925
[illegible]		
Con [illegible]	4028 Breaking Dawn St	(719) 390 [illegible]
Michael P. [illegible]	4027 Breaking Dawn St.	719-393-0753
Malcolm Sherbine	3960 Breaking Dawn St	719-550-4116
[illegible] Herring	3811 Anvil Dr	719-393-7208
Kerry [illegible]	3228 Anvil Dr.	719-375-1358
Lucy Frye	3844 Breaking Dawn	719-392-7799
Scott + Holly Curran	3836 Breaking Dawn St	719-393-1251
Jessie Giannino	3828 Breaking Dawn St	719-641-8850
Brooke Buzikowski	3812 Breaking Dawn St.	719-392-2961
Susan Vaughn	3812 Breaking Dawn St.	719-392-2961

Kara Lamb - Pueblo County Comments to SDS DEIS

From: "Raymond Petros" <rpetros@petros-white.com>
To: <klamb@gp.usbr.gov>
Date: 6/13/2008 8:41 PM
Subject: Pueblo County Comments to SDS DEIS
CC: <kogovsek@co.pueblo.co.us>, <kheadley@co.pueblo.co.us>, <rasopc@aculink.net>

Kara,

Attached is a letter which I am submitting to the Bureau on behalf of the Pueblo County planning department and its county attorney. The letter contains our comments on the SDS DEIS. We will also be mailing to you a hard copy version today.

--Ray

Raymond L. Petros Jr., Esq

Petros & White LLC
1999 Broadway, Suite 3200
Denver, CO 80202
303-825-1980 - phone
303-825-1983 - facsimile

PETROS & WHITE LLC
ATTORNEYS AT LAW

1999 BROADWAY, SUITE 3200
DENVER, COLORADO 80202

TELEPHONE (303) 825-1980 FACSIMILE (303) 825-1983

June 13, 2008

VIA US MAIL AND E-MAIL (klamb@gp.usbr.gov)

Bureau of Reclamation
11056 W. County Road 18E
Loveland, CO 80537-9711
Attn: Ms. Kara Lamb

Re: Draft Environmental Impact Statement (DEIS) for the proposed Southern Delivery System

Dear Ms. Lamb:

Our law firm serves as special legal counsel to the Board of County Commissioners for Pueblo County and its staff on land use and water right matters. I am submitting this letter at the request of the Pueblo County planning staff and its County attorney, Daniel Kogovsek, Esq. to furnish comments on the SDS DEIS dated February, 2008. This letter supplements our previously submitted comments letter to the Bureau dated November 15, 2005.

The Southern Delivery System project would be a transformational activity within Pueblo County and the Arkansas Valley. Pueblo County government wishes to ensure that the costs of SDS are borne by the SDS participants and not imposed unfairly and involuntarily upon Pueblo County residents and its governmental entities. Pueblo County also wishes to ensure that the environment in the County is protected from the SDS impacts.

It is anticipated that the SDS participants will submit a permit application to the Board of Pueblo County Commissioners for approval of the SDS project. The SDS participants have already informed Pueblo County planning staff that they will be relying upon the subject environmental impact statement and accompanying technical reports to support their application to the County. Consequently, we offer these comments so that members of the public and various governmental decision makers are as informed as much as possible as to the costs, impacts, and consequences of SDS.

43-1 ***COMMENT 1*. The DEIS does not disclose sufficient information about the SDS facilities within Pueblo County to be able to assess costs and impacts.**

In its 600-pages, the DEIS fails in its important objective of disclosing the elements of the SDS project within Pueblo County so that its impacts can be analyzed effectively. Pueblo County has independently learned about many more defining elements of the SDS project within the County as a result of documents and information obtained from the City of Colorado Springs

Response to Comment 43-1: The analysis area for the seven alternatives analyzed in detail covered a large geographic area (see Figure 35 in the DEIS). The DEIS adequately disclosed the effects of the alternatives on the resources within each resource's analysis area. The disclosure presented in the DEIS and FEIS is adequate to meet the intent of NEPA. Other permitting processes, such as 404 permitting, or individual county 1041 permitting, may require details beyond that needed for Reclamation to make an informed decision.

Ms. Kara Lamb
BUREC
June 13, 2008
Page 2 of 19

in the City's pending litigation against the County regarding land use regulations over SDS. The following critical elements of the Proposed Action need to be disclosed in the DEIS to apprise the Bureau, the public and regulatory agencies of the sizeable impacts of the project:

- The Juniper Pump station, proposed to be located at the base of Pueblo Dam, would be a 14,000-sq. ft. building, 42-feet high with associated office, parking lot, and auxiliary power facilities.

- A 60-inch wide pipeline, 20-miles in length from Pueblo Reservoir would be constructed through urbanized areas of Pueblo West in unincorporated Pueblo County, including through many existing residential lots.

- At least 20 concrete vaults, partially buried, would be constructed in Pueblo County along the length of the pipeline, between 300 and 1,300-sq. ft. each. These vaults would house air vents for the pipeline and water discharge points to empty the pipeline into nearby drainages along the pipeline length.

- About 40 manholes would be constructed along the pipeline in Pueblo County.

- 24 Pueblo County roads would be crossed by the pipeline.

- The pipeline would cross an estimated 130 separate parcels in Pueblo County; the SDS participants though, have not acquired any land or easements for these facilities.

- An estimated 26 residential lots in Pueblo County with existing homes on them would be crossed by the western pipeline.

- Approximately 340-acres in Pueblo County would be required for permanent and temporary easements for the Proposed Action; importantly, these easements would be located outside of any existing easements or rights-of-way for the nearby Fountain Valley Authority pipeline – this fact is not well-known by the Pueblo West residents and has not been publicized effectively.

- 50 separate drainage crossings would be made by the pipeline within Pueblo County.

- Approximately 63% of the pipeline deliveries, together with other reusable water, would be carried down Fountain Creek through Pueblo and

Comment Letter 43 Continued

Ms. Kara Lamb
BUREC
June 13, 2008
Page 3 of 19

exchanged for upstream water in Pueblo Reservoir; by 2046, Colorado Springs estimates it will be delivering 74,000 acre-feet annually of foreign water (not native to Fountain Creek) down Fountain Creek for use in the SDS project; these flows are in addition to increased storm water flows originating from new impervious surfaces and development in the upper Fountain Creek basin above Pueblo County.

The DEIS is wholly deficient in notifying the public and regulatory agencies of the magnitude of these facilities within Pueblo County.

43-2 **COMMENT 1.1. Insufficient notice is given in the DEIS as to the size, configuration and appearance of the Juniper Pump Station building proposed to be located within Lake Pueblo State Park.**

As noted previously, the large 14,000-sq. ft. Juniper Pump Station is not effectively described in the DEIS. From conversations with representatives of Colorado Springs, we understand that the Bureau has conducted some architectural design review meetings on this building. Because this building is proposed to be located within Lake Pueblo State Park, the Bureau should solicit public review and comment upon its location and architectural design. The two pages of the DEIS devoted to the visual effects of the project incorrectly and misleadingly state that the visual effects of this pump station would be "negligible." This conclusory statement is not tested by informed public review and public agency review.

43-3 **COMMENT 1.2. The existence and location of proposed electrical substation(s) in Lake Pueblo State Park and elsewhere in Pueblo County are not described or evaluated in the DEIS.**

Again, from information learned by the County from Colorado Springs representatives outside of the DEIS, we understand that one or more electrical substations and overhead electrical transmission lines would need to be located within Lake Pueblo State Park and perhaps along the pipeline in Pueblo County.

43-4 **COMMENT 1.3. The DEIS characterizations of the proposed SDS pipeline facility through urbanized areas of Pueblo West are misleading and substantially understate impacts on effected properties.**

As noted previously, an estimated 130 separate parcels in Pueblo County would be crossed by the proposed SDS pipeline in its western alignment. The DEIS states the pipeline will be running "parallel" at times with the Fountain Valley Authority pipeline or "along" its corridor. The DEIS does not disclose that the proposed SDS pipeline would be outside of the right-of-ways and easements for the FVA pipeline and will encumber an additional 340-acres in Pueblo County for permanent and temporary easements. Many lots in Pueblo West may be

Response

Response to Comment 43-2: Information presented in the DEIS has been modified in the FEIS to clarify that SDS Project facilities would be designed to match the architectural character of the surrounding area in which they are sited (see section 2.5.8 and 3.20.5.4). Information pertaining to the location, size and configuration of the proposed Juniper Pump Station was discussed in chapter 2, pages 55, 56, and 40 (by cross-reference on page 56). Reclamation would review the architectural design of the pump station to ensure that it would be compatible with the surrounding site. Reclamation would review and approve final design prior to issuing any approvals for any facility on land managed by Reclamation. Separate review and approvals are likely necessary for facilities in other jurisdictions.

Response to Comment 43-3: The DEIS identified power lines required for the Juniper pump station in chapter 2, page 54 and 56. Easements for electrical powerlines were conceptual estimates of likely power provision scenarios, based on initial discussions with the relevant power provider company. Conceptual design for pump stations assumed that a substation would be required and would be included on the pump station site, but the final determination of whether the substation would be required would be the power company's decision, and would be made at time of final design. Additional information on power supplies and substations for pump stations has been added to section 2.2 of the FEIS.

Comment	Letter 43 Continued	Response
		Response to Comment 43-4: The DEIS addressed easement use in chapter 2, page 91, where ownership and use of land under the easement agreements is explained. Additionally, the DEIS that land owners would be compensated for loss of use or opportunity associated with permanent easements. The FEIS was revised to include an appendix listing all property owners affected by each alternative (Appendix H). The effects on noise (DEIS p. 469) and visual resources (DEIS p. 475) were adequately disclosed in the DEIS. Response to Comment 43-5 (next page): Colorado Springs uses exclusive easements that do not allow other utilities to share Colorado Springs' easement, as they would negatively impinge on Colorado Springs' ability to perform future repair work or maintenance. Colorado Springs would allow other utilities to cross their easement.

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rendered unsuitable for further development or will otherwise require property lot line adjustments. The large pipeline and associated open-cut trench will run through the lots of many existing residences and businesses in Pueblo West. The DEIS is wrong to the extent it claims visual and sound impacts would be negligible.

43-5 **COMMENT 1.4. The effects and additional costs on future infrastructure (roads, water and sewer lines) in crossings of the proposed pipeline within Pueblo County are not assessed or mitigated in the DEIS.**

Independent of the DEIS, Pueblo County has learned that SDS pipeline easements would likely preclude parallel utility infrastructure located within the proposed 100-foot wide permanent easements. We are concerned that such exclusivity would interfere with the future location of water and sewer lines and other infrastructure in Pueblo West or in other areas of the County crossed by a large SDS pipeline. In addition, future road crossings and perpendicular utility crossings would be made much more expensive as a result of the siting of the pipeline, unless those crossings were taken into effect at the time of the pipeline design and construction. Pueblo County planning staff is concerned also about the effects of the pipeline on future major roadways which are planned in the area of the pipeline, such as a major thoroughfare planned from I-25 to Highway 50. The effects of the pipeline on the costs of future infrastructure are not analyzed in the DEIS. This omission is especially important when comparing the estimated costs of the pipeline at its proposed location as opposed to locations in non-urbanized areas east of Pueblo.

COMMENT 1.5. The DEIS does not assess the costs of road improvement and restoration in Pueblo County required for heavy construction trucks and traffic.

43-6 The two pages of the DEIS devoted to effects on traffic do not properly assess or account for the need to improve and restore local County roads required for pipeline construction and/or road crossings. The cost to upgrade or restore roads must be fully assessed in the DEIS when estimating the cost of the Proposed Action, particularly through the urbanized areas of Pueblo West, and the cost therefore fully borne by the SDS participants.

43-7 **COMMENT 1.6. The design and construction costs for the eastern downstream pipeline in Pueblo County are not as developed as for the proposed western pipeline through Pueblo West; therefore a fair comparison between the two pipeline routes cannot be made in the DEIS.**

In the documents produced by Colorado Springs in its lawsuit against Pueblo County, the City of Colorado Springs acknowledged that its design for the eastern pipeline and its components was not as far advanced as that for the western pipeline. This disparity in stages of design impedes a fair comparison of the relative benefits and costs of the two pipeline locations within Pueblo County.

Response to Comment 43-6: The DEIS addressed this issue in chapter 3, pages 483 to 494. Implementation of roadway improvements in accordance with the direction of state and local traffic officials is identified as a mitigation measure. Roadway improvement costs were a component of the costs of all alternatives. Information presented in the DEIS has been modified in the FEIS (see chapter 5). The costs to repair roads damaged during construction were included in cost estimates for pipeline construction. Costs for upgrading roads beyond what would be needed after construction were not included in pipeline construction cost estimates.

Response to Comment 43-7: The effects of all alternatives were analyzed on a uniform basis. For example, effects on "land-based" resources, such as vegetation, were determined using a uniform analysis area for all alternatives. It is true that cost estimates for the Western Pipeline route have progressed to a higher level of design. However, the differences in design level are not expected to change the fairness of comparisons because higher levels of design have greater defined costs and lower contingencies while lower levels of design have lower defined costs and higher contingencies.

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43-8 *COMMENT 2*. **The DEIS fails to disclose and assess the projected changes to historical conditions on rivers and reservoirs.**

The DEIS compares the direct and cumulative effects of the various SDS alternatives to "existing" conditions. However, these "existing" conditions are simulated and are substantially different from historical baseline conditions. The effect of using a simulated existing condition as a baseline comparison is to significantly understate the effects of the SDS alternatives and cumulative future conditions. In addition, the DEIS compounds the confusion by comparing the "action alternatives" against only the hypothetical "No Action" alternative rather than to an existing baseline condition.

43-9 **COMMENT 2.1. The DEIS does not use actual historical data as its baseline of existing conditions of rivers and reservoirs, and as a result, understates the future impacts of the SDS to known conditions.**

The DEIS uses a comparison to "existing" conditions to quantify the changes in rivers and reservoirs caused by the various alternatives. It is only upon a laborious comparison of those "existing conditions" to the quite different values for "historical" stream flows and reservoir contents contained in the voluminous technical appendices that one begins to realize that "existing" condition is actually a synthetic calculation rather than observed historical conditions. The scrambled data also becomes apparent when comparing the quite different values for "existing" conditions for rivers and reservoirs reported in the March 2007 Environmental Assessment by the Bureau for the Aurora contracts to the "existing" conditions used in the SDS DEIS.

As an example, the historical mean monthly stream flow is reported at being 726 c.f.s. at the Arkansas River near the Wellsville gage. (MWH, Water Resources Technical Report, December 2007, Table 4, p. 8) That is similar but not identical to the existing condition reported in the March 2007 Aurora EA of 724 c.f.s. (Aurora EA, March 2007, Table A-5.) However, the existing condition reported in the DEIS at the same gage is only 673 c.f.s., or 11% less than the historical stream flow at this location. (DEIS, Table 31, p. 163; see also MWH, Hydrologic Model Documentation Report, November 2007, Table 4, p. 15.) Consequently, when comparing the effect on the projected 678 c.f.s. of flow at this river location for the Proposed Action, the DEIS concludes there will be no significant difference as against existing conditions when in fact, compared to historical conditions, it is actually 48 c.f.s. or 7% lower. (DEIS, Table 31, p. 163 and p. 147.)

As another example, the historical Arkansas River flow at the above Pueblo gage (just below Pueblo Reservoir) is reported to be 725 c.f.s. (MWH, Water Resources Technical Report, Table 4, p.8.) However, the existing condition reported in the Aurora EA is only 622 c.f.s. (Aurora EA, Table A-7.) and in the DEIS it is reported at only 614 c.f.s. (DEIS, Table 31, p.

Response to Comment 43-8: The DEIS addressed this comment in chapter 3, page 144 and in the Hydrologic Model Documentation Report section 1.7. As noted in section 3.4.7 of the DEIS, and in compliance with 40 CFR 1502.21, the Hydrologic Model Documentation Report is incorporated by reference and was available for public review and comment. Existing conditions differ from historical conditions in that existing conditions assume current operations on the river, while historical operations on the river have changed throughout the 1982 through 2004 study period. Comparison of the varied river operations throughout history with the consistent operations simulated for alternatives would not provide an adequate basis for comparison of alternatives. The comparison of Action Alternatives against the No Action Alternative is based on Reclamation's NEPA guidance as described in chapter 3, page 142 of the DEIS.

Response to Comment 43-9: See comment response 43-8.

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163.) The DEIS then predicts the stream flow at this gage under the Proposed Action to be 529 c.f.s., about a 14% decrease (DEIS, Table 31, p. 163); however, when compared to historical average stream flows, the Proposed Action is a decrease in flow of approximately 196 c.f.s., or an annual average reduction of about 27%.

As another example, the historical annual average of Pueblo Reservoir is reported as 181,434 acre-feet. (MWH, Water Resources Technical Report, Table 6, p. 11.) This is similar but not identical to the reported existing condition of 181,857 acre-feet used in the Aurora EA. (Aurora EA, Table A-6.) However, the reported existing simulated condition in the DEIS is only 173,700 acre-feet – this difference in existing baseline is about 8,000 acre-feet on an annual average or a difference of about 4% less than historical storage volumes. Consequently, the reported direct effects to the average annual storage in Pueblo Reservoir for the Proposed Action (163,900 acre-feet) is a 6% decline from "existing" conditions, but compared to historical conditions it is almost a 10% decline. (DEIS, Table 35, p. 178.) The cumulative effects to average annual volumes in Pueblo Reservoir attributable to the Proposed Action (140,100 acre-feet) represents a decline of over 40,000 acre-feet on average, or about a 22% decrease from historical storage conditions. (DEIS, Table 37, p. 185.)

As another example, existing conditions for Fountain Creek flows at Pueblo are reported in the DEIS as 196 c.f.s. on an annual average (DEIS, Table 31, p. 163); by contrast, historical stream flow at the same location is reported to be 167 c.f.s. (MWH, Hydrologic Model Documentation Report, Nov. 2007, p. 18, Table 7.) The use in the DEIS of the larger "existing" baseline flow (an additional 29 c.f.s. or 17%) has the misleading effect of comparing the projected flows on Fountain Creek for the Proposed Action (273 c.f.s.) as being 77 c.f.s. rather than 107 c.f.s. higher (DEIS, Table 31, p. 163); in other words, the DEIS understates significantly the increase in Fountain Creek flows caused by SDS.

The use of these simulated existing conditions in the DEIS hides from public view the actual changes of reservoir and river conditions from that experienced historically. At the very least, the DEIS should be modified to include a column for historical river flows and reservoir storage for all of the tables which compare the effects of the various alternatives on river and stream conditions.

43-10 **COMMENT 2.2. The DEIS appears to incorporate as an "existing condition" the effect of the recent Bureau approval of the long-term storage and exchange contracts with the City of Aurora, and as a result, the Bureau avoids a complete analysis of the combined impact of the SDS and the Aurora contracts.**

The DEIS classifies the recent Bureau approval of the Aurora exchange and storage contracts in Pueblo Reservoir and the Fry-Ark system as an "existing" condition. (DEIS, p. 130.) It is not clear, however, whether the DEIS also incorporates the operation of the Aurora contracts in the simulated existing conditions for rivers and reservoirs in the DEIS for

Response to Comment 43-10: Reclamation does not concur with this comment. The DEIS addressed this issue in chapter 3, page 130, and section 3.2.1 of the Surface Water Hydrology Effects Analysis. After reviewing this comment, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion, because Aurora's contract was executed in 2007 and was in existence at the time of DEIS issuance. Aurora's operations were incorporated into the existing conditions modeling for the SDS Project. The approach taken in the DEIS has been followed in chapter 3 of the FEIS.

In the NEPA analysis for the Aurora long-term contract SDS was not considered reasonably foreseeable because the project was still being reviewed under NEPA compliance, there was no reasonable certainty that the project would be implemented and, if implemented, under what conditions. Reclamation had not made a decision on a Preferred Alternative for the SDS Project, had no approved basis for negotiating a contract, nor had it issued a contract with the SDS Participants. All of these things lead to the decision that SDS was not reasonably foreseeable for the Aurora Environmental Assessment. Because SDS was not considered reasonably foreseeable, it was not included in the Aurora Environmental Assessment.

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comparative purposes. From the data in the DEIS, it does appear that the Aurora contracts are indeed embedded in the existing baseline conditions for river flows and reservoir contents. As an example, the DEIS uses 614 c.f.s. for the average existing simulated flow of the Arkansas River above Pueblo (DEIS, Table 31, p. 163); this value is similar to the projected gage flow at this location of 621 c.f.s. of the Proposed Action in the Aurora EA (Aurora EA, Table A-7, p. A-7.) For annual storage conditions at Pueblo Reservoir, the DEIS uses 173,700 acre-feet for average annual volumes as an existing condition, compared to the projected 174,963 acre-feet for the Proposed Action in the Aurora EA (Aurora EA, Table A-6, p. A-6.)

The Aurora EA, which was finalized in March 2007, did not study the combined impacts of the Aurora contracts with the impacts of the SDS, because the Bureau found that the SDS was not a reasonably foreseeable action. This finding conflicts with the Bureau's current identification of the Proposed Action as being the agency preferred action in the DEIS, which was published less than a year later than the Aurora EA.

By the artifice of not construing the SDS as a reasonably foreseeable future action for the Aurora EA, and now embedding the Aurora storage and exchange operations in the existing conditions of the DEIS, the Bureau escapes responsibility for assessing the combined impacts of both the Aurora contracts and the SDS. This calculated fragmentation of environmental reviews does not allow for effective assessment of impacts.

43-11 ***COMMENT 3***. **The DEIS discloses and relies only upon average river flows and reservoir storage conditions and does not disclose dry year or wet year variables.**

In the March 2007 Aurora EA, the Bureau employs comparative tables to show the effects of the Proposed Action not only in average years, but also in typical wet-year and dry-year scenarios. Such variables can be important. The DEIS is deficient for its failure to include such comparative tabulations.

43-12 COMMENT 3.1. **Tabulations and assessments of dry-year and wet-year changes and conditions are necessary to analyze potential effects and mitigation measures.**

43-13 COMMENT 3.2. **The Bureau included dry-year and wet-year tabulations in its Aurora EA but fails to do so in the SDS DEIS for unexplained reasons.**

43-14 ***COMMENT 4***. **The Bureau's refusal to quantify the benefits, if any, of the Pueblo Flow Management Program ("PFMP") is a substantial deficiency of the DEIS.**

The DEIS assumes the PFMP is in place for all alternatives with pipelines out of Pueblo Dam. It states that an analysis of a single alternative comparing the effects of that alternative with the PFMP and without the PFMP would show the impact of the PFMP but that analysis was

Response

Response to Comment 43-11: The Surface Water Hydrology Effects Analysis, pages 72 through 88 and associated appendices contained the requested information. As noted in section 3.4.7 of the DEIS, and in compliance with 40 CFR 1502.21, the material in the Surface Water Hydrology Effects Analysis is incorporated by reference and was available for public review and comment. However, Reclamation included additional hydrology information in Appendix E of the FEIS.

Response to Comment 43-12: See comment response 43-11.

Response to Comment 43-13: See comment response 43-11.

Response to Comment 43-14: The DEIS did not assume the PFMP was in place for all alternatives. The existing IGAs covering the PFMP state that Colorado Springs would not participate in the PFMP if SDS does not divert from Pueblo Dam. Page 152 of the DEIS indicates: "For SDS Project Participants, it was assumed that the Participants' Proposed Action, the Wetland Alternative, and the Fountain Creek Alternative would include participation in the PFMP because SDS Project diversions would be made directly from Pueblo Dam. This is consistent with the terms of the PFMP as described in section 3.2.6. The remaining alternatives assume no participation in the PFMP."

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not performed as a part of the DEIS. Therefore, the "DEIS does not offer conclusions about the impact/benefit of the PFMP." (DEIS, p. 135.)

It is critically important for an informed analysis of the alternatives what the benefits, if any, are of the PFMP on the Pueblo Reservoir pipeline alternatives. Proponents of the Proposed Action cite the PFMP as a chief advantage of the Proposed Action over the No Action alternative or other alternatives not using a Pueblo Reservoir pipeline. These claims for the benefits of the PFMP must be validated.

COMMENT 4.1. Quantifications of the benefits, if any, of the PFMP is necessary to compare the relative benefits of the alternatives.

43-15 When assessing the average monthly stream flow effects on the Arkansas River at the above Pueblo gage for the Proposed Action (Pueblo Reservoir pipeline which incorporates the PMFP), the EIS reports that the average annual stream flows would be 529 c.f.s. However, the average stream flow effects for the No Action alternative (an intake at Highway 115 with no Pueblo Reservoir storage), shows that the average monthly stream flow effects is higher, namely 543 c.f.s. even without the benefits of the PFMP; higher river flows are also reported for the Highway 115 alternative (Highway 115 intake, with Pueblo Reservoir storage and without PFMP) which is reported at 531 c.f.s. Similarly, the Downstream Intake Alternative, which also does not incorporate the PFMP, shows a much higher annual stream flow of 611 c.f.s. and much higher monthly average stream flows in all months when compared to the Proposed Action. (DEIS, Table 33, p. 168.) The same relative comparisons hold true for average stream flow conditions when considering cumulative future effects. (See DEIS, Table 36, p. 184; [Proposed Action, 503 c.f.s; No Action, 529 c.f.s.; Downstream Intake, 584 c.f.s.; and Highway 115 Alternative, 507 c.f.s.]). Contrary to the claims of the proponents of the Proposed Action, the PFMP does not appear to offer much, if any, benefit over other alternatives. To facilitate the discussion on this subject, the DEIS should quantify and state the benefits of the PFMP with respect to the Proposed Action, and then compare those values to other alternatives.

43-16 **COMMENT 4.2. If the PFMP has substantial benefits, it should be a mitigation term common to all federal agency actions on SDS and binding on all SDS participants.**

The PFMP is conceptually designed to preserve flows downstream of Pueblo to protect fisheries and recreation, as well as the federal and local investment in the river improvements known as the Legacy Project. As such, the PFMP should be required as a term and condition for any federal action (Bureau or otherwise) required for the No Action alternative and all Action alternatives. The PFMP in fact was included as a term and condition of the Bureau's FONSI approval of the Aurora contracts for long-term storage and exchange in Pueblo Reservoir. (Aurora FONSI, March 22, 2008, pp. 12-13.) The flow management terms would be similar to bypass flow requirements which have been required by federal agencies as a term and condition of federal permitting of other water projects, such as the bypass requirement for Dillon

Response to Comment 43-14 (con't): The effects of the alternatives when compared with target flows of the PFMP are disclosed in the DEIS. Table 34 in DEIS summarizes the percentage of time that each alternative would meet the target flows for the PFMP. The effects of the alternatives on recreation through the Pueblo reach are discussed in section 3.14.5, pages 403-404, and because Additionally, Reclamation is not a party to these IGAs and makes no assertions as to their benefits.

Response to Comment 43-15: See comment response 43-14.

Response to Comment 43-16: See comment response 25-2.

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	Ms. Kara Lamb BUREC June 13, 2008 Page 9 of 19 Reservoir, for Denver Water's operation of its Frasier River Intake, and those required for the CB-T and Windy Gap projects below Granby Reservoir.	Response to Comment 43-17: The Surface Water Hydrology Effects Analysis, Appendix A (MWH 2007d), which was incorporated by reference into the DEIS, contains the requested information. A table containing this information has been added to section 3.5.5.2 of the FEIS, to clarify this matter.
43-17	**COMMENT 4.3. The DEIS fails to include a table showing the percent of time target flows are met for the PFMP under the cumulative effect scenario.** The DEIS includes a Table 34 to show the percent of time target flows are met for the direct effect scenario for each of the alternatives at the PFMP measurement location. Inexplicably, the DEIS omits a similar table to show the percent of time target flows are met in the future under the cumulative effects scenario; this information is essential for the decision makers and the public to know how often the PFMP would be met under future conditions so that appropriate mitigation measures can be taken in the DEIS and elsewhere or steps taken to modify the PFMP. Such a table was produced in the Aurora EA; its omission in the DEIS is unexplained and should be a cause of concern. (See March, 2000 Aurora EA, Table 310, p. 44.)	
43-18	***COMMENT 5*. The DEIS does not quantify comprehensively the direct and cumulative effects of SDS on the Upper Arkansas Flow Management Program ("UAVFMP").** The UAVFMP is important to the recreational industry and economic well being of the Arkansas Valley Basin. The effects of the SDS alternatives on the UAVFMP should be studied and reported in the DEIS, including the effects of the federal agency approvals of any components of the SDS alternatives.	Response to Comment 43-18: The description of the UAVFMP in section 3.2.6 of the FEIS was modified to include the requirement that deliveries in excess of 10,000 acre-feet should be subject to review and consideration by Reclamation and the SECWCD. The discussion of the hydrologic effects on the UAVFMP in section 3.5.5 of the FEIS was expanded to include discussion and information on each component of the program, including year-round flows, spawning flows, spring flows, recreation flows, and the ability to delivery Fry-Ark Project water for the program.
43-19	**COMMENT 5.1. The DEIS does not simulate the UAVFMP for the No Action or Proposed Action; as in the case of the Bureau's decision on the Aurora EA, compliance with the UAVFMP should be a condition of any federal action.** The DEIS states it does not simulate the UAVFMP for the No Action or Proposed Action; it is not clear why this was not done since both actions require federal agency approval. (See e.g., DEIS, Statement Summary, p. 10.)	Response to Comment 43-19: See comment response 25-2.
43-20	**COMMENT 5.2. The DEIS fails to quantify the cumulative effects on the UAVFMP of the SDS and foreseeable future actions.** The DEIS only tabulates the direct effects of some of the SDS alternatives on the UAVFMP. (DEIS, Table 32, p. 163.) An important omission of the DEIS is the quantification of the percent of time UAVFMP target flows are met in the future for cumulative effects. By comparison such a tabulation was prepared for the Aurora EA. (March, 2007 Final Environmental Assessment, Table 3.9, p. 41.)	Response to Comment 43-20: This comment does not accurately reflect the information in the DEIS and supporting documents, specifically the Surface Water Hydrology Effects Analysis (MWH 2007d), section 5.1.3. However, Reclamation made editorial revisions to the FEIS, in chapter 3, section 3.5 to clarify this matter. A table containing this information has been added to section 3.5.5.2 of the FEIS.

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43-21	**COMMENT 5.3. As in the FONSI for the Aurora contracts, the Bureau should impose terms and conditions and obtain commitments from the SDS participants to participate in the UAVFMP and PFMP.** As part of the FONSI, the Bureau required Aurora to comply with the UAVFMP and the PFMP, and to agree to curtail exchanges of water into Pueblo Reservoirs whenever flows in the Arkansas River below Pueblo Reservoir are less than 100 c.f.s. (March 2007 FONSI, pp. 12-13.) At a minimum, any federal agency approval should also require such terms and conditions and commitments of record by the SDS participants for the No Action and all Action alternatives.	
43-22	***COMMENT 6*. The DEIS identifies the Proposed Action as the agency preferred alternative based upon its perception of lower project costs and energy use, but the Bureau fails to make the underlying reports on cost estimates and assumptions available to the public on its website so that these cost estimates can be readily obtained and scrutinized independently.** On its SDS website, the Bureau makes available to the public many of the technical reports used to support the DEIS. Inexplicably, the website omits the reports dealing with cost estimates for the various alternatives. Because cost of the project is apparently a critical factor for the Bureau, all such cost reports should be posted on the website so that these studies and analyses can be subject to independent scrutiny. The comment period on the DEIS should therefore be extended an appropriate amount of time so that additional comments can be received on such cost estimates.	Response to Comment 43-22: The DEIS addressed costs in chapter 2, pages 31, 52, 59, 67, 73, 74, and 81. The DEIS referenced memoranda pertaining to cost estimates for SDS Project alternatives (CH2M HILL 2007a, 2007i). These and all other sources incorporated into the EIS by reference are available to the public and could have been obtained within the time allowed for comment on the DEIS.
43-23	**COMMENT 6.1. In its cost evaluation, the DEIS fails to analyze and tabulate the comparative effect of the SDS alternatives on rate payers of the SDS participants.** To inform the public of the consequences of the SDS alternatives, the DEIS should contain information concerning the anticipated increases in rates over representative periods of time caused by the various SDS alternatives to rate payers within the service areas of the SDS participants.	Response to Comment 43-23: The DEIS addressed effects to rate payers in chapter 3, pages 429 to 431 and in an appendix to the Socioeconomic Effects Analysis (BBC 2008).
43-24	***COMMENT 7.* The Downstream Intake Alternative (Alternative 6) should be further refined in the DEIS as to location, facilities and treatment options.** Pueblo County Planning staff has been contacted over the past few months by several different groups of landowners and gravel mine operators about their water storage developments within Pueblo County several miles east of the Pueblo City limits. Many of these inquiries involve gravel pits proposed for reservoir storage in the vicinity of the Excelsior Ditch along the north side of the Arkansas River east of Pueblo. These gravel pit water storage reservoirs offer opportunities for tens of thousands of acre-feet of water storage.	

Comment	Letter 43 Continued	Response
		Response to Comment 43-24: The DEIS addressed the gravel pit storage issue in chapter 2, pages 82 to 89 and the Alternatives Analysis (Reclamation 2006a) and the ROY storage issue in chapter 2, pages 49, 58, 67, 73, 74, 78, 81, and 133 to 135. The Stonewall Springs Reservoir project (i.e., landowners and gravel mine operators proposal) is analogous to the Gravel Lakes regulating storage option and Excelsior Ditch untreated water intake option identified in the Alternatives Analysis. The Alternatives Analysis concluded that, of the untreated water intake options downstream of Fountain Creek, "the Arkansas River Downstream of Fountain Creek, Excelsior Ditch, and Colorado Canal Headgate options were deemed to be functionally equivalent, all withdrawing water from the Arkansas River downstream of Fountain Creek within a relatively small geographical area. However, the Arkansas River Downstream of Fountain Creek intake would avoid diversion of the City of Pueblo's wastewater effluent. This option was retained. The Excelsior Ditch and Colorado Canal Headgate options were eliminated from further consideration." Additional information on the status of the Stonewall Springs Project is provided in the response to public comment 2400. In addition, the Project Participants have indicated their intended use of contract storage in Holbrook Reservoir for ROY purposes under any SDS Project alternative. Consequently construction of new ROY storage is not necessary.

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The DEIS, however, only studies a direct diversion facility just below the Fountain River confluence for purposes of studying the Downstream Intake Alternative. Given the ample opportunities for gravel pit storage available further downstream, and the potential for pipeline alignments further east of the Pueblo city limits that would avoid already urbanized areas, the DEIS should include the option of the use of these downstream reservoir opportunities and a pipeline located further to the east. The gravel pit storage could help subsidize the cost of reservoir construction. The gravel pits could serve as settling ponds and forebay storage for the eastern pipeline. In-situ gravel might also be used for preliminary water treatment, as now being constructed by the City of Aurora on the South Platte River for its Prairie Water Project. Gravel pit storage could also serve as ROY ("Recovery of Yield") reservoirs to help facilitate management of flows downstream of Pueblo Reservoir.

The movement of the pipeline alignment to the east, the use of the gravel pit storage for forebay storage, and in-situ gravel treatment may well reduce the cost of this alternative for purposes of comparison to other alternatives.

COMMENT 7.1. The Downstream Intake Alternative offers many advantages but the Bureau does not appear to have given it the same level of planning and investigation as the No Action or Proposed Action alternatives.

43-25

In introducing the Downstream Intake Alternative, the DEIS states that "some residents of Pueblo in the Arkansas River Valley expressed an interest in the participants diverting and treating water from the Arkansas River below Fountain Creek." (DEIS, p. 76.) This statement betrays a bias and predisposition against this alternative by the Bureau and the SDS participants. In its lawsuit against Pueblo County, the City acknowledged in its pleadings and discovery responses that the planning and design of this eastern pipeline alternative was not as advanced as for the western pipeline out of Pueblo Reservoir, again evidencing that this alternative is not being given the serious consideration it deserves for the DEIS.

43-26

In spite of the limited investigations of the Downstream Intake Alternative, the data in the DEIS shows that this alternative might offer several distinct advantages:

- The Downstream Intake Alternative has a 62% higher firm yield than the No Action alternative (Highway 115 intake, with no Pueblo Reservoir storage) or Proposed Action (Pueblo Reservoir pipeline), and nearly an 80% higher firm yield than the Highway 115 alternative (Highway 115 intake, with Pueblo Reservoir storage). (DEIS, Statement Summary, Table S-3, p. 20.)
- The Downstream Intake Alternative would have 16% higher average annual flows below Pueblo Reservoir, considering both direct and

Response to Comment 43-25: Potential effects of all alternatives were analyzed with the same degree of care and level of rigor. The Downstream Intake Alternative did not pass cost screening (Reclamation 2006a) and normally would have been eliminated from detailed analysis, but was retained for detailed evaluation in the DEIS, because of public interest, as stated on page 76. Please refer to comment response 43-7 on the level of design for each alternative. Reclamation cannot comment on how third parties such as Colorado Springs view the Downstream Intake Alternative.

Response to Comment 43-26: Effects of the Downstream Intake Alternative, along with the other alternatives, were disclosed in the DEIS and FEIS.

Response to Comment 43-27: See comment response 43-24 for Reclamation's response on the physical layout of this proposal. Information the reverse osmosis (RO) treatment presented in the DEIS has been modified in the FEIS (see section 2.2.6.1, Water Treatment Plant subsection). Reclamation made revisions to the FEIS to clarify that the RO treatment for 50 percent of the diverted flows is included in the Downstream Intake Alternative due to salinity levels in the Arkansas River. In-situ gravel treatment would not be effective for salinity removal and consequently would not replace RO treatment.

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cumulative effects than the No Action or Proposed Action, even without the benefit of the PFMP (Pueblo Flow Management Program).

- The Downstream Intake Alternative would have similar storage volumes in Pueblo Reservoir but with lower average residence times in the reservoir which the DEIS notes should improve water quality of the reservoir. (DEIS, Table 35, p. 178; Table 37, p. 185; and Table 52, p. 236.)
- The Downstream Intake Alternative would have about the same or higher total Fry-Ark storage (cumulative effects) as the No Action, Proposed Action or Highway 115 alternatives (DEIS, Table 37, p. 185.)
- The Downstream Intake Alternative would likely avoid disruption caused by pipeline construction in urbanized areas of Pueblo West and in Lake Pueblo State Park.
- The Downstream Intake Alternative would avoid Fountain Creek and I-25 crossings caused by the No Action, Proposed Action, and Highway 115 alternatives.
- The Downstream Intake Alternative would preserve outlet capacity in the joint use manifold of Pueblo Reservoir for existing users; it would avoid disruption to the users of the joint use manifold otherwise caused by pipeline construction; it would avoid the cost of the improvements to the north side reservoir outlet at Pueblo Reservoir; and it would avoid the siting of the Juniper Pump Station in Lake Pueblo State Park.
- The proposed mitigation for Fountain Creek would be the same for the Downstream Intake, Proposed Action, and Highway 115 alternatives.

The preliminary cost estimates show that the cost per acre-foot of firm yield is less for the Downstream Intake Alternative, although the total project and energy costs would be higher. Presumably (because these cost estimates were not made available on the public website), the additional project and operating costs relate to the construction and operation of an RO (Reverse Osmosis) treatment plant to treat some of the water. However, gravel pit forebay and sedimentation storage, in-situ gravel treatment, and direct releases of water stored in Williams Creek to the eastern pipeline, might decrease these costs significantly. Further study of the Downstream Intake Alternative and consideration of possible options for storage and treatment is warranted before the EIS is finalized, as set forth in the following comments:

Response to Comment 43-28: The DEIS addressed this issue in chapter pages 82 to 89 and in the Alternatives Analysis Addendum (Reclamation 2007a). The Alternatives Analysis Addendum was incorporated by reference into the DEIS. The Downstream Intake Alternative with the suggested modification would represent only a minor physical variation of reuse alternative A2 and would be substantially similar to reuse alternatives A, C, and C2. A principal difference between the suggested modification and these reuse alternatives is the intake location for the untreated/blending water intake (i.e., Arkansas River downstream of Fountain Creek for the suggested modification and Pueblo Dam for the reuse alternatives). All of the reuse alternatives were dismissed from detailed evaluation in the DEIS due to unreasonably high cost and other factors (refer to response to comment 43-7). The suggested modification of the Downstream Intake Alternative would not result in a cost effective reuse alternative.

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43-27 **COMMENT 7.2. The Downstream Intake Alternative should be modified to include the option of available gravel pit storage as forebay and sedimentation storage, as exchange storage and as ROY storage, and to include the option of using in-situ gravel treatment in lieu of RO treatment.**

43-28 **COMMENT 7.3. The Downstream Intake Alternative should also be modified to consider the direct delivery of water from Williams Creek Reservoir for blending into the eastern pipeline at its halfway point to save on energy pumping costs from the Arkansas River and to avoid costly and wasteful water transit losses down Fountain Creek.**

43-29 ***COMMENT 8.*** **The DEIS is deficient by not studying the feasibility of multipurpose storage projects in Fountain Creek (i.e., projects combining water supply, flood control, recreation and stream flow management).**

By artificially limiting the scope of the DEIS to exclude flood control as a project purpose, the Bureau has unreasonably limited its investigation of multipurpose storage projects on Fountain Creek, which could reduce environmental impacts and could result in lower project costs for the El Paso County SDS participants. We reiterate and incorporate herein our comments to the Bureau in this regard from our November 15, 2005 letter. The lack of coordination between federal agencies -- the Bureau and the U.S. Army Corp of Engineers which is studying flooding issues on Fountain Creek -- is one of the obstacles to environmental review that the NEPA process was designed to avoid.

43-30 **COMMENT 8.1. The flood control benefits of the Williams Creek Reservoir illustrate the potential benefit of a study of multipurpose reservoir project(s) on Fountain Creek.**

43-31 ***COMMENT 9.*** **The DEIS is deficient by its omission of a Reuse Alternative for local water supplies in Fountain Creek.**

The initial No Action alternative proposed by the SDS participants included a study of reuse options on Fountain Creek involving the indirect reuse of reusable return flows and the capture of additional Fountain Creek flows caused by further development and impervious surfaces upstream. By its Alternatives Analysis Addendum, December 2007, the Bureau unreasonably decided not to pursue further study of the reuse alternatives because of its perceived higher cost.

Further study of the reuse options should be made before finalization of the EIS, for the following reasons:

43-32 **COMMENT 9.1. The higher cost of the reuse option is unfairly predetermined by the assumption that Fountain Creek flows would need to be blended with flows taken**

Response to Comment 43-29: The DEIS addressed multipurpose storage projects in chapter 2, pages 86 to 87. Flood control, recreation, or stream flow management is not the basic project purpose or one of the three project needs. The scope of the EIS was limited to the effects of the SDS Project and practicable alternatives. The Fountain Creek Watershed Study is being conducted by the Corps to address Fountain Creek hydrology. The Corps is a cooperating agency to this EIS, and has provided information from the Fountain Creek Watershed Study for use in the EIS.

Response to Comment 43-30: The DEIS addressed this issue in chapter 3, page 259. Flood control benefits of the proposed reservoirs would be incidental benefits associated with attenuation of storm flows. The reservoirs would not be operated for flood control.

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from a pipeline out of the Arkansas River. The Arkansas River pipeline effectively doubles the cost of the reuse option and may not be necessary.

43-33 COMMENT 9.2. The December 2007 Addendum does not study the option of only capturing water in Fountain Creek at times when effluent returns constitute less than 50% of the flow in the creek.

43-34 COMMENT 9.3. The assumption that the Fountain Creek water must be blended on a 50/50 basis with Arkansas River water may not be based on current scientific information; further analysis and investigation should be performed on this matter and it should be subjected to public review.

43-35 COMMENT 9.4. When assessing the comparative costs of the reuse option, it does not appear that the Addendum considers the benefit and offsetting value of additional water not lost to stream transit losses down Fountain Creek in an exchange to Pueblo Reservoir. The value of such water savings should be calculated using the assumed firm yield value of $25,000 per acre-foot elsewhere used in the DEIS.

43-36 *COMMENT 10.* The DEIS is deficient because it understates the SDS effects on erosion and sedimentation in Fountain Creek. The proposed mitigation is indeterminate and is not proportionate in scale to the large value of the SDS to its El Paso County participants and to the large impacts of SDS.

The DEIS and its Appendix C acknowledge that increased return flows and releases from the Williams Creek Reservoir will cause additional erosion in the upper segments of Fountain Creek with the resulting increased sedimentation and erosion and channel instability in the lower reaches of Fountain Creek in Pueblo County.

43-37 COMMENT 10.1. The DEIS simulates an existing condition for Fountain Creek stream flows that are much higher than historical flows, thereby unreasonably reducing the stated changes to Fountain Creek caused by the SDS alternatives and minimizing the required mitigation.

43-38 COMMENT 10.2. The DEIS studies only the effects of increased reusable return flows as a result of SDS instead of the impact of all reusable flows that will be exchanged and stored in Pueblo Reservoir and or diverted through the pipeline intakes (existing and future, estimated by Colorado Springs in its litigation with the County as being as much as 102 c.f.s. or 74,000 acre-feet after local reuse in 2046).

43-39 COMMENT 10.3. The DEIS assumes that Colorado Springs will continue the funding of its Storm Water Enterprise Fund to construct channel improvements, and that the City will enforce regulations on new development to prevent increased peak storm

Response to Comment 43-31: The DEIS addressed this issue in chapter 2, pages 82 to 89 and by reference to the Alternatives Analysis Addendum (Reclamation 2007a). A detailed evaluation potential indirect potable reuse alternatives was conducted and documented in the Alternatives Analysis Addendum, which was incorporated by reference into the DEIS. All reuse alternatives were eliminated from detailed analysis in the DEIS due to unacceptably high costs and failure to respond to significant scoping issues better than other alternatives. The evaluation of reuse considered energy costs and industry practices, recommendations, and proposed regulations for blending.

Response to Comment 43-32: A pipeline from the Arkansas River was included in the reuse alternatives for two reasons. The pipeline provided redundant capacity to deliver Arkansas River water, one of the three Project needs. The pipeline also provided a blending water source. Please refer to comment response 31-4 on blending.

Response to Comment 43-33: Alternatives relying on seasonal availability of blended water in Fountain Creek were not considered in the Alternatives Analysis Addendum (Reclamation 2007a) because they would not fulfill the redundancy portion of the Project's need.

Response to Comment 43-34: Please refer to comment response 31-4.

Response to Comment 43-35: All of the reuse alternatives examined in the Alternatives Analysis Addendum (Reclamation 2007a) would meet most or all the Project Participants' projected future water demand through 2046. Water recovered by reduced transit losses may have a monetary value; it would not reduce the capital or operations and maintenance cost of the reuse alternatives. Consequently, reducing the cost of the reuse alternatives in proportion to monetization of reduced transit losses would not result in cost estimates that accurately reflect the costs that would be borne by the Project Participants' ratepayers.

Response to Comment 43-36: The DEIS identified potential geomorphic effects of all SDS Project alternatives throughout the study area in section 3.9 and by reference to the Water Resources Effects Analysis (MWH 2008d). Based on these effects, conceptual mitigation measures were presented in section 3.9.5.4 the Conceptual Geomorphology Mitigation Plan. The geomorphology effects analysis and mitigation have been updated in the FEIS in section 3.9 and chapter 5.

Response to Comment 43-37: See comment response 43-8.

Comment	Letter 43 Continued	Response
		Response to Comment 43-38: The DEIS addressed this topic in chapter 3, page 150. The EIS disclosed the effects of increased reusable return flows generated from delivery of water at 2046 demands for all Project Participants in the direct and indirect effects analysis and for all Project Participants and non-participants in the cumulative effects analysis. The SDS Project is one system the Project Participants would use to meet their 2046 demands. Other systems include ground water, FVA pipeline, Homestake Pipeline, and local system exchanges and augmentations. Reusable return flows generated from deliveries through all of these systems were included in the effects analyses. Response to Comment 43-39: See comment response 43-52.

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water flows through detention ponds. This assumption is used to reduce the effects on Fountain Creek, but the DEIS offers no enforcement mechanism to ensure compliance by Colorado Springs.

43-40 **COMMENT 10.4. The DEIS unreasonably assumes that growth in Colorado Springs and resulting increased stream flows in Fountain Creek would continue even without the benefit of water supply projects approved by the Bureau or by other federal agencies in the case of the No Action alternative.**

43-41 **COMMENT 10.5. The proposed mitigation measures for Fountain Creek, namely monitoring and an "adaptive management program," are inadequate because the DEIS provides no means to ensure funding and compliance by the SDS participants.**

The DEIS and its Appendix C provide that Fountain Creek mitigation would include monitoring of problems on Fountain Creek over time by the SDS participants and an adaptive management program which would mitigate the perceived effects of SDS. However, as presently proposed, such long-term monitoring and an adaptive management program do not appear workable. The program lacks specific guidelines and benchmarks for monitoring and requirements for mitigation. It lacks an enforcement mechanism to ensure permit compliance by the SDS participants to any required mitigation measures. It lacks a sustainable funding mechanism (such as reclamation bonding or escrowed funds) to ensure that recommended monitoring and mitigation is funded by the SDS participants and not subject to the contingencies of annual appropriations by the public entities.

43-42 **COMMENT 10.6. The DEIS identifies three possible areas on Fountain Creek for channel stabilization but does not identify in sufficient detail what those measures are or the costs and timing of the implementation of those measures.**

The potential channel stabilization work proposed as mitigation is not specifically identified in the DEIS other than possible locations. The development of such measures should be subject to extensive public review and public agency comment. Those measures should be specifically described before the EIS is finalized. In any event, the finalization of the EIS should await the outcome of the ongoing Fountain Creek studies by the U.S. Army Corp of Engineers and other local agencies.

43-43 **COMMENT 10.7. Stream improvements, wetland construction and other mitigation are not sustainable without flood control on Fountain Creek.**

Periodic, heavy flooding is predictable on Fountain Creek. Mitigation measures to control erosion and sedimentation and to construct wetlands likely would be undone by periodic floods. Consequently, in the development of Fountain Creek mitigation, mechanisms must be put in place to fund and restore any such mitigation measures as a result of flooding.

Response to Comment 43-40: The DEIS addressed this topic in chapter 3, page 420. The SDS alternatives – including the No Action Alternative – are designed to meet future water demands based on projections of growth independent of the proposed SDS Project. Section 1.5.1.2 of the DEIS discussed growth projections made by the State of Colorado and others, independent of the Project Participants.

Response to Comment 43-41: Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. Commitments for monitoring and the "adaptive management program" have been retained in the FEIS, and are based on potential effects of the Preferred Alternative for the SDS Project. Enforcement and funding of environmental commitments would be made through the Project Participants' contract(s) with Reclamation, and are described in chapter 5. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

Response to Comment 43-42: Refer to comment response 43-36. Additionally, Reclamation notes that methods used to determine geomorphic effects and conceptual geomorphic mitigation strategies were based on information from the Fountain Creek Watershed Study.

Comment	Letter 43 Continued	Response
		Response to Comment 43-43: Reclamation does not concur with this comment. The DEIS addressed stream improvements in chapter 3.9, pages 301 to 302 and in the Conceptual Geomorphology Mitigation Plan. Proposed wetland mitigation sites are discussed in the Conceptual Wetland Mitigation Plan. The approach in the DEIS addressed this issue in an appropriate fashion for the following reasons. Design of any geomorphic mitigation measures would take Fountain Creek hydrologic conditions into effect, including the nature of peak flows for the creek. Additionally, the monitoring and maintenance program described in the Conceptual Geomorphology Mitigation Plan would include monitoring of the proposed mitigation measures to ensure their effectiveness in addressing geomorphic effects. Once construction and planting of wetland mitigation is complete for the final mitigation site(s), Project Participants would monitor the wetland mitigation sites in accordance with a 404 permit (typically for a minimum of 3 years) to ensure compliance with success criteria and would remediate areas that do not meet the success criteria. Monitoring would continue if the Corps of Engineers determines that the wetlands are not self-sustaining at the end of 3 years. The Project Participants would be responsible for remediation of any disturbed mitigation site to meet the final success criteria within the monitoring period. The mitigation plans would continue to develop during the permitting and contracting process.

Comment	Letter 43 Continued	Response
	Ms. Kara Lamb BUREC June 13, 2008 Page 16 of 19	Response to Comment 43-44: An August 25, 2008 Federal Register notice extended the public comment on the water quality analysis while additional water quality analysis was prepared. An October 9, 2008 Federal Register notice provided a 45-day public comment on the additional water quality analysis. There is uncertainty regarding what the long term effects on Pueblo Reservoir would be if Alternatives 3 or 4 were implemented. However page 204 of the DEIS indicates the Wetland and Arkansas River alternatives would result in minor adverse effects to water quality in the Arkansas River from Florence through Pueblo due to the conveyance of return flows from the Fountain Creek Basin to the upper Arkansas River. Slightly higher concentrations of parameters such as nutrients, algae, salinity, and selenium would adversely affect the water quality in Pueblo Reservoir. Water quality standards (WQS) from Florence through Pueblo Reservoir would likely be attained.
43-44	<u>*COMMENT 11.*</u> **Adverse water quality effects of upstream return discharges above Pueblo Reservoir are a significant cause for concern and should be evaluated more extensively, particularly for multi-year accumulative impacts of increased loading of nutrients and contaminants.** The USGS study of water quality impacts of the SDS alternatives on Pueblo Reservoir was only recently released for public review on the SDS website in May, and the public comment period should be extended so that it can be reviewed properly. The study concludes that the Upstream Return Flow Scenarios (including proposed discharge by Pueblo West) would result in the introduction into Pueblo Reservoir in 2046 "substantially larger" concentrations of potential contaminants and nutrients for algae growth than for the other alternatives. The study does not contain qualitative judgments as to the potential consequences of such increased concentrations. It is not clear from the DEIS or the USGS study what the accumulating effect of such increased concentrations over many years would have on the water quality of Pueblo Reservoir.	
43-45	<u>*COMMENT 12.*</u> **Use of the Joint Use Manifold for the SDS pipeline, without the contemporaneous approval and construction of the pipeline connection to the North Reservoir Outlet, would jeopardize the water supply to current users and to the Arkansas Valley Conduit.** In its April 15, 2008 comments letter to you, the Pueblo Board of Water Works raises a very important concern that the proposed SDS use of the joint use manifold would co-opt its required capacity for the future use by the City of Pueblo, Pueblo West and other exiting users. The SDS connection also could reduce the gravity flows in the pipeline to Pueblo's water treatment plant. SDS could also interfere with the proposed connection to the Arkansas Valley Conduit, which was an original component of the Fry-Ark Project. Pueblo Water also requests contract assurance that its prior reservation of capacity in the outlet would be honored by the Bureau in its contract with SDS participants. However, a contract priority of use for future Pueblo uses may become meaningless if the SDS pipeline already is being used to serve several hundred thousand people in El Paso County. We understand the Bureau is in the process of reviewing plans for the construction of the additional connection of the SDS pipeline to the North Outlet of Pueblo Reservoir. Any approval of the SDS pipeline at the Pueblo Reservoir should be conditioned upon the approval and contemporaneous construction of this additional outlet connection by the SDS participants.	

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43-46 ***COMMENT 13.*** **The DEIS relies upon many limiting assumptions which have the effect of minimizing the impacts of the SDS alternatives. The Bureau should consider converting these implied conditions into explicit terms and conditions of any federal approval.**

43-47 **COMMENT 13.1. Project Yield Limits. The DEIS assumes that the proposed pipeline out of Pueblo Reservoir will not be operated at maximum capacity, but only at about 60% of capacity. This assumption reduces the impacts studied for mitigation and should be incorporated in maximum average annual rates of flow and volumes through the pipeline.**

The firm yield of the proposed Pueblo Reservoir pipeline to El Paso County entities is 42,400 acre-feet and the SMAPD is 52,900 acre-feet. The daily average of deliveries to the El Paso County entities is assumed to be 49 m.g.d. (DEIS, p. 12.) These annual volumes are much less than the full-time capacity of the Pueblo Reservoir pipeline which would be 87,000 acre-feet per year, and much less than the 78 m.g.d. flow rate of the pipeline. Consequently, absent modeling the impacts of withdrawals through the pipeline at these maximum rates of flow and volumes, any approval of the pipeline and/or other alternatives should be restricted to the lower yield numbers (60% of capacity) without further environmental review and approval.

43-48 **COMMENT 13.2. Use of Existing Water Rights. The DEIS is based upon the representation by the SDS participants that only existing water rights would be used for the project. Any approval should condition the use of the project on the use of only existing water rights, and not the acquisition of additional water rights without further environmental study and review.**

The DEIS does not consider the impacts of converting additional agricultural water rights for municipal use through the SDS project, nor the resulting impacts of permanent dry-up of farmland. This representation by the SDS participants that only existing water rights would be used in the SDS Project was purposeful to avoid the environmental analysis and mitigation of the use of new water rights. The SDS participants should be held to those commitments of record.

43-49 **COMMENT 13.3. No additional users. Particularly as it relates to the City of Colorado Springs, the DEIS does not consider the impacts associated with Colorado Springs supplying raw water or substantial amounts of treated water outside its city boundaries. Such water contracts could increase the amount of water projected to be delivered through the pipeline, and the rates and timing of such amounts as modeled. Also, locations of return flows could change or the scheduled uses of water could be accelerated through the pipeline. Additional taps to the pipeline could mean unplanned growth and impacts along the pipeline. A specific term and condition should be considered as necessary to avoid such uses which have not been evaluated for impacts in the EIS nor mitigated.**

Response to Comment 43-45: Please refer to comment response 2-1 for Reclamation's response to concerns about capacity allocation and head pressure (gravity flow) effects on the Joint Use Manifold and inclusion of a connection to the River Outlet Works (North Reservoir Outlet) in alternatives that include a physical connection to Pueblo Dam. The DEIS addressed the comment pertaining to requiring contemporaneous construction of connections to the Joint Use Manifold and to the River Outlet Works in chapter 2, pages 33, 34, 53, 58, and 59. Phased implementation of connections to Pueblo Dam is tied to ensuring future water demands by other Joint Use Manifold users.

Response to Comment 43-46: Refer to the comment responses 43-47 to 43-55, which are specific comments.

Response to Comment 43-47: Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. A commitment not to construct or operate the Preferred Alternative in a manner that differs substantively from that evaluated in the FEIS, except under emergency conditions, has been included. Because of this commitment only the water supplies analyzed in this FEIS could be delivered through SDS facilities without additional NEPA analysis.

Comment	Letter 43 Continued	Response
		If future operations of the SDS Project are substantially different than analyzed in the EIS, Reclamation would require additional NEPA review. In addition, information presented in the DEIS regarding SDS untreated water conveyance capacity was modified in the FEIS (see chapter 2). A paragraph has been added to section 2.1.2.1 clarifying that the SDS untreated water intake and conveyance capacity required by Colorado Springs to meet SMAPD yield requirements was determined in the Raw Water Yield Study (MWH 2005). Seasonal variations in flow through SDS were discussed in the last paragraph of section B.3, Appendix B of the DEIS, while detailed hydrologic model results showing flow through SDS are presented in Appendix A of the Surface Water Hydrology Effects Analysis (MWH 2007d). In general, flow through SDS is at maximum capacity (78 mgd) from approximately May through December, when it is used to meet peak water treatment plant demands or fill terminal reservoir storage. During the remaining portion of the year (January through April), flow through SDS is less because demands at the water treatment plant are less than pipeline capacity and the terminal reservoir storage is full.

Comment	Letter 43 Continued	Response
		Response to Comment 43-48: The content of the FEIS has been modified to reflect this input. Information has been added to clarify that additional NEPA analysis would be necessary before the Project Participants could construct or operate the Preferred Alternative in a manner that differs substantively from that evaluated in the FEIS. Response to Comment 43-49: Refer to comment response 43-48.

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43-50 **COMMENT 13.4. <u>Terminal Reservoir Storage Contingency</u>. Appropriate terms and conditions should be fashioned to avoid the effects of the possible failure to construct terminal reservoir storage by the City of Colorado Springs – such a contingency has not been addressed in the DEIS.**

When evaluating the SDS alternatives that involve terminal reservoir storage either at Jimmy Camp Creek Reservoir or at Upper Williams Creek Reservoir, the DEIS does not evaluate the effects to Pueblo Reservoir and to stream flow if such storage is not built as planned. Without such terminal storage, Pueblo Reservoir levels would decrease and fluctuate substantially with only direct deliveries through the SDS pipeline. These changes are not analyzed nor mitigated in the DEIS.

43-51 **COMMENT 13.5. <u>Williams Creek Reservoir Contingency</u>. Appropriate terms and conditions should be fashioned to avoid the effects that would occur if Williams Creek Reservoir were not constructed as proposed.**

For those SDS alternatives premised upon the construction of Williams Creek Reservoir, appropriate terms and conditions should be considered to address the situation if Williams Creek Reservoir is not built. Williams Creek Reservoir, for example, is considered a mitigation measure to reduce the effects of increased flows on Fountain Creek for purposes of the DEIS.

43-52 **COMMENT 13.6. <u>Storm Water Enterprise Fund and Regulation Contingency</u>. Additional mitigation and environmental reviews would be necessary in the event Colorado Springs eliminates its storm water enterprise fund and fails to implement its storm water regulations to detain increased storm water from new development.**

As discussed previously, the impacts analysis on Fountain Creek is minimized as a result of the presumption that Colorado Springs would fund its Storm Water Enterprise for required storm water management structures, and that it would enforce storm water regulations to prevent increased flows on Fountain Creek. Appropriate enforcement mechanisms should be developed for such a contingency, including additional approvals of environmental reviews and cessation of SDS storage and deliveries.

43-53 **COMMENT 13.7. <u>Williams Creek Reservoir Release Rates</u>. The DEIS assumes that releases from Williams Creek Reservoir will not exceed 300 c.f.s. to avoid downstream erosion effects on Fountain Creek. That restriction on releases should be considered as an explicit term and condition.**

43-54 **COMMENT 13.8. <u>Participation in PFMP</u>. Participation in the PFMP, to the extent its benefits, if any, are embedded in the EIS analyses, should be incorporated as a**

Response to Comment 43-50: Refer to comment response 43-48.

Response to Comment 43-51: Refer to comment response 43-48.

Response to Comment 43-52: The DEIS chapter 3, pages 121 to 130 discusses Colorado Springs' Stormwater Enterprise. Implementation of the Colorado Springs Stormwater Enterprise is considered a reasonably foreseeable action and, therefore, its potential effects were reflected only in cumulative effects analyses. This enterprise may have beneficial cumulative effects on water quality, flood hydrology, and geomorphology as described in chapter 3, pages 247, 248, 261, and 291. However, implementation of the Colorado Springs Stormwater Enterprise has purposes that are independent of the SDS Project and is not considered a mitigation measure. The actions identified as reasonably foreseeable in the DEIS were classified as such based on available information.

Response to Comment 43-53: Refer to comment response 43-48.

Response to Comment 43-54: Refer to comment response 43-48.

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term and condition of any federal approval and binding on all SDS participants, regardless of their participation in the PFMP IGAs.

43-55 **COMMENT 13.9. <u>Conservation and Non-Potable Water Usage Programs</u>. The DEIS represents that conservation, use of non-potable water, and other water savings programs would be continued by the SDS participants, despite the availability of greater water supplies from the SDS project; those commitments also should be evidenced by explicit terms and conditions for federal approval.**

<u>CONCLUSION</u>

We hope that these comments will be useful to the Bureau in the EIS process for the SDS. We request that another draft of the DEIS be issued in response to these comments and those of other parties; we also request that a final EIS be deferred until completion of Fountain Creek studies by the Corps of Engineers and other entities. We would be happy to discuss and meet with you concerning the issues raised by this letter.

Sincerely,

Raymond L. Petros, Jr.

RLP/lah
cc: Mr. Daniel Kogovsek, Pueblo County Attorney
Mr. Kim Headley, Pueblo County Planning Department
Mr. Gary Raso, Special Counsel

Response to Comment 43-55: Refer to comment responses 40-2 and 43-47

COLORADO SPRINGS AIRPORT

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RECLAMATION
Date JUN 1 6 2008
1002 (Lamb) 6-17
Copy to 1004 (Gould)

June 12, 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Dear Ms. Lamb,

In response to the Southern Delivery System Draft Environmental Impact Statement (Draft EIS), the Colorado Springs Airport expresses its full support for the proposed project and each of the alternatives described in the study.

The Colorado Springs Airport (COS) is the primary commercial service airport for southeast Colorado, as well as parts of western Kansas and northeastern New Mexico. The City of Colorado Springs lies at the heart of this area, and its economy is the primary magnet for the commercial airlines that provide service for the entire region. The proposed Southern Delivery System (SDS) will provide water resources that are essential to the continued growth and development of the City of Colorado Springs, and therefore is essential to the continued success of the Colorado Springs Airport and its role as a regional gateway to the national air transportation system.

In addition to the air service development benefits that will accrue to the region, SDS will have a direct impact on the success of the commercial property development efforts at the Colorado Springs Airport. In an era of rapidly rising costs and stagnant growth of traditional revenue sources, airports throughout the country are turning to non-aeronautical land development as a way to fill the void. The Colorado Springs Airport is leading the way in this new arena with the development of a 1,000-acre airport business park. COS has invested approximately $2.4 million in the planning and development of the park, and has attracted nearly $150 million in private sector capital investment so far. Overall, it is anticipated that approximately $450 million will be invested in the business park over the next ten years, generating a steady source of revenue that will ensure the continued success of the Colorado Springs Airport for years to come.

The Colorado Springs Airport has been advised that the Federal Aviation Administration and the United States Department of Agriculture may be submitting comments regarding a potential increase in migratory bird activity in the area of the airport as a result of the Southern Delivery System project. COS has studied the sections of the Draft EIS that address this issue and has

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Thank you for your comment.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Ref: EPR-N

SEP 16 2008

Mr. Michael Collins
Area Manager
Bureau of Reclamation
Eastern Colorado Area Office
11056 West County Road 18E
Loveland, CO 80537-9711

Re: Southern Delivery System, Colorado Springs, CO, Draft Environmental Impact Statement, CEQ# 20080072

Dear Mr. Collins:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and our authority pursuant to Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency, Region 8 (EPA) has reviewed the Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (DEIS) for the Southern Delivery System (SDS) project.

The City of Colorado Springs, City of Fountain, Security Water District, and Pueblo West Metropolitan District (the Participants) have requested contracts with Reclamation that would allow development of the SDS project. SDS is a proposed regional water delivery system designed to serve most or all of the Participants' water needs through 2046. As proposed, SDS would deliver Frying Pan-Arkansas (Fry-Ark) Project water and non-Fry-Ark Project water from the Arkansas River near the city of Pueblo to the Participants' service areas. The DEIS describes and analyzes the potential environmental effects of seven alternatives, including a no action alternative, on resources in the Arkansas River Basin in Colorado.

45-1 The project area for the Proposed Action, which is also Reclamation's Preferred Alternative, would extend northward from the Arkansas River and include a pipeline from Pueblo Reservoir to the city of Colorado Springs. EPA is a Cooperating Agency on this project and has worked with Reclamation, providing comments on preliminary draft chapters of the DEIS, among other activities. Throughout our review of preliminary drafts, EPA has expressed concerns about impacts to Fountain Creek water quality from return flows resulting from the Proposed Action, impacts to wetlands and other water resources, and the need for additional analysis of potential water quality and wetland impacts.

Response to comment 45-1: Reclamation appreciates EPA's reviews of the preliminary chapters of the DEIS and drafts of supporting technical documents. EPA's input was reflected in the DEIS and final supporting documents. Reclamation accommodated EPA's current concerns about water quality by preparing additional analyses and releasing them in a Supplemental Information Report for public review. EPA's current concerns about wetlands are addressed in comment responses 13-1, 13-2, and 13-3.

Comment Letter 45 Continued Response

EPA and Reclamation have met several times to discuss the type of water quality assessment approach needed in order to provide a comprehensive analysis of the impacts to water quality under the different alternatives. Reclamation has committed to complete this additional water quality analysis and will release it to the public for a 45-day comment period. EPA will reserve its comments on the water quality impacts from SDS until EPA has had an opportunity to review the additional analysis during the public comment period. EPA will provide a rating of the overall Draft EIS at that time.

EPA commends Reclamation's efforts to provide additional water quality analysis that we believe is critical to understanding the environmental impacts of SDS on water bodies in the project area. EPA Region 8 is available to provide assistance to your staff on this additional analysis.

If you have any questions or would like to discuss this process further, please contact me at 303-312-6004. The most knowledgeable person on my staff with regard to this project is Jody Ostendorf, and she is available at 303-312-7814.

Sincerely,

Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

Enclosure

cc: Ms. Kara Lamb
Ms. Jaci Gould

Comment | Letter 45 Continued | Response

Southern Delivery System
Detailed Comments (except water quality)

45-2

I. Identification of the Least Environmentally Damaging Practicable Alternative

Although the DEIS states that the Clean Water Act (CWA) 404(b)(1) guidelines, 40 CFR Part 230, (Guidelines) were considered throughout the alternatives analysis, EPA believes that additional information on water quality and wetlands impacts is necessary to fully assess the impacts of the Proposed Action and to identify the least environmentally damaging practicable alternative (LEDPA). This information generally is developed as part of the analysis required by the Guidelines. To demonstrate that the Proposed Action is the LEDPA, the applicant must show that, to the extent practicable, steps have been taken to avoid and minimize impacts to aquatic resources, as well as compensate for any remaining unavoidable impacts. Compensatory mitigation proposed by the applicant must be in accordance with the revised regulations set forth in the Final Rule entitled Compensatory Mitigation for Losses of Aquatic Resources (73 FR 19594, April 10, 2008). Given that the decision whether to issue a CWA Section 404 permit will be determinative of whether the Proposed Action can be implemented, EPA recommends that a complete Guidelines analysis be included in the supplemental information Reclamation is currently preparing.

45-3

II. Environmental Justice

The DEIS states that a relatively high proportion of the block groups along Fountain Creek is categorized as "potential concern" block groups (36 percent versus 22 percent for the overall potential project area) (Section 3.16.14, page 444). However, the DEIS does not fully identify and disclose impacts to the "high risk areas" depicted in Figure 94, page 445, which includes the East Side neighborhood bordering the east side of Fountain Creek northeast of Pueblo, and the communities centrally located within Pueblo at the confluence with the Arkansas River. Historically, Fountain Creek was a valued cultural and recreational resource for these communities. However, in recent years, the Pueblo City and County Health Department has posted warning signs advising residents not to enter or use Fountain Creek due to E. coli contamination and other contaminants. In addition to the potential for increased exposure to contaminants, these communities may experience increased erosion and flooding due to the return flows coming down Fountain Creek as a result of SDS. The communities that live in those areas are largely minorities and relatively poorer than the rest of Pueblo. Though the DEIS does not identify them, it is EPA's understanding that there are approximately 4,000 migrant workers in the area, some of whom live with relatives on the East Side.

The proposed mitigation includes proper rate design to minimize the potential for disproportionate impacts on low-income water users. However, the DEIS does not include mitigation to address the increased risk of exposure to contaminants and risk of flooding in Pueblo neighborhoods that have experienced flooding as recently as 2006 and 2007.

Response to comment 45-2: An analysis to comply with the 404(b)(1) Guidelines has been prepared by the Project Participants and is referenced in section 1.1.6 of the FEIS. Refer to comment responses 13-1, 13-2, and 13-3.

Response to comment 45-3: The DEIS described existing water quality, flood hydrology, and geomorphology conditions in Fountain Creek in sections 3.6, 3.7, and 3.8, and in the Water Quality Technical Report (MWH 2008c) and Water Resources Technical Report (MWH 2007a). DEIS sections 3.6, 3.7, and 3.8, the Water Quality Effects Analysis (MWH 2008b), and the Water Resources Effects Analysis (MWH 2008d) disclosed potential direct, indirect, and cumulative effects on these environmental resources. Additional analyses of potential effects on *E. coli* densities in Fountain Creek were presented in the Supplemental Information Report.

The SDS alternatives would have no adverse effects on flood hydrology. Water quality and geomorphology may be adversely affected by the SDS alternatives. Nonetheless, these effects would occur along a substantial length of Fountain Creek and would not disproportionately affect minority populations and low-income populations. Mitigation specific to these populations is not warranted.

Comment	Letter 45 Continued	Response
	Allowing further impacts to Fountain Creek's water quality seems inconsistent with the many ongoing projects which seek to restore Fountain Creek's water quality and recreational amenities. These efforts include the Fountain Creek Crown Jewel Project spearheaded by Senator Ken Salazar's office, the Corps of Engineers Fountain Creek Watershed Study and Colorado Springs Utility's own Fountain Creek Recovery Project. EPA encourages Reclamation to provide more information in the FEIS regarding mitigation commitments to reduce risks of exposure to contaminants and risks of flooding in Pueblo neighborhoods.	Response to comment 45-4: The DEIS addressed the Preferred Storage Options Plan and the Arkansas Valley Conduit on chapter 3, page 130. These projects were considered not reasonably foreseeable for multiple reasons, with lack of funding being only one.
45-4	III. Cumulative impacts of other regional water supply and storage projects The DEIS does not consider two planned water projects that will be located in the same watershed as the SDS project in the cumulative impacts analysis for SDS. EPA understands that Reclamation did not evaluate the Preferred Storage Options Plan (PSOP) or the Arkansas Valley Conduit (AVC) projects in the cumulative impacts analysis because the projects have not been funded. Lack of funding, in and of itself, is not a sufficient basis to disregard these projects. Area policy-makers and community leaders consider PSOP, AVC and SDS to be part of regional cooperative efforts to address flood control and water quality problems on Fountain Creek. In addition, PSOP and AVC may impact water quality in the Arkansas River Basin which, as noted in the DEIS, is currently impaired in the project area for selenium and total recoverable iron, proposed to be listed as impaired for sulfate, and listed as of concern for salinity. By not considering the impacts of PSOP and the AVC on water quality in the Arkansas River, along with impacts from SDS, the total cumulative impacts to that resource, including impacts to the ecosystem and downstream users, cannot be fully assessed.	Response to comment 45-5: The DEIS addressed urban and suburban development throughout the study area, including that of the Banning-Lewis Ranch in chapter 3, pages 122 to 124. Cumulative effects of growth and other reasonably foreseeable actions are reflected in each of the resource sections of chapter 3 and in the associated supporting documents. The distribution of projected growth within Banning-Lewis Ranch is represented in Figure 3 of the DEIS (refer to comment response 44-6). Presently, there is no evidence to suggest that this growth pattern would be altered substantially by construction of a reservoir at Jimmy Camp Creek.
45-5	IV. Cumulative impacts from growth The DEIS does not analyze the cumulative impacts from growth, particularly around the proposed reservoirs and the Banning-Lewis Ranch development. The DEIS states that full build-out could include 75,000 homes, and construction may include 2,500 homes per year. In addition to this identified development, any alternative which includes construction of a reservoir in close proximity to Colorado Springs will have the tendency to induce growth near the reservoir. While EPA agrees that the growth will eventually occur in that watershed, EPA believes that the cumulative impacts due to the increased flows from the reservoir and the additional developed flows from both an increase in impervious areas and landscape watering will cause greater water quality impacts than are currently identified in the DEIS. We recommend that the FEIS estimate those impacts and propose mitigation to address the cumulative impacts of induced growth.	Response to comment 45-6: Information was added to section 1.5.1.3 of the FEIS to clarify that most of the projected growth around the perimeter of Colorado Springs is new residential development.
45-6	Figure 3, Projected Location of Colorado Springs' Future Population Growth indicates that 60 percent of the highest density growth will be concentrated on the perimeters of the city. EPA recommends that the FEIS clarify whether this growth is infill or new residential development. Further, we suggest that the FEIS provide information about how water conservation and efficiency measures will be incorporated 2	

Comment | Letter 45 Continued | Response

into new residential developments. For example, the project proponent could consider ways to work with developers on commitments to include reclaimed water distribution systems for single or multi-family homes in new residential developments.

45-7

Communities across the country are using creative strategies to develop in ways that preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed land. EPA supports these "Smart Growth" approaches in development planning that incorporate government and community partnering, environmental stewardship and transportation network enhancements in safety and functionality. We recommend that Reclamation encourage the project proponent to consider these approaches. National, state and local organizations have come together to form the Smart Growth Network (SGN), a voluntary initiative led by 36 partner organizations that are focused on development which benefits the economy, communities and ecological sustainability. For innovative solutions which address low-impact development, please visit EPA's Smart Growth Website at http://www.epa.gov/smartgrowth/index.htm.

V. Segmenting the project

45-8

The DEIS describes a plan to segment the project for permitting purposes by permitting the impacts due to the SDS reservoirs in the Corps of Engineers' individual permit, and permit all other SDS-related work under the appropriate Nationwide Permits. EPA objects to this approach since it artificially diminishes the impacts of the project. EPA recommends the FEIS confirm that all discharges of dredged or fill materials to waters of the United States will be permitted pursuant to one Individual CWA Section 404 permit issued by the Corps of Engineers.

3

The DEIS addressed water conservation in chapter 2, pages 87 to 91 and in Appendix A, pages A-20 to A-23. Each of the Project Participants has a conservation program that is being implemented independently of the proposed SDS Project. These programs have been submitted to Reclamation under the Reclamation Reform Act. Any approved contract would have a requirement to continue to submit these programs.

Response to comment 45-7: Land use planning is outside the scope of the proposed contracts and this EIS. However, the Reclamation has informed the Project Participants of EPA's suggestion.

Response to comment 45-8: The DEIS in chapter 2, page 22 and chapter 3, pages 325 to 326 identified the anticipated need for one or more 404 permits for the discharge of dredge and fill material to wetlands or waters of the U.S. The DEIS did not identify the type or quantity of permits that the Corps of Engineers would require to implement the Preferred Alternative. Refer to comment responses 13-1, 13-2, and 13-3 for information on 404 permitting.

Table B-2. Issues by Commenter: Individuals

Commenter and Issues (City, State) [Document Identification Number]					
Adley, Jim & Elain (Pueblo, CO) [53]					
2003	*Requests additional alternative analysis*	*2007*	*General comment about Participants' water reuse potential*	*5000*	*Comments about process*
5204	*Comments about public meeting content*				
Ahlenius, Todd [121]					
3005	*Concern about overall environmental impacts on Williams Creek*	*3551*	*General concern about change in land use*		
Ahlers, Robert [369]					
5000	*Comments about process*				
Alt, Bill (Pueblo, CO) [207]					
2003	*Requests additional alternative analysis*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*3101*	*General surface water quality concern*
3254	*Concern about flooding in Fountain Creek*				
Alt, Bill (Pueblo, CO) [33]					
2004	*Concern about Reclamation's preferred alternative*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*3304*	*Concern about geomorphology in Fountain Creek*
3951	*Concern about conceptual geomorphology mitigation plan*				
Alvis, June (Pueblo, CO) [70]					
2007	*General comment about Participants' water reuse potential*	*2403*	*General comments about future growth (includes urban development and land use)*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*
Amend, Lisa [170]					
3725	*Comment in support of proposed action or SDS in general*				
Anderson, Cathryn (Arlington, CO) [69]					
2007	*General comment about Participants' water reuse potential*	*2403*	*General comments about future growth (includes urban development and land use)*	*4000*	*Issues outside of Scope of EIS*
Andrews, Becky (Florence, CO) [6]					
3552	*General concern about private property*				
Andrews, Victor C. (Colorado Springs, CO) [292]					
3725	*Comment in support of proposed action or SDS in general*				
Angel, Patricia [102]					
1010	*Concern about need for future demand*	*2403*	*General comments about future growth (includes urban development and land use)*	*3180*	*Water Rights*
4000	*Issues outside of Scope of EIS*	*5006*	*Concern about cost of EIS*		

Commenter and Issues (City, State) [Document Identification Number]

Angel, Patricia [103]

3551	*General concern about change in land use*	*3715*	*Concern about economic effects/property values along pipeline corridor*	*3729*	*Concern about cost and rate impacts*
5003	*Concern about Cooperating Agencies*	*5208*	*Comments about document availability*		

Anonymous

5204	*Comments about public meeting content*				

Anonymous

2403	*General comments about future growth (includes urban development and land use)*	*3011*	*Concern about overall cumulative environmental impacts*	*3104*	*Concern about surface water quality in Arkansas River downstream of Fountain Creek*
3254	*Concern about flooding in Fountain Creek*	*3304*	*Concern about geomorphology in Fountain Creek*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Anonymous

2403	*General comments about future growth (includes urban development and land use)*	*2406*	*General comments about climate change*		

Anonymous

3101	*General surface water quality concern*				

Anonymous

5211	*Request to extend public comment period*	*5212*	*Request for presentation/question and answer style public meetings*		

Anonymous

5200	*Comments about Public Involvement*	*5204*	*Comments about public meeting content*	*5205*	*Comments about public meeting staff*

Anonymous

3104	*Concern about surface water quality in Arkansas River downstream of Fountain Creek*	*3105*	*Concern about surface water quality in Fountain Creek*	*3181*	*Concern about water rights*
3254	*Concern about flooding in Fountain Creek*	*4000*	*Issues outside of Scope of EIS*		

Anonymous

2006	*Concern that the No Action Alternaitve isn't really No Action*	*2403*	*General comments about future growth (includes urban development and land use)*	*3181*	*Concern about water rights*
4001	*Concern about Colorado Springs' sanitary sewer overflows*				

Anonymous

3409	*Concern about impacts to wildlife at Jimmy Camp Creek Reservoir site*	*3658*	*General concern about recreation at Jimmy Camp Reservoir*	*3966*	*Suggested recreation mitigation*
3969	*Suggested cultural mitigation*	*3969*	*Suggested cultural mitigation*		

Anonymous

3009	*Concern about overall environmental impacts at Jimmy Camp Creek Reservoir Site*	*3018*	*Concern about extent of study area*	*3256*	*Concern about flooding in Jimmy Camp Creek*
3718	*Concern about economic effects/property values related to Jimmy Camp Creek*				

Commenter and Issues (City, State) [Document Identification Number]

Anonymous

3306 Concern about geomorphology in Jimmy Camp Creek
3328 Concern about Jimmy Camp Creek Dam stability
3718 Concern about economic effects/property values related to Jimmy Camp Creek

Anonymous

2010 Concern about treatment quality of return flows
3101 General surface water quality concern
3155 Concern about surface water flow in Fountain Creek
3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek
3304 Concern about geomorphology in Fountain Creek

Anonymous

3969 Suggested cultural mitigation

Anonymous

2007 General comment about Participants' water reuse potential
2307 Fountain Creek flood control dam suggestion
3105 Concern about surface water quality in Fountain Creek
3251 General concerns about flooding
3600 Visual Quality
3716 Concern about economic effects/property values along Fountain Creek
4001 Concern about Colorado Springs' sanitary sewer overflows

Anonymous

2307 Fountain Creek flood control dam suggestion
3105 Concern about surface water quality in Fountain Creek

Anonymous

3251 General concerns about flooding
5212 Request for presentation/question and answer style public meetings

Anonymous

1000 Purpose and Need
2007 General comment about Participants' water reuse potential
3724 Concern that project would enable future growth
3900 Other Resources
3901 Concern about construction noise
5000 Comments about process
5004 Suggested consultation and coordination
5201 Comments about public meetings

Anson, Dick & Olga (Colorado Springs, CO) [196]

2300 Suggested Alternatives
3729 Concern about cost and rate impacts

Anson, Dick & Olga (Colorado Springs, CO) [366]

1010 Concern about need for future demand

Commenter and Issues (City, State) [Document Identification Number]

Atero, Kathleen [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Atkinse, Kuit (Fountain, CO) [72]

2306 *Alternatives to return flow conveyance*

Babitz, Valerie [133]

3105 *Concern about surface water quality in Fountain Creek*

Baldrica, Bill [202]

3725 *Comment in support of proposed action or SDS in general*

Ball, Jill (Pueblo West, CO) [16]

3526	*Concern about impacts on vegetation resources*	*3551*	*General concern about change in land use*	*3606*	*Concern about visual effects of pipeline corridor*

Barbour, Cindy [168]

2307	*Fountain Creek flood control dam suggestion*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Barbour, Ron [12]

3105	*Concern about surface water quality in Fountain Creek*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Batchelder, Jr., M.D. Butch (Pueblo West, CO) [222]

1001	*Believes the proposed project meets the purpose and need*	*3354*	*Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek*	*3653*	*General concern about recreation through Pueblo*

Baum, G. Barry (Colorado Springs, CO) [200]

3725 *Comment in support of proposed action or SDS in general*

Bergeron, Annelie L. and Robert J. (Colorado Springs, CO) [76]

3256	*Concern about flooding in Jimmy Camp Creek*	*3306*	*Concern about geomorphology in Jimmy Camp Creek*	*3328*	*Concern about Jimmy Camp Creek Dam stability*
3331	*Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*	*3376*	*Concern about mosquitos and/or west nile virus*	*3718*	*Concern about economic effects/property values related to Jimmy Camp Creek*
5200	*Comments about Public Involvement*	*5204*	*Comments about public meeting content*		

Commenter and Issues (City, State) [Document Identification Number]

Bergeron, Annelie L. and Robert J. (Colorado Springs, CO) [83]

3256 Concern about flooding in Jimmy Camp Creek

3306 Concern about geomorphology in Jimmy Camp Creek

3327 Concern about Williams Creek Dam stability

3328 Concern about Jimmy Camp Creek Dam stability

3331 Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir

3716 Concern about economic effects/property values along Fountain Creek

3718 Concern about economic effects/property values related to Jimmy Camp Creek

Bircham, Ed (Colorado Springs, CO) [306]

3725 Comment in support of proposed action or SDS in general

Blakely, Edward (Colorado Springs, CO) [89]

3256 Concern about flooding in Jimmy Camp Creek

Bobyn, Michele (Pueblo, CO) [20]

5211 Request to extend public comment period

Bobyn, Michele (Pueblo, CO) [212]

2006 Concern that the No Action Alternaitve isn't really No Action

3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir

Boggs, Bill [132]

2304 Alternatives to pipeline alignments

3966 Suggested recreation mitigation

Bolduc, Joel (Florence, CO) [339]

3111 Concern about surface water quality in Arkansas River upstream of Pueblo

3152 Concern about Arkansas River flows upstream of Pueblo Reservoir

3354 Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek

Brill, Bill & Bev (Pueblo, CO) [157]

2004 Concern about Reclamation's preferred alternative

2011 Concern about development of cost estimates or use of cost estimates as screening tool

3155 Concern about surface water flow in Fountain Creek

3304 Concern about geomorphology in Fountain Creek

5204 Comments about public meeting content

Brill, Bill & Bev (Pueblo, CO) [186]

2007 General comment about Participants' water reuse potential

3105 Concern about surface water quality in Fountain Creek

4001 Concern about Colorado Springs' sanitary sewer overflows

Bruce, Ardith (Fountain, CO) [78]

3254 Concern about flooding in Fountain Creek

3304 Concern about geomorphology in Fountain Creek

3716 Concern about economic effects/property values along Fountain Creek

4001 Concern about Colorado Springs' sanitary sewer overflows

Burke, Spencer [347]

3700 Cost-benefit analysis

Cahill, Jeff (Falcon, CO) [178]

3658 General concern about recreation at Jimmy Camp Reservoir

3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir

3969 Suggested cultural mitigation

Cahill, Jeff (Falcon, CO) [95]

3269 Concern about flood inundation at Jimmy Camp Creek Reservoir site

3658 General concern about recreation at Jimmy Camp Reservoir

3675 Concern about impacts to parks

Commenter and Issues (City, State) [Document Identification Number]

Campbell, Velma L. (Pueblo, CO) [219]

2001 *General comment about alternative development*
2003 *Requests additional alternative analysis*
2007 *General comment about Participants' water reuse potential*
3020 *Concern that EIS analyses are generally inadequate*
3102 *Concern about surface water quality in Pueblo Reservoir*
3102 *Concern about surface water quality in Pueblo Reservoir*
3370 *Requests additional analysis on the effects on aquatic life*
3827 *Requests additional analysis on wetland and riparian resources*

Campbell, Velma L. (Pueblo, CO) [35]

2007 *General comment about Participants' water reuse potential*
2010 *Concern about treatment quality of return flows*
3105 *Concern about surface water quality in Fountain Creek*
4001 *Concern about Colorado Springs' sanitary sewer overflows*
5211 *Request to extend public comment period*
5212 *Request for presentation/question and answer style public meetings*

Cantin, Annette (Colorado Springs, CO) [304]

2004 *Concern about Reclamation's preferred alternative*
3376 *Concern about mosquitos and/or west nile virus*
3718 *Concern about economic effects/property values related to Jimmy Camp Creek*

Cantin, Michael (Colorado Springs, CO) [210]

2004 *Concern about Reclamation's preferred alternative*
3306 *Concern about geomorphology in Jimmy Camp Creek*
3331 *Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
3376 *Concern about mosquitos and/or west nile virus*
3718 *Concern about economic effects/property values related to Jimmy Camp Creek*

Cantin, Michael (Colorado Springs, CO) [87]

2303 *Alternatives to Reservoirs*
3256 *Concern about flooding in Jimmy Camp Creek*
3306 *Concern about geomorphology in Jimmy Camp Creek*
3328 *Concern about Jimmy Camp Creek Dam stability*
3331 *Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*

Carter, Marvin [17]

3159 *Concern about surface water flow in the Arkansas River at state line*
5200 *Comments about Public Involvement*

Casebolt, Gale (La Junta, CO) [59]

2308 *Crowley County diversion point suggestion*

Casper, Maurita [124]

2007 *General comment about Participants' water reuse potential*
2201 *Concern about Participants' conservation programs*

Charbonneau, Todd & Jeanne (Colorado Springs, CO) [77]

2004 *Concern about Reclamation's preferred alternative*
2303 *Alternatives to Reservoirs*
3306 *Concern about geomorphology in Jimmy Camp Creek*
3331 *Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
3376 *Concern about mosquitos and/or west nile virus*
3718 *Concern about economic effects/property values related to Jimmy Camp Creek*
3812 *Concern about wetland impacts at Jimmy Camp Creek Reservoir*

Charbonneau, Todd & Jeanne (Colorado Springs, CO) [85]

3256 *Concern about flooding in Jimmy Camp Creek*
3306 *Concern about geomorphology in Jimmy Camp Creek*
3376 *Concern about mosquitos and/or west nile virus*
3808 *Concern about wetland impacts on Jimmy Camp Creek*

Commenter and Issues (City, State) [Document Identification Number]

Clark, Michael (Colorado Springs, CO) [84]

2406 General comments about climate change
3256 Concern about flooding in Jimmy Camp Creek
3306 Concern about geomorphology in Jimmy Camp Creek
3328 Concern about Jimmy Camp Creek Dam stability
3331 Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir
3376 Concern about mosquitos and/or west nile virus
3718 Concern about economic effects/property values related to Jimmy Camp Creek

Cole, Chris [198]

3725 Comment in support of proposed action or SDS in general

Colosimo, Andrew and Brooke (Colorado Springs, CO) [341]

3725 Comment in support of proposed action or SDS in general

Colson, Jim (Pueblo, CO) [142]

2010 Concern about treatment quality of return flows
2300 Suggested Alternatives
2307 Fountain Creek flood control dam suggestion
3152 Concern about Arkansas River flows upstream of Pueblo Reservoir
3155 Concern about surface water flow in Fountain Creek
3252 Concern about flooding in Arkansas River upstream of Fountain Creek
3254 Concern about flooding in Fountain Creek
3302 Concern about geomorphology in Arkansas River upstream of Fountain Creek

Colson, Jim (Pueblo, CO) [215]

2001 General comment about alternative development
3152 Concern about Arkansas River flows upstream of Pueblo Reservoir
3254 Concern about flooding in Fountain Creek
3302 Concern about geomorphology in Arkansas River upstream of Fountain Creek
4000 Issues outside of Scope of EIS

Colvin, T. Louise (La Junta, CO) [122]

3104 Concern about surface water quality in Arkansas River downstream of Fountain Creek
3154 Concern about Arkansas River flows downstream of Fountain Creek
3170 Concern about Pueblo Reservoir storage not used for primary purpose
3253 Concern about flooding in Arkansas River downstream of Fountain Creek
4001 Concern about Colorado Springs' sanitary sewer overflows

Conser, Charles E. (Colorado Springs, CO) [120]

5200 Comments about Public Involvement

Cotton, Knute E. (Pueblo, CO) [154]

2010 Concern about treatment quality of return flows
3729 Concern about cost and rate impacts
3735 Concern about municipal water quality and cost in the lower Arkansas Valley
4001 Concern about Colorado Springs' sanitary sewer overflows

Couloucoundis, Cristina [347]

3700 Cost-benefit analysis

Courtright, Anne C. (Pueblo, CO) [163]

2303 Alternatives to Reservoirs

Craddock, Sid L. (Pueblo, CO) [68]

3105 Concern about surface water quality in Fountain Creek

Cunningham, Brian [347]

3700 Cost-benefit analysis

Dean, William (Colorado Springs, CO) [86]

3256 *Concern about flooding in Jimmy Camp Creek*
3328 *Concern about Jimmy Camp Creek Dam stability*
3718 *Concern about economic effects/property values related to Jimmy Camp Creek*
3910 *Concern about paleontological resources at Jimmy Camp Creek Reservoir*

Dispense, Russ (Denver, CO) [303]

3725 *Comment in support of proposed action or SDS in general*

Dlodoslo, Jr., Warren J. (Pueblo, CO) [24]

3104 *Concern about surface water quality in Arkansas River downstream of Fountain Creek*
3105 *Concern about surface water quality in Fountain Creek*
4001 *Concern about Colorado Springs' sanitary sewer overflows*

Dorr, Bob [243]

2306 *Alternatives to return flow conveyance*

Driscoll, Dennis P. (Pueblo West, CO) [36]

1013 *Concern that adequate river flows will be available to meet demand of project*
2007 *General comment about Participants' water reuse potential*
2010 *Concern about treatment quality of return flows*
3107 *Concern about surface water quality in Williams Creek*
3153 *Concern about Arkansas River flows through Pueblo*
3657 *General concern about recreation at Williams Creek Reservoir*

Duran, Elizabeth (Pueblo, CO) [125]

5004 *Suggested consultation and coordination*
5212 *Request for presentation/question and answer style public meetings*

Duran, Elizabeth (Pueblo, CO) [199]

2307 *Fountain Creek flood control dam suggestion*
3003 *Concern about overall environmental impacts on Arkansas River*
3101 *General surface water quality concern*
5004 *Suggested consultation and coordination*

Edwards, James E. (Colorado Springs, CO) [252]

3725 *Comment in support of proposed action or SDS in general*

Egbert, James R. (Colorado Springs, CO) [251]

1001 *Believes the proposed project meets the purpose and need*

Emrich, Andrew C. (Denver, CO) [363]

2001 *General comment about alternative development*
2003 *Requests additional alternative analysis*
2006 *Concern that the No Action Alternaitve isn't really No Action*
2011 *Concern about development of cost estimates or use of cost estimates as screening tool*
2303 *Alternatives to Reservoirs*
3009 *Concern about overall environmental impacts at Jimmy Camp Creek Reservoir Site*
3328 *Concern about Jimmy Camp Creek Dam stability*
3409 *Concern about impacts to wildlife at Jimmy Camp Creek Reservoir site*
3551 *General concern about change in land use*
3853 *Concern about cultural resource impacts at Jimmy Camp Creek*
3858 *Concern about cultural resources methods and assumptions*
3859 *Concern about cultural resources study area*
3910 *Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3911 *Concern about other permits*
5000 *Comments about process*

Ench, Robert & Sally (Pueblo, CO) [162]

2307 *Fountain Creek flood control dam suggestion*
3105 *Concern about surface water quality in Fountain Creek*
3254 *Concern about flooding in Fountain Creek*

Commenter and Issues (City, State) [Document Identification Number]

Ench, Robert & Sally (Pueblo, CO) [217]

2010	*Concern about treatment quality of return flows*	*2307*	*Fountain Creek flood control dam suggestion*		

Ench, Robert & Sally (Pueblo, CO) [50]

2010	*Concern about treatment quality of return flows*	*3155*	*Concern about surface water flow in Fountain Creek*		

Espinoza, Jr., Patrick (Pueblo, CO) [10]

3004	*Concern about overall environmental impacts on Fountain Creek*	*3103*	*Concern about surface water quality in Arkansas River through Pueblo*	*3105*	*Concern about surface water quality in Fountain Creek*
3254	*Concern about flooding in Fountain Creek*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Esposito, Felix "Joe" (Colorado Springs, CO) [129]

2004	*Concern about Reclamation's preferred alternative*	*3306*	*Concern about geomorphology in Jimmy Camp Creek*	*3331*	*Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
3376	*Concern about mosquitos and/or west nile virus*	*3551*	*General concern about change in land use*	*3718*	*Concern about economic effects/property values related to Jimmy Camp Creek*

Estep, Scott [8]

2201	*Concern about Participants' conservation programs*	*2403*	*General comments about future growth (includes urban development and land use)*	*3101*	*General surface water quality concern*
3105	*Concern about surface water quality in Fountain Creek*	*3254*	*Concern about flooding in Fountain Creek*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Etter, Valerie [318]

4001	*Concern about Colorado Springs' sanitary sewer overflows*				

Fitzgerald, Doug (Pueblo, CO) [11]

3105	*Concern about surface water quality in Fountain Creek*	*3159*	*Concern about surface water flow in the Arkansas River at state line*	*3251*	*General concerns about flooding*

Flohr, Paulette (Colorado Springs, CO) [180]

2201	*Concern about Participants' conservation programs*				

Foster, Julie & Phil (Colorado Springs, CO) [359]

3725	*Comment in support of proposed action or SDS in general*				

Freidenberger, Fred (La Junta, CO) [58]

5002	*Concern that EIS is biased*				

Gallagher, Tom (Colorado Springs, CO) [117]

1021	*Issues concerning storage contract*	*2001*	*General comment about alternative development*	*2003*	*Requests additional alternative analysis*
2005	*Comment about Highway 115 diversion water rights operations*	*2303*	*Alternatives to Reservoirs*	*2400*	*Reasonably Foreseeable Activities*
2400	*Reasonably Foreseeable Activities*	*3175*	*Concern about Daily Model development*	*3675*	*Concern about impacts to parks*
3678	*Concern about recreation resources study area*				

Commenter and Issues (City, State) [Document Identification Number]

Gallagher, Tom (Colorado Springs, CO) [270]

1021 Issues concerning storage contract
2001 General comment about alternative development
2001 General comment about alternative development
2001 General comment about alternative development
2005 Comment about Highway 115 diversion water rights operations
2011 Concern about development of cost estimates or use of cost estimates as screening tool
2303 Alternatives to Reservoirs
2400 Reasonably Foreseeable Activities
2400 Reasonably Foreseeable Activities
3172 Requests additional analysis on surface water flows
3175 Concern about Daily Model development
3175 Concern about Daily Model development
3368 Concern about the Arkansas Darter
3410 Concern about impacts to wildlife at Upper Williams Creek Reservoir site
3536 Concern about rare plant communities
3851 General concern about cultural resource impacts
3853 Concern about cultural resource impacts at Jimmy Camp Creek
3900 Other Resources
3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir
5000 Comments about process
5000 Comments about process
5002 Concern that EIS is biased
5002 Concern that EIS is biased
5004 Suggested consultation and coordination

Gallegos, Joe (Pueblo, CO) [279]

2004 Concern about Reclamation's preferred alternative
2300 Suggested Alternatives
3101 General surface water quality concern
3152 Concern about Arkansas River flows upstream of Pueblo Reservoir
3175 Concern about Daily Model development
3251 General concerns about flooding
3256 Concern about flooding in Jimmy Camp Creek
3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir

Garcia, Joseph P. [128]

3253 Concern about flooding in Arkansas River downstream of Fountain Creek
3727 Concern about public sector costs of additional flooding
3900 Other Resources

Gardner, Dave (Colorado Springs, CO) [370]

1010 Concern about need for future demand
1011 Concern about need for redundancy
2406 General comments about climate change
3001 Concern about overall environmental impacts
3707 Code to be eliminated
3716 Concern about economic effects/property values along Fountain Creek
3724 Concern that project would enable future growth
3729 Concern about cost and rate impacts
4000 Issues outside of Scope of EIS

Gennetta, Ken [14]

2003 Requests additional alternative analysis

Gianino, Jesse (Colorado Springs, CO) [82]

3256 Concern about flooding in Jimmy Camp Creek
3718 Concern about economic effects/property values related to Jimmy Camp Creek

Gillespie, Jack & Miriam (Pueblo, CO) [353]

2007 General comment about Participants' water reuse potential
2010 Concern about treatment quality of return flows
3011 Concern about overall cumulative environmental impacts
3101 General surface water quality concern
3181 Concern about water rights
5002 Concern that EIS is biased

Gist, Jonell [317]

2010 Concern about treatment quality of return flows
2307 Fountain Creek flood control dam suggestion
3304 Concern about geomorphology in Fountain Creek
3715 Concern about economic effects/property values along pipeline corridor
3716 Concern about economic effects/property values along Fountain Creek

Commenter and Issues (City, State) [Document Identification Number]

Glazer, Steve [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Gloriod, Jack (Colorado Springs, CO) [176]

2011	*Concern about development of cost estimates or use of cost estimates as screening tool*	*3175*	*Concern about Daily Model development*	*3181*	*Concern about water rights*
3181	*Concern about water rights*	*3911*	*Concern about other permits*	*5000*	*Comments about process*
5002	*Concern that EIS is biased*				

Gomez, Linda Kressler & Miguel (Colorado Springs, CO) [287]

3195	*Concern about Fountain Creek Alluvial Aquifer*	*3256*	*Concern about flooding in Jimmy Camp Creek*	*3376*	*Concern about mosquitos and/or west nile virus*
3718	*Concern about economic effects/property values related to Jimmy Camp Creek*				

Commenter and Issues (City, State) [Document Identification Number]					
Graham, Gary (Boulder, CO) [331]					
2306	*Alternatives to return flow conveyance*	*3111*	*Concern about surface water quality in Arkansas River upstream of Pueblo*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*
3175	*Concern about Daily Model development*	*3251*	*General concerns about flooding*	*3254*	*Concern about flooding in Fountain Creek*
3354	*Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek*	*3368*	*Concern about the Arkansas Darter*	*3372*	*Concern about Upper Arkansas Voluntary Flow Management Program*
3401	*General concern about impacts to wildlife*	*3401*	*General concern about impacts to wildlife*	*3422*	*Concern about effects on raptors*
3424	*Concern about effects on herons*	*3427*	*Concern about effects on bird/aircraft strike hazard*	*3430*	*Concern about effects on riparian species*
3430	*Concern about effects on riparian species*	*3452*	*Concern about effects on Preble's meadow jumping mouse*	*3453*	*Concern about effects on bald eagle*
3454	*Concern about effects on spotted owl*	*3459*	*Concern about effects on black-tailed prairie dogs*	*3460*	*Concern about effects on swift fox*
3466	*General concern about impacts on State threatened and endangered wildlife species*	*3501*	*General concern about effects on Colorado species of concern*	*3504*	*Concern about effects on mountain plover*
3526	*Concern about impacts on vegetation resources*	*3527*	*Concern about revegetation*	*3535*	*Concern about indirect impacts on vegetation*
3801	*General concern about wetland impacts*	*3807*	*Concern about wetland impacts on Williams Creek*	*3813*	*Concern about riparian resources on the Arkansas River upstream of Fountain Creek*
3957	*Suggested surface water hydrology mitigation*	*3960*	*Suggested wetland mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*5005*	*Concern about comparisons to No Action Alternative*
5209	*General comments about DEIS*				
Green, Jane (Fountain, CO) [32]					
3004	*Concern about overall environmental impacts on Fountain Creek*	*3195*	*Concern about Fountain Creek Alluvial Aquifer*	*3304*	*Concern about geomorphology in Fountain Creek*
3309	*Concern about velocity of flows from Williams Creek Reservoir*	*3716*	*Concern about economic effects/property values along Fountain Creek*	*5000*	*Comments about process*
Green, Jane (Fountain, CO) [71]					
2007	*General comment about Participants' water reuse potential*	*2306*	*Alternatives to return flow conveyance*	*2307*	*Fountain Creek flood control dam suggestion*
3304	*Concern about geomorphology in Fountain Creek*	*3716*	*Concern about economic effects/property values along Fountain Creek*		
Griesan, Lola (Pueblo, CO) [18]					
3105	*Concern about surface water quality in Fountain Creek*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*		
Griffin, Michael (Pueblo West, CO) [21]					
2007	*General comment about Participants' water reuse potential*	*2010*	*Concern about treatment quality of return flows*	*4000*	*Issues outside of Scope of EIS*

Commenter and Issues (City, State) [Document Identification Number]

Haas, Mary Anne [326]

3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir

Hamilton, Bruce [245]

2201 Concern about Participants' conservation programs
3724 Concern that project would enable future growth

Hancock, Bob (Rocky Ford, CO) [67]

2010 Concern about treatment quality of return flows
3735 Concern about municipal water quality and cost in the lower Arkansas Valley

Harris, Stephen D. (Colorado Springs, CO) [348]

2200 General concern about alternatives and alignment options
3107 Concern about surface water quality in Williams Creek
3181 Concern about water rights
3191 Concern about ground water quantity impacts
3195 Concern about Fountain Creek Alluvial Aquifer
3260 Concern about reduced channel flood capacity from change in vegetation biomass along Williams Creek
3305 Concern about geomorphology in Williams Creek
3357 Concern about fish and other aquatic life in Williams Creek
3368 Concern about the Arkansas Darter
3370 Requests additional analysis on the effects on aquatic life
3405 Concern about impacts to wildlife along Williams Creek
3466 General concern about impacts on State threatened and endangered wildlife species
3529 Concern about tamarisk along the streams
3551 General concern about change in land use
3807 Concern about wetland impacts on Williams Creek
3816 Concern about riparian resources on Williams Creek
3827 Requests additional analysis on wetland and riparian resources
3950 General Suggested Mitigation
3950 General Suggested Mitigation
3951 Concern about conceptual geomorphology mitigation plan
3958 Suggested geomorphology mitigation
3960 Suggested wetland mitigation
3962 Suggested water quality mitigation
3964 Suggested vegetation mitigation
3973 Suggested geology and paleontology mitigation

Hendrickson, Carla (Pueblo, CO) [22]

3101 General surface water quality concern
3963 Suggested flood hydrology and floodplains mitigation
5002 Concern that EIS is biased
5208 Comments about document availability

Herd, Paul (Colorado Springs, CO) [143]

3273 Requests additional analysis on flooding
3306 Concern about geomorphology in Jimmy Camp Creek
3718 Concern about economic effects/property values related to Jimmy Camp Creek
3963 Suggested flood hydrology and floodplains mitigation

Herrmann, Scott & Joan (Pueblo, CO) [242]

2300 Suggested Alternatives
2302 Alternatives to diversion point
2307 Fountain Creek flood control dam suggestion
2407 General comments about activities not considered reasonably foreseeable
3370 Requests additional analysis on the effects on aquatic life
3370 Requests additional analysis on the effects on aquatic life
3377 Requests analysis of zebra mussels
3653 General concern about recreation through Pueblo
5200 Comments about Public Involvement

Commenter and Issues (City, State) [Document Identification Number]

Herrmann, Scott & Joan (Pueblo, CO) [49]

2007 General comment about Participants' water reuse potential
2300 Suggested Alternatives
3105 Concern about surface water quality in Fountain Creek
3304 Concern about geomorphology in Fountain Creek
3354 Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek
3377 Requests analysis of zebra mussels
4001 Concern about Colorado Springs' sanitary sewer overflows
5212 Request for presentation/question and answer style public meetings

Hickman, Tom (Pueblo, CO) [151]

5000 Comments about process
5002 Concern that EIS is biased
5212 Request for presentation/question and answer style public meetings

Highland, Earl and Constance (Rocky Ford, CO) [174]

3105 Concern about surface water quality in Fountain Creek

Hollingsworth, Francis (Canon City, CO) [99]

3551 General concern about change in land use
3911 Concern about other permits

Horvarth, Marianne [344]

3724 Concern that project would enable future growth
3729 Concern about cost and rate impacts

Housh, Joanne [201]

2307 Fountain Creek flood control dam suggestion
3254 Concern about flooding in Fountain Creek
4001 Concern about Colorado Springs' sanitary sewer overflows

Howell, Chad [167]

1011 Concern about need for redundancy
3105 Concern about surface water quality in Fountain Creek
3155 Concern about surface water flow in Fountain Creek
3900 Other Resources

Hunter, Jack (Beulah, CO) [65]

2007 General comment about Participants' water reuse potential
2010 Concern about treatment quality of return flows
2403 General comments about future growth (includes urban development and land use)
4001 Concern about Colorado Springs' sanitary sewer overflows

Ikelman, C. Ike (Longmont, CO) [364]

3105 Concern about surface water quality in Fountain Creek

Ikelman, Richard (Pueblo, CO) [294]

2307 Fountain Creek flood control dam suggestion

James, Bud [211]

3105 Concern about surface water quality in Fountain Creek
3254 Concern about flooding in Fountain Creek
4000 Issues outside of Scope of EIS
5002 Concern that EIS is biased
5200 Comments about Public Involvement

Johnson, Chris (La Junta, CO) [42]

3104 Concern about surface water quality in Arkansas River downstream of Fountain Creek
3253 Concern about flooding in Arkansas River downstream of Fountain Creek
3254 Concern about flooding in Fountain Creek

Johnson, Kirk (Denver, CO) [194]

2003 Requests additional alternative analysis
3900 Other Resources
3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir
3950 General Suggested Mitigation

Commenter and Issues (City, State) [Document Identification Number]

Jones, Dennis (Canon City, CO) [144]

5208	*Comments about document availability*	*5211*	*Request to extend public comment period*

Jones, Dennis (Canon City, CO) [278]

2003	*Requests additional alternative analysis*	*2007*	*General comment about Participants' water reuse potential*	*2010*	*Concern about treatment quality of return flows*
2011	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2406*	*General comments about climate change*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*
3175	*Concern about Daily Model development*	*3736*	*Concern about water or wastewater treatment costs in Fremont County*	*5209*	*General comments about DEIS*

Jones, Gary (La Junta, CO) [57]

2308	*Crowley County diversion point suggestion*	*3101*	*General surface water quality concern*	*3183*	*Concern about water exchanges on Arkansas River and Fountain Creek*

Joyal, David P. (Colorado Springs, CO) [238]

2403	*General comments about future growth (includes urban development and land use)*	*3725*	*Comment in support of proposed action or SDS in general*

June, Marilyn (Pueblo, CO) [208]

2403	*General comments about future growth (includes urban development and land use)*	*3105*	*Concern about surface water quality in Fountain Creek*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*
5006	*Concern about cost of EIS*	*5209*	*General comments about DEIS*		

June, Marilyn (Pueblo, CO) [39]

2403	*General comments about future growth (includes urban development and land use)*	*3105*	*Concern about surface water quality in Fountain Creek*	*3551*	*General concern about change in land use*
4001	*Concern about Colorado Springs' sanitary sewer overflows*	*5002*	*Concern that EIS is biased*		

June, Marilyn (Pueblo, CO) [51]

2403	*General comments about future growth (includes urban development and land use)*	*3101*	*General surface water quality concern*	*3701*	*Concern about economic and property value impacts in Pueblo*
4001	*Concern about Colorado Springs' sanitary sewer overflows*	*5002*	*Concern that EIS is biased*		

Kazmierski, Michael J. (Colorado Springs, CO) [185]

3725	*Comment in support of proposed action or SDS in general*

Kazmierski, Mike (Colorado Springs, CO) [94]

3725	*Comment in support of proposed action or SDS in general*

Keach, Louise (Pueblo, CO) [159]

3171	*Concern about Pueblo Reservoir storage allocation*	*3181*	*Concern about water rights*	*3254*	*Concern about flooding in Fountain Creek*
3274	*Concern about flooding analysis techniques and assumptions*	*5000*	*Comments about process*		

Kedward, Jenny (Pueblo, CO) [26]

3101	*General surface water quality concern*	*5212*	*Request for presentation/question and answer style public meetings*

Keenan, Tony (Canon City, CO) [229]

3150	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*	*3651*	*General concern about recreation*
3957	*Suggested surface water hydrology mitigation*				

Commenter and Issues (City, State) [Document Identification Number]

Kiely, Pam [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Klein, Rick (La Junta, CO) [44]

2400	*Reasonably Foreseeable Activities*	*3104*	*Concern about surface water quality in Arkansas River downstream of Fountain Creek*	*3253*	*Concern about flooding in Arkansas River downstream of Fountain Creek*
3254	*Concern about flooding in Fountain Creek*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*		

Koehn, Doug (Canon City, CO) [98]

3152	*Concern about Arkansas River flows upstream of Pueblo Reservoir*

Kosley, Beth (Colorado Springs, CO) [334]

3725	*Comment in support of proposed action or SDS in general*

Kovac, Charity (Colorado Springs, CO) [130]

2403	*General comments about future growth (includes urban development and land use)*	*2406*	*General comments about climate change*	*3159*	*Concern about surface water flow in the Arkansas River at state line*
3161	*Concern about Western Slope flows*	*3401*	*General concern about impacts to wildlife*	*3411*	*General concern about migratory birds*
3801	*General concern about wetland impacts*	*3802*	*General concern about riparian habitat*		

Lamanna, Joe (Florence, CO) [140]

2005	*Comment about Highway 115 diversion water rights operations*	*3111*	*Concern about surface water quality in Arkansas River upstream of Pueblo*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*

Commenter and Issues (City, State) [Document Identification Number]

LeFever, Susan [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Libby-Rail, Marianne (Manitou Springs, CO) [63]

2300	*Suggested Alternatives*	*3101*	*General surface water quality concern*	*4000*	*Issues outside of Scope of EIS*

Lints, Clarence & Margit [286]

3195	*Concern about Fountain Creek Alluvial Aquifer*	*3256*	*Concern about flooding in Jimmy Camp Creek*	*3376*	*Concern about mosquitos and/or west nile virus*
3718	*Concern about economic effects/property values related to Jimmy Camp Creek*				

Lloyd, Jimmie W. [266]

2300	*Suggested Alternatives*

Long, Becky [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Lopez, Faustino W. (Pueblo, CO) [214]

2011	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2200*	*General concern about alternatives and alignment options*	*2307*	*Fountain Creek flood control dam suggestion*
3304	*Concern about geomorphology in Fountain Creek*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*		

Commenter and Issues (City, State) [Document Identification Number]

Lopez, Faustino W. (Pueblo, CO) [52]

3105 Concern about surface water quality in Fountain Creek
3155 Concern about surface water flow in Fountain Creek
3173 Concern about water levels in Pueblo Reservoir
3254 Concern about flooding in Fountain Creek
3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek
3304 Concern about geomorphology in Fountain Creek
3958 Suggested geomorphology mitigation
3958 Suggested geomorphology mitigation
3962 Suggested water quality mitigation

Lovett, Joe (Florence, CO) [339]

3111 Concern about surface water quality in Arkansas River upstream of Pueblo
3152 Concern about Arkansas River flows upstream of Pueblo Reservoir
3354 Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek

Ludiker, Blanche M. [248]

3725 Comment in support of proposed action or SDS in general

Lusk, Larry [5]

3104 Concern about surface water quality in Arkansas River downstream of Fountain Creek

Maddox, Greg & Andrea (Colorado Springs, CO) [79]

3306 Concern about geomorphology in Jimmy Camp Creek
3718 Concern about economic effects/property values related to Jimmy Camp Creek
5204 Comments about public meeting content

Malone, Mark S. (Colorado Springs, CO) [173]

3725 Comment in support of proposed action or SDS in general
3911 Concern about other permits

Malott, Ruth M. [319]

2010 Concern about treatment quality of return flows
3254 Concern about flooding in Fountain Creek
3304 Concern about geomorphology in Fountain Creek
4001 Concern about Colorado Springs' sanitary sewer overflows

Malvern, Jan (Colorado Springs, CO) [382]

2003 Requests additional alternative analysis

Mares, Ronald E. [315]

3152 Concern about Arkansas River flows upstream of Pueblo Reservoir
3402 Concern about impacts to wildlife along Arkansas River upstream of Fountain Creek
3602 Concern about visual effects of Highway 115 intake
3651 General concern about recreation

Matejczyk, Lon P. [368]

3725 Comment in support of proposed action or SDS in general

May, Ron (Colorado Springs, CO) [149]

1010 Concern about need for future demand
1012 Concern about need for maximizing existing water rights
2403 General comments about future growth (includes urban development and land use)
3725 Comment in support of proposed action or SDS in general

McCallister, K. [134]

2001 General comment about alternative development
2010 Concern about treatment quality of return flows
5000 Comments about process
5002 Concern that EIS is biased
5208 Comments about document availability

McCallister, K. [190]

2001 General comment about alternative development
2304 Alternatives to pipeline alignments
2403 General comments about future growth (includes urban development and land use)
3401 General concern about impacts to wildlife
3411 General concern about migratory birds
3551 General concern about change in land use
4000 Issues outside of Scope of EIS
5000 Comments about process
5002 Concern that EIS is biased
5212 Request for presentation/question and answer style public meetings

McCallister, Katie (Penrose, CO) [100]

2300 Suggested Alternatives
3020 Concern that EIS analyses are generally inadequate
3191 Concern about ground water quantity impacts
3422 Concern about effects on raptors
3552 General concern about private property
3715 Concern about economic effects/property values along pipeline corridor
3801 General concern about wetland impacts
3877 Concern about air quality during construction
3901 Concern about construction noise

McClelland, Martin (Pueblo, CO) [31]

2010 Concern about treatment quality of return flows
3105 Concern about surface water quality in Fountain Creek
3155 Concern about surface water flow in Fountain Creek
3254 Concern about flooding in Fountain Creek
3701 Concern about economic and property value impacts in Pueblo

McDaniel, Carol (Pueblo, CO) [209]

3001 Concern about overall environmental impacts
3701 Concern about economic and property value impacts in Pueblo
3950 General Suggested Mitigation

Melton, Kelvin (Pueblo, CO) [29]

3153 Concern about Arkansas River flows through Pueblo
3254 Concern about flooding in Fountain Creek
3655 General concern about recreation along Fountain Creek
3735 Concern about municipal water quality and cost in the lower Arkansas Valley
3950 General Suggested Mitigation

Micheli, Karen [273]

2004 Concern about Reclamation's preferred alternative
2300 Suggested Alternatives
3101 General surface water quality concern
3152 Concern about Arkansas River flows upstream of Pueblo Reservoir
3175 Concern about Daily Model development
3251 General concerns about flooding
3256 Concern about flooding in Jimmy Camp Creek
3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir

Commenter and Issues (City, State) [Document Identification Number]

Miller, Bart (Boulder, CO) [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Miller, Dave (Palmer Lake, CO) [296]

2300	*Suggested Alternatives*

Miller, Dave (Palmer Lake, CO) [66]

1012	*Concern about need for maximizing existing water rights*	*2300*	*Suggested Alternatives*	*2407*	*General comments about activities not considered reasonably foreseeable*
3020	*Concern that EIS analyses are generally inadequate*	*3170*	*Concern about Pueblo Reservoir storage not used for primary purpose*	*3181*	*Concern about water rights*
3326	*Concern about Pueblo Dam stability*	*3330*	*Requests additional analysis on dam safety*		

Miller, Gerald (Pueblo, CO) [193]

2004	*Concern about Reclamation's preferred alternative*	*2403*	*General comments about future growth (includes urban development and land use)*	*3104*	*Concern about surface water quality in Arkansas River downstream of Fountain Creek*
3105	*Concern about surface water quality in Fountain Creek*	*3600*	*Visual Quality*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Mitchell, Eric (Colorado Springs, CO) [323]

2004	*Concern about Reclamation's preferred alternative*	*3256*	*Concern about flooding in Jimmy Camp Creek*	*3331*	*Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
3376	*Concern about mosquitos and/or west nile virus*	*4000*	*Issues outside of Scope of EIS*		

Mitchell, Eric (Colorado Springs, CO) [81]

3256	*Concern about flooding in Jimmy Camp Creek*	*3328*	*Concern about Jimmy Camp Creek Dam stability*	*3331*	*Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
3718	*Concern about economic effects/property values related to Jimmy Camp Creek*				

Montoya, Eugene (Colorado Springs, CO) [276]

3725	*Comment in support of proposed action or SDS in general*

Morgan, Elizabeth Ann [153]

3911	*Concern about other permits*	*4000*	*Issues outside of Scope of EIS*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Commenter and Issues (City, State) [Document Identification Number]

Morin, Jason (Florence, CO) [339]

3111	*Concern about surface water quality in Arkansas River upstream of Pueblo*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*	*3354*	*Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek*

Morley, Mark (Colorado Springs, CO) [105]

5005	*Concern about comparisons to No Action Alternative*				

Morley, Mark (Colorado Springs, CO) [230]

2003	*Requests additional alternative analysis*	*2003*	*Requests additional alternative analysis*	*2003*	*Requests additional alternative analysis*
2003	*Requests additional alternative analysis*	*2003*	*Requests additional alternative analysis*	*2003*	*Requests additional alternative analysis*
2005	*Comment about Highway 115 diversion water rights operations*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2303*	*Alternatives to Reservoirs*
2400	*Reasonably Foreseeable Activities*	*3017*	*Requests additional analysis on environmental impacts*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*
3175	*Concern about Daily Model development*	*3175*	*Concern about Daily Model development*	*3550*	*Land Use*
3678	*Concern about recreation resources study area*	*3911*	*Concern about other permits*	*5000*	*Comments about process*
5003	*Concern about Cooperating Agencies*				

Morley, Mark (Colorado Springs, CO) [269]

1000	*Purpose and Need*	*2003*	*Requests additional alternative analysis*	*2004*	*Concern about Reclamation's preferred alternative*
2300	*Suggested Alternatives*	*2400*	*Reasonably Foreseeable Activities*	*2400*	*Reasonably Foreseeable Activities*
2403	*General comments about future growth (includes urban development and land use)*	*5002*	*Concern that EIS is biased*		

Commenter and Issues (City, State) [Document Identification Number]

Moss, Seetta (Canon City, CO) [331]

2306	*Alternatives to return flow conveyance*	*3111*	*Concern about surface water quality in Arkansas River upstream of Pueblo*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*
3175	*Concern about Daily Model development*	*3251*	*General concerns about flooding*	*3254*	*Concern about flooding in Fountain Creek*
3354	*Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek*	*3368*	*Concern about the Arkansas Darter*	*3372*	*Concern about Upper Arkansas Voluntary Flow Management Program*
3401	*General concern about impacts to wildlife*	*3401*	*General concern about impacts to wildlife*	*3422*	*Concern about effects on raptors*
3424	*Concern about effects on herons*	*3427*	*Concern about effects on bird/aircraft strike hazard*	*3430*	*Concern about effects on riparian species*
3430	*Concern about effects on riparian species*	*3452*	*Concern about effects on Preble's meadow jumping mouse*	*3453*	*Concern about effects on bald eagle*
3454	*Concern about effects on spotted owl*	*3459*	*Concern about effects on black-tailed prairie dogs*	*3460*	*Concern about effects on swift fox*
3466	*General concern about impacts on State threatened and endangered wildlife species*	*3501*	*General concern about effects on Colorado species of concern*	*3504*	*Concern about effects on mountain plover*
3526	*Concern about impacts on vegetation resources*	*3527*	*Concern about revegetation*	*3535*	*Concern about indirect impacts on vegetation*
3801	*General concern about wetland impacts*	*3807*	*Concern about wetland impacts on Williams Creek*	*3813*	*Concern about riparian resources on the Arkansas River upstream of Fountain Creek*
3957	*Suggested surface water hydrology mitigation*	*3960*	*Suggested wetland mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*
3965	*Suggested wildlife mitigation*	*3965*	*Suggested wildlife mitigation*	*5005*	*Concern about comparisons to No Action Alternative*
5209	*General comments about DEIS*				

Murphy, Donna (Canon City, CO) [101]

5212	*Request for presentation/question and answer style public meetings*

Myrick, Vernita Y. (Colorado Springs, CO) [310]

3256	*Concern about flooding in Jimmy Camp Creek*	*3718*	*Concern about economic effects/property values related to Jimmy Camp Creek*

Nichols, Edward C. (Denver, CO) [376]

3850	*Cultural*	*3857*	*Requests additional analysis on cultural resources*	*3857*	*Requests additional analysis on cultural resources*
3857	*Requests additional analysis on cultural resources*	*3857*	*Requests additional analysis on cultural resources*	*3857*	*Requests additional analysis on cultural resources*
3857	*Requests additional analysis on cultural resources*	*3858*	*Concern about cultural resources methods and assumptions*	*3858*	*Concern about cultural resources methods and assumptions*

Nimmo, Darrel & claudine (La Junta, CO) [56]

3164	*Concern about indirect impacts on surface water flows, primarily stormwater*	*3253*	*Concern about flooding in Arkansas River downstream of Fountain Creek*	*3254*	*Concern about flooding in Fountain Creek*
3529	*Concern about tamarisk along the streams*	*3535*	*Concern about indirect impacts on vegetation*	*3716*	*Concern about economic effects/property values along Fountain Creek*
4001	*Concern about Colorado Springs' sanitary sewer overflows*				

Commenter and Issues (City, State) [Document Identification Number]

Olsen, Willie & Donna (La Junta, CO) [204]

2007 General comment about Participants' water reuse potential

2307 Fountain Creek flood control dam suggestion

2403 General comments about future growth (includes urban development and land use)

2410 General comments about Colorado Springs Stormwater Enterprise and future stormwater management

3100 Surface Water Quality

3105 Concern about surface water quality in Fountain Creek

3253 Concern about flooding in Arkansas River downstream of Fountain Creek

3254 Concern about flooding in Fountain Creek

4001 Concern about Colorado Springs' sanitary sewer overflows

Olsen, Willie & Donna (La Junta, CO) [320]

2007 General comment about Participants' water reuse potential

3105 Concern about surface water quality in Fountain Creek

4000 Issues outside of Scope of EIS

4001 Concern about Colorado Springs' sanitary sewer overflows

Olsen, Willie & Donna (La Junta, CO) [55]

2007 General comment about Participants' water reuse potential

2010 Concern about treatment quality of return flows

2403 General comments about future growth (includes urban development and land use)

2410 General comments about Colorado Springs Stormwater Enterprise and future stormwater management

3105 Concern about surface water quality in Fountain Creek

3170 Concern about Pueblo Reservoir storage not used for primary purpose

3253 Concern about flooding in Arkansas River downstream of Fountain Creek

3551 General concern about change in land use

4001 Concern about Colorado Springs' sanitary sewer overflows

Pace, Sal (Pueblo, CO) [165]

2010 Concern about treatment quality of return flows

2011 Concern about development of cost estimates or use of cost estimates as screening tool

2307 Fountain Creek flood control dam suggestion

3001 Concern about overall environmental impacts

3155 Concern about surface water flow in Fountain Creek

3254 Concern about flooding in Fountain Creek

3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek

3304 Concern about geomorphology in Fountain Creek

3716 Concern about economic effects/property values along Fountain Creek

3735 Concern about municipal water quality and cost in the lower Arkansas Valley

5212 Request for presentation/question and answer style public meetings

Pace, Sal (Pueblo, CO) [205]

2011 Concern about development of cost estimates or use of cost estimates as screening tool

2307 Fountain Creek flood control dam suggestion

3253 Concern about flooding in Arkansas River downstream of Fountain Creek

3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek

3735 Concern about municipal water quality and cost in the lower Arkansas Valley

Panepinto, John (Pueblo, CO) [182]

2010 Concern about treatment quality of return flows

2307 Fountain Creek flood control dam suggestion

3101 General surface water quality concern

3105 Concern about surface water quality in Fountain Creek

3254 Concern about flooding in Fountain Creek

5211 Request to extend public comment period

Pardalis, Jan (Colorado Springs, CO) [312]

3725 Comment in support of proposed action or SDS in general

Paulu, Gary (La Junta, CO) [47]

3105 Concern about surface water quality in Fountain Creek

3551 General concern about change in land use

4001 Concern about Colorado Springs' sanitary sewer overflows

5002 Concern that EIS is biased

Commenter and Issues (City, State) [Document Identification Number]					
Peternell, Drew (Boulder, CO) [361]					
1002	*Does not agree with purpose and need*	*1012*	*Concern about need for maximizing existing water rights*	*2001*	*General comment about alternative development*
2001	*General comment about alternative development*	*2007*	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*
2201	*Concern about Participants' conservation programs*	*3152*	*Concern about Arkansas River flows upstream of Pueblo Reservoir*	*3153*	*Concern about Arkansas River flows through Pueblo*
3161	*Concern about Western Slope flows*	*3175*	*Concern about Daily Model development*	*3175*	*Concern about Daily Model development*
3175	*Concern about Daily Model development*	*3350*	*Aquatic Life*	*3351*	*General concern about fish and other aquatic life*
3354	*Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek*	*3373*	*Concern about IHA methods, assumptions, and interpretation*	*3374*	*Concern about IFIM methods, assumptions, and interpretation*
3375	*Concern about aquatic life study area*	*3957*	*Suggested surface water hydrology mitigation*	*3959*	*Suggested aquatic mitigation*
5001	*Concern about Reclamation's authority*	*5005*	*Concern about comparisons to No Action Alternative*	*5209*	*General comments about DEIS*
Phillips, Cameron (Pueblo, CO) [13]					
2010	*Concern about treatment quality of return flows*	*3103*	*Concern about surface water quality in Arkansas River through Pueblo*	*3105*	*Concern about surface water quality in Fountain Creek*
Phillips, Cameron (Pueblo, CO) [28]					
3003	*Concern about overall environmental impacts on Arkansas River*	*3105*	*Concern about surface water quality in Fountain Creek*		
Pierce, Rebecca [127]					
3377	*Requests analysis of zebra mussels*				
Pleimann, Walt [265]					
2201	*Concern about Participants' conservation programs*	*3724*	*Concern that project would enable future growth*		
Pool, Fletcher & Joyce (Ordway, CO) [152]					
3175	*Concern about Daily Model development*	*3181*	*Concern about water rights*	*3433*	*Concern about wildlife methods and assumptions*
Pool, Fletcher & Joyce (Ordway, CO) [60]					
3181	*Concern about water rights*				
Quintero, Patrice (Colorado Springs, CO) [367]					
3725	*Comment in support of proposed action or SDS in general*				
Rapp, Gary (Colorado Springs, CO) [333]					
3105	*Concern about surface water quality in Fountain Creek*	*3957*	*Suggested surface water hydrology mitigation*		
Rapp, Gary (Colorado Springs, CO) [93]					
5211	*Request to extend public comment period*				

Commenter and Issues (City, State) [Document Identification Number]

Rawlings, Jane (Pueblo, CO) [213]

2300 Suggested Alternatives
2300 Suggested Alternatives
2307 Fountain Creek flood control dam suggestion
2403 General comments about future growth (includes urban development and land use)
2407 General comments about activities not considered reasonably foreseeable
2410 General comments about Colorado Springs Stormwater Enterprise and future stormwater management
3105 Concern about surface water quality in Fountain Creek
3254 Concern about flooding in Fountain Creek
3304 Concern about geomorphology in Fountain Creek
4001 Concern about Colorado Springs' sanitary sewer overflows

Rawlings, Robert (Pueblo, CO) [272]

2003 Requests additional alternative analysis
2003 Requests additional alternative analysis
2004 Concern about Reclamation's preferred alternative
2007 General comment about Participants' water reuse potential
2010 Concern about treatment quality of return flows
2307 Fountain Creek flood control dam suggestion
2404 General comments about Fountain Creek Watershed Study
2406 General comments about climate change
2410 General comments about Colorado Springs Stormwater Enterprise and future stormwater management
2410 General comments about Colorado Springs Stormwater Enterprise and future stormwater management
3020 Concern that EIS analyses are generally inadequate
3110 Requests additional analysis on surface water quality
3253 Concern about flooding in Arkansas River downstream of Fountain Creek
3254 Concern about flooding in Fountain Creek
3265 General concern that increased sedimentation will change FEMA floodplain elevations along Fountain Creek
3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek
3304 Concern about geomorphology in Fountain Creek
3377 Requests analysis of zebra mussels
3551 General concern about change in land use
3652 General concern about recreation in Pueblo Reservoir
3737 Concern about economic impacts on recreation at Pueblo Reservoir
3950 General Suggested Mitigation
3950 General Suggested Mitigation
4000 Issues outside of Scope of EIS
4001 Concern about Colorado Springs' sanitary sewer overflows
5002 Concern that EIS is biased
5005 Concern about comparisons to No Action Alternative

Retting, John P. (Colorado Springs, CO) [253]

2201 Concern about Participants' conservation programs
3726 Concern about the cumulative socioeconomic impacts from the project

Rhodes, Jane (Pueblo, CO) [206]

3105 Concern about surface water quality in Fountain Creek
3254 Concern about flooding in Fountain Creek
4000 Issues outside of Scope of EIS

Rhodes, Jane (Pueblo, CO) [75]

2007 General comment about Participants' water reuse potential
2010 Concern about treatment quality of return flows
3020 Concern that EIS analyses are generally inadequate
3105 Concern about surface water quality in Fountain Creek
3155 Concern about surface water flow in Fountain Creek
3181 Concern about water rights
3254 Concern about flooding in Fountain Creek
3304 Concern about geomorphology in Fountain Creek
3716 Concern about economic effects/property values along Fountain Creek
3951 Concern about conceptual geomorphology mitigation plan

Rimsky, Joe & Susie (Pueblo West, CO) [164]

3020 Concern that EIS analyses are generally inadequate

Commenter and Issues (City, State) [Document Identification Number]

Rodrigues, Greg (Pueblo, CO) [123]

2003	*Requests additional alternative analysis*	*2403*	*General comments about future growth (includes urban development and land use)*	*3170*	*Concern about Pueblo Reservoir storage not used for primary purpose*
4001	*Concern about Colorado Springs' sanitary sewer overflows*	*5001*	*Concern about Reclamation's authority*		

Romo, Raphael (Colorado Springs, CO) [88]

3256	*Concern about flooding in Jimmy Camp Creek*	*3328*	*Concern about Jimmy Camp Creek Dam stability*	*3331*	*Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
3718	*Concern about economic effects/property values related to Jimmy Camp Creek*				

Rosa, Nicole [2]

2201	*Concern about Participants' conservation programs*

Rosenwinkel, Sherry (Ft. Garland) [374]

2007	*General comment about Participants' water reuse potential*	*2201*	*Concern about Participants' conservation programs*	*2406*	*General comments about climate change*
3020	*Concern that EIS analyses are generally inadequate*				

Rummel, Steve & Janet (Colorado Springs, CO) [343]

3725	*Comment in support of proposed action or SDS in general*

Russmann, Laura (Colorado Springs, CO) [281]

3738	*Requests analysis of impacts to apartment industry if project not built*

Santarella Jr., Joseph M. (Littleton, CO) [220]

1002	*Does not agree with purpose and need*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2003	*Requests additional alternative analysis*	*2006*	*Concern that the No Action Alternaitve isn't really No Action*	*3724*	*Concern that project would enable future growth*
3729	*Concern about cost and rate impacts*				

Santarella Jr., Joseph M. (Littleton, CO) [338]

1010	*Concern about need for future demand*	*1012*	*Concern about need for maximizing existing water rights*	*2003*	*Requests additional alternative analysis*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2201*	*Concern about Participants' conservation programs*
2400	*Reasonably Foreseeable Activities*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3105	*Concern about surface water quality in Fountain Creek*	*3150*	*Surface Water Flows*	*3160*	*Concern about the cumulative impacts on surface water flows*
3368	*Concern about the Arkansas Darter*	*3805*	*Concern about wetland impacts on the Arkansas River downstream of Fountain Creek*	*3807*	*Concern about wetland impacts on Williams Creek*
3900	*Other Resources*	*3900*	*Other Resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3950	*General Suggested Mitigation*	*3960*	*Suggested wetland mitigation*	*3962*	*Suggested water quality mitigation*
3973	*Suggested geology and paleontology mitigation*	*5005*	*Concern about comparisons to No Action Alternative*		

Commenter and Issues (City, State) [Document Identification Number]

Satt, James (Rocky Ford, CO) [43]

- *2010 Concern about treatment quality of return flows*
- *3017 Requests additional analysis on environmental impacts*
- *3105 Concern about surface water quality in Fountain Creek*
- *4001 Concern about Colorado Springs' sanitary sewer overflows*

Schley, Don G. (Colorado Springs, CO) [362]

- *1021 Issues concerning storage contract*
- *2001 General comment about alternative development*
- *2001 General comment about alternative development*
- *2303 Alternatives to Reservoirs*
- *2407 General comments about activities not considered reasonably foreseeable*
- *3020 Concern that EIS analyses are generally inadequate*
- *3106 Concern about surface water quality in Jimmy Camp Creek*
- *3192 Concern about ground water quality impacts*
- *3326 Concern about Pueblo Dam stability*
- *3328 Concern about Jimmy Camp Creek Dam stability*
- *3331 Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir*
- *3400 Wildlife*
- *3423 Concern about effects on golden eagles*
- *3427 Concern about effects on bird/aircraft strike hazard*
- *3459 Concern about effects on black-tailed prairie dogs*
- *3466 General concern about impacts on State threatened and endangered wildlife species*
- *3467 Concern about cumulative impacts on State threatened and endangered wildlife species*
- *3469 Concern about Threatened and Endangered species methods and assumptions*
- *3530 Concern about threatened or endangered plants*
- *3531 Concern about effects on Ute ladies'-tresses orchid*
- *3550 Land Use*
- *3729 Concern about cost and rate impacts*
- *3853 Concern about cultural resource impacts at Jimmy Camp Creek*
- *3900 Other Resources*
- *3900 Other Resources*
- *3900 Other Resources*
- *3911 Concern about other permits*
- *5000 Comments about process*
- *5002 Concern that EIS is biased*
- *5004 Suggested consultation and coordination*
- *5200 Comments about Public Involvement*
- *5209 General comments about DEIS*
- *5209 General comments about DEIS*

Schley, Don G. (Colorado Springs, CO) [379]

- *1013 Concern that adequate river flows will be available to meet demand of project*
- *2004 Concern about Reclamation's preferred alternative*
- *2011 Concern about development of cost estimates or use of cost estimates as screening tool*
- *3106 Concern about surface water quality in Jimmy Camp Creek*
- *3170 Concern about Pueblo Reservoir storage not used for primary purpose*
- *3180 Water Rights*
- *3708 Concern about effects on Colorado Springs economic development*
- *3709 Concern about defense industry effects*
- *3718 Concern about economic effects/property values related to Jimmy Camp Creek*
- *3729 Concern about cost and rate impacts*

Shake, Dan (Boone, CO) [30]

- *3104 Concern about surface water quality in Arkansas River downstream of Fountain Creek*

Shonts, Beverly (Colorado Springs, CO) [116]

- *2300 Suggested Alternatives*
- *3423 Concern about effects on golden eagles*
- *3552 General concern about private property*
- *3558 Concern about land use methods and assumptions*
- *3600 Visual Quality*

Shonts, Harvey (Colorado Springs, CO) [115]

- *2300 Suggested Alternatives*
- *3423 Concern about effects on golden eagles*
- *3552 General concern about private property*

Simpson, Eric [347]

- *3700 Cost-benefit analysis*

Skinner, Judy (Canon City, CO) [106]

- *2400 Reasonably Foreseeable Activities*

Commenter and Issues (City, State) [Document Identification Number]

Smith, Ray & Betty (Fowler, CO) [175]

2308 Crowley County diversion point suggestion
3551 General concern about change in land use

Sorenson, John (Pueblo, CO) [141]

3100 Surface Water Quality
3326 Concern about Pueblo Dam stability
4001 Concern about Colorado Springs' sanitary sewer overflows

Sorenson, Sally (Colorado Springs, CO) [380]

2403 General comments about future growth (includes urban development and land use)

Spanier, Jessica [347]

3700 Cost-benefit analysis

Standish, Myles (Pueblo, CO) [9]

3105 Concern about surface water quality in Fountain Creek

Stantaent, Richard (Colorado Springs, CO) [356]

3725 Comment in support of proposed action or SDS in general

Star, Frank (Pueblo, CO) [216]

3326 Concern about Pueblo Dam stability

Starner, Al (Penrose, CO) [187]

1000 Purpose and Need
3900 Other Resources
4000 Issues outside of Scope of EIS
5200 Comments about Public Involvement

Steerman, Donald L. (Lamar, CO) [327]

3018 Concern about extent of study area
3104 Concern about surface water quality in Arkansas River downstream of Fountain Creek
3115 Concern about water quality study area
3154 Concern about Arkansas River flows downstream of Fountain Creek
3175 Concern about Daily Model development
3181 Concern about water rights
3191 Concern about ground water quantity impacts
3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek
3957 Suggested surface water hydrology mitigation

Sternal, Lee (Pueblo, CO) [7]

3551 General concern about change in land use
3552 General concern about private property

Stewart, Rick (Fountain, CO) [126]

3304 Concern about geomorphology in Fountain Creek
3958 Suggested geomorphology mitigation

Stone, Betty J. (La Junta, CO) [181]

3182 Concern about loss of agricultural water rights
3527 Concern about revegetation
3551 General concern about change in land use
5000 Comments about process

Strickler, Derek (Colorado Springs, CO) [155]

3725 Comment in support of proposed action or SDS in general

Tackels, George [332]

2304 Alternatives to pipeline alignments

Taylor, Janice (Colorado Springs, CO) [188]

5000 Comments about process
5206 Comments about web site

Taylor, Sam (Colorado Springs, CO) [145]

3911 Concern about other permits

Commenter and Issues (City, State) [Document Identification Number]

Teter, Sherrie (Colorado Springs, CO) [111]

5005 Concern about comparisons to No Action Alternative

Thelin, Nelda (La Junta, CO) [41]

2007 General comment about Participants' water reuse potential

2403 General comments about future growth (includes urban development and land use)

2406 General comments about climate change

Thelin, Nelda (La Junta, CO) [48]

2007 General comment about Participants' water reuse potential

3101 General surface water quality concern

3182 Concern about loss of agricultural water rights

Thomas, Cynthia (Colorado Springs, CO) [312]

3725 Comment in support of proposed action or SDS in general

Thomas, Stephanie (Denver, CO) [262]

2201 Concern about Participants' conservation programs

Thurston, Randy (Pueblo, CO) [54]

3102 Concern about surface water quality in Pueblo Reservoir

3173 Concern about water levels in Pueblo Reservoir

Trujillo, Katherine (Pueblo, CO) [37]

3105 Concern about surface water quality in Fountain Creek

3254 Concern about flooding in Fountain Creek

3716 Concern about economic effects/property values along Fountain Creek

Turner, Wendell & Kathleen (Pueblo, CO) [172]

3105 Concern about surface water quality in Fountain Creek

4001 Concern about Colorado Springs' sanitary sewer overflows

Tyler, Jack (Denver, CO) [104]

2007 General comment about Participants' water reuse potential

2010 Concern about treatment quality of return flows

2403 General comments about future growth (includes urban development and land use)

3735 Concern about municipal water quality and cost in the lower Arkansas Valley

Udall, Peter (Colorado Springs, CO) [256]

3725 Comment in support of proposed action or SDS in general

Van Sickle, Christine (Colorado Springs, CO) [91]

3273 Requests additional analysis on flooding

Vaughn, Susan (Colorado Springs, CO) [96]

2306 Alternatives to return flow conveyance

3020 Concern that EIS analyses are generally inadequate

3304 Concern about geomorphology in Fountain Creek

3351 General concern about fish and other aquatic life

3411 General concern about migratory birds

3910 Concern about paleontological resources at Jimmy Camp Creek Reservoir

3963 Suggested flood hydrology and floodplains mitigation

Commenter and Issues (City, State) [Document Identification Number]

Verquer, Tom (Trinidad, CO) [375]

1021	*Issues concerning storage contract*	*2004*	*Concern about Reclamation's preferred alternative*	*2007*	*General comment about Participants' water reuse potential*
2010	*Concern about treatment quality of return flows*	*2201*	*Concern about Participants' conservation programs*	*3105*	*Concern about surface water quality in Fountain Creek*
3254	*Concern about flooding in Fountain Creek*	*3272*	*Concern about cumulative impacts of flooding*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*
3739	*Concern about agricultural effects/crop yield*	*3950*	*General Suggested Mitigation*	*3964*	*Suggested vegetation mitigation*

Vincent, Merlin [246]

2004	*Concern about Reclamation's preferred alternative*				

Vincent, Ross (Pueblo, CO) [203]

3020	*Concern that EIS analyses are generally inadequate*	*5200*	*Comments about Public Involvement*	*5201*	*Comments about public meetings*

Vincent, Ross (Pueblo, CO) [257]

1026	*Request additional analysis on purpose and need*	*2001*	*General comment about alternative development*	*2006*	*Concern that the No Action Alternaitve isn't really No Action*
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*
2201	*Concern about Participants' conservation programs*	*2300*	*Suggested Alternatives*	*2403*	*General comments about future growth (includes urban development and land use)*
2410	*General comments about Colorado Springs Stormwater Enterprise and future stormwater management*	*3001*	*Concern about overall environmental impacts*	*3011*	*Concern about overall cumulative environmental impacts*
3014	*Concern about indirect environmental impacts*	*3017*	*Requests additional analysis on environmental impacts*	*3017*	*Requests additional analysis on environmental impacts*
3101	*General surface water quality concern*	*3105*	*Concern about surface water quality in Fountain Creek*	*3106*	*Concern about surface water quality in Jimmy Camp Creek*
3110	*Requests additional analysis on surface water quality*	*3251*	*General concerns about flooding*	*3254*	*Concern about flooding in Fountain Creek*
3274	*Concern about flooding analysis techniques and assumptions*	*3304*	*Concern about geomorphology in Fountain Creek*	*3305*	*Concern about geomorphology in Williams Creek*
3375	*Concern about aquatic life study area*	*3377*	*Requests analysis of zebra mussels*	*3551*	*General concern about change in land use*
3724	*Concern that project would enable future growth*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*	*3751*	*Requests additional analysis on environmental justice*
3801	*General concern about wetland impacts*	*3827*	*Requests additional analysis on wetland and riparian resources*	*3910*	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*
3911	*Concern about other permits*	*3950*	*General Suggested Mitigation*	*3951*	*Concern about conceptual geomorphology mitigation plan*
3963	*Suggested flood hydrology and floodplains mitigation*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*	*5000*	*Comments about process*
5000	*Comments about process*	*5002*	*Concern that EIS is biased*	*5004*	*Suggested consultation and coordination*
5005	*Concern about comparisons to No Action Alternative*	*5201*	*Comments about public meetings*	*5209*	*General comments about DEIS*

Vitt, Gavin (Colorado Springs, CO) [113]

2403	*General comments about future growth (includes urban development and land use)*	*3725*	*Comment in support of proposed action or SDS in general*		

Commenter and Issues (City, State) [Document Identification Number]					
Walgren, Leonard and Judy (La Junta, CO) [161]					
2308	*Crowley County diversion point suggestion*	*3104*	*Concern about surface water quality in Arkansas River downstream of Fountain Creek*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*
5002	*Concern that EIS is biased*				
Watts, Olver E. (Colorado Springs, CO) [233]					
3101	*General surface water quality concern*	*3725*	*Comment in support of proposed action or SDS in general*		
Webb, Mary [268]					
5002	*Concern that EIS is biased*				
Weber, Ken (Pueblo, CO) [23]					
2006	*Concern that the No Action Alternaitve isn't really No Action*	*3181*	*Concern about water rights*	*5005*	*Concern about comparisons to No Action Alternative*
Wilcox Dow, Rebecca (Denver, CO) [363]					
2001	*General comment about alternative development*	*2003*	*Requests additional alternative analysis*	*2006*	*Concern that the No Action Alternaitve isn't really No Action*
2011	*Concern about development of cost estimates or use of cost estimates as screening tool*	*2303*	*Alternatives to Reservoirs*	*3009*	*Concern about overall environmental impacts at Jimmy Camp Creek Reservoir Site*
3328	*Concern about Jimmy Camp Creek Dam stability*	*3409*	*Concern about impacts to wildlife at Jimmy Camp Creek Reservoir site*	*3551*	*General concern about change in land use*
3853	*Concern about cultural resource impacts at Jimmy Camp Creek*	*3858*	*Concern about cultural resources methods and assumptions*	*3859*	*Concern about cultural resources study area*
3910	*Concern about paleontological resources at Jimmy Camp Creek Reservoir*	*3911*	*Concern about other permits*	*5000*	*Comments about process*
Williams, Larry (Pueblo, CO) [107]					
3254	*Concern about flooding in Fountain Creek*	*3304*	*Concern about geomorphology in Fountain Creek*	*3716*	*Concern about economic effects/property values along Fountain Creek*
Williams, Larry (Pueblo, CO) [97]					
2307	*Fountain Creek flood control dam suggestion*	*2403*	*General comments about future growth (includes urban development and land use)*	*3105*	*Concern about surface water quality in Fountain Creek*
3254	*Concern about flooding in Fountain Creek*				
Williams, Ralph R. (Carlsbad, CA) [150]					
2007	*General comment about Participants' water reuse potential*	*2410*	*General comments about Colorado Springs Stormwater Enterprise and future stormwater management*	*3016*	*Concern about adequate mitigation*
3101	*General surface water quality concern*	*3105*	*Concern about surface water quality in Fountain Creek*	*3254*	*Concern about flooding in Fountain Creek*
3259	*Concern about reduced channel flood capacity from change in vegetation biomass along Fountain Creek*	*3304*	*Concern about geomorphology in Fountain Creek*	*3401*	*General concern about impacts to wildlife*
3716	*Concern about economic effects/property values along Fountain Creek*	*4000*	*Issues outside of Scope of EIS*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*

Commenter and Issues (City, State) [Document Identification Number]					
Wilson, Glenn [327]					
3018	*Concern about extent of study area*	*3104*	*Concern about surface water quality in Arkansas River downstream of Fountain Creek*	*3115*	*Concern about water quality study area*
3154	*Concern about Arkansas River flows downstream of Fountain Creek*	*3175*	*Concern about Daily Model development*	*3181*	*Concern about water rights*
3191	*Concern about ground water quantity impacts*	*3303*	*Concern about geomorphology in Arkansas River downstream of Fountain Creek*	*3957*	*Suggested surface water hydrology mitigation*
Wilson, Sheri (Pueblo, CO) [92]					
3306	*Concern about geomorphology in Jimmy Camp Creek*	*3718*	*Concern about economic effects/property values related to Jimmy Camp Creek*		
Zarr, Jay L. & Cleo C. (Pueblo, CO) [27]					
3105	*Concern about surface water quality in Fountain Creek*	*3653*	*General concern about recreation through Pueblo*	*3735*	*Concern about municipal water quality and cost in the lower Arkansas Valley*

Comment 1000: Purpose and Need

Response 1000: Commenters expressed concern about the range of Participants in the SDS. One commenter was concerned that the SDS would eventually extend to the Denver metropolitan area, while another commenter felt that northern El Paso County should participate in the project. One commenter felt that Pueblo West should not participate in SDS. The DEIS addressed these topics in chapter 1, pages 1 to 18. The current Participants, Colorado Springs, Fountain, Security, and Pueblo West, have determined that their needs can be met through the Proposed Action. Addition of any other Participants would be the Participants' decision. Substantive changes to any of the alternatives would require further NEPA review. Also see response to agency letter 17.

A commenter was concerned about the adequacy of firm storage in Pueblo Reservoir. The DEIS addressed this topic in chapter 1, pages 1 to 18. The commenter is correct in his observation that storage space in Pueblo Reservoir would be on an "if and when" basis, and space is expected to be available about 71 percent of the time. The availability of storage in Pueblo Reservoir was considered when evaluating the yield of each alternative. The firm yield and SMAPD of the Preferred Alternative are 38,000 ac-ft/yr and 47,800 ac-ft/yr, respectively, which takes into account that storage space may not always be available in Pueblo Reservoir. This additional yield is consistent with the purpose and need of the project.

Comment 1002: Does not agree with purpose and need

Response 1002: Commenters believed the purpose and need is too narrowly defined. A commenter was also concerned that those alternatives that do not use existing Arkansas River Basin water rights were excluded from analysis (i.e., alternatives that use water conservation or land use strategies). Reclamation does not concur with this comment. According to Section 1502.13, the purpose and need statement "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." In this case the agency (Reclamation) is responding to requests by the City of Colorado Springs, City of Fountain, Security Water District, and Pueblo West Metropolitan District to enter into 40-year contracts. The contracts would allow the Participants to use excess storage capacity in Pueblo Reservoir, convey water through facilities associated with Pueblo Reservoir, and exchange water between Pueblo Reservoir and Fry-Ark Project reservoirs in the upper Arkansas River Basin. The NEPA requires an agency to evaluate a full range of reasonable alternatives (see section 2.1 to 2.3) to meet the purpose and need of a proposed federal action. We have complied with the purpose and intent of the NEPA. Water conservation was considered fully and is discussed in section 2.4.1 and in Appendix A. Conservation is common to all of the alternatives analyzed for the SDS Project. For each Participant, conservation is being implemented independently of the project and reduces current water demands. In addition, water conservation is one of four components to meet project future demands through 2046. However, land use planning is outside the scope of the proposed contracts and this EIS.

Responses 1010 through 1012 respond to comments regarding the Participants' three needs.

Comment 1010: Concern about need for future demand

Response 1010: Commenters both questioned and supported the growth projections that were used to forecast future water demands. The DEIS addressed this issue in chapter 1, pages 7 to 10 and in Appendix A. The Project Participants' demand forecasts are based on the Colorado State Demography Office's growth projections. These population projections were the most realistic estimates available at the time that the analyses were done for the DEIS.

A commenter was concerned about whether the DEIS considers the impact of prison populations into the population estimates for Fremont County. Commenter also requested date of census data. Population forecasts for Fremont County are included in chapter 3, page 125 and include a citation to CDOLA (2007). CDOLA's forecasting methods include special populations such as prison inmates. Additionally, the CDOLA forecasts are based on the most recent U.S. census, which was conducted in 2000.

Comment 1011: Concern about need for redundancy

Response 1011: A commenter questioned Colorado Springs' need for redundancy for its existing water delivery systems. The DEIS addressed this issue in chapter 1, pages 12 to 14. Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion because Colorado Springs has considered its water system needs carefully and determined that a significant need does exist. Reclamation has reviewed this determination and found it to be reasonable.

A commenter questioned whether there would be back-up for the proposed SDS Project or suffient water supply in the event of an outage. The DEIS addressed this issue in chapter 1, pages 12 to 15. The proposed SDS Project would provide redundancy for Colorado Springs', Security's, and Pueblo West's and existing water supplies. Similarly, the existing water supplies would provide some redundancy during an SDS Project outage. The approach taken in the DEIS was followed in chapter 1 of the FEIS.

Comment 1012: Concern about need for maximizing existing water rights

Response 1012: Commenters both questioned and supported the Project Participants' need to meet future demand using their existing water rights. The DEIS addressed this issue in chapter 1, pages 15 to 17. Refer to comment response 13-1.

Comment 1021: Issues concerning storage contract

Response 1021: A commenter expressed concern about whether Reclamation has the legal authority to use excess capacity contracts for non-agricultural users. Information presented in the DEIS was modified in the FEIS (see section 1.1.1). Reclamation's authority to enter into excess capacity contracts is pursuant to the Reclamation Act of 1902, Section 14 of the Reclamation Projects Act of 1939, and the Fryingpan-Arkansas Project Act of 1962, all as amended and supplemented. This authority is not limited to contracting only with agricultural users.

Commenters expressed concern about whether excess capacity contracts would provide adequate storage to meet the Participants' projected water demands. The DEIS addressed this issue in chapter 2, pages 21 to 27. All Action Alternatives would use excess capacity contracts and were simulated to meet most or all of the Project Participants' future water demands.

Comment 1026: Request additional analysis on purpose and need

Response 1026: A commenter requested an explanation of the meaning of "perfect and deliver existing Arkansas River Basin water rights". The DEIS addressed this issue in chapter 1, pages 15 to 17. Appendix A provides background information on pertinent aspects of Colorado water law, including what it means to "perfect" a water right (pages A-2 to A-3).

A commenter asked whether redundancy would be provided for each Project Participant or would one Participant rely on another Participant for redundancy. Each Project Participant has a somewhat different need with regard to redundancy. In summary, Colorado Springs has a need for redundant water delivery, terminal storage, and treatment. Fountain intends to fulfill its redundancy need through projects other than the SDS Project. Security has a need for redundant water delivery as does Pueblo West. All Action Alternatives would provide redundancy to Colorado Springs, which would in turn provide redundancy to Security through an interconnection with Colorado Springs' water distribution system (see section 2.2.2.1). Pueblo West is too distant from the other Project Participants to rely on them for a redundant water supply.

Comment 2001: General comment about alternative development

Response 2001: A commenter was concerned about the predominance of Proposed Action components in the alternatives. The DEIS addressed this issue in chapter 2, pages 19 to 28 and by reference to the Alternatives Analysis (Reclamation 2006a) and Alternatives Analysis Addendum (Reclamation 2007a). The process used to evaluate component options and assemble alternatives is documented in the Alternatives Analysis (Reclamation 2006a), which was incorporated by reference into the DEIS. Additionally, the frequency of a component's occurrence is the alternatives does not affect the likelihood of its inclusion in the Preferred Alternative.

Highway 115 Pipeline Alignments Routing

Commenters questioned the technical rationale for the pipeline alignments within Fremont County. The DEIS addressed this issue in chapter 2, pages 40, 64, and 65. Reports describing the general conceptual design for these pipeline alignments ("Selection, Engineering Concepts and Costs for Colorado Springs Utilities' No Action Alternative, Adopted 4th Quarter 2006" (CH2M HILL 2007b) and "Highway 115 Return Flow Conceptual Engineering Evaluation" (CH2M HILL 2005i) are cited. These reports were incorporated by reference into the DEIS. The Project Participants evaluated two alignments, one on Fort Carson (east side of Colorado 115), and the other on the west side of Colorado 115 (private properties). Colorado Department of Transportation (CDOT 2006) indicated that it would not allow the pipeline to parallel the highway in CDOT right-of-way. Fort Carson expressed concern to the Project Participants about having the pipeline being located on Fort Carson due to potential impacts to combat training lands and environmental resources.

Colorado Department of Transportation (CDOT). 2006. Letter from Samuel J. Pisciotta, CDOT Region 2 Utility

Manager to Russ Nicklin, Colorado Springs Utilities. August 3.

Gravity Delivery

A commenter expressed concern that options involving water deliveries to Colorado Springs by gravity, and associated reductions in energy use, were not considered. The DEIS addressed this issue in chapter 2, pages 82 to 87 and, by reference to the Alternatives Analysis (Reclamation 2006a) on page 19. Reclamation examined a wide range of untreated water intake options and pipeline alignments in its Alternatives Analysis, including the feasibility of gravity-based delivery system from the upper Arkansas River. Operational costs associated with pumping requirements of each alternative were considered in Reclamation's alternatives screening process.

Highway 115 Return Flow Pipeline Purpose

A commenter suggested that the Highway 115 Return Flow Pipeline was included in the Wetland and Arkansas River alternatives unnecessarily and because it would make the Participants' Proposed Action alternative appear better. This comment does not accurately reflect the information in the DEIS chapter 2, pages 59, 67, and 69 and by reference to the Alternatives Analysis (Reclamation 2006a) on page 19. Reclamation made editorial revisions to the FEIS, in chapter 2, section 2.2.3 and 2.2.4 to clarify this matter. The return flow pipeline was included to achieve specific environmental objectives. The return flow pipeline was included in the Wetland Alternative because it allowed that alternative to exclude a return flow reservoir and thus avoid permanent effects to wetlands. For this alternative to function properly, Colorado Springs' reusable return flows would need to be conveyed to the Arkansas River at or upstream of Pueblo Reservoir. Pueblo Reservoir would consequently serve the function of the return flow reservoir that was eliminated by the pipeline. The return flow pipeline was included in the Arkansas River Alternative because it allowed that alternative to produce the highest minimum streamflow in the Arkansas River through Pueblo. For this alternative to function properly, Colorado Springs' reusable return flows would need to be conveyed to the Arkansas River at or upstream of Pueblo Reservoir. To achieve the desired streamflow through Pueblo, the untreated water intake needs to be downstream of Pueblo so that flows released for the SDS Project would first flow through Pueblo.

Range of Alternatives

Commenters expressed concern that the range of alternatives was too narrow or did not include avoidance of potential environmental effects. The DEIS addressed this issue in chapter 2, pages 19 to 35 and by reference to the Alternatives Analysis (Reclamation 2006a), Alternatives Analysis Addendum (Reclamation 2007a), and Alternatives Public Review Summary Report (Reclamation 2006b) on page 19. The EIS analyzes a reasonable range of alternatives including a No Action Alternative, Participants' Proposed Action, three alternatives that were designed specifically to respond to scoping issues, and two alternatives that were retained due to public and Project Participant interest. All of the alternatives fulfill the stated Purpose and Need for the SDS Project (refer to comment response 1002). These alternatives were developed through a rigorous screening and evaluation process that is documented in the Alternatives Analysis (Reclamation 2006a) and Alternatives Analysis Addendum (Reclamation 2007a). In addition, the alternatives and their development process were subjected to a formal public review (Reclamation 2006b).

Terminal Storage Geographical Criteria
Commenters expressed concern that geographical criteria used to identify potential terminal storage sites inappropriately excluded potentially viable reservoir sites, particularly Brush Hollow Reservoir. The DEIS addressed this issue in chapter 2, pages 82 to 89 and by reference to the Alternatives Analysis (Reclamation 2006a) on page 82. Fifty-two potential terminal storage options, including Brush Hollow Reservoir, were evaluated in the Alternatives Analysis (Reclamation 2006a). (Refer to comment response 2003 for additional information on the evaluation of Brush Hollow Reservoir.)

Jimmy Camp Creek Reservoir Site Land Use Restrictions
A commenter expressed concern that land use requirements contained in the Banning Lewis Ranch Annexation Agreement would create a legal impediment to constructing a reservoir at the Jimmy Camp Creek Reservoir site. Colorado Springs provided Reclamation with a summary of its legal analysis of this issue (CSU 2008, citation below). It appears that the Banning Lewis Ranch Annexation Agreement does not create an insurmountable legal obstacle to land acquisition for or construction of a reservoir at the Jimmy Camp Creek Reservoir site.

Colorado Springs Utilities (CSU). 2008. E-mail from Keith Riley, Colorado Springs Utilities to Jaci Gould, Bureau of Reclamation. October 27.

Comment 2003: Requests additional alternative analysis

Response 2003: **Evaluation of Multipurpose Reservoirs**
Commenters expressed concern that multipurpose reservoir options such as a flood control and potable reuse proposal involving a dam on Fountain Creek (also identified as the "Petros Plan" by a commenter) and the proposed Stonewall Springs Reservoir project, were not evaluated or should have been retained for detailed analysis in the DEIS. [The Stonewall Springs Reservoir project is analogous to the Gravel Lakes regulating storage option and Excelsior Ditch untreated water intake option identified in the Alternatives Analysis.] The DEIS addressed this issue in chapter 2, pages 82 to 87 and in the Alternatives Analysis (Reclamation 2006a). These reservoir options were evaluated in the Alternatives Analysis (Reclamation 2006a) and were eliminated from detailed analysis based on the criteria descried in the Alternatives Analysis. The Alternatives Analysis is summarized in chapter 2 of the DEIS and is incorporated by reference.

Re-evaluation of All Alternatives through a Public Process
A commenter suggested that all alternatives should be re-evaluated through a community involvement process. The DEIS addressed this issue in chapter 2, page 27, chapter 4, pages 530 to 531, and by reference to the Alternatives Analysis (Reclamation 2006a) and Alternatives Public Review Summary Report (Reclamation 2006b). The public was afforded the opportunity to comment on the alternatives development process in 2005. This process is discussed in the DEIS and described in detail in the Alternatives Public Review Summary Report (Reclamation 2006b).

Re-evaluation of Reuse Alternatives
Commenters suggested a re-evaluation of water reuse alternatives based on the following considerations:

- General requests to re-evaluate reuse

- Whether possible energy savings of reuse relative to pumping was considered in cost analysis
- Whether Colorado has a blending standard for water reuse
- Examination of a reuse project in Orange County, CA as an example
- Whether higher spring or summer flows in Fountain Creek could achieve 50 percent blending with non-reuse water

The DEIS addressed this issue in chapter 2, pages 82 to 89 and by reference to the Alternatives Analysis Addendum (Reclamation 2007a). A detailed evaluation potential indirect potable reuse alternatives was conducted and documented in the Alternatives Analysis Addendum (Reclamation 2007a). Six potential alternatives that met the Purpose and Need for the SDS Project and involved substantial reuse and were evaluated thoroughly. All of these alternatives were eliminated from detailed analysis in the DEIS due to unacceptably high costs and failure to respond to significant scoping issues better than other alternatives. This evaluation considered energy costs and industry practices, recommendations, and proposed regulations for blending [Colorado does not have a reuse blending regulation]. Additionally, the reuse evaluation relied on comparable water treatment technologies and blending requirements as applied to Orange County's Ground Water Replenishment System project (described at www.gwrsystem.com). Alternatives relying on seasonal availability of blended water in Fountain Creek were not considered because they would not fulfill the redundancy portion of the SDS Project's Purpose and Need.

Conservation, Growth Control, or Land Use Planning Alternatives

Commenters suggested that conservation, growth control, or land use planning should be considered alternatives to the SDS Project. The DEIS addressed conservation in chapter 2, pages 87 to 90 and Appendix A, pages A-20 to A-23 and land use and growth in chapter 3, page 420. All alternatives include conservation and because regional growth would occur independently of the SDS Project. The approach taken in the DEIS was followed in chapters 2 and 3 of the FEIS. Also see comment responses 2201 and 3724.

Denver Basin Well Depths for No Action Alternative

A commenter requested addition of information about the depth of Denver Basin ground water wells that would be installed as part of Colorado Springs' No Action Alternative. Information presented in the DEIS was modified in the FEIS (see section 2.2.1.1, *Denver Basin Ground Water System* subsection). Well depth information has been added.

Corps Requirements for Alternatives Screening

A commenter expressed concern about whether the alternatives screening process was consistent with processes used to screen alternatives under 404(b)(1) Guidelines. Information presented in the DEIS was modified in the FEIS (see section 1.3) to clarify this matter. Refer to comment responses 13-1, 13-2, 13-3, and 3911 for additional information on 404(b)(1) analysis.

Brush Hollow Reservoir Screening

Commenters suggested that enlargement of Brush Hollow Reservoir (also referred to as the proposed Phantom Canyon Reservoir Project) was incorrectly eliminated as a terminal storage and/or regulating option based on the presence of marine shale (potential water quality effects) and wetland effects. The DEIS addressed this issue in chapter 2, pages 82 to 98 and by reference to the Alternatives Analysis (Reclamation 2006a). Enlargement of Brush Hollow Reservoir was evaluated as a terminal storage option and regulating storage option in Reclamation's Alternatives Analysis. It was eliminated from further consideration based on multiple factors, with the presence of marine shale and potential wetland effects being a subset. Marine shale and wetlands are further discussed below; however, Brush Hollow Reservoir enlargement would have been eliminated from further consideration as a terminal storage or regulating storage option regardless of those specific environmental characteristics.

With regard to service as a terminal storage option, the Alternatives Analysis (on page 92) concluded that enlargement of Brush Hollow Reservoir would not fulfill redundancy aspect of the purpose and need for the SDS Project and was anticipated to exceed cost screening criteria due to the need to increase the capacity of the delivery system to meet peak day demands. With regard to service as a regulating storage option, the Alternatives Analysis (on page 85) concluded that enlargement of Brush Hollow Reservoir would have substantially greater anticipated environmental effects relative to using Pueblo Reservoir without modification and that construction of a new reservoir for regulating storage, rather than use of an existing facility, would likely cause alternatives to exceed cost criteria. If Brush Hollow Reservoir enlargement was considered to serve as regulating storage and terminal storage simultaneously, most of the disadvantages noted during screening for either purpose would still apply. As noted by some commenters, Colorado Springs Utilities commissioned a feasibility study of enlargement of Brush Hollow Reservoir (GEI 2005, citation below). That study concluded that "Based on the preliminary feasibility assessment, no fatal flaws were identified that would prevent development of a 34,500 ac-ft reservoir on Brush Hollow Creek. Alignment 3, which roughly bisects the existing reservoir, is the preferred dam alignment. Known leaky formations at the valley rim argue against construction of a dam downstream of alignment 3." The study did not examine whether the reservoir site could fulfill the regulating or terminal storage functions required for the SDS Project or compare the Brush Hollow Reservoir option to other options. The approach taken in the DEIS (and Alternatives Analysis) was followed in chapter 2 of the FEIS.

GEI Consultants, Inc. 2005. Southern Delivery System, Brush Hollow Dam Preliminary Feasibility Assessment, Technical Memorandum 7-H.2.4. Prepared for Colorado Springs Utilities. December 16.

A commenter submitted recent laboratory data on testing of geologic samples from the Brush Hollow Reservoir site (URS Washington Division 2008, citation below). Concentrations of selenium leached from these samples ranged from below the minimum detection limit of 0.0092 mg/L to a maximum of 0.077 mg/L. The detection of leachable quantities of selenium, in excess of drinking water and aquatic life water quality standards, suggests that marine shale at the Brush Hollow site has the potential to affect water quality. The minimum detection limit (0.0092 mg/L) and reportable detection limit (0.020 mg/L) used for these tests are higher than the chronic water quality standard for aquatic life (0.0046 mg/L). Consequently, the potential for leachable concentrations of selenium in excess of this standard can not be determined. How leachable selenium concentrations at the Brush Hollow site compare to those at other reservoir sites considered in the Alternatives Analysis can not be evaluated because comparable geochemical data are not available for the other sites.

URS Washington Division. 2008. Phantom Canyon Project: Feasibility Study Task Orders 0011 and 0013; Geotechnical Investigation Report. Prepared for H_2O HyPro, L.L.C. and Floating Boats, L.L.C. April.

A commenter cited observational information regarding wetland acreage at the Brush Hollow Reservoir site (Carnevale 2008, citation below) as conflicting with that reported in Appendix C of the Alternatives Analysis (Reclamation 2006a). Table 2 of Appendix C notes that "During the [August 2005] site visit, the water level was well below the high water mark. On the north and east sides, as well as a portion of the west side of the reservoir, wetlands occur between the existing water level and the high water mark with a narrow fringe occurring above what appeared to be the high water mark (Figure 14). Wetlands were mapped in areas that appear below the water on the aerial photos because water levels were low during the site reconnaissance. Much of the existing wetlands are likely inundated when reservoir levels are higher." Reclamation concludes that an alternate opinion (from April 2008) on wetland acreage at the Brush Hollow Reservoir site does not invalidate the information (from August 2005) used in the Alternatives Analysis.

Carnevale, M. 2008. Wetland Observations at Brush Hollow Reservoir during Our Match 14, 20008 Field Reconnaissance. Memorandum to W. Paul, URS Washington Division. April 11.

A commenter suggested that the Brush Hollow Reservoir site would be superior to sites east of Colorado Springs for terminal storage due to lower evaporation and seepage rates. Reclamation considered evaporation rates for terminal storage options in section 4.3.3.3 of the Alternatives Analysis (Reclamation 2006a). Estimated evaporation rates for the Jimmy Camp Creek, Upper Williams Creek, and Brush Hollow reservoir sites were similar. Estimated seepage rates for the Jimmy Camp Creek Reservoir site (155 ac-ft per year) and Upper Williams Creek Reservoir site (630 ac-ft per year) were provided in section 2.2 of the DEIS. Seepage for the Brush Hollow Reservoir site was not quantified by GEI (2005, citation below) or URS Washington Division (2008, citation below). However, GEI (2005) did identify seepage as a concern because of the geological formations at the site.

GEI Consultants, Inc. 2005. Southern Delivery System, Brush Hollow Dam Preliminary Feasibility Assessment, Technical Memorandum 7-H.2.4. Prepared for Colorado Springs Utilities. December 16.

URS Washington Division. 2008. Phantom Canyon Project: Feasibility Study Task Orders 0011 and 0013; Geotechnical Investigation Report. Prepared for H_2O HyPro, L.L.C. and Floating Boats, L.L.C. April.

Additional Geologic Formation Symbol Definitions

A commenter suggested that all symbols appearing on geological maps in Appendix B of the Alternatives Analysis (Reclamation 2006a) should be defined. The Alternatives Analysis addressed this issue in on Appendix B, page 3, which indicates that only geologic formations that were identified as partially or wholly underlying an alternative exchange or terminal reservoir site or located immediately downstream of these sites are germane to the analysis. The original source for the map data, including symbols for all geologic formations in Colorado, is identified on page 2 of the Alternatives Analysis.

Unit Costs for Alternatives

A commenter suggested that unit costs (i.e., dollars per acre-foot of yield) should be provided in the EIS because this type of information was used for screening in the Alternatives Analysis (Reclamation 2006a) and Alternatives Analysis Addendum (Reclamation 2007a). Information presented in the DEIS was modified in the FEIS (see section 2.1.4). Unit cost information has been added.

Comment 2004: Concern about Reclamation's Preferred Alternative

Response 2004: Some commenters expressed confusion about the selection of the Preferred Alternative, particularly the consideration of cost as part of the selection. The DEIS addressed this topic in chapter 2, page 45 and 102. Information presented in the DEIS has been modified in the FEIS (see section 2.7) pursuant to this specific comment, as well as other public comments. This update describes changes Reclamation has made to the Preferred Alternative and rationale for that decision. Also refer to comment response 13-2.

Commenters also suggested further consideration of the Wetland Alternative because of its use of Upper Williams Creek Reservoir rather than Jimmy Camp Creek Reservoir for terminal storage. Information presented in the DEIS has been modified in the FEIS (see section 2.7) pursuant to this specific comment, as well as other public comments. This update describes changes Reclamation has made to the Preferred Alternative, including use of Upper Williams Creek Reservoir for terminal storage.

A commenter suggested that the raising of Pueblo Dam must be part of the preferred alternative. The DEIS addressed this issue in chapter 2 page 52. All of the alternatives are described in section 2.2 of the DEIS with the Proposed Action described on page 52. None of these alternatives include raising Pueblo Dam as a project component. Raising of Pueblo Dam is not needed to fulfill the project's purpose or needs.

Comment 2005: Comment about Highway 115 diversion water rights operations

***Response 2005*:** Commenters were concerned that the proposed diversion at the Lester & Attebery site competes with a FERC permitted (P12714-00) hydroelectric facility (proposed Phantom Canyon Pumped-Storage Hydroelectric Project) and is in violation of the Federal Power Act. See comment response 2400).

A commenter was concerned that Portland Cement Plant water supply and quality could be impacted during dry periods. Information on potential water quality effects in the Arkansas River at Portland was provided in chapter 3, page 222 to 236 and in the Water Quality Effects Analysis (MWH 2008b). Information on potential effects on stream stage under wet, dry, and average years was provided in the Surface Water Hydrology Effects Analysis (MWH 2007d) and summarized in the DEIS. Information on potential effects of decreased stream stage on the function of diversion structures has been added to chapter 3, section 3.5.5.1 of the FEIS. Information on dry year streamflow and stage also has been provided in Appendix E of the FEIS.

Commenter was concerned that the No Action Alternative is not viable because the Participants do not have a decreed diversion location at the Lester & Attebery location. The DEIS addressed this issue in chapter 2, pages 35 to 38. The No Action Alternative is operated according to the Participants' current and legal water rights. The untreated water intake would be supplied by releases from Upper Basin storage. Because it is not a native water diversion, no decree is necessary for the diversion. As described in the DEIS, Colorado Springs would exchange water from Pueblo to the Otero pump station Arkansas River diversion location, which is listed in their decrees. Water from Upper Basin storage facilities that used to supply the Otero pump station would then be available for release down the Arkansas River to the Lester & Attebery untreated water diversion location used in the No Action Alternative.

Comment 2006: Concern that the No Action Alternative is not really No Action

Response 2006: Commenters were concerned that the No Action seemed similar to the other Action Alternatives and the No Action would result in an action. The DEIS addressed this issue in chapter 2, page 21. The No Action Alternative represents the Participants' most likely course of action in the absence of federal contracts between Reclamation and the Participants.

Comment 2007: General comment about Participants' water reuse potential

Response 2007: Commenters were concerned about the Participants' water reuse potential. The DEIS addressed this issue in chapter 2, pages 85 to 86. Six reuse alternatives were considered. These alternatives were roughly double the cost screening criteria and did not respond to significant issues from public scoping better than the alternatives analyzed in detail in the DEIS and FEIS.

Comment 2010: Concern about treatment quality of return flows

Response 2010: Commenters were concerned about Colorado Springs' ability to have return flows that meet water quality regulations. Information presented in the DEIS was modified in the FEIS (see sections 3.7.2 and 3.7.4.1) to clarify that permitted discharges, such as Colorado Springs' wastewater treatment facilities, would comply with existing regulations.

Comment 2011: Concern about development of cost estimates or use of cost estimates as screening tool.

Response 2011: Commenters expressed concern that the cost of mitigating or avoiding environmental effects (particularly along Fountain Creek and the lower Arkansas River) should be included in the overall cost of each alternative. See comment response 30-13.

A commenter suggested that the cost of Pueblo Flow Management Program (including construction and operation of Restoration-of-Yield (ROY) facilities) should be analyzed and reported separately for alternatives that would require adherence to the PFMP. [Refer to comment response 3175 for information on application of the PFMP to certain alternatives.] The DEIS addressed this issue in chapter 2, pages 49, 58, 67, 73, 74, 78, 81, and 133 to 135. The PFMP is not an independent alternative that warrants separate cost accounting and the Project Participants have indicated their intended use of contract storage in Holbrook Reservoir for ROY purposes under any SDS Project alternative.

A commenter suggested that the cost estimates for the Participants' Proposed Action should include costs for enlargement of Pueblo Reservoir. The DEIS addressed this issue in chapter 3, page 130. Enlargement of Pueblo Reservoir is not considered to be a reasonably foreseeable action. Chapter 2 of the DEIS provided information on estimated yield for each of the SDS Project alternatives and all would meet most or all of the Project Participants' projected future demands through 2046 without enlargement of Pueblo Reservoir. The approach taken in the DEIS was followed in chapter 2 of the FEIS. [Also refer to comment response 2004.]

A commenter suggested that cost estimating methods should be explained in the DEIS and independently verified by Reclamation. The DEIS addressed this issue in chapter 2, pages 31, 52, 59, 67, 73, 74, 78, and 81. The sources of the cost estimates (CH2M HILL 2007a, 2007i) are incorporated by reference. These and all other sources incorporated into SDS NEPA documents by reference are readily available to the public and could have been obtained within the time allowed for comment on the DEIS. This information was reviewed by Reclamation prior to its use in the DEIS and determined to be reasonable. Detailed descriptions of cost estimating methods would unnecessarily add to the complexity and size of the EIS.

Commenters expressed concern that energy costs may not be reflected in the cost estimates for the SDS Project alternatives. The DEIS addressed this issue in chapter 2, pages 52, 59, 67, 73, 74, 78, and 81. Energy costs are reflected in the operations and maintenance costs provided for each alternative.

A commenter expressed concern that energy use estimates may be incorrect and cost estimates too low, resulting in inaccurate operations and maintenance cost estimates. CH2M Hill (2007a and 2007i), which was cited in the DEIS, and CH2M Hill (2008a), which was cited in the Supplemental Information Report, detail the estimates of operations and maintenance costs (O&M costs) for each alternative for each year from 2012 to 2046. The assumed annual average SDS water delivery in 2046 is 49.05 mgd. This is lower than the SDS peak capacity of 78.0 mgd, because 49.05 mgd is an average annual number, while 78 mgd is a peak delivery that would only be achieved on occasions when there is a large volume of water availabe in Pueblo Reservoir, and storage available in the terminal storage reservoir. At the average annual delivery rate, in 2046 electrical costs for both untreated and treated water pumping were estimated to make up about 50% of the total O&M costs for the SDS. Electricity was assumed to cost $0.05 per kilowatt hour (KW·h) throught the period modeled. While recently power costs have fluctuated (both upward and downward) the $0.05 per KW·h was a reasonable assumption at the time of the evalaution, and was consistently applied across all alternatives.

A commenter expressed concern about differences in the length of time (50 years) used for operations and maintenance cost estimates in Table 12 of the Alternatives Analysis Addendum (Reclamation 2007a) and the length of time (34 years) used for operations and maintenance cost estimates for the seven alternatives analyzed in detail in the DEIS. These issues are addressed in the DEIS chapter 2, pages 31, 52, 59, 67, 73, 74, 78, and 81 and in the Alternatives Analysis Addendum, page 48 and Appendix B. Appendix B of the DEIS is Appendix D of the FEIS. Reclamation made editorial revisions to the FEIS in chapter 2, section 2.1.3 to clarify this matter. Text was added to clarify that the differences in the length of time used for operations and maintenance costs for alternatives screening purposes and for purposes of detailed analysis of alternatives in the EIS. The Alternatives Analysis (Reclamation 2006a) and Alternatives Analysis Addendum used a 50-year operations and maintenance cost because the purpose was to compare the costs of potential SDS Project alternatives to those of other Front Range water projects. Fifty-year operation and maintenance costs were available or could be derived for these other projects. Sources of the screening-level cost estimates (using the 50-year operation and maintenance costs) for potential SDS Project alternatives are provided in the Alternatives Analysis and Alternatives Analysis Addendum. The DEIS and FEIS use more-refined cost estimates that were developed after specific SDS Project alternatives were retained for detailed analysis and reflect a 34-year operation and maintenance period from 2012 to 2046. Sources of these cost estimates are provided in chapter 2 of the DEIS and FEIS. Because the screening-level and more-detailed cost estimates were developed for distinctly different purposes, they are not directly comparable.

Jimmy Camp Creek Reservoir Costs

Commenters suggested that estimated land acquisition costs for the proposed Jimmy Camp Creek Reservoir were too low. Land costs at Jimmy Camp Creek Reservoir were estimated based on CH2M Hill (2007a and 2007i), which were cited in the DEIS. Local market conditions have been analysed by the Project Participants to identify the demand for property within the bounds of the Jimmy Camp Creek Reservoir site. Applicable sales information has been incorporated into land acquisition cost estimates.

A commenter suggested that estimated costs for the proposed Jimmy Camp Creek Reservoir were incorrect for the following reasons, in addition to land acquisition costs (discussed above):

- Costs for excavating alluvial soil/sand to reach bedrock were omitted,
- Costs to seal the entire reservoir bottom with imported clay or other materials to prevent leakage were omitted,
- The use of on-site materials to construct the earthen dam is incorrect and that costs for imported materials were omitted,
- Lost tax revenue for 1,500 acres of residential land at the reservoir site were omitted,
- Lost tax revenue for 12,500 acres of land downstream of the dam site were omitted,
- Cost of water quality effects on downstream communities (i.e., Widefield, Security, and Fountain) resulting from pollution of alluvial aquifers by flooding of shallow coal mines beneath and downstream of the reservoir site, and
- Costs to the Colorado Springs Airport and airline carriers due to bird-aircraft strike hazard risk.

The DEIS addressed these issues in various sections. Proposed methods for constructing Jimmy Camp Creek Reservoir are described in a conceptual engineering design document (GEI 2005a), which concluded that the embankment could be constructed using on-site materials and estimated an annual seepage rate of 155 ac-ft (or about 0.2 cfs) without lining the site with clay or other materials. Costs associated with potential losses of tax revenue from proposed SDS Project Facilities are addressed within the socioeconomic effects analysis [refer to comment response 3718]. The presence of shallow coal mines beneath or downstream of the Jimmy Camp Creek Reservoir site was not identified. There is minimal potential for seepage from Jimmy Camp Creek Reservoir to adjacent alluvial ground water aquifers. The proposed reservoir site is predominantly underlain by consolidated Denver Aquifer material (97 percent of the site), and only 3 percent of the reservoir site is underlain by alluvial aquifer material. As a result, seepage to alluvial aquifers and the associated potential for pollution from shallow coal mines would be minimal. During the pedestrian survey of the cultural resources within the proposed Jimmy Camp Creek Reservoir, cultural resources related to mining were not found. In the cultural resources technical report, it was reported that in the past local coal mines did exist outside of the proposed Jimmy Camp Creek Reservoir site at Franceville and south of Highway 94. Reclamation did not collect information on the underground workings of these mines or to provide opinions on the hazards they may present. The potential increase in bird-aircraft strike hazard was identified as minor in chapter 3, page 387 – a finding that was corroborated by the Colorado Springs Airport's comments on the DEIS (see agency letter 44). The approach taken in the DEIS was followed throughout the FEIS.

A commenter suggested that costs to stabilize Pueblo Dam should be added to all alternatives that include the use of storage in Pueblo Reservoir. The DEIS addressed this issue in chapter 1, pages 1 to 3; chapter 2, pages 31, 53, 63, 69, 74, 76, and 79; and chapter 3, pages 135 to 138. Pueblo Dam (or Pueblo Reservoir) is consistently identified as an existing facility and Action Alternatives for the SDS Project would use only existing capacity in that facility. Moreover, Reclamation's facilities must be operated and maintained safely, in order to protect our nation's security, economy, and environment. Reclamation ensures safety through inspections for safety deficiencies, analyses that use current technologies and designs, and corrective actions if needed based on current engineering practices. Costs to fund Reclamation's Dam Safety Program are provided by appropriations from Congress, and are not directly passed onto Project Participants.

A commenter suggested that the untreated pipeline route between Pueblo Dam and the Jimmy Camp Creek Reservoir or Upper Williams Creek Reservoir sites (Western Untreated Water Alignment) is geologically unstable and that costs to address stability concerns were omitted. The western pipeline route has been geotechnically evaluated (CH2M HILL 2006, citation below), and the costs for this pipeline include the required efforts to address geotechnical concerns.

CH2M HILL 2006. Geotechnical Design Report – Raw Water Pipeline – South Section, Southern Delivery System, Technical Memorandum 7-G.2.4C. Prepared for Colorado Springs Utilities. November 13.

A commenter suggested that alternatives costs were not comparable because they believed that the Highway 115 Alternative included a 102-inch diameter untreated water pipeline whereas other alternatives, particularly the Participants' Proposed Action, included a 66-inch diameter pipeline. Information presented in the DEIS was modified in the FEIS (see section 2.2.2.1 and 2.2.7.1, *Untreated Water Conveyance* subsections). The diameter of the untreated water pipeline for the Participants' Proposed Action (66 inches) and Highway 115 Alternative (66 inches) was added. As both systems would be designed to a capacity of 78-mgd, costs are comparable.

Cost-based Alternatives Screening

Commenters expressed concern about cost screening of alternatives as part of identifying alternatives for evaluation in the DEIS based on one or more of the following considerations:

- Details of how the cost screening criteria were developed were unclear,
- The cost screening criteria were perceived to be too low, particularly in light of the cost of City of Aurora's new Prairie Waters Project,
- The screening process in the Alternatives Analysis (Reclamation 2006a) sections 5.2.2 and 5.3.4 was perceived to prioritize Colorado Springs finances over environmental best practices, and
- Cost screening of alternatives and elimination of some alternatives based on cost, particularly indirect potable reuse alternatives, was perceived as inappropriate.

The DEIS addressed these issues in chapter 2, pages 19 to 28. Development of cost screening criteria is described in the Alternatives Analysis section 5.5.2 and Appendix D of the Alternatives Analysis, and incorporated into the DEIS by reference on page 27 (among others). As explained in the Alternatives Analysis, these criteria were derived from costs for other large water projects for the Front Range of Colorado. These included existing projects, proposed projects, and projects that were proposed and then abandoned due to being cost-prohibitive.

Information available at the time that the Front Range water costs were compiled was not adequate to evaluate the cost of Aurora's Prairie Waters Project. Current estimates for the Prairie Waters Project indicate that the total cost of the project will be $754 million (Aurora Water 2008). Once completed in 2010, the Prairie Waters Project will deliver up to 10,000 ac-ft per year of yield from the South Platte River that will be mixed with about 20,000 ac-ft per year of additional water supply from Aurora Reservoir, resulting in a total project yield of about 30,000 ac-ft per year (Snow 2008). The resulting unit cost of the project will be about $25,100 per ac-ft of annual water supply, which is consistent with the upper limit of $25,000 per ac-ft of firm yield used in the cost screening analysis for the SDS EIS alternatives analysis. The cost screening criterion used for the SDS EIS was considered appropriate when compared with similar current Front Range water supply projects such as the Prairie Waters Project.

Aurora Water. 2008. Aurora Water Prairie Waters Project website. Available online at www.prairiewaters.org. Accessed September 2.

Snow, Russell. 2008. Correspondence between Russell Snow, MWH engineer, and Steve Smith, MWH engineer. August 22.

Cost screening was used to identify those SDS Project alternatives that were prohibitively greater in cost and to eliminate them from further consideration as allowed under Reclamation's NEPA Manual (Reclamation 2000) and the 404(b)(1) Guidelines (40 CFR 230). The cost criteria represent a measure of cost reasonableness and proponent willingness to pay for water supply projects in the same geographical region as the proposed SDS Project. The screening approach did not prioritize the Project Participants' costs over environmental considerations. One terminal storage option, one return flow reservoir site, one return flow pipeline option, and six indirect potable reuse alternatives were completely eliminated based on cost. Two untreated water intake options and one untreated water pipeline alignment were initially eliminated based on cost but were eventually retained for other reasons discussed in the Alternatives Analysis.

One commenter inquired about the availability of cost screening results for the Brush Hollow Reservoir enlargement option indicating that costs were noted in the DEIS in Table 22 (page 88) and in the Alternatives Analysis Addendum in Table 1 of Appendix C [a sub-appendix within Appendix B] but "nowhere else." The DEIS addressed this issue in chapter 2, pages 87 to 89, including incorporation of the Alternatives Analysis by reference, in accordance with 40 CFR 1502.21. Brush Hollow Reservoir enlargement was evaluated a terminal storage option and regulating storage option in Reclamation's Alternatives Analysis. Cost estimates for this option were not developed for the Alternatives Analysis. Enlargement of Brush Hollow Reservoir was eliminated from further consideration based principally on environmental characteristics and/or the inability to fulfill the purpose and need (refer to comment response 2003). Potential cost concerns were described qualitatively. Inclusion of Brush Hollow Reservoir in the Alternatives Analysis appendix is a typographical error. Pueblo Reservoir should have been identified as regulating storage for the Highway 115 Alternative. This error does not affect the impact analysis or results presented in the DEIS.

Comment 2201: Concern about Participants' conservation programs

Response 2201: Commenters expressed concern about the efficacy of the Project Participants' water conservation programs and the need to submit these programs to Reclamation. Some commenters suggested that Reclamation should require specific prohibitions, limitations, policies, and practices such as prohibiting lawn watering, limiting Kentucky Bluegrass use, water rate changes, mass public education programs, landscape conversions, conversions to water-efficient fixtures, increased nonpotable reuse, increased emphasis on commenrcial and industrial customers, among others. The DEIS addressed this issue in chapter 2, pages 87 to 91 and in Appendix A, pages A-20 to A-23. Each of the Project Participants has a conservation program that is being implemented independently of the proposed SDS Project. These programs have been submitted to Reclamation under the Reclamation Reform Act. Any approved contract would have a requirement to continue to submit these programs.

A commenter expressed concern about a potential difference in water conservation assumptions Colorado Springs' current water conservation plan and demand forecasts. The DEIS and FEIS use Colorado Springs' 2005 water demand forecast that assumed a 5 percent reduction due to conservation. Colorado Springs' 2008-2012 Water Conservation Plan (CSU 2007) uses the 2007 water demand forecast that includes a 7.5 percent reduction due to conservation, based on several years of sustained experience since the 2002 drought.

Some commenters expressed concern that Colorado Springs' system-wide per capita water use and unaccounted-for water are too high and require reduction before a new water delivery system is constructed. Each of the Project Participants has a conservation program that is being implemented independently of the proposed SDS Project. These programs have been submitted to Reclamation under the Reclamation Reform Act. Any approved contract would have a requirement to continue to submit these programs.

Comment 2300: Suggested Alternatives

Response 2300: One commenter suggested the Central Colorado Project as an alternative to the SDS Project. Information presented in the DEIS was modified in the FEIS (see section 2.3.7, Table 22). The proposed Central Colorado Project was added to this table. This alternative was considered in the Alternatives Analysis (Reclamation 2006a) and dismissed from further analysis because the project does not include a delivery system. Consequently, a system like the proposed SDS Project would still be needed to deliver water to the SDS Participants.

Commenters suggested the Flaming Gorge Project as an alternative to the SDS Project. Information presented in the DEIS was modified in the FEIS (see section 2.3.7, Table 22). The proposed intake and untreated water pipeline option listed as "Wyoming and pipeline to terminal storage" was edited to clarify that this option includes the proposed Flaming Gorge Project, which would deliver water from Flaming Gorge Reservoir near the border of Wyoming and Utah.

One commenter suggested not building an SDS Project and selling or leasing the Project Participants' water to others. The DEIS addressed this issue in chapter 1 pages 6 to 17 and in Appendix A.

A commenter suggested an alternative that would include an untreated water intake on the Arkansas River downstream of Fountain Creek and a return flow pipeline that delivers Colorado Springs reusable return flows to the Arkansas River downstream of Fountain Creek. Information presented in the DEIS was modified in the FEIS (see section 2.3.7). Two intake and return flow pipeline configurations are plausible based on the comment: (1) intake downstream of the return flow point and (2) intake upstream of the return flow point. Both alternatives were evaluated using criteria described in the Alternatives Analysis (Reclamation 2006a) and then eliminated from further consideration. Key screening results for each configuration are summarized below.

<u>Configuration 1:</u> An alternative using the first configuration would combine the untreated and treated water components of the Downstream Intake Alternative (Alternative 6) with the return flow conveyance components of the Fountain Creek Alternative (Alternative 5). The intake would be located on the Arkansas River immediately downstream of Fountain Creek and the return flow point would be at the mouth of Fountain Creek. Based on component costs developed as part of the original screening analysis (Reclamation 2006a), the screening-level capital and 50-year operation and maintenance cost of this alternative is estimated at $1,888,700,000 for delivery of untreated water requiring only conventional treatment. Additional costs for

conventional water treatment and transmission of treated water, which would be about $549,500,000 for this alternative (same as the Participants' Proposed Action and Arkansas River alternatives). Firm yield and Simulated Mean Annual Project Deliveries (SMAPD) for this intake/return flow combination were estimated in Table 17 of the Alternatives Analysis (Reclamation 2006a). Firm yield would be about 71,900 ac-ft/yr and SMAPD would be about 68,700 ac-ft/yr for Colorado Springs, Fountain, and Security. Consequently, the alternative's cost per acre-foot for delivery of untreated water would be $26,268 and $27,492 for firm yield and SMAPD, respectively. The screening criteria used for evaluating economic reasonableness of potential SDS alternatives were $25,000 per acre-foot for firm yield and $21,000 per acre-foot for SMAPD (Reclamation 2006). This alternative would exceed both screening criteria. Additionally, the screening-level total capital and 50-year O&M cost for delivery of untreated water would be about 25 percent more expensive than the most costly alternative that was retained for detailed evaluation in the EIS – the Downstream Intake Alternative. This configuration was eliminated from further consideration because it is not economically reasonable based on the criteria used for the SDS Alternatives Analysis (Reclamation 2006a). The Downstream Intake and Highway 115 alternatives (Alternatives 6 and 7) also failed the cost screening, but by a much smaller amount.

Configuration 2: An alternative using the second configuration would include a return flow pipeline that delivers Colorado Springs' reusable return flows to the Arkansas River at a location downstream of an intake on the Arkansas River. Due to requirements under existing exchange decrees, water from the return flow pipeline would need to be routed to the Colorado Canal system (i.e., Lake Meredith or Lake Henry), exchanged to Pueblo Reservoir, and then released to the intake. The return flow pipeline could either be routed to the Arkansas River immediately downstream of the intake, or directly to Lake Meredith. If it were routed to the Arkansas River, due to high conveyance losses at low flows in Colorado Canal, it is likely that a pump station and pipeline would be required to deliver water to Lake Meredith from the river. The screening-level capital and 50-year operation and maintenance cost of this alternative would be slightly higher than that described above for the first configuration due to the Lake Meredith conveyance requirements. Firm yield and SMAPD for this intake/return flow combination was not estimated in the Alternatives Analysis (Reclamation 2006a). Yields would be no greater than the yield estimated in the Alternatives Analysis (Reclamation 2006) for an intake immediately upstream of Fountain Creek with no return flow pipeline. Firm yield for this scenario would be approximately 45,900 ac-ft/yr and SMAPD would be about 54,200 ac-ft/yr for Colorado Springs, Fountain, and Security. Using the lower than expected costs from Configuration 1, and higher than expected yields for a similar alternative, the alternative's cost per acre-foot for delivery of untreated water would be at least $41,200 and $34,900 for firm yield and SMAPD, respectively. This configuration was eliminated from further consideration because it is not economically reasonable based on the criteria used for the SDS Alternatives Analysis (Reclamation 2006a).

Commenters suggested increasing the size of the existing Homestake (also referred to as Otero) pipeline or installing a new parallel pipeline as an SDS Project alternative. Information presented in the DEIS was modified in the FEIS (see section 2.3.2 and 2.3.7, including Table 22). The proposed intake and untreated water pipeline options listed as "Twin Lakes and pipeline to terminal storage" and "Arkansas River at Buena Vista and pipeline to terminal storage" have been edited to clarify that these options include use of the Otero pipeline corridor. Enlarging the Otero pipeline was not evaluated in the Alternatives Analysis because this system provides about 50 percent of Colorado Springs' total firm yield (refer to DEIS section 1.5.2.1). A multi-year shut-down to enlarge the capacity of the existing pipeline would not be feasible.

A commenter suggested that the Phantom Canyon Pumped-Storage Hydroelectric Project should be an SDS Project alternative. The DEIS addressed this issue in chapter 2, pages 82 to 89 and the Alternatives Analysis (Reclamation 2006a). The Phantom Canyon Pumped-Storage Hydroelectric Project is includes the Brush Hollow Reservoir enlargement option identified in the Alternatives Analysis. Suitability for the Brush Hollow Reservoir enlargement option as a terminal storage and/or regulating option for the SDS Project is discussed in the comment response 2003. Additional information on the status of the Phantom Canyon Pumped-Storage Hydroelectric Project is provided in the comment response 2400.

Commenters suggested that the proposed Stonewall Springs Reservoir Project should be an SDS Project alternative. The DEIS addressed this issue in chapter 2, pages 82 to 89 and the Alternatives Analysis (Reclamation 2006a). The Stonewall Springs Reservoir project is analogous to the Gravel Lakes regulating storage option and Excelsior Ditch untreated water intake option identified in the Alternatives Analysis. The Alternatives Analysis concluded that, of the untreated water intake options downstream of Fountain Creek, "the Arkansas River Downstream of Fountain Creek, Excelsior Ditch, and Colorado Canal Headgate options were deemed to be functionally equivalent, all withdrawing water from the Arkansas River downstream of Fountain Creek within a relatively small geographical area. The Arkansas River Downstream of Fountain Creek intake would avoid diversion of the City of Pueblo's wastewater effluent. This option was retained. The Excelsior Ditch and Colorado Canal Headgate options were eliminated from further consideration." Additional information on the status of the Stonewall Springs Project is provided in the comment response 2400.

A commenter suggested that flood control and stormwater management should be included in SDS Project alternatives. The DEIS addressed this issue in chapter 2, pages 86 to 89, 125, and 126 and in the Alternatives Analysis (Reclamation 2006a). Flood control and stormwater management options were evaluated in the Alternatives Analysis (Reclamation 2006a) and were eliminated from further consideration based on multiple factors. Additionally, as discussed in section 3.1.3.1, Colorado Springs is implementing programs to address stormwater quality and quantity through a Stormwater Enterprise. This information is summarized in chapters 2 and 3 of the DEIS.

A commenter suggested "new sewer piping and a water station to hold the water in Colorado Springs before it flows down to Pueblo Reservoir" as an SDS Project alternative. This comment contains two facets – implementing repairs to existing sanitary sewer systems and constructing an indirect potable reuse system. As discussed in section 3.1.3.1 of the DEIS, Colorado Springs is evaluating and improving its sanitary sewer pipelines through an existing program that is monitored by CDPHE. Requests to re-evaluate indirect potable reuse alternatives are addressed in the comment response 2003.

A commenter suggested constructing a new reservoir west of Florence and sharing water with Florence. Information presented in the DEIS was modified in the FEIS (see section Table 22 and section 2.3.1 and 2.3.2), to address the proposal for a new reservoir west of Florence. This reservoir could be considered a regulating storage or terminal storage option. Screening results for this option would be similar to those for the Brush Hollow Reservoir enlargement option (refer to comment response 2003). With regard to service as a regulating storage option, a new reservoir would have substantially greater anticipated environmental effects relative to using Pueblo Reservoir without modification and construction of a new reservoir, rather than using an existing facility, would likely cause alternatives to exceed cost criteria. With regard to service as a terminal storage option, a new reservoir west of Florence would be located too far from Colorado Springs to fulfill redundancy aspect of the purpose and need for the SDS Project and would be anticipated to exceed cost screening criteria due to the need to increase the capacity of the delivery system to meet peak day demands. Sharing water with the City of Florence is not discussed in the FEIS because Florence is not a Participant in the SDS Project.

Two commenters suggested that the realignment of Bradley Road around the Upper Williams Creek Reservoir site that is included in the Wetland Alternative should be changed to avoid an existing golden eagle nest, avoid traversing bluffs and the associated visual effect, and avoid bisecting a parcel of private property (El Paso County parcel number 4400000357). The realignment of Bradley Road in the modified Participants' Proposed Action and the Wetland Alternative was changed to route the road south of the Upper Williams Creek Reservoir to minimize effects to an existing golden eagle nest.

Comment 2302: Alternatives to diversion point

Response 2302: A commenter believed that water should be diverted below the Fountain Creek confluence. The DEIS addressed this topic in chapter 2, pages 102 to 120. Several different intake locations were evaluated in the DEIS, including intakes upstream and downstream of Pueblo Reservoir. Section 2.7 of the FEIS provides rationale for selection of the Preferred Alternative.

Comment 2303: Alternatives to Reservoirs

Response 2303: Commenters expressed general concern over the selection of the Jimmy Camp Creek Reservoir site in the Preferred Alternative (and 6 out of the 7 alternatives evaluated in the DEIS) and expressed a preference for Upper Williams Creek Reservoir. Refer to responses to agency comments 40-4 and 40-5 for Reclamation's responses on avoidance of the Jimmy Camp Creek Reservoir site through use of the Upper Williams Creek Reservoir site.

Responses to comments 3718 and 3331 address specific concerns about the Jimmy Camp Creek Reservoir site (such as insurance rates and dam breach analysis). As described in the responses to these comments, these specific concerns regarding the Jimmy Camp Creek Reservoir site, more detail will be provided in the FEIS. Aside from the specific concerns about the Jimmy Camp Creek

Reservoir site, which are addressed in other comment responses, Reclamation concludes that the approach in the DEIS addressed general concerns about the Jimmy Camp Creek Reservoir site in an appropriate fashion because it thoroughly documents the environmental and socioeconomic effects of alternatives that would include this reservoir. Additionally, these analyses were updated in the FEIS.

Commenters suggested that the Brush Hollow / Phantom Canyon site should be evaluated further and/or evaluated as a regional project to serve the needs of not only the SDS project but others as well. These comments suggest that the cost analysis of the Brush Hollow site could be evaluated in a different manner. The DEIS addressed the evaluation of Brush Hollow Reservoir in chapter 2, on pages 84 and 88. The Brush Hollow enlargement option was screened out for the following reasons: marine shale acreage, wetlands effects, and because it would not provide additional terminal storage capacity near the locations of future demands (thus not meeting the purpose and need). Cost issues were only part of the screening analysis of this reservoir site.

A commenter suggested that other dam locations would be better suited for flood control and could reduce damage in the event of a flood. The DEIS addressed this issue in chapter 2. Although there may be better flood control locations for the terminal and exchange reservoirs, the reservoir locations were selected primarily to fulfill the water supply purpose described in the Project Participants' needs on page 2 of the EIS.

A commenter suggested that the terminal storage selection was based on arbitrary geographic limitations. As described on page 83 of the DEIS, the geographic limitations of the terminal storage analysis were based on a rationale described in "Southern Delivery System Terminal Storage and Exchange Reservoir Site Analysis – Phase II" by Black and Veatch (2005) and incorporated by reference in the Alternatives Analysis (Reclamation 2006a). The rationale included the following considerations:

- The area to be served was limited primarily to the Jimmy Camp Creek basin and eastern side of Colorado Springs.
- It is preferable to have the proposed water treatment plant deliver the majority of the treated water by gravity.
- Because the water would be delivered from an intake on the Arkansas River, south of the current storage area, siting storage farther north (and thus at a higher elevation) would require pumping to a higher elevation and then piping the water back south to the service area, increasing cost and energy requirements.

Comment 2304: Alternatives to pipeline alignments

Response 2304: A commenter questioned the technical rationale for the untreated water pipeline in Fremont County. The DEIS addressed this issue in chapter 2, pages 40, 64, and 65. Reports describing the conceptual design for pipeline alignments in Fremont County ("Selection, Engineering Concepts and Costs for Colorado Springs Utilities' No Action Alternative, Adopted 4th Quarter 2006" (CH2M HILL 2007b) and "Highway 115 Return Flow Conceptual Engineering Evaluation" (CH2M HILL 2005i) are cited. The approach taken in the DEIS was followed in chapter 2 of the FEIS. The untreated water pipeline in Fremont County was planned to head north at first rather than following Colorado 115 the entire way so the pipeline would avoid the town of Penrose, with its multiple land owners and existing facilities, such as roads and utilities. Additionally, Colorado Department of Transportation (CDOT 2006, citation below) also indicated that it would not allow the pipeline in CDOT right-of-way.

Colorado Department of Transportation (CDOT). 2006. Letter from Samuel J. Pisciotta, CDOT Region 2 Utility Manager to Russ Nicklin, Colorado Springs Utilities. August 3.

A commenter suggested that the untreated water pipeline be located east of and parallel to the existing railroad, frontage road and I-25. This alignment would be best suited to the Downstream Intake or Arkansas River alternatives due to their intake locations near the mouth of Fountain Creek with the alignments following the Eastern Pipeline route. For the remaining alternatives, this suggestion would result in a much longer pipeline than currently proposed. The Participants completed a detailed comparison of routes for the eastern pipeline alignment (CH2M HILL 2005, citation below).

CH2M HILL 2005. South Raw Water Pipeline – Best Technical Alternative Alignment Selection, Southern Delivery System, Technical Memorandum 7-C.3S-2. Prepared for Colorado Springs Utilities. February 3.

A commenter suggested conveyance of reusable return flows from the Williams Creek Reservoir through a pipeline laid in the same trench and parallel to the delivery system pipeline. The Eastern Return Flow Pipeline is proposed to follow the same alignment as the Eastern Untreated Water Pipeline in the Arkansas River Alternative. The rationale behind this alignment is documented in (CH2M HILL 2005, citation below). In addition, the Alternatives Analysis Report (page 57) evaluated an alternative that would convey return flows back to Pueblo Reservoir. This alternative was screened out based on cost. The return flow pipeline must convey flows of up to 300 cfs, requiring a diameter of 72 inches. The suggested return flow pipeline alignment is likely to be more costly than the current, shorter alignment, although it would use a shared corridor.

CH2M HILL 2005. South Raw Water Pipeline – Best Technical Alternative Alignment Selection, Southern Delivery System, Technical Memorandum 7-C.3S-2. Prepared for Colorado Springs Utilities. February 3.

Comment 2306: Alternatives to return flow conveyance

Response 2306: A commenter suggested recharging the Williams Creek aquifer with the Participants' return flows rather than releasing flows down Fountain Creek due to the geomorphic sensitivity of Fountain Creek. The DEIS addressed this topic in chapter 1, page 6 and in Appendix A. Under Colorado Water Law, the Project Participants need their return flows to reach the Arkansas River in order to use them for exchange.

Other commenters suggested that an alternative include conveyance of return flows in a pipeline to the mouth of Fountain Creek. Refer to response to agency comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

A commenter suggested that return flows be delivered directly to the untreated water pipeline to be used directly by the Project Participants. This type of configuration was considered as part of the reuse evaluation documented in the Alternatives Analysis Addendum (Reclamation 2007a). Refer to comment response 4-10.

Comment 2307: Fountain Creek flood control dam suggestion

Response 2307: Commenters suggested a dam on Fountain Creek for flood control. The DEIS addressed this issue in chapter 2, pages 86 to 87. Flood control is not a purpose of the SDS project. Furthermore, the U.S. Army Corps of Engineers did not recommend a flood control dam on Fountain Creek in its recent Fountain Creek Watershed Study (Corps 2006a, 2006b, 2006c).

Comment 2308: Crowley County diversion point suggestion

Response 2308: Commenters suggested a diversion point at Lake Henry, Meredith, or other points in Crowley County. The DEIS addressed these diversion points in chapter 2, pages 82 to 83 and in the Alternatives Analysis (Reclamation 2006a). These diversion points were eliminated from detailed analysis because they would require an untreated water pipeline that is considerably longer and was anticipated to have substantially greater environmental effects than a pipeline coming from Pueblo Reservoir.

Comment 2400: Reasonably Foreseeable Activities

Response 2400: A commenter requested that the effects of actions by the Upper Arkansas Water Conservancy District (UAWCD) be included in the effects analysis. The UAWCD was established in 1979 for the purpose of protecting and securing water rights in the Upper Arkansas Basin (www.uacwcd.com). As such, the historical and existing actions of the UAWCD are indirectly reflected in the existing conditions, direct effects, and cumulative effects analysis. Section 3.1.3.1 describes requirements for potential future actions to be included as reasonably foreseeable actions. Potential future actions by the UAWCD noted in the comment (storage of water from the Arkansas River) do not meet several these conditions, including significance of cumulative effects, insufficient information for meaningful analysis, and permitting secured by 2008. For these reasons, future actions by the UAWCD are not included as reasonably foreseeable activities, and only historical and existing activities are included in the analyses.

Commenters were concerned about effects of use of the Joint Use Manifold on the Arkansas Valley Conduit and Pueblo Board of Water Works. Refer to response to agency letter 2.

Comments were received requesting that the proposed Phantom Canyon Pumped-Storage Hydroelectric Project be included as a reasonably foreseeable action. The DEIS addressed this issue in section 3.1.3.1, page 122. A Temporary Permit was issued by the Federal Energy Regulatory Commission (FERC) to the Phantom Canyon Project in 2006. However, this permit is only intended to "maintain priority of application" and "confers no authority on the permittee to undertake" the proposed project. Section 3.1.3.1 of the DEIS outlines the requirements for inclusion of activities or projects as reasonably foreseeable activities in the SDS EIS analysis. One of these requirements is that for projects requiring NEPA compliance, the NEPA compliance activities should be completed by the end of calendar year 2008. After reviewing the information provided by the commenter and supplemental information gathered by the SDS EIS team, it was determined that NEPA compliance would likely be required for the Phantom Canyon Pumped Storage Project, and since NEPA compliance activities have yet to commence or are just beginning, it is unlikely that NEPA compliance will be complete by the end of 2008. Therefore, the Phantom Canyon Pumped Storage Project is not considered a reasonably foreseeable action.

A commenter suggested that the proposed Stonewall Springs Reservoir Municipal and Industrial Water Storage project be included as a reasonably foreseeable action. The DEIS addressed this issue in section 3.1.3.1, page 122. Section 3.1.3.1 of the DEIS outlines the requirements for inclusion of activities or projects as reasonably foreseeable activities in the SDS EIS analysis. One of these requirements is that for projects requiring under the jurisdiction of local authorities, permit applications must be submitted by the end of 2008. After reviewing the information provided by the commenter and supplemental information gathered by the SDS EIS team, it was determined that a Pueblo County 1041 permit would be required for municipal and industrial water storage in the proposed reservoir. At the time of this memorandum, a 1041 permit application has not been filed with the County. Furthermore, an additional requirement is that adequate information be available to develop a meaningful analysis of the activity. Because there is no information available on the quantity, timing, and uses of water stored in the reservoir, it would not be possible to analyze the effects of this storage in the SDS EIS. Therefore, the use of the proposed Stonewall Springs Reservoir for municipal and industrial storage is not considered a reasonably foreseeable action.

A commenter expressed concern that the DEIS has not considered the direct, indirect, cumulative, and connected impacts from new growth. The DEIS addressed this issue in chapter 3, section 3.1.3.1, page 124, and throughout the effects sections in chapter 3. Growth is treated as a reasonably foreseeable action and its effects were disclosed in the cumulative effects sections for each resource.

Commenters were concerned that the No Action Alternative is not a viable or legal alternative because of a suggested conflict with the proposed Phantom Canyon Pumped Storage Project (described above). There is no apparent conflict between the proposed Phantom Canyon Pumped Storage Project and the No Action Alternative for the proposed SDS Project. Both projects would include an untreated water intake on the Arkansas River near the crossing by Colorado 115 and a pipeline alignment bearing northward toward the existing Brush Hollow Reservoir. The projects are, however, not mutually exclusive. There should be sufficient land in this area to accommodate either or both projects. If both projects were advanced, there could be opportunities for some shared infrastructure (e.g., an intake on the Arkansas River).

Comment 2403: General comments about future growth (includes urban development and land use)

Response 2403: Commenters were generally concerned about future growth. This issue is addressed in the DEIS, chapter 2, pages 122 to 127. The Participants expect populations in their service areas to continue to grow, regardless of the outcome of this EIS. The effects of future growth are included in cumulative effects discussed throughout chapter 3. Also refer to comment response 1010.

Commenters noted that the Clear Spring Regional Water Reclamation Facility project is no longer reasonably foreseeable. Information presented in the DEIS was modified in the FEIS. Colorado Springs Utilities has decided against construction of the Clear Spring Regional Water Reclamation Facility and is instead considering expansion of its existing wastewater treatment facilities. Reclamation has made changes to discussions of cumulative effects throughout chapter 3 of this FEIS to reflect elimination of the Clear Spring Regional Water Reclamation Facility as a reasonably foreseeable action.

Comment 2404: General comments about Fountain Creek Watershed Study

Response 2404: A commenter indicated that release of the DEIS was premature because the Army Corps of Engineers had not yet released its Fountain Creek Watershed Study (FCWS). Portions of the recommendations made by FCWS were reflected in the final environmental commitments for the Preferred Alternative (see section 3.9 and chapter 5).

Comment 2406: General comments about climate change

Response 2406: Commenters were concerned about the effects of climate change. The DEIS addressed climate change in chapter 2, pages 128 to 129, and in cumulative effects analyses throughout chapter 3. The best available scientific information about climate change was used. Higher temperatures, as well as shifts in precipitation and the timing of spring runoff are expected due to climate change. The timing, magnitude, and locations of these shifts are difficult to predict. Therefore, climate change was examined in a qualitative manner to predict cumulative effects of streamflows, water quality, geomorphology, wildlife habitat, wetlands, vegetation, aquatic life, recreation, cultural resources, and socioeconomics. In addition, Reclamation has considered greenhouse gas emissions that contribute to climate change in selection of the Preferred Alternative.

Comment 2407: General comments about activities not considered reasonably foreseeable

Response 2407: Commenters felt that the Preferred Storage Option Plan (PSOP) and the Arkansas Valley Conduit should be considered reasonably foreseeable. The DEIS addressed this issue on chapter 3, page 130.

Comment 2410: General comments about Colorado Springs Stormwater Enterprise and future stormwater management

Response 2410: Commenters were concerned about Colorado Springs' stormwater and sewage spills in Fountain Creek. The DEIS addressed Colorado Springs stormwater management in chapter 3, pages 125 to 126. After reviewing this comment, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion. The Colorado Springs Stormwater Enterprise was established in 2005 to fund stormwater drainage capital improvement projects, maintenance and operations, and compliance with Colorado Springs' municipal storm sewer (MS4) discharge permit (Colorado Springs 2008a, 2008b). The Stormwater Enterprise is anticipated to reduce the water quality and quantity effects of historical and future development within the city limits of Colorado

Springs on surface waters in the Fountain Creek Basin. The approach taken in the DEIS has been followed in chapter 3 of the FEIS.

Comment 3001: Concern about overall environmental impacts

Response 3001: Several commenters were concerned about general environmental effects of the alternatives and that effects were not adequately disclosed. The DEIS addressed environmental issues throughout the document. Sections 3.1.2 and 3.1.3 define Direct and Indirect Effects and Cumulative Effects of the alternatives on environmental resources. The DEIS disclosed the analysis of 21 separate environmental and socioeconomic resources, including socioeconomics, wildlife, vegetation, and surface water, and includes identification of and effects to threatened or endangered species.

Commenters were concerned about the high energy requirements and effects on greenhouse gas emissions of the alternatives need to be considered in the analysis. The DEIS disclosed potential energy requirements for each alternative in chapter 2 and potential greenhouse gas emissions in section 3.24. This information was considered during Reclamation's identification of a Preferred Alternative (see DEIS section 2.7).

Comment 3003: Concern about overall environmental impacts on Arkansas River

Response 3003: Commenters questioned the adequacy of the effects analysis on the Arkansas River downstream of Pueblo Reservoir. The study area for the DEIS was described in section 3.3, Study Area Evaluated in the EIS, and includes the lower Arkansas River Basin from Pueblo Dam to Las Animas. As described in section 3.3.6, each of the environmental and socioeconomic resources evaluated smaller analysis areas representing only the potential physical disturbance area (including inundation areas) for each alternative based on the current level of design. These analysis areas and the analyses performed for each resource are presented in each resource section in chapter 3 of the DEIS.

Comment 3004: Concern about overall environmental impacts on Fountain Creek

Response 3004: Commenters questioned the adequacy of the effects analysis on Fountain Creek. The study area for the DEIS was described in section 3.3, Study Area Evaluated in the EIS, and includes Fountain Creek from Monument Creek to its mouth. As described in section 3.3.6, each of the environmental and socioeconomic resources were evaluated an analysis area within a smaller sub-area representing only the potential physical disturbance area (including inundation areas) for each alternative based on the current level of design. These analysis areas and the analyses performed for each resource are presented in each resource section in chapter 3 of the DEIS.

Comment 3005: Concern about overall environmental impacts on Williams Creek

Response 3005: A commenter requested further disclosure of effects on the Frost Ranch Conservation easement. Information presented in the DEIS was modified in the FEIS (see section 3.8). Information has been added to describe how the Project Participants would work with the land owner to modify the easement.

Comment 3009: Concern about overall environmental impacts at Jimmy Camp Creek Reservoir Site

Response 3009: Commenters stated that the DEIS does not fully disclose the effects of alternatives in Jimmy Camp Creek. The DEIS did not contain an analysis of dam breach issues downstream of the proposed Jimmy Camp Creek Reservoir. This analysis was performed and the effects of the analysis are described in sections 3.8 and 3.15 of the FEIS. Additionally, the analysis of the proposed Jimmy Camp Creek terminal reservoir site legal issues is presented in section 3.15.

Comment 3011: Concern about overall cumulative environmental impacts

Response 3011: Commenters stated that the DEIS has not considered cumulative impacts from new growth. The DEIS addressed this issue in section 3.1.3.1, page 124, and throughout the effects sections in chapter 3. Growth is treated as a reasonably foreseeable action and its effects are disclosed in the cumulative effects sections for each resource.

A commenter stated that the cumulative effects analysis was inadequate because it is only mentioned twice in the table of contents and partitioned throughout the remainder of the report. The DEIS addressed these issues in chapter 3 under the Cumulative effects sections of each resource. The cumulative effects analysis was performed using the same approaches and in the same level of details as the direct and indirect effects analysis. The cumulative effects analysis fully discloses the cumulative effects of the project on the environment.

Comment 3014: Concern about indirect environmental impacts

Response 3014: A commenter was concerned that the effects analysis did not consider indirect environmental impacts. The DEIS addressed this issue throughout chapter 3. Indirect effects are defined in section 3.1.2 and described as being included in the direct and indirect environmental consequences sections of chapter 3 for each of the resource areas.

Comment 3016: Concern about adequate mitigation

Response 3016: A commenter suggested that Colorado Springs is not mitigating impacts of its releases to Fountain Creek, and that Colorado Springs must be constrained in the quality and quantity of its releases. The DEIS addressed this issue in chapter 3, section 3.9, Geomorphology, and in the Conceptual Geomorphology Mitigation Plan. The geomorphic effects of the alternatives were disclosed in the DEIS, and conceptual mitigation plans for those effects were developed. The FEIS describes the final environmental commitments for the Preferred Alternative. The mitigation plans would continue to develop during the permitting and contracting process.

Comment 3017: Requests additional analysis on environmental impacts

Response 3017: A commenter indicated that treatment of wastewater is excluded from the EIS and that it allows Colorado Springs to avoid payment for mitigation of impaired water quality downstream. This issue was discussed in the DEIS in section 2.4.4, Additional Regulatory Requirements and Permitting, and section 3.7, Water Quality. The water quality effects analysis (section 3.7) was supplemented to further evaluate the effect of the SDS Project on impaired waters and point-source dischargers within Fountain Creek and the lower Arkansas River.

A commenter stated that the elevation datum used in the study was not disclosed, making comparison with outside data sets difficult. Information presented in the DEIS was modified in the FEIS (see section 2.3.3). The datum for datasets is disclosed.

A commenter stated that the discussion of cumulative effects in each resource area rather than in a summary section provides the public with an incomplete and fragmented picture of the environmental effects. The DEIS addressed this issue throughout chapter 3. Reclamation's (2000) NEPA manual allows presentation of cumulative effects either as a separate section or within each resource area. Due to the complexities of the analysis within each resource area and the similarities of cumulative effects between alternatives, it was Reclamation's determination that discussion of cumulative effects was more appropriate within each resource area. All cumulative effects are disclosed within the DEIS regardless of the method chosen for discussion.

A commenter requested that the FEIS be reconfigured to discuss the Preferred Alternative and selection of the Preferred Alternative. The DEIS addressed this topic in section 2.7.

A commenter requested that the FEIS be reconfigured to discuss mitigation separately for each alternative. Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. The DEIS presented mitigation measures at a conceptual level only. For the final Preferred Alternative, mitigation techniques identified through the public comment period were evaluated along with the mitigation measures identified in the DEIS and included in the environmental commitments as necessary to avoid, minimize, rectify, reduce or eliminate the effects of the Preferred Alternative.

Comment 3018: Concern about extent of study area

Response 3018: A commenter indicated concern that Colorado Centre was not included in the study area. The study area included Jimmy Camp Creek from the proposed Jimmy Camp Creek Reservoir to its mouth. Reclamation revised the FEIS in section 3.3.4, section 3.8, and section 3.15 to clarify this matter and to reflect potential effects on Colorado Centre.

A commenter stated that the EIS should include effects of the alternatives downstream of John Martin Reservoir. Information presented in the DEIS was modified in the FEIS (see section 3.3). The development of study areas for the SDS EIS was guided by information received during initial public scoping and through results of initial effects analyses. The study area included the Arkansas River to John Martin Reservoir. Because no significant adverse effects were shown in the Lower Arkansas River immediately upstream of John Martin Reservoir, it was determined that there would be no significant adverse effects downstream of John Martin Reservoir, thus the study area was adequate to describe the full effects of the SDS Project.

Comment 3020: Concern that EIS analyses are generally inadequate

Response 3020: Comments were received stating that the technical analyses contained in the DEIS were inadequate, more study is required, or the DEIS should be withdrawn. After reviewing these comments, considering other public input, and making the modifications to the DEIS as a results of the comments described herein, Reclamation concludes that the environmental and socioeconomic analyses conducted as part of the DEIS adequately and properly disclose the environmental effects of the federal actions contemplated in the EIS and comply with NEPA, CEQ's regulations that implement NEPA (40 CFR 1500) and Reclamation's draft NEPA handbook (Reclamation 2000). Reclamation did, however, release a supplemental water quality analysis for public review prior to issuing the FEIS.

A commenter stated that the DEIS violates laws and regulations. Reclamation prepared the EIS and supporting documents in compliance with applicable laws and regulations.

Comment 3100: Surface Water Quality

Response 3100: A commenter expressed concern about water quality, particularly assuring the safety of drinking water supplies. Information on compliance with the federal Safe Drinking Water Act was added to the FEIS in section 3.7.2.

Comment 3101: General surface water quality concern

Response 3101: Commenters expressed concern about surface water quality. The DEIS addressed this issue in chapter 3, pages 204 to 249. Reclamation did, however, release a supplemental water quality analysis for public review prior to issuing the FEIS. The DEIS thoroughly documents existing water quality concerns and impairments in the study area and surface water quality effects of the alternatives. Parameters discussed in section 3.7 include emerging contaminants, metals, salinity, selenium, and suspended sediments. The DEIS describes effects on downstream uses of water such as agriculture and drinking water from the alternatives. Where applicable, the text discusses the quality of return flows compared to water quality standards. Eutrophication potential in both Pueblo Reservoir and the proposed return flow storage reservoirs is thoroughly discussed. Known impairments in the study area, such as elevated levels of bacteria, are discussed, along with their potential sources, and how these impairments would be affected by proposed alternatives. All entities discharging treated wastewater into the Arkansas River Basin are permitted by CDPHE to meet Colorado's water quality standards. These water quality standards are set to protect beneficial uses of water downstream including recreation, agriculture, and drinking water. Treatment of SDS return flows would be designed to meet current and future water quality requirements for discharge to surface water. Historical problems with sewage spills into Fountain Creek are a serious water quality problem. The historical overflows of Colorado Springs' sanitary sewer system are not relevant to the SDS EIS process.

Comment 3102: Concern about surface water quality in Pueblo Reservoir

Response 3102: Commenters were concerned about water quality effects in Pueblo Reservoir. The DEIS addressed this topic in chapter 3, pages 222 to 249.

A commenter suggested that water quality effects to the Pueblo Water intake were not adequately addressed. The following water quality concerns related to water withdrawals from Pueblo Reservoir were discussed in section 3.7: salinity, emerging contaminants, metals, bacteria, eutrophication including nutrient levels and resulting chlorophyll a concentrations, and periods of anoxia in Pueblo Reservoir.

Comment 3103: Concern about surface water quality in Arkansas River through Pueblo

Response 3103: Commenters were concerned about surface water quality in the Arkansas River through Pueblo. Information on compliance with the federal Safe Drinking Water Act was added to the FEIS (see section 3.7.2).

Comment 3104: Concern about surface water quality in Arkansas River downstream of Fountain Creek

Response 3104: Commenters were concerned about surface water quality in the Arkansas River downstream of Fountain Creek. The DEIS addressed water quality in chapter 3, pages 204 to 249. Water quality effects on irrigation were evaluated by describing effects on water quality standards attainment, some of which are set to protect agricultural beneficial uses of water, and effects on crop yields due to changes in salinity.

Comment 3105: Concern about surface water quality in Fountain Creek

Response 3105: Commenters were concerned about surface water quality in Fountain Creek. The effects on Fountain Creek water quality for each of the SDS alternatives were disclosed in section 3.7.5. Some of the comments on Fountain Creek water quality were not related to effects of the alternatives as described below:

- As discussed in section 3.7.4, there are rural and urban sources of bacteria to Fountain Creek. Much higher bacteria densities are measured during stormflows (as discussed in the EIS) indicating that watershed sources are likely the biggest contributor to peak bacteria events. Leakage from sewers has historically contributed some bacteria to the creek, but is generally not the source of impairment of Fountain Creek between Fountain Creek and Pueblo. Historical sewer leakage is not part of the alternatives effects analysis. Return flows are regulated by the state to maintain stream concentrations protective of public health. Review of effluent water quality data confirms that Colorado Springs' effluent is maintained at bacteria densities below water quality standards. As part of the comment response 2010, a discussion of effluent quality was added in the FEIS.
- The application of salt to the streets of Colorado Springs is not related to the SDS EIS analysis. This is a stormwater quality issue that is regulated by CDPHE. The stormwater enterprise and efforts to improve stormwater quality in Colorado Springs are discussed in section 3.7 as a cumulative effect that would benefit water quality for all alternatives.

Comment 3106: Concern about surface water quality in Jimmy Camp Creek

Response 3106: Commenters were concerned about surface water quality in Jimmy Camp

Creek, particularly eutrophication due to runoff from urban development. The DEIS addressed this issue in chapter 3, page 218. The water in the terminal storage reservoirs would not be released downstream (with the exception of stormflows) but would enter the Participants' water supply systems.

A commenter was concerned about water from Jimmy Camp Creek infiltrating abandoned coal mines downstream of Jimmy Camp Creek Reservoir and contaminating alluvial aquifers. During the pedestrian survey of the cultural resources within the Jimmy Camp Creek study area, cultural resources related to mining were not found. Any hazards posed by coal mines encountered during detailed design or construction would be addressed at that time.

A commenter was concerned that the Colorado Springs Landfill near the proposed Jimmy Camp Creek Reservoir was not addressed. The Colorado Springs Landfill, owned and operated by Waste Management, is located 2.25 to 3 miles southeast of the Jimmy Camp Creek Reservoir high water elevation, outside of the scope of the Hazardous Materials Assessment. There are two drainages between the landfill and the reservoir site that would capture any runoff from the landfill and divert it to the south and away from Jimmy Camp Creek Reservoir. Therefore, this landfill is not a water quality concern for Jimmy Camp Creek Reservoir.

Comment 3107: Concern about surface water quality in Williams Creek

Response 3107: Commenters were concerned about surface water quality in Williams Creek. The DEIS addressed this issue in chapter 3, pages 224 to 242. Water quality effects were adequately disclosed in the *Williams Creek Reservoir* and *Salinity and Sulfate* subsections as well as the Water Quality Effects Analysis (MWH 2008b), which was incorporated by reference.

Comment 3110: Requests additional analysis on surface water quality

Response 3110: A commenter requested additional analysis relating to water quality issues, particularly regarding selenium. The following information relating to the commenter's request was disclosed in the DEIS:

- Some of the alternatives are likely to have more adverse effects than others regarding selenium. These topics are addressed in greater detail in the supporting water quality documents. Furthermore, monitoring for selenium effects and adaptive management were proposed in the DEIS.
- Although studies regarding bacteria sources to Fountain Creek are ongoing, there is currently a large amount of information available regarding bacteria sources, and this information is summarized in section 3.7.4 as well as the Water Quality Technical Report (MWH 2008c). The DEIS described how the alternatives are likely to affect bacteria concentrations in Fountain Creek, and that the major sources of bacteria would not be affected by any of the alternatives.
- Salinity and water quality in Pueblo Reservoir are both thoroughly analyzed through the use of models. The results of these models, which are summarized in section 3.7.5, show that certain alternatives would have greater adverse water quality effects than others.

Reclamation released a supplemental water quality analysis that included selenium, *E. coli*, and sulfate for public review prior to issuing the FEIS. This information is also included in section 3.8 of the FEIS.

Comment 3111: Concern about surface water quality in Arkansas River upstream of Pueblo

Response 3111: A commenter was concerned about the addition of low quality water to a reach of the Arkansas River upstream of Pueblo that currently has high water quality (Alternatives 3 and 4). Another commenter was concerned about the adverse water quality effects on the Arkansas River near the Holcim Cement Plant resulting from Alternatives 3 and 4. The DEIS addressed this issue in chapter 3, pages 222 to 245. The adverse effects are described in the text as well in the summary figures (Figures 61 and 62).

A commenter was concerned about withdrawal of water from the upper Arkansas River and effects on Holcim Cement Plant water quality. The DEIS addressed this topic in chapter 3, pages 204 to 249 and in the summary figures (Figures 61 and 62). For most water quality parameters, Alternatives 1 and 7 would not affect water quality in this reach, and for salinity, water quality would actually be improved, compared to Existing Conditions.

Comment 3115: Concern about water quality study area

Response 3115: A commenter stated that the EIS should include water quality effects of the alternatives downstream of John Martin Reservoir. The DEIS addressed this issue in chapter 3, pages 205 to 206. The two water quality parameters of most concern in the lower Arkansas River in the study area are salinity and selenium. As summarized in Figures 61 and 62 of the DEIS, there are no effects on either of these parameters in the lower Arkansas River. Because there would not be SDS project operations downstream of Lakes Henry and Meredith, any water quality effects, or lack of effects in this case, at that location are expected to continue downstream. These findings were reaffirmed by the supplemental water quality analysis of selenium that Reclamation released prior to issuing the FEIS. This information is also included in section 3.8 of the FEIS.

Comment 3150: Surface Water Flows

Response 3150: A commenter thought a strict operating schedule should be included in DEIS. Specific operations of the SDS Project and any associated assumptions are presented in the Hydrologic Model Documentation Report (MWH 2007c) and chapter 3 of the Surface Water Hydrologic Effects Analysis (MWH 2007d). As noted in section 3.4.7 of the DEIS, and in compliance with 40 CFR 1502.21, these reports incorporated into the EIS by reference and were available for public review and comment. Information presented in the DEIS has been modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. A commitment not to construct or operate the Preferred Alternative in a manner that differs substantively from that evaluated in the FEIS, except under emergency conditions, has been included. Substantively different construction or non-emergency operations would require additional NEPA analysis.

A commenter stated that Colorado Springs has historically not voluntarily agreed to the UAVFMP (and that the statement on page 133 of the DEIS is incorrect). Information has been added in the FEIS (see section 3.2.6.1) to describe historical participation by Colorado Springs.

A commenter believed the DEIS should include an explanation of how the UAVFMP was modeled, whether it includes Reclamation's 10,000 ac-ft in storage for releases specific to the UAVFMP and the effectiveness of the releases to meet these targets. The Hydrologic Model Documentation Report (MWH 2007c) addressed this topic in section 5.4.8.1, page 112 and section 6.1.8, page 161, which describe the UAVFMP and state how it was simulated in the Daily Model.

A commenter was concerned that the UAVFMP was not applied to the proposed action alternative. A comparison of proposed action with and without the UAVFMP was evaluated was presented in table 51 of the Surface Water Hydrologic Effects Analysis (MWH 2007d). This report was incorporated by reference into the DEIS and was available for public review. Commitments for adherence to the UAVFMP have been included in the environmental commitments. These requirements are based on potential effects of the Preferred Alternative for the SDS Project. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

Comment 3152: Concern about Arkansas River flows upstream of Pueblo Reservoir

Response 3152: Two commenters were concerned that the alternatives that include a diversion at the Highway 115 intake location would draw water out of the river faster and lower river levels, affecting the ability of downstream diverters to divert water. Refer to comment response 2005.

Two commenters believed additional transmountain water will flow down the Arkansas to Pueblo Reservoir for SDS and will increase flows upstream of Pueblo Reservoir. The DEIS addressed this topic in chapter 3, pages 162 to 167, which presents the effects analysis for the Upper Arkansas River. Operations described in the DEIS show that transmountain water will continue to flow through Homestake Pipeline from Twin Lakes. The SDS Project would be supplied by flow already in the Arkansas through an exchange for reusable return flows from Fountain Creek to Pueblo Reservoir (Preferred Alternative) primarily affecting flows within that reach.

A commenter was concerned that Colorado Springs will sell its space in the Homestake (Otero) System to out-of-basin entities because the SDS Project will be able to supply so much water. The Surface Water Hydrology Effects Analysis (MWH 2007d) addressed this topic in chapter 4.3.1. The hydrologic modeling at 2046 predicts that the Homestake System would operate at nearly full capacity. Also refer to the comment response 38-1.

Two commenters were concerned about flows upstream of Pueblo Reservoir and dissatisfied with the annual averages above Pueblo Reservoir presented in the DEIS. Reclamation does not concur with this comment. Refer to comment response 4-4.

A commenter did not believe Colorado Springs will curtail exchanges per a 190-cfs flow restriction at the Fremont County Wastewater Plant, and did not believe Aurora has to comply either. A 190-cfs flow restriction was an assumption in the hydrologic modeling, as discussed in the Hydrologic Model Documentation Report (MWH 2007c) in section 5.4.8. Colorado Springs' existing exchange decrees and Aurora's Contract with

Reclamation for Excess Capacity storage in Pueblo Reservoir both contain limitations on exchanges in order to maintain a minimum streamflow rate of 190 cfs at the point of discharge for the Fremont County Wastewater Plant. These restrictions on exchanges are included in the Daily Model used for hydrologic analysis in the DEIS. The hydrologic modeling is the basis for the prediction of streamflow effects in the DEIS and FEIS. Colorado Springs is obligated to comply with the 190-cfs restriction according to the water right decree, and Aurora is obligated to comply based on their Excess Capacity contract with Reclamation (see http://www.usbr.gov/gp/nepa/quarterly.cfm to obtain information regarding NEPA activities and reports for Aurora's Excess Capacity contract with Reclamation). Compliance with all water right decrees would be a contract requirement for SDS Project Participants. Also refer to comment response 3175.

A commenter would like to know if the 190-cfs flow restriction at the Portland gage for exchanges is met. The minimum flow requirements at the Portland Gage were included in the modeling performed for the DEIS, but were no results were included in the DEIS text. Discussion has been added to section 3.5.5.1 that describes the percent of time minimum flows at the Portland gage would be met. Also refer to comment response 3152.

A commenter expressed concern that taking water from the Arkansas at Florence would make the river like a small stream for 40 miles. The DEIS addressed this topic in section 3.5.5.1, pages 162 through 183, while the Surface Water Hydrologic Effects Analysis (MWH 2007d) addressed this topic in chapter 5.1.4, pages 88 to 108. The reach of river 40 miles downstream of Florence generally corresponds to the Arkansas River between the Highway 115 intake and the Fountain Creek confluence. This entire reach of river was simulated in the Daily Model. General results are summarized at the Portland gage for the reach between Florence and Pueblo Reservoir, and at the Above Pueblo gage for the reach between Pueblo Reservoir and the Fountain Creek confluence. The hydrologic modeling was described in greater detail in the Surface Water Hydrologic Effects Analysis (MWH 2007d).

A commenter was concerned that presenting percent of time minimum target flows are met for UAVFMP is not a good metric because the main concern is too-high flows from August through May. Refer to comment response 25-1.

Comment 3153: Concern about Arkansas River flows through Pueblo

Response 3153: A commenter believed minimum flow through Pueblo needs to be spread throughout the week; not three day flow. The DEIS addressed this topic in chapter 3, pages 133 to 135 (which describes the PFMP) and pages 167-171 (which describe hydrologic model results at the Above Pueblo gage), and the Hydrologic Model Documentation Report (MWH 2007c), section 5,4.8.2, pages 113 to 115 (which describes details on how the PFMP was simulated). The original PFMP IGA contained a clause "to generally achieve on a monthly basis a 50/50 balance of time between periods of reduction of the Subject Exchanges and periods of no reduction of the Subject Exchanges." The recreational target flows "shall be in effect during the day, and reduction requirements [associated with recreational target flows] shall not be required during the night" (March IGA 2004 cited in MWH 2007c). The Pueblo Flow

Management Committee modified the clause in 2005, with the concurrence of Reclamation and the Colorado Division of Wildlife, by recommending that the recreational flow targets be operated on a weekly basis instead of the diurnal basis in the original IGA (Gracely 2005 cited in MWH 2007c). The hydrologic model was designed to follow this description of the flow program.

Gracely, Brett. 2005. "Re: Pueblo IGA, Equitable Allocation of Hours." E-mail to Gerald Gibbens, MWH. Colorado Springs Utilities Resource Supply Department. July 18.

"Intergovernmental Agreement Among the City of Pueblo, The City of Colorado Springs, And The Board of Water Works of Pueblo, Colorado." (March IGA). March, 2004.

A commenter was concerned about drying up of the Arkansas River through Pueblo during drought conditions for alternatives that divert water at or above Pueblo Reservoir. The DEIS addressed this topic in chapter 3, pages 167 to 171 and the Surface Water Hydrology Effects Analysis section 5.2.1 (MWH 2007d). The effects predicted by the hydrologic modeling adequately disclosed potential effects on the Arkansas River.

Comment 3154: Concern about Arkansas River flows downstream of Fountain Creek

Response 3154: A commenter was concerned about increased flood flows and increased low flows in the Arkansas River below Fountain Creek. The DEIS addressed this topic in chapter 3, pages 173 to 176, which summarizes hydrologic results for the Arkansas River below Fountain Creek, and pages 250 to 266, which describes the flood hydrology and floodplain effects analysis. Effects on peak flows, flooding, and hydrologic effects were disclosed in the DEIS. Additional information on hydrologic effects was provided in MWH 2008e. Also, refer to comment response 4-4.

A commenter was concerned about the reduction and timing of flows in the Arkansas River. The DEIS addressed this topic in chapter 3, pages 162 to 173, which describes the hydrologic effects in the Arkansas River. Effects on flows in the Arkansas River were disclosed in the DEIS.

Comment 3155: Concern about surface water flow in Fountain Creek

Response 3155: A commenter was concerned about increased streamflow in Fountain Creek near Pueblo and associated effects. The DEIS addressed this topic in chapter 3, pages 173 to 176, which describes the hydrologic effects in Fountain Creek. Additional information was contained in the Surface Water Hydrology Effects Analysis (MWH 2007d), section 5.3.4. The DEIS documented the flows and effects on this reach.

Commenters were concerned about increased streamflow in Fountain Creek. One commenter specifically mentioned increased wastewater discharges (stating that a 78-mgd intake would result in 120 cfs return flows that would double flows at the Fountain Creek at Pueblo gage). The DEIS addressed this topic in chapter 3, pages 176 to 178 and the Surface Water Hydrology Effects Analysis section 5.3.4 (MWH 2007d). Hydrologic modeling adequately predicted flows in Fountain Creek.

Comment 3159: Concern about surface water flow in the Arkansas River at the Colorado/Kansas state line.

Response 3159: Commenters expressed concern about acknowledgement of requirements for the SDS Project to comply with the Arkansas River Compact. Refer to comment response 18-1.

Comment 3160: Concern about the cumulative impacts on surface water flows

A commenter was concerned that the operation of the UAVFMP will be negatively impacted if a contract for the chosen alternative does not require participation in the UAVFMP. Refer to comment response 25-2.

A commenter was concerned that there was no detailed operating schedule or cumulative effects documented in the DEIS. Refer to comment response 3150.

Comment 3161: Concern about Western Slope flows

Response 3161: A commenter was concerned about Western Slope flows. The effects of the SDS Project on the Western Slope hydrology and associated water-related resources were detailed in the Supplemental Information Report and added to the FEIS.

Comment 3164: Concern about indirect impacts on surface water flows, primarily stormwater

A commenter was concerned about increased runoff due to land use changes. The DEIS addressed this topic in chapter 3, pages 125 to 126. Refer to comment response 2410.

Comment 3170: Concern about Pueblo Reservoir storage not used for primary purpose

Response 3170: A commenter suggested that water should not "bypass" Pueblo Reservoir because it was authorized, in part, for flood control purposes. Other commenters suggested that Fry-Ark was authorized primarily for agricultural use and that SDS is a major deviation from its original purpose. The DEIS addressed these comments in chapter 1, pages 3 to 4. Reclamation revised the FEIS in section 1.1.1. to clarify allowable uses of Pueblo Reservoir. Information was added to describe that the Fryingpan-Arkansas Project was authorized by Congress by Public Law 87-590. This law authorized the construction, operation and maintenance of the Fryingpan-Arkansas Project "for the purposes of supplying water for irrigation, municipal, domestic, and industrial uses, generating and transmitting hydroelectric power and energy, and controlling floods, and for other useful and beneficial purposes incidental thereto." The SDS Project would be for one of these uses.

A commenter believed that, according to Reclamation regulations, excess capacity contracts are expressly reserved for agricultural users. Reclamation's authority to issue excess capacity contracts was clarified in the Supplemental Information Report, section 2.0 and has been included in the FEIS in chapter 1, section 1.1.1. See comment response 1021 for further information about Reclamation's authority to issue excess capacity contracts.

Comment 3171: Concern about Pueblo Reservoir storage allocation

Response 3171: A commenter did not believe that the Fry-Ark Project was intended to supply water to Colorado Springs. The DEIS addressed this topic in chapter 1, page 5, which states that the Southeastern Colorado Water Conservancy District (SEWCD) is the contracting agency for the Fryingpan-Arkansas Project, that El Paso County is within the

District, and that a portion of Fry-Ark construction costs were allocated to municipal and industrial purposes. Also refer to comment response 3170.

A commenter did not believe that there would be sufficient excess capacity storage available for SDS according to the allocation principles set forth by SEWCD and the Fry-Ark Project. The DEIS addressed this topic in Appendix B, pages B-4 to B-6. Appendix B of the DEIS is Appendix D of the FEIS. Excess capacity space was modeled according to the allocation principles (see Hydrologic Model Documentation Report (MWH 2007c) sections 6.2.3 and 6.2.5) and was found to provide adequate storage for the SDS project needs.

Comment 3173: Concern about water levels in Pueblo Reservoir

Response 3173: Commenters questioned why a diversion from Fremont County (Alternative 7) would decrease storage in Pueblo Reservoir. The DEIS addressed this topic in chapter 3.5, pages 179 to 180. Because exchanges to the upper Arkansas River Basin facilities would be an important aspect of this alternative, return flows would not remain in Pueblo Reservoir for very long before they would be released for exchange to the upper Arkansas River Basin facilities. Pueblo Reservoir storage would facilitate exchanges to the upper Arkansas River Basin facilities, and Pueblo Reservoir in this alternative would operate more like an exchange reservoir than a regulating storage reservoir. Also, because the Highway 115 Alternative would not be constrained by the PFMP target flows, winter exchanges by Colorado Springs into Pueblo Reservoir would be increased (yet still remain within its water rights stipulations) and would reduce the amount of WWSP storage in Pueblo Reservoir.

Comment 3175: Concern about Daily Model development

Response 3175: A commenter was concerned that the hydrologic analysis conflicts with other recent area environmental studies. Reclamation does not concur with this comment. The DEIS addressed this issue in an appropriate fashion because each of the recent NEPA documents identified by the commenter was prepared using Reclamation's (2000) NEPA handbook, and the models developed for each project were approved based on the need of the project and the associated operations and foreseeable actions determined by Reclamation.

A commenter was concerned that lakes Henry and Meredith would stay full more often and that Colorado Canal will run fuller, thus farmers will not receive the usual seepage return flows they rely on from the canal when it is run at lower capacities. There was also concern that Colorado Canal does not have adequate capacity. The Hydrologic Model Documentation (MWH 2007c) addressed this topic in section 6.1.6.3. The Daily Model assumes historical leasing and seepage values for all alternatives. Farmers in this area only have a right to the historical seepage return flows from Colorado Canal. While greater flow through the canal would reduce the percentage of seepage from the canal, the total seepage would remain the same or be slightly greater. Furthermore, the decreed capacity of Colorado Canal is 756 cfs. Recent diversion records show diversions of up to this amount, demonstrating adequate capacity.

A commenter was concerned that the PFMP was incorrectly assumed to be an existing condition for all alternatives. Another commenter was concerned that the curtailment of exchanges during the Winter Water Storage

Program due to the PFMP was not well documented in the EIS and that it is not a permanent program. The DEIS addressed this topic in chapters 3, pages 134 to 136 and pages 172 to 173. The PFMP was not assumed to be an existing condition for any alternative. If an alternative with an untreated water intake at Pueblo Reservoir Dam is selected, the requirements of the PFMP IGA would be adhered to, as stated in the DEIS. More specific detail regarding the way the PFMP was modeled can be found in the Hydrologic Model Documentation Report (MWH 2007c), section 5.4.8.2. Also refer to comment response 3175.

A commenter observed a shorter study period in the Water Resources Technical Report Appendix (MWH 2007a) than in the Hydrologic Model Documentation Report (MWH 2007c). The appendix for the Technical Report inadvertently used a shorter period of record (1982-2002) than the Water Resources Technical Report text and the Hydrologic Model Documentation Report (1982-2004). This discrepancy did not affect the impact analysis or results presented in the DEIS.

A commenter asked whether pre-Fry-Ark hydrology was used to calculate SMAPD and why. The DEIS addressed this topic in chapter 1, pages 6 through 7, which states that yields for Colorado Springs are based on modeling using 1950 through 2003 historical hydrologic conditions and projected demands in 2046. This study period includes years prior to the Fry-Ark Project, which generally began importing water to the Arkansas River in the 1970s. As discussed in the references cited in this section, this study period was selected in order to analyze yields during three historical drought periods: early 1950's, mid-to-late 1970s, and early 2000s (MWH 2005). The hydrologic analyses superimpose future operations of the Fry-Ark Project on top of the historical hydrology so that expected future river conditions are considered in the analysis.

A commenter believed that ROY storage is illegal. ROY storage is part of the PFMP IGA, which has been administered by the Division Engineer since 2004. For those alternatives where the PFMP would apply, ROY storage was assumed in the hydrologic modeling, as discussed in the Hydrologic Model Documentation Report, section 5.4.9 (MWH 2007c).

A commenter felt that the opinions of the State Engineer and Colorado Water Law were disregarded when Brush Hollow Reservoir was excluded from the hydrologic modeling performed as part of the alternatives analysis. No hydrologic modeling of the Brush Hollow site was performed as part of the SDS EIS. This alternative was eliminated due to other considerations, discussed in the Alternatives Analysis report (Reclamation 2006a). As noted in section 3.4.7 of the DEIS, and in compliance with 40 CFR 1502.21, this report was incorporated into the EIS by reference and was available for public review and comment. Also refer to comment response 2003.

A commenter was concerned that only average annual flows were presented upstream of Lake Pueblo. Refer to comment response 3152.

A commenter was concerned that hydrologic study period was not long enough to include large droughts. The DEIS addressed this topic in chapter 3, pages 153 to 154, and section 4.1 of the Hydrologic Model Documentation Report (MWH 2007c). The study period adequately characterizes average years as well as extreme wet and dry years.

Commenters were dissatisfied with annual averages displayed for streamflow effects. Refer to comment response 4-4.

A commenter believed that a strict operating schedule should be included in the DEIS. Refer to comment response 3150.

Comment 3180: Water Rights

Response 3180: A commenter had questions about Colorado Springs' water right shares and water right priorities. The DEIS addressed these topics in chapter 1, Table 4. and associated text, which lists existing water rights that would be used by Project Participants for SDS water supplies; chapter 2, sections 2.1 and 2.2, which describes operations of alternatives; sections A.1 and A.2 of Appendix A, which contains a more detailed description of Colorado's water allocation system and the Participants existing water systems; and, the Water Resources Technical Report, which contains numerous sections and appendices containing water rights information. Colorado Springs and other Project Participants are primarily relying upon the exchange of consumptive use water rights and reusable return flows to supply the proposed Southern Delivery System. For the most part, these exchange rights are junior to other direct flow water rights in the Arkansas Basin (i.e. the water rights that most agricultural entities utilize to make diversions). Under drought conditions, exchanges typically cannot be made on the Arkansas River, thus the participants would draw water from Excess Capacity storage (for all alternatives except the No Action Alternative) to supply water to the Southern Delivery System.

A commenter had questions about responsibilities to Kansas. See response to comment 18-1.

A commenter described the PFMP IGA as making Colorado Springs' senior water rights no longer senior, but subordinate to Pueblo's demand for non-historical flows in the river below Pueblo Dam. Another commenter was concerned that the PFMP does not follow Colorado Water Law and suggests that Pueblo should buy water rights for its River Walk. Pueblo buying water rights for its River Walk is outside the scope of the EIS. The PFMP is discussed in the DEIS in chapter 3, pages 134 to 136. . The water used to supply Pueblo's River Walk and its associated water right comes from the West Plains Energy Diversion water right. The Pueblo Recreation In-Channel Diversion and the IGA between Pueblo and the signatories of the PFMP validate the PFMP under Colorado Water Law. Reclamation recognizes that the IGAs are legally binding agreements between the signatories. Reclamation is not a party to these IGAs and makes no assertions as to their benefits.

Comment 3181: Concern about water rights

Response 3181: Commenters were concerned about the effect of proposed dams on junior water rights. The DEIS addressed this issue in section 3.8, pages 257 to 267. Incidental flood control storage would be operated in compliance with regulations by the Colorado State Engineer. There would be no effects on surface water hydrology downstream of John Martin Reservoir (effects were shown to be negligible upstream of the reservoir, and there would be no SDS components that could cause effects downstream of the reservoir). As described in Colorado Revised Statutes (C.R.S), "no water storage facility may be operated in such a manner to cause material injury to the senior appropriative rights of others" (C.R.S. 37-87-101(1)(a)). The DEIS describes benefits to some portions of the study area for incidental flood attenuation because the State Engineer is required to employ remedial measures necessary to protect life and property during flood conditions (C.R.S. 37-87-108.5(1)). However, the State Engineer "shall order the release from storage of any water he finds to have been illegally or improperly stored and shall make sure orders as are necessary to insure that such released waters are delivered to those owners or users of water rights who are entitled to the same and to insure that the release will not cause damage" (C.R.S 37-92-502(3)). Based on meetings with the Division 2 State Engineer's Office on July 12, 2004 (MWH 2004) and verified with the Assistant Division 2 Engineer on September 3, 2008 (Kastner 2008, citation below), the State and Division Engineer operate existing reservoirs, and would operate future reservoirs, in a manner consistent with these regulations, so that no senior appropriators are injured during flood control operations of reservoirs.

Kastner, Steve. 2008. Personal communication with Jerry Gibbens, Principal Engineer, MWH. Assistant Division Engineer, Water Division 2, Colorado Division of Water Resources. September 3.

MWH. 2004. Meeting Minutes; SDS Water Rights Meeting at Office of the Division Engineer Pueblo, Colorado. July 12.

A commenter believed that Reclamation's Aspinall Marketable Pool Water Rights and Aspinall regulating reservoirs should be used (i.e., the proposed Central Colorado Project). The proposed Central Colorado Project has been added to this table in the FEIS (see section 2.3.7, Table 22). This alternative was considered in the Alternatives Analysis (Reclamation 2006a) and dismissed from further analysis because the project does not include a delivery system. Consequently, a system like the proposed SDS Project would still be needed to deliver water to the SDS Participants.

A commenter was concerned that upstream users of water should not harm downstream users. The DEIS addressed this topic in chapter 1, pages 16 to 17, which states that the SDS Project would have to operate according to Colorado Water Law. Also refer to comment response 18-1.

A commenter questioned whether Colorado Springs water rights are senior to other water rights in the Arkansas River, and questioned how they were obtained. The DEIS addressed this issue in chapter 1, pages 16 to 17, and Appendix A, section A.2. The SDS project would operate according to Colorado Water Law under these existing water rights decrees. All decrees were listed in the DEIS and have been adjudicated under the Colorado Water Courts (Division 2 for direct flow and exchange decrees in the Arkansas Basin, and Divisions 1 and 5 for transmountain water rights in the South Platte and Colorado River basins) as law. Examining the origin of Project Participants' water rights is not within the scope of this EIS. Also refer to comment response 3180.

A commenter felt contract(s) for the SDS Project should be contingent upon Colorado Springs obtaining any necessary approvals from Colorado Water Court. The DEIS addressed this topic in chapter 1, pages 16 to 17. Any alternative selected would use existing water rights and comply with Colorado Water Law and any Water Court decisions.

A commenter believed that contract exchanges are against Colorado Water Law. The DEIS addressed this topic in chapter 1, pages 16 to 17, and Appendix A, section A.1. Any alternative would use existing water rights and comply with Colorado Water Law and Water Court decrees.

Comment 3182: Concern about loss of agricultural water rights

Response 3182: A commenter was concerned about the loss of water from agriculture in the Lower Arkansas Valley. Another commenter was concerned about the loss of water from agriculture in the Lower Arkansas Valley and believed that this is the cause of the severity of the 2008 fires near Ordway, Colorado. The DEIS addressed these topics in chapter 1, pages 16 to 17. Any alternative selected would use existing water rights and comply with Colorado Water Law. No new water rights derived from transfers of water rights from agriculture would be used to supply this project. Reclamation acknowledges that transfers of agricultural water rights have been used by the Project Participants in the past to obtain water rights. Examining the origin of Project Participants' water rights is not within the scope of this EIS.

Comment 3183: Concern about water exchanges on Arkansas River and Fountain Creek

Response 3183: A commenter did not believe that exchanges are legal. He believed that one must take their water from the location where it is stored. The DEIS addressed this topic in chapter 1, pages 15 to 17, and in Appendix A, section A.1. The Project Participants water right decrees, such as Colorado Springs' Arkansas River Exchange, allow for the exchanges proposed for use in SDS, and are decreed as law via Colorado Water Court. Any alternative selected would use existing water rights and comply with Colorado Water Law and any Water Court decisions.

Comment 3191: Concern about ground water quantity impacts

Response 3191: A commenter was concerned about impacts on ground water along the Arkansas River downstream of John Martin Reservoir. The DEIS addressed ground water in chapter 3, pages 146 to 206 and pages 257 to 267. There would be no effects on surface water hydrology downstream of John Martin Reservoir (effects were shown to be negligible upstream of the reservoir, and there would be no SDS components that could cause effects downstream of the reservoir). Ground water effects would only occur as a result of substantial changes in streamflow and any additional ground water pumping. There would be no streamflow effects or additional ground water pumping downstream of John Martin Reservoir, and as a result there would be no effects on ground water downstream of the reservoir.

A commenter was concerned about effects on ground water along Fountain Creek near the confluence with Williams Creek. This issue was discussed in the DEIS chapter 3, pages 190 to 199. Direct effects on Fountain Creek alluvial aquifer ground water levels would not include increased ground water levels.

A commenter was concerned about ground water effects on her property in Fremont County. The DEIS addressed this issue in chapter 3, page 189. Minimal effects on stream stage would occur in the Arkansas River through Fremont County. Minimal effects on stream stage in this reach would result in minimal effects on alluvial ground water.

Comment 3192: Concern about ground water quality impacts

Response 3192: A commenter was concerned about alluvial aquifer water quality associated with abandoned coal mines near the proposed Jimmy Camp Creek Reservoir. The DEIS addressed this issue in chapter 3, pages 190 to 206. The predominant surficial geologic material at the proposed reservoir site is impermeable and hydraulic connection and leakage from the dam would be minimal. Abandoned coal mines near the proposed Jimmy Camp Creek Reservoir were not identified (see comment response 2011).

Comment 3195: Concern about Fountain Creek Alluvial Aquifer

Response 3195: Commenters were concerned about the effects of changes in Fountain Creek flows or seepage from the Jimmy Camp Creek Reservoir dam on domestic well production and quality of water. The DEIS addressed this issue in chapter 3, pages 190 to 199. Alluvial ground water effects would be negligible with the exception of the localized effects near Fountain and Security associated with their No Action Alternative pumping. As stated in the DEIS, the effects near Security and Fountain are worst case approximations of effects, which would be avoided through proper design of wellfields.

A commenter stated that the corridor along Williams Creek needed continued protection after construction of the SDS Project so that ground water is not affected. The DEIS addressed this issue in chapter 3, pages 196 to 199. Effects on Williams Creek alluvial aquifer ground water levels would be localized to the area adjacent to the proposed Williams Creek Reservoir. Effects on Williams Creek alluvial ground water are expected to be negligible downstream of the proposed reservoir.

Comment 3251: General concerns about flooding

Response 3251: Commenters stated concern over potential effects to flooding and floodplains. The DEIS addressed this issue in chapter 3, pages 257 to 267. Direct effects of the SDS Project would only include beneficial flood hydrology effects (e.g., reduced peak flows). Cumulative effects (e.g., increased peak flows associated with development) would not be directly attributable to the SDS Project and consequently would not be included in mitigation for the project.

Comment 3252: Concern about flooding in Arkansas River upstream of Fountain Creek

Response 3252: A commenter was concerned that the location of the proposed diversion at Pueblo Reservoir would increase peak flows in the Arkansas River upstream of the reservoir. The DEIS addressed this issue in chapter 3, pages 257 to 267. There would be no effect on Arkansas River flood hydrology upstream of the Fountain Creek confluence.

Comment 3253: Concern about flooding in Arkansas River downstream of Fountain Creek

Response 3253: Commenters were concerned that the project would increase flooding on the Arkansas River downstream of Fountain Creek. The DEIS addressed this issue in chapter 3, pages 257 to 267. Effects on flood hydrology associated with SDS would only be beneficial (i.e., proposed dams would have incidental flood control storage that would reduce peak flows). Return flows associated with SDS would be minimal compared to peak flows and would not have a substantial effect on peak flows.

Comment 3254: Concern about flooding in Fountain Creek

Response 3254: Commenters were concerned that the project would increase flooding on Fountain Creek**.** The DEIS addressed this issue in chapter 3, pages 257 to 267. Flooding effects associated with SDS would be beneficial (i.e., reduction in peak flows).

A commenter was concerned that erosion and sedimentation on Fountain Creek would decrease the channel capacity to pass peak flows through the reach through Pueblo with flood levees. The DEIS addressed this issue in chapter 3, pages 250 to 294 and in the Conceptual Geomorphology Mitigation Plan. Potential effects on erosion and sedimentation are disclosed, and mitigation measures to reduce erosion and sedimentation are described. The mitigation plans would continue to develop during the permitting and contracting process.

Comment 3256: Concern about flooding in Jimmy Camp Creek

Response 3256: Commenters were concerned about the potential flooding risks associated with a dam break on the proposed Jimmy Camp Creek Reservoir. Potential effects of dam breaches were disclosed in the Supplemental Information Report. Section 3.8 of the FEIS was revised to discuss these potential effects.

Commenters were concerned about increases in flooding and increases in the floodplain on Jimmy Camp Creek as a result of the proposed reservoir. The DEIS addressed this issue in section 3.8, pages 257 to 267. Flooding direct effects were determined to be beneficial (i.e., reduction in peak flows and floodplains).

Comment 3259: Concern about reduced channel flood capacity from change in vegetation biomass along Fountain Creek

Response 3259: A commenter was concerned that the proposed project would increase riparian growth along Fountain Creek, leading to increased flooding on Fountain Creek. The DEIS addressed this issue in chapter 3, pages 257 to 267. Effects of riparian vegetation encroachment on flood capacity would be minimal.

Comment 3260: Concern about reduced channel flood capacity from change in vegetation biomass along Williams Creek

Response 3260: A commenter was concerned that the proposed project would increase riparian growth along Williams Creek, leading to increased flooding on Williams Creek. Refer to response to comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

Comment 3265: General concern that increased sedimentation will change FEMA floodplain elevations along Fountain Creek

Response 3265: A commenter was concerned that the SDS would lead to increased erosion and sedimentation on Fountain Creek, limiting the effectiveness of existing levees to control flooding of Fountain Creek through Pueblo. The DEIS addressed this issue in chapter 3.8, pages 267 to 294 and the Conceptual Geomorphology Mitigation Plan. Effects of the SDS on Fountain Creek erosion and sedimentation are disclosed in the DEIS, and potential measures to mitigate these effects are also described. The potential mitigation measures would minimize potential indirect effects on Fountain Creek flooding through Pueblo. The mitigation plans would continue to develop during the permitting and contracting process.

Comment 3269: Concern about flood inundation at Jimmy Camp Creek Reservoir site

Response 3269: A commenter was concerned that flood inundation at the proposed Jimmy Camp Creek Reservoir site would affect their home**.** The DEIS addressed this issue in chapter 3, pages 257 to 267. Flood inundation would not affect existing structures, and would only occur on property that would be purchased by Project Participants for reservoir construction.

Comment 3272: Concern about cumulative impacts of flooding

Response 3272: A commenter was concerned that the cumulative effects, such as urban development in the Fountain Creek Watershed, would increase flooding on Fountain Creek**.** The DEIS addressed this issue in chapter 3, pages 257 to 267. Flooding effects associated with SDS would be beneficial (i.e., reduction in peak flows).

Comment 3273: Requests additional analysis on flooding

Response 3273: A commenter was concerned that the potential effects of a dam breach at the proposed Jimmy Camp Creek Reservoir had not been evaluated. Potential effects of dam breaches were disclosed in the Supplemental Information Report. Section 3.8 of the FEIS was revised to discuss these potential effects.

A commenter was concerned that detailed floodplain mapping should be done for the Project alternatives for the area downstream of the proposed Jimmy Camp Creek Reservoir. The DEIS addressed this issue in chapter 3, pages 257 to 267. Effects on Jimmy Camp Creek floodplains would only be beneficial (i.e., incidental flood control would reduce floodplains downstream of the proposed reservoir), and thus detailed mapping of the results is not necessary.

Comment 3274: Concern about flooding analysis techniques and assumptions

Response 3274: A commenter was concerned that inadequate methods were used to determine whether flooding on Fountain Creek would increase**.** The DEIS addressed this issue in chapter 3, pages 257 to 267. Effects on flood hydrology associated with SDS would only be beneficial (i.e., proposed dams would have incidental flood control storage that would reduce peak flows). Return flows associated with SDS would be minimal compared to peak flows and would not have a substantial effect on peak flows.

Comment 3302: Concern about geomorphology in Arkansas River upstream of Fountain Creek

Response 3302: Commenters were concerned that the proposed project would increase sedimentation on the Arkansas River upstream of Pueblo Reservoir. The DEIS addressed this issue in chapter 3, pages 276 to 302. Effects would be limited to minor effects for alternatives with the Highway 115 Return Flow Pipeline (Alternatives 3 and 4) and are disclosed in the DEIS.

Comment 3303: Concern about geomorphology in Arkansas River downstream of Fountain Creek

Response 3303: Commenters were concerned that geomorphic effects on Fountain Creek would also cause geomorphic effects for the Arkansas River downstream of Fountain Creek. The DEIS addressed this issue in chapter 3, pages 276 to 302. There would be no effects on surface water hydrology downstream of John Martin Reservoir as disclosed in chapter 3, pages 146 to 189. Effects on channel stability would only occur as a result of substantial changes in streamflow or peak flow hydrology. There would be no streamflow effects or peak flow hydrology effects downstream of John Martin Reservoir, and as a result there would be no effects on channel stability downstream of the reservoir.

Comment 3304: Concern about geomorphology in Fountain Creek

Response 3304: Commenters were concerned that urban growth would cause erosion and sedimentation in Fountain Creek. The DEIS addressed this issue in chapter 3, pages 276 to 302. Growth is not a direct or indirect effect of the proposed SDS Project, and geomorphic effects associated with growth are disclosed within the cumulative effects.

Commenters were concerned about potential effects on erosion and sedimentation for Fountain Creek. The DEIS addressed this issue in chapter 3, pages 276 to 302. Geomorphic effects are disclosed, and conceptual geomorphic mitigation techniques to address effects are described. The mitigation plans would continue to develop during the permitting and contracting process.

Comment 3305: Concern about geomorphology in Williams Creek

Response 3305: A commenter was concerned that proposed mitigation measures for Williams Creek would not be adequate to address potential effects of erosion. The DEIS addressed this issue in chapter 3.9, pages 276 to 302, and in the Conceptual Geomorphology Mitigation Plan, pages 7 to 18. However, use of the Williams Creek channel to convey reusable return flows is no longer proposed. Refer to response to comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

Comment 3306: Concern about geomorphology in Jimmy Camp Creek

Response 3306: Commenters were concerned about erosion along Jimmy Camp Creek downstream of the proposed Jimmy Camp Creek Reservoir. The DEIS addressed this issue in chapter 3, pages 276 to 302. Geomorphic mitigation on Jimmy Camp Creek would minimize effects on Jimmy Camp Creek. The mitigation plans would continue to develop during the permitting and contracting process.

Comment 3309: Concern about velocity of flows from Williams Creek Reservoir

Response 3309: A commenter was concerned with potential effects of increased streamflow and sediment from Williams Creek as a result of the proposed Williams Creek Reservoir**.** The DEIS addressed this issue in chapter 3, pages 276 to 302, and in the Conceptual Geomorphology Mitigation Plan. Effects on Williams Creek geomorphology were adequately addressed with the methods described in the DEIS. Additionally, the Conceptual Geomorphology Mitigation Plan provided a description of mitigation that would be used to address geomorphic effects. However, use of the Williams Creek channel to convey reusable return flows is no longer proposed. Refer to response to comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

Comment 3326: Concern about Pueblo Dam stability

Response 3326: Commenters were concerned about the stability of Pueblo Dam and how the proposed project would affect the stability of the dam. The DEIS addressed this issue in chapter 3, pages 257 to 267 of the DEIS. Also refer to comment response 2011.

Comment 3327: Concern about Williams Creek Dam stability

Response 3327: Commenter was concerned about the potential effects of a dam breach at the proposed Williams Creek Reservoir. Potential effects of dam breaches were disclosed in the Supplemental Information Report. Section 3.8 of the FEIS was revised to discuss these potential effects.

Comment 3328: Concern about Jimmy Camp Creek Dam stability

Response 3328: Commenters were concerned about the potential effects of a dam breach at the proposed Jimmy Camp Creek Reservoir. Potential effects of dam breaches were disclosed in the Supplemental Information Report. Section 3.8 of the FEIS was revised to discuss these potential effects.

Comment 3330: Requests additional analysis on dam safety

Response 3330: Commenter was concerned about the stability and public safety problems associated with the existing Pueblo Dam. The DEIS addressed this issue in chapter 3, pages 257 to 267 of the DEIS. Also refer to comment response 2011.

Comment 3331: Requests dam breach analysis primarily for Jimmy Camp Creek Reservoir

Response 3331: Commenters requested additional analysis on potential dam breach, primarily for Jimmy Camp Creek Reservoir. Potential effects of dam breaches were disclosed in the Supplemental Information Report. Section 3.8 of the FEIS was revised to discuss these potential effects.

Comment 3350: Aquatic Life

Response 3350: A commenter was concerned about spawning in Lake Creek. Information in the DEIS was modified in the FEIS in section 3.10.5.1. An evaluation of the effects of changes in flow on spawning of brown trout was added to section 3.10.5.1 of the FEIS.

Comment 3351: General concern about fish and other aquatic life

Response 3351: A commenter was concerned about effects of the Participants' Proposed Action on aquatic resources in Fountain Creek. The DEIS addressed this topic in chapter 3, pages 315 to 317. This alternative would result in moderate adverse effects to Segments 3 and 4 (used for aquatic resource effects analyses) of Fountain Creek.

A commenter was concerned about Western Slope impacts. The effects of the SDS Project on the Western Slope hydrology and associated water-related resources were disclosed in the Supplemental Information Report and added to the FEIS.

Comment 3354: Concern about fish and other aquatic life in Arkansas River upstream of Fountain Creek

Response 3354: Commenters were concerned about the effects of some alternatives on the fish and invertebrate populations in the Arkansas River in the Legacy Reach downstream of Pueblo Dam and in the section upstream of Pueblo Reservoir. The DEIS addressed this issue in chapter 3, pages 312 to 319. The effects of differences in streamflow and water quality were taken into account in the evaluation of the alternatives.

Comment 3357: Concern about fish and other aquatic life in Williams Creek

Response 3357: A commenter was concerned that the DEIS did not consider the effects of reduced flooding on the channel of lower Williams Creek with some alternatives. Information on the effects of reduced flood flows in Williams Creek with some alternatives on aquatic resources was incorporated into the FEIS.

Comment 3368: Concern about the Arkansas Darter

Response 3368: Commenters were concerned that effects on Arkansas darters were not discussed in the DEIS. This information was included in the Aquatic Resources Effects Analysis report (GEI 2008), which was incorporated by reference into the DEIS. Information on potential effects of the alternatives to Arkansas darters was incorporated into the FEIS.

Comment 3370: Requests additional analysis on the effects on aquatic life

Response 3370: A commenter was concerned about the use of fish from Pueblo Reservoir as food for humans. The comment suggests that the return flow pipeline discharging to the Arkansas River upstream of the reservoir with Alternatives 3 and 4 may introduce some unspecified contaminant to the fish that could be harmful to humans. Pueblo Reservoir is downstream of several wastewater treatment plants under existing conditions and there are currently no fish consumption advisories for the reservoir according to CDPHE. No contaminants have been identified in the effluent associated with the SDS alternatives that would result in a problem for fish consumption. Pueblo Reservoir would continue to function as a source of food fish in the future.

A commenter was concerned about recent changes to the section of the Arkansas River downstream of Pueblo Dam which has undergone habitat improvements by the Corps of Engineers. The commenter suggested that the benthic macroinvertebrate information included in the DEIS collected prior to the improvements was obsolete and that new information should be collected and included in the FEIS. Information presented in the DEIS was modified in the FEIS (see section 3.10.5). Reclamation observed the habitat improvement structures after installation and concluded that there would be no fundamental changes in the macroinvertebrate community in this section of the river that would influence the effects analysis. Therefore, the addition of more recent data would not change the impacts analysis or results presented in the DEIS. Information was added to the FEIS to clarify these observations and conclusions.

A commenter was concerned that Williams Creek Reservoir would cause peak flow and floodplain width to be reduced in lower Williams Creek, and that effects on aquatic life due to this were not addressed. Refer to response to comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

Comment 3372: Concern about Upper Arkansas Voluntary Flow Management Program

Response 3372: The commenter was concerned about the effects on the UAVFMP. The UAVFMP provides flow targets for the various recreational and municipal water uses in the river but is not a fish habitat evaluation technique. Fish habitat availability was evaluated in section 3.10 of the DEIS using IFIM and IHA, two techniques that more directly evaluate habitat than the flow target.

Comment 3373: Concern about IHA methods, assumptions, and interpretation

Response 3373: Commenters pointed out that there are limitations to the use of IHA as an impact assessment tool. The DEIS addressed the limitations to IHA in chapter 3, pages 307 to 308. IHA itself has not been extensively used, but the principles behind its use are sound. The assumption that flow characteristics affect fish habitat availability is a foundation of fishery science. IHA is a good tool for evaluating the differences in flow between alternatives and was appropriate for use in the DEIS. Reclamation disagrees that the effects thresholds for the application of IHA output are arbitrary. In light of the lack of proven relationships between IHA (or any other technique) and fish populations, professional judgment based on experience in the analysis area was used to develop the thresholds for the application of IHA output for the effects analysis. Because there are no other proven techniques that have demonstrated precise relationships to fish populations, the development of effects thresholds using professional judgment would be necessary with all other techniques as well.

Comment 3374: Concern about IFIM methods, assumptions, and interpretation

Response 3374: Commenters suggested that because each individual dry year was not separately evaluated with IFIM, the dry years with zero flow days were missed. The DEIS addressed this topic in chapter 3, pages 307 to 308. The DEIS addressed the issue of zero flow days in section 3.10.3.3 on page 301 and stated that "almost all streams indicated no zero days. This parameter was evaluated for the few segments where there were zero-flow days."

Comment 3375: Concern about the characterization of the relative levels of effect to aquatic life

Response 3375: Commenters suggested that the levels of effect termed "minor, moderate, and major" were misleading. The DEIS addressed this topic in chapter 3, pages 305 to 308. The levels of effect were applied to all alternatives in the same way and are appropriate for distinguishing the relative effects of the alternatives. How these levels are viewed by the public is a matter of individual interpretation, but does not affect the comparison of alternatives.

Comment 3376: Concern about mosquitos and/or west nile virus

Response 3376: Commenters had concern that increased surface flow in Jimmy Camp Creek could lead to increased mosquito abundance and the incidence of the West Nile virus. Section 3.10 of the FEIS contains new information on the potential effects of increased flows in Jimmy Camp Creek on mosquitoes.

Comment 3377: Requests analysis of zebra mussels

Response 3377: Commenters requested an analysis of the effects of the project on the potential spread of zebra mussels. The content of the FEIS was modified to reflect this public input. In particular, section 3.10 of the FEIS contains new information on the effects of zebra mussels and Asiatic clams.

Comment 3400: Wildlife

Response 3400: A commenter was concerned that an Endangered Species Report was not prepared and about the amount of material in the Wildlife Resources Technical Report, which some sections appear to have incorrect information (triploid checkered whiptail, pronghorn) or is unnecessary (boreal toad). The Wildlife Resources Technical Report (ERO 2007g) addressed the triploid checkered whiptail on page 35 and stated that habitat occurs around Pueblo Reservoir and in riparian areas. Figure 14 in the Wildlife Resources Technical Report (ERO 2007g) shows the extent of the overall pronghorn habitat. The Wildlife Resources Technical Report (ERO 2007g) correctly identified and reported the range and distribution of wildlife species based on published literature, agency reports and consultation and field surveys. Additionally, Reclamation is currently consulting with U.S. Fish and Wildlife Service and will prepare a Biological Assessment if the selected alternative would adversely affect threatened or endangered species as required under Section 7 of the Endangered Species Act.

Comment 3401: General concern about impacts to wildlife

Response 3401: Commenters expressed general concern for the loss of wildlife habitat. The DEIS addressed this issue in chapter 3, pages 373 to 390. Wildlife effects were disclosed for each alternative in the DEIS.

A commenter requested surveys and mitigation of impacts to nesting habitat for Lewis' woodpeckers. This issue was discussed in the DEIS chapter 3, page 390. Reclamation revised the FEIS, in chapter 3, section 3.13.5.4 to clarify this matter. Section 3.13.5.4 of the FEIS contains mitigation measures for wildlife, including pre-construction surveys for migratory birds. Additional mitigation measures recommended by the Colorado Division of Wildlife were added.

Comment 3402: Concern about impacts to wildlife along Arkansas River upstream of Fountain Creek

Response 3402: A commenter expressed a general concern about wildlife impacts along from reduced flows on the Arkansas River below Florence. The DEIS addressed this issue in chapter 3, pages 373 to 389. Wildlife effects were adequately disclosed for each alternative in the DEIS.

Comment 3405: Concern about impacts to wildlife along Williams Creek

Response 3405: A commenter was concerned about the loss of high quality wildlife habitat along Williams Creek. The DEIS addressed this issue in chapter 3, pages 373 to 389. The impacts of each alternative on wildlife habitat, including habitat that occurs along Williams Creek, were evaluated and adequately disclosed. However, use of the Williams Creek channel to convey reusable return flows is no longer proposed. Refer to response to comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

Comment 3406: Concern about impacts to wildlife along Jimmy Camp Creek

Response 3406: Commenters were concerned that construction of Jimmy Camp Creek reservoir would interfere with habitat for the only pronghorn that live along that particular corridor. The DEIS addressed this issue in chapter 3, pages 373 to 389. All alternatives that include Jimmy Camp Creek Reservoir would have similar effects on pronghorn and other terrestrial wildlife along Jimmy Camp Creek. According to the Colorado Division of Wildlife as reported in the Wildlife Resources Technical Report, pronghorn habitat occurs throughout most of the corridor east of Colorado Springs, including the entire Jimmy Camp Creek drainage basin.

Comment 3409: Concern about impacts to wildlife at Jimmy Camp Creek Reservoir site

Response 3409: Commenters were concerned about impacts to high quality wildlife habitat at the Jimmy Camp Creek Reservoir site. The DEIS addressed this issue in chapter 3, page 373 to 389. All alternatives that include Jimmy Camp Creek Reservoir, including the No Action Alternative, would have similar effects terrestrial wildlife at the Jimmy Camp Creek reservoir site. Additionally, information presented in the DEIS was modified in the FEIS (see section 3.15.3). The mitigation measures in section 3.13.5.4 were updated to require that the Participants conduct migratory bird and raptor nest surveys prior to construction and impose recommended buffers (generally ¼ to ½ mile) and seasonal restrictions (Craig 2002; Service 2002) around active raptor nest sites and heron rookeries during construction.

Comment 3410: Concern about impacts to wildlife at Upper Williams Creek Reservoir site

Response 3410: Commenter was concerned that mitigation measures for a pair of nesting golden eagles regarding the relocation of Bradley Road would create unacceptable seasonal traffic restrictions. The realignment of Bradley Road was changed in the Proposed Action Alternative and the Wetland Alternative to avoid the golden eagle nest.

Comment 3411: General concern about migratory birds

Response 3411: Commenters were concerned about impacts on migratory birds. The DEIS addressed this issue in chapter 3, pages 372 to 373. Impacts to raptors and migratory bird habitat were addressed by alternative. Additionally, the mitigation measures in section 3.13.5.4 were updated to require that the Participants conduct migratory bird and raptor nest surveys prior to construction and impose recommended buffers (generally ¼ to ½ mile) and seasonal restrictions (Craig 2002;

Service 2002) around active raptor nest sites and heron rookeries during construction.

Comment 3422: Concern about effects on raptors

Response 3422: Commenters were concerned about the impacts on raptors. See comment response 3411.

Comment 3423: Concern about effects on golden eagles

Response 3423: Commenters were concerned that the relocation of Bradley Road would adversely affect a pair of nesting golden eagles. See comment response 3410.

Comment 3424: Concern about effects on herons

Response 3424: A commenter was concerned about preserving wetland habitat and a heron rookery along Fountain Creek. The DEIS addressed this issue in chapter 3, page 390. The mitigation measures require that the Participants conduct migratory bird and use CDOW recommended buffers and seasonal restrictions (Craig 2002; Service 2002) around heron rookeries during construction.

Comment 3427: Concern about effects on bird/aircraft strike hazard

Response 3427: A commenter recommended conducting a study to determine methods of reducing impacts on birds and aircraft from airstrikes. Another commenter was concerned that the implications of a bird aircraft strike hazard needs to be seriously considered with input from the appropriate agencies. The proposed reservoirs in all alternatives, including the No Action alternative would add additional roosting habitat that would likely increase the population of water birds in the Colorado Springs area.

Comment 3430: Concern about effects on riparian species

Response 3430: A commenter suggested surveys for a lizard (assumed to be triploid checkered whiptail) should be conducted when construction would impact riparian areas. The DEIS addressed this issue in chapter 3, page 390 (Mitigation Measures). Potential habitat for this lizard was identified, and appropriate mitigation measures, including best management practices, would be taken to minimize impacts on wildlife habitat, including habitat for the triploid checkered whiptail.

A commenter was concerned about impacts on birds through Pueblo because of changes in stream flow. The DEIS addressed this issue in chapter 3, pages 373 to 389. Indirect impacts on wildlife habitat from changes in streamflow were assessed and disclosed in the DEIS.

Comment 3433: Concern about wildlife methods and assumptions

Response 3433: A commenter suggested that wildlife impacts may be relatively minor from the proposed project because wildlife adapt quickly to changes. Although some wildlife species adapt quickly to changes, others do not. The methods and assumptions used in the analysis were the best available science and were discussed with state and federal wildlife agencies prior to conducting field surveys.

Comment 3452: Concern about effects on Preble's meadow jumping mouse

Response 3452: A commenter stated that the U.S. Fish and Wildlife has issued new information about the status of Preble's as a threatened species and that it is imperative that Preble's surveys are conducted in suitable habitat that would be affected by SDS. Section 3.13 of the FEIS contains information that was updated since publication of the DEIS to reflect the recent decision of the U.S. Fish and Wildlife Service concerning Preble's meadow jumping mouse. Additionally, Reclamation is currently consulting with U.S. Fish and Wildlife Service and will prepare a Biological Assessment for the selected alternative as required under Section 7 of the endangered Species Act if that alternative may affect a threatened or endangered species.

Comment 3453: Concern about effects on bald eagle

Response 3453: A commenter was concerned about the effects from the Participants' Proposed Action on bald eagle habitat below Pueblo Dam. Section 3.13.5.4 includes a mitigation measure imposing recommended seasonal restrictions within recommended buffers around active bald eagle winter roosts.

Comment 3454: Concern about effects on spotted owl

Response 3454: A commenter suggested that habitat assessment for Mexican spotted owl be conducted for alternatives that would impact potential habitat on Fort Carson. Section 3.13 of the FEIS contains information that was updated since publication of the DEIS to reflect recent discussions with the U.S. Fish and Wildlife Service concerning Mexican spotted owl.

Comment 3459: Concern about effects on black-tailed prairie dogs

Response 3459: A commenter requested that black-tailed prairie dog colonies to be preserved as much as possible. The DEIS addressed this issue in chapter 3, page 390. The Participants would implement the mitigation measures in section 3.13.5.4 that stipulate that the Participants clearance surveys in suitable habitat for state-listed species following standard protocols, as available, prior to construction. State-listed species covered by this commitment include, black-tailed prairie dog, burrowing owl, mountain plover, ferruginous hawk, swift fox, and other appropriate species currently listed or listed at the time of construction.

Comment 3460: Concern about effects on swift fox

Response 3460: A commenter was concerned about the effects on swift fox and suggested habitat assessments or surveys if suitable habitat would be affected. The DEIS addressed this issue in chapter 3, page 390. See comment response 3459.

Comment 3466: General concern about impacts on State threatened and endangered wildlife species

Response 3466: Commenters expressed a general concern for state threatened and endangered species. See comment response 3459.

Comment 3467: Concern about cumulative impacts on State threatened and endangered wildlife species

Response 3467: A commenter was concerned that cumulative effects on state and federal threatened and endangered species were not disclosed in the DEIS. The Wildlife Resources Technical Report (ERO 2007g) describes the state-listed species distribution and potential habitat available by the various alternative components. This information is then summarized in chapter 3, pages 375 to 379 of the DEIS. Section 3.13 of the FEIS contains updated information on the cumulative effects on state-listed species.

Comment 3469: Concern about Threatened and Endangered species methods and assumptions

Response 3469: A commenter was concerned that effects on threatened and endangered species were not disclosed in an Endangered Species Report. Impacts on state and federal threatened and endangered species were disclosed in the DEIS and the Wildlife Resources Technical Report (ERO 2007g). The methods and assumptions used in the analysis are according to the general standard of the industry and were discussed with state and federal wildlife agencies prior to conducting field surveys.

Comment 3501: General concern about effects on Colorado species of concern

Response 3501: A commenter was concerned about the effects on Ferruginious hawk and recommended surveys for this species. See comment response 3459.

Comment 3504: Concern about effects on mountain plover

Response 3504: A commenter was concerned about effects on mountain plover and recommended surveys and seasonal construction restrictions. See comment response 3459.

Comment 3526: Concern about impacts on vegetation resources

Response 3526: A commenter was concerned about disturbance to general habitat. Another commenter did not want the project if natural ground cover would be disturbed in Pueblo West. The DEIS addressed this issue in chapter 3, pages 352 to 361. Vegetation and habitat impacts were adequately disclosed in the DEIS. Temporarily disturbed areas would be re-vegetated with appropriate native vegetation and trees lost would be replaced with appropriate species similar to surrounding vegetation.

Comment 3527: Concern about revegetation

Response 3527: A commenter stated that native trees and other native vegetation be retained as much as possible. Native trees and other desirable vegetation would be avoided to the extent practicable.

Another commenter stated concerns that flawed revegetation would increase fire danger. Information presented in the DEIS was modified in the FEIS (see section 3.12.5.4). The updated information includes a requirement to monitor revegetation success for 1 year to help ensure that appropriate native vegetation establishes.

Comment 3528: Concern about weed control

Response 3528: Commenters were concerned about noxious weed control, which may increase fire danger and other problems. Information presented in the DEIS was modified in the FEIS (see section 3.12.5.4). The updated information includes adding noxious weed monitoring for 3 years after construction to the vegetation mitigation requirements.

Comment 3529: Concern about tamarisk (saltcedar) along the streams

Response 3529: A commenter was concerned that tamarisk and other weeds would be dispersed through upstream conveyances from Jimmy Camp Creek Reservoir and Williams Creek Reservoir to Fountain Creek and Williams Creek. Information presented in the DEIS was modified in the FEIS (see section 3.12.5.4). This updated information includes monitoring noxious weeds, and controlling any noxious weed populations that become established. The Project Participants would coordinate with the Colorado Department of Agriculture's Colorado Noxious Weed Management Team on tamarisk issues in the Arkansas Valley including submitting a request for partnership evaluation.

A commenter was concerned that changes in streamflows in the Williams Creek channel would increase the amount of tamarisk that currently is well-established in the channel. Another commenter was concerned that diversion of flows to streams would increase the spread of tamarisk. Information presented in the DEIS was modified in the FEIS (see section 3.12.5.4).

Comment 3530: Concern about threatened or endangered vegetation species

Response 3530: A commenter stated that the DEIS and technical reports do not adequately address impacts to the federally listed threatened and endangered species, dwarf milkweed. Dwarf milkweed (*Asclepias uncialis)* is not a federally listed threatened or endangered species. The DEIS addressed dwarf milkweed in chapter 3 pages 352 to 362.

Comment 3531: Concern about effects on Ute ladies' tresses orchid

Response 3531: A commenter stated that the DEIS and technical reports do not adequately address impacts to the Ute ladies' tresses orchid. The DEIS addressed this issue in chapter 3, pages 352 to 362. None of the alternatives would directly or indirectly affect Ute ladies' tresses orchid.

Comment 3535: Concern about indirect impacts on vegetation

Response 3535: A commenter was concerned that high quality wetlands and riparian woodlands along Fountain Creek would be impacted by the SDS Project. These wetland and riparian areas are important habitat to breeding birds and other wildlife. Another commenter was concerned about the growth of vegetation in a streambed when water is diverted. The DEIS addressed this issue in chapter 3, pages 332 to 341. Direct and indirect impacts on wetlands and riparian woodlands along Fountain Creek were adequately disclosed. There would be adverse effects on wetlands and riparian habitat from each of the alternatives.

Comment 3536: Concern about rare plant species and communities

Response 3536: A commenter was concerned about impacts of the Preferred Alternative on dwarf milkweed, a species of concern with an identified population of about 500 individuals. Information presented in the DEIS was modified in the FEIS (see section 3.12.5.4). Specifically, the locations of dwarf milkweed would be reviewed to determine if design changes within the current study area boundary could avoid or minimize impacts.

Comment 3550: Land Use

Response 3550: A commenter was concerned that facilities associated with the No Action and Highway 115 alternatives near the

Arkansas River would conflict with the proposed Phantom Canyon Pumped Storage Project under the Federal Energy Regulatory Commission. The Phantom Canyon Pumped Storage Project does not meet criteria to be considered a reasonably foreseeable action. Refer to comment response 2400.

A commenter was suggested that land use at Upper Williams Creek Reservoir should be reserved for private sector space contractors so they can be located near Schriever Air Force Base. Upper Williams Creek Reservoir would be located southeast of Shriever Air Force Base. Land surrounding Shriever Air Force Base on all sides is largely undeveloped. Reclamation concludes that development of land near Shriever Air Force Base and construction of Upper Williams Creek Reservoir could both be reasonably accomplished.

Comment 3551: General concern about change in land use

Response 3551: Commenters were concerned about changes in land use due to the SDS Project throughout the study area. The DEIS addressed land use in chapter 3, pages 414 to 440. Land use effects were adequately disclosed.

A commenter was concerned about land use conflicts with the Eastern Untreated Water Pipeline and Eastern Return Flow Pipeline. The Pueblo Regional Development Plan (PACOG 2002) has designated some of this land as a Special Development Area. The Pueblo Regional Development Plan considers Special Development Areas as undeveloped lands with significant development and/or open space potential in strategic locations that suggest the need for careful, location-specific plans for infrastructure and private development. Additionally, it is recommended that master plans should be prepared prior to development or redevelopment occurring. Location of the Eastern Untreated Water Pipeline or Eastern Return Flow Pipeline would require close consultation with the City of Pueblo and Pueblo County. The DEIS addressed consultation with local land use agencies in chapter 2, pages 92 to 94 and chapter 3, page 440.

Comment 3552: General concern about private property

Response 3552: Commenters were concerned about changes in land use on or near private property. The DEIS addressed land use in chapter 3, pages 414 to 440. Land use effects were adequately disclosed. Some commenters felt that the DEIS did not adequately disclose the location of the project near their private property. Appendix H was added to the FEIS to provide a list of potentially affected properties by alternative.

A commenter requested clarification on the pipeline easement width. The DEIS addressed this issue in chapter 2, page 91. Permanent easements would be about 100 feet wide for linear facilities. However, widths would vary depending upon site-specific conditions such as avoiding existing facilities or conformance to property boundaries. An additional temporary (construction) easement about 50 feet wide (150 feet wide total) would be acquired to provide space for equipment operation and staging areas during construction.

Comment 3558: Concern about land use methods and assumptions

Response 3558: A commenter was concerned that the socioeconomics and land use summary poster at the public meetings was not correct because the Wetland Alternative would affect land use on the commenter's private property. The DEIS addressed land use in chapter 3, pages 414 to 440. The DEIS disclosed that the Wetland Alternative would have land use effects, although the effects would be smaller than other alternatives.

Comment 3600: Visual Quality

Response 3600: A commenter was concerned about visual quality effects of Bradley Road realignment on the existing rocky bluffs. Information presented in the DEIS was modified in the FEIS (see section 3.20.5.1, *Wetland Alternative* subsection). The realignment of Bradley Road in the Participants' Proposed Action and the Wetland Alternative was changed to route the road south of the Upper Williams Creek Reservoir to minimize adverse effects on a golden eagle nest and on visual effects of the existing bluffs.

A commenter was concerned about visual quality of Fountain Creek or the Arkansas River due to pollution. Information presented in the DEIS was modified in the FEIS (see section 3.20.5). Implementation of any of the alternatives would not change the existing appearance of the water in Fountain Creek or the Arkansas River. Reclamation has added a statement that there would be no changes to the water appearance in Fountain Creek or the Arkansas River.

Comment 3602: Concern about visual effects of Highway 115 intake

Response 3602: A commenter was concerned about the visual effects of reduced flow on the Arkansas River. The DEIS addressed this issue in chapter 3, pages 475 to 480. Arkansas River flows would increase in the Arkansas River and Wetland alternatives, and decrease 14 percent in the No Action Alternative. These flow changes would not alter the visual quality of the Arkansas River valley.

Comment 3605: Concern about visual effects of pump stations and well structures

Response 3605: A commenter was concerned about the visual effects of the Juniper Pump Station. The DEIS addressed this issue in chapter 3, page 478. The DEIS indicated the Juniper Pump Station would be located at the base of Pueblo Dam with existing developments and construction such as the rip rap face of the dam, large concrete reservoir outlets, some small buildings associated with the operation of the dam, paved and gravel roads, and chain link fences. Additionally large areas of ground surface disturbance exist at and near the proposed Juniper Pump Station location.

Comment 3606: Concern about visual effects of pipeline corridor

Response 3606: A commenter was concerned about the visual effects of pipelines. The DEIS addressed this issue in chapter 3, pages 475 to 480. All pipeline corridors would be returned to existing grade and revegetated with native species.

Comment 3651: General concern about recreation

Response 3651: A commenter expressed concern about recreation impacts if the UAVFMP is not followed. The DEIS addressed this issue in chapter 3, pages 165, 406 and 407. The No Action and Proposed Action alternatives would not include participation in the UAVFMP, while the remaining alternatives would include participation in the UAVFMP. Overall, all alternatives would meet recreation flow targets (and UAVFMP targets) during the summer recreation season (even without formal participation in the UAVFMP), and would result in negligible to minor effects to recreation. Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments of the Preferred Alternative. Commitments for adherence to the UAVFMP have been included. These commitments are based on potential effects of the Preferred Alternative for the SDS Project. Reclamation notes that, due the absence of any contracts between Reclamation and the Project Participants, Reclamation would not have a mechanism for imposing environmental commitments for the No Action Alternative.

Comment 3652: General concern about recreation in Pueblo Reservoir

Response 3652: A commenter was concerned that the Participants' Proposed Action would divert water to the detriment of Arkansas River flows and related recreation through Pueblo. The DEIS addressed this issue in chapter 3, pages 416 to 418. The proposed action is expected to result in negligible effects to recreation in Pueblo Reservoir and minor benefits to recreation through Pueblo.

Comment 3653: General concern about recreation through Pueblo

Response 3653: Commenters were concerned about recreation through Pueblo. The DEIS addressed this issue in chapter 3, pages 416 to 418. The Participants' Proposed Action is expected to result in minor benefits to recreation through Pueblo.

Comment 3655: General concern about recreation along Fountain Creek

Response 3655: A commenter questioned what Colorado Springs is doing to make Fountain Creek suitable for recreational use. The DEIS addressed this issue in chapter 3, pages 418 to 419. As discussed in the analysis and the Recreation Technical Report (ERO 2007c), the Fountain Creek corridor has limited recreation resources except for the Fountain Creek Regional Trail, which would incur minor short-term effects.

Comment 3657: General concern about recreation at Williams Creek Reservoir

Response 3657: A commenter was concerned about ability to treat wastewater, and that Williams Creek Reservoir would be come a giant "cesspool" not suitable for recreation. The DEIS addressed this issue in chapter 3, page 420 and the Recreation Technical Report (ERO 2007c). The proposed Williams Creek Reservoir is not proposed to provide any recreational use.

Comment 3658: General concern about recreation at Jimmy Camp Reservoir

Response 3658: Commenters expressed concern about the use of motorized boats and associated noise on Jimmy Camp Reservoir. The DEIS addressed this issue in chapter 3, pages 414 and 419 and the Recreation Technical Report (ERO 2007c). The proposed Jimmy Camp Creek Reservoir is expected to allow limited motorized use to support angling.

Comment 3675: Concern about impacts to parks

Response 3675: A commenter was concerned about potential recreational uses at Jimmy

Camp Creek Park (non-motorized boats, hiking, etc.). The DEIS addressed this issue in chapter 3, pages 414 and 419. As documented in the analysis and the Recreation Technical Report (ERO 2007c), the proposed Jimmy Camp Creek Reservoir is expected to allow limited motorized use to support angling and other recreational resources such as hiking trails. No existing recreation resources would be affected.

Comment 3678: Concern about recreation resources study area

Response 3678: Commenters were concerned that Brush Hollow State Wildlife Area was not mentioned as a key recreational resource, and was not shown on the recreation study area map. While Brush Hollow State Wildlife Area was described in the Recreation Technical Report (ERO 2007c), it is not discussed in the DEIS because it is outside of the analysis area (pipeline corridors) and would not be affected by any alternative.

Comment 3700: Socioeconomic Resources

Response 3700: A commenter provided a cost benefit analysis of the alternatives. A cost-benefit analysis is not required under NEPA. While Reclamation may not necessarily concur with all of the assumptions made in the analysis, Reclamation appreciates the different perspective provided by this analytical approach.

Comment 3701: Concern about socioeconomic impacts

Response 3701: Commenters identified a number of concerns about potential socioeconomic effects in Pueblo, including impacts on property values and low income residents. One commenter mistakenly referred to Alternative 1 as the Preferred Alternative. The DEIS addressed socioeconomic impacts to Pueblo, including anticipated effects on property values, in chapter 3, pages 432 to 435. Environmental justice is addressed in chapter 3, pages 441 to 449. Further information is available in the Socioeconomic Effects Analysis (BBC 2008). Alternative 1 is the No Action Alternative, not the Preferred Alternative.

One commenter indicated they would prefer that the water supplies and future growth occur in Pueblo, rather than Colorado Springs. All of the alternatives, including No Action, would meet the Participants' purpose and need.

Comment 3708: Concern about effects on Colorado Springs economic development

Response 3708: A commenter expressed concern that the Reclamation had not relied on information from the "Ticknor Report" in its socioeconomic analysis. The findings from the Ticknor Report – that water availability and cost can be important in business location decisions – do not add substantively to the information presented in the DEIS. Each of the alternatives would provide a similar volume of water to the Participants. The effects of each alternative on water rates and charges were evaluated and are discussed in chapter 3, pages 429 through 431. Further information is available in the Socioeconomic Effects Analysis. The agency that managed the Ticknor study, the Colorado Springs Economic Development Corporation, has submitted a comment letter in support of the Participants' Proposed Action (public comment document 185).

Comment 3709: Concern about economic implications of impacts on defense industry

Response 3709: A commenter suggested that the proposed action would have negative impacts on the defense industry in Colorado Springs, and corresponding impacts on the overall economy of the area. The defense department agencies responsible for operating the military bases in the Colorado Springs area were provided the opportunity to identify concerns during public scoping and during in the DEIS review. There was no indication that any of the SDS alternatives would affect defense operations in Colorado Springs area or related employment. The Colorado Springs Economic Development Corporation has cited the needs of the military community as one of the reasons for its support of the proposed action (public comment document 185).

Comment 3715: Concern about economic effects/property values along pipeline corridor

Response 3715: Commenters expressed concerns about impacts of construction and operation of proposed SDS facilities on the use and value of properties where they would be located as well as questions about if and how landowners would be compensated. The DEIS addressed this issue in chapter 3, pages 440 and 521. Adverse effects on properties along the pipeline during construction were discussed. The effect is expected to be relatively minor because most of the effects would be temporary (almost entirely occurring during construction) and landowners would be compensated for easements. It is anticipated that Colorado Springs would purchase easements along route of the proposed pipelines. As discussed in chapter 3, page 440 and page 521, Reclamation has recommended that acquiring easements and/or properties through voluntary, willing participant agreements as much as possible, which would help minimize impacts to property uses and value along the pipeline routes.

Comment 3716: Concern about economic effects/property values along Fountain Creek and Arkansas River

Response 3716: Commenters expressed concerns about potential effects of SDS alternatives on landowners and property values along Fountain Creek and the Arkansas River due to flooding and erosion. The DEIS evaluated effects of the proposed SDS alternatives on peak flows and floodplains in chapter 3, pages 250 through 266. Effects on geomorphology were evaluated in chapter 3, pages 267 through 295. Socioeconomic effects on property values and property owners along Fountain Creek were discussed in chapter 3, pages 429 to 435. The construction of storage facilities on either Jimmy Camp Creek and/or Williams Creek is expected to help reduce peak flows in Fountain Creek and the Arkansas River. Further information can be found in the Socioeconomic Effects Analysis.

Comment 3718: Concern about economic effects/property values related to Jimmy Camp Creek Reservoir

Response 3718: A commenter expressed concern that the DEIS had not quantified the loss of tax revenues to Colorado Springs if the land at the proposed Jimmy Camp Creek Reservoir site is used for water storage rather than residential development. The land at the site of the proposed Jimmy Camp Creek Reservoir is currently undeveloped and is taxed accordingly. Removal of these tax revenues would not have a significant effect on tax revenues for the City of Colorado Springs. Given the large amount of land available for development within and near the City of Colorado Springs, it is unlikely that the use of the Jimmy Camp Creek Reservoir site for terminal storage would substantially reduce the amount of developed and taxable residential land during through 2046 or 2050.

Other commenters expressed concern that development of the proposed Jimmy Camp Creek Reservoir would affect the property values and homeowners insurance cost for properties immediately downstream of the proposed dam. Additional analyses to determine socioeconomic effects downstream of the proposed Jimmy Camp Creek Reservoir have been added to the FEIS in section 3.15.

Comment 3724: Concern that project would enable future growth

Response 3724: Commenters expressed concern that the proposed action would lead to more growth in the Participants' service areas. The DEIS addressed this issue in chapter 3, page 420. Each of the SDS alternatives – including the No Action Alternative – is designed to meet future water demands based on growth projections that are independent of the proposed SDS Project. Chapter 2 of the DEIS describes the process used to identify alternatives to the Participants' Proposed Action.

Comment 3725: Concern about economic effects if preferred alternative or SDS in general not constructed

Response 3725: Commenters expressed concerns about future economic conditions in the Participants' service areas if the proposed action is not constructed. Reclamation concurs with the Participants' purpose and need for the proposed SDS project, as documented in chapter 2 of the DEIS. Each of the alternatives, including the No Action Alternative, would meet the Participants' purpose and need. The alternatives do differ, however, in cost and corresponding effects on the water rates and charges for Participants' customers as discussed in chapter 3, pages 429 through 431 (with further detail available in the Socioeconomic Effects Analysis (BBC 2008)).

Comment 3727: Concern about public sector costs from additional flooding

Response 3727: A commenter expressed concern that additional flooding due to SDS would lead to increased costs for public sector road construction and maintenance. The DEIS addressed this issue in chapter 3, page 259. The proposed SDS alternatives would not increase peak flood flows or floodplain areas. The construction of storage facilities on either Jimmy Camp Creek and/or Williams Creek is expected to reduce peak flows in Fountain Creek as a result of incidental flood storage in the proposed reservoirs. The SDS alternatives are not expected to increase peak flows on the Arkansas River.

Comment 3729: Concern about costs and rate impacts

Response 3729: Commenters expressed concern about the costs of the SDS alternatives and the effects of those costs on water rates and charges. The effects of each alternative on water rates and charges were evaluated and are discussed in chapter 3, pages 429 through 431. Further information is available in the Socioeconomic Effects Analysis (BBC 2008). Should the construction costs exceed the cost estimates developed by the Participants, additional increases in water rates or connection charges might be required.

Comment 3735: Concern about municipal water quality and cost in the lower Arkansas Valley

Response 3735: Commenters expressed concern that the SDS alternatives would reduce the quality of water for municipalities in the Lower Arkansas Valley and potentially increase their water treatment costs. The DEIS recognized the water quality issues that already exist in the Lower Arkansas Valley and considered the potential effects of the proposed SDS alternatives on both municipal water providers and agricultural water users. These issues are discussed in chapter 3, pages 427, 435, and 436. Further information is available in the Socioeconomic Effects Analysis (BBC 2008).

Comment 3736: Concern about municipal water and wastewater costs in the upper Arkansas Valley

Response 3736: A commenter expressed concern about potential effects on water and wastewater costs in Fremont County. The DEIS examined potential effects on water and wastewater treatment costs in the upper Arkansas Valley and briefly discusses these concerns in chapter 3, page 432. Further information is available in the Socioeconomic Effects Analysis (BBC 2008).

Comment 3737: Concern about economic impacts on recreation at Pueblo Reservoir

Response 3737: A commenter expressed concern that development of a terminal storage reservoir, with recreation, in El Paso County would diminish the economic benefits from Pueblo Reservoir. Given their relatively small size (compared to Pueblo Reservoir) and anticipated limited uses, either of the proposed terminal storage reservoir options would likely be used primarily by local residents. Neither is likely to seriously compete with Pueblo Reservoir for destination visitors. As discussed in the DEIS, chapter 3, pages 406 and 425, the proposed terminal storage reservoir is anticipated to see between 50,000 and 80,000 visitor days per year compared to about 1.6 million visitor days per year at Pueblo Reservoir.

Comment 3738: Requests analysis of impacts to apartment industry if project not built

Response 3738: A commenter requested that Reclamation examine effects on the apartment industry in the Colorado Springs area if the proposed action is not developed. All of the alternatives, including No Action, would meet the Participants' purpose and need and provide similar volumes of water to meet future needs. After reviewing these comments, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion because it considered all issues raised and evaluated them using the best available information.

Comment 3739: Concern about agricultural effects/crop yield

Response 3739: Commenters expressed concern about potential effects from SDS on agricultural production in the Lower Arkansas Valley. The DEIS examined potential effects of the SDS alternatives on agricultural production in the Lower Arkansas Valley. This information is summarized in chapter 3, pages 435 through 436. There is further discussion of these concerns in the Socioeconomic Effects Analysis (BBC 2008).

Comment 3751: Requests additional analysis on environmental justice

Response 3751: A commenter indicated concerns that low income residents would be disproportionately impacted by the SDS alternatives. The DEIS examined potential environmental justice issues in chapter 3, pages 441 to 448. While there are disadvantaged communities along Fountain Creek, the effects of the SDS alternatives on those communities are anticipated to be minor or negligible. There is further discussion of environmental justice in the Socioeconomic Effects Analysis (BBC 2008).

Comment 3801: General concern about wetland impacts

Response 3801: A commenter was concerned about wetland effects on her property. Another commenter was concerned about the wetland habitat within Colorado's mountain valleys. The DEIS addressed these issues in chapter 3, pages 332 to 342. The DEIS adequately disclosed direct and indirect wetland impacts. The Wetlands, Waters, and Riparian Resources Technical Report (ERO 2007f) shows the locations of wetlands within the study area.

A commenter was concerned that mitigation was not fully described in the DEIS and the proposed mitigation would substitute natural riparian communities with poor quality artificial riparian acreage. The DEIS addressed this issue in chapter 3, pages 342 to 343 and in the Conceptual Wetland Mitigation Plan. Many of the functions and values of the affected wetlands would be replaced by the mitigated wetlands. Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and environmental commitments for the Preferred Alternative. For the final Preferred Alternative, mitigation techniques identified through the public comment period were evaluated along with the mitigation measures identified in the DEIS and included in the environmental commitments as necessary to avoid, minimize, rectify, reduce or eliminate the effects of the Preferred Alternative.

A commenter recommended that destruction of high quality wetlands be avoided, especially in the lower section of Williams Creek. The use of Williams Creek for return flow conveyance was changed to a pipeline in all alternatives that had that component. The pipeline minimized effects on high quality wetlands.

Comment 3802: General concern about riparian habitat

Response 3802: A commenter was concerned about the riparian habitat within Colorado's mountain valleys. The DEIS addressed these issues in chapter 3, pages 332 to 342. The DEIS adequately disclosed direct and indirect riparian vegetation effects.

Comment 3805: Concern about wetland impacts on the Arkansas River downstream of Fountain Creek

Response 3805: A commenter expressed concern about the effects on wetlands because of the loss of return flows from loss of irrigation as Arkansas water rights are developed. The DEIS addressed these issues in chapter 3, pages 332 to 342. The DEIS has adequately disclosed direct and indirect wetland effects. The loss of return flows from the loss of irrigation as Arkansas River water rights are developed was included in the hydrology data that were used to determine effects on wetlands.

Comment 3807: Concern about wetland impacts on Williams Creek

Response 3807: A commenter was concerned about high quality wetlands, along the lower reach of Williams Creek. Refer to response to comment 30-20 for Reclamation's responses on avoidance of effects on Williams Creek downstream of the Williams Creek Reservoir site through use of a pipeline.

Comment 3812: Concern about wetland impacts at Jimmy Camp Creek Reservoir

Response 3812: Commenters stated that Upper Williams Creek Reservoir is a better location than Jimmy Camp Creek because it has fewer wetland impacts. The use of Jimmy Camp Creek Reservoir in the Participants' Proposed Action was changed to upper Williams Creek to minimize effects on wetlands and other resources. Refer to comment response 13-2.

Comment 3813: Concern about riparian resources on the Arkansas River upstream of Fountain Creek

Response 3813: A commenter was concerned that higher flows on the Arkansas River east of Florence to the Pueblo Reservoir associated with Alternatives 3 and 4 would degrade the riparian corridor. The DEIS addressed this issue in chapter 3, pages 332 to 340. Direct and indirect effects on riparian resources were adequately disclosed. There would be negligible effects on riparian vegetation on the reach of the Arkansas River east of Florence to Pueblo Reservoir because of the minimal effects on stream stage elevations.

Comment 3816: Concern about riparian resources on Williams Creek

Response 3816: A commenter was concerned that the variability of the releases on Williams Creek would create variable surface water and goundwater levels which may promote the spread of tamarisk. The commenter also suggested that channel downcutting caused by the additional releases to Williams Creek will adversely affect wetland and riparian vegetation. See comment response 3812.

Comment 3827: Requests additional analysis on wetland and riparian resources

Response 3827: A commenter was concerned that wetland impacts were not evaluated for all alternatives. The DEIS addressed this issue in chapter 3, pages 332 to 340. Direct and indirect effects of all alternatives on wetland riparian resources were disclosed.

A commenter was concerned that an analysis on riparian vegetation that is supported by ground water movement or movement of water from irrigated fields was omitted. The DEIS addressed this issue in chapter 3 pages 332 to 340. One of the analysis assumptions was that stream reaches where riparian vegetation is likely supported by hydrologic input other than streamflow, such as ground water movement from upland areas or irrigated fields, did not require analysis. If riparian vegetation is supported by hydrologic input other than streamflow such as ground water movement from upland areas or irrigated fields, changes in streamflow as a result of SDS would not affect those resources.

A commenter was concerned about impacts on vegetation caused by reduction in flooding and flooplain in Williams Creek. The FEIS provides additional information on the effects on vegetation from a reduction in flooding and the floodplain width in Williams Creek.

Comment 3851: General concern about cultural resource impacts

Response 3851: A commenter stated that the DEIS fails to identify the cultural significance of the proposed Jimmy Camp Creek Reservoir site to Native Americans, does not record consultation conducted under NAGPRA, and does not describe a concerted and determined effort to consult. Commenter also stated that a location called "Burial Rock," within the proposed Jimmy Camp Creek Reservoir site was used by Native American tribes. The DEIS addressed this issue in chapter 2, pages 19 to 20. Reclamation contacted 16 Native American Tribes to obtain their input for scoping purposes. Subsequently, after three tribes indicated they were no longer interested in the project, Reclamation contacted 13 Native American Tribes to obtain their input for scoping purposes (see section 4.1.1.1 of the DEIS). To this end, letters were sent to the tribes and arrangements were made for an on-site visit to the proposed SDS Project area. Seven of the 13 tribes contacted attended the meeting. Table 127 on page 530 of the DEIS provides information on the tribes that attended the on-site meeting. As per 36 CFR 800.2(a) (3) and 36 CFR 800.2(c) (4), on-going consultation between Reclamation and the tribes would continue over the course of the project. With regard to the comment on "Burial Rock," it is located outside of the SDS area of potential effect (APE). In addition, this geological point of interest has not been proven to be cultural in nature nor has it been formally recorded. During the SDS on-site meeting with the tribes, no comment or concern was expressed regarding the "Burial Rock" location.

Comment 3853: Concern about cultural resource impacts at Jimmy Camp Creek

Response 3853: Commenters were concerned that the DEIS does not identify or discuss mitigation measures that would preserve the camp at Jimmy Camp Creek or the Jimmy Camp Springs. Detailed site information regarding Jimmy's Camp and the Jimmy Camp Trail are provided on page 139 of the Cultural Resources Technical Report (WCRM 2008 on file at the Colorado Office of Archaeology and Historic Preservation). Detailed information of this type cannot be presented in the FEIS; however, both sites have been recommended as eligible for inclusion in the National Register of Historic Places (NRHP). The DEIS addressed the mitigation issues in the Conceptual Cultural Resources Mitigation Plan. Specific mitigation measures for all resources officially determined to be eligible for inclusion in the NRHP would be developed by Reclamation in consultation with the consulting parties through the implementation of the Programmatic Agreement provided in Appendix I of the FEIS.

A commenter was concerned with a conflict of interest on the part of the City of Colorado Springs in proposing the SDS Project and then reviewing the results of the historical, archaeological, and paleontological resources. The commenter felt that these resources should be studied by an objective, scientifically qualified third party or parties. Scientifically qualified, objective, third-party, Western Cultural Resource Management, Inc., performed the cultural resource studies between 2004 and 2006. In consultation with Reclamation and the Colorado SHPO, these studies were conducted to identify, document and evaluate resources as per NEPA and the National Historic Preservation Act (NHPA) of 1966 as amended, its provisions policies including the Section 106 process.

A commenter stated that Reclamation has not completed the historic property survey and identification work for the proposed action or the other alternatives and options in compliance with NEPA. The DEIS addressed this issue in chapter 3, pages 453 to 454. The

DEIS stated that an agreement between the SHPO, ACHP, and Reclamation specified that a Class I field-check level of survey could be conducted of the facilities that were not major components common to the majority of the SDS alternatives; the phasing of the identification of historic properties is provided for under 36 CFR §800.4(b)(2). Information presented in the DEIS was modified in the FEIS (section 3.17.5.4). After a Record of Decision is issued, a complete 100% survey of all areas not previously surveyed to this level would be conducted. It is also stated in the DEIS that the following components of the proposed alternatives were surveyed to a Class III (100%) level: Jimmy Camp Creek and Williams Creek Reservoir sites, Central Untreated Water Pipeline alignment, portions of the Western Untreated Water Pipeline alignment, some areas near the Pueblo Dam, and the Reduced Northfield Booster Pump Station site).

A commenter stated that Reclamation has improperly withheld all information about the extent and results of cultural resource surveys. The DEIS addressed this issue in chapter 3, pages 457 to 462 Reclamation has provided information regarding the quantity of known eligible or potentially (unevaluated) eligible cultural resources present within the proposed SDS Project area alternatives as a result of Class I and Class III cultural resource studies conducted from 2004 to 2006. As per National Register Bulletin 29, "The authority to restrict information about historic and archaeological resources applies to inventories that receive Federal assistance under the authority of the NHPA or Executive Order 11593. Such inventories include the survey and inventory data of all State Historic Preservation Offices, Federal agencies, and Certified Local Governments." According to Section 304(b) of the NHPA, the head of a federal agency can determine that information should be withheld from the public and, in consultation with the Secretary of the Interior, can determine who may have access to the information; there is no provision that only "certain" information can be withheld from the public. Under the ACHP regulations (36 CFR §800) implementing Section 106 of the NRHP, it is stated that "when the information in question has been developed in the course of an agency's compliance with this part (i.e., 36 CFR §800.11) the Secretary shall consult with the Council in reaching determinations on the withholding and release of information [36 CFR §800.11(2)]." In addition, the Colorado OAHP also restricts access to various cultural resource information as per CRS 24-72-203(1) and CRS 24-80-405(2). The ARPA regulates access to cultural resources on Indian and federal lands; it does not govern access on private or state lands.

Cultural resources within the areas surveyed to a Class III level were recorded and evaluated for their potential inclusion in the NRHP (WCRM 2008 on file at the Colorado Office of Archaeology and Historic Preservation). Reclamation provided these evaluations and associated documentation to the Colorado SHPO for their review. The SHPO has also been asked to review all cultural resource documents pertaining to the proposed SDS Project; as a result, no information was withheld by Reclamation in compliance with the 106 process.

Comment 3858: Concern about cultural resources methods and assumptions

***Response 3858*:** A commenter stated that "Reclamation did its own form of partial environmental and historic preservation analysis of the Jimmy Camp Creek Reservoir project, and some kind of review of the other "options" for terminal storage, but never completed the full review or balancing of alternatives required by NEPA." The DEIS addressed this issue in chapter 3, page 453. See comment response 3853.

A commenter was concerned that Reclamation has chosen to subject the Jimmy Camp Creek Reservoir and facilities to some of the requirements of reviews under Section 106 of the NHPA and NEPA, but not others. The DEIS addressed this issue in chapter 3, page 453. The proposed Jimmy Camp Creek Reservoir is a common component of five alternatives. The level of survey intensity throughout the SDS Project area was determined by Reclamation in consultation with the Colorado SHPO and the ACHP. The use of a Class I field-check level of survey within the pipeline alternatives and the proposed Upper Williams Creek Reservoir (where permission to access was available) was chosen because it could provide a characterization of the potential types and quantities of resources, was more feasible, and was cost efficient. A complete (Class III) survey of all areas not previously surveyed to this level would be conducted after a Record of Decision is issued.

Comment 3859: Concern about cultural resources study area

Response 3859: A commenter was concerned that Reclamation has insufficiently identified the Area of Potential Effects (APE) for the SDS undertaking. The DEIS addressed this issue in chapter 3, pages 350 to 352. As per 36 CFR §800.4(a)(1) and as stated in section 3.17.3.1 of the DEIS, the APE for the SDS Project area was defined by Reclamation in consultation with the Colorado SHPO (the ACHP also participated in this consultation). The APE must take into account the entire geographic area that an undertaking may directly or indirectly affect. The proposed Jimmy Camp Creek reservoir and facilities are within the SDS APE. All alternatives and their associated facilities, if selected would result in direct affects (also known as the SDS analysis area). The DEIS states the area of indirect effects includes "a 1-mile buffer around each proposed reservoir site, 500-foot wide corridors for pipelines, power lines, and telecommunications lines, and a 250-foot buffer around other facilities (e.g., water treatment plants and pump stations)." Taken together, the area of direct effects (areas surveyed to a Class III level) and the area of indirect effects (areas researched to a Class I level and areas surveyed to a Class I-field check level) constitute the APE. The commenter appears to have mistakenly interpreted the APE to only include effects on the proposed Jimmy Camp Creek Reservoir and its facilities. The APE includes all components of the SDS alternatives (areas of direct effects) in conjunction with the areas of indirect effects as defined in the DEIS and above.

A commenter was concerned that Reclamation has not properly adopted the programmatic agreement that was selected to govern NHPA Section 106 consultation. The DEIS addressed this issue in chapter 3, pages 449 to 464 and in Appendix F. Appendix F of the DEIS is Appendix I of the FEIS. The Section 106 process, and therefore its involvement with NEPA, requires the completion of four steps: the initiation of the process (Step 1), the identification of historic properties (Step 2), the assessment of adverse effects (Step 3), and the resolution of adverse effects (Step 4). To date, the proposed SDS Project has begun the Section 106 process (Step 1) and a phased identification of historic properties (Step 2); the phasing of the identification of historic properties is provided for under 36 CFR §800.4(b)(2). The assessment of adverse effects (Step 3) was described in the DEIS and FEIS and will be completed when an alternative is selected and a 100% pedestrian survey completed for the APE. Programmatic Agreements (PAs) are designed to resolve the adverse effects (Step 4) of complex projects. They are developed using the same process as MOAs [36 CFR §800.14(b)(3)]. The SDS Project has developed a PA for future use to resolve adverse effects, but has not and cannot implement the PA until the eligibility of the resources within the final Preferred Alternative and potential adverse effects to them have been determined. The portion of the PA that discusses identification and evaluation of historic properties provides for further refinement of those tasks as required by Step 2 of the Section 106 process.

Comment 3877: Concern about air quality during construction

Response 3877: A commenter expressed concern about the dust during construction. The DEIS addressed this issue in chapter 3 pages 469 to 471. Air quality effects during construction were disclosed.

A commenter requested that Reclamation select the alternative with the lowest carbon dioxide emission during construction. Carbon dioxide emissions were considered during Reclamation's selection of a preferred alternative.

Comment 3900: Other Resources

Response 3900: A commenter was concerned about the risk to transportation bridges due to increased peak flows. The DEIS addressed flood hydrology in chapter 3, pages 250 to 266. No direct effects on peak flows are expected. Therefore, there would be no effect on transportation bridges due to peak flows.

Commenters were concerned about the safety of the pipeline. The construction of the pipeline would conform to applicable federal, state, and local government safety regulations. The pipeline itself would be designed in accordance with project specific design criteria that are based on AWWA (2004) M11 standards, which are the accepted industry standards.

American Water Works Association (AWWA). 2004. Steel Water Pipe: A Guide for Design and Installation (M11), Fourth Edition. January.

Commenters were concerned about traffic effects. The DEIS addressed traffic in chapter 3, pages 483 to 494. Effects to traffic were adequately disclosed in the DEIS.

Commenters were concerned about effects of the Bradley Road relocation associated with the Wetland Alternative on Shriever Air Force Base. The Bradley Road realignment was modified in the Wetland Alternative to maintain the existing design speed of Bradley Road.

A commenter requested calculations of carbon emissions and was concerned about increased water demand on power plants due to energy requirements from the project. The DEIS addressed this issue in chapter 2 in the description of each alternative. Power sources for each alternative were addressed. The total energy use for each alternative was also provided. Power sources for each alternative would largely be powered by fossil fuels; therefore the energy requirements for each alternative are indicators of the relative amount of carbon emissions from each alternative.

Each energy supplier would be responsible for operation of its power plants, power plant operation is outside the scope of this EIS.

A commenter was concerned about unexploded military ordnance at Jimmy Camp Creek Reservoir. The cultural resources study of Jimmy Camp Creek Reservoir did not uncover\ any literature regarding a bombing range at the site during extensive research for a Class I file search of public, state, federal, and agency records, nor did it discover any ordinance (spent or otherwise) or any signs that bombing had occurred during a complete Class III survey of the site. A World War II-era B-24 crash site is within the proposed reservoir site, but no known unexploded military ordnance is associated with the crash site.

Comment 3901: Concern about construction noise

Response 3901: A commenter expressed concern about noise during construction. The DEIS addressed this issue in chapter 3, pages 469 to 472. The noise effects of the alternatives were adequately disclosed in the DEIS.

Comment 3910: Concern about paleontological resources at Jimmy Camp Creek Reservoir

Response 3910: A commenter expressed concern about effects of the Jimmy Camp Creek Reservoir site on paleontological and archaeological resources, including whether publicly available information from the Colorado Springs Parks, Recreation & Cultural Services Department, El Paso County, and the University of Colorado at Colorado Springs were considered in the DEIS. This issue was discussed in the DEIS chapter 3, page 453. It is assumed that the commenter is referring to the cultural resources previously identified within the proposed Jimmy Camp Creek Reservoir site, because several studies have been conducted in this location, and Jimmy Camp Creek Reservoir was a component of the DEIS preferred alternative. A Class III study of the proposed Jimmy Camp Creek Reservoir site was conducted for the SDS Project re-evaluating previously documented sites and recording and evaluating newly discovered resources. Reclamation revised the FEIS, in chapter 3, section 3.17.3.2; this table was updated to include the number of known eligible, recommended eligible, and unevaluated sites within the proposed Jimmy Camp Creek and Williams Creek Reservoir sites. Additional sites previously documented within the park are not included in this discussion. The archaeological sites within the proposed reservoir site date from the Middle Archaic through historic times; although no sites have been found that date to the Paleo-Indian Period the potential for deposits from this time period are present.

The commenter also stated the DEIS does not identify or discuss mitigation measures that would preserve the camp at Jimmy Camp Creek or the Jimmy Camp Springs, physical geographic locations identified in the journals of the Spanish Conquistadors. The DEIS addressed this issue in the Conceptual Cultural Resources Mitigation Plan. Specific mitigation measures for all resources officially determined to be eligible for inclusion in the NRHP would be developed by Reclamation in consultation with the consulting parties through the implementation of the Programmatic Agreement provided in Appendix I of the FEIS.

The effects on paleontological resources were disclosed on pages 499 and 500 of the DEIS.

The analysis used the best available information to document the presence of paleontological resources in the Jimmy Camp Creek reservoir site. Reclamation and Colorado Springs Utilities met with the Denver Museum of Nature and Science to discuss the paleontological analysis and proposed mitigation. The proposed mitigation in the FEIS was revised based on the meeting.

Comment 3911: Concern about other permits

Response 3911: Commenters expressed concern about the 1041 permitting process for Pueblo County, permitting in Fremont County, and about the general time and cost associated with permitting. The DEIS addressed this issue in chapter 2, pages 92 to 93. The need for various federal, state, and local permits and approval was disclosed. Securing all necessary permits would be the responsibility of the Project Participants.

A commenter suggested that BLM should be added to the list (Table 23 of the EIS) of federal agencies from which a permit or approval may be required. Information presented in the DEIS was modified in the FEIS to include BLM permitting actions (see section 2.4.4).

A commenter suggested that the DEIS should include more discussion of 404 permitting, particularly 404(b)(1) analysis. Refer to comment responses 13-1, 13-2, and 13-3. Reclamation notes that a 404(b)(1) analysis is not a required element of an EIS. The Project Participants, not Reclamation, would not be the Applicant for any 404 permits for the SDS Project. Should a 404 permit be required to implement Reclamation's final Preferred Alternative, the Project Participants would prepare a 404 permit application and the Corps would have to document compliance with the 404(b)(1) Guidelines prior to issuing a permit. If the Corps intends to issue an Individual 404 permit to allow implementation of an alternative, public and agency comment on the proposed issuance would be sought through the routine public notice process for 404 permits.

A commenter suggested that, to fulfill Clean Water Act 404 requirements, the DEIS should include more discussion of wetland avoidance as opposed to compensatory mitigation of wetland effects. The DEIS addressed this issue in chapter 3, pages 342 and 343 and the Conceptual Wetland Mitigation Plan. The plan emphasized wetland avoidance and minimization of adverse effects on wetlands and other waters of the U.S. to the maximum extent practicable. Avoidance and minimization of wetland impacts would be further addressed in final design and 404 permitting.

Comment 3950: General Suggested Mitigation

Response 3950: Commenters stated that the conceptual mitigation measures identified in the DEIS are not adequately defined and not guaranteed. In addition, several suggested mitigation techniques were identified by commenters. Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. For the final Preferred Alternative, mitigation techniques identified through the public comment period were evaluated along with the mitigation measures identified in the DEIS and included in the environmental commitments as necessary to avoid, minimize, rectify, reduce or eliminate the effects of the Preferred Alternative.

Comment 3951: Concern about conceptual geomorphology mitigation plan

Response 3951: Commenters were concerned that the Conceptual Geomorphology Mitigation Plan did not provide appropriate mitigation strategies to deal with potential effects on erosion and sedimentation. The DEIS addressed this issue in chapter 3, pages 276 to 289, and in the Conceptual Geomorphology Mitigation Plan. The mitigation strategies are based on regional mitigation opportunities as identified by the Fountain Creek Watershed Plan in order to improve the overall geomorphic condition of Fountain Creek. Information presented in the DEIS was modified in the FEIS based on identification of the final Preferred Alternative and the development of environmental commitments for the Preferred Alternative. For the final Preferred Alternative, mitigation techniques identified through the public comment period were evaluated along with the mitigation measures identified in the DEIS and included in the environmental commitments as necessary to avoid, minimize, rectify, reduce or eliminate the effects of the Preferred Alternative.

Comment 3957: Suggested surface water hydrology mitigation

Response 3957: Several surface water hydrology related mitigation suggestions were suggested. Information presented in the DEIS has been modified in the FEIS (see chapter 5) pursuant to these comments, as well as other public comments. Chapter 5 contains environmental commitments (mitigation) for the Preferred Alternative based on the environmental and socioeconomic effects analyses, and comments received during the DEIS public comment period. The goals for mitigation measures are to avoid and minimize adverse effects on environmental and socioeconomic resources and to provide compensatory mitigation for unavoidable significant environmental and socioeconomic effects. Specific mitigation measures for each resource were developed consistent with the level of effects identified in the analyses. All options identified through public comment were considered and evaluated during development of final mitigation measures.

A commenter suggested that the reduction of peak flood flows that may injure Amity Canal's junior water rights be mitigated. See comment response 3181.

Several commenters suggested that all alternatives comply with UAVFMP and/or PFMP. See comment response 25-2.

A commenter suggested that mitigation for effects on Fountain Creek by all alternatives comply with the Fountain Creek Watershed Plan. Information presented in the DEIS has been modified in the FEIS (see chapter 5). Geomorphic mitigation in Fountain Creek, which is consistent with the Fountain Creek Watershed Plan, is presented in section 3.9.5.4.

Comment 3958: Suggested geomorphology mitigation

Response 3958: Commenters were concerned that the Conceptual Geomorphology Mitigation Plan did not provide appropriate mitigation strategies to deal with potential effects on erosion and sedimentation. Refer to comment response 3951.

Comment 3959: Suggested aquatic mitigation mitigation

Response 3959: A commenter was concerned that without an evaluation of west slope streams, appropriate mitigation for these streams can not be determined. The effects of the SDS Project on the Western Slope hydrology and associated water-related resources were disclosed in the Supplemental Information Report and added to the FEIS.

Comment 3960: Suggested wetland mitigation

Response 3960: A commenter recommended that mitigation follow the recommendations in the National Research Council's *Compensating for Wetland Losses Under the Clean Water Act* (2001). In general, the Conceptual Wetland Mitigation Plan followed the recommendation of the National Research Council, although it was not stated in the document. Information presented in the DEIS was modified in the FEIS (see chapter 5) based on identification of the final Preferred Alternative and environmental commitments for the Preferred Alternative. For the final Preferred Alternative, mitigation techniques identified through the public comment period were evaluated along with the mitigation measures identified in the DEIS and included in the environmental commitments as necessary to avoid, minimize, rectify, reduce or eliminate the effects of the Preferred Alternative.

A commenter recommended monitoring of the Williams Creek drainage occur throughout the duration of the SDS project and at least five growing seasons following completion of the Willaims Creek Reservoir. Wetland effects to Williams Creek below the proposed Williams Creek Reservoir were avoided through the use of the Williams Creek Return Flow Conveyance Pipeline in alternatives with Williams Creek Reservoir.

A commenter also recommended that a certified wetlands ecologist per the requirements of the Clean Water Act should delineate wetland along Williams Creek and Fountain Creek prior to conducting any activities that may impact jurisdictional wetlands. The DEIS addressed this topic in chapter 3, page 327. Wetland delineations were conducted within the project area following the 1987 Corps of Engineers Wetlands Delineation manual by qualified wetland scientists. The Corps does not require that wetland delineations be conducted by certified wetland scientists.

Comment 3962: Suggested water quality mitigation

Response 3962: A commenter suggested that with additional population growth, there would be stormwater effects and that settling ponds would be needed. The City of Colorado Springs Stormwater Enterprise is described as a reasonably foreseeable action on page 125 of the DEIS. As part of their MS4 permit, the City of Colorado Springs is responsible for constructing capital stormwater projects and regulating stormwater infrastructure on private property necessary for managing water quantity and quality. These activities will occur no matter what alternative is constructed for the SDS project.

A commenter suggested water quality mitigation including (1) suggested efforts described in the Fountain Creek Watershed Plan for water quality improvement and (2) mitigation that would reduce water quality impairment so that Fountain Creek can be removed from the State's 303(d) list. Monitoring and adaptive management are proposed on pages 248 to 249 of the DEIS. Monitoring and adaptive management are the appropriate response to uncertain water quality effects of the alternatives. The effects analysis suggests that minimal to moderate water quality effects in Fountain Creek are likely, depending on which alternative is implemented. As shown on the water quality effects summary maps (pages 204 to 205 of the DEIS), the Participants' Proposed Action would not adversely affect water quality in Fountain Creek. This finding was reaffirmed in the Supplemental Information Report.

In addition, although removing Fountain Creek from the 303(d) list is a desirable goal, this is a condition that exists without the implementation of any SDS alternative. If the monitoring of water quality in Fountain Creek after project implementation suggests that 303(d) listed constituents were degraded by the constructed project, mitigation of these effects would be warranted through adaptive management. In addition, the Fountain Creek Watershed Plan could be consulted at that time for potential mitigation strategies.

Comment 3963: Suggested flood hydrology and floodplains mitigation

Response 3963: A commenter requested that mitigation strategies for potential flooding associated with the SDS should be presented in the EIS. The DEIS addressed this issue in chapter 3, pages 259 to 266. Direct and indirect effects on flood hydrology would be negligible or beneficial, and flood hydrology mitigation is not necessary as a result.

A commenter requested that mitigation strategies for potential erosion effects be presented in the EIS. The DEIS addressed this issue in chapter 3, pages 293 to 294 and in the Conceptual Geomorphology Mitigation Plan.

A commenter requested that mitigation strategies be provided for a potential dam breach at any of the proposed SDS reservoirs. The DEIS addressed this issue in chapter 3, pages 250 to 266. Direct and indirect effects on flood hydrology associated with the SDS would only be beneficial (incidental flood control storage). Although a dam breach analysis was conducted and discussed in the Supplemental Information Report and in section 3.8 of the FEIS, mitigation strategies for such a breach were not included in the FEIS because of the low probability of a dam breach.

A commenter requested that models developed for the Corps' Fountain Creek Watershed Study be used in the EIS to predict effects on flooding and geomorphology. The DEIS addressed this issue in chapter 3, pages 267 to 294 of the DEIS. The geomorphic effects analysis includes use of the hydraulic simulations (calculations of sediment transport capacity) and hydrologic simulations (calculations of peak flow hydrology) from the Fountain Creek Watershed Study.

Comment 3964: Suggested vegetation mitigation

Response 3964: A commenter was concerned about the spread of tamarisk on Williams and Fountain creeks and suggested that the spread of noxious weed populations be monitored and control measures implemented whenever these populations are identified. Another comment stated that noxious weed control is essential. Section 3.12 of the FEIS was updated to include noxious weed monitoring for 3 years after construction to the vegetation mitigation requirements. The Project Participants would with the Colorado Department of Agriculture's Colorado Noxious Weed Management Team on tamarisk issues in the Arkansas Valley including submitting a request for partnership evaluation.

Comment 3965: Suggested wildlife mitigation

Response 3965: Commenters suggested mitigation for Preble's meadow jumping mouse, black-tailed prairie dog, swift fox, big game, migratory birds, and raptors. The Participants would implement the mitigation measures in section 3.13.5.4, page 390 of the DEIS that require that the Participants conduct clearance surveys for state-listed species following standard protocols, as available, prior to construction. State-listed species covered by this commitment include, black-tailed prairie dog, burrowing owl, mountain plover, swift fox, and other appropriate species currently listed or listed at the time of construction. In addition, section 3.13 of the FEIS contains updated mitigation including the installation of trench plugs to facilitate big game access, swift fox den surveys along pipeline routes and restriction of pesticide use for rodent control in overall swift fox range.

Comment 3966: Suggested recreation mitigation

Response 3966: Commenters suggested new trail construction along the pipeline alignments and an extension of the city park west of Jimmy Camp Creek Reservoir. The DEIS addressed this issue in chapter 3, page 426. As discussed in the FEIS, impacts to parks would be mitigated in the affected area. No new parks are proposed for the purpose of mitigation.

Comment 3969: Suggested cultural mitigation

Response 3969: A commenter requested that Jimmy Camp Trail, west of the reservoir, be preserved. The area west of the proposed Jimmy Camp Creek Reservoir is within the City of Colorado Springs park. Therefore, any cultural resources located within the park would be protected by the City.

A commenter requested that Colorado Springs purchase the land to the west of the proposed Jimmy Camp Creek Reservoir and preserve the remaining Jimmy Camp Creek wagon trail in this area. The area west of the proposed Jimmy Camp Creek Reservoir is within the City of Colorado Springs Park. Therefore, any remaining segments of the Jimmy Camp Creek wagon road/trail located within the park will be protected by the City. The segment of the Jimmy Camp Creek trail located within the SDS project area was documented and recommended eligible for inclusion in the NRHP. If this alternative is selected and this resource is officially determined eligible, any adverse effects to this segment of the trail/road would be mitigated before the reservoir is filled.

Comment 3973: Suggested geology and paleontology mitigation

Response 3973: See comment response 3910.

Comment 4000: Issues outside of Scope of EIS

Response 4000: Commenters were concerned about a variety of issues outside the scope of this EIS:

- Concern about State and Federal laws, including water law
- Concern about sewer pipes in the Fountain Creek basin
- Suggestion that sludge and trash should be burned to generate electricity
- Concern about a uranium mining project's environmental impact
- Concern about Colorado Springs' use of stormwater funds

- Concern about Colorado Springs' raw water system
- Concern that land developers are driving the SDS
- Concern that Colorado Springs does not tell the public the truth
- Request to "fix" Fountain Creek before SDS is built
- Concern that the Fry-Ark Project is not finished
- Concern about road salt content
- Concern about runoff from Banning Lewis Ranch
- Desire to restrict use of Fry-Ark facilities to export water out of basin

These issues are outside of the Reclamation's control and the scope of this EIS and are not discussed further.

Comment 4001: Concern about Colorado Springs' sanitary sewer overflows

Response 4001: Commenters were concerned about sanitary sewer overflows from Colorado Springs and their effect on Fountain Creek. CDPHE oversees discharges from Colorado Springs Utilities' sanitary sewer system. Reclamation has no authority to impose penalties on Colorado Springs Utilities for sanitary sewer overflows or require upgrades to the sanitary sewer system. Therefore, this issue is outside the scope of this EIS and is not discussed further.

Comment 5000: Comments about process

Response 5000: A commenter felt that the SDS should not continue until all adverse effects to all properties are addressed to the satisfaction of all stakeholders. The purpose of the EIS is to disclose environmental impacts from the proposed project. Mitigation measures would avoid, minimize, or eliminate the effects of those impacts. In addition, the Participants would need to secure a variety of other permits for the project, which may require additional mitigation measures.

A commenter thought the utility of the SDS Project beyond the contract period should be examined. Reclamation concurs with this comment. Accordingly, the content of the FEIS has been modified to reflect this public input. In particular, section 3.27.2 of the FEIS contains information that has been updated since publication of the DEIS. At the end of the contract period, the Participants could request renewal of the contract, or the contract could terminate. Any request for renewal would have to comply with applicable environmental laws and regulations. Discussions of these scenarios have been added in the FEIS. This revision does not significantly change the effects analysis or results presented in the DEIS.

A commenter expressed concern about the Project Participants statements about their past efforts to contact land owners in the Penrose area along the proposed pipeline route. Reclamation does not have control over or specific information pertaining to the Project Participants' land owner contacts. However, Colorado Springs did assist Reclamation in contacting land owners within the study area to gain access to property in order to conduct environmental studies. To provide additional information to land owners, Appendix H was added to the FEIS to provide a list of potentially affected properties by alternative.

A commenter suggested review of the EIS by the General Accountability Office (GAO). The GAO investigates how the federal government spends taxpayer dollars at the request of congressional committees or subcommittees or as mandated by public laws or committee reports. This EIS does not fall into the jurisdiction of the GAO because it is not funded by taxpayer dollars (preparation this EIS was funded by the Participants) or related to congressional activities. The EPA has review authority over all EISs. Under Section 309 of the Clean Air Act, EPA is required to review and publicly comment on the environmental impacts of major federal actions including actions that are the subject of EISs. The EPA reviewed this EIS (see agency letter 45 on the DEIS and 47 on the Supplemental Information Report).

A commenter had a concern about the use of eminent domain. Chapter 2, section 2.4.3, of the FEIS contains information about the Participants' approach to land acquisition. Eminent domain is a legal mechanism that could potentially be used by the Participants during their land acquisition process.

A commenter was concerned that Pueblo's actions were wasting time and money. Reclamation welcomes comments from the public at any time, and has included responses to all comments received by the comment deadline in this FEIS.

A commenter was concerned about the time required to plan and obtain permits. The DEIS addressed this issue in chapter 2, pages 92 to 94. The Participants have planned for the permitting process in their construction schedules.

Commenters were concerned that comments would be ignored. The DEIS summarized public comments on public scoping and alternatives in chapter 2, pages 19 to 21 and 87. Additionally, all public comments on the DEIS are addressed in this appendix. Responses to comments on the Supplemental Information Report are found in Appendix C.

A commenter was concerned that the Federal Power Act (FPA) was not considered. The DEIS addressed this issue in chapter 2, pages 92 to 94. See comment response 2400.

Commenters were concerned about transfer of water to encourage city growth. The DEIS addressed growth in chapter 3, page 420. None of the alternatives would increase regional growth, which would occur with or without the project. The alternatives were developed to address planned growth in approved land use and comprehensive plans.

A commenter had several suggestions for revising the DEIS. Suggestions included use of appendices, a glossary, addition of correspondence in an appendix, a list of contractors and sub-contractors, and use of clear maps. Reclamation appreciates these comments and has incorporated some of them into the FEIS.

A commenter was concerned that the EIS was in violation of several laws and policies. Reclamation prepared the EIS and supporting documents in compliance with applicable laws, regulations, and policies.

Commenters requested National Transportation Act section 4(f) review. The DEIS addressed regulatory requirements in chapter 2, pages 92 to 94. Section 4(f) of the National Transportation Act is intended to limit impacts to parks, wildlife refuges, and cultural sites due to transportation projects funded in whole or part by the U.S. Department of Transportation. The Participants are not receiving funding from the U.S. Department of Transportation for SDS, and compliance with Section 4(f) of the

National Transportation Act is not a requirement of SDS.

Comment 5001: Concern about Reclamation's authority

Response 5001: A commenter was concerned that Reclamation was not following the intent of the Fry-Ark Project. The DEIS addressed this issue in chapter 1, pages 3 to 4. The Fry-Ark Project was intended, in part, to deliver municipal water to communities, such as the Participants.

Another commenter was concerned that Reclamation did not have the authority to authorize SDS because maximizing existing water rights should not be part of the purpose and need. Reclamation has determined that the Participants' need to perfect and deliver their existing Arkansas Basin water rights is reasonable. Further, the role of the water rights need in the alternatives development and evaluation process was reviewed for the Supplemental Information Report and in section 2.3 of the FEIS.

Comment 5002: Concern that EIS is biased

Response 5002: Commenters were concerned that the EIS process was biased because it was funded by the Participants. Reclamation does not concur with this comment. Consistent with 40 CFR 1506.5(c), this EIS was prepared by a third party that has no financial interest in the outcome. The cost of NEPA compliance is paid for by the applicant (Reclamation 2000).

Commenters suggested that Reclamation's NEPA contractor, MWH Americas, Inc. (MWH) has a conflict of interest because of its past work on Colorado Springs Utilities' planned Clear Spring Regional Water Reclamation Facility. Reclamation does not concur with this comment. Consistent with 40 CFR 1506.5(c), Reclamation as lead federal agency, chose a contractor (MWH) to assist with preparation of the EIS. MWH has executed a disclosure statement specifying that it has no financial or other interest in the outcome of the SDS Project. Although much of the EIS and supporting technical documents were prepared by MWH, Reclamation directed the work, thoroughly reviewed the information, and remains fully responsible for the adequacy of the NEPA compliance. The Clear Spring Regional Water Reclamation Facility was a planned wastewater treatment facility. That project was intended to respond to Colorado Springs Utilities' projected wastewater treatment needs and was wholly independent of the proposed SDS Project. The DEIS addressed this issue in chapter 3, pages 124 to 125. During preparation of the DEIS, ongoing planning by Colorado Springs identified another alternative to meet the need for additional wastewater treatment capacity. The DEIS addressed this issue in chapter 2, pages 47 and 64, and chapter 3, page 125. Colorado Springs has since decided not to construct the Clear Spring Regional Water Reclamation Facility and this is addressed in chapters 2 and 3 of the FEIS (refer to comment response 40-14).

Comment 5003: Concern about Cooperating Agencies

Response 5003: A commenter wanted to know how the EPA and BLM were involved in the EIS. The EPA and BLM are cooperating agencies.

Another commenter was concerned that the BLM was not consulted. Information presented in the DEIS was modified in the FEIS (see section 4.3). Because the BLM was a cooperating agency, it has been consulted throughout preparation of the EIS. Reclamation has added the BLM to the list of federal agencies consulted in Table 129 to clarify this matter.

Comment 5004: Suggested consultation and coordination

Response 5004: Commenters were concerned that elected officials were not consulted. The DEIS addressed consultation in chapter 4. Elected officials were invited to provide comments during public scoping, alternative development, and review of the DEIS.

A commenter was concerned that Aquila was not consulted. The DEIS addressed consultation in chapter 4. Aquila, Inc. (recently purchased by Black Hills Corporation) is not a federal, state, or local agency. Aquila did provide input on power supply portions of the alternatives within its service area. Black Hills Corporation (and previously Aquila) has agreed to work with Colorado Springs to supply power to the proposed SDS Project facilities within is service area (Aquila, Inc. 2005; Black Hills Corporation 2008).

Aquila, Inc. 2005. Letter from David Attwood, Aquila Principal Account Executive to Dan Peterson, Colorado Springs Utilities Strategic Accounts Manager. August 26.

Black Hills Corporation. 2008. Letter from Dan Smith, Black Hills Corporation Director, Economic Development and Customer Relations to Richard Bartels, Colorado Springs Utilities Principal Project Manager. September 26.

A commenter was concerned that Native American tribes were not consulted. Another commenter was concerned because the SHPO, FAA, and Corps were not consulted. The DEIS addressed consultation in chapter 4, page 530 to 531. Reclamation consulted with the SHPO and the Corps. FAA was not consulted; however, the Colorado Springs Airport was consulted.

A commenter was concerned that Shriever Air Force Base was not consulted. Another commenter was concerned that Colorado Centre Metropolitan District was not consulted. Reclamation has welcomed comments from all parties throughout preparation of the DEIS. All were welcome to the five public scoping meetings held in September and October 2003 and the five public meetings on alternatives in October 2005. Reclamation also used a website to make materials available to the public. Effects to resources near Shriever Air Force Base and Colorado Centre Metropolitan District were disclosed in the DEIS, with additional analyses presented in the FEIS.

Comment 5005: Concern about comparisons to No Action Alternative

Response 5005: A commenter was concerned that comparisons of each action alternative to the No Action Alternative did not clearly disclose environmental effects. Throughout the DEIS, the alternatives were compared to the No Action Alternative in accordance with Reclamation's NEPA guidance (Reclamation 2000, page 8-7).

Comment 5006: Concern about cost of EIS

Response 5006: Commenters expressed concern about who is paying for this NEPA process and whether the costs were borne by taxpayers, particularly residents of Pueblo. Payment for NEPA reviews are the obligation of the entities making the proposal, ensuring that: 1) the federal agencies do not curtail their evaluations based on their individual federal budgets; and 2) all federal taxpayers do not pay to analyze a proposal benefiting only a small group.

Comment 5200: Comments about Public Involvement

Response 5200: Commenters expressed concern about ensuring that persons and agencies potentially affected by the proposed SDS Project were notified of the NEPA process and had a source of reliable information. The public and agencies have been informed of this NEPA process through scoping, alternatives, and DEIS meetings, newsletters and other direct mailings, press releases, and newspaper ads since 2003. Extensive technical and general information on this NEPA process is available on www.sdseis.com and can also be obtained through a request to Reclamation.

Commenters also expressed concern that comments would be ignored. All comments were considered, responses to the comments are provided in the FEIS, and the FEIS was prepared using the comments.

A commenter expressed concern that the "whole delivery system" [presumably referring to the NEPA process] has moved very quickly, which may have affected the public's ability to provide input. The DEIS addressed this issue in chapter 4, pages 529 to 535. The DEIS was prepared over a period of 4.5-year period and involved numerous public outreach activities. Additionally, public input opportunities were expanded by adding a public listening session (refer to comment response 5201) and extending the DEIS comment period (refer to comment 5211).

A commenter expressed concern that the length of DEIS and supporting documents is a violation of OMB's Paperwork Reduction Act, Reclamation's information quality guidelines, and related requirements and is an obstacle to public review. Reclamation prepared the EIS and supporting documents in compliance with applicable laws, regulations, policies, and guidelines.

Comment 5201: Comments about public meetings

Response 5201: Commenters expressed concern about the open house format that Reclamation used to present the DEIS results and obtain public comments. Reclamation selected this format because it facilitates one-on-one dialog between members of the public and technical specialists that were involved with preparation of the DEIS and supporting analyses. In response to requests, Reclamation held a public listening session in Pueblo on May 29, 2008 to allow interested persons to express thier concerns in a public forum.

Comment 5204: Comments about public meeting content

Response 5204: Commenters provided suggestions about the content and format of the public meeting displays or requested copies of the displays. Reclamation prepared the displays to summarize a large quantity of technical information in a manner that would be resonably understandable to the general public. Reclamation appreciates suggestions for the content of future displays. Copies of the public meeting displays were posted to www.sdseis.com in April 2008 and were mailed to requestors.

Comment 5205: Comments about public meeting staff

Response 5205: Commenters expressed concern about being referred from one technical specialist to another specialist during the public open houses. When a question on a specific technical area was posed, the meeting staff attempted to encourage the questioner to speak with the appropriate specialist for that technical area. Reclamation's intent was to ensure that questions were answered by the most informed specialist.

Comment 5206: Comments about web site

Response 5206: A commenter objected to inclusion of some information in Spanish on the EIS web site (www.sdseis.com). Reclamation's intent was to provide some EIS information to Spanish-speaking members of the public and identify an appropriate contact person if additional Spanish information were needed.

Comment 5208: Comments about document availability

Response 5208: Commenters requested copies of or access to various documents. The DEIS and supporting technical documents were posted to www.sdseis.com and printed copies were provided to requestors. Access to the Project Participants' documents was provided to requestors by Colorado Springs. A printed copy of the 2007 excess capacity contract between Reclamation and the City of Aurora was provided to a requestor.

Comment 5209: General comments about DEIS

Response 5209: Commenters expressed concern that the DEIS is too technical or difficult for public to understand. Reclamation prepared the DEIS to be understandable by the public but to also provide the technical information that more-specialized reviewers require.

A commenter suggested that the EIS should present all effects for the Preferred Alternative in a single section. The DEIS addressed this issue in chapter 3, pages 141 to 144. The DEIS addressed this issue in an appropriate fashion because Reclamation's NEPA Manual (Reclamation 2000) allows EISs to be organized by affected resources or alternative-by-alternative. Organization by affected resources was selected because it can reduce redundant discussions of effects across multiple alternative-specific section and it promotes readability because many readers are concerned primarily about a select group of resources.

A commenter suggested that, in general, existing public records or data were overlooked or replaced with "new" analyses. The DEIS addressed this issue in chapter 3, pages 141 to 144. Available data were synthesized and then supplemented with data and analyses developed specifically for the DEIS. Specific information brought forth during the DEIS public review was incorporated into the FEIS when it was appropriate.

A commenter provided various suggestions on the format and organization of the EIS. Reclamation appreciates these suggestions and has incorporated some of them in the FEIS.

Comment 5211: Request to extend public comment period

Response 5211: Several requests for an extension of the public review period for the DEIS were received. Reclamation considered these requests and extended the review period for the entire DEIS by 45 days, from 60 days to 105 days. Reclamation issued a

Supplemental Information Report and provided a 45-day public comment period for that report.

Comment 5212: Request for presentation/question and answer style public meetings

Response 5212: Commenters requested public meetings that include a presentation and question and answer session. Reclamation selected an open house format for the DEIS public meetings because that format facilitates one-on-one dialog between members of the public and technical specialists that were involved with preparation of the DEIS and supporting analyses. In response to requests, Reclamation held a public listening session in Pueblo on May 29, 2008 to allow interested persons to express thier concerns in a public forum.

Appendix C

Comments and Responses on the Supplemental Information Report

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C. Comments and Responses on the Supplemental Information Report

C.1 Responses to Government Agency and Elected Official Comments

The first section of this appendix presents copies of letters received from federal agencies, state agencies, local governments, and elected officials on the Supplemental Information Report. Alongside each reproduced letter is Reclamation's response to those comments. Letters included in this appendix are listed in Table C-1.

All comment documents received are available for public inspection at the Reclamation address listed in the abstract at the front of the FEIS.

C.2 Responses to Individual Comments

During the Supplemental Information Report comment period, Reclamation received 40 letters, comment cards, or statements (in meeting transcripts) from individuals. Each document was reviewed carefully and each substantive comment was coded using a four-digit number. The comment codes are not sequential because some of the codes were either not used or combined with other codes. Table C-2 beginning on page 23 provides the name of each individual that submitted a document with a substantive comment. This table is sorted by last name.

Responses to individual comments follow Table C-2. Responses are provided for each substantive comment. To reduce repetition and provide a comprehensive and consolidated response, repeated substantive comments were grouped and addressed with a consolidated response. To find how Reclamation responded to a specific commenter's comment, find that commenter's name in Table C-2 and then look up the comment code in the response section. Commenters without substantive comments are not listed in Table C-2. Reclamation appreciates the public's review and comment

Table C-1. Government Agency and Elected Official Commenters on the Supplemental Information Report.

Letter Number	Commenter	Organization
46	Tyler Stevens, Chair	Pikes Peak Area Council of Governments
47	Larry Svoboda, Director, NEPA Program	U.S. EPA
48	H.E. "Cap" Proal, Chairman of the Board of Directors	Security Water and Sanitation District
49	Jeri Howells, Mayor	City of Fountain
50	John Fredell, Southern Delivery System Project Director	Colorado Springs Utilities
51	Lionel Rivera, Mayor	City of Colorado Springs

on the Supplemental Information Report.

Comments were considered substantive if they:

- Question, with reasonable basis, the accuracy of the information in the document
- Question, with reasonable basis, the adequacy of the environmental analysis
- Present reasonable alternatives other than those presented in the Supplemental Information Report
- Cause changes or revisions in the alternatives
- Provide new or additional information relevant to the analysis

Where appropriate, the text of the DEIS or information from the Supplemental Information Report was revised for the FEIS in response to comments.

C.3 General Conventions for this Appendix

In general, comment responses in this appendix conform to the following conventions:

- References are made to the chapter, section, and/or page number of the Supplemental Information Report within which relevant information was provided.
- References are made to the chapter or section of the FEIS within which revisions were made in response to a comment.
- Documents that were referenced in the Supplemental Information Report are identified by a citation in the text (e.g., "Smith 1993") of a comment response. These citations refer to documents listed in section 6 of the Supplemental Information Report.
- Complete bibliographic information is provided for documents that were used in a comment response but were not listed in section 6 of the Supplemental Information Report.
- Some comments included in letters on the Supplemental Information Report were either comments on the DEIS or were addressed in the DEIS. In these cases, references are made to the chapter, section, and/or page number in the DEIS within which the relevant information was provided.
- Some supporting technical documents that were used to prepare the DEIS were partially or completely replaced during preparation of the FEIS. Responses to comments retain references to the original technical documents (i.e., those used to prepare the DEIS). Information on technical documents used to prepare the FEIS is provided in section 3.4 of the FEIS.

Comment Letter 46

Pikes Peak Area
Council of Governments
Communities Working Together

OFFICIAL FILE COPY
RECLAMATION

Code	Surname	Date
1002		

Copy to 1004

Lamb

November 12, 2008

Ms. Kara Lamb
U.S. Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: Southern Delivery System Draft EIS Supplemental Information Report

Dear Ms. Lamb:

Pikes Peak Area Council of Governments (PPACG) is the lead water quality planning agency for El Paso County. PPACG has reviewed the Supplemental Information Report to the Draft EIS and supports the findings. The report presents a thorough summary of the environmental effects for each of the alignment alternatives for areas within the Fountain Creek Watershed and outside of the watershed along the Arkansas River.

The Report shows that water quality impacts for each of the alternatives will range from beneficial to adverse. An analysis of E. coli and dissolved selenium which are listed on the 303d list as water quality impaired for several segments in the Fountain Creek Watershed shows that the Participant's Proposed Alternative (Alternative 2) would be the best option to reduce and/or minimize E. coli and dissolved selenium concentrations. The Project Participants alternative has also been improved by avoiding and/or minimizing the effects identified in the Draft EIS.

Evaluation of Alternative 3, 4, and 6 shows that E. coli levels will increase by up to 14 percent on segments of Fountain Creek and Monument Creek and Alternative 3, 4, and 5 will increase dissolved selenium levels by 25 percent on Fountain Creek near Fountain and 48 percent on Fountain Creek at Pueblo. This could cause an exceedance of the state water quality standard for dissolved selenium in Pueblo. It is important that the Bureau of Reclamation not move forward with alternatives that increases dissolved selenium and E. coli concentrations.

This project is vital to the region and project participants' water needs are projected to almost double between 2007 and 2046. Based on the water forecast used in the Draft EIS, the Project Participants' water demand could exceed current capacity before 2012.

The Pikes Peak Area Council of Governments believes there is a critical need to complete the approval process for the EIS and expedite the implementation of the recommendations contained within the Supplemental Information Report.

Tyler Stevens
Chair

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Project	382
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Response

Thank you for your comment.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: EPR-N

Ms. Kara Lamb
Bureau of Reclamation, Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Re: EPA Comments on the Southern Delivery System, Colorado Springs, CO Supplemental Information Report and DEIS Water Quality Analysis – CEQ# 20080072

Dear Ms. Lamb,

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and our authority pursuant to Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency, Region 8 (EPA) has reviewed the Bureau of Reclamation's (Reclamation) October 6, 2008 Supplemental Information Report (SIR) to the Draft Environmental Impact Statement (DEIS) for the Southern Delivery System (SDS) project. EPA submitted its initial comments on the DEIS to Reclamation on September 16, 2008 but withheld our comments on the water quality analysis until completion of the SIR. EPA's primary concerns with the SIR and the water quality analysis in the DEIS are highlighted below, with detailed comments enclosed for your consideration.

EPA's review of the SDS DEIS identified serious inadequacies related to the analysis of the project's impacts to water quality. To address EPA's concerns, Reclamation conducted extensive additional water quality analyses focusing on constituents of concern (e.g., *E. coli*, selenium and sulfate). Reclamation presented this additional information in the SIR. The water quality analyses in the SIR provide a more accurate representation of the likely impacts to water quality from SDS. By taking into consideration the changes in the Proposed Action, and addressing constituents of concern, the SIR presents valuable additional information.

Comment	Letter 47 continued	Response
	Using information from the DEIS and the SIR, Reclamation performed further evaluation of the various project alternatives. Reclamation's new evaluation resulted in a significant change to the Proposed Action. The "Modified Proposed Action" would involve using Upper Williams Creek Reservoir for terminal storage, instead of building a reservoir at Jimmy Camp Creek. This change to the Proposed Action would avoid wetland impacts and eliminate impacts to cultural and paleontological sites at the Jimmy Camp Creek Reservoir site. In addition, the Modified Proposed Action would use a pipeline instead of Williams Creek to convey return flows from Williams Creek Reservoir to Fountain Creek. This change would provide additional wetlands protection and protection of habitat for the Arkansas darter, a Colorado threatened fish and Federal Endangered Species Act candidate species. Together, these changes to the Proposed Action would result in avoiding impacts to 15.6 acres of jurisdictional wetlands.	
47-1	While EPA believes that Reclamation's Modified Proposed Action represents a significant improvement to the Proposed Action, we remain concerned about the impacts the project will have on water quality. The SIR confirmed that, even with the changes incorporated into the Modified Proposed Action, SDS would exacerbate existing water quality impairments to waterbodies within the Arkansas River Basin. These impacts would affect numerous water bodies in the Arkansas River Basin that the Colorado Water Quality Control Commission has identified as impaired due to exceedances of the applicable State water quality standards for selenium, *E. coli* and sulfate. Concentrations of all three of these pollutants would increase under the Modified Proposed Action The SIR does not include mitigation for these impacts. EPA believes these increased loadings should be mitigated, and that mitigation commitments should be part of the Final EIS and the record of decision (ROD). Furthermore, in light of these projected water quality standard exceedances, EPA is concerned that the Modified Proposed Action has been identified as Reclamation's preferred alternative, since it is our understanding that the U.S. Army Corps of Engineers (Corps) would not issue a Clean Water Act Section 404 permit for a project that would result in violation of water quality standards.	Comment Response 47-1: Like all models, the water quality models used for the Supplemental Information Report have inherent uncertainty. The potential new or continued WQS exceedances in 2046 suggested by the water quality simulations should not be considered certain to occur. Reclamation has included an adaptive management plan with water quality monitoring at key locations to detect and respond to potential water quality changes resulting from construction and operation of the SDS Project (refer to section 3.7 and Chapter 5 of the FEIS). Additionally, most of the simulated changes in *E. coli*, dissolved selenium, and sulfate densities/concentrations would result from changes in streamflow rather than increased load as suggested in the comment. Refer to DEIS comment response 13-1, 13-2, and 13-3 for the Clean Water Act Section 404 portion of this comment.
47-2	EPA is also concerned about indirect impacts from induced growth resulting from SDS. EPA believes that the indirect impacts due to the increased flows from the reservoir and the additional developed flows from both an increase in impervious areas and landscape watering will cause greater water quality impacts than are currently identified in the DEIS. Fountain Creek has historically experienced major flooding and erosion problems. SDS would result in a 40 percent mean annual streamflow increase to Fountain Creek at Pueblo, adding to these longstanding impacts. The significant impacts of those increased flows have not been sufficiently addressed in the DEIS. The Final EIS should include commitments to ensure that stormwater Best Management Practices are implemented for future growth in Colorado Springs.	Comment Response 47-2: Refer to DEIS comment responses 43-40 and 3304 for the induced growth portion of this comment. The DEIS section 3.8 and the Water Resources Effects Analysis (MWH 2008d) indicated the absence of adverse effects of the proposed SDS Project on flood hydrology, thus, no mitigation is necessary. Reclamation has included mitigation measures for erosion and sedimentation effects resulting from construction and operation of the SDS Project (refer to section 3.9 and Chapter 5 of the FEIS).
47-3	Based on the procedures EPA uses to evaluate the adequacy of the information and potential environmental impacts of the proposed action and alternatives in an EIS, EPA is rating this DEIS as EC-2 (Environmental Concerns-Insufficient Information). An "EC" signifies that EPA's review of the DEIS has identified environmental impacts that should be avoided in order to fully protect the environment. In this case, the impacts include increased loading of *E. coli*, selenium and sulfate into the Arkansas River Basin, where numerous water bodies are listed by the State of Colorado as impaired for those constituents. The Modified Proposed Action appears	
	2	

Comment	Letter 47 continued	Response

to violate or be inconsistent with achievement or maintenance of a national environmental standard. EPA is also concerned about increased flooding and erosion caused by SDS's return flows into Fountain Creek, which is already severely compromised. The "2" rating signifies that the DEIS does not provide adequate commitments to mitigation of the environmental impacts of the proposal. Because the DEIS identifies a Preferred Alternative (the Modified Proposed Action), this rating applies to that alternative only. A copy of EPA's rating criteria is attached.

As stated above, EPA believes the changes made to SDS as a result of the additional analyses and evaluations performed by Reclamation have resulted in a much improved project, with fewer impacts to water quality, cultural and paleontological resources, waters of the U.S., and habitat for a federal candidate species. As recommended in the detailed comments, EPA strongly encourages Reclamation to include mitigation commitments to offset the water quality impacts that are projected to result from SDS, and include them in the Final EIS. These mitigation commitments should be implemented through the ROD.

Our detailed comments are enclosed. EPA appreciates the extensive collaboration with Reclamation in addressing our concerns through this NEPA process. If we may provide further explanation of our remaining concerns, please contact Jody Ostendorf of my staff at (303) 312-7814, or me at (303) 312-6004.

Sincerely,

Larry Svoboda
Director, NEPA Program

Enclosure:

Ratings criteria

3

Comment Response 47-3: Refer to comment responses 47-1 and 47-2 for the "EC" portion of the rating. Regarding the "2" portion of the rating, Reclamation has included appropriate mitigation measures for effects resulting from construction and operation of the SDS Project (refer to Chapters 3 and 5 of the FEIS). Most of these measures were disclosed in the DEIS and several have been modified based on public comment.

Southern Delivery System (SDS)
Detailed Comments

I. Impaired Waterbodies Potentially Impacted by Proposed Project

EPA notes the multiple waterbodies in the watershed potentially impacted by the proposed action that are recognized as impaired and are on the State of Colorado 2008 Clean Water Act §303(d) List of Water-Quality-Limited Segments Requiring TMDLs (303(d) List). Table 1 displays some of the 303(d)-listed waterbodies in the Arkansas River Basin and their impairments. EPA is concerned about the potential of the Modified Proposed Action to exacerbate existing water quality impairments in the Arkansas River Basin, any potential increases in pollutant loading into that system, and the cumulative effects from such increases. Bacteria (as measured by *E. coli*) and selenium impairments are widespread throughout the watershed, and difficult to remedy through point source controls alone. Further, any worsening of these conditions increases the future required efforts and costs associated with remediation and restoration.

Table 1. Excerpts from State of Colorado 2008 CWA §303(d) List

Waterbody ID	Segment Description	Impairment	Priority
COARFO01a	Fountain Ck and tributaries above Monument Ck	*E. coli*, selenium	High / Low
COARFO02a	Fountain Ck, Monument Ck to Hwy 47	*E. coli*	High
COARFO02b	Fountain Ck from Hwy 47 to the Arkansas River	Selenium	Low
COARFO04	All tributaries to Fountain Ck, except NF and AF Academy lands	*E. coli*	High
COARFO06	Monument Ck from National Forest to Fountain Ck	Selenium	Low
COARLA01a	Arkansas River, Fountain Ck to Colorado Canal headgate	Selenium, sulfate	Low
COARLA01b	Arkansas River, Colorado Canal headgate to John Martin Reservoir	Selenium	Low
COARLA01c	Arkansas River, John Martin Reservoir to stateline	Selenium, uranium	Low
COARLA11	John Martin Reservoir	Selenium	Low

Both bacteria and selenium impairments are likely to be exacerbated by the Modified Proposed Action due to the likelihood of increased nonpoint source loading associated with project development, land use changes, increased groundwater return flows, and increased stormwater return flows. The mainstem of Fountain Creek was placed on the Colorado 2006 303(d) list for *E. coli*, and is a high priority for completion of a Total Maximum Daily Load (TMDL) addressing this water quality impairment. Most tributaries to this waterbody (Segment 4) were placed on the 303(d) list for *E. coli* in 2008. Both naturally occurring and human-exacerbated selenium loading has been an

Comment Letter 47 continued

ongoing issue within the basin for many years and selenium impairments exist from Fountain Creek downstream through the Arkansas River to the state line. TMDL development has not yet started for either pollutant, but TMDL requirements could impact permit limits for all new and existing dischargers.

The expected return flows from SDS, and associated increased pollutant loading, will likely require additional pollutant reductions. Increased residential and commercial irrigation, and impervious surface associated with new development will most likely further increase loading of bacteria and pathogens to Fountain Creek during runoff. The Modified Proposed Action will likely have direct impacts on the already exceeded assimilative capacity for *E. coli* and selenium, exacerbating the difficult cleanup plans and wasteload allocations required in the forthcoming TMDL. EPA urges Reclamation and the project proponents to firmly commit to mitigation measures for nonpoint source reductions and controls designed to minimize *E. coli* and selenium loading in the Arkansas River Basin. Specific nonpoint source mitigation agreements should be a commitment in the Final EIS along with quantifiable reduction targets for each mitigation activity. These agreements and other mitigation should be implemented through the ROD.

47-4

- *E. Coli*

EPA is concerned about how the Modified Proposed Action could impact densities of *E. coli* bacteria in the Arkansas River Basin, where the water quality standard (WQS) for bacteria is regularly exceeded in multiple waterbody segments. The potential impacts of the Modified Proposed Action could be particularly challenging for attempts to control point and nonpoint source bacteria loading to the system during wet weather events when the concentrations tend to be highest. The DEIS and supporting technical reports utilized an unconventional assessment of bacteria impairment, relating the problem only to streamflow during "storm events." The original water quality assessment did not appear to properly analyze the relationships between pollutant loading (flow X concentration) and stormflows, and how bacteria enter a habitat or waterbody via both point and nonpoint sources. In contrast, the SIR includes an analysis that follows published, peer-reviewed practices of pollutant loading analysis and Colorado Department of Public Health and Environment (CDPHE) published protocol for assessing assimilative capacity and impairment. EPA commends Reclamation for the supplemental *E. coli* analyses in the SIR.

E. coli is an indicator used to monitor levels of bacteria and pathogens, which present a serious threat to human health. *E. coli* lives in the intestines of warm-blooded animals, including humans, and its already overabundant presence in Fountain Creek presents a health threat to swimmers and others recreating in or on the water. High levels of *E. coli* are linked to increased gastrointestinal illnesses occurring in humans recreating in and on waters impaired by *E. coli*. When *E. coli* densities increase, there is an increase in the frequency and intensity of human illnesses from bacteria and pathogens. Colorado's *E. coli* WQS is implemented utilizing a geometric mean applied to all data collected within any calendar month (a 30-day geometric mean). The geometric mean of

2

Response

Comment Response 47-4: Reclamation appreciates EPA's input on the *E. coli* analysis approach. As disclosed in section 5.4.2.2 and Appendix B of the Supplemental Information Report *E. coli* densities for the Participants' Proposed Action under direct/indirect and cumulative effects would be less than those for Existing Conditions in Fountain and Monument creeks. Nonetheless, Reclamation has included *E. coli* monitoring and adaptive management in section 3.9 and Chapter 5 of the FEIS.

Specific nonpoint source mitigation measures for *E. coli* have not been included in the FEIS because nonpoint sources of *E. coli* would not be affected by construction or operation of the proposed SDS Project. Future growth will not necessarily increase *E. coli* densities in the Fountain Creek Basin. A USGS study of fecal coliform found decreasing or no temporal trend in densities over a 10-year period from 1987 to 1997 (Bossong 2001), while the population of El Paso County increased by 100,000 people during this period (CDOLA 2008). Additionally, Reclamation notes that DEIS chapter 3, pages 121 to 130, discuss Colorado Springs' Stormwater Enterprise. Implementation of the Colorado Springs Stormwater Enterprise is considered a reasonably foreseeable action. This enterprise may have beneficial cumulative effects on water quality, flood hydrology, and geomorphology as described in chapter 3, pages 247, 248, 261, and 291. However, implementation of the Colorado Springs Stormwater Enterprise has purposes that are independent of the SDS Project and is not considered a mitigation measure.

Comment Letter 47 continued

Response

the data collected within any month is then assessed against the chronic *E. coli* criterion (generally 126 cfu/100 ml sample) for each month where observations exist. Bacteria concentrations can be highly variable in aquatic environments, often varying several orders of magnitude over time and space. This statistic is applied to water quality bacteria observations to normalize the variability in those data sets, making assessment determinations more robust, reliable and dependable. This same protocol applies to monitoring requirements for facilities with discharges that have CWA National Pollutant Discharge Elimination System (NPDES) permits that contain *E. coli* permit limits and monitoring requirements.

The Modified Proposed Action could exacerbate an acknowledged, existing water quality problem, with potential direct consequences to human health. As compared to existing conditions, the SIR *E. coli* analysis projects decreased *E. coli* densities in Fountain and Monument Creeks, and increasing *E. coli* densities in the mainstem Arkansas River (SIR 5.4.2.2 *E. coli*, Table 11, and Appendix B Tables pp.B-1 and B-2) for the preferred alternative. The upstream decreases in *E. coli* loading are attributed to the diluting effect of properly functioning, State-permitted WWTFs. EPA commends Reclamation for the changes incorporated into the Modified Proposed Action, which will lead to the expected decreased loading compared to the original Proposed Action, while acknowledging the corresponding increased *E. coli* loading expected in the downstream Arkansas River segments. EPA is concerned about any potential increased *E. coli* loading in this watershed, particularly from nonpoint sources associated with further development. Consequently, EPA encourages Reclamation and the project proponents to firmly commit to mitigation measures for nonpoint source reduction and control designed to minimize *E. coli* loading in the basin. Specific nonpoint source mitigation agreements should be a commitment in the Final EIS along with quantifiable reduction targets for each mitigation activity.

47-5

- Selenium

Fountain Creek suffers from a longstanding excessive loading of selenium, as it exceeds the underlying water quality standards for selenium at multiple locations throughout the watershed (see Table 1 above). This problem has been recognized by the WQCC for some time, as evidenced by the Commission's 303(d)-Listings; actions to adopt temporary modifications; and site-specific selenium numeric criteria across multiple Fountain Creek watershed segments. This problem persists in the downstream segments of the Lower Arkansas River and the SIR confirms that the project will likely exacerbate the downstream impairments.

Fountain and Monument Creeks and the Arkansas River are waterbodies impaired for selenium, experiencing a complex combination of point source and nonpoint source selenium loading associated with selenium-rich soils. The analysis of selenium indicates that selenium concentrations are expected to remain constant or slightly decrease compared to the current impaired conditions in Fountain and Monument Creeks (SIR pages 63-64 and Appendix B). In contrast, selenium concentrations downstream in the Arkansas River are expected to increase by 100%, 19%, and 17% at the Moffat,

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Comment Response 47-4 (cont'd):

Bossong, C.R. 2001. Summary of water-quality data October 1987 through September 1998 for Fountain and Monument Creeks, El Paso and Pueblo Counties, Colorado. Prepared in cooperation with Colorado Springs Utilities. USGS Water-Resources Investigations Report 2000-4263. Denver.

Colorado Department of Local Affairs (CDOLA). 2007. Colorado Department of Local Affairs. Colorado Economic and Demographic System. Accessed from: http://dola.colorado.gov/ demog_webapps/ population_estimate. Accessed on: November 28, 2008.

Comment Response 47-5: Potential effects on dissolved selenium concentrations are discussed in the Supplemental Information Report in section 5.4.2.3. An expanded discussion has been included in the FEIS in section 3.9. Refer to comment response 47-3 for mitigation measures.

Reclamation notes that future growth will not necessarily increase dissolved selenium concentrations in the Fountain Creek Basin. A USGS study of fecal coliform found a decreasing or no temporal trend in dissolved selenium over a 10-year period from 1987 to 1997 (Bossong 2001, citation provided above), while the population of El Paso County increased by 100,000 people during this period (CDOLA 2008, citation provided above).

Comment Letter 47 continued

Avondale, and Catlin sites, respectively (SIR Appendix B, Cumulative Effects Analysis, Dissolved Selenium – Simulated 85th Percentile). Many of the Arkansas River mainstem segments are already impaired for selenium (see Table 1 above). The SIR dissolved Selenium discussion at pp.63-64 at 5.4.2.2) does not acknowledge this increased concentration and loading, while Table 2, Summary of Updated Environmental Consequences, Water Quality p.20) compares the direct effects changes to the constructed No Action Alternative (see Existing Conditions comment below).

While the upstream (Fountain/Monument) loading reductions are encouraging projections, the downstream (Arkansas River) increased selenium loading is a potentially significant impact. EPA considers the cited percentage increases to be a significant impact on an already impaired waterbody. Additionally, EPA is concerned that selenium levels may increase beyond the upstream projections due to modeling uncertainties and nonpoint source loading being difficult to project into the future. With the additional return flows coming down Fountain Creek, compounded by impacts from growth, including increased irrigation and lawn watering on selenium-rich soils, nonpoint source loading may experience a "creeping" advance over time. Increased selenium concentrations could exacerbate the existing magnitude, duration and frequency of nonattainment of WQS. The Final EIS should evaluate and present options for mitigating the effects of the project on ambient selenium concentrations.

EPA encourages Reclamation and the project proponents to firmly commit to mitigation measures for nonpoint source reductions and controls designed to minimize selenium loading in the basin. Specific nonpoint source mitigation agreements should be a commitment in the Final EIS along with quantifiable reduction targets for each mitigation activity. EPA further recommends that the project proponents consider forming a Selenium Task Force, similar to what is being done in the Gunnison Basin, to study elevated selenium concentrations in the surface waters of the project area. The Gunnison group has implemented phytoremediation demonstration projects which use agricultural crops and trees to remove selenium from soils and water. The group is also doing studies using water quality and streamflow sampling on the impacts of land use changes, such as a greater demand for residential housing, on water quality, specifically selenium. More information on the task force is available at http://www.seleniumtaskforce.org/indexold.html.

- Sulfate in the Arkansas River

47-6

EPA is concerned that the Modified Proposed Action will result in higher sulfate concentrations in the lower Arkansas River, which is currently in non-attainment of the sulfate WQS. EPA notes that the Arkansas River below the confluence with Fountain Creek is impaired for sulfate in the 2008 303(d) list (see Table 1 above). The SIR Appendix B, Cumulative Effects Analysis for Sulfate projects a 6% increase from the Modified Proposed Action. EPA disagrees with the SIR's characterization of this increase as "negligible to minor." (SIR 5.4.2.2). Any measureable increased pollutant loading to an impaired waterbody is a potentially significant impact with associated cleanup requirements and costs.

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Response

Comment Response 47-6: Given the uncertainty associated with this analysis, Reclamation believes that the "negligible to minor" description is appropriate (refer to comment response 47-1). Refer to comment response 47-3 for mitigation measures.

Additionally, the Existing Conditions sulfate concentration in Table 13 of the Supplemental Information Report was incorrectly shown as 408 mg/L when it should have been 392 mg/L. Appendix B of the Supplemental Information Report included the correct concentration. This typographical error has been corrected in the FEIS.

Comment	Letter 47 continued	Response
47-7	The Final EIS should address how attainment might be achieved through mitigation. EPA encourages Reclamation and the project proponents to firmly commit to increased sulfate monitoring and, if necessary, mitigation measures for source reductions and controls designed to minimize sulfate loading in the basin. Specific sulfate monitoring and source mitigation commitments (if proven necessary by monitoring) should be a component in the Final EIS along with quantifiable reduction targets for each mitigation activity. II. Use of Temporary Modifications to Water Quality Standards EPA is also concerned with the DEIS and Supplemental Information Report's (SIR's) treatment and use of temporary modifications to water quality standards (WQS) that are due to expire in the next several years. The Colorado Water Quality Control Commission (WQCC) has provided temporary variances to the existing, underlying WQS for selenium, ammonia, copper, and sulfate in Arkansas River Basin segments potentially impacted by the proposed project (see Table 2 below, or the WQCC Regulations website: http://www.cdphe.state.co.us/regulations/wqccregs/index.html [Regulation 32, Tables, pp. 18-20]). These modifications are not intended to be used in assessment decisions.	Comment Response 47-7: Both temporary and underlying WQS were presented in the Supplemental Information Report (i.e., Table 2 and section 5.4). As suggested, Reclamation has used only the underlying WQS for assessment purposes in section 3.7 of the FEIS.

Table 2. Selected Temporary Modifications to Water Quality Standards in Arkansas River Basin Waters Potentially Affected by SDS

Waterbody ID	Segment Description	Temporary Modifications
COARFO01a	Fountain Ck and tributaries above Monument Ck	Selenium (chronic) = 8.7 µg/l. Expires 12/31/2012.
COARFO02a	Fountain Ck, Monument Ck to Hwy 47	Copper (acute/chronic) = current condition. Expires 12/31/2009. Ammonia (acute/chronic) = TVS(old). Expires 12/31/2012.
COARFO04	All tributaries to Fountain Ck, except NF and AF Academy lands	Ammonia (acute/chronic) = TVS(old). Expires 12/31/2012.
COARFO06	Monument Ck from National Forest to Fountain Ck	Copper (acute/chronic) = current condition. Expires 12/31/2009. Ammonia (acute/chronic) = TVS(old). Expires 12/31/2011.
COARLA01a	Arkansas River, Fountain Ck to Colorado Canal headgate	Selenium (acute/chronic) = existing quality. Expires 12/31/2012. Sulfate = existing quality. Expires 12/31/2012. Ammonia (acute/chronic) = TVS(old). Expires 12/31/2011.

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Comment Letter 47 continued

COARLA01b	Arkansas River, Colorado Canal headgate to John Martin Reservoir	Selenium (chronic) = current condition. Expires 12/31/2009. Ammonia (acute/chronic) = TVS(old). Expires 12/31/2011.
COARLA01c	Arkansas River, John Martin Reservoir to stateline	Selenium (chronic) = 22.5 μg/l. Expires 12/31/2012.

Because it is uncertain what action the WQCC will take with respect to these WQS upon their expiration dates, EPA recommends that all analyses follow the published State protocol for assessments provided in the Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle, p.27, Section I: Temporary Modifications. Specifically, when determining and discussing whether water quality standards will be exceeded, the existing (or projected) conditions should be compared against the underlying water quality standards, and not to any temporary modifications to these standards. A similar protocol exists for State-issued discharge permits to waters with temporary modifications to WQS. Consistent with these protocols, EPA recommends that the Final EIS utilize underlying WQS for all analyses and assessment purposes where temporary modifications to WQS exist.

III. Comparison of Project Alternatives to Existing Conditions

47-8

EPA is concerned that Reclamation compared the proposed project alternatives to an artificially-constructed No Action Alternative, rather than to existing conditions in the watershed (e.g., see SIR Table 2, Water Quality, p.20). The No Action Alternative implies significant actions that do not reflect current conditions. EPA believes that comparisons to currently existing conditions are the only way to assess the projected impacts to a meaningful baseline.

6

Response

Comment Response 47-8: The comparison of Action Alternatives against the No Action Alternative is based on Reclamation's (2000) NEPA guidance as described in chapter 3, page 142 of the DEIS. Additionally, the rationale for a No Action Alternative that differs from existing conditions is provided in chapter 2, page 21 of the DEIS.

Reclamation believes that EPA's concern about the presence of new infrastructure within the No Action Alternative stems from a misconception that a No Action Alternative can not, under NEPA, include new actions. A No Action Alternative can include new actions under NEPA. CEQ (46 FR 18027), in its Forty Most Asked Questions Concerning CEQ's NEPA Regulations (Question No. 3), states the following:

"Where a choice of "no action" by the agency would result in predictable actions by others, the consequence of the "no action" alternative should be included in the analysis …"

In the case of the SDS EIS, the major federal action under consideration is Reclamation's issuance of long-term storage, conveyance, and exchange contracts, one or more of which are required for all of the Action Alternatives. A Reclamation action of not entering into these contracts would predictably result in the Participants meeting projected future water demands by implementing the independent water development projects that constitute the SDS No Action Alternative. The No Action Alternative would not require the aforementioned long-term contracts with Reclamation.

Comment Letter 48

NOV-21-2008 16:50 US BUREAU OF REC. 9706633212 P.03

Security Water and Sanitation Districts / Enterprises

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November 19, 2008

Official File Copy
File Code ENV-6.00 SDS
Project 382

OFFICIAL FILE COPY
RECLAMATION
Date
Code 1005
Copy to 1004

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Supplemental Information Report

Dear Ms. Lamb:

Thank you for the opportunity to comment on the Supplemental Information Report (SIR) for the Southern Delivery System (SDS). As one of the four Project Participants, Security Water District actively supports the work of the Bureau of Reclamation to publish the Supplemental Information Report for the SDS environmental impact statement. Security Water District supports the changes made to the Participants' Proposed Action. The changes to the Participants Proposed Action will provide more environmental protection and will continue to allow the District to provide safe and adequate water supplies to its customers.

As stated before, Security Water District's constant goal is to provide our customers with a safe and dependable supply of drinking water, and the State Demographer estimates our population will increase. The population served by Security is expected to grow from a current population of 18,000 to about 26,900 by 2020.

The Security Water District's water comes from two aquifers and the Fryingpan-Arkansas project (Fry-Ark). Of the total water supply, 69 percent comes from wells in the Widefield Aquifer and 7 percent from the Windmill Gulch Aquifer. The remaining 24 percent is treated surface water from the Fry-Ark project. In 1987, the Widefield Aquifer was contaminated with a compound used as a degreaser. The contamination highlighted one of the risks associated with Security's reliance on a shallow aquifer for more than half of its water supply. The reliance on two delivery systems for most of Security Water District's water supply poses an unacceptable risk. Security Water District needs another major delivery system to provide delivery system redundancy.

The analysis conducted in the SIR used a different methodology than the studies of the draft environmental impact statement but still confirms the findings from the draft environmental impact statement. The SIR provides additional proof that indeed, the SDS project will not harm the aquatic and wildlife habitat, water quality, or the socioeconomics of the region. Therefore, the Bureau of Reclamation should move forward quickly with finalizing the environmental impact statement. We need to ensure sustainability of adequate water supplies for our community. Without SDS, we will have to implement

Response

Thank you for your comment.

Comment Letter 48 continued | Response

NOV-21-2008 16:51 US BUREAU OF REC. 9706633212 P.04

Ms. Kara Lamb
Page2

one of three other, more environmentally impactful actions, all of which are less desirable than the Participants' Proposed Action.

Thank you,

HEProal

H.E. "Cap" Proal, Board Chairman
Security Water District

TOTAL P.04

Comment Letter 49

City of Fountain

Pure Colorado

Fountain All-America City 2002

RESOLUTION 08-086

A RESOLUTION SUPPORTING THE SUPPLEMENTAL INFORMATION REPORT (SIR) FOR THE SOUTHERN DELIVERY SYSTEM PROJECT IN THE ENVIRONMENTAL IMPACT STATEMENT PUBLIC INPUT PHASE

WHEREAS, the City of Fountain, Colorado is a participant in the Southern Delivery System Project; and

WHEREAS, the City of Fountain's Water Master Plan identifies continued participation in the Southern Delivery System Project as one element in the long term water supply planning process; and

WHEREAS, the City has entered into various intergovernmental agreements with the City of Colorado Springs to pursue the development of the Southern Delivery System Project; and

WHEREAS, the project is required to comply with the National Environmental Policy Act ("NEPA") which prescribes a process for including public input and review; and

WHEREAS, the initial review period under NEPA indicated that additional information addressed that some environmental concerns was warranted; and

WHEREAS, such additional information was prepared and issued for public input and review as the Supplemental Information Report; and

WHEREAS, the City Council of the City of Fountain, Colorado desires to accept the Supplemental Information Report as drafted.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FOUNTAIN, COLORADO:

1. The Whereas Clauses are incorporated in support of this Resolution.

2. The City Council accepts and approves the Supplemental Information Report for the Southern Delivery System Project on behalf of the City of Fountain, Colorado.

Response

Thank you for your comment.

3. The Mayor is authorized to execute this Resolution.

Done this 18th day of November, 2008.

Jeri C. Howell
Mayor

ATTEST:

Sharon S. Mosley
City Clerk

Comment Letter 50

Response

Colorado Springs Utilities
It's how we're all connected

November 24, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Supplemental Information Report

Dear Ms. Lamb:

I submit these comments on the Supplemental Information Report (SIR) for the Southern Delivery System (SDS) Project on behalf of Colorado Springs Utilities, a participant in and project manager for the Project.

Colorado Springs Utilities strongly supports Reclamation's choice of the Participants' Modified Proposed Action as the Agency Preferred Alternative. The Participants' Modified Proposed Action is the most cost effective and environmentally responsible alternative for the Participants to obtain the water they need to meet their future requirements. The implementation of SDS utilizing the Participants' Modified Proposed Action will provide much-needed water-supply redundancy to ensure an uninterrupted flow of water when existing facilities need maintenance or repair. And SDS will provide additional protection from drought. Some have suggested conservation as a substitute for SDS. Colorado Springs has actively promoted conservation for several decades and has the lowest single-family per capita residential water use of any city on the Front Range. Colorado Springs also has expanded the water-delivery capability of our existing system as much as possible. Even with these conservation and system-expansion measures, we have reached the point where we need SDS to meet our obligation to provide the additional water needed by our community.

Colorado Springs Utilities supports Reclamation's decision, based on the findings of the Draft Environmental Impact Statement (DEIS) and public comments, to conduct additional study of the Project's potential impact on water quality. As noted in the SIR, this additional analysis confirmed Reclamation's earlier findings that the Project will not have any major impact on the quality of the water in Fountain Creek.

The SDS DEIS and the SIR provide a substantial and credible evaluation of the various alternatives, thereby satisfying National Environmental Policy Act (NEPA) requirements. Reclamation thoroughly studied each alternative and the potential effects of each alternative, pursuant to 40 C.F.R. § 1502.14(b).

With that background, following are our detailed comments on Reclamation's decision to designate the Participant's Modified Proposed Action as the Agency Preferred Alternative:

Thank you for your comment.

1. **The water-quality findings from the SIR yielded similar conclusions as the DEIS and provide an increased level of confidence in the DEIS water quality results.**
   - The SIR employed a different methodology than the DEIS for analyzing E. coli, dissolved selenium and sulfate.
   - The separate scientific methods used in the DEIS and in the SIR to measure potential water-quality impacts produced similar conclusions.
   - The SIR determined that dissolved selenium levels would meet chronic water quality standards ("WQS") at most test locations. And test areas that exceeded WQS were already exceeding the standards.
   - The SDS Project would have minor beneficial effects on E. coli densities in all waterways within the project area, including Fountain Creek. Fountain Creek E. coli densities would decrease compared to both existing conditions and the No Action Alternative.
   - Direct effects on sulfate concentrations would be negligible to minor for all alternatives and would be similar to existing conditions.

The water-quality issues in the Project Area predate plans for the SDS and are not caused by the Project. While the Project Participants have actively engaged in mitigating the water-quality concerns in area waterways, additional mitigations in response to long-term, previously existing environmental impacts should not be a requirement of the SDS Project. Among the efforts to protect and enhance the waterways of the Project Area, Colorado Springs Utilities voluntarily participates in the Fountain Creek Vision Task Force; co-funds the $600,000 Fountain Creek Corridor Master Plan; and has invested $40 million to upgrade the Las Vegas wastewater treatment plant; $100 million for wastewater collection system improvements; $80 million for the new, state-of-the-art J.D. Phillips Water Reclamation facility; and $10 million for a unique Fountain Creek Recovery Project. The Recovery Project gives Colorado Springs Utilities the ability to capture spills before they reach Fountain Creek and our downstream neighbors. The Recovery Project has been operational for more than a year but Colorado Springs' Utilities has not had to use it. Thanks to improvements in recent years, Colorado Springs wastewater spills per miles of pipe in our system are among the lowest in the country. Colorado Springs Utilities will continue to invest in improvements for area waterways and work cooperatively with other agencies and organizations to find proactive improvements to the region's waterways. Colorado Springs Utilities supports reasonable mitigation requirements to offset the impacts of SDS. However, Colorado Springs Utilities and other Project Partners should not have to mitigate pre-existing or future impacts unrelated to SDS in Project Area waterways.

2. **Changes to the Participants' Proposed Action ensure Alternative 2 is now more environmentally sensitive and better suited for the community.**

Locating the terminal storage reservoir for the SDS at Upper Williams Creek rather than Jimmy Camp Creek Reservoir will reduce:
- Effects on wetlands;
- Potential effects on cultural and paleontological resources and prehistoric sites; and
- Potential bird aircraft strike hazards.

- 2 -

Changing the Bradley Road Realignment at the Upper Williams Creek Reservoir Site avoids potential effects on an active golden eagle nest. Relocating the Water Treatment Plant eliminates the potential need for rechlorination facilities between the Upper Williams Creek Reservoir site and customer taps.

Changing the Williams Creek Return Flow Conveyance has the following benefits:

- Avoids effects on wetlands in Williams Creek downstream of the proposed reservoir;
- Avoids effects on aquatic resources, including the state threatened fish species the Arkansas Darter, in Williams Creek downstream of the proposed reservoir; and
- Avoids potential effects on the geomorphology of Williams Creek downstream of the proposed reservoir.

All of the changes to the Participants' Proposed Action ensure the Project Participants can continue to provide high-quality, dependable water supplies to their customers in an environmentally responsible manner.

3. **Based upon planning scenarios, the four SDS Project Participants could exceed water storage and delivery capacity by 2012.**

The Project Participants have a significant need to increase their water delivery capacity, ensure delivery back-up and continue to provide safe dependable water to their customers.

- Based on planning scenarios in the DEIS, Colorado Springs could exceed its water storage and delivery capacity by 2012.
- Population forecasts estimate that El Paso County will be the most populous county in Colorado by the year 2030, with most of that growth occurring in the SDS Participants' communities.
- Participants' water needs are projected to almost double between 2007 and 2046.
- Colorado Springs Utilities heavily encourages water reuse and conservation but even with these efforts, current system capacity will not provide enough water for the expected growth. The SDS Project will provide the additional water required to meet the increased demand for water.
- The SDS project will use existing water rights already owned by the Project Participants. These water rights are valuable, irreplaceable assets.

4. **Reclamation has examined all reasonable alternatives to the SDS Project. Throughout the DEIS and SIR analysis, Reclamation has taken the necessary "hard look" at all possible Project impacts.**

- The DEIS and the SIR contain a detailed investigation of all reasonable alternatives to the SDS Project pursuant to NEPA. This included impacts on wildlife, aquatic habitat, water quality and quantity, socioeconomics, land use, environmental and wetland-associated impacts.

- 3 -

- Reclamation provided extensive opportunity for public comment as demonstrated by its dissemination of information to the general public before and during the DEIS comment period; media announcements; information updates to the Project Web site; DEIS comment extension; numerous open house meetings; and elected official briefings.
- Reclamation developed the SIR in response to the findings in the DEIS and public comments. In addition, Reclamation completed additional analysis in response to public comment on the DEIS, which confirmed early findings that the Project will not have major impact on water quality in Fountain Creek.
- The SIR widens the scope of the Project Area, including Western Slope water effects, dam failure analysis, wetlands, riparian vegetation, wildlife habitats, geomorphology, and subsequent WQS monitoring.
- The SIR confirms the findings of the DEIS.

Reclamation has met the requirements of NEPA and those general requirements applicable to preparing an environmental impact statement. With the 3½-month public comment period for the DEIS, Reclamation's Supplemental Information Report updating the DEIS in part to response to those comments, and the additional comment period offering the public an opportunity to comment on the changes reflected in the SIR, Reclamation also has met and exceeded requirements for encouraging and accepting public comments on the SDS. Opportunity for public comment has been robust.

In closing, Colorado Springs Utilities supports the conclusions of the DEIS and the findings of the SIR. Colorado Springs Utilities supports the implementation of the Participants' Modified Proposed Action for the SDS Project. Reclamation's review of SDS dates back several years prior to the publication of the DEIS and included extensive study of a number of alternatives beyond the seven included in the DEIS. The process has been lengthy, thorough and complete. There is no need for more extensions or additional review. Therefore, we urge Reclamation to move forward with the NEPA process by publishing the Final Environmental Impact Statement and developing a Record of Decision.

Thank you for the opportunity to submit our comments to the Bureau of Reclamation on this critically important project.

Sincerely,

John Fredell

John Fredell
Southern Delivery System Project Director
Colorado Springs Utilities

- 4 -

CITY OF COLORADO SPRINGS

LIONEL RIVERA
MAYOR

OFFICIAL FILE COPY
RECLAMATION
NOV 24 2008

Official File Copy
File Code ENV-6.00 SDS
Project 382
Folder I.D.
Control No.
Lamb 1005

November 21, 2008

U.S. Bureau of Reclamation
Eastern Colorado Area Office
Attn: Kara Lamb
11056 W. County Road 18E
Loveland, CO 80537-9711

RE: Southern Delivery System Supplemental Information Report

Dear Ms. Lamb:

The Southern Delivery System (SDS) project is critically important to the future of the City of Colorado Springs. We are duty bound to ensure that our citizens have an adequate, safe and reliable water supply. The findings of the Supplementation Information Report (SIR) confirm that with SDS, the Project Participants will be positioned to continue providing customers with water in an environmentally responsible manner, while keeping customers' rates reasonable.

We want to do what is best for our citizens, while appropriately balancing the important interests of our neighbors. The Participants' Proposed Action will allow our City to continue to provide for the needs of today's residents and future generations. It will allow us to use our existing water rights efficiently, with the advantage of drawing our supply directly from Pueblo Reservoir, at the lowest total project cost and least environmental impact.

Clean, dependable water is vital to the future economic vitality of our community and the entire region, as the health of our economy is intertwined with our neighbors. The City of Colorado Springs seeks mutually beneficial solutions for our region.

The City of Colorado Springs reconfirms its support of the Bureau of Reclamation's selection of the Participants' Proposed Action as the Agency Preferred Alternative which was revised based on the additional analysis conducted for the SIR. We believe the review process has worked as it is intended, and we support the changes to the Participants' Proposed Action (Alternative 2) as a means to further protect the environment, address stakeholder concerns and improve the project.

The City of Colorado Springs is committed to, and has invested heavily in, protecting regional waterways like Fountain Creek. An example of this commitment is our support for the additional water quality analysis and development of the SIR. We were pleased with and support the findings in the SIR, confirming that SDS has no major effect on water quality in Fountain Creek or the Arkansas River. This is important because two different scientific methods have drawn similar conclusions.

Response

Thank you for your comment.

U.S. Bureau of Reclamation
November 21, 2008 2

The City of Colorado Springs has acted aggressively and responsibly to address issues with Fountain Creek. We actively participate in regional cooperative efforts to protect Fountain Creek, including the Fountain Creek Vision Task Force and co-funding the Fountain Creek Corridor Master Plan with the Lower Arkansas Valley Water Conservancy District. Colorado Springs has invested hundreds of millions in improvements to our wastewater collection and treatment systems, including a $10-million investment in the Fountain Creek Recovery Project. In addition, the City of Colorado Springs Stormwater Enterprise is aimed specifically at improving the City's ability to control stormwater runoff. These commitments, along with required mitigation for the SDS project, will continue to further improve the condition of this regional waterway.

Because the additional analysis and methodology of the SIR yielded similar results as the Draft Environmental Impact Statement (DEIS), the SIR provides increased credibility and enhances the quality of the DEIS. The City of Colorado Springs believes the Bureau of Reclamation's reexamination of several issues through the SIR will lead to constructing an even better project.

It is now time for the Bureau of Reclamation to take the findings of the DEIS and the SIR and draw an extensive study process to conclusion through the publication of the Final Environmental Impact Statement (FEIS) and Record of Decision (ROD). The Project Participants have participated in the SDS environmental review process since 2003, and all of the Project Participants – based on planning scenarios – could exceed their water storage and delivery capacity in the next several years without action from the Bureau of Reclamation on the SDS Project.

Again, we support the conclusions of the DEIS and the SIR. We also support the implementation of the Participants' Proposed Action. We ask the Bureau of Reclamation to move forward in preparing its Final Environmental Impact Statement for the good of our community and the region.

Sincerely,

Lionel Rivera
Mayor
The City Of Colorado Springs

Table C-2. Issues by Commenter: Individuals

Commenter and Issues (City, State) [Document Identification Number]					
Alt, Bill (Pueblo, CO) [411]					
2007	*General comment about Participants' water reuse potential*	*2011*	*Concern about development of cost estimates or use of cost estimates as screening tool*	*3155*	*Concern about surface water flow in Fountain Creek*
Anderson, Cathryn (Arlington, CO) [415]					
2007	*General comment about Participants' water reuse potential*	*4000*	*Issues outside of Scope of EIS*	*4001*	*Concern about Colorado Springs' sanitary sewer overflows*
Barkwell, Robert [400]					
4000	*Issues outside of Scope of EIS*				
Benevento, Douglas (Denver, CO) [435]					
1004	*Supports project and believes it is necessary*				
Childress, Frank B. (Pueblo, CO) [414]					
3105	*Concern about surface water quality in Fountain Creek*	*3254*	*Concern about flooding in Fountain Creek*	*3304*	*Concern about geomorphology in Fountain Creek*
Emrich, Andrew C. (Denver, CO) [431]					
3009	*Concern about overall environmental impacts at Jimmy Camp Creek Reservoir Site*				
Gallagher, Tom (Colorado Springs, CO) [409]					
2000	*Alternatives*	*2000*	*Alternatives*	*2407*	*General comments about activities not considered reasonably foreseeable*
3103	*Concern about surface water quality in Arkansas River through Pueblo*	*3161*	*Concern about Western Slope flows*	*3303*	*Concern about geomorphology in Arkansas River downstream of Fountain Creek*
Gallagher, Tom (Colorado Springs, CO) [433]					
1002	*Does not agree with purpose and need*	*1021*	*Issues concerning storage contract*	*2000*	*Alternatives*
2000	*Alternatives*	*2000*	*Alternatives*	*3001*	*Concern about overall environmental impacts*
3020	*Concern that EIS analyses are generally inadequate*	*3101*	*General surface water quality concern*	*3103*	*Concern about surface water quality in Arkansas River through Pueblo*
3153	*Concern about Arkansas River flows through Pueblo*	*3161*	*Concern about Western Slope flows*	*3172*	*Requests additional analysis on surface water flows*
3254	*Concern about flooding in Fountain Creek*	*3429*	*Concern about effects on big game movement corridors*	*3532*	*Concern about effects on rare plants*
3536	*Concern about rare plant communities*	*3729*	*Concern about cost and rate impacts*	*3801*	*General concern about wetland impacts*
3900	*Other Resources*	*3950*	*General Suggested Mitigation*	*5002*	*Concern that EIS is biased*
5209	*General comments about DEIS*				
Gritz, Lu (Pueblo, CO) [417]					
2307	*Fountain Creek flood control dam suggestion*				
Harrison, Steve (Pueblo West, CO) [413]					
1004	*Supports project and believes it is necessary*				

Commenter and Issues (City, State) [Document Identification Number]

Herrmann, Scott & Joan (Pueblo, CO) [418]

1000 Purpose and Need

3330 Requests additional analysis on dam safety

3377 Requests analysis of zebra mussels

5200 Comments about Public Involvement

Keenan, Tony (Canon City, CO) [432]

3150 Surface Water Flows

MacDougall, M.E. (Colorado Springs, CO) [421]

3155 Concern about surface water flow in Fountain Creek

3164 Concern about indirect impacts on surface water flows, primarily stormwater

3254 Concern about flooding in Fountain Creek

3259 Concern about reduced channel flood capacity from change in vegetation biomass along Fountain Creek

3304 Concern about geomorphology in Fountain Creek

3950 General Suggested Mitigation

Monson, Kathleen [403]

2403 General comments about future growth (includes urban development and land use)

3105 Concern about surface water quality in Fountain Creek

Olsen, Willie & Donna (La Junta, CO) [406]

2007 General comment about Participants' water reuse potential

3105 Concern about surface water quality in Fountain Creek

3735 Concern about municipal water quality and cost in the lower Arkansas Valley

4001 Concern about Colorado Springs' sanitary sewer overflows

5002 Concern that EIS is biased

Pace, Sal (Pueblo, CO) [410]

3105 Concern about surface water quality in Fountain Creek

3254 Concern about flooding in Fountain Creek

3304 Concern about geomorphology in Fountain Creek

3911 Concern about other permits

Peternell, Drew (Boulder, CO) [424]

2001 General comment about alternative development

2007 General comment about Participants' water reuse potential

2201 Concern about Participants' conservation programs

3175 Concern about Daily Model development

3175 Concern about Daily Model development

3950 General Suggested Mitigation

5005 Concern about comparisons to No Action Alternative

Rapp, Gary (Colorado Springs, CO) [436]

2007 General comment about Participants' water reuse potential

2201 Concern about Participants' conservation programs

3155 Concern about surface water flow in Fountain Creek

3304 Concern about geomorphology in Fountain Creek

Rawlings, Jane (Pueblo, CO) [408]

2010 Concern about treatment quality of return flows

3001 Concern about overall environmental impacts

3254 Concern about flooding in Fountain Creek

3304 Concern about geomorphology in Fountain Creek

3552 General concern about private property

3900 Other Resources

Rawlings, Robert (Pueblo, CO) [402]

2307 Fountain Creek flood control dam suggestion

3020 Concern that EIS analyses are generally inadequate

3254 Concern about flooding in Fountain Creek

3303 Concern about geomorphology in Arkansas River downstream of Fountain Creek

3304 Concern about geomorphology in Fountain Creek

3551 General concern about change in land use

Commenter and Issues (City, State) [Document Identification Number]

Rawlings, Robert (Pueblo, CO) [437]

2307	*Fountain Creek flood control dam suggestion*	*3001*	*Concern about overall environmental impacts*	*3154*	*Concern about Arkansas River flows downstream of Fountain Creek*
3155	*Concern about surface water flow in Fountain Creek*	*3254*	*Concern about flooding in Fountain Creek*	*3552*	*General concern about private property*
3900	*Other Resources*				

Santarella Jr., Joseph M. (Littleton, CO) [405]

1012	*Concern about need for maximizing existing water rights*	*2004*	*Concern about Reclamation's preferred alternative*	*2403*	*General comments about future growth (includes urban development and land use)*
3353	*Concern about fish and other aquatic life in other reservoirs*	*3750*	*Environmental Justice*		

Santarella Jr., Joseph M. (Littleton, CO) [429]

1002	*Does not agree with purpose and need*	*2000*	*Alternatives*	*2001*	*General comment about alternative development*
2004	*Concern about Reclamation's preferred alternative*	*2007*	*General comment about Participants' water reuse potential*	*2407*	*General comments about activities not considered reasonably foreseeable*
3001	*Concern about overall environmental impacts*	*3110*	*Requests additional analysis on surface water quality*	*3113*	*Concern about water quality model development*
3353	*Concern about fish and other aquatic life in other reservoirs*	*3361*	*General concern about effects of increased selenium concentrations on fish*	*3529*	*Concern about tamarisk along the streams*
3750	*Environmental Justice*	*3911*	*Concern about other permits*	*5004*	*Suggested consultation and coordination*
5005	*Concern about comparisons to No Action Alternative*				

Schley, PMP, Don G. (Colorado Springs, CO) [428]

2000	*Alternatives*	*2001*	*General comment about alternative development*	*2001*	*General comment about alternative development*
2001	*General comment about alternative development*	*2001*	*General comment about alternative development*	*2001*	*General comment about alternative development*
2300	*Suggested Alternatives*	*2407*	*General comments about activities not considered reasonably foreseeable*	*2407*	*General comments about activities not considered reasonably foreseeable*
2407	*General comments about activities not considered reasonably foreseeable*	*3001*	*Concern about overall environmental impacts*	*3001*	*Concern about overall environmental impacts*
3020	*Concern that EIS analyses are generally inadequate*	*3101*	*General surface water quality concern*	*3107*	*Concern about surface water quality in Williams Creek*
3113	*Concern about water quality model development*	*3900*	*Other Resources*	*5000*	*Comments about process*
5000	*Comments about process*	*5000*	*Comments about process*	*5002*	*Concern that EIS is biased*
5002	*Concern that EIS is biased*	*5200*	*Comments about Public Involvement*	*5209*	*General comments about DEIS*
5211	*Request to extend public comment period*				

Star, Frank (Pueblo, CO) [407]

3326	*Concern about Pueblo Dam stability*

Swope, Strider [438]

3105	*Concern about surface water quality in Fountain Creek*	*3173*	*Concern about water levels in Pueblo Reservoir*	*3552*	*General concern about private property*
3715	*Concern about economic effects/property values along pipeline corridor*	*3900*	*Other Resources*		

Commenter and Issues (City, State) [Document Identification Number]

Tappen, John B. [401]

2306 Alternatives to return flow conveyance

3254 Concern about flooding in Fountain Creek

Trujillo, Daryl (Pueblo, CO) [404]

2400 Reasonably Foreseeable Activities

Trujillo, Daryl (Pueblo, CO) [412]

2400 Reasonably Foreseeable Activities

3105 Concern about surface water quality in Fountain Creek

Comment 1000: Purpose and need

Response 1000: Commenter was concerned that SDS water would be sold to another city outside of the Arkansas River basin. Please see DEIS comment response 1000.

Comment 1002: Does not agree with purpose and need

Response 1002: A commenter believed the purpose and need is too narrowly defined. Please see DEIS comment response 1002.

Comment 1004: Supports project and believes it is necessary

Response 1004: Commenters felt that the SDS Project was of importance to his community. The Supplemental Information Report addressed the need for the project in section 3.0.

Comment 1012: Concern about need for maximizing existing water rights

Response 1012: A commenter questioned the Project Participants' need to meet future demand using their existing water rights. The Supplemental Information Report addressed this issue in section 3.2, page 3. Also refer to DEIS comment response 13-1.

Comment 1021: Issues concerning storage contract

Response 1021: A commenter expressed concern about whether excess capacity contracts would provide adequate storage reliability to meet the Participants' projected water demands. Please see DEIS comment response 1021.

Comment 2000: Alternatives

Response 2000: Commenters were concerned about capacity and operation of the Joint Use Manifold (or Municipal Outlet Works) at Pueblo Reservoir. Please see response to DEIS comment letter 2 and DEIS comment response 43-45.

Commenters were concerned that a 115 KV electrical substation and transmission line (for the proposed Juniper Pump Station near Pueblo Dam) identified in the Participants' Pueblo County 1041 permit application were not analyzed in the DEIS. Please see DEIS comment response 43-3.

Comment 2001: General comment about alternative development

Response 2001: Commenters expressed concern that the range of alternatives was too narrow. Please see DEIS comment response 2001.

A commenter was concerned about the geological suitability of the proposed Jimmy Camp Creek for a terminal storage reservoir, due to on-site and downstream alluvial aquifer conditions and the presence of historical coal mining activity. Please refer to DEIS comment responses 2011, 3106, and 3192. After reviewing this comment, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion. The surficial geology at the proposed Jimmy Camp Creek Reservoir site consists primarily of the relatively impermeable Denver formation of the Lower part of the Dawson arkose (97 percent of the reservoir site), and partially of Quaternary eolian deposits (3 percent of the reservoir site) (Tweto 1979). The closest permeable alluvial aquifer material on Jimmy Camp Creek is about 3 miles downstream of the proposed reservoir site, which is where the potential alluvial recharge sites considered by Emmons (1977) are located. As a result of the predominantly impermeable material at the proposed reservoir site, the Jimmy Camp Creek Reservoir site has geologic conditions suitable for water storage. Additionally, the McFerran shaft referenced in the comment is 1.5 miles southwest of the proposed reservoir site (CDNR 1982), and is far enough away from the reservoir site that there should be no hazards for water storage as suggested by the comment. The approach taken in the DEIS has been followed in chapter 3 of the FEIS.

Colorado Department of Natural Resources (CDNR). 1982. Their Silent Profile; Inactive Coal and Metal Mines of Colorado. Colorado Inactive Mine Reclamation Plan. Volumes 1 and II. February.

Emmons, P. 1977. Artificial-Recharge Tests in Upper Black Squirrel Creek Basin, Jimmy Camp Valley, and Fountain Valley, El Paso County, Colorado. U.S. Geological Survey Water-Resources Investigations 77-11. July.

A commenter was concerned about the geological suitability of the proposed Upper Williams Creek for a terminal storage reservoir, due to on-site and downstream alluvial aquifer conditions and the presence of historical coal mining activity. After reviewing this comment, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion. The surficial geology at the proposed Upper Williams Creek Reservoir site consists primarily of the relatively impermeable Laramie Fox Hills Sandstone formation (about 80 percent of the reservoir site), and no modern alluvium (Tweto 1979). A small fraction (2 percent) of the reservoir site has older gravels and alluvium, but this small portion of the reservoir site should not result in hazards with alluvial aquifers. As a result of the predominantly impermeable material at the proposed reservoir site, the Upper Williams Creek Reservoir site has geologic conditions suitable for water storage. Additionally, there are no known historic coal mines at the proposed reservoir site or downstream of the reservoir site (CDNR 1982, citation above). As a result, there should be no hazards for water storage as suggested by the comment. The approach taken in the DEIS has been followed in chapter 3 of the FEIS.

A commenter was concerned about geological instability along the proposed Western Untreated Water Alignment. Please refer to DEIS comment response 2011.

Comment 2004: Concern about Reclamation's Preferred Alternative

Response 2004: A commenter was concerned that the Preferred Alternative was not the Least Environmentally Damaging Practicable Alternative (LEDPA) as defined under Section 404 of the Clean Water Act. Please see DEIS comment response 13-2.

A commenter was concerned that the Supplemental Information Report does not provide a rationale for Reclamation's identification of the Participants' Proposed Action as Reclamation's Preferred Alternative. Reclamation's Preferred Alternative is identified in section 4.4 of the Supplemental Information Report and was based on information in the DEIS and Supplemental Information Report. Additional rationale was provided in the DEIS and has been included in the FEIS.

Comment 2007: General comment about Participants' water reuse potential

Response 2007: Commenters were concerned about the Participants' water reuse potential. Please see DEIS comment response 2007.

A commenter suggested that, because the proposed Upper Williams Creek Reservoir replaced the proposed Jimmy Camp Creek Reservoir in Reclamation's Preferred Alternative and the cost differential between the reservoir sites was less than that presented in Reclamation's Alternatives Analysis Addendum (December 2007), potential water reuse alternatives should be re-evaluated. The commenter is correct that the cost differential between the proposed Jimmy Camp Creek and Upper Williams Creek reservoirs is less since issuance of the Alternatives Analysis Addendum. The Alternatives Analysis Addendum used screening-level cost estimates for alternatives development and analysis. Additionally, the Alternatives Analysis Addendum used the lower-cost Jimmy Camp Creek Reservoir site for terminal storage in the reuse alternatives. The more-current Upper Williams Creek Reservoir estimated cost, which is lower than that presented in the Alternatives Analysis Addendum, does not materially affect the reuse analyses or conclusions contained in the Alternatives Analysis Addendum.

Comment 2010: Concern about treatment quality of return flows

Response 2010: A commenter was concerned about Colorado Springs' ability to have return flows that meet water quality regulations. Please see DEIS comment response 2010.

Comment 2011: Concern about development of cost estimates or use of cost estimates as screening tool.

Response 2011: A commenter thought that costs of environmental damage for each alternative should be calculated and considered in cost screening. Please see DEIS comment response 30-13.

Comment 2201: Concern about Participants' conservation programs

Response 2201: Commenters expressed concern about the efficacy of the Project Participants' water conservation programs and one commenter suggested that Reclamation should require specific prohibitions, limitations, policies, and practices. Please see DEIS comment response 2201.

Comment 2003: Requests additional alternative analysis

Response 2003: A commenter suggested that the proposed Phantom Canyon Pumped-Storage Project (which includes enlargement of Brush Hollow Reservoir) was not considered in the alternatives development process. Please see DEIS comment responses 2001, 2003, and 2400.

Comment 2306: Alternatives to return flow conveyance

Response 2306: A commenter suggested using the Participants' return flows to irrigate land in northern Pueblo County. The DEIS addressed this topic in chapter 1, page 6 and in Appendix A. The Project Participants require reusable return flows as a source of water to meet future needs. Use of reusable return flows for irrigation of farmland would preclude their use as the Participants' water supply.

Comment 2307: Fountain Creek flood control dam suggestion

Response 2307: Commenters suggested a dam on Fountain Creek for flood control. Please see DEIS comment response 2307.

Comment 2400: Reasonably Foreseeable Activities

Response 2400: Commenter suggested the Super Ditch project and SDS should be located in a way to benefit each other. Information presented in the DEIS has been modified in the FEIS (see section 3.1.3.1) pursuant to this specific comment, as well as other public comments. In the FEIS, the Super Ditch Company is identified as a reasonably foreseeable action. Although alternatives were not developed specifically to take delivery of Super Ditch water because it is not part of the purpose and need for the project, none of the alternatives would physically be precluded from taking delivery of such water through direct delivery, exchange, alternate point-of-diversion, or other legal means. Additional NEPA analyses outside of this EIS would be required to deliver Super Ditch, or any other future water supplies not identified and analyzed in the EIS, through the SDS Project.

Comment 2403: General comments about future growth (includes urban development and land use)

Response 2403: Commenters were generally concerned about future growth. Please see DEIS comment response 2403.

Comment 2407: General comments about activities not considered reasonably foreseeable

Response 2407: Commenters believed that the Preferred Storage Option Plan (PSOP) and the Arkansas Valley Conduit should be considered reasonably foreseeable. One commenter suggested that PSOP was withdrawn from the proposed SDS Project through a May 2005 memorandum. Please see DEIS comment responses 45-4 and 2407. Recent Congressional activities have not altered Reclamation's decision that these proposed projects are not reasonably foreseeable. Additionally, Reclamation notes that the PSOP was not included in the September 2003 Notice of Intent to prepare an EIS for the proposed SDS Project and identification of the PSOP as not reasonably foreseeable was described in section 3.5 of the January 2004 Public Scoping Report and in subsequent SDS EIS documents.

Comment 3001: Concern about overall environmental impacts

Response 3001: Commenters were concerned about environmental impacts due to a proposed untreated water intake on north side of Pueblo Dam (Pueblo Dam North Outlet Works or PDNOW) and suggested that this connection was not evaluated in the DEIS or Supplemental Information Report. The concept of a combined untreated water intake at the Joint Use Manifold (JUM) and PDNOW was described in Reclamation's March 2006 Alternatives Analysis report. Sections 3.2, 5.4.2, 6.1, and 7.0 of that report describe identification, screening, and retention of the JUM + PDNOW option in several EIS alternatives, including the Participants' Proposed Action. Inclusion of the JUM + PDNOW intake in the Participants' Proposed Action, Wetland, and Fountain Creek alternatives was described in sections 2.1.4, 2.2.2, 2.2.3, and 2.2.5 of the DEIS. Continued inclusion of the JUM + PDNOW intake in those alternatives was described in Section 4.0

of the Supplemental Information Report. Environmental effects associated with construction and operation of the JUM + PDNOW intake are reflected throughout chapter 3 of the DEIS and section 5 of the Supplemental Information Report.

Comment 3009: Concern about overall environmental impacts at Jimmy Camp Creek Reservoir Site

Response 3009: A commenter expressed concern about the potential effects of Jimmy Camp Creek Reservoir based on comments from the Corps, EPA, and others. Please see responses for DEIS comment letters 13 and 45 and DEIS comment responses 2001, 2011, 3009, 3106, 3195, 3331, and 3718. Additionally, Jimmy Camp Creek is not part of Reclamation's Preferred Alternative in the Supplemental Information Report or FEIS.

Comment 3020: Concern that EIS analyses are generally inadequate

Response 3020: Comments were received stating that the technical analyses contained in the DEIS were inadequate, more study is required, or the DEIS should be withdrawn. Please see DEIS comment response 3020.

Comment 3101: General surface water quality concern

Response 3101: A commenter expressed concern about the presence of Pierre Shale at the Upper Williams Creek Reservoir site and the potential for effects on downstream surface water quality. About 17 percent of the Upper Williams Creek Reservoir site is underlain by Pierre Shale, the remaining surficial geology is not expected to be highly seleniferous. Much of the channel between the Upper Williams Creek Reservoir site and the Williams Creek Reservoir site is underlain with Pierre Shale (Tweto 1979). Data for neither selenium content of soils at the reservoir site nor ground water selenium concentrations are available. These would be needed to quantify likely concentrations of selenium in reservoir seepage water.

Text was added to the FEIS noting that seepage water from Upper Williams Creek Reservoir could possibly contact selenium rich formations under the reservoir or Williams Creek and move downstream as ground or surface water with elevated levels of selenium. The rate of seepage is expected to be relatively low, less than 1 cfs (refer to page 63 of the DEIS). This water would need to travel a relatively long distance (about 15 miles) before reaching Fountain Creek, where it could only affect aquatic life if concentrations were substantially higher than typical local ground water concentrations.

MWH. 2008. Water Quality Effects Analysis, Southern Delivery System Environmental Impact Statement. Prepared for U.S. Bureau of Reclamation. January.

A commenter questioned how the water diversion upstream of Pueblo Reservoir in the No Action and Highway 115 alternatives could affect dissolved selenium concentrations in lower Fountain Creek and the Arkansas River downstream of Pueblo Dam. Dissolved selenium concentrations in the Arkansas River between Pueblo Dam and Fountain Creek may be affected by changes in streamflows for some alternatives, resulting differing influences of local sources of selenium and Arkansas River inflows from Fountain Creek (refer to Supplemental Information Report section 5.4.2.3 and comment response 3153 below).

Comment 3103: Concern about surface water quality in Arkansas River through Pueblo

Response 3103: A commenter was concerned about *E. coli* densities. The *E. coli* analysis was updated subsequent to release of the DEIS in section 5.4 of the Supplemental Information Report, pages 62 to 63. Effects on *E. coli* densities are adequately disclosed in the Supplemental Information Report and FEIS.

A commenter questioned how the water diversion upstream of Pueblo Reservoir in the No Action and Highway 115 alternatives could affect *E. coli* densities in the Arkansas River downstream of Pueblo Dam. Please refer to comment responses 3113 and 3153 below.

Comment 3105: Concern about surface water quality in Fountain Creek

Response 3105: Commenters were concerned about surface water quality in Fountain Creek. Please see DEIS comment response 3105.

Comment 3107: Concern about surface water quality in Williams Creek

Response 3107: A commenter was concerned about surface water quality in Williams Creek due to the presence of garbage dumps at the Upper Williams Creek Reservoir site and suggested that a Level [Phase] 1 Environmental Investigation is necessary. The DEIS addressed this issue in section 3.25, disclosing the existence of solid waste disposal sites and providing mitigation measures. Reclamation is not required to conduct a Phase 1 Environmental Investigation for NEPA purposes.

Comment 3113: Concern about water quality model development

Response 3113: A commenter suggested that the water quality model for *E. coli* does not function properly because of the presence of differences in simulated *E. coli* densities downstream of Pueblo Dam among alternatives. Reclamation has confirmed that this model functions as intended with the inherent limitations described in the supporting documentation. *E. coli* densities in the Arkansas River downstream of Pueblo Dam may be affected by reduced Arkansas River streamflows, resulting a greater influence of local sources of *E. coli*, or by changes in inflows from Fountain Creek.

A commenter expressed concern about the water quality modeling of proposed SDS Project reservoirs and suggested that future inflows from an increase in impervious areas and landscape watering, with associated contaminants, should be included. Reclamation modeled water quality of Williams Creek Reservoir and not the terminal storage reservoirs because water from the terminal storage reservoirs would generally not be released downstream.

Daily surface water modeling, peak flow modeling, and water quality modeling of the Williams Creek Basin assumed that the current level of development upstream of Williams Creek Reservoir would be maintained in 2046. This assumption is based on review of relevant land use planning information from sources including El Paso County and the Pikes Peak Area Council of Governments. Appendix D of the Hydrologic Model Documentation (MWH 2007) includes a map of current and planned (2046) areas of development in the Williams Creek watershed.

Due to a lack of local runoff quality data, Williams Creek watershed runoff quality was assumed to be equal to the quality of water in the Chilcotte Ditch, originating in Fountain Creek (a connection to the former reasonably foreseeable Clear Spring Regional Water Reclamation Facility has been removed from the alternatives for the FEIS). This assumption is adequate, particularly considering that watershed contributions represent less than 1 percent of the total inflow to Williams Creek Reservoir for the Participants' Proposed Action and Wetland alternatives.

MWH. 2007. Hydrologic Model Documentation Report, Southern Delivery System Environmental Impact Statement. Prepared for U.S. Bureau of Reclamation. November.

Comment 3150: Surface Water Flows

Response 3150: A commenter suggested that the UAVFMP should be applied to the proposed action alternative. Commitment for adherence to the UAVFMP has been included in the environmental commitments for Reclamation's Preferred Alternative. These requirements are based on potential effects of the Preferred Alternative for the SDS Project. Also see DEIS comment responses 25-1, 2502, 32-1, 32-2, and 43-18.

Comment 3153: Concern about Arkansas River flows through Pueblo

Response 3153: A commenter questioned how diverting water into SDS Project alternatives with a untreated water intake upstream of Pueblo Dam could affect streamflows in the Arkansas River at Moffat Street. The DEIS addressed this topic in chapter 3, pages 167 to 171. As described in chapter 3, all alternatives involve the use of exchanges to deliver the Participants' reusable return flows and agricultural water transfers from Fountain Creek, the Colorado Canal system, and other downstream locations to upstream storage and intake locations. Differences in exchange amounts and timing cause differences in streamflow within the exchange reach. The Arkansas River at Moffat Street gage is located within a reach that is heavily influenced by exchanges from Fountain Creek and the Colorado Canal system to Pueblo Reservoir, upper Arkansas Basin storage, and the Ark-Otero Intake, which are "exchange to" locations for those alternatives that include the Highway 115 untreated water intake.

Comment 3154: Concern about Arkansas River flows downstream of Fountain Creek

Response 3154: A commenter was concerned about increased streamflow in the Arkansas River downstream of Fountain Creek and associated effects. Please see DEIS comment response 3154.

Comment 3155: Concern about surface water flow in Fountain Creek

Response 3155: Commenters were concerned about increased streamflow in Fountain Creek and associated effects. Please see DEIS comment response 3155.

A commenter was concerned about increased streamflow and associated geomorphic effects in Fountain Creek near the outlet of the Proposed Williams Creek Return Flow Conveyance and suggested that these effects should be avoided through water reuse and other alternatives that do not involve a discharge. Please see DEIS comment responses 2001 and 2003.

A commenter was concerned about increased streamflow in Fountain Creek at the Greenview Ditch due to introduction of imported water. The DEIS addressed this topic in chapter 3, pages 173 to 176, which describes the hydrologic effects in Fountain Creek. Additional information was contained in the Surface Water Hydrology Effects Analysis (MWH 2007d), section 5.3.4. The DEIS documented the flows and effects on this reach.

Comment 3161: Concern about Western Slope flows

Response 3161: A commenter questioned how average annual streamflow in the Roaring Fork River and several tributaries (Supplemental Information Report Table 7) could be lower for the Highway 115 Alternative than for the No Action Alternative but yield for the Highway 115 Alternative would be less. The Supplemental Information Report addressed this topic in Chapter 5, page 56, while the DEIS addressed this topic in appendix A, pages A-1 to A-18, appendix B, pages B-4, and in Reclamation's Alternatives Analysis (March 2006). The Participants' existing and future water supply portfolios contain numerous water rights and water supplies from both the Western Slope and Eastern Slope, all of which are delivered to the Participants' through complex storage and delivery systems, including the proposed SDS Project. It is possible for individual components of the water supplies, such as the Twin Lakes Project (with its source in the Roaring Fork Basin), to have yields that are inversely related to the SMAPD or firm yield for the alternative as a whole due to changes in supply available from other individual components. In the case of the No Action Alternative and the Highway 115 Alternative, increased exchanges available under the Highway 115 alternative result in decreased storage availability for the Highway 115 alternative, resulting in slightly lower transmountain imports. However, the increase in exchanges is much greater than the reduction in transmountain imports, resulting in higher SMAPD and firm yield for the Highway 115 alternative than the No Action Alternative.

Commenters were concerned that SDS allowed development of water from the Busk-Ivanhoe system. The Supplemental Information Report addressed this issue in section 5.2.1.3, pages 50 to 52 and pages 59 to 60. Although the Participants do not use the Busk-Ivanhoe System, hydrologic modeling showed slight difference in the amount of water diverted by this system among SDS alternatives. This is due to slight differences in the amount of storage space available to store Busk-Ivanhoe water. Therefore, the Busk-Ivanhoe system was evaluated.

A commenter questioned why there would be a 10 percent change in average annual storage volume in Homestake Reservoir for the Highway 115 Alternative (per Supplemental Information Report Table 2). Transmountain diversions from the Homestake Project into the Arkansas River basin are slightly less for the Highway 115 Alternative than the No Action Alternative due to decreased storage availability in Turquoise Lake and Twin Lakes caused by increased storage of reusable return flows. This results in increased average storage contents in Homestake Reservoir for the Highway 115 Alternative.

A commenter asked how percentage differences in Western Slope streamflows among alternatives could occur when simulated streamflows would be the same (per Supplemental Information Report Table 2). This issue was addressed on page 43 of the Supplemental Information Report, which explains the differences in absolute streamflow values and percentage effects for the Western Slope analysis.

Comment 3164: Concern about indirect impacts on surface water flows, primarily stormwater.

Response 3164: A commenter was concerned that lack of adequate detention ponds in Colorado Springs will increase peak flows in Fountain Creek. Please see DEIS comment response 3164.

Comment 3172: Request for additional analysis on surface water flows

Response 3172: A commenter suggested that Engineering Report 2005CW095 "Arkansas River Exchange Right Application" (June 5, 2008) prepared for Colorado Springs Utilities by AMEC Earth and Environmental should be considered in the FEIS. This report describes surface water hydrology and yield for new exchange rights requested by Colorado Springs. These prospective new rights (cases 08-CW-095 and 05-CW-096) were not considered in the current NEPA analysis leading to this FEIS (refer to DEIS Table 4 for a listing of water rights that are considered in the analysis). Consequently, these rights, if secured by Colorado Springs, could not be conveyed through the SDS Project without further NEPA analysis. The report identified by the commenter is not germane to this FEIS. Section 3.5.3.1.of the FEIS was revised to clarify that unadjudicated water rights were not considered in the hydrologic model simulations.

Comment 3173: Concern about water levels in Pueblo Reservoir

Response 3173: A commenter was concerned about maintaining water levels in Pueblo Reservoir at their current level. Potential effects on Pueblo Reservoir water levels were addressed on page 179 to 181 of the DEIS.

Comment 3175: Concern about Daily Model development

Response 3175: A commenter stated that the DEIS presents changes in stream flow in terms of average monthly flow, and that measuring changes to surface hydrology in terms of average annual or average monthly flow limits the value of the environmental analyses. Please see DEIS comment responses 4-4 and 3175 regarding use of average monthly and daily flow for effects analyses in the Arkansas River basin described in the DEIS. For analyses of the Western Slope, the Supplemental Information Report addressed this topic in chapter 5, pages 42 to 43. Because the Daily Model was not configured or calibrated to simulate daily streamflow on the Western Slope, all calculations were performed on an average monthly basis, and subsequently, all results are presented as average monthly streamflow. Resources that used average monthly results to perform effects analyses have described the limitations of this level of information within individual sections. All resources determined that the use of average monthly streamflow was adequate to determine relative differences in effects between alternatives.

A commenter believed that a strict operating schedule should be included in the EIS. Refer to DEIS comment responses 3150 and 3175.

Comment 3180: Water Rights

Response 3180: A commenter was concerned that operation of the SDS Project would harm the physical integrity of the Frost Livestock Co.'s headgate, interfere with its senior water rights operation, or require a change of water rights diversion point or use location. Typically in Colorado, ditch owners have rights to access, operate and maintain diversion and conveyance facilities. The extent of those rights depends upon the type of interest the owner has acquired. However, even for the types of interest that hold the least rights (i.e. easements), under Colorado law, the actions of others cannot "unreasonably interfere" with the owner's use (in this case, for access, operation, and maintenance of its diversion structure by Frost Livestock Co.; TWF, P.C. 2004). Therefore, it would be inconsistent with Colorado law for the Project Participants to construct facilities that would cause harm to the physical integrity of the Frost Livestock Co.'s diversion structure. Section 3.5 and Chapter of the FEIS include a mitigation measure to address potential effects of project operations on impairment of physical diversion of a senior water right. Operation of the proposed SDS Project would not require a water rights change by the Frost Livestock Co.

Trout, Witwer & Freeman, P.C. (TWF, P.C.). 2004. Acquiring, Using and Protecting Water in Colorado. Bradford Publishing Company, Denver, Colorado.

Comment 3191: Concern about ground water quantity impacts

Response 3191: A commenter was concerned that ground water levels would increase near the Frost livestock Co.'s land south of Fountain and affect agricultural production. Section 3.6 of the DEIS and FEIS indicate negligible to minor effects on Fountain Creek alluvial ground water levels for all SDS Project alternatives downstream of Fountain. Adverse effects of ground water level changes on agricultural production at the commenter's property are not anticipated effects.

Comment 3254: Concern about flooding in Fountain Creek

Response 3254: Commenters were concerned that the project would increase flooding on Fountain Creek**.** Please see DEIS comment response 3254.

A commenter questioned why the "Potential for Loss of Life and Damage to Property from Failure of New Dams" in the City of Fountain shown in Table 2 of the Supplemental Information Report was "Substantial" for the No Action Alternative and "No Effect" for the Highway 115 Alternative. Effects of the Action Alternatives such as the Highway 115 Alternative are determined through comparison to the No Action Alternative in the DEIS and Supplemental Information Report (refer to the header row of Supplemental Information Report Table 2 for example). Because the No Action Alternative and Highway 115 alternatives share the same proposed SDS Project dams, the effect of the Highway 115 would be the same as that of the No Action Alternative.

Comment 3259: Concern about reduced channel flood capacity from change in vegetation biomass along Fountain Creek

Response 3259: A commenter was concerned that increased availability of water has caused riparian growth to constrict Fountain Creek channel flow and SDS would further exacerbate riparian growth. Please see DEIS comment response 3259.

Comment 3303: Concern about geomorphology in Arkansas River downstream of Fountain Creek

Response 3303: A commenter was concerned that modification of the Pueblo Dam River Outlet would cause sedimentation. After reviewing this comment, and considering public input, Reclamation concludes that the approach in the DEIS addressed this issue in an appropriate fashion. Any sedimentation related to Pueblo Reservoir or Pueblo Dam would occur in Pueblo Reservoir as it has historically. There would be no additional sedimentation at the outlet works regardless of the design of the outlet works. The approach taken in the DEIS has been followed in chapter 3 of the FEIS.

A commenter was concerned that geomorphic effects on Fountain Creek would also cause geomorphic effects for the Arkansas River downstream of Fountain Creek. Please see DEIS comment response 3303.

Comment 3304: Concern about geomorphology in Fountain Creek

Response 3304: Commenters were concerned about potential effects on erosion and sedimentation in Fountain Creek. Please see DEIS comment response 3304.

Comment 3326: Concern about Pueblo Dam stability

Response 3326: A commenter was concerned about the stability of Pueblo Dam. Please see DEIS comment response 3326.

Comment 3330: Requests additional analysis on dam safety

Response 3330: A commenter was concerned about the sunny day dam failure analysis of the proposed reservoirs (CH2M HILL 2008b) presented in the Supplemental Information Report. Sunny day dam failures were used to describe flooding effects of dam failures on downstream areas because of the relevance to Colorado Division of Water Resources, SEO, Rules and Regulations for Dam Safety and Dam Construction (CDWR 2007). The SEO requires a sunny day dam failure analysis under its dam safety and construction regulations in order to determine a hazard classification for a proposed dam. As a result of the relevance of sunny day dam failures to existing regulations for dam safety, the sunny day dam failure was determined to be an appropriate means of estimating flooding effects in the event of a dam breach at proposed SDS reservoirs.

Colorado Division of Water Resources (CDWR). 2007. Rules and Regulations for Dam Safety and Dam Construction. State Engineer’s Office. Effective January 1.

Comment 3353: Concern about fish and other aquatic life in other reservoirs.

Response 3353: Commenters were concerned about bioaccumulation of methyl mercury in the proposed SDS Project reservoirs. Reclamation has reviewed this topic. Mercury is a found throughout the environment due to its occurrence in geological materials, atmospheric deposition from human sources (e.g., coal combustion and waste incineration) and natural sources (e.g., volcanic gases and wildland fires), and mining and manufacturing processes (USEPA 1997). Except where point sources exist, most mercury originates from atmospheric deposition, typically rainfall, and in an inorganic form (USEPA 1997). In aquatic ecosystems, microbial processes can convert inorganic mercury to an organic and highly toxic form known as methylmercury. Methylmercury is the predominant form that is passed through aquatic food webs and that poses a risk to aquatic life and to wildlife and human consumers of contaminated aquatic organisms (USEPA 1997; Krabbenhoft et al. 1999). The degree of methylmercury contamination in an aquatic system is not necessarily related to the total amount of mercury within that system or its proximity to mercury emission sources (USEPA 1997). Rather, regional and location-specific characteristics determine the rate of methylmercury production. These characteristics can include pH, temperature, anoxia, dissolved organic carbon, occurrence of organic sediments, sulfate, productivity, turbidity, sedimentation rates, wetland density, frequency of backwater or riparian wetland inundation, soil type, and surrounding land uses (USEPA 1997; Krabbenhoft et al. 1999; Brumbaugh et al. 2001; Groetsch et al. 2003; Brigham et al. 2003; Hall et al. 2005).

Creation of reservoirs by flooding landscapes can promote conditions that favor bacterial production of methylmercury and its bioaccumulation (Porvari 2003; Hall et al. 2005; Bodaly et al. 2004). Inundation of soils and terrestrial vegetation can introduce mercury to the reservoir if it is present in the materials underlying the reservoir. Mercury methylation in new reservoirs appears to be positively related to the amount and quality (degradability) of organic material in the inundated area (Porvari 2003; Friedl and Wüest 2002; Hall et al. 2005; Bodaly et al. 2004; Hall and St. Louis 2004). Decomposition of the organic carbon in newly flooded vegetation and soils promotes microbial production of methylmercury. When methylmercury production leading to food web contamination occurs, the process begins quickly, within a few weeks or months as flooded vegetation and soils begin to decompose (Porvari 2003; Hall et al. 2005; Hall and St. Louis 2004; Paterson et al. 1998). Methylmercury contamination has been documented in reservoirs created by inundating boreal forest in northern Canada and Finland, the Everglades in Florida, and tropical forest in Amazonia (Porvari 2003; Hall et al. 2005; Bodaly et al. 2004; Hall and St. Louis 2004). Some common features of these sites include organic-rich soils, inundation of substantial quantities of terrestrial vegetation (typically forests), and shallow water depths.

Reservoir creation does not always result in substantial methylmercury contamination. A study was conducted on Wolford Mountain Reservoir, a new reservoir about 5 miles north of Kremmling Colorado (Bauch 2007). This reservoir was constructed by damming Muddy Creek and flooding sparsely vegetated rangeland (Stevens and Sprague 2003). After 10 years of operation, most mercury concentrations in game and nongame fish were below criteria for the protection of human, fish, and wildlife health and a threshold effect level for wildlife. In another study, CDPHE (2008) is evaluating mercury concentrations in fish tissue at selected locations throughout Colorado. Mercury contamination has been detected at some locations but not on the eastern plains of Colorado (east of Interstate 25) where the new SDS reservoirs would be sited. To date, 15 waterbodies (mostly reservoirs) in eastern Colorado have been evaluated. Mercury concentrations in fish muscle were below CDPHE's 0.5-µg/g wet weight action level for issuing fish consumption advisories at all of these waterbodies. Only two of these waterbodies had mercury concentrations in fish tissue above 0.3 µg/g wet weight. CDPHE's study did not evaluate potential risks to fish and wildlife. Beckvar et al (2005) reported an effect threshold of 0.2 µg/g wet weight for mercury in whole-body fish for fish and wildlife. The mercury effect threshold for whole-body fish can be converted to a fish muscle concentration using an equation from Peterson et al. (2005). The whole-body fish effect threshold is approximately equal to 0.3 µg/g in fish muscle – a level that most eastern Colorado waterbodies are below.

Mercury dynamics in the proposed SDS reservoirs (Jimmy Camp Creek, Upper Williams Creek, or Williams Creek) would be expected to be similar to those at CDPHE's eastern Colorado study sites and the Wolford Mountain Reservoir site than at the sites where substantial mercury contamination has been documented. The proposed SDS reservoirs would be sited largely on sparsely vegetated rangeland (ERO 2007) underlain by soils with very low organic matter levels (NRCS 2006). While the possibility of mercury mobilization and methylmercury production in one or more of the proposed SDS reservoirs exists, the risk is likely less than if they were sited in densely vegetated, organic-rich locations. The possibility of mercury mobilization does not vary among SDS alternatives.

Bauch, N.J. 2007. Selenium and Mercury Concentrations in Fish, Wolford Mountain Reservoir, Colorado, 2005. USGS Scientific Investigations Report 2007-5019.

Beckvar, N., T.M. Dillon, and L.B. Read. 2005. Approaches for Linking Whole-body Fish Tissue Residues of Mercury and DDT to Biological Effects Thresholds. *Environmental Toxicology and Chemistry* 24: 2094-2105.

Bodaly, R.A., K.G. Beaty, L.H. Hendzel, A.R. Majewski, M.J. Paterson, K.R. Rolfhus, A.F. Penn, V.L. St. Louis, B.D. Hall, C.J.D. Matthews, K.A. Cherewyk, M. Mailman, J.P. Hurley, S.L. Schiff, and J.J. Ventieswaran. 2004. Experimenting with Hydroelectric Reservoirs. Environmental Science & Technology, September 15, 347A-352A

Brigham, M.E., D.P. Krabbenhoft, and P.A. Hamilton. 2003. Mercury in Stream Ecosystems – New Studies Initiated by the U.S Geological Survey. USGS Fact Sheet 016-03.

Brumbaugh, W.G., D.P. Krabbenhoft, D.P. Helsel, D.R. Weiner, and K.R. Echols. 2001. A National Pilot Study of Mercury Contamination of Aquatic Ecosystems along Multiple Gradients: Bioaccumulation in Fish. USGS Biological Science Report 2001-0009.

Colorado Department of Public Health and Environment (CDPHE). 2008. Colorado Fish Tissue Study. http://www.cdphe.state.co.us/wq/FishCon/Analyses/. Accessed: November 20. 2008

ERO Resources Corporation (ERO). 2007. Vegetation Resources Technical Report, Southern Delivery System Environmental Impact Statement. Prepared for U.S. Bureau of Reclamation. November.

Friedl, G. and A. Wüest. 2002. Disrupting Biogeochemical Cycles – Consequences of Damming. *Aquatic Science* 64: 55-65.

Groetsch, K., L. Brooke, E. Kolodezjski, E. Chiriboga, and J. Coleman. 2003. Investigations into Walleye Mercury Concentrations Related to Long-Standing Reservoirs' Water Quality, Wetlands and Federal Energy Regulatory Licensed Dam Operation. Great Lakes Indian Fish & Wildlife Commission, Odanah,WI. March.

Hall, B.D. and V.L. St. Louis. 2004. Methylmercury and Total Mercury in Plant Litter Decomposing in Upland Forests and Flooded Landscapes.

Environmental Science and Technology 38: 5010-5021.

Hall, B.D., V.L. St. Louis, K.R. Rolfhus, R.A. Bodaly, K.G. Beaty, M.J. Patterson, and K.A. Peech Cherewky. 2005. Impacts of Reservoir Creation on the Biogeochemical Cycling of Methyl Mercury and Total Mercury in Boreal Upland Forests. *Ecosystems* 8: 248-266.

Krabbenhoft, D.P., J.G. Wiener, W.G. Brumbaugh, M.L. Olson, J.F. DeWild, and T.J. Sabin. 1999. A National Pilot Study of Mercury Contamination of Aquatic Ecosystems along Multiple Gradients. U.S. Geological Survey Toxic Substances Hydrology Program – Proceedings of the Technical Meeting. Charleston, SC., March 8012, 1999. USGS Water Resources Investigations Report 99-4018B, Vol. 2, p 147-160.

Natural Resources Conservation Service (NRCS). 2006. Soils data mart. Accessed from: http://soildatamart.nrcs.usda.gov/. Downloaded spatial and tabular data for Pueblo Area, Colorado; El Paso County Area, Colorado; Fremont County Area, Colorado. Downloaded on: April 2006; Chaffee-Lake Area,

Peterson, S.A., J. Van Sickle, R.M. Hughes, J.A. Schlacher, and S.F. Echols. 2005. A Biopsy Procedure for Determining Filer and Predicting Whole-fish Mercury Concentration. *Archives of Environmental Contamination and Toxicology* 48: 99-107.

Patterson, M.J., J.W.M. Rudd, and V.L. St. Louis. 1998. Increases in Total and Methylmercury in Zooplankton following Flooding of a Peatland Reservoir. *Environmental Science and Technology* 32: 3868-3874.

Porvari, P. 2003. Sources and Fate of Mercury in Aquatic Ecosystems. Monographs of the Boreal Environment Research No. 23. Finnish Environment Institute, Finland.

Stevens, M.R. and L.A. Sprague. 2003. Hydrology and Water-Quality Characteristics of Muddy Creek and Wolford Mountain Reservoir near Kremmling, Colorado, 1990 through 2001. USGS Water-Resources Investigations Report 03–4073.

U.S. Environmental Protection Agency (USEPA). 1997. Mercury Study Report to Congress Volume III: Fate and Transport of Mercury in the Environment. EPA-425/R-97-005. EPA Office of Air Quality Planning & Standards and Office of Research and Development. December.

Selenium

A commenter was concerned that the Supplemental Information Report did not disclose the significance of simulated dissolved selenium concentrations. The commenter also questioned whether the Preferred Alternative could be permitted due to simulated WQS exceedances. Simulated dissolved selenium concentrations were compared to WQS for the protection of beneficial uses of potentially affected waterbodies. Please refer to comment responses 47-1, 47-5, and 47-7.

Comment 3361: Concern about effects of increased selenium concentrations on fish

Response 3361: A commenter was concerned that simulated increases in dissolved selenium concentrations may adversely affect aquatic life. The commenter suggested that a recent study of selenium effects on bluegill (USEPA 2008) should be considered. The commenter further suggested that a simulated dissolved selenium concentration of 59 µg/L for the Participants' Proposed Action would occur upstream of Pueblo Reservoir and affect coldwater aquatic life.

The SDS Project alternatives should have no substantial effect on dissolved selenium concentrations upstream of Pueblo Reservoir. The 59-µg/L concentration is the simulated direct effects value for the Arkansas River at Moffat Street Gage, which is located in the city of Pueblo and immediately upstream of the confluence with Fountain Creek. Dissolved selenium concentrations in the Arkansas River between Pueblo Dam and Fountain Creek may be affected by reduced streamflows for some alternatives, resulting a greater influence of local sources of selenium (refer to Supplemental Information Report section 5.4.2.3).

Section 3.10 of the FEIS has been revised to include discussion of potential aquatic life effects from the simulated dissolved selenium concentrations. The recent bluegill study was considered in that evaluation. Nonetheless, mitigation measures for dissolved selenium in FEIS section 3.7 and chapter 5 (refer to comment response 47-1) should avoid adverse effects on aquatic life from construction and operation of the proposed SDS Project.

U.S. Environmental Protection Agency (U.S. EPA). 2008. Effect of Selenium on Juvenile Bluegill Sunfish at Reduced Temperatures. EPA-822-R-08-0202. EPA Office of Water. September.

Comment 3377: Requests analysis of zebra mussels

Response 3377: A commenter requested analysis of dispersal of exotic species from Pueblo Reservoir. Please see DEIS comment response 3377.

Comment 3429: Concern about effects on big game movement corridors

Response 3429: A commenter questioned the basis for determining potential temporary and permanent disturbances of large game severe winter ranges. The commenter also questioned the percentage differences in temporary and permanent pronghorn habitat disturbance between the No Action Alternative and other alternatives in Table 2 of the Supplemental Information Report. Large game ranges including severe winter range are designated by the CDOW. Effects on each species were determined by intersecting the designated ranges with the analysis area of each alternative. The percent differences in large game ranges among alternatives reflect differences in the physical layouts of the alternatives. The Wildlife Technical Report provides information and the distribution of the large game ranges for the study area (ERO 2007).

ERO Resources Corporation (ERO). 2007. Wildlife Resources Technical Report, Southern Delivery System Environmental Impact Statement. Prepared for U.S. Bureau of Reclamation. November.

Comment 3529: Concern about tamarisk (saltcedar)

Response 3529: A commenter was concerned about the potential impacts of noxious weeks, in particular tamarisk, and suggested a quantitiative analysis. Please refer to DEIS comment responses 11-7, 11-8, and 3529.

Comment 3532: Concern about effects on rare plants

Response 3532: A commenter was concerned that the Project Participants' 1041 application to Pueblo County identified effects on rare plants other than dwarf milkweed along the Western Untreated Water Pipeline. Effects on rare plants including dwarf milkweed were summarized in Table 2 of the Supplemental Information Report. The Western Untreated Water Pipeline would have temporary and permanent effects on dwarf milkweed, golden blazing star, and Rocky Mountain bladderpod.

Comment 3536: Concern about rare plant communities

Response 3536: A commenter was concerned that "critically impaired" plant communities were not considered in the Supplemental Information Report (e.g., in the "Federally Listed Threatened or Endangered or Candidate Plant Species Affected" row of Table 2 of the Supplemental Information Report). Critically imperiled plant communities are discussed under the Plant Species and Plant Communities of Concern section. The Federally Listed Threatened or Endangered or Candidate Plant Species section only covers species that are listed under the Endangered Species Act (ESA) or are candidates to be listed under the ESA.

Comment 3551: General concern about change in land use

Response 3551: A commenter was concerned about changes in land use due to the SDS Project throughout the study area. Please see DEIS comment response 3551.

Comment 3552: General concern about private property

Response 3552: Commenters were concerned about changes in land use on or near private property. Please see DEIS comment response 3552.

Comment 3715: Concern about economic effects/property values along pipeline corridor

Response 3715: A commenter expressed concern about impacts of construction and operation of proposed SDS facilities on the use and value of properties where they would be located. Please see DEIS comment response 3715.

Comment 3729: Concern about costs and rate impacts

Response 3729: A commenter suggested that the debt obligation for the proposed SDS Project would exceed the useful life expectancy of the project. While repayment of some of the bonds issued to finance the capital costs of the SDS alternatives may continue beyond the study period analyzed in the DEIS and Supplemental Information Report, there is no reason to expect that the useful life of the project (please see DEIS comment response 5000) will end prior to repayment of the debt obligation. The financial effects analyses provided in the DEIS provide a representative view of the effects on SDS Participant customers from the alternatives.

Comment 3735: Concern about municipal water quality and cost in the lower Arkansas Valley

Response 3735: A commenter expressed concern that the SDS alternatives would reduce the quality of water for municipalities in the Lower Arkansas Valley and potentially increase their water treatment costs. Please see DEIS comment response 3735.

Comment 3739: Concern about agricultural effects/crop yield

Response 3739: A commenter expressed concern about potential effects of water quality on agricultural production in Fountain Creek downstream of Fountain. The DEIS examined potential effects of the SDS alternatives on agricultural production in El Paso and Pueblo counties. This information is summarized in section 3.15.5.1 and discussed further in the Socioeconomic Effects Analysis (BBC 2008).

BBC Research and Consulting (BBC). 2008. Socioeconomic Effects Analysis, Southern Delivery System Environmental Impact Statement. Prepared for U.S. Bureau of Reclamation. January.

Comment 3750: Requests additional analysis on environmental justice

Response 3750: Commenters expressed concern about the potential for increased mercury and selenium exposure by low-income populations in Pueblo County through consumption of contaminated fish from Fountain Creek and other potentially impacted surface waters in the Arkansas River Basin. The commenter also requested mitigation for this potential effect. Refer to comment responses 3353 and 3361 for the mercury and selenium effects portions of this comment.

The fish populations both in Fountain Creek and in the Arkansas River downstream of Wildhorse Creek contain small fish, such as minnows, that would be too small to be consumed as food. The quantity of larger fish that could be suitable for consumption, such as catfish, bass, carp, and suckers, is low and is unlikely to be a substantial part of the diet of local residents. There are currently no consumption advisories for fish from Fountain Creek or the Arkansas River for selenium or mercury. This is not expected to change with the project.

As discussed in comment response 3353, although the possibility of mercury mobilization and methylmercury production in one or more of the proposed SDS reservoirs exists, the risk is likely less than if they were sited in densely vegetated, organic-rich locations. There is no reason to anticipate a disproportionate effect on low income populations from mercury mobilization or methylmercury production in one or more of the proposed SDS reservoirs.

Comment 3801: General concern about wetland impacts

Response 3801: A commenter questioned why the wetland effects shown in Table 2 of the Supplemental Information Report differed between the No Action and Highway 115 alternatives. Although they share many components, the physical layout of the No Action and Highway 115 alternatives are not identical.

Comment 3900: Other Resources

Response 3900: 08, 437, 438] Commenters were concerned about traffic effects. Please see DEIS comment responses 3900 and 43-6.

A commenter was concerned about the Bradley Road Realignment at the proposed Upper Williams Creek Reservoir site – ensuring that the realignment would meet Defense Access Road standards and that those costs are reflected in the cost estimates for alternatives that include the realignment. The section 5.18.2 of the Supplemental Information Report states that the Bradley Road Realignment would comply with Defense Access Road standards. Cost estimates for the Participants' Proposed Action and Wetland alternatives include the Bradley Road Realignment (CH2M HILL 2008a).

A commenter questioned the differences between the "Length of Pipeline to be Installed Under Roadways" and "Number of Roadways Affected by Open Cut Construction" for the No Action, Participants' Proposed Action, and Highway 115 alternatives in Table 2 of the Supplemental Information Report. Differences in these traffic effect measures among alternatives reflect differences in the physical layouts of the alternatives. Although the physical layouts of the No Action and Highway 115 alternatives are similar, they do differ, particularly with regard to the No Action Alternatives' ground water systems in El Paso County.

Comment 3911: Concern about other permits

Response 3911: A commenter expressed concern about the 1041 permitting process for Pueblo County being started prior to Reclamation issuing a ROD. The DEIS addressed this topic in chapter 2, pages 92 to 94. Reclamation's identification of a Preferred Alternative does not affect the permitting authority that other agencies, such as the Army Corps of Engineers or Pueblo County, would have over the project.

A commenter suggested that the Supplemental Information Report should have included a 404(b)(1) analysis for Clean Water Act Section 404 compliance. Please refer to DEIS comment responses 13-1, 13-2, 13-3, 45-2, and 3911.

Comment 3950: General suggested mitigation

Response 3950: A commenter submitted information on the Robert T. Staffort Diaster Relief Act and Emergency Assistance Act (November 23, 1988) Hazard Mitigation Grant Program. Please see DEIS comment response 3950.

A commenter stated that the mitigation measures identified in the DEIS are not adequately defined, not guaranteed, and require further public comment. Please see DEIS comment responses 28-7 and 3950.

A commenter expressed concern that avoidance of effects was not considered in the NEPA process for the proposed SDS Project. Reclamation does not agree with this comment. Effect avoidance was a major factor in the development of alternatives for detailed evaluation in the DEIS. Additionally, mitigation measures included in the resource-specific sections of DEIS chapter 3 would avoid, minimize, or eliminate the adverse effects. The Supplemental Information Report described several alternatives modifications intended to avoid adverse effects. Mitigation measures in chapters 3 and 5 of the FEIS would avoid, minimize, or eliminate the adverse effects.

A commenter suggested the following mitigation for potential effects on or adjacent to the Frost Livestock Co. property in El Paso County:

- Mitigate noise pollution from pipeline construction
- Mitigate light pollution from pipeline construction
- Mitigate fugitive dust pollution from pipeline construction
- Mitigate trespass and security issues
- Avoid a heron rookery at the pipeline crossing of Fountain Creek

- Avoid a natural gas pipeline at a crossing of Fountain Creek
- Avoid geological formations know as the “Tepee Buttes” at a crossing of Fountain Creek
- Maintain Williams Creek streamflows at historical levels
- Provide excess capacity in the proposed Williams Creek Reservoir to capture stormflows and make “smoothed” releases to avoid erosion
- Mitigate effects of the proposed Williams Creek Return Flow Conveyance Pipeline on geomorphology of Fountain Creek, including restoring sinuosity
- Install a streamflow gaging station on Fountain Creek between the proposed Williams Creek Return Flow Conveyance Pipeline outlet and the northern boundary of Frost Livestock Co.’s land
- Monitor streamflow on Williams Creek near the Frost Livestock Co.’s land
- Monitor ground water levels in the vicinity of Frost Livestock Co.’s agricultural operations
- Monitor water quality in Fountain Creek near the Frost Livestock Co.’s headgate
- Monitoring water quality in Williams Creek downstream of the proposed Williams Creek Reservoir
- Conduct aerial and land-based photography to monitor Fountain Creek channel movements and changes in vegetative cover over time
- Involve the Frost Livestock Co. during design, construction, and operation of the proposed Williams Creek Reservoir
- Mitigate adverse effects of the SDS Project as they are identified

Mitigation measures for noise, light, and air pollution and construction scheduling to avoid nesting migratory birds were included in the sections 3.19, 3.20, 3.24, and 3.13 of the DEIS, respectively. These measures have been retained and revised in the FEIS. The FEIS also includes Chapter 5, which identifes specific environmental commitments for Reclamation’s Preferred Alternative.

Section 2.4.3 describes the need for the Project Participants to obtain easements from private property owners. Measures to address security and potential trespass issues could be negotiated as a part of those easements.

Section 3.13.5.4 and Chapter 5 in the FEIS describe the requirement of the Participants to conduct raptor nest surveys prior to construction and impose seasonal restrictions to surface activity within recommended buffers (generally ¼ to ½ mile) around active raptor nest sites and heron rookeries during construction.

None of the SDS Project alternatives would involve relocating the existing natural gas pipeline or affecting the “Tepee Buttes” formation at the proposed Fountain Creek crossing near the Frost Livestock Co.’s property.

None of the SDS Project alternatives described in the FEIS would used Williams Creek to convey releases of stored reusable return flows. The Project Participants do not own water rights for native streamflows in the Williams Creek Basin. Consequently, simulated future streamflows for Williams Creek would be comparable to historical streamflows. The Division Engineer would be responsible for ensuring that operation of SDS reservoirs would not injure senior water rights (please refer to section 3.5 of the FEIS).

Section 3.8 of the DEIS described incidental flood attenuation by the proposed Williams Creek Reservoir. The purpose of this proposed facility is not stormwater control and the Project Participants do not own water rights for stormflows from the Williams Creek Basin. Additional storage capacity is not necessary and incidental flood control storage would be operated in compliance with regulations by the Colorado State Engineer. Also refer to DEIS comment response 3181.

Section 3.9 of the DEIS included geomorphology mitigation measures for Fountain Creek. Section 3.9 and Chapter 5 of the FEIS include measures to mitigate geomorphic effects of the proposed Williams Creek Return Flow Conveyance Pipeline on geomorphology of Fountain Creek, including consideration of strategies for restoring sinuosity.

Installation of a streamflow gaging station on Fountain Creek between the proposed Williams Creek Return Flow Conveyance Pipeline outlet and the northern boundary of Frost Livestock Co.'s land and monitoring streamflow on Williams Creek near the Frost Livestock Co.'s land are not necessary. The Fountain Creek watershed already has a dense network of gaging stations. Releases of reusable return flows the Williams Creek Return Flow Conveyance Pipeline or stormflows from Williams Creek Reservoir would be monitored by the Project Participants and the Division Engineer for water accounting purposes. These data alone or in combination with other gage data could be used to provide the information requested by the commenter.

Section 3.6 of the DEIS and FEIS indicate negligible to minor effects on Fountain Creek alluvial ground water for all SDS Project alternatives downstream of Fountain. A program to monitor ground water levels in the vicinity of Frost Livestock Co.'s land is not warranted based on anticipated effects.

Section 3.7 of the DEIS included a water quality monitoring and adaptive management program as a mitigation measure. Section 3.7 and Chapter 5 of the FEIS also include this measure. Specific monitoring locations would be identified in a plan to be developed prior ro execution of any long-term contracts between the Project Participants and Reclamation.

Collection of aerial and land-based photography to monitor Fountain Creek channel movements and changes in vegetative cover over time is not warranted. The Project Participants have committed to geomorphic and riparian and upland vegetation mitigation measures that are commensurate with anticipated effects of the SDS Project. These measures are described in sections 3.9, 3.11, and 3.12 and chapter 5 of the FEIS.

Reclamation believes that the Project Participants should consult the Frost Livestock Co. during design, construction, and operation of the proposed Williams Creek Reservoir because of the portential effects on the Co.'s land. However, Reclamation does not have authority to mandate this coordination.

Appendix H of the DEIS described a conceptual adaptive management plan, which would be used to mitigate adverse effects of the SDS Project as they are identified. This plan has been included as Appendix I of the FEIS and is identified as an environmental commitment in Chapter 5 of the FEIS.

Comment 4000: Issues outside of scope of EIS

Response 4000: Commenters were concerned about a variety of issues outside the scope of this EIS:

- Wastewater treatment technology
- Suggestion to burn trash to generate electricity

These issues are outside of the Reclamation's control and the scope of this EIS and are not discussed further.

Comment 4001: Concern about Colorado Springs' sanitary sewer overflows

Response 4001: Commenters were concerned about sanitary sewer overflows from Colorado Springs and their effect on Fountain Creek. Please see DEIS comment response 4001.

Comment 5000: Comments about process

Response 5000: Commenters were concerned that the NEPA process for the proposed SDS Project was inconsistent with various laws, regulations, policies, and guidelines. Reclamation conducted the NEPA process for the proposed SDS Project in compliance with applicable laws, regulations, policies, and guidelines.

A commenter requested inclusion of various reports, memoranda, e-mails, newspaper articles, laws, regulations, and other documents in the administrative record. All publicly available documents that were identified with reasonably complete bibliographic information (e.g., author, title, date, or website) such that the commenter's intended document is clearly discernable are incorporated into the administrative record through the references provided in the commenter's letter. Any documents that can not be identified with reasonable certainty based on the commenter's bibliographic information or are considered predecisional information by Reclamation are not included in the administrative record.

Comment 5002: Concern that EIS is biased

Response 5002: A commenter was concerned that Reclamation staff are biased toward the Project Participants. Reclamation does not agree with this comment. Reclamation has complied with applicable laws, regulations, policies, and guidance and has no vested interest in the outcome of this NEPA process.

Commenters were concerned that consultants who prepared the DEIS or Supplemental Information Report were siding with the Participants or had an undisclosed conflict of interest. Reclamation does not concur with this comment. Consistent with 40 CFR 1506.5(c), this EIS was prepared by a third party that has no financial or other interest in the outcome. Reclamation as lead federal agency, chose a contractor (MWH) to assist with preparation of the EIS. MWH and its subcontractors have executed disclosure statements specifying that they have no financial or other interest in the outcome of the SDS Project. Although much of the EIS and supporting technical documents were prepared by contractors, Reclamation furnished guidance and directed the EIS's preparation, independently evaluated the information, and remains fully responsible for the scope and content of the EIS. Also refer to DEIS comment response 5002.

Comment 5004: Suggested consultation and coordination

Response 5004: A commenter was concerned that CDOW was not consulted in the design of the project alternatives as required by the El

Paso County land development code. Reclamation consulted with CDOW several points in the NEPA process for the proposed SDS Project, including scoping, alternatives development, effects analyses, and mitigation planning. The existence of some differing opinions between these agencies does not signify an absence of consultation.

Comment 5005: Concern about comparisons to No Action Alternative

Response 5005: Commenters were concerned that comparisons of each action alternative to the No Action Alternative did not clearly disclose environmental effects or are improper. Please see DEIS comment response 5005.

Comment 5200: Comments about Public Involvement

Response 5200: A commenter was concerned about lack of response from Reclamation regarding DEIS comments. NEPA regulations (40 CFR 1503.4) and Reclamation's Draft NEPA Handbook (Reclamation 2000) specify that public comments must be responded to in the FEIS if one is prepared. Each comment received on the DEIS and Supplemental Information Report have received a response in this FEIS. To develop the FEIS, the DEIS has been revised as necessary to respond to substantive comments.

U.S. Bureau of Reclamation (Reclamation). 2000. National Environmental Policy Act Handbook (draft).

A commenter was concerned Reclamation would not have adequate time to respond to comments on the Supplemental Information Report. The comment period for the Supplemental Information Report closed on November 24, 2008 and the FEIS was filed on December 12, 2008. Reclamation reviewed Supplemental Information Report comments as they arrived and incorporated revisions in the FEIS. All comments were thoroughly considered and responses are presented in this appendix.

Comment 5209: General comments about DEIS [or Supplemental Information Report]

Response 5209: A commenter suggested that, in general, existing public records or data were overlooked. Please see DEIS comment response 5209.

Comment 5211: Request to extend public comment period

Response 5211: A commenter requested a new public comment period to consider PSOP, JUM + PDNOW untreated water intake, proposed Juniper Pump Station electical facilities, and Phantom Canyon Pumped-Storage Project concerns raised by the commenter. Reclamation believes that the commenter's concerns have been addressed and that a new comment period is not warranted. Please refer to comment responses 2000, 2003, 2407, and 3001.

Appendix D

Operational Characteristics of EIS Alternatives

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D. Operations

> Some tables in this appendix use the following numbers to identify the alternatives:
>
> - Alternative 1 (No Action Alternative)
> - Alternative 2 (Participants' Proposed Action)
> - Alternative 3 (Wetland Alternative)
> - Alternative 4 (Arkansas River Alternative)
> - Alternative 5 (Fountain Creek Alternative)
> - Alternative 6 (Downstream Intake Alternative)
> - Alternative 7 (Highway 115 Alternative)

D.1 Water Supplies

As discussed in Chapter 1 and Appendix A, the primary water supplies for the SDS Project would include water currently owned by the Participants in the Colorado Canal System (or other former agricultural systems) and reusable return flows, which result from existing transmountain water supplies.

Water rights owned in the Colorado Canal System would be delivered to either regulating storage, upper Arkansas River Basin storage or diversion facilities or to the untreated water intake by exchange. Depending on the alternative, reusable return flows would be delivered to either regulating storage, upper Arkansas River Basin storage or diversion facilities, or to the untreated water intake by exchange or direct diversion.

D.1.1 Surface Water Diversions

Water would be delivered to the untreated water intake from regulating storage in Pueblo Reservoir by direct release for the Participants' Proposed Action, Wetland, Arkansas River, and Downstream Intake alternatives, or water stored in Twin Lakes previously used to fill the Homestake pipeline would be released to the Arkansas River for diversion at the Highway 115 Intake and new exchanges would be made to an upgraded Ark-Otero Intake on the Arkansas River to fill the Homestake pipeline for the No Action and Highway 115 alternatives. In the Highway 115 Alternative, Fountain and Security would trade water and/or conveyance space in the SDS pipeline with Colorado Springs to account for deliveries to those entities from Colorado Springs' Twin Lakes account.

Mean annual SDS Project water supplies by water supply type are presented in Table D-1. For example, in the Participants' Proposed Action, 51,500 ac-ft per year of Colorado Springs' SDS Project water would come from regulating storage. Reusable return flows are exchanged from Fountain Creek, return flow storage or Colorado Canal into regulating storage prior to being diverted into the untreated water intake. Direct deliveries of

> **Hydrologic Modeling and Yield Analysis**
>
> The hydrologic analysis performed with using the SDS daily hydrologic model and summarized in this appendix is intended to quantify the hydrologic effects of proposed SDS Project operations in 2046. The Daily Model is a basin-wide operational model that approximates daily diversions and deliveries in 2046. It does not necessarily simulate a municipal or agricultural water user's full water supply collection, storage, and distribution system. Therefore, the model is not intended to and cannot be used to simulate SMAPD or Firm Yield for any water supply system. The values contained in this appendix should not be assumed to be reflective of SMAPD or Firm Yield for the Participants. SMAPD and Firm Yield are calculated by the Participants using separate procedures (Higgins 2005; MWH 2005; Black & Veatch 2004; Harding 2004).

Table D-1. Mean Annual SDS Project Arkansas River Diversion Sources.

Location	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Colorado Springs							
Reusable Return Flow Direct Diversion	0	0	0	0	0	52,400	0
Regulating Storage	0	51,500	56,300	55,500	52,200	4,300	0
Twin Lakes Tunnel	600	700	800	800	700	100	600
Twin Lakes Storage	50,900	6,100	1,300	1,200	4,600	900	56,200
Sub-Total†	51,500	58,300	58,400	57,500	57,500	57,700	56,800
Security							
Reusable Return Flow Direct Diversion	0	0	0	0	0	1,300	0
Regulating Storage	0	400	400	400	400	200	400
Sub-Total†	0	400	400	400	400	1,500	400
Fountain							
Reusable Return Flow Direct Diversion	0	0	0	0	0	1,000	0
Regulating Storage	0	1,100	1,200	1,200	1,100	900	1,100
Sub-Total†	0	1,100	1,200	1,200	1,100	1,900	1,100
Pueblo West							
Regulating Storage	0	2,800	2,800	0	2,800	0	0
Sub-Total	0	2,800	2,800	0	2,800	0	0
Total†	51,500	62,600	62,800	59,100	61,800	61,100	56,800

† Total supplies may not exactly equal total conveyed through SDS due to rounding.

Source: MWH 2008.

reusable return flows would occur only for those alternatives that have a point of diversion downstream of the reusable return flow accrual point (the Wetland, Arkansas River, and Downstream Intake alternatives). For the Wetland and Arkansas River alternatives, reusable return flows would be released from the return flow pipeline at Colorado 115 and would be stored in regulating storage before being introduced into the SDS intake; thus, the source of water for these alternatives is shown as regulating storage. For the remaining alternatives, reusable return flows would be delivered out of regulating storage. Pueblo West would not participate in SDS infrastructure if the Arkansas River, Downstream Intake, or Highway 115 alternative is selected; thus, no surface water diversions are shown for these alternatives. Pueblo West, however, would still store water in Pueblo Reservoir under these alternatives.

D.1.2 Exchanges

Exchanges are the primary means by which Colorado Springs, Fountain, and Security would maximize their use of reusable return flows in the No Action, Participants' Proposed Action, Fountain Creek, Downstream Intake, and Highway 115 alternatives. Colorado Springs, Fountain, and Pueblo West have additional exchanges with the Colorado Canal System. Additional exchanges would be made by Colorado Springs from Pueblo Reservoir to Twin Lakes to supplement the transmountain water sources diverted through the Otero Pump Station (discussed below).

Mean annual simulated river exchanges into Pueblo Reservoir for the SDS Participants are presented in Table D-2. Mean annual exchanges into storage facilities or intake locations above Pueblo Reservoir are shown in Table D-3. Colorado Springs is the only Participant that would make exchanges to the upper Arkansas River Basin.

Mean annual contract exchanges for Colorado Springs and Fountain, the only Participants that would use contract exchanges, are presented in Table D-4. Contract exchanges also would be used to exchange water from restoration of yield (ROY) storage into Pueblo Reservoir. Colorado Springs' use of ROY storage and, consequently, ROY contract exchanges would vary among alternatives. No contract exchanges are shown for the No Action Alternative because there would be no excess capacity storage in Pueblo Reservoir under the No Action Alternative. No ROY contract exchanges are shown for Fountain because the SDS Project daily hydrologic

Table D-2. Mean Annual SDS Project River Exchange to Pueblo Reservoir.

Location	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Colorado Springs							
Fountain Creek	38,600	44,500	200	200	44,200	15,900	54,300
Return Flow Storage	7,900	16,900	0	0	17,000	300	9,200
Colorado Canal System	22,600	23,200	22,800	22,700	22,200	18,400	18,900
ROY Storage	1,000	200	0	0	100	0	100
Sub-Total	70,100	84,800	23,000	22,900	83,500	34,600	82,500
Security							
Fountain Creek	0	400	400	400	400	200	400
Sub-Total	0	400	400	400	400	200	400
Fountain							
Fountain Creek	0	200	300	400	200	100	300
Colorado Canal System	0	500	500	500	500	500	500
ROY Storage	0	100	100	100	100	0	100
Sub-Total	0	800	900	1,000	800	600	900
Pueblo West							
Wild Horse Creek	0	0	0	100	0	100	100
Colorado Canal System	300	300	300	300	300	300	300
Sub-Total	300	300	300	400	300	400	400
Total	70,400	86,300	24,600	24,700	85,000	35,800	84,200

Source: MWH 2008.

Table D-3. Mean Annual SDS Project River Exchange to Upper Arkansas River Basin.

Location	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Colorado Springs							
Turquoise Lake	7,000	5,500	4,100	4,100	4,900	4,200	5,100
Twin Lakes	17,900	18,800	16,400	16,600	16,300	16,100	17,600
Ark-Otero Intake	40,600	0	0	0	0	0	47,900
Total	65,500	24,300	20,500	20,700	21,200	20,300	70,600

Source: MWH 2008.

Table D-4. Mean Annual SDS Project Contract Exchanges.

Location	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Colorado Springs							
ROY Storage to Pueblo Reservoir	0	100	0	0	100	0	0
Pueblo Reservoir to Turquoise Lake	0	2,100	2,400	2,400	2,400	2,500	3,700
Pueblo Reservoir to Twin Lakes	0	2,900	3,200	3,100	3,100	2,500	3,600
Fountain							
ROY Storage to Pueblo Reservoir	0	300	300	300	300	200	300

Source: MWH 2008.

model is constructed to allow Fountain to make river exchanges first. Consequently, most water stored in ROY storage by Fountain would be moved to Pueblo Reservoir via river exchange rather than contract exchange.

D.1.3 Transmountain Imports

Simulated mean annual transmountain imports for each alternative are presented in Table D-5. Project Participants are direct beneficiaries of a portion of the Homestake Tunnel imports, Twin Lakes tunnel imports, and Boustead Tunnel imports. The Busk-Ivanhoe Tunnel imports benefit Aurora and the PBWW. All simulated transmountain imports are made under existing decreed water rights and associated limitations on the West Slope. Mean annual imports would be slightly greater (up to 4 percent) than for Existing Conditions for all alternatives but would not exceed the maximum allowable under existing decreed water rights and associated limitations on the West Slope.

D.2 Regulating Storage

Regulating storage would provide the Participants with the ability to store reusable return flows, changed consumptive use water,

Table D-5. Simulated Mean Annual Transmountain Imports to Upper Arkansas River Basin.

Entity	Existing Condition (ac-ft)	Maximum Allowable Imports (ac-ft)	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Homestake Tunnel	28,200	31,800	28,600	29,100	29,300	29,300	29,200	29,500	28,000
Twin Lakes Tunnel	37,700	42,200	41,700	39,200	38,600	38,800	39,500	38,700	41,300
Boustead Tunnel	65,800	65,800	65,800	65,800	65,800	65,800	65,800	65,800	65,800
Busk-Ivanhoe Tunnel	2,300	5,800	3,000	2,600	2,500	2,500	2,600	2,500	3,000
Total	134,000	145,600	139,100	136,700	136,200	136,400	137,100	136,500	138,100

†Simulated maximum allowable imports based on estimates by Grand River Consulting Corporation (MWH 2005).

Source: MWH 2008.

and other water that may be available for each Participant. Except for the No Action Alternative, regulating storage would occur as one or more long-term excess capacity storage contracts in Pueblo Reservoir, with Colorado Springs requesting 28,000 ac-ft, Fountain requesting 2,500 ac-ft, Security requesting 1,500 ac-ft, and Pueblo West requesting 10,000 ac-ft. The No Action Alternative would not include any new excess capacity storage in Pueblo Reservoir. Excess capacity contracts would allow the Participants to store non-Fry-Ark Project water in Fry-Ark storage space, provided there is space available after storing Fry-Ark Project water. Non Fry-Ark Project water and the Winter Water Storage Program water stored in excess capacity would be subject to spill in accordance with Article 13 of the SECWCD contract (Section 3.2.10).

Table D-6 presents a summary of mean storage contents and maximum storage contents for each alternative. The mean storage contents would typically be substantially less than the requested capacity for each entity because regulating storage typically would not serve as long-term carryover storage for the Participants. Rather, the storage would be used annually to store water during times of higher flow (when exchanges could be made) and release water to the SDS Project during times of lower flow.

Colorado Springs would be able to fill regulating storage to the maximum account capacity of 28,000 ac-ft during several years in the hydrologic modeling study period (1982 to 2004). With its existing water supplies, Security would be able to fill between 0 and 800 ac-ft of its 1,500-ac-ft regulating storage account capacity. Fountain would be able to fill between 300 and 1,000 ac-ft of its 2,500-ac-ft regulating storage account capacity using existing water supplies. Given its existing water supplies, Pueblo West would use between 4,000 and 6,100 ac-ft of its 10,000-ac-ft regulating storage account capacity. Maximum capacity for Security would be near 0 for several alternatives because typically, daily demand through SDS would be greater than daily supply available. When the Fry-Ark reusable return flows that constitute Security's supply were exchanged or delivered to the untreated water intake, they would be immediately diverted through the untreated water intake for delivery to the water treatment plant.

Table D-6. Mean and Maximum Storage Contents in SDS Project Excess Capacity Accounts.

Location	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Mean Storage							
Colorado Springs	0	4,700	7,800	8,300	5,300	8,000	10,000
Security	0	0	0	0	0	0	0
Fountain	0	100	100	100	100	100	200
Pueblo West	300	900	800	700	900	1,000	800
Total	300	5,700	8,700	9,100	6,300	9,100	11,000
Maximum Storage							
Colorado Springs	0	28,000	28,000	28,000	28,000	27,100	28,000
Security	0	0	0	0	0	0	800
Fountain	0	400	400	400	400	300	1,000
Pueblo West	1,000	6,100	4,600	4,000	6,000	6,100	6,000
Total	1,000	34,500	33,000	32,400	34,400	33,500	35,800

Source: MWH 2008.

D.3 Untreated Water Intake and Conveyance

Mean annual diversions for the SDS intakes from the Arkansas River are presented in Table D-7. These values represent physical diversions by the SDS untreated water intake. Mean annual diversions by Pueblo West would be the same among all alternatives for which it is a Participant in SDS infrastructure. Annual diversions for Colorado Springs, Security, and Fountain would vary slightly among Action Alternatives. Annual diversions for the No Action Alternative would be substantially lower then those for the Action Alternatives for Colorado Springs and would be absent for Security and Fountain.

Table D-7. Mean Annual SDS Project Diversions from the Arkansas River.

Location	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Colorado Springs	51,600	58,300	58,400	57,600	57,500	57,600	56,800
Security	0	400	400	400	400	1,500	400
Fountain	0	1,100	1,200	1,200	1,100	1,900	1,100
Pueblo West	0	2,800	2,800	0	2,800	0	0
Total	51,600	62,600	62,800	59,200	61,800	61,000	58,300

Source: MWH 2008.

Mean monthly diversions for Colorado Springs, Security, and Fountain are presented in Table D-8. Mean daily flows through the SDS untreated water intake and conveyance, excluding Pueblo West, would be fairly consistent among the Action Alternatives. In general, flow through the SDS Project under 2046 demands would be at the 78-mgd capacity when either the total demand at the water treatment plant equals or exceeds the SDS Project capacity or when terminal storage is less than reservoir capacity. Water treatment plant demands would typically exceed SDS Project delivery capacity from about late April through early-October. The SDS Project would be used to fill terminal storage in the fall, typically from early October through December. SDS Project flow would then match water treatment plant demands from January through late April.

D.4 Terminal Storage

Terminal storage would be used as a forebay reservoir for the proposed water treatment facility. The reservoir would provide temporary storage of water delivered from the Arkansas River before introduction into the water treatment plant. Storage would vary seasonally and daily as water demands are met. Typically, peak day demands during the summer are greater than the maximum capacity of the SDS untreated water conveyance pipeline. Water stored in terminal storage would be used to meet these peak demands. Drawdowns from terminal storage would be replenished by the untreated water conveyance pipeline during low demand portions of the year when demand at the water treatment plant is less than the maximum untreated water conveyance pipeline capacity. Mean monthly simulated terminal storage contents for each alternative are presented in Table D-9.

Table D-8. Mean Monthly SDS Flow through Untreated Water Intake to Colorado Springs, Security and Fountain.

Month	Alt 1 (mgd)	Alt 2 (mgd)	Alt 3 (mgd)	Alt 4 (mgd)	Alt 5 (mgd)	Alt 6 (mgd)	Alt 7 (mgd)
Oct	67	67	67	66	66	69	71
Nov	42	56	57	55	54	57	60
Dec	20	33	34	31	31	34	31
Jan	14	23	23	23	23	26	23
Feb	7	16	17	17	16	19	14
Mar	16	26	27	27	27	29	21
Apr	32	48	48	48	47	50	39
May	64	74	73	73	73	74	69
Jun	74	75	75	74	75	75	76
Jul	71	75	75	74	74	75	74
Aug	71	74	74	73	73	74	72
Sep	71	71	71	70	70	71	72
Mean	46	53	54	53	53	54	52

† Flows do not include Pueblo West.

Source: MWH 2008.

Table D-9. Mean Monthly SDS Terminal Storage Contents.

Month	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Oct	25,800	27,100	27,100	27,600	27,600	27,600	25,600
Nov	27,700	28,800	28,800	29,200	29,200	29,200	27,700
Dec	28,100	30,300	30,300	30,400	30,400	30,400	29,100
Jan	28,000	30,400	30,400	30,400	30,400	30,400	29,200
Feb	27,700	30,500	30,500	30,500	30,500	30,500	29,100
Mar	27,300	30,400	30,400	30,400	30,400	30,400	28,700
Apr	26,600	30,300	30,400	30,400	30,300	30,400	28,000
May	25,500	29,900	30,000	30,000	29,900	30,000	27,000
Jun	24,600	28,500	28,600	28,800	28,700	28,800	25,800
Jul	23,500	26,900	27,000	27,300	27,300	27,300	24,400
Aug	23,100	26,100	26,200	26,600	26,500	26,600	23,600
Sep	23,600	26,000	26,100	26,600	26,500	26,600	23,700
Mean	25,900	28,700	28,800	29,000	29,000	29,000	26,800

Source: MWH 2008.

D.5 Water Treatment Plant and Treated Water Conveyance

The monthly amount of water to be treated at the proposed SDS water treatment plant is projected in Colorado Springs' Operations and Yield Model (MWH 2005). It is converted into daily values and provided to the SDS Project daily hydrologic model as a time-series input that varies by month and year and specifies the daily demand at the proposed SDS water treatment plant for Colorado Springs. For Fountain and Security, because their daily demands consistently exceed their portion of SDS Project capacity and because they are not participating in terminal storage, the daily and annual demand at the water treatment plant is presented as their total SDS Project capacity.

The mean annual amount of water that would be delivered to the water treatment plant for the Project Participants is presented in Table D-10. Annual demands and deliveries to Colorado Springs for the Action Alternatives range from about 28,000 to 78,300 ac-ft, with an annual average of about 58,500 ac-ft. Simulated demands at the water treatment plant would be met for all alternatives during all years.

Annual treated water deliveries for Security under the Action Alternatives would vary from nearly 0 ac-ft in extremely dry years to slightly more than full allocation (1,500 ac-ft) of 1,700 ac-ft. Because the No Action Alternative for Security does not include water treatment at any SDS water treatment plant, no demands are shown for the No Action Alternative. Maximum deliveries are slightly greater than SMAPD and Firm Yields shown in Chapter 1 due to occasional availability of water supply and unused capacity in the untreated water conveyance system to meet demands.

Annual treated water deliveries for Fountain under the Action Alternatives would vary from about 600 ac-ft to slightly more than full allocation (2,500 ac-ft) of 2,600 ac-ft. Because the No Action Alternative for Fountain does not include water treatment at any SDS water treatment plant, no demands are shown for the No Action Alternative. Maximum deliveries are slightly greater than original SMAPD and Firm Yields shown in Chapter 1 due to occasional availability of water supply and unused capacity in the untreated water conveyance system to meet demands.

Median daily deliveries to the water treatment plant by calendar month for Colorado Springs, Fountain, and Security are presented in Table D-11. The proposed water treatment plant capacity is 109 mgd, while the maximum median daily delivery to the water treatment plant (i.e., the highest median delivery for 365 simulated days) would be between 100 and 101 mgd for all alternatives.

The average annual delivery to Fountain and Security through SDS is less than the SDS delivery capacity available to each entity (2,500 ac-ft for Fountain and 1,500 ac-ft for Security). This is because the SDS daily hydrologic model shows that inadequate supplies would be available to fully supply the requested capacity.

For Fountain, the SDS daily hydrologic model assumes that FVA return flows would be used

Table D-10. Annual SDS Water Treatment Plant Deliveries.

Location	Alt 1 (ac-ft)‡	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Mean Deliveries							
Colorado Springs§	58,400	58,500	58,500	58,500	58,500	58,500	58,500
Security	0	400	400	400	400	1,500	400
Fountain	0	1,100	1,200	1,200	1,100	1,900	1,100
Total†	58,400	60,000	60,100	60,200	60,000	61,900	60,100
Maximum Deliveries							
Colorado Springs§	74,900	78,300	78,300	78,300	78,300	78,300	78,300
Security	0	600	600	600	600	1,700	600
Fountain	0	1,700	1,700	1,700	1,700	2,600	1,900
Total*	74,900	79,500	79,500	79,600	79,500	80,700	79,800
Minimum Deliveries							
Colorado Springs§	28,000	28,000	28,000	28,000	28,000	28,000	28,000
Security	0	0	100	0	0	1,100	0
Fountain	0	600	900	900	500	1,100	0
Total*	28,000	29,300	29,300	29,400	29,300	30,500	29,400

† Total deliveries may not exactly equal sum of individual Participant deliveries due to rounding.

‡ Simulated demand year is 2046 for all alternatives.

§ Includes water from FVA administrative swap with Fountain (Alts 2-6) and FVA connector pipeline (Alts 1 and 7).

* Total minimum and total maximum are summed from total daily deliveries and not from annual summaries for each Participant. Because annual minimums and maximums for each Participant do not necessarily fall in the same year, the total of daily values may not equal the sum of the Participants' minimum and maximum values.

Source: MWH 2008.

to meet well augmentation demands in the future, and would not be available for delivery to SDS. The available water supplies for Fountain are Colorado Canal water owned by Fountain and exchanged to Pueblo Reservoir, and reusable return flows that accrue to Fountain Creek from use of reusable waters that are in excess of augmentation requirements. It is possible that Fountain could choose to use FVA return flows to supplement its SDS supply, and develop other sources of water to replace the amount of augmentation currently supplied by FVA return flows. The FVA return flows could be exchanged to Pueblo Reservoir under existing exchange decrees. The amount of FVA water currently assumed to be used for well augmentation is approximately 1,300 ac-ft per year. Assuming that most of this amount could be exchanged given the availability of Colorado Canal and ROY storage to temporarily store return flows that cannot be immediately exchanged, and assuming successive use and reuse of this water, it is likely that Fountain could fully supply SDS when supplemented by FVA return flows. If a full SDS supply were assumed (an additional 1,300 to 1,400 ac-ft per year), effects on streamflow and reservoir contents would be slightly different than those shown for all Action Alternatives. Exchanges would result in increased average annual streamflow in lower Fountain Creek up to 2 cfs, decreased average annual streamflow in the Arkansas River between Pueblo Reservoir and Fountain Creek up to 2 cfs, and an increase in Pueblo Reservoir Storage up to 2,200 ac-ft per year.

For Security, the SDS daily hydrologic model assumes that FVA return flows would be used first to meet historical levels of well augmentation demands, with the remaining amount available for delivery to SDS. Security has no other existing water supplies available to supply SDS. Like Fountain, it is possible that Security could choose to use FVA return flows to supply SDS, and develop other sources of augmentation supplies to replace the FVA water. Sewered FVA return flows could be exchanged to Pueblo Reservoir under existing exchange decrees. However, the amount of FVA return flows assumed in the Daily Model to meet augmentation demands for Security is less than 200 ac-ft per year, which is not enough to fully supply the requested delivery capacity. If Security chose to use this water to meet SDS water supply requirements, assuming successive use and reuse of this water and that it could all be exchanged, average annual streamflow in lower Fountain Creek would increase by less than 1 cfs, streamflow in the Arkansas River between Pueblo Reservoir and Fountain Creek would decrease less than 1 cfs. Effects on Pueblo Reservoir storage would be negligible. Because Security does not have the ability to store return flows that cannot be immediately exchanged, Security is unable to take full delivery of FVA return flows when exchanges are required to deliver them to the SDS untreated water intake (all Action Alternatives except the Downstream Intake Alternative (Alternative 6)).

Table D-11. Median Monthly and Maximum SDS Water Treatment Plant Deliveries.

Month	Alt 1 (mgd)†	Alt 2 (mgd)	Alt 3 (mgd)	Alt 4 (mgd)	Alt 5 (mgd)	Alt 6 (mgd)	Alt 7 (mgd)
Oct	60	62	62	62	62	65	62
Nov	34	37	38	38	37	40	37
Dec	28	31	31	31	31	34	31
Jan	21	21	22	22	21	23	23
Feb	12	14	14	14	14	17	14
Mar	20	20	21	21	20	23	20
Apr	48	50	50	50	50	51	49
May	81	83	82	82	82	83	82
Jun	93	94	93	93	94	94	94
Jul	88	89	89	89	89	89	89
Aug	75	76	76	76	76	76	76
Sep	69	70	70	70	70	70	70
Maximum Median	100	100	100	100	100	101	100

† Simulated demand year is 2046 for all alternatives.
Source: MWH 2008.

D.6 Return Flow Storage

Return flow storage would be used to temporarily store Colorado Springs' reusable return flows that could not be immediately exchanged to Pueblo Reservoir or the upper Arkansas River Basin facilities. The reusable return flows stored in return flow storage would be released during higher flow times when adequate exchange potential exists in the Arkansas River Basin. Because return flow storage is only needed for those alternatives that require exchanges to deliver or store reusable return flows, return flow storage is not included for alternatives that do not require exchanges (the Wetland and Arkansas River alternatives). Return flow storage would not include any emergency storage because water stored in return flow storage would not be directly accessible by the water treatment plant (MWH 2005).

Mean monthly simulated reservoir contents in return flow storage (Williams Creek Reservoir) are presented in Table D-12. A time-series analysis (MWH 2008) indicates that reservoir contents for all alternatives would vary seasonally, with minimum contents typically occurring in summer and maximum contents typically occurring in late spring. In general, the reservoir would fill when there is more return flow than there is exchange potential and would empty when there is more exchange potential than there are return flows.

The No Action Alternative reservoir contents would remain high for all years in the study period because, without storage in Pueblo Reservoir, Williams Creek Reservoir would hold all the return flows that are not immediately exchanged to the upper Arkansas River Basin or passed downstream to Colorado Canal. Because an exchange from Fountain Creek to the upper Arkansas River Basin is more difficult than an exchange from Fountain Creek to Pueblo Reservoir, return flows would be held in Williams Creek for a longer period of time. Simulated reservoir contents in return flow storage would be intermediate for the two alternatives that rely on exchanges from Fountain Creek to Pueblo Reservoir and participate in the Pueblo Flow Management Program (the Participants' Proposed Action and Fountain Creek Alternative). This is because the SDS Project could not directly divert reusable return flows; therefore, if they could not be immediately exchanged due to lack of exchange potential or PFMP curtailments, they would be stored in return flow storage.

In the Highway 115 Alternative, which also relies on exchanges from Fountain Creek to Pueblo Reservoir, Colorado Springs would not participate in the Pueblo Flow Management Program because the untreated water intake would not come out of Pueblo Dam. Therefore, it would be easier for exchanges of reusable return flows to be made directly into Pueblo Reservoir, and the reusable return flows would not need to be stored in Williams Creek Reservoir as often as in the Participants' Proposed Action and Fountain Creek Alternative. In the Downstream Intake Alternative, reusable return flows would be delivered directly to the diversion location below the Fountain Creek confluence. However, reusable return flows would still require exchange into Pueblo Reservoir for regulating storage. Consequently, reusable return flows would be stored only in return flow storage if the reusable return flow was greater than either the SDS capacity or the

Table D-12. Mean Monthly Return Flow Storage.

Month	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Oct	22,100	6,000	0	0	6,200	1,500	4,100
Nov	23,500	6,200	0	0	6,500	1,500	4,300
Dec	26,100	8,300	0	0	8,400	1,500	4,800
Jan	27,400	10,600	0	0	10,700	1,600	5,800
Feb	27,900	12,600	0	0	12,800	1,700	7,000
Mar	28,000	14,900	0	0	15,100	2,000	8,600
Apr	27,500	14,500	0	0	15,100	1,900	6,100
May	25,400	10,900	0	0	12,100	1,900	5,600
Jun	22,100	5,800	0	0	7,200	1,800	4,300
Jul	20,600	4,500	0	0	4,900	1,700	3,800
Aug	19,900	4,500	0	0	4,800	1,600	3,800
Sep	20,300	4,900	0	0	5,300	1,500	4,000
Mean	24,200	8,600	0	0	9,100	1,700	5,200

Source: MWH 2008.

available storage space in terminal storage, and there was no potential in the Arkansas River to exchange water into Pueblo Reservoir. This would result in less storage in the return flow reservoir for the Downstream Intake Alternative than for other similar alternatives. Table D-13 summarizes the percentage of the return flow capacity that would be used on a daily basis under 1982 through 2004 hydrologic conditions. For the No Action Alternative, the reservoir would remain nearly full. About 57 to 59 percent of the time, the reservoir would be nearly empty under the Participants' Proposed Action and Fountain Creek Alternative; however, the full capacity would be used nearly 8 to 9 percent of the time. For the Downstream Intake Alternative, the reservoir would consistently be less than 25 percent full. Component sizing was not optimized separately for each alternative. Thus, the optimum size of this reservoir may be smaller from some alternatives. Some component optimization may occur during final design of the Preferred Alternative.

D.7 Return Flow Conveyance

The simulated mean annual conveyance of reusable return flows through the return flow conveyance pipelines is shown in Table D-14. The return flow conveyance systems would convey reusable return flows to Fountain Creek or the Arkansas River for exchange or direct diversion by SDS. The Williams Creek Return Flow Conveyance Pipeline would convey reusable return flows from return flow storage to Fountain Creek immediately below the Owen and Hall diversion. Only releases from return flow storage would be conveyed in this pipeline. The Highway 115 Return Flow Pipeline configuration would convey reusable return flows from the J.D. Phillips Water Reclamation Facility and LVSWWTF to the Arkansas River at Colorado 115 near Florence. The Eastern Return Flow Pipeline would convey reusable return flows from return flow storage to the confluence of Fountain Creek and the Arkansas River. In this configuration all reusable return flows being delivered to the Arkansas River (both return flow storage releases and reusable return flows that are immediately exchanged or delivered to other Arkansas River locations) are conveyed in the pipeline. The Wetland and Arkansas River alternatives include the Highway 115 Return Flow Pipeline configuration while the Fountain Creek Alternative includes the Eastern Return Flow Pipeline. All other alternatives include the Williams Creek Return Flow Conveyance Pipeline.

The Highway 115 Return Flow Pipeline would be sized so that most exchangeable reusable return flows could be delivered to the Arkansas

Table D-13. Daily Usage of Return Flow Reservoir Capacity.

Storage Content	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6†	Alt 7†
0%-25% Full	2%	59%	No Return Flow Reservoir		57%	100%	87%
26%-50% Full	2%	22%			23%	0%	7%
51%-75% Full	17%	10%			11%	0%	2%
76%-100% Full	79%	8%			9%	0%	4%

† Components were not optimized separately for each alternative and were therefore simulated at the same maximum size.

Source: MWH 2008.

Table D-14. Mean Annual SDS Conveyance through Return Flow Pipelines.

Conveyance to Fountain Creek/ Arkansas River	Alt 1 (ac-ft)	Alt 2 (ac-ft)	Alt 3 (ac-ft)	Alt 4 (ac-ft)	Alt 5 (ac-ft)	Alt 6 (ac-ft)	Alt 7 (ac-ft)
Williams Creek Return Flow Conveyance Pipeline	7,900	17,000	0	0	0	200	8,200
Highway 115 Return Flow Pipeline	0	0	69,100	69,100	0	0	0
Eastern Return Flow Pipeline	0	0	0	0	63,000	0	0

Source: MWH 2008.

River through the pipeline; thus, deliveries would be consistent for the Wetland and Arkansas River alternatives. The mean annual flows through the Eastern Return Flow Pipeline configuration in the Fountain Creek Alternative would be less than the mean annual flow through the Highway 115 Return Flow Pipeline. This would occur because of transit losses in Fountain Creek and evaporative losses of reusable return flows that are stored in return flow storage. Because the Williams Creek Return Flow Conveyance Pipeline conveys only return flow reservoir releases, mean annual flow would be substantially less than the other two configurations.

D.8 General Facilities Operation and Maintenance Procedures

D.8.1 Operations and Control

Under all alternatives, SDS project facilities would be monitored continuously from Colorado Springs Utilities' existing Control Center. A Supervisory Control and Data Acquisition (SCADA) system would control and monitor the SDS facilities. Information on facilities status would be transmitted through fiber optic lines and a redundant microwave communications system linked to computers at the Control Center. The system would be connected to instruments or sensors to monitor pressure, flow, valve position, and other parameters, and would facilitate remote control of critical facilities. The system also would have an alarm system capable of notifying key personnel when emergency situations occur and would store operational data for accounting purposes. Under the No Action Alternative, Fountain, Security, and Pueblo West would monitor and operate their facilities through their individual, existing control centers. Alternatives consisting of multiple reservoirs (the No Action, Participants' Proposed Action, Fountain Creek, Downstream Intake, and Highway 115 alternatives) would require more complex control systems, real-time operational decisions, and labor.

All pump stations would be designed to automatically shut down on power failure. A backup power supply (e.g., propane) would provide power to the lighting, instrumentation, and communications networks during a power outage. The control system would ensure communications among the pump stations. During shut down of the untreated water pumping system, the control system will prevent excessive water levels at any pump station. Emergency control valves and surge control facilities would be included in the pump stations. Surge control facilities would stop pressure surges caused by sudden pump shut down. These control systems and facilities would prevent a power outage from allowing excessive pressures in the untreated water conveyance pipeline. Should releases from the pipeline be necessary, overflow facilities for the pump station storage tanks would be designed to convey excess flows to a natural watercourse capable of handling them in an emergency event.

D.8.2 Conveyance Systems Maintenance

Untreated, treated, and return flow conveyance systems would be maintained in a similar manner. Untreated water pipelines would require routine maintenance inspections. This would consist of driving the pipeline alignments semi-annually and visually evaluating site conditions. These inspections would detect evidence of unauthorized excavation activity on or near rights-of-way, erosion and washout areas, areas of sparse vegetation, damage to permanent erosion control devices, exposed pipe, and other potential problems that might affect the safety and operation of the pipeline. In addition, pipeline markers and signs would be inspected and maintained or replaced, as necessary. Repairs to the right-of-way could include regrading and reseeding with appropriate plant materials or installing other soil stabilization measures. Maintenance roads would not be built along the pipelines. However, a permanent access road would be constructed from Squirrel Creek Road south to the Williams Creek Pump Station along the untreated water pipeline route. If a pipeline segment could not be accessed from a main road, a 4-wheel drive vehicle would be used.

Other maintenance operations would include valve maintenance (both air/vacuum and in-line), pipeline cathodic protection testing, pipeline equipment replacement or repair, and pump stations monitoring and maintenance. The air/vacuum valve maintenance would be done annually and would include driving to each valve station, opening and entering the vault access, inspecting and lubricating valves, performing maintenance and replacing broken or failed components. Annual in-line valve maintenance would consist of exercising or turning in-line valves and lubricating components exposed inside valve vaults or manholes.

Pipeline cathodic protection testing would be done annually and consist of driving along the pipeline alignment, testing the system at test stations spaced at roughly 1,500-ft intervals, setting up temporary anodes and the connection to each test station to check continuity and pipe-to-soil potentials (voltages).

Detailed visual surveys would be done every 2 to 3 years, which would require walking the pipeline alignment. Pipeline equipment replacement or repair would be done as needed or once every 10 to 15 years. Maintenance would consist of servicing or replacing failed in-line valves, flow meters, blowoff valves or other major components that require pipe shutdown. This would include draining, refilling, testing, and returning the pipeline to operation. This also would include the discharge of water at adjacent blow-offs (discussed in Chapter 2), pipeline excavation, and backfill and surface restoration.

Daily or weekly maintenance activities would include driving to each pump station to inspect the facility, facility grounds, and equipment and to test the equipment. Pump station maintenance also would include lubricating mechanical equipment and pumps based on manufacturer instructions, checking valves, testing the lighting and controls standby generator, testing the standby overhead crane if furnished and testing alarms and SCADA equipment. Routine maintenance would be performed on a scheduled basis and major overhauls would be likely after 10 to 15 years for each pump and its generator.

Maintenance equipment would consist of combinations of pickup or flatbed trucks, mowers, mechanical blowers, boom-trucks, excavators, loaders, and compactors depending upon the needs of the maintenance activity.

D.8.2.2 Terminal and Return Flow Storage Maintenance

Routine maintenance of the terminal and return flow storage reservoirs would include inspection of all facilities, dam safety inspections, inlet trash rack cleaning, equipment operation, lubrication, and replacement. Spillway repairs, erosion protection repairs downstream of discharge point, instrumentation inspection, calibration, and replacement would be performed as needed. General maintenance activities also would include litter removal, culvert cleaning, and mowing of selected areas if required for dam safety.

Maintenance equipment would consist of combinations of pickup or flatbed trucks, mowers, mechanical blowers, boom-trucks, excavators, loaders, and compactors depending upon the needs of the maintenance activity.

D.8.2.3 Water Treatment Plant Maintenance

Maintenance of the water treatment plant would include routine visual inspections, monitoring, equipment replacement, or repair and specialty maintenance. Routine maintenance would consist of observing, monitoring, and inspecting the plant daily. Maintenance activities would include lubricating mechanical equipment, monitoring and testing the alarms on standby equipment.

Equipment replacement or repair would be performed on a scheduled basis and would consist of checking valves and other major components. This activity would include closing valves and isolating the component requiring service, disconnecting header piping, draining the isolated line, and removing the valve or object needing repair or replacement. Specialty maintenance would be necessary for pump impeller, stator, or diaphragm replacement, equipment drive rebuilding and eventual replacement, ozone generation and destruct equipment repairs and replacement and filter media replacement.

Maintenance equipment would consist of combinations of pickup or flatbed trucks, mowers, mechanical blowers, boom-trucks, excavators, loaders, and compactors depending upon the needs of the maintenance activity.

D.9 References

Black & Veatch Corp. 2004. Appendix A to Water Resource Study for Fountain, Colorado.

Harding, L. 2004. Manager. Security Water District. Meeting with B. Van Derveer, Supervising Environmental Scientist, MWH Americas, Inc. October 27.

Higgins, D. (Treatment Supervisor, Pueblo West Metropolitan District). 2005. “RE: Southern Delivery System Environmental Impact Statement - Information Request”.

E-mail to Bill Van Derveer (MWH Americas, Inc.). August 9.

MWH. 2005. Raw Water Yield Study Monthly Model Documentation and Results. Prepared for Colorado Springs. October.

MWH. 2008. Surface Water Hydrology Effects Administrative Record Documentation, Southern Delivery System Environmental Impact Statement. Prepared for U.S. Bureau of Reclamation. December.

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Appendix E

Simulated Hydrology Results

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Monthly Streamflow Summary
Direct Effects

Gage: Homestake Creek at Gold Park

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	16	16	16	16	16	16	16	16
Nov	12	12	12	12	12	12	12	12
Dec	8	8	8	8	8	8	8	8
Jan	6	6	6	6	6	6	6	6
Feb	6	6	6	6	6	6	6	6
Mar	8	8	8	8	8	8	8	8
Apr	25	25	25	25	25	25	25	25
May	38	38	34	36	36	35	34	37
Jun	33	34	32	32	32	33	30	40
Jul	44	42	40	39	39	39	39	45
Aug	26	21	23	24	24	23	24	24
Sep	20	20	20	20	20	20	20	20
Average	20	20	19	19	19	19	19	20

Location: French Ck at Confluence with Homestake Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	2	2	2	2	2	2	2
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	3	3	3	3	3	3	3	3
May	5	5	5	5	5	5	5	5
Jun	4	5	4	4	4	4	4	5
Jul	6	6	5	5	5	5	5	6
Aug	3	3	3	3	3	3	3	3
Sep	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	3	3

Location: Missouri Ck above Confluence with Sopris Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	1	1	1	1	1	1	1	1
Apr	2	2	2	2	2	2	2	2
May	3	3	3	3	3	3	3	3
Jun	2	3	2	2	2	2	2	3
Jul	3	3	3	3	3	3	3	3
Aug	2	2	2	2	2	2	2	2
Sep	1	1	1	1	1	1	1	1
Average	2	1	1	1	1	1	1	2

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Location: Sopris Ck at Confluence with Missouri Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	2	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	2	2	2	2	2	2	2	2
May	3	4	3	3	3	3	3	3
Jun	3	3	3	3	3	3	3	4
Jul	4	4	4	4	4	4	4	4
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	2	2	2	2	2	2	2	2

Location: Missouri Ck above Confluence with Fancy Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	3	3	3	3	3	3	3	3
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	2	2	2	2	2	2	2	2
Apr	5	5	5	5	5	5	5	5
May	7	7	7	7	7	7	7	7
Jun	6	7	6	6	6	6	6	8
Jul	8	8	8	8	8	8	8	9
Aug	5	4	4	5	5	4	5	5
Sep	4	4	4	4	4	4	4	4
Average	4	4	4	4	4	4	4	4

Location: Fancy Ck at Confluence with Missouri Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	1	1	1	1	1	1	1	1
Apr	2	2	2	2	2	2	2	2
May	3	3	3	3	3	3	3	3
Jun	3	3	2	2	2	3	2	3
Jul	3	3	3	3	3	3	3	3
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	2	2	1	2	2	1	1	2

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Location: Missouri Ck at Confluence with Homestake Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	5	5	5	5	5	5	5	5
Nov	3	3	3	3	3	3	3	3
Dec	2	2	2	2	2	2	2	2
Jan	2	2	2	2	2	2	2	2
Feb	2	2	2	2	2	2	2	2
Mar	2	2	2	2	2	2	2	2
Apr	7	7	7	7	7	7	7	7
May	11	11	10	10	10	10	10	10
Jun	9	10	9	9	9	9	9	11
Jul	12	12	11	11	11	11	11	13
Aug	7	6	6	7	7	6	7	7
Sep	6	6	6	6	6	6	6	6
Average	6	6	5	5	5	5	5	6

Location: East Fork at Confluence with Homestake Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	3	3	3	3	3	3	3	3
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	5	5	5	5	5	5	5	5
May	7	7	7	7	7	7	7	7
Jun	6	7	6	6	6	6	6	8
Jul	8	8	8	7	8	8	7	9
Aug	5	4	4	5	5	4	5	5
Sep	4	4	4	4	4	4	4	4
Average	4	4	4	4	4	4	4	4

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Gage: Roarking Fork above Difficult Creek

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	31	31	31	31	31	31	31	31
Nov	22	22	22	22	22	22	22	22
Dec	18	18	18	18	18	18	18	18
Jan	15	15	15	15	15	15	15	15
Feb	15	15	15	15	15	15	15	15
Mar	17	17	17	17	17	17	17	16
Apr	32	32	32	32	32	32	32	32
May	143	129	139	139	138	139	140	129
Jun	346	299	325	333	330	320	330	303
Jul	158	151	158	161	161	158	159	155
Aug	58	58	58	58	58	58	58	58
Sep	40	40	40	40	40	40	40	40
Average	75	69	73	73	73	72	73	70

Location: Roaring Fork above Confluence with Lost Man Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	4	4	4	4	4	4	4	4
Nov	3	3	3	3	3	3	3	3
Dec	2	2	2	2	2	2	2	2
Jan	2	2	2	2	2	2	2	2
Feb	2	2	2	2	2	2	2	2
Mar	2	2	2	2	2	2	2	2
Apr	4	4	4	4	4	4	4	4
May	17	15	16	16	16	16	17	15
Jun	41	35	38	39	39	38	39	36
Jul	19	18	19	19	19	19	19	18
Aug	7	7	7	7	7	7	7	7
Sep	5	5	5	5	5	5	5	5
Average	9	8	9	9	9	9	9	8

Location: Lost Man Ck at Confluence with Roarking Fork

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	4	4	4	4	4	4	4	4
Nov	3	3	3	3	3	3	3	3
Dec	2	2	2	2	2	2	2	2
Jan	2	2	2	2	2	2	2	2
Feb	2	2	2	2	2	2	2	2
Mar	2	2	2	2	2	2	2	2
Apr	4	4	4	4	4	4	4	4
May	19	17	18	18	18	18	19	17
Jun	46	40	43	44	44	42	44	40
Jul	21	20	21	21	21	21	21	20
Aug	8	8	8	8	8	8	8	8
Sep	5	5	5	5	5	5	5	5
Average	10	9	10	10	10	10	10	9

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Location: Roaring Fork above Confluence with Lincoln Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	8	8	8	8	8	8	8	8
Nov	6	6	6	6	6	6	6	6
Dec	5	5	5	5	5	5	5	5
Jan	4	4	4	4	4	4	4	4
Feb	4	4	4	4	4	4	4	4
Mar	4	4	4	4	4	4	4	4
Apr	8	8	8	8	8	8	8	8
May	37	34	36	36	36	36	37	34
Jun	90	78	85	87	86	84	86	79
Jul	41	39	41	42	42	41	42	40
Aug	15	15	15	15	15	15	15	15
Sep	10	10	10	10	10	10	10	10
Average	19	18	19	19	19	19	19	18

Location: Lincoln Ck below Grizzly Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	6	6	6	6	6	6	6	6
Nov	4	4	4	4	4	4	4	4
Dec	4	4	4	4	4	4	4	4
Jan	3	3	3	3	3	3	3	3
Feb	3	3	3	3	3	3	3	3
Mar	3	3	3	3	3	3	3	3
Apr	6	6	6	6	6	6	6	6
May	29	26	28	28	28	28	28	26
Jun	69	60	65	67	66	64	66	61
Jul	32	30	32	32	32	32	32	31
Aug	12	12	12	12	12	12	12	12
Sep	8	8	8	8	8	8	8	8
Average	15	14	15	15	15	14	15	14

Location: Lincoln Ck above Confluence with New York Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	8	8	8	8	8	8	8	8
Nov	6	6	6	6	6	6	6	6
Dec	5	5	5	5	5	5	5	5
Jan	4	4	4	4	4	4	4	4
Feb	4	4	4	4	4	4	4	4
Mar	4	4	4	4	4	4	4	4
Apr	8	8	8	8	8	8	8	8
May	38	34	37	36	36	37	37	34
Jun	91	79	86	88	87	84	87	80
Jul	42	40	42	42	42	41	42	41
Aug	15	15	15	15	15	15	15	15
Sep	10	10	10	10	10	10	10	10
Average	20	18	19	19	19	19	19	18

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Location: Tabor Ck at Confluence with Lincoln Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	1	1	1	1	1	1	1	1
May	6	5	6	6	5	6	6	5
Jun	14	12	13	13	13	13	13	12
Jul	6	6	6	6	6	6	6	6
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	3	3	3	3	3	3	3	3

Location: Brooklyn Ck at Confluence with New York Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	1	1	1	1	1	1	1	1
May	6	5	6	6	6	6	6	5
Jun	14	12	13	13	13	13	13	12
Jul	6	6	6	7	7	6	6	6
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	3	3	3	3	3	3	3	3

Location: New York Ck above Confluence with Brooklyn Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	1	1	1	1	1	1	1	1
May	6	5	6	6	6	6	6	5
Jun	15	13	14	14	14	14	14	13
Jul	7	6	7	7	7	7	7	7
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	3	3	3	3	3	3	3	3

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Location: New York Ck at Confluence with Lincoln Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	3	3	3	3	3	3	3	3
Nov	2	2	2	2	2	2	2	2
Dec	2	2	2	2	2	2	2	2
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	2	2	2	2	2	2	2	2
Apr	3	3	3	3	3	3	3	3
May	13	12	13	13	13	13	13	12
Jun	32	28	30	31	31	30	31	28
Jul	15	14	15	15	15	15	15	14
Aug	5	5	5	5	5	5	5	5
Sep	4	4	4	4	4	4	4	4
Average	7	6	7	7	7	7	7	7

Location: Lincoln Ck at Confluence with Roaring Fork

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	14	14	14	14	14	14	14	14
Nov	10	10	10	10	10	10	10	10
Dec	8	8	8	8	8	8	8	8
Jan	7	7	7	7	7	7	7	7
Feb	6	6	7	7	7	7	7	6
Mar	7	7	7	7	7	7	7	7
Apr	14	14	14	14	14	14	14	14
May	63	57	61	61	61	61	62	57
Jun	152	132	143	146	145	141	145	133
Jul	69	66	69	71	71	69	70	68
Aug	25	26	26	26	26	26	26	25
Sep	17	17	17	17	17	17	17	17
Average	33	30	32	32	32	32	32	31

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Gage: Ivanhoe Creek near Nast

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	3	2	2	2	2	2	3
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	3	3	3	3	3	3	3	3
May	8	7	7	7	7	7	7	7
Jun	24	18	20	21	21	20	23	18
Jul	18	17	17	17	18	18	17	17
Aug	6	5	6	6	6	6	6	6
Sep	2	3	2	2	2	2	2	3
Average	6	5	5	5	5	5	6	5

Location: Ivanhoe Ck at Confluence with Fryingpan River

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	7	9	7	7	7	7	7	9
Nov	6	6	6	6	6	6	6	6
Dec	5	5	5	5	5	5	5	5
Jan	4	4	4	4	4	4	4	4
Feb	4	4	4	4	4	4	4	4
Mar	4	4	4	4	4	4	4	4
Apr	9	9	9	9	9	9	9	9
May	26	23	24	24	24	24	24	22
Jun	77	58	65	68	68	65	74	59
Jul	58	55	56	57	57	57	56	56
Aug	18	18	18	18	18	19	18	18
Sep	7	9	7	7	7	8	8	9
Average	19	17	17	18	18	18	18	17

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Direct Effects

Gage: **Lake Creek Below Twin Lakes Reservoir (LAKBTLCO)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	19	137	38	19	18	31	20	142
Nov	45	128	53	48	48	54	48	153
Dec	80	116	92	80	80	92	81	128
Jan	103	129	103	103	101	105	101	141
Feb	96	100	88	89	89	88	88	112
Mar	72	98	76	70	71	75	79	108
Apr	75	108	57	60	62	58	66	117
May	217	304	223	213	208	231	211	304
Jun	543	555	508	531	528	496	531	554
Jul	521	602	515	518	521	520	519	604
Aug	255	373	258	252	254	261	259	351
Sep	34	161	50	35	35	49	41	164
Average	172	235	172	169	169	172	171	241

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Streamflow (cfs)								
Oct	16	138	51	16	15	36	18	145
Nov	37	148	51	42	42	53	44	167
Dec	45	86	69	50	49	67	54	96
Jan	61	72	54	63	62	66	60	71
Feb	53	43	42	46	46	45	46	46
Mar	46	46	38	34	41	33	32	56
Apr	46	88	41	39	38	46	41	93
May	85	242	102	111	92	125	109	183
Jun	349	351	329	348	358	318	360	379
Jul	311	391	315	308	319	320	308	389
Aug	210	309	228	208	215	223	213	291
Sep	33	142	64	24	24	59	37	146
Average	108	172	116	108	109	116	110	172

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Streamflow (cfs)								
Oct	15	126	34	15	15	28	16	143
Nov	31	115	44	36	37	41	38	148
Dec	84	112	88	77	79	89	82	118
Jan	62	88	66	56	52	68	56	96
Feb	35	55	54	47	48	53	54	80
Mar	21	76	50	24	26	53	70	105
Apr	107	124	75	74	75	66	85	146
May	355	390	332	329	338	342	318	410
Jun	691	718	614	646	634	603	644	658
Jul	718	794	711	720	723	710	720	828
Aug	352	487	354	344	346	361	360	475
Sep	36	163	41	36	38	42	41	165
Average	210	272	206	201	202	206	208	283

Monthly Streamflow Summary
Direct Effects

Gage: Arkansas River At Granite (07086000)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	126	243	145	126	125	138	127	249
Nov	143	225	151	146	146	152	146	250
Dec	163	199	175	163	163	175	164	210
Jan	170	196	170	170	168	172	168	208
Feb	152	156	144	144	145	144	144	167
Mar	144	172	147	142	144	146	151	184
Apr	188	221	172	175	175	173	179	229
May	528	615	532	522	517	541	521	615
Jun	1,151	1,172	1,124	1,142	1,137	1,113	1,147	1,183
Jul	855	942	857	851	855	860	864	949
Aug	439	557	443	436	439	446	443	536
Sep	159	289	176	161	160	174	167	291
Average	352	417	354	349	349	354	353	424

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Streamflow (cfs)								
Oct	114	236	149	115	114	135	116	243
Nov	132	242	146	137	136	148	138	261
Dec	125	166	149	131	129	147	134	175
Jan	130	141	124	132	132	136	129	141
Feb	120	110	109	113	112	111	113	113
Mar	127	127	119	115	122	114	113	137
Apr	171	213	166	164	163	171	166	218
May	340	498	355	365	346	379	364	439
Jun	741	745	720	738	745	712	750	783
Jul	517	596	521	513	525	526	514	594
Aug	349	449	367	347	354	363	352	430
Sep	127	239	160	121	121	155	135	243
Average	250	314	258	250	250	259	253	315

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Streamflow (cfs)								
Oct	132	242	150	131	131	144	133	259
Nov	134	218	147	140	140	144	141	250
Dec	175	203	179	168	170	180	172	209
Jan	141	167	145	135	132	147	135	175
Feb	116	136	135	128	129	134	135	161
Mar	116	171	145	119	121	148	165	200
Apr	235	252	203	202	203	195	213	274
May	785	816	759	757	766	770	746	840
Jun	1,639	1,649	1,562	1,588	1,576	1,544	1,590	1,624
Jul	1,258	1,356	1,288	1,265	1,269	1,277	1,297	1,407
Aug	624	759	627	615	617	633	632	747
Sep	210	338	215	210	212	216	215	340
Average	465	527	465	456	457	463	466	542

Monthly Streamflow Summary
Direct Effects

Gage: Arkansas River Near Wellsville (07093700)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	386	448	403	385	385	397	386	447
Nov	424	461	435	429	428	435	429	446
Dec	412	426	422	412	412	423	412	376
Jan	394	395	390	393	391	393	391	365
Feb	358	335	347	351	351	348	350	330
Mar	339	328	344	335	339	343	348	361
Apr	350	338	348	342	343	346	346	359
May	879	883	873	872	868	882	869	859
Jun	1,996	1,923	1,961	1,988	1,983	1,949	1,993	1,926
Jul	1,350	1,342	1,352	1,345	1,349	1,355	1,357	1,379
Aug	791	823	802	790	791	806	794	824
Sep	431	501	450	430	430	449	436	500
Average	677	685	678	674	674	678	677	682
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	330	417	360	329	327	347	330	419
Nov	380	457	396	384	383	397	385	436
Dec	362	384	385	367	366	383	371	342
Jan	334	318	328	338	336	340	334	298
Feb	313	277	303	307	307	305	308	279
Mar	316	275	316	304	313	312	305	316
Apr	313	314	304	309	311	307	313	329
May	589	672	602	610	600	624	607	585
Jun	1,184	1,109	1,165	1,184	1,191	1,155	1,196	1,129
Jul	783	776	796	781	787	795	778	824
Aug	566	593	591	564	570	587	567	606
Sep	330	406	362	322	321	358	335	428
Average	484	501	493	484	485	493	486	500
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	416	460	435	416	416	429	417	467
Nov	420	454	435	429	428	432	428	447
Dec	440	443	440	434	435	444	435	387
Jan	382	382	382	376	372	383	372	345
Feb	324	309	338	335	335	337	338	313
Mar	313	322	350	314	315	351	367	380
Apr	395	354	393	372	382	379	378	391
May	1,162	1,097	1,126	1,132	1,138	1,136	1,122	1,107
Jun	2,875	2,793	2,786	2,828	2,818	2,770	2,832	2,749
Jul	2,124	2,124	2,153	2,131	2,134	2,144	2,161	2,173
Aug	1,128	1,165	1,137	1,121	1,123	1,143	1,137	1,159
Sep	580	635	590	580	584	592	585	620
Average	882	880	882	874	875	880	883	880

Monthly Streamflow Summary
Direct Effects

Gage: **Arkansas River At Portland (07097000)**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	412	369	430	513	512	425	413	365
Nov	458	429	468	562	561	469	462	388
Dec	433	416	442	529	530	443	433	351
Jan	415	394	411	512	510	413	411	351
Feb	378	344	367	470	470	368	370	328
Mar	386	352	392	482	486	391	396	376
Apr	436	374	440	520	521	435	432	387
May	1,083	990	1,081	1,162	1,158	1,089	1,073	961
Jun	2,326	2,140	2,291	2,402	2,397	2,280	2,321	2,141
Jul	1,512	1,395	1,513	1,597	1,601	1,516	1,519	1,426
Aug	899	820	909	991	993	913	902	819
Sep	444	403	463	540	540	462	452	401
Average	766	703	769	858	858	768	767	692

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	334	303	368	439	438	356	335	306
Nov	391	379	407	502	502	408	397	336
Dec	372	362	394	478	477	392	380	293
Jan	365	331	359	472	471	370	364	297
Feb	342	301	333	440	439	335	338	295
Mar	366	317	366	457	466	362	355	353
Apr	345	305	347	442	443	348	346	314
May	602	594	625	718	709	647	620	510
Jun	1,248	1,055	1,225	1,332	1,340	1,215	1,250	1,077
Jul	806	701	816	904	912	814	803	738
Aug	562	489	584	659	669	579	564	499
Sep	276	253	308	372	372	306	292	274
Average	501	450	512	602	604	512	504	441

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	438	385	456	538	538	450	438	375
Nov	442	420	456	549	548	454	450	378
Dec	458	426	458	548	549	461	453	363
Jan	401	378	401	495	491	402	392	335
Feb	345	323	358	458	458	357	358	316
Mar	351	326	386	457	458	388	404	373
Apr	417	320	426	492	502	404	403	352
May	1,297	1,137	1,264	1,357	1,363	1,273	1,258	1,136
Jun	3,363	3,169	3,278	3,405	3,395	3,262	3,321	3,125
Jul	2,431	2,316	2,459	2,529	2,532	2,450	2,467	2,362
Aug	1,300	1,221	1,309	1,388	1,390	1,315	1,309	1,215
Sep	661	600	671	758	762	673	666	584
Average	994	920	996	1,083	1,084	993	995	912

Monthly Streamflow Summary
Direct Effects

Gage: Arkansas River Above Pueblo (07099400)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	279	249	196	283	394	202	294	211
Nov	244	216	181	248	329	180	249	198
Dec	151	138	132	158	200	131	140	125
Jan	162	148	135	169	201	132	143	131
Feb	196	168	170	203	227	168	168	164
Mar	256	207	219	297	337	225	228	171
Apr	569	480	426	572	660	436	555	456
May	1,053	899	874	1,061	1,176	870	1,067	926
Jun	2,098	1,933	1,953	2,103	2,224	1,943	2,105	1,962
Jul	1,366	1,241	1,251	1,354	1,471	1,251	1,366	1,242
Aug	866	784	761	836	951	762	861	769
Sep	311	273	256	317	415	251	331	251
Average	631	562	547	635	717	547	627	552
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	183	167	123	189	301	124	202	126
Nov	191	181	126	194	301	129	201	137
Dec	149	135	125	152	221	124	140	120
Jan	194	174	163	204	253	161	177	166
Feb	187	168	164	194	221	163	151	159
Mar	246	208	224	329	351	235	242	184
Apr	423	394	373	466	544	377	443	369
May	608	493	434	610	727	445	654	511
Jun	1,054	857	878	1,053	1,200	858	1,073	924
Jul	924	818	838	934	1,051	844	946	839
Aug	548	488	483	564	674	483	578	492
Sep	160	142	127	178	268	127	166	115
Average	407	353	339	423	511	340	416	346
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	309	262	189	306	424	201	331	228
Nov	216	178	154	219	306	150	235	176
Dec	159	139	138	166	201	136	148	126
Jan	125	118	110	133	158	107	111	103
Feb	191	142	159	193	208	156	159	158
Mar	339	237	271	386	456	288	279	204
Apr	685	540	456	629	738	471	596	476
May	1,222	1,088	1,056	1,251	1,378	1,035	1,282	1,149
Jun	3,074	3,008	3,011	3,130	3,237	2,969	3,137	3,010
Jul	1,909	1,706	1,762	1,865	1,986	1,783	1,891	1,748
Aug	1,293	1,195	1,207	1,282	1,396	1,210	1,314	1,210
Sep	459	389	403	463	548	404	491	399
Average	833	751	745	837	922	744	833	750

Monthly Streamflow Summary
Direct Effects

Gage: Arkansas River Near Avondale (07109500)

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	539	542	506	518	527	515	517	534
Nov	542	542	531	519	515	537	526	555
Dec	420	434	426	402	395	431	423	443
Jan	435	469	438	416	412	439	442	455
Feb	469	497	471	451	448	473	474	462
Mar	556	564	553	569	567	561	548	563
Apr	939	924	898	924	938	902	916	892
May	1,601	1,557	1,559	1,592	1,596	1,556	1,565	1,554
Jun	2,560	2,486	2,537	2,548	2,555	2,544	2,516	2,505
Jul	1,723	1,676	1,675	1,695	1,697	1,687	1,674	1,665
Aug	1,264	1,244	1,219	1,213	1,214	1,225	1,211	1,230
Sep	584	586	577	566	556	580	560	587
Average	971	961	951	953	953	956	949	955

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	398	392	374	374	372	385	370	401
Nov	441	444	444	411	409	449	406	445
Dec	390	413	403	362	357	407	368	399
Jan	430	466	450	407	404	454	422	452
Feb	450	487	446	427	427	448	451	442
Mar	522	545	526	574	566	543	549	555
Apr	711	743	715	731	726	713	716	697
May	861	876	833	843	845	828	859	863
Jun	1,273	1,200	1,244	1,252	1,282	1,245	1,243	1,230
Jul	1,174	1,149	1,145	1,160	1,160	1,161	1,147	1,150
Aug	820	821	795	808	807	800	806	820
Sep	345	356	337	336	329	341	320	355
Average	652	658	644	641	641	649	639	652

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	588	590	537	565	570	547	568	578
Nov	515	519	500	498	493	509	511	541
Dec	448	459	446	437	427	447	462	473
Jan	420	470	418	407	402	413	443	446
Feb	462	477	474	442	437	472	468	451
Mar	602	566	580	627	643	594	568	576
Apr	989	932	895	915	960	898	906	886
May	1,749	1,716	1,765	1,765	1,781	1,756	1,765	1,748
Jun	3,751	3,761	3,790	3,792	3,786	3,779	3,765	3,755
Jul	2,371	2,247	2,293	2,314	2,319	2,320	2,309	2,282
Aug	1,817	1,789	1,797	1,789	1,788	1,806	1,793	1,803
Sep	826	809	825	812	784	833	815	836
Average	1,214	1,196	1,195	1,199	1,201	1,200	1,200	1,200

Monthly Streamflow Summary
Direct Effects

Gage: **Arkansas River At Las Animas (07124000)**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	181	181	184	183	182	184	181	181
Nov	179	179	180	180	179	180	179	179
Dec	165	165	166	166	166	166	165	166
Jan	208	207	205	205	205	205	205	205
Feb	227	237	222	223	222	223	226	231
Mar	148	149	142	145	146	142	146	148
Apr	187	154	149	159	178	151	151	161
May	648	606	600	617	615	604	595	583
Jun	951	915	921	929	928	934	920	914
Jul	487	466	471	476	481	474	474	477
Aug	335	334	343	340	337	344	335	336
Sep	131	125	132	132	129	132	127	125
Average	321	310	310	313	314	312	309	309

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	69	68	69	69	70	69	70	70
Nov	101	101	102	101	101	101	101	101
Dec	128	128	128	128	128	128	128	128
Jan	135	134	130	130	130	130	130	130
Feb	169	170	165	165	165	165	165	168
Mar	90	92	92	87	90	92	86	88
Apr	125	94	76	112	104	90	95	107
May	177	151	175	178	184	176	171	150
Jun	239	232	219	222	220	222	227	227
Jul	225	225	226	225	224	227	226	226
Aug	166	164	164	165	165	164	165	164
Sep	46	46	46	47	47	46	48	47
Average	139	134	133	136	136	134	134	134

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	147	147	155	151	146	154	146	145
Nov	109	110	111	109	109	111	109	109
Dec	165	165	166	166	166	166	165	165
Jan	182	179	176	176	176	178	177	178
Feb	262	288	258	259	258	260	262	272
Mar	167	169	156	155	156	155	165	167
Apr	181	128	113	128	211	110	111	120
May	427	413	430	433	422	429	415	418
Jun	1,646	1,646	1,646	1,646	1,646	1,646	1,646	1,646
Jul	769	700	707	736	739	731	726	714
Aug	574	576	579	577	576	579	576	576
Sep	232	230	240	236	238	240	232	232
Average	405	395	394	397	403	396	394	395

Monthly Streamflow Summary
Direct Effects

Gage: Fountain Creek At Security (07105800)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	136	201	202	102	102	202	203	203
Nov	129	194	195	96	96	195	196	195
Dec	118	182	182	86	86	182	184	182
Jan	121	185	185	88	88	185	187	185
Feb	128	193	193	95	95	193	195	193
Mar	146	210	210	112	112	210	212	210
Apr	187	252	252	161	161	252	254	252
May	281	344	345	259	259	345	345	345
Jun	254	316	317	232	232	317	317	317
Jul	191	255	255	167	167	255	255	255
Aug	209	272	272	180	180	273	273	273
Sep	141	206	206	111	111	207	206	207
Average	170	234	235	141	141	235	236	235
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	130	197	197	93	93	197	198	199
Nov	123	190	191	85	85	191	192	191
Dec	104	170	170	69	69	170	172	170
Jan	104	170	170	68	68	170	172	170
Feb	121	188	188	86	86	188	190	188
Mar	139	206	205	105	105	206	208	206
Apr	135	202	202	104	104	202	205	203
May	142	209	211	115	115	211	210	210
Jun	132	198	200	105	105	200	199	200
Jul	171	237	238	139	139	238	238	238
Aug	163	232	232	129	129	232	233	232
Sep	115	184	184	81	81	185	183	186
Average	132	199	199	98	98	199	200	200
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	140	208	211	111	111	211	212	211
Nov	124	193	194	97	97	194	196	194
Dec	128	197	197	101	101	197	199	197
Jan	126	195	195	97	97	195	197	195
Feb	130	200	200	99	99	200	202	200
Mar	134	205	205	102	102	205	207	205
Apr	155	225	226	129	129	226	228	226
May	302	370	371	282	282	371	372	371
Jun	384	449	450	363	363	450	450	450
Jul	209	277	278	187	187	277	278	278
Aug	225	293	293	199	199	293	293	293
Sep	163	233	233	138	138	233	234	233
Average	185	254	255	159	159	255	256	255

Monthly Streamflow Summary
Direct Effects

Gage: Fountain Creek At Pueblo (07106500)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	138	173	189	114	114	112	209	203
Nov	168	199	222	143	144	143	239	230
Dec	150	180	177	127	127	126	219	202
Jan	152	202	184	128	128	127	220	206
Feb	162	221	191	138	138	137	226	190
Mar	179	239	214	153	153	153	247	277
Apr	196	271	298	179	179	189	265	264
May	307	419	446	294	294	311	375	389
Jun	269	361	393	255	255	269	335	351
Jul	180	259	248	166	166	167	248	246
Aug	231	294	292	211	211	211	298	294
Sep	125	167	175	104	104	106	192	190
Average	188	249	253	168	168	171	256	254
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	108	120	145	80	80	77	180	169
Nov	151	166	222	121	121	120	223	213
Dec	136	176	176	108	108	106	205	176
Jan	126	187	181	98	98	95	196	180
Feb	142	201	163	114	115	114	212	165
Mar	168	232	197	141	141	143	236	268
Apr	149	211	205	128	128	131	221	191
May	104	237	252	87	88	101	176	205
Jun	97	222	246	80	80	100	167	186
Jul	146	229	206	125	125	125	217	210
Aug	149	214	193	125	125	125	221	209
Sep	76	107	104	51	51	53	146	135
Average	129	192	191	105	105	107	200	193
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	143	193	210	123	123	122	219	215
Nov	164	207	212	146	146	147	241	232
Dec	151	186	173	136	136	136	229	212
Jan	157	216	171	138	138	138	233	208
Feb	161	230	206	142	142	141	225	188
Mar	162	230	208	140	140	139	246	277
Apr	174	262	307	158	158	173	248	280
May	352	455	535	342	341	369	424	425
Jun	434	512	538	423	423	434	504	503
Jul	238	317	307	226	226	224	310	309
Aug	302	373	370	286	286	285	374	372
Sep	168	224	225	152	153	152	242	241
Average	217	284	289	201	201	205	292	289

Monthly Streamflow Summary
Direct Effects

Gage: Jimmy Camp Creek At Fountain, Co (07105900)

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	7	7	7	7	7	7	7
Nov	2	7	7	7	7	7	7	7
Dec	2	7	7	7	7	7	7	7
Jan	2	6	6	6	6	6	6	6
Feb	2	6	6	6	6	6	6	6
Mar	2	6	6	6	6	6	6	6
Apr	2	7	7	7	7	7	7	7
May	2	8	8	8	8	8	8	8
Jun	4	10	10	10	10	10	10	10
Jul	4	10	10	10	10	10	10	10
Aug	4	10	10	10	10	10	10	10
Sep	2	7	7	7	7	7	7	7
Average	2	8	8	8	8	8	8	8

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	7	7	7	7	7	7	7
Nov	2	7	7	7	7	7	7	7
Dec	1	6	6	6	6	6	6	6
Jan	1	6	6	6	6	6	6	6
Feb	1	6	6	6	6	6	6	6
Mar	1	6	6	6	6	6	6	6
Apr	1	6	6	6	6	6	6	6
May	2	7	7	7	7	7	7	7
Jun	2	8	8	8	8	8	8	8
Jul	2	8	8	8	8	8	8	8
Aug	3	9	9	9	9	9	9	9
Sep	1	7	7	7	7	7	7	7
Average	2	7	7	7	7	7	7	7

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	8	8	8	8	8	8	8
Nov	3	8	8	8	8	8	8	8
Dec	2	7	7	7	7	7	7	7
Jan	2	7	7	7	7	7	7	7
Feb	2	7	7	7	7	7	7	7
Mar	2	7	7	7	7	7	7	7
Apr	2	7	7	7	7	7	7	7
May	3	9	9	9	9	9	9	9
Jun	8	14	14	14	14	14	14	14
Jul	2	9	9	9	9	9	9	9
Aug	8	14	14	14	14	14	14	14
Sep	2	8	8	8	8	8	8	8
Average	3	9	9	9	9	9	9	9

Monthly Depth Summary
Direct Effects

Gage: **Homestake Creek at Gold Park**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Nov	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Dec	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Jan	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Feb	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Mar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Apr	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
May	1.0	1.0	0.9	1.0	1.0	0.9	0.9	1.0
Jun	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0
Jul	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Aug	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Sep	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Average	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Gage: **Roarking Fork above Difficult Creek**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Nov	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Dec	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Jan	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Feb	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Mar	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Apr	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
May	3.4	3.2	3.3	3.3	3.3	3.3	3.4	3.2
Jun	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Jul	3.5	3.5	3.5	3.6	3.6	3.5	3.6	3.5
Aug	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Sep	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Average	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Gage: **Ivanhoe Creek near Nast**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Dec	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
May	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Jun	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.6
Jul	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Aug	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Sep	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Notes: West Slope depth estimates only calculated at gaged flow locations with rating curves.
All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: Lake Creek Below Twin Lakes Reservoir (LAKBTLCO)

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.3	1.1	0.4	0.3	0.3	0.4	0.3	1.1
Nov	0.5	1.1	0.6	0.6	0.6	0.6	0.6	1.2
Dec	0.8	1.0	0.8	0.8	0.8	0.8	0.8	1.0
Jan	0.9	1.0	0.9	0.9	0.8	0.9	0.8	1.1
Feb	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.9
Mar	0.6	0.8	0.6	0.6	0.6	0.6	0.7	0.9
Apr	0.7	0.9	0.5	0.6	0.6	0.6	0.6	1.0
May	1.2	1.7	1.3	1.2	1.2	1.3	1.2	1.7
Jun	2.4	2.5	2.3	2.4	2.4	2.3	2.4	2.5
Jul	2.5	2.8	2.5	2.5	2.5	2.5	2.5	2.8
Aug	1.5	2.0	1.5	1.5	1.5	1.5	1.5	2.0
Sep	0.4	1.2	0.5	0.4	0.4	0.5	0.5	1.2
Average	1.1	1.4	1.1	1.0	1.0	1.1	1.1	1.4
Month	**Average of Dry Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.3	1.1	0.5	0.3	0.3	0.4	0.3	1.2
Nov	0.5	1.2	0.6	0.5	0.5	0.6	0.5	1.3
Dec	0.5	0.8	0.7	0.6	0.6	0.7	0.6	0.8
Jan	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.7
Feb	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Mar	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.6
Apr	0.5	0.8	0.5	0.5	0.5	0.5	0.5	0.8
May	0.7	1.5	0.7	0.8	0.7	0.9	0.8	1.3
Jun	1.8	1.9	1.8	1.9	1.9	1.8	1.9	2.0
Jul	1.8	2.1	1.9	1.8	1.8	1.9	1.8	2.1
Aug	1.3	1.8	1.4	1.3	1.3	1.4	1.3	1.7
Sep	0.4	1.1	0.6	0.4	0.4	0.6	0.5	1.1
Average	0.8	1.2	0.9	0.8	0.8	0.9	0.8	1.2
Month	**Average of Wet Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.3	1.0	0.4	0.3	0.3	0.4	0.3	1.1
Nov	0.4	1.0	0.5	0.5	0.5	0.5	0.5	1.2
Dec	0.7	0.9	0.7	0.7	0.7	0.8	0.7	1.0
Jan	0.6	0.8	0.6	0.6	0.5	0.6	0.6	0.8
Feb	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.7
Mar	0.3	0.7	0.5	0.3	0.4	0.5	0.6	0.9
Apr	0.9	1.0	0.6	0.7	0.7	0.6	0.7	1.1
May	1.8	2.0	1.7	1.7	1.8	1.8	1.7	2.1
Jun	2.9	3.1	2.7	2.8	2.7	2.6	2.8	2.9
Jul	3.1	3.3	3.1	3.1	3.1	3.1	3.1	3.4
Aug	1.9	2.4	1.9	1.9	1.9	2.0	2.0	2.4
Sep	0.4	1.2	0.5	0.4	0.4	0.5	0.5	1.2
Average	1.2	1.5	1.2	1.1	1.1	1.2	1.2	1.6

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: **Arkansas River At Granite (07086000)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.4
Nov	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.4
Dec	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2
Jan	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2
Feb	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Mar	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.1
Apr	1.1	1.3	1.1	1.1	1.1	1.1	1.1	1.3
May	1.9	2.0	1.9	1.8	1.8	1.9	1.8	2.0
Jun	2.8	2.8	2.8	2.8	2.8	2.7	2.8	2.8
Jul	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.5
Aug	1.7	2.0	1.7	1.7	1.7	1.7	1.7	1.9
Sep	1.1	1.5	1.1	1.1	1.1	1.1	1.1	1.5
Average	1.4	1.6	1.4	1.4	1.4	1.4	1.4	1.6
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.9	1.3	1.0	0.9	0.9	1.0	0.9	1.3
Nov	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.4
Dec	0.9	1.1	1.0	1.0	1.0	1.0	1.0	1.1
Jan	1.0	1.0	0.9	1.0	1.0	1.0	0.9	1.0
Feb	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Mar	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0
Apr	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2
May	1.5	1.9	1.5	1.5	1.5	1.6	1.6	1.8
Jun	2.2	2.3	2.2	2.2	2.2	2.2	2.3	2.3
Jul	1.9	2.1	1.9	1.9	1.9	1.9	1.9	2.1
Aug	1.5	1.8	1.6	1.5	1.5	1.6	1.5	1.7
Sep	1.0	1.3	1.1	0.9	0.9	1.1	1.0	1.3
Average	1.2	1.4	1.3	1.2	1.2	1.3	1.2	1.4
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.4
Nov	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.4
Dec	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2
Jan	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.1
Feb	0.9	1.0	1.0	0.9	0.9	1.0	1.0	1.1
Mar	0.9	1.1	1.0	0.9	0.9	1.0	1.1	1.2
Apr	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.4
May	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.4
Jun	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3
Jul	2.9	3.1	3.0	3.0	3.0	3.0	3.0	3.1
Aug	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.3
Sep	1.2	1.6	1.2	1.2	1.2	1.2	1.2	1.6
Average	1.6	1.8	1.6	1.6	1.6	1.6	1.6	1.8

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: **Arkansas River Near Wellsville (07093700)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.9	2.1	1.9	1.9	1.9	1.9	1.9	2.1
Nov	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1
Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Jan	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Feb	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
Mar	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8
Apr	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
May	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Jun	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0
Jul	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Aug	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Sep	2.0	2.2	2.0	2.0	2.0	2.0	2.0	2.2
Average	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.4
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.8	2.0	1.8	1.8	1.8	1.8	1.8	2.0
Nov	1.9	2.1	1.9	1.9	1.9	1.9	1.9	2.0
Dec	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Jan	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.7
Feb	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.6
Mar	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7
Apr	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
May	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3
Jun	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.2
Jul	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.8
Aug	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4
Sep	1.8	2.0	1.8	1.7	1.7	1.8	1.8	2.0
Average	2.0	2.1	2.1	2.0	2.0	2.1	2.1	2.1
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1
Nov	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1
Dec	2.0	2.1	2.0	2.0	2.0	2.1	2.0	1.9
Jan	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Feb	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.7
Mar	1.7	1.7	1.8	1.7	1.7	1.8	1.9	1.9
Apr	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9
May	3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Jun	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Jul	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3
Aug	3.2	3.3	3.2	3.2	3.2	3.2	3.2	3.2
Sep	2.3	2.5	2.3	2.3	2.3	2.4	2.3	2.4
Average	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: Arkansas River At Portland (07097000)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.9	1.8	1.9	2.1	2.1	1.9	1.9	1.8
Nov	2.0	1.9	2.0	2.2	2.2	2.0	2.0	1.8
Dec	1.9	1.9	1.9	2.1	2.1	1.9	1.9	1.7
Jan	1.9	1.8	1.9	2.1	2.1	1.9	1.9	1.7
Feb	1.8	1.7	1.8	2.0	2.0	1.8	1.8	1.7
Mar	1.8	1.7	1.8	2.0	2.0	1.8	1.8	1.8
Apr	1.9	1.7	1.9	2.0	2.1	1.9	1.9	1.8
May	2.9	2.7	2.9	3.0	3.0	2.9	2.8	2.7
Jun	4.3	4.1	4.3	4.4	4.4	4.3	4.3	4.1
Jul	3.5	3.3	3.5	3.6	3.6	3.5	3.5	3.3
Aug	2.7	2.5	2.7	2.8	2.8	2.7	2.7	2.5
Sep	1.9	1.8	1.9	2.1	2.1	1.9	1.9	1.8
Average	2.4	2.3	2.4	2.5	2.5	2.4	2.4	2.2

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Depth (feet)								
Oct	1.7	1.6	1.8	1.9	1.9	1.7	1.7	1.6
Nov	1.8	1.8	1.9	2.1	2.1	1.9	1.8	1.7
Dec	1.8	1.8	1.8	2.0	2.0	1.8	1.8	1.6
Jan	1.8	1.7	1.8	2.0	2.0	1.8	1.8	1.6
Feb	1.7	1.6	1.7	1.9	1.9	1.7	1.7	1.6
Mar	1.8	1.6	1.8	2.0	2.0	1.8	1.7	1.7
Apr	1.7	1.6	1.7	1.9	1.9	1.7	1.7	1.6
May	2.2	2.2	2.2	2.4	2.4	2.3	2.2	2.0
Jun	3.2	2.9	3.1	3.3	3.3	3.1	3.2	2.9
Jul	2.6	2.4	2.6	2.7	2.7	2.6	2.6	2.5
Aug	2.1	2.0	2.2	2.3	2.3	2.2	2.1	2.0
Sep	1.5	1.5	1.6	1.8	1.8	1.6	1.6	1.5
Average	2.0	1.9	2.0	2.2	2.2	2.0	2.0	1.9

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Depth (feet)								
Oct	1.9	1.8	2.0	2.1	2.1	1.9	1.9	1.8
Nov	1.9	1.9	2.0	2.2	2.2	2.0	2.0	1.8
Dec	2.0	1.9	2.0	2.1	2.2	2.0	2.0	1.8
Jan	1.8	1.8	1.8	2.0	2.0	1.8	1.8	1.7
Feb	1.7	1.7	1.8	2.0	2.0	1.8	1.8	1.7
Mar	1.7	1.7	1.8	2.0	2.0	1.8	1.9	1.8
Apr	1.9	1.6	1.9	2.0	2.0	1.8	1.8	1.7
May	3.1	2.9	3.1	3.2	3.2	3.1	3.1	2.9
Jun	5.2	5.2	5.2	5.3	5.3	5.2	5.2	5.1
Jul	4.5	4.3	4.5	4.6	4.6	4.5	4.5	4.4
Aug	3.3	3.2	3.3	3.4	3.4	3.3	3.3	3.1
Sep	2.3	2.2	2.3	2.5	2.5	2.3	2.3	2.2
Average	2.6	2.5	2.6	2.8	2.8	2.6	2.6	2.5

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: **Arkansas River Near Avondale (07109500)**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3
Nov	1.4	1.4	1.4	1.3	1.3	1.4	1.3	1.4
Dec	1.2	1.2	1.2	1.1	1.1	1.2	1.2	1.2
Jan	1.2	1.3	1.2	1.1	1.1	1.2	1.2	1.2
Feb	1.2	1.3	1.3	1.2	1.2	1.3	1.3	1.2
Mar	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Apr	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
May	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Jun	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Jul	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Aug	2.1	2.1	2.0	2.0	2.0	2.1	2.0	2.1
Sep	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Average	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Nov	1.2	1.2	1.2	1.1	1.1	1.2	1.1	1.2
Dec	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.1
Jan	1.2	1.3	1.2	1.1	1.1	1.2	1.2	1.2
Feb	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Mar	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Apr	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
May	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8
Jun	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.2
Jul	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Aug	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Sep	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0
Average	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Nov	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
Dec	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3
Jan	1.2	1.3	1.2	1.1	1.1	1.2	1.2	1.2
Feb	1.2	1.3	1.3	1.2	1.2	1.3	1.3	1.2
Mar	1.5	1.4	1.4	1.5	1.5	1.5	1.4	1.4
Apr	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
May	1.9	1.9	1.8	1.8	1.9	1.8	1.9	1.8
Jun	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Jul	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Aug	2.4	2.3	2.4	2.3	2.3	2.4	2.4	2.4
Sep	1.8	1.7	1.8	1.8	1.7	1.8	1.8	1.8
Average	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: **Arkansas River At Las Animas (07124000)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Nov	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Dec	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Jan	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Feb	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Mar	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Apr	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
May	1.5	1.5	1.6	1.6	1.5	1.6	1.6	1.6
Jun	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Jul	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Aug	1.4	1.4	1.5	1.5	1.4	1.5	1.4	1.4
Sep	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.1
Average	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Nov	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Dec	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Jan	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Feb	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Mar	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Apr	0.9	0.8	0.9	1.0	0.9	0.9	0.9	0.9
May	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.2
Jun	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Jul	1.5	1.4	1.5	1.4	1.4	1.5	1.5	1.5
Aug	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Sep	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Average	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.2	1.2	1.3	1.3	1.2	1.3	1.2	1.2
Nov	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Dec	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Jan	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Feb	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8
Mar	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3
Apr	1.1	1.1	1.1	1.1	1.3	1.1	1.1	1.1
May	1.6	1.5	1.6	1.6	1.5	1.6	1.5	1.5
Jun	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Jul	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9
Aug	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Sep	1.6	1.6	1.7	1.6	1.6	1.7	1.6	1.6
Average	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Direct Effects

Gage: Fountain Creek At Security (07105800)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.0	1.3	1.3	0.7	0.7	1.3	1.3	1.3
Nov	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Dec	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Jan	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Feb	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Mar	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Apr	1.1	1.4	1.4	0.9	0.9	1.4	1.4	1.4
May	1.3	1.5	1.5	1.2	1.2	1.5	1.5	1.5
Jun	1.2	1.5	1.5	1.1	1.1	1.5	1.5	1.5
Jul	1.1	1.4	1.4	1.0	1.0	1.4	1.4	1.4
Aug	1.2	1.4	1.4	1.0	1.0	1.4	1.4	1.4
Sep	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Average	1.1	1.3	1.3	0.9	0.9	1.3	1.3	1.3
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.3
Nov	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Dec	0.8	1.1	1.1	0.5	0.5	1.1	1.2	1.1
Jan	0.8	1.2	1.2	0.5	0.5	1.2	1.2	1.2
Feb	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Mar	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Apr	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
May	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Jun	0.9	1.2	1.3	0.8	0.8	1.3	1.3	1.3
Jul	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Aug	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Sep	0.9	1.2	1.2	0.6	0.6	1.2	1.2	1.2
Average	0.9	1.2	1.2	0.7	0.7	1.2	1.3	1.2
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Nov	0.9	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Dec	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Jan	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Feb	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Mar	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Apr	1.0	1.3	1.3	0.9	0.9	1.3	1.3	1.3
May	1.3	1.6	1.6	1.2	1.2	1.6	1.6	1.6
Jun	1.4	1.7	1.7	1.4	1.4	1.7	1.7	1.7
Jul	1.2	1.4	1.4	1.1	1.1	1.4	1.4	1.4
Aug	1.2	1.5	1.5	1.1	1.1	1.5	1.5	1.5
Sep	1.1	1.4	1.4	1.0	1.0	1.4	1.4	1.4
Average	1.1	1.4	1.4	1.0	1.0	1.4	1.4	1.4

Notes: All depth values are streamflow depth at the lowest point in channel cross-section.
Fountain Creek depths are estimated at representative cross-sections upstream or downstream of gaging stations.

Monthly Depth Summary
Direct Effects

Gage: **Fountain Creek At Pueblo (07106500)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.3	1.4	1.4	1.1	1.1	1.0	1.6	1.5
Nov	1.4	1.5	1.6	1.3	1.3	1.3	1.6	1.6
Dec	1.4	1.5	1.5	1.3	1.3	1.3	1.6	1.5
Jan	1.4	1.6	1.5	1.3	1.3	1.3	1.6	1.6
Feb	1.4	1.6	1.5	1.3	1.3	1.3	1.6	1.5
Mar	1.5	1.7	1.6	1.4	1.4	1.4	1.7	1.7
Apr	1.4	1.7	1.7	1.3	1.3	1.4	1.7	1.6
May	1.5	1.9	2.0	1.4	1.4	1.5	1.8	1.9
Jun	1.5	1.8	1.9	1.4	1.4	1.5	1.8	1.8
Jul	1.2	1.6	1.6	1.1	1.1	1.1	1.6	1.6
Aug	1.4	1.7	1.6	1.3	1.3	1.3	1.7	1.7
Sep	1.2	1.4	1.4	1.0	1.0	1.0	1.5	1.5
Average	1.4	1.6	1.6	1.3	1.3	1.3	1.6	1.6
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.1	1.1	1.2	0.8	0.8	0.8	1.5	1.4
Nov	1.4	1.3	1.6	1.2	1.2	1.2	1.6	1.6
Dec	1.4	1.4	1.5	1.2	1.2	1.1	1.6	1.5
Jan	1.3	1.5	1.5	1.1	1.1	1.1	1.5	1.5
Feb	1.4	1.6	1.4	1.2	1.2	1.2	1.6	1.4
Mar	1.5	1.6	1.5	1.3	1.3	1.4	1.6	1.7
Apr	1.3	1.6	1.4	1.1	1.1	1.2	1.6	1.4
May	1.0	1.6	1.6	0.9	0.9	1.0	1.5	1.5
Jun	1.0	1.6	1.6	0.8	0.8	1.0	1.4	1.5
Jul	1.1	1.5	1.4	1.0	1.0	1.0	1.5	1.5
Aug	1.2	1.5	1.4	1.0	1.0	1.0	1.6	1.5
Sep	0.9	1.1	1.0	0.7	0.7	0.7	1.4	1.3
Average	1.2	1.5	1.4	1.0	1.0	1.1	1.5	1.5
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.3	1.5	1.5	1.2	1.2	1.2	1.6	1.6
Nov	1.5	1.6	1.6	1.4	1.4	1.4	1.7	1.6
Dec	1.4	1.5	1.5	1.4	1.4	1.4	1.6	1.6
Jan	1.4	1.6	1.5	1.4	1.4	1.4	1.6	1.6
Feb	1.4	1.6	1.6	1.4	1.4	1.4	1.6	1.5
Mar	1.4	1.6	1.6	1.4	1.4	1.4	1.7	1.7
Apr	1.4	1.7	1.7	1.3	1.3	1.4	1.7	1.7
May	1.6	1.9	2.1	1.5	1.5	1.6	1.9	1.9
Jun	1.8	2.1	2.1	1.7	1.7	1.8	2.0	2.0
Jul	1.4	1.7	1.7	1.3	1.3	1.3	1.7	1.7
Aug	1.7	1.9	1.9	1.6	1.6	1.6	1.9	1.9
Sep	1.4	1.6	1.6	1.3	1.3	1.3	1.6	1.6
Average	1.5	1.7	1.7	1.4	1.4	1.4	1.7	1.7

Notes: All depth values are streamflow depth at the lowest point in channel cross-section.
Fountain Creek depths are estimated at representative cross-sections upstream or downstream of gaging stations.

Monthly Depth Summary
Direct Effects

Gage: Jimmy Camp Creek At Fountain, Co (07105900)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	2.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Nov	2.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Dec	1.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Jan	1.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Feb	1.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Mar	1.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Apr	2.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1
May	2.5	7.9	7.9	7.9	7.9	7.9	7.9	7.9
Jun	3.9	9.8	9.8	9.8	9.8	9.8	9.8	9.8
Jul	3.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
Aug	4.2	10.1	10.2	10.2	10.2	10.2	10.2	10.2
Sep	1.7	7.4	7.5	7.5	7.5	7.5	7.5	7.5
Average	2.4	7.8	7.8	7.8	7.8	7.8	7.8	7.8

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Depth (feet)								
Oct	1.6	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Nov	1.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Dec	1.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Jan	1.2	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Feb	1.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Mar	1.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Apr	1.3	6.5	6.5	6.5	6.5	6.5	6.5	6.5
May	1.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Jun	1.7	7.9	7.9	7.9	7.9	7.9	7.9	7.9
Jul	1.7	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Aug	2.7	8.7	8.8	8.8	8.8	8.8	8.8	8.8
Sep	1.1	6.8	6.9	6.9	6.9	6.9	6.9	6.9
Average	1.6	7.1	7.1	7.1	7.1	7.1	7.1	7.1

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Depth (feet)								
Oct	2.3	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Nov	2.8	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Dec	2.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Jan	1.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Feb	1.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Mar	1.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8
Apr	2.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2
May	3.5	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Jun	7.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
Jul	2.5	8.7	8.7	8.7	8.7	8.7	8.7	8.7
Aug	7.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Sep	2.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Average	3.2	8.7	8.7	8.7	8.7	8.7	8.7	8.7

Notes: All depth values are streamflow depth at the lowest point in channel cross-section.
Fountain Creek depths are estimated at representative cross-sections upstream or downstream of gaging stations.

Reservoir Summary
Direct Effects

Location: Homestake Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Storage (ac-ft)								
Oct	19,500	17,100	16,900	17,600	17,900	16,600	17,200	18,500
Nov	18,100	15,200	15,400	15,900	16,300	15,100	15,600	16,600
Dec	17,900	14,400	15,000	15,600	15,900	14,700	15,400	15,700
Jan	17,800	13,700	14,800	15,300	15,500	14,400	15,000	14,900
Feb	17,300	12,700	14,100	14,500	14,700	13,700	14,200	14,100
Mar	15,400	11,200	12,100	12,800	12,800	11,700	12,300	12,700
Apr	12,800	9,900	9,500	10,500	10,600	9,200	10,100	11,400
May	12,300	9,900	9,100	10,000	10,000	8,900	9,700	11,800
Jun	19,200	16,900	16,000	16,600	16,600	15,700	16,300	18,900
Jul	25,800	23,900	22,900	23,400	23,400	22,800	23,200	25,200
Aug	25,800	22,400	22,600	23,100	23,200	22,400	23,000	24,700
Sep	23,400	20,100	20,600	21,100	21,400	20,200	20,800	22,200
Average	18,800	15,600	15,800	16,400	16,500	15,500	16,100	17,200

Location: Homestake Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Water Depth (feet)								
Oct	122.9	104.1	107.0	111.4	112.9	105.1	109.4	110.1
Nov	116.2	94.8	98.4	102.6	104.4	96.9	101.2	100.4
Dec	115.7	90.6	96.3	101.4	103.0	95.0	100.2	96.2
Jan	115.2	86.1	95.2	99.2	100.6	92.6	98.1	91.7
Feb	113.0	81.0	90.9	94.5	95.4	88.3	93.3	87.9
Mar	104.0	74.3	81.7	86.6	85.9	78.8	84.3	82.0
Apr	90.3	68.3	68.4	74.5	74.9	65.7	72.6	76.2
May	86.6	67.1	65.6	71.3	71.5	63.5	69.7	77.3
Jun	122.8	107.2	105.3	109.0	108.5	103.4	107.1	115.7
Jul	153.0	142.5	139.4	141.7	141.2	138.9	140.6	147.4
Aug	151.7	132.0	135.9	138.8	139.3	134.7	138.1	143.5
Sep	140.8	119.4	125.4	128.2	130.0	122.9	126.9	130.8
Average	119.4	97.4	100.9	105.0	105.7	98.9	103.5	105.1

Note: Only water depth relative to bottom of reservoir is available for Homestake Reservoir.

Location: Homestake Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	217	187	195	201	202	192	198	194
Nov	209	172	181	189	189	180	185	178
Dec	208	165	177	186	187	177	184	173
Jan	208	158	176	183	184	172	181	166
Feb	205	151	168	174	175	164	173	161
Mar	193	140	155	162	160	149	159	153
Apr	174	134	137	145	145	132	142	145
May	168	133	135	142	142	130	140	148
Jun	217	196	194	198	197	191	196	207
Jul	254	240	236	239	238	236	238	246
Aug	253	226	232	236	236	230	235	242
Sep	240	209	218	222	225	215	221	225
Average	212	176	184	190	190	181	188	187

Monthly Storage Contents Summary
Direct Effects

Location: Turquoise Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	104,700	105,300	103,700	104,600	104,600	104,700	104,400	103,600
Nov	101,100	99,200	99,500	100,700	100,700	100,400	100,300	97,500
Dec	94,100	89,900	91,500	93,000	92,900	92,000	92,200	89,200
Jan	85,200	80,200	81,100	83,000	83,100	81,400	82,100	80,300
Feb	76,900	72,500	73,200	74,600	74,700	73,300	73,700	73,000
Mar	70,400	67,100	66,100	67,000	67,300	66,200	66,100	66,900
Apr	65,100	63,200	61,100	61,700	61,800	61,400	60,600	62,300
May	67,000	67,600	63,600	64,400	64,400	64,300	63,400	66,000
Jun	95,800	99,500	94,800	95,000	94,800	95,500	94,900	96,900
Jul	110,300	113,800	110,200	110,200	110,300	110,500	110,500	111,200
Aug	106,500	110,800	107,000	107,000	107,000	107,500	107,100	108,900
Sep	105,200	108,600	105,100	105,300	105,300	105,900	105,300	107,000
Average	90,300	89,900	88,200	89,000	89,000	88,700	88,500	88,700
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	103,100	104,500	103,500	104,500	103,800	105,900	104,400	101,700
Nov	99,300	94,100	98,400	100,000	99,300	100,700	99,800	92,300
Dec	93,200	83,800	89,400	91,700	90,300	91,600	90,900	82,500
Jan	85,800	77,400	79,500	82,600	81,700	81,500	81,400	76,500
Feb	78,800	72,500	73,500	74,900	74,300	74,800	74,100	72,400
Mar	72,000	69,000	67,600	68,500	68,300	68,500	68,700	68,100
Apr	67,300	65,900	62,800	64,400	63,700	63,600	64,800	64,700
May	68,200	69,600	64,300	66,400	65,700	65,600	67,000	67,900
Jun	90,800	97,800	90,300	91,900	90,800	91,600	93,000	93,200
Jul	97,500	103,800	97,900	99,600	99,300	98,600	100,500	99,700
Aug	90,600	98,900	91,300	93,000	92,400	92,600	93,500	95,100
Sep	88,100	95,200	88,200	89,900	89,500	89,800	90,600	91,700
Average	86,300	86,100	84,000	85,700	85,000	85,500	85,800	83,900
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	99,600	102,100	99,700	100,100	100,700	100,500	100,900	101,200
Nov	97,200	98,200	97,200	97,600	98,200	97,700	98,400	97,200
Dec	92,400	91,500	92,700	93,000	93,500	92,200	93,000	92,000
Jan	86,500	83,300	85,600	86,300	86,900	84,800	86,100	85,700
Feb	81,500	77,500	79,200	80,400	81,300	78,600	79,900	79,600
Mar	78,200	73,500	74,300	75,800	76,500	73,300	73,400	74,200
Apr	73,200	70,000	69,600	70,400	71,200	68,700	67,100	69,800
May	74,000	73,700	70,900	72,900	73,200	70,400	69,100	72,700
Jun	103,200	104,500	100,500	102,800	102,800	101,100	99,700	102,600
Jul	121,700	124,200	121,500	122,500	122,400	121,900	121,400	121,600
Aug	122,900	122,600	123,100	123,400	123,400	123,400	122,500	121,500
Sep	122,400	120,200	121,800	122,600	122,600	122,200	121,100	119,400
Average	96,100	95,200	94,800	95,700	96,100	94,600	94,500	94,900

Monthly Storage Contents Summary
Direct Effects

Location: Twin Lakes

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	115,200	103,800	111,400	112,900	112,400	110,300	112,000	103,100
Nov	110,400	99,400	106,900	108,600	108,100	106,000	107,800	98,900
Dec	106,400	96,400	102,300	104,300	103,900	101,900	103,700	96,600
Jan	104,000	93,800	98,800	100,800	100,500	98,500	100,500	95,100
Feb	102,000	91,900	95,500	97,900	97,500	95,400	97,700	93,100
Mar	99,900	89,300	93,400	95,700	95,400	93,300	95,600	90,900
Apr	98,400	86,700	92,200	94,100	93,800	91,700	93,700	88,400
May	102,700	89,700	97,300	98,900	98,700	96,000	98,200	90,700
Jun	124,700	113,100	119,100	120,700	121,300	117,800	119,700	115,300
Jul	131,500	124,700	127,900	128,700	128,900	127,200	127,900	125,500
Aug	125,200	119,300	121,900	122,400	122,400	120,700	121,600	117,500
Sep	119,000	110,800	115,300	116,200	115,900	114,100	115,300	109,100
Average	111,700	101,600	106,900	108,500	108,300	106,100	107,900	102,100
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	111,300	97,400	105,000	108,000	107,100	104,000	106,300	96,200
Nov	105,500	93,400	99,800	103,300	102,300	99,000	101,300	92,200
Dec	100,500	91,000	95,800	99,100	98,900	95,100	97,600	89,600
Jan	96,900	88,400	92,600	95,700	95,300	92,000	94,600	87,600
Feb	94,000	86,600	88,700	92,300	92,200	88,100	91,100	85,500
Mar	91,500	84,500	85,600	88,300	88,600	85,400	87,400	83,200
Apr	89,300	82,900	84,400	86,400	86,600	84,200	85,400	81,400
May	97,400	85,400	92,100	93,200	93,800	90,400	91,500	85,200
Jun	121,500	105,100	113,700	113,700	116,000	111,300	111,900	110,000
Jul	124,100	111,900	116,500	116,300	117,400	114,900	114,500	112,200
Aug	113,400	102,400	105,700	105,800	106,100	103,800	103,900	99,200
Sep	105,100	92,300	96,100	98,600	98,000	94,900	96,300	89,100
Average	104,300	93,500	98,100	100,100	100,300	97,000	98,500	92,700
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	118,800	106,800	118,300	118,000	117,600	116,100	117,900	108,300
Nov	114,100	102,600	112,600	113,100	112,600	111,000	113,000	103,200
Dec	110,400	98,800	106,300	107,700	107,300	105,700	108,000	100,400
Jan	107,400	96,000	101,500	103,200	102,700	101,200	103,700	98,800
Feb	105,400	94,600	98,200	100,100	99,500	98,200	101,000	97,000
Mar	104,000	91,400	95,300	97,800	97,100	95,300	98,600	94,200
Apr	103,000	88,400	95,000	97,000	96,300	94,400	96,900	90,600
May	102,200	89,500	96,100	97,500	96,800	95,400	97,700	89,300
Jun	123,100	115,300	119,500	120,600	120,600	119,000	120,600	115,100
Jul	136,200	134,100	136,100	136,100	136,100	136,100	136,100	135,700
Aug	133,500	133,600	134,200	134,200	133,900	133,300	133,800	133,000
Sep	128,300	126,800	129,000	129,100	128,700	128,100	128,500	126,200
Average	115,600	106,600	111,900	112,900	112,500	111,200	113,100	107,700

Monthly Storage Contents Summary
Direct Effects

Location: Pueblo Reservoir

	Overall Average							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	146,200	135,600	130,000	131,200	133,300	133,200	122,800	133,500
Nov	148,900	137,500	132,500	133,600	135,600	135,500	124,600	135,600
Dec	164,100	152,000	145,100	149,400	152,100	148,500	139,300	147,400
Jan	180,200	167,200	159,700	168,000	171,000	163,500	155,800	160,300
Feb	192,800	179,000	171,400	183,500	186,600	175,300	169,100	171,300
Mar	200,700	186,700	178,400	193,500	196,800	182,300	178,600	179,800
Apr	191,700	179,400	172,400	184,600	187,300	175,500	171,400	176,800
May	179,200	168,900	163,200	171,000	173,400	166,200	157,800	166,100
Jun	174,300	164,900	159,800	162,300	164,000	162,900	151,200	157,700
Jul	168,900	158,800	153,500	154,600	156,100	157,100	145,400	152,700
Aug	156,000	146,000	141,300	141,700	143,000	144,800	133,400	141,500
Sep	147,000	137,200	131,700	132,600	134,300	135,300	124,800	133,800
Average	170,700	159,300	153,200	158,700	161,000	156,600	147,800	154,600
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	150,800	149,500	143,600	141,000	141,500	146,500	136,300	150,300
Nov	152,500	150,500	144,400	141,800	142,400	146,700	137,000	152,800
Dec	164,200	161,900	152,700	153,400	154,600	155,300	148,700	162,000
Jan	174,700	171,600	161,300	165,900	167,500	164,600	160,100	169,400
Feb	183,800	179,100	169,000	177,700	179,300	172,700	170,300	176,700
Mar	190,300	184,600	174,500	186,100	187,900	177,900	177,800	182,700
Apr	182,200	175,700	165,400	174,600	177,000	168,000	167,500	177,600
May	168,500	164,100	153,300	159,700	162,900	156,400	152,700	165,900
Jun	155,200	154,400	144,100	145,100	146,400	146,700	138,100	148,700
Jul	138,400	137,500	126,400	126,600	127,600	130,000	119,600	132,300
Aug	116,100	114,800	103,300	102,600	104,100	106,100	96,300	109,900
Sep	106,200	104,700	91,700	91,100	93,200	94,600	86,300	101,300
Average	156,800	153,900	144,100	147,000	148,600	147,000	140,800	152,400
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	178,400	163,800	163,900	167,700	171,300	167,500	155,100	164,200
Nov	181,300	166,600	166,300	169,900	173,200	169,800	156,200	166,200
Dec	196,600	181,500	179,000	185,600	190,100	183,000	170,800	178,100
Jan	213,600	196,900	193,900	204,800	209,600	198,300	187,500	190,900
Feb	226,300	209,400	206,200	221,100	226,200	210,900	201,000	202,200
Mar	229,200	214,800	210,800	227,000	232,000	215,400	208,700	208,400
Apr	208,700	199,900	199,000	208,800	211,100	201,800	195,700	200,900
May	194,900	184,800	189,400	193,200	194,400	191,100	177,900	186,300
Jun	193,500	178,500	183,700	184,600	185,700	188,100	170,700	175,900
Jul	210,500	192,900	196,900	197,200	198,200	201,000	185,300	190,200
Aug	204,200	190,600	192,100	191,500	192,500	195,400	180,100	186,700
Sep	197,900	185,300	183,700	184,200	186,300	187,000	173,000	180,200
Average	202,900	188,700	188,700	194,500	197,400	192,400	180,100	185,800

Monthly Storage Contents Summary
Direct Effects

Location: Lake Meredith

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	21,400	20,600	18,100	17,000	17,100	19,000	19,000	21,800
Nov	21,600	20,600	17,300	16,500	16,700	18,400	18,600	22,000
Dec	23,500	22,600	19,800	18,100	18,200	21,100	20,800	25,100
Jan	25,400	24,900	22,400	19,700	19,700	23,800	23,300	28,000
Feb	29,000	29,700	26,500	23,100	22,900	28,000	27,500	31,900
Mar	32,600	34,300	30,800	27,100	26,800	32,000	31,000	34,800
Apr	29,900	32,700	28,800	26,000	25,800	30,200	29,000	33,000
May	27,900	30,700	26,300	24,200	24,000	27,700	27,300	30,300
Jun	25,600	28,200	24,700	23,200	23,100	25,700	25,900	28,300
Jul	24,700	25,900	24,600	23,200	23,300	25,200	25,300	27,100
Aug	23,500	23,600	22,700	21,700	21,700	23,500	23,700	25,400
Sep	22,200	21,700	20,700	19,300	19,200	21,400	21,400	23,400
Average	25,600	26,300	23,500	21,600	21,500	24,700	24,400	27,600
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	12,400	11,800	11,300	8,200	8,100	12,000	11,100	13,700
Nov	12,300	11,800	10,900	7,600	7,600	11,900	10,200	13,800
Dec	14,100	13,500	14,000	9,000	9,000	15,300	11,500	16,900
Jan	17,300	16,700	18,600	11,500	11,300	20,100	14,400	21,100
Feb	23,100	24,900	25,600	17,000	16,600	27,300	20,600	27,400
Mar	29,400	32,900	31,800	23,400	22,800	33,200	26,900	32,500
Apr	25,400	31,400	30,200	23,200	22,800	31,500	25,700	31,200
May	20,400	27,500	24,200	17,900	16,900	25,400	20,500	26,300
Jun	11,900	20,800	16,300	10,400	10,000	17,000	13,100	18,300
Jul	8,100	13,500	12,500	7,400	7,700	12,900	10,100	13,600
Aug	6,500	10,400	9,200	5,500	5,700	10,200	8,100	11,100
Sep	5,500	9,000	7,700	4,500	4,400	8,500	6,700	9,900
Average	15,500	18,600	17,700	12,100	11,900	18,700	14,900	19,600
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	30,700	30,600	26,700	26,000	26,500	27,900	28,600	30,500
Nov	29,200	29,500	24,000	23,900	24,500	25,300	26,800	29,300
Dec	31,400	31,800	26,500	26,100	26,400	27,900	29,700	32,900
Jan	32,700	33,300	27,600	27,100	27,200	29,000	31,800	35,100
Feb	35,100	36,100	30,600	29,500	29,300	31,400	34,600	37,400
Mar	36,800	37,500	33,000	31,000	30,800	33,400	35,600	38,600
Apr	35,700	35,500	30,700	30,900	31,000	31,700	33,800	36,400
May	34,200	32,300	29,000	28,500	28,500	30,200	31,900	33,300
Jun	35,100	33,500	30,500	30,400	30,500	31,600	34,100	35,000
Jul	37,000	36,100	34,700	34,100	34,000	35,000	36,500	37,100
Aug	36,700	34,400	33,900	33,600	33,500	34,400	35,800	36,400
Sep	36,900	33,100	33,100	32,500	32,000	33,800	34,800	35,600
Average	34,300	33,600	30,000	29,500	29,500	31,000	32,800	34,800

Monthly Storage Contents Summary
Direct Effects

Location: Lake Henry

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	4,700	4,300	2,600	3,100	3,100	3,000	3,300	4,500
Nov	5,600	5,200	3,200	3,700	3,800	3,700	4,100	5,400
Dec	5,900	5,800	3,600	4,000	4,000	4,200	4,500	5,800
Jan	6,300	7,000	3,800	4,000	4,000	4,500	4,700	6,000
Feb	7,000	7,900	4,300	4,300	4,300	4,800	5,200	6,600
Mar	7,600	8,100	4,900	4,900	4,900	5,600	5,600	6,800
Apr	7,700	8,100	5,400	5,700	5,600	6,200	6,300	7,000
May	7,000	7,800	5,600	5,600	5,600	6,000	6,300	6,900
Jun	6,600	6,400	6,000	6,300	6,300	6,200	6,400	6,900
Jul	6,400	5,500	5,500	5,800	5,700	5,600	5,800	5,900
Aug	5,800	5,000	4,500	4,800	4,700	4,600	4,800	5,000
Sep	4,700	4,300	3,400	3,600	3,500	3,500	3,700	4,300
Average	6,300	6,300	4,400	4,600	4,600	4,800	5,100	5,900
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	2,100	2,000	1,600	1,100	1,100	1,700	1,000	1,700
Nov	2,400	2,200	1,600	1,100	1,100	1,900	1,100	1,700
Dec	2,600	3,000	1,800	1,200	1,100	2,000	1,200	1,700
Jan	3,700	6,000	2,400	2,000	1,900	2,700	2,000	2,300
Feb	5,100	7,200	3,100	2,800	2,700	3,300	2,800	3,800
Mar	5,900	7,800	3,500	3,200	3,200	4,100	3,600	4,900
Apr	5,900	7,800	4,800	4,800	4,700	5,400	5,100	5,500
May	4,200	6,900	3,000	2,800	2,400	2,900	3,200	4,200
Jun	2,700	3,000	2,300	2,100	2,200	2,200	2,300	3,100
Jul	2,300	1,900	1,500	1,300	1,300	1,500	1,500	1,700
Aug	1,700	1,900	1,200	1,100	1,000	1,200	1,200	1,900
Sep	1,500	2,200	1,200	1,000	1,000	1,200	1,300	2,100
Average	3,300	4,300	2,300	2,000	2,000	2,500	2,200	2,900
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	6,200	5,900	2,600	4,000	3,900	3,500	4,500	6,500
Nov	7,100	6,200	2,400	4,100	4,500	3,500	5,100	7,200
Dec	7,300	6,400	2,800	4,200	4,500	3,900	5,500	7,600
Jan	7,300	7,200	3,000	4,000	4,300	4,100	5,600	7,700
Feb	7,600	8,300	4,000	4,400	4,700	4,600	6,700	8,200
Mar	8,300	8,200	5,300	6,200	6,500	6,200	7,700	8,000
Apr	8,600	8,100	6,100	7,600	7,300	7,500	8,400	8,200
May	7,600	8,000	6,500	6,500	6,700	7,400	8,400	8,100
Jun	8,900	9,100	8,500	9,100	9,100	8,900	9,400	9,400
Jul	9,300	8,300	8,700	9,300	9,300	9,000	9,300	8,900
Aug	9,500	7,600	8,100	8,500	8,500	8,400	8,700	8,100
Sep	8,100	6,600	6,200	6,700	6,300	6,700	6,900	7,100
Average	8,000	7,500	5,400	6,200	6,300	6,100	7,200	7,900

Monthly Storage Contents Summary
Direct Effects

Location: Holbrook Resevoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	1,900	2,100	1,500	1,400	1,400	1,500	1,400	1,400
Nov	2,200	2,300	1,500	1,500	1,500	1,600	1,500	1,500
Dec	3,100	3,200	2,100	2,100	2,100	2,200	2,100	2,200
Jan	4,100	4,400	3,200	3,200	3,200	3,300	3,200	3,300
Feb	4,700	5,000	4,100	4,100	4,100	4,100	4,000	4,100
Mar	5,100	5,300	4,700	4,600	4,600	4,700	4,600	4,700
Apr	5,100	5,200	4,600	4,500	4,500	4,600	4,500	4,500
May	4,200	4,600	3,900	3,800	3,800	3,900	3,800	3,800
Jun	3,900	4,500	3,700	3,700	3,700	3,700	3,700	3,700
Jul	3,000	3,500	2,800	2,800	2,800	2,800	2,800	2,800
Aug	2,300	2,700	2,000	2,000	2,000	2,000	2,000	2,000
Sep	1,900	2,300	1,600	1,600	1,600	1,600	1,600	1,600
Average	3,400	3,700	3,000	2,900	2,900	3,000	2,900	3,000
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	800	1,300	500	500	500	500	500	500
Nov	1,700	1,900	900	900	900	900	900	900
Dec	2,700	3,200	1,500	1,500	1,500	1,500	1,500	1,500
Jan	3,600	4,200	2,500	2,500	2,500	2,500	2,500	2,500
Feb	4,600	5,000	3,900	3,900	3,900	3,900	3,900	4,000
Mar	5,000	5,400	4,700	4,700	4,700	4,700	4,700	4,800
Apr	4,800	5,200	4,500	4,500	4,500	4,500	4,500	4,500
May	3,800	4,500	3,600	3,600	3,600	3,600	3,600	3,600
Jun	2,900	3,700	2,800	2,800	2,800	2,800	2,800	2,800
Jul	1,300	1,900	1,100	1,100	1,100	1,100	1,100	1,100
Aug	700	1,400	500	500	500	500	500	500
Sep	700	1,400	300	300	300	300	300	300
Average	2,700	3,300	2,200	2,200	2,200	2,200	2,200	2,200
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	2,900	3,100	2,400	2,400	2,400	2,400	2,400	2,400
Nov	3,100	3,100	2,500	2,400	2,400	2,500	2,500	2,400
Dec	3,400	3,200	2,600	2,600	2,600	2,600	2,600	2,600
Jan	4,000	4,500	3,400	3,300	3,300	3,400	3,300	3,300
Feb	4,400	5,000	4,000	3,900	3,900	4,000	3,900	3,900
Mar	4,900	5,100	4,300	4,200	4,200	4,300	4,200	4,200
Apr	5,100	5,100	4,300	4,200	4,200	4,300	4,200	4,200
May	4,300	4,700	3,800	3,800	3,800	3,800	3,800	3,800
Jun	4,100	4,800	4,000	4,000	4,000	4,000	4,000	4,000
Jul	4,300	5,000	4,300	4,300	4,300	4,300	4,300	4,300
Aug	3,700	4,300	3,600	3,600	3,600	3,600	3,600	3,600
Sep	3,600	4,100	3,500	3,400	3,400	3,500	3,400	3,400
Average	4,000	4,300	3,500	3,500	3,500	3,500	3,500	3,500

Monthly WSEL Summary
Direct Effects

Location: Turquoise Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	9,854.6	9,855.0	9,853.9	9,854.6	9,854.6	9,854.6	9,854.5	9,853.9
Nov	9,852.4	9,851.2	9,851.3	9,852.2	9,852.2	9,852.0	9,852.0	9,850.0
Dec	9,848.0	9,845.5	9,846.3	9,847.5	9,847.4	9,846.7	9,847.0	9,844.7
Jan	9,842.3	9,839.3	9,839.6	9,841.0	9,841.1	9,839.9	9,840.4	9,838.9
Feb	9,836.7	9,834.2	9,834.4	9,835.4	9,835.5	9,834.5	9,834.8	9,834.1
Mar	9,832.3	9,830.4	9,829.4	9,830.3	9,830.4	9,829.5	9,829.6	9,829.9
Apr	9,828.5	9,827.6	9,825.9	9,826.4	9,826.5	9,826.1	9,825.7	9,826.6
May	9,829.8	9,830.7	9,827.6	9,828.3	9,828.3	9,828.1	9,827.7	9,829.1
Jun	9,849.2	9,851.6	9,848.6	9,848.8	9,848.7	9,849.1	9,848.7	9,849.9
Jul	9,858.1	9,860.3	9,858.1	9,858.1	9,858.2	9,858.3	9,858.3	9,858.7
Aug	9,855.8	9,858.5	9,856.0	9,856.1	9,856.1	9,856.4	9,856.2	9,857.3
Sep	9,854.9	9,857.2	9,854.8	9,855.1	9,855.1	9,855.3	9,855.1	9,856.1
Average	9,845.3	9,845.2	9,843.9	9,844.5	9,844.6	9,844.3	9,844.2	9,844.2

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Water Surface Elevation (feet)								
Oct	9,853.8	9,854.7	9,854.2	9,854.7	9,854.3	9,855.6	9,854.7	9,853.0
Nov	9,851.5	9,848.1	9,851.0	9,852.0	9,851.6	9,852.4	9,851.9	9,847.0
Dec	9,847.7	9,841.6	9,845.3	9,846.8	9,845.9	9,846.7	9,846.3	9,840.4
Jan	9,843.0	9,837.5	9,838.7	9,840.8	9,840.3	9,840.0	9,840.0	9,836.4
Feb	9,838.4	9,834.3	9,834.6	9,835.6	9,835.2	9,835.5	9,835.1	9,833.6
Mar	9,833.8	9,831.9	9,830.6	9,831.2	9,831.2	9,831.2	9,831.5	9,830.8
Apr	9,830.6	9,829.7	9,827.3	9,828.5	9,828.0	9,827.8	9,828.9	9,828.4
May	9,831.3	9,832.4	9,828.4	9,830.0	9,829.5	9,829.3	9,830.5	9,830.8
Jun	9,846.0	9,850.5	9,845.5	9,846.8	9,846.1	9,846.4	9,847.6	9,847.4
Jul	9,850.1	9,854.0	9,850.2	9,851.5	9,851.4	9,850.6	9,852.1	9,851.4
Aug	9,845.8	9,851.0	9,846.0	9,847.4	9,847.1	9,846.8	9,847.7	9,848.5
Sep	9,844.2	9,848.7	9,843.8	9,845.2	9,845.0	9,844.9	9,845.7	9,846.2
Average	9,843.0	9,842.9	9,841.3	9,842.6	9,842.2	9,842.3	9,842.7	9,841.2

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Water Surface Elevation (feet)								
Oct	9,851.6	9,853.0	9,851.5	9,851.9	9,852.3	9,852.1	9,852.4	9,852.4
Nov	9,850.1	9,850.6	9,849.9	9,850.3	9,850.7	9,850.3	9,850.8	9,849.8
Dec	9,847.1	9,846.4	9,847.0	9,847.4	9,847.7	9,846.8	9,847.4	9,846.5
Jan	9,843.2	9,841.1	9,842.5	9,843.1	9,843.4	9,841.9	9,842.9	9,842.4
Feb	9,839.8	9,837.2	9,838.3	9,839.1	9,839.7	9,837.8	9,838.7	9,838.4
Mar	9,837.5	9,834.4	9,834.8	9,836.0	9,836.4	9,834.1	9,834.3	9,834.6
Apr	9,834.1	9,831.9	9,831.6	9,832.3	9,832.7	9,830.8	9,829.8	9,831.4
May	9,834.5	9,834.3	9,832.3	9,833.7	9,833.9	9,831.8	9,831.0	9,833.2
Jun	9,853.6	9,854.4	9,851.9	9,853.2	9,853.3	9,852.2	9,851.4	9,853.2
Jul	9,865.0	9,866.5	9,864.9	9,865.4	9,865.4	9,865.1	9,864.8	9,865.0
Aug	9,865.6	9,865.5	9,865.8	9,865.9	9,865.9	9,866.0	9,865.4	9,864.9
Sep	9,865.4	9,864.2	9,865.0	9,865.5	9,865.5	9,865.3	9,864.7	9,863.7
Average	9,849.0	9,848.4	9,848.0	9,848.7	9,848.9	9,847.9	9,847.9	9,848.0

Monthly WSEL Summary
Direct Effects

Location: Twin Lakes

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	9,189.5	9,184.3	9,187.6	9,188.4	9,188.2	9,187.2	9,188.0	9,183.9
Nov	9,187.4	9,182.3	9,185.7	9,186.5	9,186.3	9,185.3	9,186.2	9,182.0
Dec	9,185.6	9,180.9	9,183.6	9,184.6	9,184.5	9,183.4	9,184.3	9,181.0
Jan	9,184.5	9,179.6	9,182.0	9,183.0	9,182.8	9,181.8	9,182.9	9,180.2
Feb	9,183.5	9,178.6	9,180.3	9,181.6	9,181.4	9,180.3	9,181.5	9,179.2
Mar	9,182.4	9,177.4	9,179.3	9,180.5	9,180.3	9,179.2	9,180.4	9,178.0
Apr	9,181.6	9,176.0	9,178.6	9,179.6	9,179.5	9,178.3	9,179.4	9,176.7
May	9,183.6	9,177.4	9,181.0	9,181.8	9,181.7	9,180.4	9,181.5	9,177.9
Jun	9,193.4	9,188.4	9,191.1	9,191.8	9,192.0	9,190.5	9,191.3	9,189.4
Jul	9,196.3	9,193.4	9,194.8	9,195.1	9,195.2	9,194.5	9,194.8	9,193.7
Aug	9,193.7	9,191.1	9,192.2	9,192.4	9,192.5	9,191.7	9,192.1	9,190.3
Sep	9,191.1	9,187.4	9,189.3	9,189.8	9,189.7	9,188.8	9,189.4	9,186.5
Average	9,187.7	9,183.1	9,185.5	9,186.3	9,186.2	9,185.1	9,186.0	9,183.3

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Water Surface Elevation (feet)								
Oct	9,188.0	9,181.3	9,184.9	9,186.4	9,186.0	9,184.5	9,185.6	9,180.7
Nov	9,185.4	9,179.5	9,182.5	9,184.3	9,183.8	9,182.1	9,183.3	9,178.9
Dec	9,183.1	9,178.3	9,180.7	9,182.4	9,182.3	9,180.3	9,181.6	9,177.7
Jan	9,181.3	9,177.0	9,179.1	9,180.8	9,180.6	9,178.8	9,180.2	9,176.6
Feb	9,179.9	9,176.0	9,177.2	9,179.1	9,179.1	9,176.8	9,178.4	9,175.5
Mar	9,178.6	9,174.9	9,175.5	9,177.0	9,177.2	9,175.4	9,176.6	9,174.3
Apr	9,177.4	9,174.1	9,174.9	9,176.0	9,176.1	9,174.8	9,175.5	9,173.3
May	9,181.3	9,175.3	9,178.7	9,179.3	9,179.5	9,177.8	9,178.4	9,175.2
Jun	9,192.3	9,184.8	9,189.0	9,188.9	9,190.0	9,187.9	9,188.1	9,187.2
Jul	9,193.3	9,187.8	9,190.0	9,189.9	9,190.4	9,189.3	9,189.1	9,188.0
Aug	9,188.8	9,183.6	9,185.1	9,185.2	9,185.4	9,184.2	9,184.4	9,182.1
Sep	9,185.1	9,178.8	9,180.6	9,181.9	9,181.7	9,180.0	9,180.8	9,177.3
Average	9,184.6	9,179.3	9,181.5	9,182.6	9,182.7	9,181.0	9,181.9	9,178.9

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Water Surface Elevation (feet)								
Oct	9,191.1	9,185.7	9,190.9	9,190.8	9,190.6	9,189.9	9,190.7	9,186.4
Nov	9,189.1	9,183.9	9,188.4	9,188.6	9,188.4	9,187.7	9,188.6	9,184.2
Dec	9,187.3	9,182.0	9,185.5	9,186.1	9,185.9	9,185.2	9,186.3	9,182.8
Jan	9,185.9	9,180.7	9,183.2	9,184.0	9,183.8	9,183.0	9,184.2	9,181.9
Feb	9,185.0	9,180.0	9,181.7	9,182.5	9,182.3	9,181.7	9,183.0	9,181.0
Mar	9,184.3	9,178.4	9,180.1	9,181.3	9,181.0	9,180.2	9,181.7	9,179.7
Apr	9,183.7	9,176.9	9,179.8	9,180.9	9,180.5	9,179.6	9,180.8	9,177.8
May	9,183.3	9,177.4	9,180.4	9,181.1	9,180.7	9,180.0	9,181.2	9,177.2
Jun	9,192.5	9,189.2	9,191.1	9,191.5	9,191.5	9,190.8	9,191.6	9,189.2
Jul	9,198.2	9,197.3	9,198.1	9,198.1	9,198.1	9,198.1	9,198.1	9,198.0
Aug	9,197.1	9,197.2	9,197.4	9,197.4	9,197.3	9,197.0	9,197.2	9,196.9
Sep	9,195.0	9,194.5	9,195.3	9,195.4	9,195.2	9,194.9	9,195.1	9,194.2
Average	9,189.4	9,185.3	9,187.7	9,188.2	9,188.0	9,187.4	9,188.2	9,185.8

Monthly WSEL Summary
Direct Effects

Location: Pueblo Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	4,847.9	4,843.9	4,841.2	4,841.8	4,842.7	4,842.4	4,838.7	4,843.1
Nov	4,848.8	4,844.7	4,842.4	4,842.9	4,843.8	4,843.5	4,839.6	4,844.0
Dec	4,853.8	4,849.8	4,847.2	4,848.8	4,849.7	4,848.3	4,845.3	4,848.3
Jan	4,858.8	4,854.8	4,852.2	4,855.0	4,855.9	4,853.4	4,851.1	4,852.7
Feb	4,862.5	4,858.4	4,855.9	4,859.7	4,860.6	4,857.1	4,855.4	4,856.3
Mar	4,864.8	4,860.8	4,858.0	4,862.6	4,863.6	4,859.2	4,858.3	4,859.0
Apr	4,862.8	4,858.9	4,856.5	4,860.6	4,861.5	4,857.5	4,856.5	4,858.4
May	4,859.2	4,855.7	4,853.4	4,856.3	4,857.1	4,854.4	4,852.1	4,855.0
Jun	4,857.3	4,854.1	4,851.8	4,852.9	4,853.5	4,852.8	4,849.2	4,851.6
Jul	4,855.2	4,851.6	4,849.1	4,849.7	4,850.3	4,850.4	4,846.5	4,849.4
Aug	4,850.9	4,847.2	4,844.8	4,845.1	4,845.7	4,846.1	4,842.2	4,845.6
Sep	4,848.0	4,844.2	4,841.4	4,842.0	4,842.7	4,842.9	4,839.2	4,843.0
Average	4,855.8	4,852.0	4,849.4	4,851.4	4,852.2	4,850.6	4,847.8	4,850.5
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,849.4	4,847.8	4,845.4	4,844.3	4,844.8	4,846.5	4,842.5	4,848.5
Nov	4,849.8	4,848.1	4,845.6	4,844.5	4,845.0	4,846.5	4,842.6	4,849.4
Dec	4,853.4	4,852.1	4,848.5	4,848.7	4,849.3	4,849.5	4,846.8	4,852.5
Jan	4,856.9	4,855.5	4,851.7	4,853.3	4,853.9	4,852.8	4,851.1	4,855.0
Feb	4,859.6	4,857.8	4,854.0	4,856.9	4,857.5	4,855.3	4,854.3	4,857.3
Mar	4,861.5	4,859.4	4,855.5	4,859.3	4,860.0	4,856.7	4,856.5	4,859.2
Apr	4,859.7	4,857.0	4,853.1	4,856.7	4,857.6	4,854.1	4,854.2	4,858.1
May	4,855.8	4,853.7	4,849.4	4,851.9	4,853.0	4,850.5	4,849.2	4,854.6
Jun	4,851.2	4,850.1	4,845.8	4,846.3	4,847.0	4,846.7	4,843.6	4,848.1
Jul	4,845.9	4,844.7	4,840.1	4,840.4	4,840.9	4,841.4	4,837.4	4,843.0
Aug	4,839.2	4,837.9	4,832.7	4,832.8	4,833.6	4,833.9	4,829.9	4,836.2
Sep	4,835.9	4,834.3	4,828.2	4,828.5	4,829.5	4,829.7	4,826.2	4,833.2
Average	4,851.5	4,849.8	4,845.8	4,846.9	4,847.6	4,846.9	4,844.5	4,849.6
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,858.0	4,852.5	4,853.1	4,854.4	4,855.6	4,854.3	4,850.4	4,853.1
Nov	4,858.8	4,853.5	4,854.0	4,855.1	4,856.2	4,855.1	4,850.8	4,853.8
Dec	4,862.9	4,857.9	4,857.6	4,859.7	4,860.9	4,858.9	4,855.2	4,857.3
Jan	4,867.4	4,862.4	4,861.9	4,865.0	4,866.3	4,863.2	4,860.2	4,861.2
Feb	4,870.8	4,865.9	4,865.3	4,869.5	4,870.8	4,866.6	4,864.0	4,864.5
Mar	4,871.8	4,867.5	4,866.7	4,871.2	4,872.5	4,867.9	4,866.2	4,866.3
Apr	4,867.3	4,864.1	4,864.0	4,867.3	4,868.0	4,864.9	4,863.3	4,864.8
May	4,863.8	4,860.3	4,861.6	4,863.3	4,863.9	4,862.3	4,858.7	4,861.1
Jun	4,863.7	4,859.2	4,860.7	4,861.4	4,861.9	4,862.0	4,856.9	4,858.5
Jul	4,868.3	4,863.7	4,864.7	4,864.9	4,865.4	4,865.8	4,860.9	4,862.5
Aug	4,866.6	4,863.1	4,863.0	4,863.1	4,863.7	4,864.1	4,859.0	4,861.4
Sep	4,864.9	4,861.6	4,860.6	4,861.0	4,861.9	4,861.7	4,856.8	4,859.5
Average	4,865.3	4,861.0	4,861.1	4,863.0	4,863.9	4,862.2	4,858.5	4,860.3

Monthly WSEL Summary
Direct Effects

Location: Lake Meredith

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	4,249.7	4,249.6	4,248.8	4,248.4	4,248.4	4,249.2	4,249.1	4,250.1
Nov	4,249.7	4,249.6	4,248.7	4,248.3	4,248.3	4,249.0	4,249.0	4,250.1
Dec	4,250.3	4,250.1	4,249.5	4,248.8	4,248.8	4,249.8	4,249.6	4,250.8
Jan	4,251.0	4,250.8	4,250.3	4,249.4	4,249.4	4,250.7	4,250.4	4,251.6
Feb	4,251.9	4,252.0	4,251.4	4,250.5	4,250.4	4,251.8	4,251.5	4,252.6
Mar	4,252.7	4,253.1	4,252.4	4,251.5	4,251.4	4,252.6	4,252.4	4,253.2
Apr	4,252.2	4,252.8	4,251.9	4,251.2	4,251.1	4,252.2	4,251.9	4,252.9
May	4,251.7	4,252.3	4,251.2	4,250.6	4,250.6	4,251.6	4,251.4	4,252.3
Jun	4,250.9	4,251.7	4,250.7	4,250.2	4,250.1	4,251.0	4,250.9	4,251.7
Jul	4,250.4	4,250.9	4,250.5	4,250.0	4,250.0	4,250.7	4,250.6	4,251.4
Aug	4,250.1	4,250.3	4,250.0	4,249.6	4,249.6	4,250.3	4,250.2	4,250.9
Sep	4,249.8	4,249.9	4,249.5	4,249.0	4,249.0	4,249.8	4,249.7	4,250.4
Average	4,250.8	4,251.1	4,250.4	4,249.8	4,249.8	4,250.7	4,250.6	4,251.5
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,247.0	4,246.9	4,247.2	4,246.0	4,245.9	4,247.4	4,247.2	4,248.0
Nov	4,247.1	4,247.0	4,247.0	4,245.8	4,245.8	4,247.4	4,246.9	4,248.0
Dec	4,247.8	4,247.5	4,248.1	4,246.3	4,246.2	4,248.5	4,247.2	4,248.9
Jan	4,248.9	4,248.6	4,249.5	4,247.2	4,247.0	4,249.9	4,248.2	4,250.1
Feb	4,250.4	4,250.9	4,251.3	4,248.9	4,248.7	4,251.7	4,249.9	4,251.6
Mar	4,252.0	4,252.8	4,252.6	4,250.7	4,250.5	4,252.9	4,251.5	4,252.8
Apr	4,251.1	4,252.5	4,252.3	4,250.5	4,250.3	4,252.5	4,251.2	4,252.5
May	4,250.0	4,251.7	4,250.9	4,249.1	4,248.9	4,251.2	4,249.9	4,251.4
Jun	4,247.7	4,250.2	4,248.9	4,247.0	4,246.8	4,249.2	4,247.8	4,249.5
Jul	4,246.2	4,248.0	4,247.8	4,245.8	4,245.9	4,248.0	4,246.8	4,248.2
Aug	4,245.5	4,246.9	4,246.8	4,245.1	4,245.2	4,247.2	4,246.1	4,247.3
Sep	4,245.1	4,246.5	4,246.2	4,244.7	4,244.6	4,246.6	4,245.6	4,246.9
Average	4,248.2	4,249.1	4,249.0	4,247.2	4,247.2	4,249.4	4,248.2	4,249.6
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,252.4	4,252.4	4,251.3	4,251.1	4,251.3	4,251.7	4,251.8	4,252.4
Nov	4,252.1	4,252.1	4,250.7	4,250.7	4,250.8	4,251.1	4,251.4	4,252.1
Dec	4,252.5	4,252.6	4,251.4	4,251.3	4,251.3	4,251.8	4,252.1	4,252.8
Jan	4,252.8	4,252.9	4,251.6	4,251.5	4,251.5	4,252.0	4,252.6	4,253.3
Feb	4,253.2	4,253.4	4,252.3	4,252.0	4,251.9	4,252.5	4,253.1	4,253.7
Mar	4,253.6	4,253.7	4,252.8	4,252.4	4,252.3	4,252.9	4,253.4	4,253.9
Apr	4,253.4	4,253.4	4,252.3	4,252.3	4,252.3	4,252.6	4,253.0	4,253.5
May	4,253.1	4,252.7	4,251.9	4,251.8	4,251.7	4,252.2	4,252.6	4,252.9
Jun	4,253.2	4,252.9	4,252.2	4,252.1	4,252.1	4,252.4	4,253.0	4,253.2
Jul	4,253.6	4,253.4	4,252.9	4,252.8	4,252.7	4,253.0	4,253.4	4,253.6
Aug	4,253.5	4,253.1	4,252.8	4,252.8	4,252.8	4,253.0	4,253.4	4,253.5
Sep	4,253.6	4,252.8	4,252.8	4,252.7	4,252.6	4,253.0	4,253.2	4,253.4
Average	4,253.1	4,253.0	4,252.1	4,252.0	4,251.9	4,252.3	4,252.8	4,253.2

Monthly WSEL Summary
Direct Effects

Location: Lake Henry

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	4,371.1	4,370.8	4,369.1	4,369.6	4,369.5	4,369.5	4,369.8	4,371.0
Nov	4,372.0	4,371.6	4,369.7	4,370.2	4,370.3	4,370.2	4,370.5	4,371.7
Dec	4,372.3	4,372.2	4,370.1	4,370.4	4,370.4	4,370.6	4,370.9	4,372.1
Jan	4,372.7	4,373.4	4,370.3	4,370.5	4,370.5	4,370.9	4,371.1	4,372.3
Feb	4,373.3	4,374.2	4,370.8	4,370.8	4,370.8	4,371.2	4,371.5	4,372.8
Mar	4,373.9	4,374.4	4,371.4	4,371.3	4,371.3	4,372.0	4,372.0	4,373.1
Apr	4,374.0	4,374.4	4,371.9	4,372.1	4,372.0	4,372.6	4,372.6	4,373.3
May	4,373.3	4,374.1	4,372.0	4,372.0	4,371.9	4,372.3	4,372.6	4,373.2
Jun	4,372.9	4,372.7	4,372.3	4,372.6	4,372.6	4,372.5	4,372.7	4,373.2
Jul	4,372.7	4,371.8	4,371.8	4,372.1	4,372.0	4,371.9	4,372.1	4,372.2
Aug	4,372.1	4,371.4	4,370.9	4,371.1	4,371.0	4,371.0	4,371.2	4,371.5
Sep	4,371.1	4,370.7	4,369.9	4,370.0	4,369.9	4,370.0	4,370.1	4,370.7
Average	4,372.6	4,372.6	4,370.9	4,371.0	4,371.0	4,371.2	4,371.4	4,372.3
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,368.5	4,368.4	4,368.0	4,367.4	4,367.4	4,368.1	4,367.4	4,368.2
Nov	4,368.8	4,368.7	4,368.1	4,367.5	4,367.5	4,368.4	4,367.5	4,368.2
Dec	4,369.2	4,369.6	4,368.3	4,367.6	4,367.6	4,368.5	4,367.6	4,368.2
Jan	4,370.2	4,372.5	4,368.9	4,368.4	4,368.3	4,369.2	4,368.4	4,368.8
Feb	4,371.5	4,373.6	4,369.5	4,369.2	4,369.1	4,369.7	4,369.2	4,370.2
Mar	4,372.3	4,374.1	4,370.0	4,369.6	4,369.6	4,370.6	4,370.0	4,371.3
Apr	4,372.3	4,374.1	4,371.3	4,371.2	4,371.1	4,371.8	4,371.5	4,371.8
May	4,370.7	4,373.3	4,369.5	4,369.3	4,368.8	4,369.4	4,369.6	4,370.7
Jun	4,369.2	4,369.6	4,368.8	4,368.5	4,368.6	4,368.7	4,368.8	4,369.6
Jul	4,368.8	4,368.4	4,367.9	4,367.7	4,367.7	4,367.9	4,367.9	4,368.2
Aug	4,368.2	4,368.4	4,367.6	4,367.4	4,367.4	4,367.6	4,367.6	4,368.4
Sep	4,367.9	4,368.7	4,367.6	4,367.4	4,367.3	4,367.6	4,367.7	4,368.6
Average	4,369.8	4,370.8	4,368.8	4,368.4	4,368.4	4,369.0	4,368.6	4,369.3
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,372.6	4,372.3	4,369.1	4,370.6	4,370.4	4,370.1	4,371.0	4,372.9
Nov	4,373.4	4,372.6	4,368.9	4,370.6	4,371.0	4,370.1	4,371.6	4,373.5
Dec	4,373.5	4,372.8	4,369.3	4,370.7	4,371.0	4,370.5	4,371.9	4,373.8
Jan	4,373.5	4,373.5	4,369.5	4,370.5	4,370.8	4,370.6	4,372.0	4,373.9
Feb	4,373.9	4,374.5	4,370.4	4,370.9	4,371.2	4,371.0	4,373.0	4,374.3
Mar	4,374.4	4,374.4	4,371.8	4,372.7	4,372.9	4,372.6	4,374.0	4,374.2
Apr	4,374.8	4,374.4	4,372.6	4,373.9	4,373.7	4,373.9	4,374.7	4,374.5
May	4,373.9	4,374.4	4,372.9	4,372.9	4,373.1	4,373.7	4,374.7	4,374.4
Jun	4,375.1	4,375.3	4,374.7	4,375.2	4,375.3	4,375.1	4,375.6	4,375.5
Jul	4,375.5	4,374.5	4,374.8	4,375.4	4,375.4	4,375.1	4,375.5	4,375.1
Aug	4,375.6	4,373.9	4,374.4	4,374.8	4,374.7	4,374.7	4,374.9	4,374.4
Sep	4,374.3	4,373.1	4,372.6	4,373.2	4,372.8	4,373.1	4,373.3	4,373.4
Average	4,374.2	4,373.8	4,371.8	4,372.6	4,372.7	4,372.5	4,373.5	4,374.2

Monthly WSEL Summary
Direct Effects

Location: Holbrook Resevoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Depth (feet)								
Oct	10.1	10.8	8.6	8.4	8.4	8.6	8.4	8.5
Nov	11.2	11.6	9.0	8.9	8.8	9.1	8.9	8.9
Dec	13.4	13.7	10.5	10.5	10.5	10.8	10.4	10.7
Jan	15.4	16.3	13.4	13.2	13.2	13.5	13.2	13.5
Feb	16.6	17.4	15.4	15.2	15.2	15.4	15.2	15.4
Mar	17.4	18.0	16.5	16.3	16.3	16.5	16.2	16.4
Apr	17.3	17.8	16.3	15.9	15.9	16.2	15.9	16.1
May	15.6	16.8	14.8	14.5	14.5	14.9	14.5	14.8
Jun	15.0	16.4	14.4	14.4	14.4	14.4	14.4	14.4
Jul	12.9	14.1	11.9	11.9	11.9	11.9	11.9	11.9
Aug	10.8	12.1	9.6	9.6	9.5	9.6	9.6	9.6
Sep	9.8	11.2	8.7	8.5	8.5	8.7	8.5	8.6
Average	13.8	14.7	12.4	12.3	12.2	12.5	12.2	12.4
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Depth (feet)								
Oct	6.9	8.2	5.1	4.8	4.7	5.1	4.8	5.0
Nov	9.6	10.4	6.2	6.0	6.0	6.2	6.1	6.1
Dec	12.2	13.8	7.8	7.8	7.8	7.8	7.8	7.8
Jan	14.0	16.1	11.0	11.0	11.1	11.1	11.0	11.1
Feb	16.2	17.4	14.4	14.4	14.4	14.4	14.4	14.5
Mar	16.8	18.1	16.2	16.1	16.1	16.2	16.1	16.3
Apr	16.4	17.8	15.8	15.6	15.5	15.8	15.5	15.7
May	14.6	16.7	14.0	13.9	13.9	14.1	13.9	13.9
Jun	12.7	14.9	12.1	12.0	12.0	12.1	12.0	12.0
Jul	8.4	10.8	7.6	7.5	7.5	7.6	7.6	7.5
Aug	6.5	9.2	5.2	5.1	5.1	5.2	5.2	5.1
Sep	6.6	9.1	4.6	4.3	4.2	4.6	4.3	4.4
Average	11.7	13.5	10.0	9.9	9.8	10.0	9.9	9.9
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Depth (feet)								
Oct	13.1	13.4	11.6	11.6	11.6	11.7	11.6	11.6
Nov	13.5	13.4	11.8	11.7	11.7	11.8	11.8	11.7
Dec	14.1	13.7	12.1	12.1	12.1	12.1	12.1	12.1
Jan	15.3	16.6	13.9	13.9	13.9	13.9	13.8	13.9
Feb	16.2	17.4	15.1	15.0	15.0	15.1	15.0	15.0
Mar	17.2	17.7	15.8	15.6	15.6	15.8	15.4	15.6
Apr	17.7	17.6	15.6	15.4	15.4	15.6	15.3	15.4
May	15.7	16.9	14.7	14.7	14.6	14.7	14.6	14.7
Jun	15.1	17.1	15.0	14.9	14.9	15.0	14.9	15.0
Jul	15.7	17.5	15.5	15.5	15.5	15.5	15.5	15.5
Aug	14.4	16.1	14.2	14.2	14.2	14.2	14.2	14.2
Sep	14.3	15.8	14.0	14.0	14.0	14.0	14.0	14.0
Average	15.2	16.1	14.1	14.0	14.0	14.1	14.0	14.0

Note: Only water depth relative to bottom of reservoir is available for Holbrook Reservoir.

Monthly Surface Area Summary
Direct Effects

Location: Turquoise Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	719	719	718	719	719	719	719	718
Nov	716	715	715	716	716	716	716	714
Dec	712	709	710	711	711	710	711	708
Jan	706	703	703	704	704	703	704	702
Feb	700	697	697	698	699	697	698	697
Mar	695	693	692	693	693	692	692	692
Apr	691	690	688	689	689	688	688	689
May	692	693	690	691	691	690	690	691
Jun	713	716	712	713	713	713	713	714
Jul	722	725	722	722	722	722	723	723
Aug	720	723	720	720	720	720	720	721
Sep	719	721	719	719	719	719	719	720
Average	709	709	707	708	708	708	708	708

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	718	719	718	719	719	720	719	717
Nov	715	712	715	716	716	717	716	711
Dec	711	705	709	710	710	710	710	704
Jan	707	701	702	704	704	703	703	699
Feb	702	697	697	699	698	698	698	696
Mar	697	695	693	694	694	694	694	693
Apr	693	692	689	691	690	690	691	691
May	694	695	691	693	692	692	693	693
Jun	710	715	709	711	710	710	711	711
Jul	714	718	714	716	715	714	716	715
Aug	709	715	709	711	711	710	711	712
Sep	708	712	707	709	709	708	709	710
Average	707	706	705	706	706	706	706	704

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	716	717	716	716	716	716	717	716
Nov	714	714	714	714	715	714	715	713
Dec	711	710	711	711	711	710	711	710
Jan	707	704	706	707	707	705	706	706
Feb	703	700	701	702	703	701	702	701
Mar	701	697	698	699	699	697	697	697
Apr	697	694	694	695	695	693	692	694
May	697	697	695	696	696	694	693	696
Jun	718	718	716	717	717	716	715	717
Jul	730	731	729	730	730	730	729	729
Aug	730	730	730	731	731	731	730	729
Sep	730	729	730	730	730	730	729	728
Average	713	712	712	712	713	711	711	712

Monthly Surface Area Summary
Direct Effects

Location: Twin Lakes

Month	Overall Average							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	2,333	2,160	2,279	2,301	2,293	2,263	2,288	2,150
Nov	2,256	2,092	2,206	2,232	2,224	2,194	2,221	2,084
Dec	2,196	2,045	2,137	2,163	2,158	2,130	2,157	2,049
Jan	2,161	2,005	2,081	2,110	2,106	2,077	2,107	2,026
Feb	2,130	1,975	2,031	2,066	2,062	2,030	2,064	1,995
Mar	2,100	1,938	2,000	2,035	2,031	1,999	2,034	1,961
Apr	2,077	1,902	1,984	2,012	2,009	1,977	2,007	1,926
May	2,145	1,948	2,063	2,085	2,081	2,045	2,075	1,963
Jun	2,493	2,306	2,399	2,427	2,436	2,380	2,411	2,339
Jul	2,606	2,492	2,546	2,560	2,564	2,535	2,547	2,507
Aug	2,500	2,405	2,449	2,455	2,455	2,429	2,444	2,378
Sep	2,395	2,271	2,344	2,356	2,351	2,324	2,342	2,246
Average	2,284	2,129	2,211	2,235	2,232	2,200	2,226	2,136

Month	Average of Dry Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	2,260	2,063	2,176	2,217	2,204	2,160	2,191	2,046
Nov	2,172	2,004	2,096	2,144	2,130	2,083	2,115	1,986
Dec	2,102	1,969	2,036	2,081	2,079	2,024	2,060	1,947
Jan	2,054	1,928	1,988	2,034	2,030	1,979	2,018	1,915
Feb	2,012	1,900	1,930	1,984	1,983	1,920	1,966	1,881
Mar	1,974	1,868	1,884	1,926	1,930	1,881	1,912	1,848
Apr	1,941	1,843	1,865	1,897	1,900	1,862	1,882	1,821
May	2,064	1,882	1,984	2,000	2,006	1,960	1,976	1,879
Jun	2,434	2,181	2,302	2,303	2,343	2,269	2,277	2,253
Jul	2,481	2,284	2,356	2,354	2,371	2,332	2,326	2,289
Aug	2,304	2,137	2,190	2,189	2,189	2,159	2,161	2,087
Sep	2,166	1,982	2,045	2,082	2,070	2,027	2,046	1,936
Average	2,165	2,004	2,072	2,102	2,104	2,056	2,078	1,991

Month	Average of Wet Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	2,389	2,206	2,379	2,375	2,368	2,346	2,375	2,229
Nov	2,313	2,140	2,289	2,300	2,293	2,268	2,301	2,148
Dec	2,259	2,082	2,201	2,219	2,211	2,192	2,223	2,109
Jan	2,214	2,040	2,125	2,150	2,143	2,122	2,155	2,087
Feb	2,184	2,019	2,078	2,107	2,099	2,079	2,118	2,058
Mar	2,163	1,971	2,036	2,074	2,065	2,037	2,085	2,013
Apr	2,147	1,931	2,033	2,064	2,054	2,025	2,062	1,962
May	2,136	1,946	2,050	2,068	2,058	2,040	2,072	1,944
Jun	2,473	2,347	2,415	2,432	2,431	2,406	2,432	2,343
Jul	2,687	2,650	2,685	2,686	2,685	2,685	2,685	2,678
Aug	2,641	2,643	2,652	2,652	2,648	2,637	2,645	2,633
Sep	2,550	2,525	2,563	2,564	2,557	2,546	2,555	2,515
Average	2,347	2,209	2,293	2,309	2,302	2,283	2,310	2,228

Monthly Surface Area Summary
Direct Effects

Location: Pueblo Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	3,189	3,027	2,926	2,950	2,985	2,975	2,823	2,995
Nov	3,228	3,056	2,970	2,991	3,023	3,016	2,854	3,028
Dec	3,439	3,261	3,159	3,224	3,261	3,206	3,080	3,201
Jan	3,646	3,471	3,367	3,486	3,524	3,421	3,321	3,383
Feb	3,797	3,624	3,524	3,679	3,716	3,576	3,497	3,534
Mar	3,894	3,721	3,613	3,801	3,842	3,665	3,617	3,643
Apr	3,798	3,637	3,546	3,702	3,739	3,587	3,534	3,613
May	3,643	3,504	3,424	3,530	3,563	3,466	3,356	3,477
Jun	3,578	3,445	3,364	3,403	3,426	3,408	3,243	3,344
Jul	3,502	3,351	3,256	3,278	3,301	3,311	3,141	3,257
Aug	3,324	3,166	3,079	3,090	3,113	3,132	2,969	3,099
Sep	3,197	3,042	2,941	2,961	2,990	2,996	2,845	2,993
Average	3,518	3,357	3,263	3,340	3,372	3,312	3,189	3,296

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Surface Area (acres)								
Oct	3,259	3,215	3,119	3,076	3,090	3,162	3,002	3,232
Nov	3,282	3,230	3,130	3,088	3,102	3,167	3,009	3,272
Dec	3,432	3,378	3,251	3,261	3,280	3,290	3,186	3,402
Jan	3,560	3,511	3,369	3,434	3,456	3,416	3,356	3,486
Feb	3,676	3,601	3,467	3,577	3,597	3,516	3,489	3,580
Mar	3,758	3,669	3,532	3,683	3,710	3,578	3,582	3,661
Apr	3,674	3,569	3,435	3,556	3,590	3,472	3,475	3,614
May	3,497	3,421	3,274	3,364	3,409	3,317	3,271	3,462
Jun	3,324	3,289	3,134	3,155	3,177	3,174	3,038	3,214
Jul	3,093	3,058	2,874	2,883	2,901	2,929	2,769	2,982
Aug	2,803	2,751	2,563	2,560	2,585	2,608	2,455	2,688
Sep	2,660	2,609	2,382	2,382	2,420	2,435	2,298	2,565
Average	3,334	3,274	3,126	3,167	3,192	3,171	3,076	3,262

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Surface Area (acres)								
Oct	3,627	3,397	3,415	3,476	3,526	3,468	3,293	3,415
Nov	3,662	3,440	3,450	3,503	3,549	3,500	3,304	3,439
Dec	3,854	3,638	3,614	3,703	3,759	3,666	3,499	3,596
Jan	4,061	3,845	3,807	3,949	4,002	3,867	3,726	3,771
Feb	4,205	4,008	3,969	4,148	4,205	4,029	3,908	3,928
Mar	4,234	4,076	4,033	4,211	4,271	4,093	4,006	4,009
Apr	4,019	3,913	3,908	4,018	4,048	3,946	3,862	3,929
May	3,856	3,727	3,791	3,833	3,844	3,816	3,635	3,749
Jun	3,839	3,648	3,715	3,725	3,733	3,771	3,530	3,604
Jul	4,063	3,834	3,881	3,889	3,901	3,936	3,712	3,783
Aug	3,983	3,806	3,813	3,813	3,831	3,860	3,637	3,735
Sep	3,900	3,737	3,699	3,715	3,748	3,750	3,539	3,648
Average	3,941	3,755	3,757	3,831	3,867	3,808	3,637	3,716

Monthly Surface Area Summary
Direct Effects

Location: Lake Meredith

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	3,889	3,856	3,555	3,391	3,400	3,691	3,665	4,033
Nov	3,925	3,853	3,478	3,352	3,370	3,622	3,624	4,042
Dec	4,167	4,066	3,816	3,577	3,579	3,968	3,886	4,336
Jan	4,403	4,341	4,154	3,809	3,794	4,295	4,187	4,658
Feb	4,761	4,826	4,573	4,203	4,175	4,703	4,614	5,030
Mar	5,097	5,242	4,950	4,607	4,568	5,051	4,953	5,286
Apr	4,867	5,111	4,779	4,494	4,464	4,899	4,784	5,138
May	4,677	4,929	4,516	4,276	4,250	4,660	4,587	4,904
Jun	4,376	4,688	4,303	4,101	4,095	4,438	4,396	4,703
Jul	4,203	4,410	4,250	4,039	4,047	4,333	4,285	4,567
Aug	4,062	4,169	4,044	3,873	3,875	4,147	4,132	4,375
Sep	3,939	3,978	3,839	3,642	3,633	3,939	3,912	4,191
Average	4,362	4,453	4,186	3,945	3,936	4,310	4,250	4,603
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	2,876	2,815	2,875	2,458	2,443	2,967	2,910	3,210
Nov	2,885	2,823	2,842	2,399	2,388	2,978	2,796	3,213
Dec	3,168	3,041	3,273	2,593	2,575	3,415	2,919	3,563
Jan	3,574	3,450	3,831	2,918	2,876	3,977	3,285	4,053
Feb	4,175	4,358	4,501	3,563	3,501	4,654	3,962	4,643
Mar	4,819	5,118	5,032	4,275	4,191	5,156	4,605	5,082
Apr	4,461	4,995	4,905	4,192	4,127	5,017	4,485	4,979
May	4,016	4,666	4,372	3,651	3,563	4,479	3,970	4,565
Jun	3,109	4,058	3,605	2,833	2,782	3,698	3,163	3,834
Jul	2,533	3,217	3,155	2,394	2,436	3,248	2,771	3,309
Aug	2,263	2,854	2,757	2,127	2,161	2,910	2,519	2,962
Sep	2,115	2,681	2,524	1,966	1,945	2,666	2,306	2,815
Average	3,329	3,669	3,635	2,944	2,913	3,760	3,304	3,849
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	4,957	4,943	4,503	4,435	4,489	4,676	4,728	4,936
Nov	4,818	4,847	4,273	4,255	4,311	4,431	4,574	4,833
Dec	5,017	5,054	4,543	4,484	4,503	4,697	4,860	5,132
Jan	5,122	5,178	4,654	4,584	4,580	4,781	5,035	5,319
Feb	5,311	5,389	4,916	4,800	4,775	4,992	5,266	5,498
Mar	5,455	5,521	5,131	4,961	4,931	5,170	5,352	5,600
Apr	5,369	5,362	4,940	4,946	4,932	5,026	5,207	5,423
May	5,244	5,082	4,783	4,724	4,707	4,889	5,040	5,171
Jun	5,304	5,173	4,891	4,848	4,844	4,991	5,212	5,293
Jul	5,457	5,383	5,220	5,150	5,127	5,267	5,411	5,472
Aug	5,447	5,256	5,171	5,157	5,139	5,234	5,370	5,421
Sep	5,484	5,155	5,134	5,098	5,063	5,212	5,300	5,363
Average	5,248	5,195	4,846	4,787	4,783	4,947	5,112	5,288

Monthly Surface Area Summary
Direct Effects

Location: Lake Henry

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	1,018	1,002	911	936	932	937	949	1,012
Nov	1,059	1,045	944	967	972	973	987	1,050
Dec	1,076	1,075	967	981	984	994	1,005	1,066
Jan	1,097	1,133	977	986	987	1,009	1,016	1,078
Feb	1,129	1,173	1,004	1,001	1,003	1,026	1,040	1,104
Mar	1,158	1,182	1,034	1,029	1,028	1,065	1,063	1,117
Apr	1,162	1,185	1,058	1,065	1,061	1,094	1,094	1,130
May	1,128	1,169	1,064	1,061	1,059	1,081	1,093	1,125
Jun	1,108	1,101	1,079	1,089	1,090	1,086	1,097	1,126
Jul	1,095	1,054	1,051	1,061	1,058	1,057	1,064	1,075
Aug	1,067	1,032	1,003	1,011	1,008	1,006	1,015	1,036
Sep	1,014	1,000	951	957	951	958	966	1,000
Average	1,092	1,095	1,004	1,012	1,011	1,024	1,032	1,076
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	878	880	847	819	818	861	815	866
Nov	899	897	858	827	827	876	823	866
Dec	919	943	873	837	832	887	835	869
Jan	975	1,093	905	878	872	920	879	901
Feb	1,040	1,142	935	916	913	949	916	970
Mar	1,082	1,167	959	940	937	993	962	1,025
Apr	1,083	1,169	1,025	1,016	1,011	1,051	1,034	1,053
May	997	1,129	934	920	897	931	939	993
Jun	917	944	898	878	884	894	892	939
Jul	895	882	851	832	835	850	846	867
Aug	862	880	830	818	815	827	825	883
Sep	850	892	829	816	814	830	840	890
Average	949	1,001	895	874	871	905	883	926
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	1,095	1,081	918	992	983	972	1,018	1,112
Nov	1,132	1,097	906	996	1,013	974	1,045	1,140
Dec	1,140	1,105	928	999	1,014	989	1,057	1,154
Jan	1,140	1,137	938	990	1,003	996	1,063	1,158
Feb	1,156	1,186	984	1,013	1,024	1,018	1,114	1,178
Mar	1,186	1,184	1,055	1,103	1,114	1,098	1,161	1,174
Apr	1,205	1,185	1,096	1,161	1,150	1,156	1,198	1,190
May	1,160	1,183	1,112	1,111	1,122	1,152	1,199	1,184
Jun	1,220	1,230	1,201	1,226	1,228	1,220	1,242	1,239
Jul	1,238	1,188	1,207	1,237	1,237	1,223	1,237	1,220
Aug	1,243	1,161	1,184	1,204	1,201	1,201	1,212	1,186
Sep	1,181	1,121	1,100	1,125	1,106	1,122	1,129	1,137
Average	1,175	1,154	1,053	1,097	1,100	1,094	1,140	1,173

Monthly Surface Area Summary
Direct Effects

Location: Holbrook Resevoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	330	353	276	265	264	276	271	271
Nov	366	380	291	285	285	295	288	288
Dec	445	454	345	344	344	356	343	353
Jan	515	549	447	440	440	449	439	449
Feb	559	588	517	510	510	517	508	517
Mar	584	607	555	546	546	555	544	552
Apr	583	601	546	534	531	545	530	540
May	523	565	493	482	482	496	482	490
Jun	498	551	475	475	474	476	474	475
Jul	426	468	390	389	389	390	389	389
Aug	358	395	315	309	309	315	311	313
Sep	324	367	281	272	272	282	277	283
Average	459	489	410	404	403	412	404	409
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	226	258	156	135	126	154	145	153
Nov	316	339	199	187	187	198	197	193
Dec	406	458	266	265	266	266	266	267
Jan	468	539	372	371	372	372	371	374
Feb	543	586	488	487	489	488	485	491
Mar	568	610	548	547	546	549	544	553
Apr	554	598	533	521	513	533	513	530
May	491	562	464	457	457	475	456	459
Jun	422	497	391	390	390	396	390	389
Jul	273	349	238	234	234	237	235	234
Aug	214	296	168	161	160	168	163	164
Sep	216	294	150	131	129	150	135	143
Average	390	448	330	323	322	331	324	328
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	430	443	379	377	377	379	378	379
Nov	445	444	386	383	383	385	384	383
Dec	469	454	397	395	395	396	394	394
Jan	510	558	461	460	460	460	459	459
Feb	541	588	504	501	501	503	500	501
Mar	577	596	525	520	520	525	515	519
Apr	597	593	520	514	513	519	511	512
May	526	569	489	487	487	490	487	488
Jun	499	574	495	494	494	495	494	495
Jul	521	588	516	516	516	516	516	516
Aug	477	537	469	469	469	469	469	469
Sep	475	529	465	465	464	465	465	465
Average	505	539	467	465	465	467	464	465

Monthly Streamflow Summary
Cumulative Effects

Gage: Homestake Creek at Gold Park

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	16	16	16	16	16	16	16	16
Nov	12	12	12	12	12	12	12	12
Dec	8	8	8	8	8	8	8	8
Jan	6	6	6	6	6	6	6	6
Feb	6	6	6	6	6	6	6	6
Mar	8	8	8	8	8	8	8	8
Apr	25	25	25	25	25	25	25	25
May	38	37	34	34	34	34	34	35
Jun	33	33	30	31	31	30	30	41
Jul	44	40	41	40	40	41	38	53
Aug	26	23	23	25	25	23	25	26
Sep	20	20	20	20	20	20	20	20
Average	20	19	19	19	19	19	19	21

Location: French Ck at Confluence with Homestake Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	2	2	2	2	2	2	2
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	3	3	3	3	3	3	3	3
May	5	5	5	5	5	5	5	5
Jun	4	4	4	4	4	4	4	5
Jul	6	5	5	5	5	5	5	7
Aug	3	3	3	3	3	3	3	4
Sep	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	3	3

Location: Missouri Ck above Confluence with Sopris Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	1	1	1	1	1	1	1	1
Apr	2	2	2	2	2	2	2	2
May	3	3	3	3	3	3	3	3
Jun	2	2	2	2	2	2	2	3
Jul	3	3	3	3	3	3	3	4
Aug	2	2	2	2	2	2	2	2
Sep	1	1	1	1	1	1	1	1
Average	2	1	1	1	1	1	1	2

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Location: Sopris Ck at Confluence with Missouri Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	2
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	2	2	2	2	2	2	2	2
May	3	3	3	3	3	3	3	3
Jun	3	3	3	3	3	3	3	4
Jul	4	4	4	4	4	4	4	5
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	2	2	2	2	2	2	2	2

Location: Missouri Ck above Confluence with Fancy Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	3	3	3	3	3	3	3	3
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	2	2	2	2	2	2	2	2
Apr	5	5	5	5	5	5	5	5
May	7	7	7	7	7	7	7	7
Jun	6	6	6	6	6	6	6	8
Jul	8	8	8	8	8	8	7	10
Aug	5	4	4	5	5	4	5	5
Sep	4	4	4	4	4	4	4	4
Average	4	4	4	4	4	4	4	4

Location: Fancy Ck at Confluence with Missouri Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	1	1	1	1	1	1	1	1
Apr	2	2	2	2	2	2	2	2
May	3	3	3	3	3	3	3	3
Jun	3	3	2	2	2	2	2	3
Jul	3	3	3	3	3	3	3	4
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	2	2	1	1	1	1	1	2

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Location: Missouri Ck at Confluence with Homestake Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	5	5	5	5	5	5	5	5
Nov	3	3	3	3	3	3	3	3
Dec	2	2	2	2	2	2	2	2
Jan	2	2	2	2	2	2	2	2
Feb	2	2	2	2	2	2	2	2
Mar	2	2	2	2	2	2	2	2
Apr	7	7	7	7	7	7	7	7
May	11	10	10	10	10	10	10	10
Jun	9	9	9	9	9	9	9	12
Jul	12	11	12	11	11	12	11	15
Aug	7	6	6	7	7	6	7	7
Sep	6	6	6	6	6	6	6	6
Average	6	6	5	5	5	5	5	6

Location: East Fork at Confluence with Homestake Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	3	3	3	3	3	3	3	3
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	5	5	5	5	5	5	5	5
May	7	7	7	7	7	7	7	7
Jun	6	6	6	6	6	6	6	8
Jul	8	8	8	8	8	8	7	10
Aug	5	4	4	5	5	4	5	5
Sep	4	4	4	4	4	4	4	4
Average	4	4	4	4	4	4	4	4

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Gage: Roarking Fork above Difficult Creek

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	31	31	31	31	31	31	31	31
Nov	22	22	22	22	22	22	22	22
Dec	18	18	18	18	18	18	18	18
Jan	15	15	15	15	15	15	15	15
Feb	15	15	15	15	15	15	15	15
Mar	17	16	16	16	16	16	16	16
Apr	32	32	32	32	32	32	32	32
May	143	129	138	138	138	138	139	132
Jun	346	287	314	319	317	312	319	293
Jul	158	151	157	159	161	158	158	151
Aug	58	59	58	58	58	58	58	58
Sep	40	40	40	40	40	40	40	40
Average	75	68	71	72	72	71	72	69

Location: Roaring Fork above Confluence with Lost Man Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	4	4	4	4	4	4	4	4
Nov	3	3	3	3	3	3	3	3
Dec	2	2	2	2	2	2	2	2
Jan	2	2	2	2	2	2	2	2
Feb	2	2	2	2	2	2	2	2
Mar	2	2	2	2	2	2	2	2
Apr	4	4	4	4	4	4	4	4
May	17	15	16	16	16	16	16	16
Jun	41	34	37	38	38	37	38	35
Jul	19	18	19	19	19	19	19	18
Aug	7	7	7	7	7	7	7	7
Sep	5	5	5	5	5	5	5	5
Average	9	8	8	9	9	8	9	8

Location: Lost Man Ck at Confluence with Roarking Fork

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	4	4	4	4	4	4	4	4
Nov	3	3	3	3	3	3	3	3
Dec	2	2	2	2	2	2	2	2
Jan	2	2	2	2	2	2	2	2
Feb	2	2	2	2	2	2	2	2
Mar	2	2	2	2	2	2	2	2
Apr	4	4	4	4	4	4	4	4
May	19	17	18	18	18	18	18	17
Jun	46	38	42	42	42	41	42	39
Jul	21	20	21	21	21	21	21	20
Aug	8	8	8	8	8	8	8	8
Sep	5	5	5	5	5	5	5	5
Average	10	9	9	10	10	9	10	9

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Location: Roaring Fork above Confluence with Lincoln Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	8	8	8	8	8	8	8	8
Nov	6	6	6	6	6	6	6	6
Dec	5	5	5	5	5	5	5	5
Jan	4	4	4	4	4	4	4	4
Feb	4	4	4	4	4	4	4	4
Mar	4	4	4	4	4	4	4	4
Apr	8	8	8	8	8	8	8	8
May	37	34	36	36	36	36	36	34
Jun	90	75	82	83	83	81	83	77
Jul	41	39	41	41	42	41	41	39
Aug	15	15	15	15	15	15	15	15
Sep	10	10	10	10	10	10	10	10
Average	19	18	19	19	19	19	19	18

Location: Lincoln Ck below Grizzly Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	6	6	6	6	6	6	6	6
Nov	4	4	4	4	4	4	4	4
Dec	4	4	4	4	4	4	4	4
Jan	3	3	3	3	3	3	3	3
Feb	3	3	3	3	3	3	3	3
Mar	3	3	3	3	3	3	3	3
Apr	6	6	6	6	6	6	6	6
May	29	26	28	28	28	28	28	26
Jun	69	57	63	64	63	62	64	59
Jul	32	30	31	32	32	32	32	30
Aug	12	12	12	12	12	12	12	12
Sep	8	8	8	8	8	8	8	8
Average	15	14	14	14	14	14	14	14

Location: Lincoln Ck above Confluence with New York Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	8	8	8	8	8	8	8	8
Nov	6	6	6	6	6	6	6	6
Dec	5	5	5	5	5	5	5	5
Jan	4	4	4	4	4	4	4	4
Feb	4	4	4	4	4	4	4	4
Mar	4	4	4	4	4	4	4	4
Apr	8	8	8	8	8	8	8	8
May	38	34	36	36	36	36	37	35
Jun	91	75	83	84	84	82	84	77
Jul	42	40	41	42	42	42	42	40
Aug	15	15	15	15	15	15	15	15
Sep	10	10	10	10	10	10	10	10
Average	20	18	19	19	19	19	19	18

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Location: Tabor Ck at Confluence with Lincoln Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	1	1	1	1	1	1	1	1
May	6	5	6	6	6	6	6	5
Jun	14	11	13	13	13	12	13	12
Jul	6	6	6	6	6	6	6	6
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	3	3	3	3	3	3	3	3

Location: Brooklyn Ck at Confluence with New York Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	1	1	1	1	1	1	1	1
May	6	5	6	6	6	6	6	5
Jun	14	12	13	13	13	13	13	12
Jul	6	6	6	6	7	6	6	6
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	3	3	3	3	3	3	3	3

Location: New York Ck above Confluence with Brooklyn Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	1	1	1	1	1	1	1	1
Nov	1	1	1	1	1	1	1	1
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	1	1	1	1	1	1	1	1
May	6	5	6	6	6	6	6	6
Jun	15	12	13	14	13	13	14	12
Jul	7	6	7	7	7	7	7	6
Aug	2	2	2	2	2	2	2	2
Sep	2	2	2	2	2	2	2	2
Average	3	3	3	3	3	3	3	3

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Location: New York Ck at Confluence with Lincoln Ck

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	3	3	3	3	3	3	3	3
Nov	2	2	2	2	2	2	2	2
Dec	2	2	2	2	2	2	2	2
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	2	2	2	2	2	2	2	2
Apr	3	3	3	3	3	3	3	3
May	13	12	13	13	13	13	13	12
Jun	32	27	29	30	30	29	30	27
Jul	15	14	15	15	15	15	15	14
Aug	5	5	5	5	5	5	5	5
Sep	4	4	4	4	4	4	4	4
Average	7	6	7	7	7	7	7	6

Location: Lincoln Ck at Confluence with Roaring Fork

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	14	14	13	14	14	13	14	14
Nov	10	10	10	10	10	10	10	10
Dec	8	8	8	8	8	8	8	8
Jan	7	7	7	7	7	7	7	7
Feb	6	6	7	7	7	7	7	6
Mar	7	7	7	7	7	7	7	7
Apr	14	14	14	14	14	14	14	14
May	63	57	61	61	61	61	61	58
Jun	152	126	138	140	140	137	140	129
Jul	69	66	69	70	71	69	69	66
Aug	25	26	26	25	25	25	26	25
Sep	17	18	17	17	17	17	17	17
Average	33	30	31	32	32	31	32	30

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Gage: Ivanhoe Creek near Nast

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	2	3	2	2	2	2	2	3
Nov	2	2	2	2	2	2	2	2
Dec	1	1	1	1	1	1	1	1
Jan	1	1	1	1	1	1	1	1
Feb	1	1	1	1	1	1	1	1
Mar	1	1	1	1	1	1	1	1
Apr	3	3	3	3	3	3	3	3
May	8	6	6	6	6	6	6	6
Jun	24	8	13	15	15	13	15	7
Jul	18	16	16	17	17	16	16	15
Aug	6	6	6	6	6	6	6	5
Sep	2	3	2	2	2	2	2	3
Average	6	4	5	5	5	5	5	4

Location: Ivanhoe Ck at Confluence with Fryingpan River

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	7	9	7	7	8	8	8	9
Nov	6	6	6	6	6	6	6	6
Dec	5	5	5	5	5	5	5	5
Jan	4	4	4	4	4	4	4	4
Feb	4	4	4	4	4	4	4	4
Mar	4	4	4	4	4	4	4	4
Apr	9	9	9	9	9	9	9	9
May	26	20	20	21	21	20	21	20
Jun	77	27	42	47	48	41	48	22
Jul	58	51	53	54	54	54	53	49
Aug	18	18	19	19	19	19	18	18
Sep	7	9	8	8	8	8	8	9
Average	19	14	15	16	16	15	16	13

Note: West Slope hydrology effects only calculated for Overall Average conditions.

Monthly Streamflow Summary
Cumulative Effects

Gage: **Lake Creek Below Twin Lakes Reservoir (LAKBTLCO)**

	Overall Average							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	19	145	46	22	20	39	24	149
Nov	45	132	57	52	52	58	53	156
Dec	80	118	94	84	84	92	84	126
Jan	103	135	99	97	97	100	98	145
Feb	96	109	95	97	95	98	96	125
Mar	72	103	89	81	76	86	85	128
Apr	75	115	67	67	69	75	71	135
May	217	323	246	237	234	253	247	322
Jun	543	556	520	553	551	513	539	577
Jul	521	598	502	507	511	504	505	580
Aug	255	375	260	256	260	263	257	355
Sep	34	173	66	41	41	60	46	174
Average	172	241	179	175	175	179	176	248

	Average of Dry Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	16	149	59	20	17	51	23	156
Nov	37	142	46	44	44	51	45	166
Dec	45	80	67	58	55	64	56	102
Jan	61	79	52	53	53	51	59	94
Feb	53	46	43	44	46	45	43	55
Mar	46	38	25	24	25	23	21	58
Apr	46	97	48	46	44	57	48	113
May	85	262	122	131	124	152	126	204
Jun	349	346	366	401	403	360	381	404
Jul	311	390	321	315	317	321	313	379
Aug	210	317	234	207	211	228	209	294
Sep	33	152	94	31	30	81	44	162
Average	108	176	124	115	114	124	114	183

	Average of Wet Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	15	133	41	17	16	30	18	147
Nov	31	123	54	44	44	52	48	155
Dec	84	119	99	86	87	97	84	111
Jan	62	112	87	78	79	89	73	120
Feb	35	80	78	79	70	79	75	98
Mar	21	97	99	80	60	97	101	158
Apr	107	129	100	92	104	104	102	184
May	355	392	358	366	358	358	388	433
Jun	691	733	605	637	631	605	598	662
Jul	718	781	670	683	701	668	672	758
Aug	352	470	340	345	356	343	342	461
Sep	36	172	44	42	44	45	44	170
Average	210	280	216	214	213	215	213	289

Monthly Streamflow Summary
Cumulative Effects

Gage: Arkansas River At Granite (07086000)

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	126	251	153	129	127	146	131	255
Nov	143	229	155	150	150	156	151	253
Dec	163	200	177	167	167	175	167	208
Jan	170	202	166	165	164	167	165	212
Feb	152	165	151	152	150	153	151	181
Mar	144	178	160	153	147	157	157	202
Apr	188	227	183	180	182	190	184	247
May	528	632	556	547	544	563	557	633
Jun	1,151	1,172	1,122	1,161	1,158	1,119	1,148	1,192
Jul	855	949	847	851	856	849	850	926
Aug	439	559	446	441	445	448	442	539
Sep	159	300	193	168	167	187	173	301
Average	352	423	360	356	356	360	357	430

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	114	246	158	119	116	150	121	253
Nov	132	236	141	138	138	146	139	260
Dec	125	160	147	138	135	144	136	182
Jan	130	149	122	123	123	121	128	164
Feb	120	113	110	111	113	111	110	122
Mar	127	120	106	105	106	105	102	139
Apr	171	222	173	171	169	182	174	238
May	340	517	377	386	380	407	380	459
Jun	741	738	753	785	788	748	764	799
Jul	517	595	527	521	523	527	519	584
Aug	349	456	374	347	351	368	349	434
Sep	127	249	192	129	127	179	142	260
Average	250	318	265	256	256	266	256	325

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	132	248	157	134	133	146	135	262
Nov	134	226	158	147	147	155	151	257
Dec	175	209	189	177	178	188	175	201
Jan	141	191	167	158	158	168	153	199
Feb	116	161	159	159	150	160	155	179
Mar	116	192	194	175	155	192	196	253
Apr	235	257	228	220	232	232	230	312
May	785	815	785	795	787	786	814	863
Jun	1,639	1,676	1,536	1,592	1,586	1,544	1,546	1,621
Jul	1,258	1,370	1,249	1,259	1,277	1,248	1,249	1,339
Aug	624	742	613	618	628	616	615	733
Sep	210	347	217	216	218	219	217	344
Average	465	538	473	472	472	473	471	549

Monthly Streamflow Summary
Cumulative Effects

Gage: **Arkansas River Near Wellsville (07093700)**

Month	Overall Average							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	386	458	410	388	386	404	390	451
Nov	424	464	437	432	431	439	433	451
Dec	412	429	423	414	413	421	413	377
Jan	394	400	385	387	387	387	385	367
Feb	358	344	353	358	355	355	355	343
Mar	339	335	356	347	341	353	354	379
Apr	350	345	359	348	349	363	349	371
May	879	897	891	888	888	897	897	873
Jun	1,996	1,919	1,955	2,001	1,999	1,953	1,990	1,931
Jul	1,350	1,346	1,341	1,342	1,347	1,343	1,342	1,357
Aug	791	825	803	794	796	806	793	827
Sep	431	514	466	438	437	460	443	509
Average	677	691	683	679	678	683	680	687

Month	Average of Dry Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	330	424	367	331	329	361	333	420
Nov	380	450	388	385	384	392	385	435
Dec	362	378	383	374	371	380	372	351
Jan	334	324	325	327	326	324	331	317
Feb	313	281	302	304	306	304	304	285
Mar	316	267	303	294	296	302	294	317
Apr	313	317	320	316	314	324	321	344
May	589	691	614	626	627	645	620	599
Jun	1,184	1,100	1,194	1,227	1,231	1,183	1,207	1,143
Jul	783	773	796	784	785	795	784	820
Aug	566	600	594	565	568	592	568	614
Sep	330	425	386	329	326	371	345	437
Average	484	503	498	489	489	498	489	507

Month	Average of Wet Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	416	471	441	418	418	430	420	473
Nov	420	463	444	435	435	442	438	457
Dec	440	452	450	441	442	449	436	379
Jan	382	404	401	395	395	403	388	364
Feb	324	334	359	364	355	360	357	332
Mar	313	346	397	368	347	394	397	431
Apr	395	377	414	395	404	415	395	415
May	1,162	1,088	1,147	1,155	1,150	1,144	1,175	1,123
Jun	2,875	2,813	2,755	2,825	2,819	2,763	2,786	2,742
Jul	2,124	2,135	2,114	2,123	2,140	2,113	2,113	2,105
Aug	1,128	1,148	1,122	1,122	1,132	1,126	1,119	1,149
Sep	580	637	592	586	590	594	588	625
Average	882	891	888	888	888	888	886	885

Monthly Streamflow Summary
Cumulative Effects

Gage: Arkansas River At Portland (07097000)

Month	Overall Average							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	412	377	434	510	509	429	412	365
Nov	458	430	470	563	562	471	464	390
Dec	433	414	442	529	529	440	432	351
Jan	415	398	405	505	504	406	405	352
Feb	378	351	370	474	472	372	373	338
Mar	386	356	400	490	485	397	398	390
Apr	436	381	445	518	520	445	429	393
May	1,083	1,000	1,090	1,168	1,167	1,094	1,090	965
Jun	2,326	2,133	2,273	2,401	2,399	2,269	2,304	2,131
Jul	1,512	1,396	1,490	1,580	1,585	1,492	1,492	1,391
Aug	899	819	900	984	987	902	891	812
Sep	444	412	472	538	537	465	451	403
Average	766	707	767	856	856	767	763	691

Month	Average of Dry Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	334	311	376	437	435	370	333	308
Nov	391	379	402	500	500	405	394	334
Dec	372	356	390	483	480	387	380	300
Jan	365	336	355	461	460	354	361	308
Feb	342	303	330	434	436	332	331	299
Mar	366	308	349	444	446	349	341	351
Apr	345	305	356	441	440	356	346	320
May	602	607	635	723	725	662	625	515
Jun	1,248	1,044	1,243	1,360	1,365	1,227	1,244	1,070
Jul	806	695	807	891	893	802	794	719
Aug	562	492	576	649	657	573	554	496
Sep	276	269	327	369	367	313	294	279
Average	501	451	513	600	601	511	500	442

Month	Average of Wet Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	438	394	457	536	536	448	437	376
Nov	442	425	463	553	552	461	457	384
Dec	458	424	466	554	554	465	452	354
Jan	401	399	418	512	512	419	406	352
Feb	345	344	377	483	475	378	374	331
Mar	351	347	430	505	485	428	428	416
Apr	417	349	443	507	515	437	411	369
May	1,297	1,128	1,276	1,369	1,364	1,271	1,300	1,140
Jun	3,363	3,185	3,234	3,388	3,383	3,242	3,264	3,105
Jul	2,431	2,324	2,407	2,508	2,524	2,407	2,407	2,283
Aug	1,300	1,202	1,284	1,379	1,389	1,288	1,281	1,195
Sep	661	600	666	756	760	667	661	582
Average	994	929	996	1,090	1,090	995	992	909

Monthly Streamflow Summary
Cumulative Effects

Gage: **Arkansas River Above Pueblo (07099400)**

Month	Overall Average							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	279	241	177	260	367	178	266	192
Nov	244	214	176	244	325	175	243	194
Dec	151	142	136	165	204	135	148	128
Jan	162	152	138	173	204	136	149	137
Feb	196	171	176	209	232	174	177	168
Mar	256	207	209	276	316	208	217	174
Apr	569	456	405	555	635	411	525	430
May	1,053	877	842	1,021	1,140	846	1,036	901
Jun	2,098	1,892	1,922	2,066	2,188	1,911	2,081	1,921
Jul	1,366	1,202	1,205	1,315	1,434	1,207	1,316	1,195
Aug	866	769	734	814	930	736	827	738
Sep	311	277	239	294	401	238	309	237
Average	631	551	531	617	699	531	609	536
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	183	163	106	182	294	113	187	111
Nov	191	182	125	198	304	124	207	139
Dec	149	142	128	158	225	127	147	127
Jan	194	180	168	209	256	166	184	172
Feb	187	168	163	195	221	167	154	163
Mar	246	208	206	294	319	205	205	177
Apr	423	380	341	451	537	364	430	350
May	608	500	442	632	751	459	651	505
Jun	1,054	840	886	1,044	1,183	868	1,050	905
Jul	924	805	805	901	1,025	812	896	821
Aug	548	492	488	541	650	470	563	478
Sep	160	146	109	143	232	108	152	100
Average	407	351	331	413	501	333	403	338
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	309	260	176	279	400	176	295	216
Nov	216	179	142	205	295	143	216	173
Dec	159	135	140	171	204	139	154	119
Jan	125	124	113	137	161	112	116	109
Feb	191	147	170	205	220	167	169	155
Mar	339	240	246	350	408	247	263	205
Apr	685	464	432	576	655	436	547	453
May	1,222	1,111	1,084	1,275	1,388	1,052	1,292	1,165
Jun	3,074	3,004	3,016	3,133	3,247	3,005	3,173	3,014
Jul	1,909	1,653	1,726	1,858	1,973	1,745	1,847	1,676
Aug	1,293	1,208	1,181	1,274	1,412	1,191	1,300	1,181
Sep	459	406	387	455	578	382	483	384
Average	833	746	736	828	914	734	823	739

Monthly Streamflow Summary
Cumulative Effects

Gage: Arkansas River Near Avondale (07109500)

Month	Overall Average							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	539	533	485	497	502	490	490	521
Nov	542	541	536	516	513	542	520	554
Dec	420	439	443	409	401	446	431	450
Jan	435	476	448	423	418	456	451	464
Feb	469	504	481	459	457	482	486	470
Mar	556	566	541	551	548	541	540	567
Apr	939	904	877	909	914	878	889	868
May	1,601	1,538	1,526	1,557	1,563	1,529	1,538	1,527
Jun	2,560	2,450	2,512	2,517	2,523	2,514	2,496	2,468
Jul	1,723	1,641	1,633	1,660	1,664	1,646	1,628	1,621
Aug	1,264	1,231	1,192	1,194	1,197	1,202	1,179	1,202
Sep	584	591	551	546	544	556	540	575
Average	971	953	937	938	939	942	934	942

Month	Average of Dry Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	398	391	358	369	367	370	354	397
Nov	441	444	448	415	412	456	411	453
Dec	390	418	409	368	361	414	374	412
Jan	430	471	447	413	407	469	428	461
Feb	450	487	453	428	428	453	454	449
Mar	522	545	506	541	534	505	514	545
Apr	711	729	697	717	720	711	704	689
May	861	883	844	867	871	842	858	851
Jun	1,273	1,182	1,242	1,246	1,268	1,249	1,221	1,215
Jul	1,174	1,142	1,119	1,131	1,138	1,135	1,100	1,138
Aug	820	830	803	787	784	789	791	809
Sep	345	360	312	302	293	312	307	343
Average	652	658	637	633	633	643	627	648

Month	Average of Wet Years							
Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Streamflow (cfs)								
Oct	588	585	519	541	548	525	535	568
Nov	515	520	499	488	485	511	495	543
Dec	448	460	466	444	433	468	470	478
Jan	420	480	437	415	409	439	453	466
Feb	462	490	492	461	456	494	487	457
Mar	602	573	557	595	598	560	557	582
Apr	989	866	865	867	880	858	862	846
May	1,749	1,742	1,787	1,792	1,791	1,771	1,779	1,766
Jun	3,751	3,759	3,798	3,801	3,799	3,797	3,805	3,763
Jul	2,371	2,199	2,263	2,313	2,312	2,288	2,269	2,215
Aug	1,817	1,806	1,779	1,786	1,809	1,794	1,783	1,780
Sep	826	831	807	808	816	811	809	825
Average	1,214	1,194	1,191	1,195	1,197	1,195	1,194	1,193

Monthly Streamflow Summary
Cumulative Effects

Gage: **Arkansas River At Las Animas (07124000)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	181	182	185	185	184	186	185	183
Nov	179	179	180	181	179	180	179	179
Dec	165	167	165	165	165	165	165	165
Jan	208	209	205	205	205	205	204	205
Feb	227	237	221	220	220	221	221	227
Mar	148	149	143	145	146	143	146	150
Apr	187	145	144	150	149	146	141	152
May	648	584	565	578	584	575	566	560
Jun	951	897	898	904	906	902	892	881
Jul	487	449	456	468	471	460	468	462
Aug	335	334	340	335	334	341	333	333
Sep	131	126	133	133	130	132	130	128
Average	321	305	303	306	306	305	303	302

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Streamflow (cfs)								
Oct	69	68	70	69	70	70	69	70
Nov	101	103	103	101	101	103	101	101
Dec	128	131	128	128	128	128	128	128
Jan	135	137	130	130	130	130	130	130
Feb	169	171	165	165	165	165	165	165
Mar	90	89	92	89	91	92	87	86
Apr	125	76	67	92	84	71	71	98
May	177	146	170	177	184	171	174	155
Jun	239	235	220	221	220	220	224	219
Jul	225	225	226	225	225	226	224	225
Aug	166	164	164	165	165	164	164	164
Sep	46	46	46	47	47	46	50	47
Average	139	132	132	134	134	132	132	132

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Streamflow (cfs)								
Oct	147	148	157	156	151	159	152	148
Nov	109	110	111	113	110	111	110	109
Dec	165	167	165	165	165	165	165	165
Jan	182	181	176	176	176	176	175	175
Feb	262	283	251	251	251	251	252	262
Mar	167	169	158	158	157	158	164	173
Apr	181	110	109	114	120	108	100	112
May	427	409	424	411	412	420	411	408
Jun	1,646	1,646	1,646	1,646	1,646	1,646	1,646	1,646
Jul	769	645	669	713	716	691	698	676
Aug	574	585	576	576	575	575	574	574
Sep	232	231	239	239	239	240	237	238
Average	405	390	390	393	393	391	390	390

Monthly Streamflow Summary
Cumulative Effects

Gage: Fountain Creek At Security (07105800)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	136	196	196	97	97	196	197	198
Nov	129	188	189	91	91	188	191	190
Dec	118	177	177	82	82	177	179	177
Jan	121	181	181	84	84	181	183	181
Feb	128	189	189	91	91	189	191	189
Mar	146	205	206	108	108	206	208	206
Apr	187	247	248	156	156	248	250	248
May	281	340	341	255	255	341	341	341
Jun	254	312	313	228	228	313	313	313
Jul	191	251	251	162	162	251	250	251
Aug	209	268	268	176	176	268	268	269
Sep	141	200	200	106	106	200	200	202
Average	170	230	230	137	137	230	231	231
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	130	191	192	87	87	192	191	194
Nov	123	184	184	79	79	184	185	185
Dec	104	162	162	63	63	163	166	164
Jan	104	163	163	63	63	164	167	165
Feb	121	182	182	81	81	182	184	182
Mar	139	200	200	100	100	200	203	201
Apr	135	196	197	99	99	197	199	198
May	142	203	205	110	110	205	205	205
Jun	132	193	194	100	100	195	192	194
Jul	171	233	233	135	135	234	232	234
Aug	163	227	227	125	125	227	226	228
Sep	115	178	177	75	75	176	177	181
Average	132	193	193	93	93	193	194	194
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	140	203	206	106	106	206	207	206
Nov	124	188	190	92	92	190	191	190
Dec	128	193	193	97	97	193	195	193
Jan	126	193	193	94	94	193	194	193
Feb	130	198	198	96	96	198	200	198
Mar	134	202	203	99	99	203	204	202
Apr	155	221	222	125	125	222	224	222
May	302	366	367	278	278	366	367	366
Jun	384	446	447	360	360	447	447	447
Jul	209	275	275	185	185	275	275	275
Aug	225	289	290	196	196	290	290	290
Sep	163	228	228	133	133	228	229	228
Average	185	250	251	155	155	251	252	251

Monthly Streamflow Summary
Cumulative Effects

Gage: Fountain Creek At Pueblo (07106500)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	138	166	181	110	111	109	204	203
Nov	168	195	227	139	139	139	233	228
Dec	150	176	186	123	123	122	215	201
Jan	152	200	186	125	125	123	218	203
Feb	162	218	190	135	135	134	224	188
Mar	179	235	207	151	151	151	244	272
Apr	196	270	293	176	176	187	263	260
May	307	416	439	292	292	308	372	382
Jun	269	359	391	253	253	266	332	349
Jul	180	256	246	163	163	164	245	244
Aug	231	290	285	208	208	208	294	291
Sep	125	162	159	100	100	100	188	186
Average	188	245	250	165	165	168	253	251

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Streamflow (cfs)								
Oct	108	117	140	75	75	74	174	174
Nov	151	160	221	115	115	115	216	212
Dec	136	169	174	103	103	101	199	178
Jan	126	180	168	93	94	90	190	178
Feb	142	196	166	110	110	109	206	162
Mar	168	227	190	137	137	140	232	259
Apr	149	207	214	124	124	128	216	196
May	104	230	248	84	84	96	172	193
Jun	97	215	228	76	76	94	161	181
Jul	146	228	206	122	122	123	212	208
Aug	149	212	190	121	121	121	215	205
Sep	76	100	90	46	46	47	140	133
Average	129	187	186	101	101	103	194	190

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Streamflow (cfs)								
Oct	143	185	199	119	119	119	215	211
Nov	164	202	217	143	143	143	238	232
Dec	151	185	186	134	134	133	227	219
Jan	157	216	183	137	138	136	232	215
Feb	161	229	207	141	141	140	226	189
Mar	162	229	205	139	139	139	245	275
Apr	174	266	296	157	156	171	248	258
May	352	452	524	339	339	366	421	421
Jun	434	507	534	421	421	427	502	502
Jul	238	314	305	224	224	223	308	307
Aug	302	371	370	285	285	283	372	371
Sep	168	224	217	149	149	149	239	237
Average	217	282	287	199	199	203	290	287

Monthly Streamflow Summary
Cumulative Effects

Gage: **Jimmy Camp Creek At Fountain, Co (07105900)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Streamflow (cfs)								
Oct	2	7	7	7	7	7	7	7
Nov	2	7	7	7	7	7	7	7
Dec	2	7	7	7	7	7	7	7
Jan	2	6	6	6	6	6	6	6
Feb	2	6	6	6	6	6	6	6
Mar	2	6	6	6	6	6	6	6
Apr	2	7	7	7	7	7	7	7
May	2	8	8	8	8	8	8	8
Jun	4	10	10	10	10	10	10	10
Jul	4	10	10	10	10	10	10	10
Aug	4	10	10	10	10	10	10	10
Sep	2	7	7	7	7	7	7	7
Average	2	8	8	8	8	8	8	8
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	2	7	7	7	7	7	7	7
Nov	2	7	7	7	7	7	7	7
Dec	1	6	6	6	6	6	6	6
Jan	1	6	6	6	6	6	6	6
Feb	1	6	6	6	6	6	6	6
Mar	1	6	6	6	6	6	6	6
Apr	1	6	6	6	6	6	6	6
May	2	7	7	7	7	7	7	7
Jun	2	8	8	8	8	8	8	8
Jul	2	8	8	8	8	8	8	8
Aug	3	9	9	9	9	9	9	9
Sep	1	7	7	7	7	7	7	7
Average	2	7	7	7	7	7	7	7
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Streamflow (cfs)								
Oct	2	8	8	8	8	8	8	8
Nov	3	8	8	8	8	8	8	8
Dec	2	7	7	7	7	7	7	7
Jan	2	7	7	7	7	7	7	7
Feb	2	7	7	7	7	7	7	7
Mar	2	7	7	7	7	7	7	7
Apr	2	7	7	7	7	7	7	7
May	3	9	9	9	9	9	9	9
Jun	8	14	14	14	14	14	14	14
Jul	2	9	9	9	9	9	9	9
Aug	8	14	14	14	14	14	14	14
Sep	2	8	8	8	8	8	8	8
Average	3	9	9	9	9	9	9	9

Monthly Depth Summary
Cumulative Effects

Gage: **Homestake Creek at Gold Park**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Nov	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Dec	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Jan	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Feb	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Mar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Apr	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
May	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9
Jun	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0
Jul	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Aug	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Sep	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Average	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Gage: **Roarking Fork above Difficult Creek**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Nov	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Dec	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Jan	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Feb	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Mar	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Apr	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
May	3.4	3.2	3.3	3.3	3.3	3.3	3.3	3.3
Jun	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Jul	3.5	3.5	3.5	3.5	3.6	3.5	3.5	3.5
Aug	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Sep	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Average	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Gage: **Ivanhoe Creek near Nast**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
Nov	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Dec	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
May	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Jun	0.7	0.4	0.5	0.6	0.6	0.5	0.6	0.4
Jul	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Aug	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Sep	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2
Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2

Notes: West Slope depth estimates only calculated at gaged flow locations with rating curves.
All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: **Lake Creek Below Twin Lakes Reservoir (LAKBTLCO)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	0.3	1.1	0.5	0.3	0.3	0.5	0.4	1.2
Nov	0.5	1.1	0.6	0.6	0.6	0.6	0.6	1.2
Dec	0.8	1.0	0.8	0.8	0.8	0.8	0.8	1.0
Jan	0.9	1.0	0.8	0.8	0.8	0.8	0.8	1.1
Feb	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0
Mar	0.6	0.8	0.7	0.7	0.7	0.7	0.7	1.0
Apr	0.7	1.0	0.6	0.6	0.6	0.7	0.6	1.1
May	1.2	1.8	1.4	1.3	1.3	1.4	1.4	1.8
Jun	2.4	2.5	2.4	2.5	2.5	2.4	2.5	2.6
Jul	2.5	2.8	2.4	2.5	2.5	2.4	2.4	2.7
Aug	1.5	2.0	1.5	1.5	1.5	1.6	1.5	2.0
Sep	0.4	1.3	0.6	0.5	0.5	0.6	0.5	1.3
Average	1.1	1.4	1.1	1.1	1.1	1.1	1.1	1.5
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.3	1.2	0.6	0.3	0.3	0.6	0.4	1.2
Nov	0.5	1.1	0.6	0.5	0.5	0.6	0.5	1.3
Dec	0.5	0.7	0.7	0.6	0.6	0.7	0.6	0.9
Jan	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.8
Feb	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Mar	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.6
Apr	0.5	0.9	0.5	0.5	0.5	0.6	0.5	1.0
May	0.7	1.6	0.9	0.9	0.9	1.0	0.9	1.4
Jun	1.8	1.9	1.9	2.1	2.1	1.9	2.0	2.1
Jul	1.8	2.1	1.9	1.8	1.8	1.9	1.8	2.1
Aug	1.3	1.8	1.5	1.3	1.3	1.4	1.3	1.8
Sep	0.4	1.2	0.9	0.4	0.4	0.8	0.5	1.2
Average	0.8	1.2	0.9	0.8	0.8	0.9	0.8	1.2
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.3	1.1	0.5	0.3	0.3	0.4	0.3	1.2
Nov	0.4	1.0	0.6	0.5	0.5	0.6	0.5	1.2
Dec	0.7	1.0	0.8	0.8	0.8	0.8	0.8	1.0
Jan	0.6	0.9	0.8	0.7	0.7	0.8	0.7	1.0
Feb	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.9
Mar	0.3	0.8	0.8	0.7	0.6	0.8	0.8	1.2
Apr	0.9	1.0	0.8	0.8	0.8	0.8	0.8	1.3
May	1.8	2.0	1.8	1.8	1.8	1.8	1.9	2.2
Jun	2.9	3.1	2.7	2.8	2.7	2.7	2.6	2.9
Jul	3.1	3.3	3.0	3.0	3.1	3.0	3.0	3.2
Aug	1.9	2.4	1.9	1.9	1.9	1.9	1.9	2.3
Sep	0.4	1.3	0.5	0.5	0.5	0.5	0.5	1.3
Average	1.2	1.6	1.2	1.2	1.2	1.2	1.2	1.6

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: Arkansas River At Granite (07086000)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.0	1.4	1.0	1.0	1.0	1.0	1.0	1.4
Nov	1.0	1.3	1.1	1.0	1.0	1.1	1.0	1.4
Dec	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2
Jan	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2
Feb	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.1
Mar	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.2
Apr	1.1	1.3	1.1	1.1	1.1	1.2	1.1	1.3
May	1.9	2.1	1.9	1.9	1.9	1.9	1.9	2.1
Jun	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9
Jul	2.4	2.6	2.4	2.4	2.4	2.4	2.4	2.5
Aug	1.7	2.0	1.7	1.7	1.7	1.7	1.7	1.9
Sep	1.1	1.5	1.2	1.1	1.1	1.2	1.1	1.5
Average	1.4	1.6	1.5	1.4	1.4	1.5	1.4	1.6

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Dry Years							
Simulated Depth (feet)								
Oct	0.9	1.3	1.1	0.9	0.9	1.0	0.9	1.4
Nov	1.0	1.3	1.0	1.0	1.0	1.0	1.0	1.4
Dec	0.9	1.1	1.0	1.0	1.0	1.0	1.0	1.1
Jan	1.0	1.0	0.9	0.9	0.9	0.9	0.9	1.1
Feb	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Mar	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0
Apr	1.1	1.3	1.1	1.1	1.1	1.1	1.1	1.3
May	1.5	1.9	1.6	1.6	1.6	1.7	1.6	1.8
Jun	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.4
Jul	1.9	2.1	1.9	1.9	1.9	1.9	1.9	2.0
Aug	1.5	1.8	1.6	1.5	1.5	1.6	1.5	1.8
Sep	1.0	1.3	1.2	1.0	1.0	1.1	1.0	1.4
Average	1.2	1.4	1.3	1.3	1.3	1.3	1.3	1.5

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Average of Wet Years							
Simulated Depth (feet)								
Oct	1.0	1.3	1.1	1.0	1.0	1.0	1.0	1.4
Nov	1.0	1.3	1.1	1.0	1.0	1.1	1.0	1.4
Dec	1.1	1.2	1.2	1.1	1.1	1.2	1.1	1.2
Jan	1.0	1.2	1.1	1.0	1.0	1.1	1.0	1.2
Feb	0.9	1.1	1.1	1.1	1.0	1.1	1.0	1.1
Mar	0.9	1.2	1.2	1.1	1.0	1.2	1.2	1.3
Apr	1.3	1.4	1.3	1.2	1.3	1.3	1.3	1.5
May	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4
Jun	3.3	3.4	3.2	3.3	3.3	3.3	3.3	3.3
Jul	2.9	3.1	2.9	2.9	3.0	2.9	2.9	3.0
Aug	2.1	2.3	2.1	2.1	2.1	2.1	2.1	2.3
Sep	1.2	1.6	1.2	1.2	1.2	1.3	1.2	1.6
Average	1.6	1.8	1.6	1.6	1.6	1.6	1.6	1.8

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: Arkansas River Near Wellsville (07093700)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.9	2.1	2.0	1.9	1.9	2.0	1.9	2.1
Nov	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1
Dec	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Jan	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Feb	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Mar	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.9
Apr	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9
May	2.7	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Jun	4.0	4.0	4.0	4.1	4.1	4.0	4.1	4.0
Jul	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Aug	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Sep	2.0	2.2	2.1	2.0	2.0	2.1	2.0	2.2
Average	2.3	2.4	2.4	2.3	2.3	2.4	2.3	2.4
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.8	2.0	1.9	1.8	1.8	1.8	1.8	2.0
Nov	1.9	2.1	1.9	1.9	1.9	1.9	1.9	2.0
Dec	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
Jan	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.7
Feb	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.6
Mar	1.7	1.6	1.7	1.6	1.7	1.7	1.6	1.7
Apr	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8
May	2.3	2.5	2.3	2.3	2.3	2.4	2.3	2.3
Jun	3.2	3.1	3.2	3.3	3.3	3.2	3.2	3.2
Jul	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Aug	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.4
Sep	1.8	2.0	1.9	1.8	1.7	1.9	1.8	2.0
Average	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.1
Nov	2.0	2.1	2.1	2.0	2.0	2.1	2.0	2.1
Dec	2.0	2.1	2.1	2.0	2.1	2.1	2.0	1.9
Jan	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9
Feb	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Mar	1.7	1.8	1.9	1.9	1.8	1.9	1.9	2.0
Apr	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0
May	3.1	3.0	3.0	3.1	3.0	3.0	3.1	3.0
Jun	4.8	4.8	4.7	4.8	4.8	4.8	4.8	4.8
Jul	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Aug	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Sep	2.3	2.5	2.4	2.3	2.3	2.4	2.3	2.4
Average	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: **Arkansas River At Portland (07097000)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.9	1.8	1.9	2.1	2.1	1.9	1.9	1.8
Nov	2.0	1.9	2.0	2.2	2.2	2.0	2.0	1.8
Dec	1.9	1.9	1.9	2.1	2.1	1.9	1.9	1.7
Jan	1.9	1.8	1.8	2.1	2.1	1.9	1.8	1.7
Feb	1.8	1.7	1.8	2.0	2.0	1.8	1.8	1.7
Mar	1.8	1.7	1.8	2.0	2.0	1.8	1.8	1.8
Apr	1.9	1.8	1.9	2.0	2.0	1.9	1.8	1.8
May	2.9	2.7	2.9	3.0	3.0	2.9	2.9	2.7
Jun	4.3	4.1	4.3	4.4	4.4	4.3	4.3	4.1
Jul	3.5	3.3	3.4	3.5	3.5	3.4	3.4	3.3
Aug	2.7	2.5	2.7	2.8	2.8	2.7	2.7	2.5
Sep	1.9	1.8	2.0	2.1	2.1	2.0	1.9	1.8
Average	2.4	2.3	2.4	2.5	2.5	2.4	2.4	2.2
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.7	1.6	1.8	1.9	1.9	1.8	1.7	1.6
Nov	1.8	1.8	1.9	2.1	2.1	1.9	1.8	1.7
Dec	1.8	1.7	1.8	2.0	2.0	1.8	1.8	1.6
Jan	1.8	1.7	1.7	2.0	2.0	1.7	1.8	1.6
Feb	1.7	1.6	1.7	1.9	1.9	1.7	1.7	1.6
Mar	1.8	1.6	1.7	1.9	1.9	1.7	1.7	1.7
Apr	1.7	1.6	1.7	1.9	1.9	1.7	1.7	1.7
May	2.2	2.2	2.2	2.4	2.4	2.3	2.2	2.0
Jun	3.2	2.9	3.2	3.3	3.3	3.1	3.2	2.9
Jul	2.6	2.4	2.6	2.7	2.7	2.6	2.5	2.4
Aug	2.1	2.0	2.2	2.3	2.3	2.2	2.1	2.0
Sep	1.5	1.5	1.7	1.8	1.8	1.6	1.6	1.6
Average	2.0	1.9	2.0	2.2	2.2	2.0	2.0	1.9
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.9	1.8	2.0	2.1	2.1	1.9	1.9	1.8
Nov	1.9	1.9	2.0	2.2	2.2	2.0	2.0	1.8
Dec	2.0	1.9	2.0	2.2	2.2	2.0	2.0	1.7
Jan	1.8	1.8	1.9	2.1	2.1	1.9	1.9	1.7
Feb	1.7	1.7	1.8	2.0	2.0	1.8	1.8	1.7
Mar	1.7	1.7	1.9	2.1	2.0	1.9	1.9	1.9
Apr	1.9	1.7	1.9	2.1	2.1	1.9	1.8	1.8
May	3.1	2.9	3.1	3.2	3.2	3.1	3.1	2.9
Jun	5.2	5.2	5.1	5.3	5.3	5.1	5.2	5.1
Jul	4.5	4.3	4.5	4.5	4.5	4.5	4.5	4.3
Aug	3.3	3.1	3.2	3.4	3.4	3.3	3.2	3.1
Sep	2.3	2.2	2.3	2.5	2.5	2.3	2.3	2.2
Average	2.6	2.5	2.6	2.8	2.8	2.6	2.6	2.5

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: **Arkansas River Above Pueblo (07099400)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	2.4	2.3	2.1	2.4	2.7	2.1	2.4	2.1
Nov	2.3	2.2	2.1	2.3	2.6	2.1	2.3	2.2
Dec	2.0	2.0	2.0	2.1	2.2	2.0	2.0	1.9
Jan	2.1	2.0	2.0	2.1	2.2	2.0	2.0	2.0
Feb	2.2	2.1	2.1	2.2	2.3	2.1	2.1	2.1
Mar	2.3	2.2	2.2	2.4	2.5	2.2	2.2	2.1
Apr	3.0	2.8	2.7	3.0	3.2	2.7	3.0	2.7
May	3.8	3.5	3.4	3.7	3.9	3.4	3.7	3.5
Jun	5.1	4.8	4.8	5.0	5.2	4.8	5.0	4.9
Jul	4.3	4.0	4.0	4.2	4.4	4.0	4.2	4.0
Aug	3.5	3.4	3.3	3.4	3.7	3.3	3.5	3.3
Sep	2.5	2.4	2.3	2.4	2.7	2.3	2.5	2.2
Average	3.0	2.8	2.8	3.0	3.1	2.8	2.9	2.7
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	2.2	2.1	1.9	2.2	2.6	1.9	2.2	1.9
Nov	2.2	2.2	2.0	2.2	2.6	2.0	2.3	2.0
Dec	2.0	2.0	2.0	2.1	2.3	2.0	2.0	2.0
Jan	2.2	2.2	2.1	2.2	2.4	2.1	2.2	2.1
Feb	2.2	2.1	2.1	2.2	2.3	2.1	2.1	2.1
Mar	2.3	2.3	2.2	2.5	2.5	2.2	2.2	2.1
Apr	2.7	2.7	2.5	2.8	3.0	2.6	2.7	2.6
May	3.2	3.0	2.8	3.2	3.5	2.8	3.3	2.9
Jun	3.9	3.6	3.6	3.9	4.1	3.6	3.8	3.6
Jul	3.7	3.5	3.4	3.6	3.9	3.5	3.6	3.5
Aug	2.9	2.8	2.8	2.9	3.2	2.8	3.0	2.8
Sep	2.0	2.0	1.8	2.0	2.3	1.8	2.0	1.8
Average	2.6	2.5	2.4	2.7	2.9	2.4	2.6	2.4
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	2.5	2.4	2.1	2.4	2.8	2.1	2.5	2.2
Nov	2.2	2.1	2.0	2.2	2.5	2.0	2.3	2.1
Dec	2.0	2.0	2.0	2.1	2.2	2.0	2.0	1.9
Jan	1.9	1.9	1.9	2.0	2.1	1.9	1.9	1.9
Feb	2.2	2.0	2.1	2.2	2.3	2.1	2.1	2.0
Mar	2.6	2.3	2.3	2.6	2.8	2.3	2.4	2.1
Apr	3.3	2.9	2.8	3.1	3.3	2.8	3.1	2.8
May	4.0	3.8	3.7	4.1	4.3	3.7	4.1	3.9
Jun	6.1	6.0	6.0	6.1	6.2	6.0	6.2	6.0
Jul	4.9	4.6	4.7	4.9	5.0	4.7	4.9	4.6
Aug	4.2	4.1	4.0	4.2	4.4	4.0	4.2	4.0
Sep	2.8	2.7	2.7	2.8	3.1	2.7	2.9	2.6
Average	3.2	3.1	3.0	3.2	3.4	3.0	3.2	3.0

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: **Arkansas River Near Avondale (07109500)**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Nov	1.4	1.4	1.4	1.3	1.3	1.4	1.3	1.4
Dec	1.2	1.2	1.2	1.1	1.1	1.2	1.2	1.2
Jan	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Feb	1.2	1.3	1.3	1.2	1.2	1.3	1.3	1.2
Mar	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Apr	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
May	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Jun	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8
Jul	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Aug	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Sep	1.4	1.4	1.4	1.3	1.3	1.4	1.3	1.4
Average	1.6	1.6	1.6	1.5	1.5	1.6	1.5	1.6
Month	**Average of Dry Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.1	1.1	1.0	1.1	1.0	1.1	1.0	1.1
Nov	1.2	1.2	1.2	1.2	1.1	1.2	1.1	1.2
Dec	1.1	1.2	1.1	1.1	1.0	1.1	1.1	1.1
Jan	1.2	1.3	1.2	1.1	1.1	1.3	1.2	1.2
Feb	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Mar	1.3	1.4	1.3	1.4	1.3	1.3	1.3	1.4
Apr	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6
May	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.8
Jun	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.2
Jul	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.2
Aug	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Sep	1.0	1.0	0.9	0.9	0.9	0.9	0.9	1.0
Average	1.5	1.5	1.5	1.4	1.4	1.5	1.4	1.5
Month	**Average of Wet Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	1.5	1.5	1.3	1.4	1.4	1.4	1.4	1.4
Nov	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
Dec	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.3
Jan	1.2	1.3	1.2	1.2	1.1	1.2	1.2	1.3
Feb	1.2	1.3	1.3	1.2	1.2	1.3	1.3	1.2
Mar	1.5	1.4	1.4	1.5	1.5	1.4	1.4	1.4
Apr	1.9	1.8	1.8	1.8	1.9	1.8	1.8	1.8
May	1.9	1.8	1.8	1.9	1.9	1.8	1.9	1.8
Jun	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Jul	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Aug	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Sep	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Average	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: Arkansas River At Las Animas (07124000)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Nov	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Dec	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Jan	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Feb	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Mar	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Apr	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
May	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6
Jun	1.9	2.0	1.9	1.9	1.9	1.9	1.9	2.0
Jul	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Aug	1.4	1.4	1.5	1.5	1.4	1.5	1.4	1.4
Sep	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2
Average	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Nov	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Dec	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Jan	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Feb	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Mar	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Apr	0.9	0.8	0.8	0.9	0.8	0.8	0.8	0.9
May	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.2
Jun	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Jul	1.5	1.4	1.5	1.4	1.4	1.5	1.4	1.4
Aug	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Sep	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Average	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Nov	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Dec	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Jan	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Feb	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Mar	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.4
Apr	1.1	1.1	1.0	1.1	1.1	1.0	1.0	1.1
May	1.6	1.5	1.6	1.5	1.5	1.5	1.5	1.5
Jun	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Jul	1.9	2.0	2.0	1.9	1.9	2.0	2.0	2.0
Aug	1.5	1.6	1.6	1.6	1.5	1.6	1.5	1.5
Sep	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6
Average	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Note: All depth values are streamflow depth at the lowest point in channel cross-section.

Monthly Depth Summary
Cumulative Effects

Gage: Fountain Creek At Security (07105800)

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.0	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Nov	1.0	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Dec	0.9	1.2	1.2	0.6	0.6	1.2	1.2	1.2
Jan	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Feb	1.0	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Mar	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Apr	1.1	1.3	1.3	0.9	0.9	1.3	1.3	1.3
May	1.3	1.5	1.5	1.2	1.2	1.5	1.5	1.5
Jun	1.2	1.5	1.5	1.1	1.1	1.5	1.5	1.5
Jul	1.1	1.3	1.3	0.9	0.9	1.3	1.3	1.3
Aug	1.2	1.4	1.4	1.0	1.0	1.4	1.4	1.4
Sep	1.0	1.3	1.2	0.8	0.8	1.3	1.3	1.3
Average	1.1	1.3	1.3	0.8	0.8	1.3	1.3	1.3
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.9	1.2	1.2	0.6	0.6	1.2	1.2	1.2
Nov	0.9	1.2	1.2	0.6	0.6	1.2	1.2	1.2
Dec	0.8	1.1	1.1	0.5	0.5	1.1	1.1	1.1
Jan	0.8	1.1	1.1	0.5	0.5	1.1	1.1	1.1
Feb	0.9	1.2	1.2	0.6	0.6	1.2	1.2	1.2
Mar	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Apr	1.0	1.2	1.3	0.7	0.7	1.3	1.3	1.3
May	1.0	1.2	1.3	0.8	0.8	1.3	1.3	1.3
Jun	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
Jul	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Aug	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Sep	0.9	1.2	1.2	0.6	0.6	1.2	1.2	1.2
Average	0.9	1.2	1.2	0.7	0.7	1.2	1.2	1.2
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Nov	0.9	1.2	1.2	0.7	0.7	1.2	1.3	1.2
Dec	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Jan	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Feb	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Mar	1.0	1.3	1.3	0.8	0.8	1.3	1.3	1.3
Apr	1.0	1.3	1.3	0.9	0.9	1.3	1.3	1.3
May	1.3	1.5	1.5	1.2	1.2	1.5	1.6	1.5
Jun	1.4	1.6	1.6	1.3	1.3	1.6	1.6	1.6
Jul	1.2	1.4	1.4	1.0	1.0	1.4	1.4	1.4
Aug	1.2	1.5	1.5	1.1	1.1	1.5	1.5	1.5
Sep	1.1	1.4	1.4	0.9	0.9	1.4	1.4	1.4
Average	1.1	1.4	1.4	0.9	0.9	1.4	1.4	1.4

Notes: All depth values are streamflow depth at the lowest point in channel cross-section.
Fountain Creek depths are estimated at representative cross-sections upstream or downstream of gaging stations.

Monthly Depth Summary
Cumulative Effects

Gage: **Fountain Creek At Pueblo (07106500)**

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Depth (feet)								
Oct	1.3	1.3	1.4	1.0	1.0	1.0	1.5	1.5
Nov	1.4	1.5	1.6	1.3	1.3	1.3	1.6	1.6
Dec	1.4	1.5	1.5	1.3	1.3	1.2	1.6	1.5
Jan	1.4	1.5	1.5	1.3	1.3	1.2	1.6	1.5
Feb	1.4	1.6	1.5	1.3	1.3	1.3	1.6	1.5
Mar	1.5	1.6	1.5	1.4	1.4	1.4	1.7	1.7
Apr	1.4	1.6	1.7	1.3	1.3	1.3	1.6	1.6
May	1.5	1.9	1.9	1.4	1.4	1.5	1.8	1.8
Jun	1.5	1.8	1.9	1.4	1.4	1.5	1.8	1.8
Jul	1.2	1.6	1.5	1.1	1.1	1.1	1.6	1.6
Aug	1.4	1.7	1.6	1.3	1.3	1.3	1.7	1.7
Sep	1.2	1.3	1.3	1.0	1.0	1.0	1.5	1.5
Average	1.4	1.6	1.6	1.3	1.3	1.3	1.6	1.6
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.1	1.1	1.2	0.8	0.8	0.8	1.5	1.5
Nov	1.4	1.3	1.6	1.1	1.1	1.1	1.6	1.6
Dec	1.4	1.4	1.4	1.1	1.1	1.1	1.5	1.5
Jan	1.3	1.5	1.4	1.1	1.1	1.0	1.5	1.5
Feb	1.4	1.5	1.4	1.2	1.2	1.2	1.6	1.4
Mar	1.5	1.6	1.5	1.3	1.3	1.3	1.6	1.7
Apr	1.3	1.5	1.4	1.1	1.1	1.1	1.6	1.4
May	1.0	1.6	1.6	0.9	0.9	1.0	1.4	1.5
Jun	1.0	1.5	1.6	0.8	0.8	1.0	1.4	1.5
Jul	1.1	1.5	1.4	0.9	0.9	0.9	1.5	1.5
Aug	1.2	1.5	1.4	1.0	1.0	1.0	1.6	1.5
Sep	0.9	1.1	0.9	0.6	0.6	0.6	1.4	1.3
Average	1.2	1.4	1.4	1.0	1.0	1.0	1.5	1.5
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	1.3	1.5	1.5	1.2	1.2	1.2	1.6	1.6
Nov	1.5	1.6	1.6	1.4	1.4	1.4	1.7	1.6
Dec	1.4	1.5	1.5	1.4	1.4	1.4	1.6	1.6
Jan	1.4	1.6	1.5	1.4	1.4	1.4	1.6	1.6
Feb	1.4	1.6	1.6	1.4	1.4	1.4	1.6	1.5
Mar	1.4	1.6	1.6	1.4	1.4	1.4	1.7	1.7
Apr	1.4	1.7	1.7	1.3	1.3	1.4	1.7	1.7
May	1.6	1.9	2.1	1.5	1.5	1.6	1.9	1.9
Jun	1.8	2.0	2.1	1.7	1.7	1.7	2.0	2.0
Jul	1.4	1.7	1.7	1.3	1.3	1.3	1.7	1.7
Aug	1.7	1.9	1.9	1.6	1.6	1.6	1.9	1.9
Sep	1.4	1.6	1.6	1.3	1.3	1.3	1.6	1.6
Average	1.5	1.7	1.7	1.4	1.4	1.4	1.7	1.7

Notes: All depth values are streamflow depth at the lowest point in channel cross-section.
Fountain Creek depths are estimated at representative cross-sections upstream or downstream of gaging stations.

Monthly Depth Summary
Cumulative Effects

Gage: **Jimmy Camp Creek At Fountain, Co (07105900)**

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Depth (feet)								
Oct	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nov	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Dec	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Jan	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Feb	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Mar	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Apr	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
May	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Jun	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Jul	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Aug	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Sep	0.4	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Average	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Month	**Average of Dry Years**							
	Existing Conditions	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Nov	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Dec	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Jan	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Feb	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Mar	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Apr	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
May	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Jun	0.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Jul	0.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Aug	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Sep	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Average	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Month	**Average of Wet Years**							
	Existing Conditions	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Depth (feet)								
Oct	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nov	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Dec	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Jan	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Feb	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Mar	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Apr	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7
May	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Jun	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Jul	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Aug	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Sep	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Average	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Notes: All depth values are streamflow depth at the lowest point in channel cross-section.
Fountain Creek depths are estimated at representative cross-sections upstream or downstream of gaging stations.

Reservoir Summary
Cumulative Effects

Location: Homestake Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Storage (ac-ft)								
Oct	19,500	16,600	18,000	18,900	19,000	17,900	18,900	18,800
Nov	18,100	14,500	16,400	17,000	17,300	16,300	17,200	16,800
Dec	17,900	13,800	15,800	16,500	16,700	15,900	16,600	16,100
Jan	17,800	13,100	15,300	16,100	16,300	15,500	16,300	15,300
Feb	17,300	12,200	14,800	15,600	15,700	14,800	15,700	14,400
Mar	15,400	10,700	12,700	13,700	13,700	12,800	13,700	12,800
Apr	12,800	9,500	9,700	11,200	11,200	9,700	11,200	11,300
May	12,300	9,700	9,300	10,700	10,700	9,300	10,800	11,900
Jun	19,200	16,400	16,400	17,500	17,500	16,400	17,300	19,100
Jul	25,800	23,200	23,500	24,200	24,300	23,500	24,200	25,400
Aug	25,800	22,000	23,300	24,000	24,100	23,200	24,000	24,600
Sep	23,400	19,600	21,600	22,200	22,400	21,300	22,200	22,200
Average	18,800	15,100	16,400	17,300	17,400	16,400	17,300	17,400

Location: Homestake Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Water Depth (feet)								
Oct	122.9	102.3	111.7	117.2	117.8	110.8	116.6	111.4
Nov	116.2	91.6	103.3	107.4	108.9	102.9	108.4	101.2
Dec	115.7	87.8	101.1	104.9	106.7	101.5	105.7	98.3
Jan	115.2	83.2	96.9	102.8	103.4	98.7	103.6	94.1
Feb	113.0	78.9	93.8	99.3	99.8	93.8	99.9	89.7
Mar	104.0	72.3	84.5	91.1	90.7	85.0	90.9	82.7
Apr	90.3	66.5	70.0	79.1	79.4	69.6	78.9	75.7
May	86.6	66.6	66.9	75.9	76.0	66.4	76.1	77.9
Jun	122.8	105.5	107.3	113.1	113.7	106.7	112.1	116.2
Jul	153.0	140.1	141.6	145.0	145.3	141.6	144.5	147.6
Aug	151.7	131.5	139.0	142.3	143.0	138.1	141.9	142.8
Sep	140.8	118.0	130.2	132.8	134.2	127.8	132.0	129.2
Average	119.4	95.5	103.9	109.3	110.0	103.7	109.3	105.7

Note: Only water depth relative to bottom of reservoir is available for Homestake Reservoir.

Location: Homestake Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	217	185	201	209	209	200	207	196
Nov	209	168	188	195	197	188	196	179
Dec	208	163	185	191	194	186	191	175
Jan	208	154	177	187	188	182	188	170
Feb	205	148	172	180	181	172	180	163
Mar	193	138	158	168	167	159	167	154
Apr	174	131	139	152	152	139	150	144
May	168	134	136	149	149	135	148	148
Jun	217	194	196	205	206	196	202	207
Jul	254	237	239	245	245	239	242	247
Aug	253	226	235	240	242	234	240	241
Sep	240	207	224	228	231	221	226	222
Average	212	174	188	196	197	188	195	187

Monthly Storage Contents Summary
Cumulative Effects

Location: Turquoise Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	104,700	103,400	101,100	103,100	103,300	102,100	102,400	99,900
Nov	101,100	97,600	96,600	99,300	99,400	97,700	98,400	93,900
Dec	94,100	88,600	88,400	91,700	91,800	89,300	90,600	85,500
Jan	85,200	78,600	78,200	81,500	81,900	78,900	80,200	76,400
Feb	76,900	69,900	69,200	72,300	72,800	69,800	71,300	68,300
Mar	70,400	63,500	61,500	63,900	64,800	61,900	63,000	61,100
Apr	65,100	59,000	55,900	57,900	58,900	56,600	56,900	55,600
May	67,000	63,200	58,000	60,200	61,000	59,000	59,200	58,600
Jun	95,800	96,300	90,200	91,400	92,100	91,000	91,500	90,800
Jul	110,300	112,200	107,500	108,200	108,700	107,600	108,400	107,100
Aug	106,500	109,100	104,500	105,600	105,900	105,200	105,700	105,300
Sep	105,200	106,900	102,300	103,800	104,100	103,300	103,600	103,000
Average	90,300	87,500	84,500	86,700	87,100	85,300	86,000	83,900
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	103,100	101,300	99,800	103,600	103,600	101,700	102,600	97,200
Nov	99,300	91,100	93,400	99,100	98,800	95,600	97,300	87,900
Dec	93,200	81,700	83,600	90,700	90,000	85,700	88,200	78,600
Jan	85,800	75,200	74,000	80,200	80,800	75,700	77,400	71,400
Feb	78,800	69,500	67,100	71,700	72,300	68,500	69,500	66,400
Mar	72,000	65,500	61,400	64,600	65,900	62,800	63,400	61,400
Apr	67,300	62,500	57,000	60,300	61,100	58,200	58,900	56,600
May	68,200	66,200	58,000	62,200	63,100	59,800	60,700	59,000
Jun	90,800	94,700	84,700	88,300	89,100	86,900	87,900	86,400
Jul	97,500	101,500	93,500	96,900	97,500	95,100	97,300	93,600
Aug	90,600	96,200	86,700	90,000	90,700	88,800	89,900	89,500
Sep	88,100	92,300	82,400	86,300	87,500	84,800	86,300	85,100
Average	86,300	83,200	78,500	82,900	83,400	80,400	81,700	77,800
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	99,600	102,400	100,200	101,600	102,100	101,700	99,800	99,900
Nov	97,200	98,800	97,900	99,300	99,800	99,300	97,700	96,000
Dec	92,400	91,700	92,800	94,500	94,900	93,500	92,700	89,800
Jan	86,500	82,400	84,300	86,400	86,800	84,700	85,000	82,800
Feb	81,500	74,400	76,100	78,700	79,200	76,600	77,800	75,300
Mar	78,200	67,900	68,300	71,300	72,700	68,600	69,700	67,800
Apr	73,200	63,300	60,700	63,700	65,700	61,400	61,100	60,700
May	74,000	67,300	61,500	65,000	66,600	62,700	61,900	62,100
Jun	103,200	98,800	92,800	94,500	95,900	93,400	93,700	92,600
Jul	121,700	121,300	117,100	116,400	117,500	116,500	117,500	115,200
Aug	122,900	119,400	120,000	119,300	119,100	119,400	120,200	116,600
Sep	122,400	117,900	119,300	118,900	118,600	118,900	119,300	115,300
Average	96,100	92,200	91,000	92,500	93,300	91,500	91,400	89,600

Monthly Storage Contents Summary
Cumulative Effects

Location: Twin Lakes

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	115,200	100,600	106,600	108,300	108,300	106,200	107,500	98,100
Nov	110,400	95,900	102,000	103,900	104,000	101,600	103,100	93,600
Dec	106,400	92,500	97,700	99,400	99,500	97,300	98,800	91,400
Jan	104,000	89,900	94,500	96,300	96,200	94,200	95,800	89,900
Feb	102,000	88,500	92,200	93,900	93,800	91,900	93,400	88,500
Mar	99,900	86,500	90,500	92,100	91,900	90,300	91,600	86,900
Apr	98,400	84,400	89,800	91,100	91,100	89,400	90,700	84,900
May	102,700	86,800	94,400	95,600	95,700	93,100	94,700	87,000
Jun	124,700	109,900	115,400	116,800	117,200	114,200	115,600	110,500
Jul	131,500	122,600	124,400	125,000	125,400	123,900	123,700	121,200
Aug	125,200	117,000	118,200	118,300	118,600	117,200	117,400	113,200
Sep	119,000	108,100	111,000	111,700	111,700	110,300	110,800	104,700
Average	111,700	98,600	103,100	104,400	104,500	102,500	103,700	97,600
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	111,300	94,300	98,400	102,200	102,100	98,500	99,500	91,300
Nov	105,500	90,100	94,100	97,800	97,700	93,700	95,300	87,200
Dec	100,500	87,500	91,000	93,700	94,000	90,500	91,900	84,500
Jan	96,900	85,000	88,200	91,400	91,000	87,800	89,800	82,800
Feb	94,000	83,800	85,600	88,800	88,500	84,900	86,700	80,900
Mar	91,500	82,200	83,500	85,900	85,400	82,900	83,800	79,600
Apr	89,300	80,600	82,700	84,300	84,500	81,900	83,100	78,400
May	97,400	82,200	89,900	90,600	91,000	87,700	89,000	82,700
Jun	121,500	101,700	109,700	109,300	110,400	105,900	108,100	105,700
Jul	124,100	108,800	111,100	110,000	111,100	108,300	108,600	107,300
Aug	113,400	99,400	99,800	99,800	100,200	97,100	98,800	94,400
Sep	105,100	89,300	90,600	92,800	92,500	89,300	91,800	85,000
Average	104,300	90,400	93,800	95,600	95,700	92,400	93,900	88,400
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	118,800	104,400	115,800	116,400	116,000	114,300	115,800	105,000
Nov	114,100	99,800	109,800	110,900	110,600	108,600	110,200	99,000
Dec	110,400	96,000	103,700	105,200	104,800	103,100	104,700	96,800
Jan	107,400	93,400	99,600	101,100	100,700	99,200	100,800	95,500
Feb	105,400	91,900	96,700	98,100	97,700	96,500	97,500	94,300
Mar	104,000	89,200	94,400	95,600	95,200	94,300	95,300	92,000
Apr	103,000	87,000	94,000	94,500	94,100	93,500	94,600	89,000
May	102,200	87,400	94,300	94,400	94,100	93,400	94,000	87,300
Jun	123,100	112,800	117,000	117,500	117,700	116,700	116,900	112,100
Jul	136,200	133,000	134,800	134,700	134,700	134,700	134,500	134,100
Aug	133,500	132,700	132,900	132,200	132,300	132,400	132,300	131,100
Sep	128,300	125,400	127,200	126,500	126,400	126,700	126,600	124,000
Average	115,600	104,500	110,100	110,700	110,400	109,500	110,400	105,100

Monthly Storage Contents Summary
Cumulative Effects

Location: Pueblo Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Storage (ac-ft)								
Oct	146,200	115,900	107,000	111,300	113,500	110,200	105,000	112,500
Nov	148,900	117,900	110,000	114,100	115,900	113,200	107,400	115,000
Dec	164,100	131,600	122,000	129,200	131,800	125,600	121,500	126,100
Jan	180,200	146,200	135,800	146,700	149,800	139,500	136,900	138,200
Feb	192,800	157,800	146,800	161,400	164,600	150,700	149,200	148,800
Mar	200,700	165,200	153,400	171,400	174,600	157,400	157,900	157,200
Apr	191,700	158,700	148,900	164,000	166,600	152,400	151,700	155,200
May	179,200	148,500	140,700	150,600	152,900	144,000	139,400	145,100
Jun	174,300	145,300	137,700	143,200	145,200	141,300	132,800	137,200
Jul	168,900	139,300	130,700	135,500	137,200	134,700	126,900	131,900
Aug	156,000	127,300	118,700	122,700	124,400	122,400	115,200	121,000
Sep	147,000	118,400	109,400	113,700	115,500	113,000	106,800	113,400
Average	170,700	139,300	130,000	138,500	140,900	133,600	129,100	133,400
Month	**Average of Dry Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Storage (ac-ft)								
Oct	150,800	138,500	131,100	129,300	129,400	133,300	124,300	137,600
Nov	152,500	139,200	132,100	129,500	129,600	134,000	124,700	140,000
Dec	164,200	149,700	139,300	140,400	141,100	141,600	135,400	148,400
Jan	174,700	158,600	147,000	151,800	152,900	149,600	145,700	155,500
Feb	183,800	165,900	154,100	162,600	164,000	156,700	154,800	162,500
Mar	190,300	170,100	158,400	170,300	171,800	160,800	161,100	167,900
Apr	182,200	161,400	151,400	159,900	161,500	153,000	152,500	163,500
May	168,500	149,000	138,200	143,600	145,600	140,100	136,300	150,600
Jun	155,200	138,400	128,700	128,800	129,700	130,300	121,800	133,800
Jul	138,400	120,500	110,400	109,600	109,800	111,700	104,100	115,600
Aug	116,100	96,200	86,500	86,000	86,300	87,900	81,100	92,700
Sep	106,200	85,500	75,700	75,800	76,900	77,200	71,600	84,700
Average	156,800	139,300	129,300	132,200	133,100	131,300	126,000	137,600
Month	**Average of Wet Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Storage (ac-ft)								
Oct	178,400	144,100	135,100	142,800	146,600	138,800	136,300	139,100
Nov	181,300	146,900	138,400	146,100	149,300	142,000	139,100	141,400
Dec	196,600	161,200	150,900	161,700	166,000	155,000	153,500	152,800
Jan	213,600	176,800	166,100	180,700	185,600	170,300	169,700	165,400
Feb	226,300	189,500	178,700	197,300	202,500	183,000	183,100	176,900
Mar	229,200	195,600	184,400	205,400	209,900	189,100	191,200	184,400
Apr	208,700	185,200	176,700	192,900	195,700	180,700	182,000	180,000
May	194,900	169,400	166,700	174,900	177,800	169,500	164,700	163,300
Jun	193,500	161,500	156,800	164,700	167,300	162,600	154,000	151,000
Jul	210,500	174,700	165,500	174,700	177,900	171,400	163,000	161,600
Aug	204,200	173,400	160,200	167,400	170,600	164,900	156,900	158,300
Sep	197,900	165,800	151,100	158,900	161,400	155,800	148,200	151,000
Average	202,900	170,300	160,800	172,200	175,800	165,200	161,700	160,400

Monthly Storage Contents Summary
Cumulative Effects

Location: Lake Meredith

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	21,400	20,100	17,200	16,500	16,700	18,900	18,400	20,600
Nov	21,600	19,900	15,700	15,500	15,900	17,500	17,300	20,500
Dec	23,500	22,000	18,700	17,100	17,200	20,700	19,300	23,900
Jan	25,400	24,500	21,700	18,800	18,700	24,000	22,100	27,200
Feb	29,000	29,100	26,400	22,400	22,200	28,800	26,700	31,400
Mar	32,600	33,700	30,700	26,600	26,100	32,500	30,500	34,300
Apr	29,900	31,600	27,900	24,300	24,100	29,900	27,800	31,800
May	27,900	29,900	25,300	23,000	22,800	27,300	26,000	29,300
Jun	25,600	27,700	24,300	22,200	22,200	25,700	25,000	27,900
Jul	24,700	25,200	24,200	22,600	22,600	25,500	24,900	26,700
Aug	23,500	23,100	22,600	21,300	21,300	23,900	23,200	25,000
Sep	22,200	21,300	20,200	19,200	19,200	21,800	20,900	22,800
Average	25,600	25,700	22,900	20,800	20,700	24,700	23,500	26,800
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	12,400	11,300	11,100	8,500	8,300	12,500	11,200	13,300
Nov	12,300	11,300	10,500	7,900	7,700	12,000	10,700	13,500
Dec	14,100	13,100	13,800	9,500	9,100	15,700	12,100	17,100
Jan	17,300	16,300	17,800	12,100	11,500	20,600	15,000	21,800
Feb	23,100	24,100	24,600	17,600	16,700	27,800	21,200	28,400
Mar	29,400	32,000	30,200	23,600	22,600	33,000	27,400	33,400
Apr	25,400	30,700	27,400	22,200	21,400	31,000	25,100	31,600
May	20,400	27,300	22,200	17,300	16,500	26,100	20,100	26,300
Jun	11,900	20,400	15,500	10,800	10,300	18,600	12,900	18,800
Jul	8,100	12,500	11,700	7,800	8,000	14,400	10,000	14,700
Aug	6,500	9,500	8,900	5,800	5,800	11,400	7,700	12,300
Sep	5,500	8,100	7,800	4,400	4,300	9,600	6,200	11,000
Average	15,500	18,000	16,700	12,300	11,800	19,400	14,900	20,100
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	30,700	29,700	25,300	25,300	25,600	27,100	27,500	29,000
Nov	29,200	28,500	21,400	22,600	23,000	23,700	24,600	27,900
Dec	31,400	31,000	24,500	24,500	24,600	27,000	27,400	32,000
Jan	32,700	32,700	26,500	25,500	25,200	29,100	29,800	34,700
Feb	35,100	35,700	30,900	28,800	28,300	33,100	34,100	37,200
Mar	36,800	37,100	33,500	30,600	29,900	34,900	35,100	38,400
Apr	35,700	33,300	30,000	28,200	28,200	31,500	31,700	35,100
May	34,200	30,600	27,500	26,400	26,600	29,200	29,600	32,300
Jun	35,100	32,700	30,500	29,100	29,400	31,500	32,700	34,600
Jul	37,000	35,800	34,800	34,000	33,900	35,600	36,700	36,700
Aug	36,700	34,200	34,300	33,800	33,800	35,500	35,800	35,900
Sep	36,900	33,100	32,800	33,100	33,400	34,700	34,900	34,900
Average	34,300	32,900	29,300	28,500	28,500	31,100	31,600	34,100

Monthly Storage Contents Summary
Cumulative Effects

Location: Lake Henry

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	4,700	4,200	2,200	2,600	2,700	2,400	2,600	3,800
Nov	5,600	5,000	3,000	3,000	3,300	3,200	3,100	4,600
Dec	5,900	5,500	3,500	3,300	3,600	3,700	3,600	5,000
Jan	6,300	6,500	3,700	3,600	3,700	3,900	3,800	5,300
Feb	7,000	7,800	4,100	3,900	4,100	4,400	4,200	6,100
Mar	7,600	8,100	4,600	4,300	4,500	5,100	4,900	6,500
Apr	7,700	8,000	4,700	5,200	5,500	5,200	5,300	6,500
May	7,000	7,700	5,400	5,800	5,800	5,700	6,000	6,800
Jun	6,600	6,300	6,000	6,200	6,300	6,100	6,300	6,700
Jul	6,400	5,500	5,500	5,700	5,700	5,600	5,700	5,500
Aug	5,800	5,000	4,400	4,700	4,700	4,600	4,800	4,700
Sep	4,700	4,300	3,000	3,400	3,400	3,300	3,600	3,800
Average	6,300	6,100	4,200	4,300	4,400	4,400	4,500	5,400
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	2,100	1,800	1,000	1,100	1,000	1,200	1,200	1,600
Nov	2,400	2,000	1,200	1,100	1,100	1,400	1,200	1,700
Dec	2,600	2,700	1,500	1,200	1,200	1,600	1,300	1,700
Jan	3,700	5,300	2,100	2,000	1,800	2,300	2,100	2,400
Feb	5,100	6,900	2,800	2,800	2,700	3,200	2,900	3,600
Mar	5,900	7,800	3,800	3,000	2,900	4,100	3,400	5,000
Apr	5,900	7,700	4,900	4,600	4,600	4,900	4,300	5,200
May	4,200	6,900	3,100	2,900	2,600	2,800	3,000	4,100
Jun	2,700	2,900	2,400	2,100	2,100	2,100	2,000	2,700
Jul	2,300	2,000	1,500	1,400	1,300	1,400	1,400	1,600
Aug	1,700	2,000	1,200	900	900	1,100	1,100	1,900
Sep	1,500	2,400	1,200	900	900	1,100	1,200	2,000
Average	3,300	4,200	2,200	2,000	1,900	2,200	2,100	2,800
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	6,200	5,800	2,100	3,200	3,200	2,400	2,900	5,200
Nov	7,100	6,100	2,200	2,400	3,100	2,600	2,700	5,500
Dec	7,300	5,800	2,700	2,800	3,500	3,100	3,100	5,500
Jan	7,300	6,400	2,900	3,000	3,600	3,300	3,400	6,200
Feb	7,600	8,100	3,500	3,500	4,100	4,100	4,300	7,600
Mar	8,300	8,100	5,000	5,400	6,000	6,200	6,100	7,900
Apr	8,600	7,800	4,900	6,200	7,000	6,200	6,200	7,500
May	7,600	7,900	6,300	7,100	7,400	7,100	7,700	8,300
Jun	8,900	9,000	8,500	9,200	9,300	8,800	9,300	9,400
Jul	9,300	8,300	8,600	9,400	9,400	9,000	9,300	8,500
Aug	9,500	7,700	8,000	8,800	8,800	8,400	8,900	7,900
Sep	8,100	6,800	6,200	6,600	6,800	6,300	6,900	6,400
Average	8,000	7,300	5,100	5,600	6,000	5,600	5,900	7,100

Monthly Storage Contents Summary
Cumulative Effects

Location: Holbrook Resevoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Storage (ac-ft)								
Oct	1,900	1,700	1,500	1,400	1,400	1,500	1,400	1,400
Nov	2,200	1,900	1,500	1,500	1,500	1,500	1,500	1,500
Dec	3,100	2,800	2,100	2,100	2,100	2,100	2,100	2,100
Jan	4,100	4,100	3,200	3,200	3,200	3,200	3,200	3,200
Feb	4,700	4,800	4,100	4,000	4,100	4,100	4,000	4,100
Mar	5,100	5,200	4,600	4,600	4,600	4,700	4,600	4,600
Apr	5,100	5,100	4,500	4,500	4,400	4,600	4,500	4,500
May	4,200	4,400	3,900	3,800	3,800	3,900	3,800	3,800
Jun	3,900	4,100	3,700	3,700	3,700	3,700	3,700	3,700
Jul	3,000	3,100	2,800	2,800	2,800	2,800	2,800	2,800
Aug	2,300	2,400	2,000	2,000	2,000	2,000	2,000	2,000
Sep	1,900	1,900	1,600	1,600	1,600	1,600	1,600	1,600
Average	3,400	3,500	3,000	2,900	2,900	3,000	2,900	2,900
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	800	1,100	500	500	500	500	500	500
Nov	1,700	1,700	900	800	800	900	800	800
Dec	2,700	2,900	1,500	1,500	1,500	1,500	1,500	1,500
Jan	3,600	4,200	2,500	2,500	2,500	2,500	2,500	2,500
Feb	4,600	5,000	3,900	3,900	3,900	3,900	3,900	4,000
Mar	5,000	5,400	4,700	4,700	4,700	4,700	4,700	4,700
Apr	4,800	5,200	4,500	4,500	4,500	4,500	4,500	4,500
May	3,800	4,400	3,600	3,600	3,600	3,600	3,600	3,600
Jun	2,900	3,300	2,800	2,800	2,800	2,800	2,800	2,800
Jul	1,300	1,600	1,100	1,100	1,100	1,100	1,100	1,100
Aug	700	1,300	500	500	500	500	500	500
Sep	700	1,200	400	300	300	400	300	300
Average	2,700	3,100	2,200	2,200	2,200	2,200	2,200	2,200
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Storage (ac-ft)								
Oct	2,900	2,500	2,400	2,400	2,400	2,400	2,400	2,400
Nov	3,100	2,600	2,500	2,400	2,400	2,500	2,400	2,400
Dec	3,400	2,900	2,600	2,600	2,500	2,600	2,500	2,500
Jan	4,000	4,300	3,400	3,300	3,300	3,400	3,300	3,300
Feb	4,400	4,900	4,000	3,900	3,900	4,000	3,900	3,900
Mar	4,900	5,100	4,300	4,200	4,200	4,300	4,200	4,200
Apr	5,100	5,100	4,300	4,200	4,200	4,300	4,200	4,200
May	4,300	4,500	3,800	3,800	3,800	3,800	3,800	3,800
Jun	4,100	4,500	4,000	4,000	4,000	4,000	4,000	4,000
Jul	4,300	4,600	4,300	4,300	4,300	4,300	4,300	4,300
Aug	3,700	3,800	3,600	3,600	3,600	3,600	3,600	3,600
Sep	3,600	3,500	3,500	3,400	3,400	3,500	3,400	3,400
Average	4,000	4,000	3,600	3,500	3,500	3,500	3,500	3,500

Monthly WSEL Summary
Cumulative Effects

Location: Turquoise Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	9,854.6	9,853.9	9,852.1	9,853.6	9,853.8	9,852.8	9,853.2	9,851.3
Nov	9,852.4	9,850.2	9,849.3	9,851.3	9,851.4	9,850.1	9,850.6	9,847.4
Dec	9,848.0	9,844.6	9,844.0	9,846.5	9,846.6	9,844.7	9,845.7	9,841.9
Jan	9,842.3	9,838.2	9,837.3	9,839.9	9,840.2	9,837.9	9,839.0	9,835.9
Feb	9,836.7	9,832.4	9,831.3	9,833.8	9,834.2	9,831.8	9,833.1	9,830.4
Mar	9,832.3	9,827.9	9,825.9	9,828.0	9,828.6	9,826.3	9,827.3	9,825.4
Apr	9,828.5	9,824.6	9,821.8	9,823.7	9,824.4	9,822.4	9,822.9	9,821.3
May	9,829.8	9,827.5	9,823.3	9,825.3	9,825.9	9,824.1	9,824.6	9,823.5
Jun	9,849.2	9,849.6	9,845.6	9,846.5	9,846.9	9,846.2	9,846.6	9,846.0
Jul	9,858.1	9,859.3	9,856.3	9,856.9	9,857.3	9,856.5	9,857.1	9,856.1
Aug	9,855.8	9,857.4	9,854.4	9,855.3	9,855.4	9,854.9	9,855.3	9,855.0
Sep	9,854.9	9,856.1	9,853.0	9,854.0	9,854.3	9,853.6	9,854.0	9,853.5
Average	9,845.3	9,843.6	9,841.2	9,843.0	9,843.3	9,841.8	9,842.5	9,840.7
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	9,853.8	9,852.7	9,851.9	9,854.2	9,854.2	9,853.0	9,853.6	9,850.1
Nov	9,851.5	9,846.2	9,847.8	9,851.5	9,851.3	9,849.2	9,850.3	9,843.9
Dec	9,847.7	9,840.2	9,841.3	9,846.2	9,845.8	9,842.7	9,844.6	9,837.6
Jan	9,843.0	9,836.0	9,834.8	9,839.3	9,839.7	9,836.0	9,837.5	9,832.6
Feb	9,838.4	9,832.2	9,829.9	9,833.5	9,833.9	9,831.0	9,832.0	9,829.1
Mar	9,833.8	9,829.4	9,825.8	9,828.4	9,829.4	9,827.0	9,827.8	9,825.7
Apr	9,830.6	9,827.2	9,822.6	9,825.5	9,826.1	9,823.8	9,824.6	9,822.3
May	9,831.3	9,830.0	9,823.4	9,827.0	9,827.7	9,825.0	9,826.1	9,824.2
Jun	9,846.0	9,848.6	9,841.7	9,844.5	9,845.0	9,843.4	9,844.3	9,843.0
Jul	9,850.1	9,852.6	9,847.2	9,849.8	9,850.2	9,848.3	9,850.0	9,847.4
Aug	9,845.8	9,849.3	9,842.7	9,845.4	9,845.8	9,844.0	9,845.2	9,844.6
Sep	9,844.2	9,846.7	9,839.4	9,842.7	9,843.5	9,841.1	9,842.6	9,841.4
Average	9,843.0	9,841.0	9,837.4	9,840.7	9,841.1	9,838.7	9,839.9	9,836.9
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	9,851.6	9,853.2	9,851.8	9,852.7	9,853.1	9,852.8	9,851.6	9,851.5
Nov	9,850.1	9,850.9	9,850.3	9,851.3	9,851.6	9,851.2	9,850.2	9,848.8
Dec	9,847.1	9,846.4	9,846.9	9,848.3	9,848.5	9,847.5	9,847.0	9,844.7
Jan	9,843.2	9,840.5	9,841.4	9,843.0	9,843.3	9,841.8	9,842.0	9,840.2
Feb	9,839.8	9,835.2	9,836.1	9,838.0	9,838.4	9,836.5	9,837.3	9,835.1
Mar	9,837.5	9,830.4	9,830.7	9,832.9	9,833.9	9,831.0	9,831.8	9,829.9
Apr	9,834.1	9,827.1	9,825.3	9,827.5	9,828.9	9,825.8	9,825.6	9,824.6
May	9,834.5	9,829.8	9,825.5	9,828.1	9,829.2	9,826.5	9,825.8	9,825.2
Jun	9,853.6	9,850.9	9,847.1	9,848.2	9,849.1	9,847.6	9,847.7	9,846.9
Jul	9,865.0	9,864.8	9,862.4	9,862.0	9,862.6	9,862.0	9,862.6	9,861.2
Aug	9,865.6	9,863.7	9,864.0	9,863.6	9,863.5	9,863.7	9,864.2	9,862.1
Sep	9,865.4	9,862.8	9,863.7	9,863.4	9,863.2	9,863.4	9,863.7	9,861.3
Average	9,849.0	9,846.4	9,845.5	9,846.6	9,847.2	9,845.9	9,845.8	9,844.3

Monthly WSEL Summary
Cumulative Effects

Location: Twin Lakes

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	9,189.5	9,182.7	9,185.4	9,186.3	9,186.3	9,185.3	9,185.9	9,181.5
Nov	9,187.4	9,180.6	9,183.4	9,184.4	9,184.4	9,183.2	9,184.0	9,179.4
Dec	9,185.6	9,179.0	9,181.4	9,182.3	9,182.3	9,181.2	9,182.0	9,178.3
Jan	9,184.5	9,177.7	9,179.9	9,180.8	9,180.8	9,179.7	9,180.6	9,177.5
Feb	9,183.5	9,177.0	9,178.8	9,179.7	9,179.6	9,178.6	9,179.4	9,176.8
Mar	9,182.4	9,176.0	9,177.9	9,178.7	9,178.6	9,177.8	9,178.4	9,176.0
Apr	9,181.6	9,174.9	9,177.4	9,178.1	9,178.1	9,177.2	9,177.9	9,175.0
May	9,183.6	9,176.0	9,179.7	9,180.3	9,180.4	9,179.1	9,179.9	9,176.1
Jun	9,193.4	9,187.0	9,189.5	9,190.1	9,190.3	9,189.0	9,189.6	9,187.3
Jul	9,196.3	9,192.5	9,193.3	9,193.5	9,193.7	9,193.1	9,193.0	9,191.9
Aug	9,193.7	9,190.1	9,190.6	9,190.7	9,190.8	9,190.1	9,190.3	9,188.3
Sep	9,191.1	9,186.1	9,187.4	9,187.8	9,187.8	9,187.0	9,187.4	9,184.5
Average	9,187.7	9,181.7	9,183.7	9,184.4	9,184.5	9,183.5	9,184.1	9,181.1
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	9,188.0	9,179.8	9,181.9	9,183.7	9,183.6	9,181.8	9,182.5	9,178.4
Nov	9,185.4	9,177.8	9,179.8	9,181.7	9,181.7	9,179.6	9,180.5	9,176.4
Dec	9,183.1	9,176.5	9,178.4	9,179.8	9,179.9	9,178.1	9,178.9	9,175.1
Jan	9,181.3	9,175.3	9,176.9	9,178.6	9,178.5	9,176.8	9,177.8	9,174.1
Feb	9,179.9	9,174.6	9,175.6	9,177.4	9,177.2	9,175.2	9,176.3	9,173.1
Mar	9,178.6	9,173.7	9,174.5	9,175.8	9,175.6	9,174.2	9,174.7	9,172.4
Apr	9,177.4	9,172.9	9,174.1	9,174.9	9,175.0	9,173.6	9,174.3	9,171.7
May	9,181.3	9,173.7	9,177.7	9,178.0	9,178.3	9,176.5	9,177.3	9,174.0
Jun	9,192.3	9,183.2	9,187.2	9,187.0	9,187.5	9,185.4	9,186.4	9,185.3
Jul	9,193.3	9,186.4	9,187.7	9,187.1	9,187.6	9,186.4	9,186.5	9,185.8
Aug	9,188.8	9,182.2	9,182.4	9,182.5	9,182.8	9,181.1	9,182.1	9,179.9
Sep	9,185.1	9,177.4	9,178.0	9,179.2	9,179.1	9,177.3	9,178.7	9,175.3
Average	9,184.6	9,177.8	9,179.5	9,180.5	9,180.6	9,178.9	9,179.7	9,176.8
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	9,191.1	9,184.5	9,189.8	9,190.1	9,189.9	9,189.1	9,189.8	9,184.7
Nov	9,189.1	9,182.4	9,187.2	9,187.7	9,187.5	9,186.6	9,187.3	9,182.0
Dec	9,187.3	9,180.7	9,184.2	9,184.9	9,184.8	9,183.9	9,184.7	9,180.9
Jan	9,185.9	9,179.5	9,182.3	9,183.0	9,182.8	9,182.1	9,182.8	9,180.2
Feb	9,185.0	9,178.7	9,180.9	9,181.6	9,181.4	9,180.8	9,181.3	9,179.6
Mar	9,184.3	9,177.4	9,179.8	9,180.3	9,180.1	9,179.6	9,180.1	9,178.6
Apr	9,183.7	9,176.2	9,179.4	9,179.7	9,179.5	9,179.2	9,179.7	9,177.0
May	9,183.3	9,176.4	9,179.6	9,179.6	9,179.5	9,179.1	9,179.4	9,176.2
Jun	9,192.5	9,188.2	9,190.0	9,190.3	9,190.3	9,189.9	9,190.0	9,187.9
Jul	9,198.2	9,196.9	9,197.6	9,197.6	9,197.6	9,197.6	9,197.5	9,197.3
Aug	9,197.1	9,196.8	9,196.9	9,196.6	9,196.6	9,196.7	9,196.6	9,196.1
Sep	9,195.0	9,193.9	9,194.6	9,194.3	9,194.3	9,194.4	9,194.3	9,193.2
Average	9,189.4	9,184.3	9,186.9	9,187.2	9,187.1	9,186.6	9,187.0	9,184.5

Monthly WSEL Summary
Cumulative Effects

Location: Pueblo Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	4,847.9	4,835.8	4,832.3	4,834.0	4,835.0	4,833.4	4,831.7	4,835.5
Nov	4,848.8	4,836.7	4,833.9	4,835.4	4,836.3	4,835.0	4,833.0	4,836.7
Dec	4,853.8	4,842.2	4,839.0	4,841.7	4,842.7	4,840.2	4,838.9	4,841.2
Jan	4,858.8	4,847.6	4,844.3	4,848.2	4,849.2	4,845.4	4,844.8	4,845.7
Feb	4,862.5	4,851.5	4,848.0	4,852.9	4,853.9	4,849.1	4,848.9	4,849.3
Mar	4,864.8	4,853.9	4,850.2	4,856.0	4,857.0	4,851.3	4,851.8	4,852.1
Apr	4,862.8	4,852.0	4,848.7	4,854.1	4,855.0	4,849.8	4,850.1	4,851.6
May	4,859.2	4,848.4	4,845.5	4,849.4	4,850.3	4,846.5	4,845.5	4,848.1
Jun	4,857.3	4,846.9	4,844.0	4,846.1	4,846.9	4,845.1	4,842.4	4,844.6
Jul	4,855.2	4,844.3	4,840.8	4,842.5	4,843.3	4,842.1	4,839.5	4,842.1
Aug	4,850.9	4,839.7	4,836.3	4,837.8	4,838.6	4,837.6	4,835.1	4,838.3
Sep	4,848.0	4,836.6	4,832.9	4,834.7	4,835.5	4,834.3	4,832.1	4,835.6
Average	4,855.8	4,844.6	4,841.3	4,844.4	4,845.3	4,842.5	4,841.1	4,843.4
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,849.4	4,843.5	4,839.7	4,839.0	4,839.1	4,840.7	4,836.5	4,843.2
Nov	4,849.8	4,843.7	4,839.9	4,838.9	4,839.1	4,840.8	4,836.6	4,844.2
Dec	4,853.4	4,847.5	4,842.7	4,843.3	4,843.6	4,843.7	4,841.0	4,847.2
Jan	4,856.9	4,850.9	4,845.9	4,847.9	4,848.4	4,846.8	4,845.3	4,849.9
Feb	4,859.6	4,853.2	4,848.3	4,851.5	4,852.1	4,849.0	4,848.5	4,852.2
Mar	4,861.5	4,854.5	4,849.6	4,853.8	4,854.4	4,850.3	4,850.4	4,854.0
Apr	4,859.7	4,851.9	4,847.5	4,851.3	4,852.0	4,848.1	4,848.3	4,852.9
May	4,855.8	4,847.9	4,842.9	4,845.6	4,846.4	4,843.6	4,842.3	4,848.6
Jun	4,851.2	4,843.7	4,839.2	4,839.4	4,839.9	4,839.6	4,836.3	4,842.0
Jul	4,845.9	4,837.7	4,832.7	4,832.5	4,832.8	4,833.0	4,830.3	4,836.1
Aug	4,839.2	4,829.6	4,824.4	4,824.3	4,824.8	4,824.8	4,822.3	4,828.8
Sep	4,835.9	4,825.2	4,819.9	4,820.3	4,821.2	4,820.5	4,818.5	4,825.9
Average	4,851.5	4,844.1	4,839.3	4,840.6	4,841.1	4,840.0	4,838.0	4,843.7
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,858.0	4,845.8	4,843.6	4,846.2	4,847.8	4,844.7	4,844.3	4,845.2
Nov	4,858.8	4,846.9	4,845.2	4,847.4	4,848.8	4,846.2	4,845.4	4,846.0
Dec	4,862.9	4,851.5	4,849.3	4,852.4	4,854.0	4,850.3	4,850.0	4,849.7
Jan	4,867.4	4,856.3	4,854.0	4,858.2	4,859.9	4,855.1	4,855.1	4,853.8
Feb	4,870.8	4,860.1	4,857.7	4,863.0	4,864.6	4,858.7	4,859.0	4,857.3
Mar	4,871.8	4,862.0	4,859.3	4,865.3	4,866.7	4,860.5	4,861.4	4,859.5
Apr	4,867.3	4,859.5	4,857.4	4,862.4	4,863.4	4,858.4	4,859.2	4,858.6
May	4,863.8	4,855.2	4,854.5	4,857.5	4,858.7	4,855.2	4,854.4	4,854.0
Jun	4,863.7	4,853.5	4,852.2	4,854.7	4,855.9	4,853.8	4,851.4	4,850.4
Jul	4,868.3	4,857.8	4,854.8	4,857.3	4,858.7	4,856.4	4,853.8	4,853.4
Aug	4,866.6	4,857.3	4,852.8	4,854.9	4,856.1	4,854.1	4,851.8	4,852.3
Sep	4,864.9	4,855.1	4,850.1	4,852.4	4,853.3	4,851.5	4,849.1	4,850.1
Average	4,865.3	4,855.0	4,852.6	4,855.9	4,857.3	4,853.7	4,852.9	4,852.5

Monthly WSEL Summary
Cumulative Effects

Location: Lake Meredith

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	4,249.7	4,249.4	4,248.6	4,248.2	4,248.2	4,249.2	4,248.8	4,249.8
Nov	4,249.7	4,249.3	4,248.3	4,247.9	4,248.0	4,248.8	4,248.6	4,249.7
Dec	4,250.3	4,249.9	4,249.2	4,248.5	4,248.5	4,249.8	4,249.3	4,250.6
Jan	4,251.0	4,250.7	4,250.2	4,249.2	4,249.1	4,250.8	4,250.1	4,251.5
Feb	4,251.9	4,251.9	4,251.4	4,250.3	4,250.2	4,251.9	4,251.4	4,252.5
Mar	4,252.7	4,253.0	4,252.4	4,251.4	4,251.2	4,252.7	4,252.3	4,253.1
Apr	4,252.2	4,252.5	4,251.8	4,250.8	4,250.7	4,252.2	4,251.7	4,252.6
May	4,251.7	4,252.1	4,251.0	4,250.3	4,250.3	4,251.5	4,251.1	4,252.0
Jun	4,250.9	4,251.6	4,250.6	4,250.0	4,249.9	4,251.0	4,250.7	4,251.6
Jul	4,250.4	4,250.8	4,250.5	4,249.9	4,249.9	4,250.9	4,250.5	4,251.3
Aug	4,250.1	4,250.2	4,250.0	4,249.5	4,249.5	4,250.4	4,250.1	4,250.8
Sep	4,249.8	4,249.7	4,249.4	4,248.9	4,248.9	4,249.9	4,249.5	4,250.3
Average	4,250.8	4,250.9	4,250.3	4,249.6	4,249.6	4,250.8	4,250.3	4,251.3
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,247.0	4,246.7	4,247.4	4,246.0	4,246.0	4,247.8	4,247.2	4,248.0
Nov	4,247.1	4,246.7	4,247.2	4,245.9	4,245.8	4,247.7	4,247.0	4,248.0
Dec	4,247.8	4,247.3	4,248.2	4,246.4	4,246.3	4,248.8	4,247.4	4,249.0
Jan	4,248.9	4,248.5	4,249.4	4,247.4	4,247.1	4,250.1	4,248.3	4,250.3
Feb	4,250.4	4,250.7	4,251.1	4,249.1	4,248.8	4,251.8	4,250.1	4,251.9
Mar	4,252.0	4,252.6	4,252.3	4,250.7	4,250.4	4,252.9	4,251.6	4,252.9
Apr	4,251.1	4,252.3	4,251.7	4,250.2	4,250.0	4,252.5	4,251.1	4,252.6
May	4,250.0	4,251.6	4,250.5	4,249.0	4,248.7	4,251.4	4,249.8	4,251.5
Jun	4,247.7	4,250.1	4,248.7	4,247.0	4,246.9	4,249.6	4,247.8	4,249.6
Jul	4,246.2	4,247.7	4,247.6	4,246.0	4,246.0	4,248.4	4,246.8	4,248.5
Aug	4,245.5	4,246.6	4,246.6	4,245.2	4,245.2	4,247.5	4,246.0	4,247.7
Sep	4,245.1	4,246.2	4,246.2	4,244.6	4,244.6	4,246.9	4,245.4	4,247.3
Average	4,248.2	4,248.9	4,248.9	4,247.3	4,247.1	4,249.6	4,248.2	4,249.8
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,252.4	4,252.2	4,251.1	4,250.9	4,251.0	4,251.5	4,251.6	4,252.0
Nov	4,252.1	4,251.9	4,250.2	4,250.4	4,250.5	4,250.8	4,251.0	4,251.8
Dec	4,252.5	4,252.5	4,251.0	4,250.9	4,250.9	4,251.6	4,251.7	4,252.6
Jan	4,252.8	4,252.8	4,251.5	4,251.2	4,251.1	4,252.1	4,252.2	4,253.2
Feb	4,253.2	4,253.4	4,252.4	4,251.9	4,251.7	4,252.8	4,253.1	4,253.7
Mar	4,253.6	4,253.7	4,253.0	4,252.3	4,252.1	4,253.2	4,253.3	4,253.9
Apr	4,253.4	4,253.0	4,252.3	4,251.8	4,251.8	4,252.6	4,252.6	4,253.3
May	4,253.1	4,252.4	4,251.7	4,251.3	4,251.4	4,252.1	4,252.2	4,252.7
Jun	4,253.2	4,252.8	4,252.2	4,251.8	4,251.9	4,252.5	4,252.7	4,253.2
Jul	4,253.6	4,253.3	4,253.1	4,252.8	4,252.8	4,253.3	4,253.5	4,253.6
Aug	4,253.5	4,253.0	4,253.0	4,252.8	4,252.8	4,253.3	4,253.3	4,253.4
Sep	4,253.6	4,252.9	4,252.7	4,252.8	4,252.9	4,253.2	4,253.2	4,253.3
Average	4,253.1	4,252.8	4,252.0	4,251.7	4,251.7	4,252.4	4,252.5	4,253.0

Monthly WSEL Summary
Cumulative Effects

Location: Lake Henry

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Surface Elevation (feet)								
Oct	4,371.1	4,370.7	4,368.6	4,369.0	4,369.1	4,368.9	4,369.0	4,370.3
Nov	4,372.0	4,371.4	4,369.4	4,369.4	4,369.7	4,369.6	4,369.6	4,371.0
Dec	4,372.3	4,371.9	4,370.0	4,369.8	4,370.0	4,370.2	4,370.0	4,371.4
Jan	4,372.7	4,372.9	4,370.2	4,370.0	4,370.2	4,370.4	4,370.3	4,371.7
Feb	4,373.3	4,374.1	4,370.5	4,370.3	4,370.5	4,370.8	4,370.7	4,372.4
Mar	4,373.9	4,374.4	4,371.1	4,370.8	4,371.0	4,371.5	4,371.4	4,372.9
Apr	4,374.0	4,374.3	4,371.2	4,371.6	4,371.9	4,371.6	4,371.8	4,372.9
May	4,373.3	4,374.0	4,371.8	4,372.1	4,372.1	4,372.0	4,372.4	4,373.1
Jun	4,372.9	4,372.6	4,372.3	4,372.5	4,372.5	4,372.4	4,372.5	4,373.0
Jul	4,372.7	4,371.8	4,371.8	4,372.0	4,372.0	4,371.9	4,372.0	4,371.9
Aug	4,372.1	4,371.4	4,370.8	4,371.0	4,371.1	4,370.9	4,371.1	4,371.1
Sep	4,371.1	4,370.7	4,369.5	4,369.8	4,369.8	4,369.8	4,370.0	4,370.2
Average	4,372.6	4,372.5	4,370.6	4,370.7	4,370.8	4,370.8	4,370.9	4,371.8
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,368.5	4,368.3	4,367.4	4,367.5	4,367.4	4,367.6	4,367.6	4,368.1
Nov	4,368.8	4,368.5	4,367.6	4,367.5	4,367.5	4,367.8	4,367.6	4,368.2
Dec	4,369.2	4,369.3	4,367.9	4,367.6	4,367.6	4,368.1	4,367.8	4,368.3
Jan	4,370.2	4,371.8	4,368.6	4,368.4	4,368.3	4,368.7	4,368.6	4,368.9
Feb	4,371.5	4,373.3	4,369.3	4,369.2	4,369.1	4,369.6	4,369.3	4,370.0
Mar	4,372.3	4,374.1	4,370.2	4,369.4	4,369.3	4,370.5	4,369.8	4,371.3
Apr	4,372.3	4,374.0	4,371.3	4,371.0	4,371.0	4,371.3	4,370.7	4,371.6
May	4,370.7	4,373.3	4,369.7	4,369.4	4,369.1	4,369.2	4,369.5	4,370.5
Jun	4,369.2	4,369.5	4,368.9	4,368.5	4,368.5	4,368.6	4,368.5	4,369.3
Jul	4,368.8	4,368.5	4,368.0	4,367.7	4,367.7	4,367.8	4,367.8	4,368.1
Aug	4,368.2	4,368.5	4,367.6	4,367.3	4,367.3	4,367.4	4,367.5	4,368.4
Sep	4,367.9	4,368.9	4,367.6	4,367.2	4,367.2	4,367.4	4,367.6	4,368.5
Average	4,369.8	4,370.7	4,368.7	4,368.4	4,368.3	4,368.7	4,368.5	4,369.3
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Surface Elevation (feet)								
Oct	4,372.6	4,372.2	4,368.7	4,369.8	4,369.7	4,368.9	4,369.5	4,371.7
Nov	4,373.4	4,372.5	4,368.8	4,368.9	4,369.7	4,369.1	4,369.2	4,371.8
Dec	4,373.5	4,372.3	4,369.3	4,369.3	4,370.0	4,369.7	4,369.7	4,371.9
Jan	4,373.5	4,372.8	4,369.5	4,369.5	4,370.1	4,369.8	4,369.9	4,372.5
Feb	4,373.9	4,374.4	4,370.1	4,370.0	4,370.6	4,370.6	4,370.8	4,373.8
Mar	4,374.4	4,374.3	4,371.5	4,371.8	4,372.5	4,372.5	4,372.4	4,374.0
Apr	4,374.8	4,374.1	4,371.5	4,372.6	4,373.3	4,372.6	4,372.7	4,373.8
May	4,373.9	4,374.2	4,372.7	4,373.5	4,373.7	4,373.4	4,374.0	4,374.5
Jun	4,375.1	4,375.2	4,374.7	4,375.4	4,375.4	4,375.0	4,375.5	4,375.5
Jul	4,375.5	4,374.5	4,374.8	4,375.5	4,375.5	4,375.2	4,375.4	4,374.7
Aug	4,375.6	4,374.0	4,374.2	4,375.0	4,375.0	4,374.6	4,375.1	4,374.2
Sep	4,374.3	4,373.2	4,372.6	4,373.0	4,373.1	4,372.8	4,373.3	4,372.8
Average	4,374.2	4,373.6	4,371.5	4,372.0	4,372.4	4,372.0	4,372.3	4,373.4

Monthly WSEL Summary
Cumulative Effects

Location: Holbrook Resevoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Water Depth (feet)								
Oct	10.1	9.7	8.6	8.4	8.3	8.6	8.4	8.3
Nov	11.2	10.3	8.9	8.7	8.7	8.9	8.8	8.7
Dec	13.4	12.7	10.4	10.4	10.4	10.5	10.4	10.4
Jan	15.4	15.8	13.2	13.2	13.2	13.3	13.2	13.3
Feb	16.6	17.0	15.2	15.2	15.2	15.3	15.2	15.2
Mar	17.4	17.7	16.4	16.2	16.2	16.5	16.2	16.3
Apr	17.3	17.5	16.1	15.9	15.9	16.2	15.9	16.1
May	15.6	16.2	14.8	14.6	14.6	14.9	14.5	14.8
Jun	15.0	15.6	14.4	14.4	14.4	14.4	14.4	14.4
Jul	12.9	13.1	12.0	11.9	11.9	12.0	11.9	11.9
Aug	10.8	11.1	9.7	9.6	9.6	9.7	9.6	9.5
Sep	9.8	10.1	8.7	8.6	8.5	8.8	8.6	8.6
Average	13.8	13.9	12.4	12.2	12.2	12.4	12.2	12.3
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Depth (feet)								
Oct	6.9	7.6	5.1	4.8	4.8	5.1	4.9	4.8
Nov	9.6	9.5	6.1	5.8	5.9	6.1	6.0	6.0
Dec	12.2	12.9	7.7	7.6	7.6	7.7	7.6	7.8
Jan	14.0	16.0	11.0	11.0	11.0	11.0	11.0	11.1
Feb	16.2	17.4	14.4	14.4	14.4	14.4	14.3	14.5
Mar	16.8	18.1	16.1	16.1	16.1	16.1	16.1	16.2
Apr	16.4	17.8	15.7	15.6	15.5	15.7	15.5	15.6
May	14.6	16.4	14.0	13.9	14.0	14.0	13.9	13.9
Jun	12.7	14.1	12.1	12.0	12.1	12.1	12.0	12.1
Jul	8.4	9.6	7.7	7.6	7.6	7.8	7.5	7.6
Aug	6.5	8.7	5.3	5.1	5.1	5.4	5.1	5.0
Sep	6.6	8.1	4.7	4.4	4.1	4.7	4.5	4.2
Average	11.7	13.0	10.0	9.8	9.8	10.0	9.9	9.9
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Water Depth (feet)								
Oct	13.1	11.9	11.7	11.6	11.5	11.7	11.5	11.6
Nov	13.5	11.9	11.8	11.6	11.6	11.8	11.6	11.6
Dec	14.1	12.8	12.2	12.0	12.0	12.2	12.0	12.0
Jan	15.3	16.0	14.0	13.9	13.9	14.0	13.8	13.9
Feb	16.2	17.3	15.1	15.0	15.0	15.1	15.0	15.0
Mar	17.2	17.7	15.8	15.5	15.4	15.7	15.4	15.5
Apr	17.7	17.6	15.6	15.3	15.3	15.6	15.3	15.3
May	15.7	16.5	14.7	14.7	14.6	14.7	14.6	14.7
Jun	15.1	16.3	14.9	14.9	14.9	14.9	14.9	14.9
Jul	15.7	16.5	15.5	15.5	15.5	15.5	15.5	15.5
Aug	14.4	14.7	14.2	14.2	14.2	14.2	14.2	14.2
Sep	14.3	14.1	14.0	14.0	14.0	14.0	14.0	14.0
Average	15.2	15.3	14.1	14.0	14.0	14.1	14.0	14.0

Note: Only water depth relative to bottom of reservoir is available for Holbrook Reservoir.

Monthly Surface Area Summary
Cumulative Effects

Location: Turquoise Reservoir

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	719	718	716	718	718	717	717	715
Nov	716	714	713	715	715	714	714	711
Dec	712	708	707	710	710	708	709	705
Jan	706	701	700	703	704	701	702	699
Feb	700	695	694	697	697	694	696	693
Mar	695	690	688	690	691	688	690	687
Apr	691	687	683	686	686	684	685	682
May	692	690	685	687	688	686	687	685
Jun	713	714	709	710	711	710	710	710
Jul	722	724	720	721	721	721	721	720
Aug	720	722	718	719	720	719	719	719
Sep	719	720	717	718	718	717	718	717
Average	709	707	704	706	707	705	706	704
Month	**Average of Dry Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	718	717	716	718	718	717	718	714
Nov	715	710	712	716	715	713	714	707
Dec	711	703	705	710	709	706	708	700
Jan	707	699	697	703	703	699	701	695
Feb	702	695	692	696	697	693	695	691
Mar	697	692	688	691	692	689	690	688
Apr	693	690	684	687	688	685	687	684
May	694	693	685	689	690	687	688	686
Jun	710	712	705	708	709	707	708	706
Jul	714	717	711	714	714	712	714	711
Aug	709	713	706	709	709	707	709	708
Sep	708	710	702	706	707	704	706	704
Average	707	704	700	704	704	702	703	700
Month	**Average of Wet Years**							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	716	717	716	717	717	717	716	715
Nov	714	715	714	715	716	715	714	712
Dec	711	710	710	712	712	711	711	708
Jan	707	704	705	706	707	705	705	703
Feb	703	698	699	701	702	699	700	698
Mar	701	693	693	696	697	693	694	692
Apr	697	689	687	690	691	688	687	686
May	697	692	687	690	691	688	688	687
Jun	718	715	711	712	713	711	711	710
Jul	730	729	727	726	727	726	727	726
Aug	730	728	728	728	728	728	729	726
Sep	730	727	728	728	728	728	728	726
Average	713	710	709	710	711	709	709	708

Monthly Surface Area Summary
Cumulative Effects

Location: Twin Lakes

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	2,333	2,111	2,204	2,229	2,228	2,198	2,216	2,075
Nov	2,256	2,038	2,132	2,159	2,160	2,126	2,148	2,004
Dec	2,196	1,986	2,065	2,090	2,091	2,060	2,082	1,970
Jan	2,161	1,948	2,016	2,043	2,042	2,013	2,037	1,948
Feb	2,130	1,927	1,985	2,011	2,009	1,980	2,003	1,927
Mar	2,100	1,899	1,962	1,985	1,983	1,958	1,978	1,904
Apr	2,077	1,870	1,950	1,969	1,970	1,943	1,964	1,877
May	2,145	1,905	2,019	2,036	2,037	2,001	2,023	1,909
Jun	2,493	2,254	2,339	2,364	2,369	2,322	2,346	2,262
Jul	2,606	2,458	2,488	2,500	2,505	2,481	2,478	2,435
Aug	2,500	2,370	2,391	2,389	2,394	2,374	2,375	2,309
Sep	2,395	2,229	2,276	2,284	2,285	2,263	2,271	2,177
Average	2,284	2,084	2,153	2,173	2,174	2,144	2,161	2,067
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	2,260	2,016	2,076	2,130	2,129	2,078	2,089	1,969
Nov	2,172	1,954	2,010	2,064	2,062	2,006	2,028	1,909
Dec	2,102	1,914	1,965	2,006	2,010	1,958	1,979	1,871
Jan	2,054	1,875	1,922	1,971	1,966	1,917	1,949	1,844
Feb	2,012	1,857	1,886	1,936	1,931	1,875	1,906	1,815
Mar	1,974	1,834	1,857	1,893	1,885	1,847	1,863	1,797
Apr	1,941	1,811	1,843	1,867	1,870	1,830	1,851	1,780
May	2,064	1,835	1,950	1,959	1,965	1,918	1,937	1,843
Jun	2,434	2,127	2,241	2,241	2,254	2,186	2,222	2,181
Jul	2,481	2,236	2,271	2,258	2,271	2,228	2,234	2,211
Aug	2,304	2,091	2,099	2,095	2,101	2,056	2,081	2,011
Sep	2,166	1,938	1,959	1,991	1,987	1,938	1,977	1,877
Average	2,165	1,958	2,007	2,035	2,037	1,987	2,010	1,926
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	2,389	2,171	2,343	2,351	2,343	2,321	2,344	2,181
Nov	2,313	2,096	2,250	2,266	2,260	2,233	2,257	2,085
Dec	2,259	2,037	2,161	2,179	2,174	2,151	2,173	2,053
Jan	2,214	2,001	2,096	2,117	2,112	2,091	2,113	2,035
Feb	2,184	1,978	2,056	2,078	2,073	2,053	2,069	2,015
Mar	2,163	1,938	2,024	2,043	2,037	2,022	2,038	1,979
Apr	2,147	1,906	2,018	2,028	2,022	2,010	2,027	1,938
May	2,136	1,911	2,023	2,024	2,019	2,008	2,017	1,914
Jun	2,473	2,304	2,372	2,380	2,382	2,367	2,370	2,291
Jul	2,687	2,631	2,663	2,661	2,662	2,661	2,658	2,651
Aug	2,641	2,626	2,630	2,617	2,619	2,622	2,620	2,598
Sep	2,550	2,501	2,532	2,520	2,518	2,522	2,521	2,476
Average	2,347	2,176	2,265	2,273	2,270	2,256	2,268	2,186

Monthly Surface Area Summary
Cumulative Effects

Location: Pueblo Reservoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	3,189	2,706	2,566	2,635	2,672	2,616	2,541	2,675
Nov	3,228	2,741	2,623	2,684	2,716	2,671	2,586	2,718
Dec	3,439	2,962	2,820	2,931	2,971	2,870	2,814	2,895
Jan	3,646	3,177	3,030	3,191	3,237	3,080	3,052	3,083
Feb	3,797	3,341	3,183	3,391	3,437	3,235	3,220	3,230
Mar	3,894	3,446	3,273	3,523	3,566	3,326	3,335	3,344
Apr	3,798	3,361	3,214	3,435	3,474	3,261	3,260	3,325
May	3,643	3,210	3,090	3,242	3,280	3,135	3,081	3,180
Jun	3,578	3,154	3,035	3,117	3,147	3,083	2,962	3,041
Jul	3,502	3,048	2,912	2,982	3,011	2,966	2,863	2,949
Aug	3,324	2,873	2,738	2,799	2,826	2,789	2,689	2,798
Sep	3,197	2,743	2,600	2,668	2,697	2,655	2,563	2,685
Average	3,518	3,062	2,922	3,048	3,084	2,973	2,912	2,992
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	3,259	3,042	2,900	2,872	2,877	2,941	2,786	3,024
Nov	3,282	3,051	2,911	2,871	2,876	2,947	2,792	3,062
Dec	3,432	3,211	3,026	3,048	3,061	3,063	2,959	3,192
Jan	3,560	3,347	3,146	3,223	3,245	3,183	3,126	3,306
Feb	3,676	3,445	3,244	3,377	3,400	3,279	3,256	3,399
Mar	3,758	3,498	3,301	3,477	3,499	3,332	3,337	3,471
Apr	3,674	3,385	3,218	3,368	3,394	3,242	3,243	3,428
May	3,497	3,214	3,020	3,123	3,158	3,050	2,997	3,243
Jun	3,324	3,043	2,876	2,882	2,898	2,897	2,758	2,973
Jul	3,093	2,780	2,603	2,592	2,599	2,618	2,508	2,713
Aug	2,803	2,445	2,262	2,257	2,268	2,282	2,178	2,399
Sep	2,660	2,273	2,090	2,096	2,123	2,112	2,026	2,279
Average	3,334	3,060	2,882	2,931	2,948	2,911	2,829	3,039
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	3,627	3,101	2,993	3,109	3,172	3,045	3,017	3,057
Nov	3,662	3,148	3,052	3,156	3,210	3,099	3,060	3,090
Dec	3,854	3,354	3,226	3,372	3,438	3,276	3,260	3,247
Jan	4,061	3,563	3,435	3,637	3,710	3,491	3,487	3,426
Feb	4,205	3,740	3,608	3,864	3,937	3,663	3,670	3,586
Mar	4,234	3,831	3,690	3,965	4,025	3,746	3,775	3,690
Apr	4,019	3,707	3,596	3,820	3,862	3,647	3,666	3,648
May	3,856	3,498	3,465	3,584	3,633	3,499	3,446	3,428
Jun	3,839	3,400	3,335	3,438	3,481	3,408	3,290	3,250
Jul	4,063	3,567	3,434	3,552	3,608	3,510	3,394	3,376
Aug	3,983	3,548	3,356	3,452	3,503	3,419	3,311	3,330
Sep	3,900	3,448	3,236	3,339	3,374	3,298	3,196	3,236
Average	3,941	3,491	3,368	3,522	3,578	3,424	3,380	3,363

Monthly Surface Area Summary
Cumulative Effects

Location: Lake Meredith

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	3,889	3,780	3,475	3,319	3,342	3,684	3,571	3,919
Nov	3,925	3,749	3,344	3,220	3,259	3,555	3,461	3,892
Dec	4,167	3,983	3,724	3,444	3,459	3,938	3,722	4,243
Jan	4,403	4,283	4,093	3,690	3,675	4,319	4,059	4,599
Feb	4,761	4,778	4,568	4,139	4,101	4,780	4,557	4,990
Mar	5,097	5,192	4,946	4,568	4,513	5,099	4,916	5,243
Apr	4,867	5,016	4,699	4,340	4,315	4,877	4,677	5,041
May	4,677	4,860	4,432	4,155	4,144	4,624	4,469	4,812
Jun	4,376	4,642	4,273	4,016	4,013	4,434	4,307	4,671
Jul	4,203	4,347	4,227	3,996	3,996	4,380	4,257	4,537
Aug	4,062	4,109	4,040	3,841	3,842	4,212	4,078	4,352
Sep	3,939	3,916	3,804	3,619	3,620	3,993	3,847	4,145
Average	4,362	4,386	4,133	3,861	3,855	4,322	4,158	4,535
Month	**Average of Dry Years**							
	Existing Conditions	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	2,876	2,725	2,971	2,479	2,458	3,131	2,910	3,214
Nov	2,885	2,738	2,921	2,431	2,403	3,092	2,833	3,237
Dec	3,168	2,974	3,323	2,638	2,592	3,532	2,974	3,642
Jan	3,574	3,413	3,789	2,984	2,891	4,046	3,341	4,144
Feb	4,175	4,294	4,416	3,626	3,504	4,693	4,023	4,742
Mar	4,819	5,054	4,898	4,298	4,165	5,141	4,653	5,161
Apr	4,461	4,940	4,665	4,109	4,002	4,973	4,434	5,017
May	4,016	4,645	4,206	3,596	3,504	4,547	3,923	4,574
Jun	3,109	4,030	3,527	2,852	2,798	3,868	3,141	3,876
Jul	2,533	3,127	3,076	2,443	2,477	3,419	2,753	3,434
Aug	2,263	2,737	2,679	2,164	2,168	3,059	2,469	3,134
Sep	2,115	2,553	2,503	1,944	1,930	2,801	2,232	2,978
Average	3,329	3,598	3,577	2,961	2,905	3,855	3,304	3,926
Month	**Average of Wet Years**							
	Existing Conditions	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	4,957	4,869	4,399	4,354	4,390	4,598	4,605	4,799
Nov	4,818	4,760	4,058	4,122	4,165	4,295	4,361	4,704
Dec	5,017	4,981	4,386	4,338	4,336	4,622	4,654	5,061
Jan	5,122	5,121	4,578	4,444	4,400	4,812	4,876	5,285
Feb	5,311	5,357	4,961	4,750	4,693	5,147	5,233	5,476
Mar	5,455	5,493	5,186	4,926	4,857	5,295	5,313	5,591
Apr	5,369	5,167	4,883	4,714	4,710	5,008	5,026	5,319
May	5,244	4,932	4,667	4,550	4,556	4,810	4,838	5,076
Jun	5,304	5,105	4,909	4,762	4,759	4,993	5,099	5,263
Jul	5,457	5,355	5,261	5,163	5,132	5,339	5,432	5,435
Aug	5,447	5,234	5,230	5,171	5,174	5,336	5,369	5,382
Sep	5,484	5,151	5,118	5,130	5,168	5,283	5,299	5,312
Average	5,248	5,126	4,803	4,702	4,695	4,961	5,008	5,224

Monthly Surface Area Summary
Cumulative Effects

Location: Lake Henry

Month	Overall Average							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	1,018	993	885	908	912	898	907	978
Nov	1,059	1,032	928	928	942	940	937	1,012
Dec	1,076	1,056	961	949	962	970	962	1,029
Jan	1,097	1,110	972	961	972	981	976	1,046
Feb	1,129	1,167	989	978	988	1,004	998	1,082
Mar	1,158	1,181	1,018	1,001	1,011	1,040	1,031	1,106
Apr	1,162	1,179	1,026	1,043	1,054	1,046	1,053	1,112
May	1,128	1,167	1,054	1,066	1,065	1,063	1,080	1,120
Jun	1,108	1,095	1,077	1,086	1,088	1,080	1,087	1,116
Jul	1,095	1,051	1,047	1,057	1,058	1,052	1,059	1,056
Aug	1,067	1,030	994	1,008	1,009	1,003	1,013	1,017
Sep	1,014	996	930	945	948	945	959	971
Average	1,092	1,088	990	994	1,001	1,002	1,005	1,053

Month	Average of Dry Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	878	867	815	820	814	828	824	863
Nov	899	884	832	827	825	845	830	868
Dec	919	926	853	836	832	861	841	870
Jan	975	1,060	887	878	870	895	886	903
Feb	1,040	1,129	922	916	913	942	924	961
Mar	1,082	1,167	971	927	926	983	950	1,027
Apr	1,083	1,165	1,028	1,007	1,007	1,028	995	1,040
May	997	1,130	944	925	907	918	933	987
Jun	917	937	903	878	879	884	880	922
Jul	895	884	853	836	834	842	838	864
Aug	862	886	830	810	807	817	821	878
Sep	850	901	828	806	806	820	836	886
Average	949	994	888	872	868	888	880	922

Month	Average of Wet Years							
	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Simulated Surface Area (acres)								
Oct	1,095	1,077	892	958	952	907	938	1,048
Nov	1,132	1,088	899	908	946	917	922	1,054
Dec	1,140	1,077	926	926	964	945	946	1,058
Jan	1,140	1,107	936	935	970	955	957	1,084
Feb	1,156	1,181	966	961	992	993	1,002	1,154
Mar	1,186	1,180	1,040	1,056	1,089	1,088	1,087	1,165
Apr	1,205	1,169	1,042	1,095	1,132	1,094	1,102	1,157
May	1,160	1,175	1,101	1,137	1,148	1,134	1,168	1,191
Jun	1,220	1,226	1,199	1,233	1,235	1,217	1,238	1,239
Jul	1,238	1,187	1,204	1,240	1,240	1,224	1,237	1,200
Aug	1,243	1,164	1,175	1,214	1,217	1,194	1,217	1,177
Sep	1,181	1,129	1,098	1,114	1,123	1,104	1,129	1,107
Average	1,175	1,146	1,040	1,065	1,084	1,065	1,079	1,136

Monthly Surface Area Summary
Cumulative Effects

Location: Holbrook Resevoir

Month	Existing Conditions	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
	Overall Average							
Simulated Surface Area (acres)								
Oct	330	314	275	266	260	275	269	263
Nov	366	335	288	280	281	289	281	281
Dec	445	419	343	341	341	344	340	343
Jan	515	527	440	439	439	441	438	440
Feb	559	574	510	509	510	514	508	511
Mar	584	597	549	545	545	553	543	548
Apr	583	590	541	533	531	545	530	539
May	523	544	493	486	485	496	482	489
Jun	498	522	475	478	477	477	474	475
Jul	426	433	392	393	392	394	389	391
Aug	358	363	319	314	312	317	309	308
Sep	324	331	285	277	270	286	277	277
Average	459	462	409	404	403	410	403	405
	Average of Dry Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	226	243	151	133	128	149	142	132
Nov	316	310	192	181	185	197	184	184
Dec	406	428	260	258	260	263	260	266
Jan	468	536	370	370	371	371	370	375
Feb	543	585	486	486	489	486	485	491
Mar	568	610	545	545	547	545	544	549
Apr	554	598	532	528	517	531	514	524
May	491	550	462	469	468	468	456	457
Jun	422	466	390	401	401	399	389	392
Jul	273	309	243	247	245	250	235	237
Aug	214	280	174	171	164	177	162	157
Sep	216	263	154	144	124	155	144	127
Average	390	431	329	327	324	332	323	323
	Average of Wet Years							
Month	**Existing Conditions**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**	**Alt 5**	**Alt 6**	**Alt 7**
Simulated Surface Area (acres)								
Oct	430	389	381	376	376	381	376	376
Nov	445	391	386	379	379	386	378	378
Dec	469	420	398	393	393	399	392	393
Jan	510	536	463	459	459	463	459	459
Feb	541	586	504	501	501	504	500	501
Mar	577	595	525	516	515	523	514	518
Apr	597	592	521	511	510	520	510	512
May	526	555	489	487	487	488	487	487
Jun	499	545	494	494	494	494	494	494
Jul	521	550	516	516	516	516	516	516
Aug	477	487	469	469	469	469	469	470
Sep	475	468	465	465	464	465	465	465
Average	505	509	467	464	463	467	463	464

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Appendix F

Conceptual Adaptive Management Plan and Environmental Management System

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EMS and Adaptive Management

The Project Participants plan to implement an Environmental Management System (EMS) incorporating adaptive management as part of the selected alternative; therefore, the EMS is included as an element common to all FEIS alternatives. The goal of the SDS EMS is to assimilate procedures to bring about compliance with laws, regulations, permit requirements, and mitigation measures identified in the EIS.

As stated in the Council on Environmental Quality's April 2007 Guide, *Aligning National Environmental Policy Act Processes with Environmental Management Systems*, the EMS is intended to "integrate environmental accountability into day-to-day decision making and long-term planning processes, across all project activities, and functions."

The EMS is an organizational framework for minimizing adverse impacts, improving environmental performance, and attaining regulatory compliance. It builds on the Participants' existing audit systems, quality control, data and process management, contingency plans, and health and safety programs. Based on the principles of the International Organization for Standardization (ISO) EMS standard (ISO 14001), the EMS provides tools to achieve project objectives and targets.

As shown in Figure 1, the four basic elements of the EMS are: **Plan** (Policy planning, identifying laws and permits, and setting objectives and targets); **Do** (Implementation training and managing outcomes); **Check (**Monitoring and corrective actions); and **Act** (Reviewing and acting to make needed changes in the EMS).

During the planning phase, the project team identifies goals and objectives, reviews existing methods, and defines enhancements. Relevant legislative and regulatory requirements are identified and policies put in place to consider pollution prevention and watershed and water quality protection. Leadership and staff work together to evaluate performance, anticipate and avoid problems, and change management approaches.

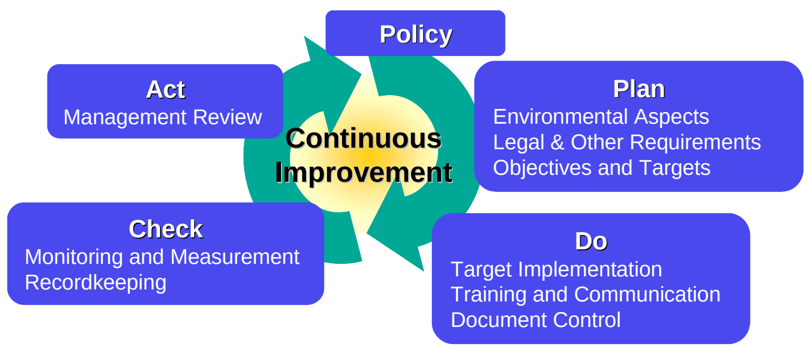

Figure 1
Four Basic Elements of the EMS

The EMS promotes a commitment to continuous improvement, achieving performance objectives, and complying with permit requirements. This includes documentation, staff training and awareness, and system reviews and upgrades based on monitoring results or new information.

Adaptive Management principles will guide the EMS in addressing unforeseen conditions. The Department of Interior defines Adaptive Management as "a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes." *(Department of the Interior Departmental Manual, May 27, 2004 Environmental Quality Programs).* The Adaptive Management model provides flexibility to respond to changes in environmental conditions, adjust to unanticipated impacts of project implementation, or modify mitigation measures to improve effectiveness. The Participants adaptive management plan will be prepared in general accordance with Department of the Interior guidance (Order 3270) and the report Adaptive Management, The U.S. Department of Interior Technical Guide (Williams et al. 2007).

The actions and mitigation measures analyzed during the NEPA process will be merged into the EMS objectives and targets. Monitoring procedures serve as the basis for adaptive management adjustments. The EMS builds upon existing communication plans for internal and external communications and includes mechanisms to communicate monitoring results and to facilitate collaborative management decisions.

The EMS and the adaptive management approach are tools to increase efficiency and monitor environmental effects. Performance measures determine whether changes should be made to avoid or minimize environmental effects. The EMS identifies quantifiable parameters to set ranges to assess performance. Monitoring plans identify schedules, protocols, data collection, and verification procedures. Comparing monitoring results to performance standards show whether objectives have been achieved or adaptive actions are needed.

References

Williams, B.K., R.C. Szaro, and C.D. Shapiro. 2007. Adaptive Management: The U.S. Department of the Interior Technical Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC.

Appendix G

Dam Failure Inundation Maps

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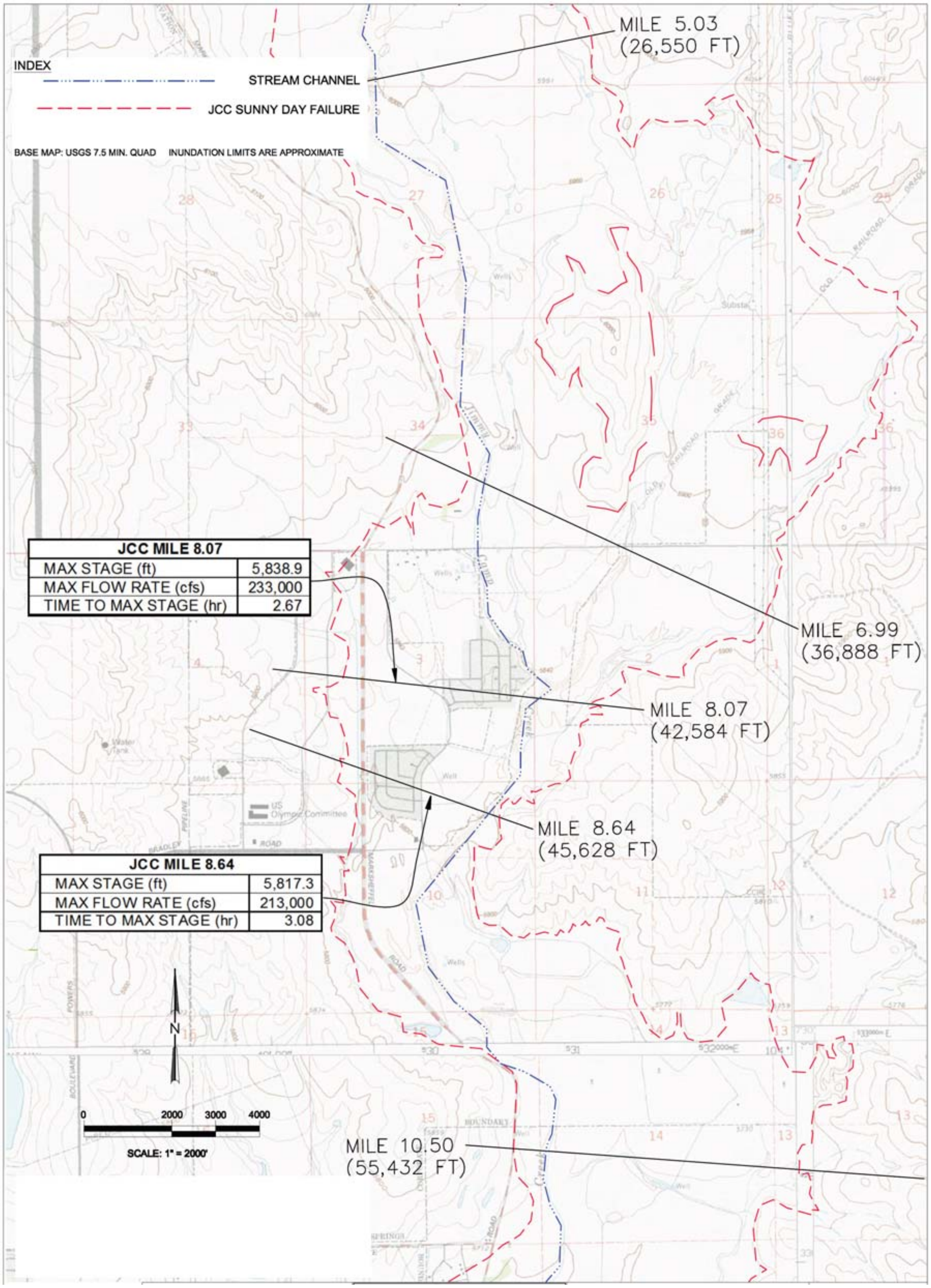


Figure G-1. Dam Failure Inundation Area near Colorado Centre Metropolitan District.
Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.

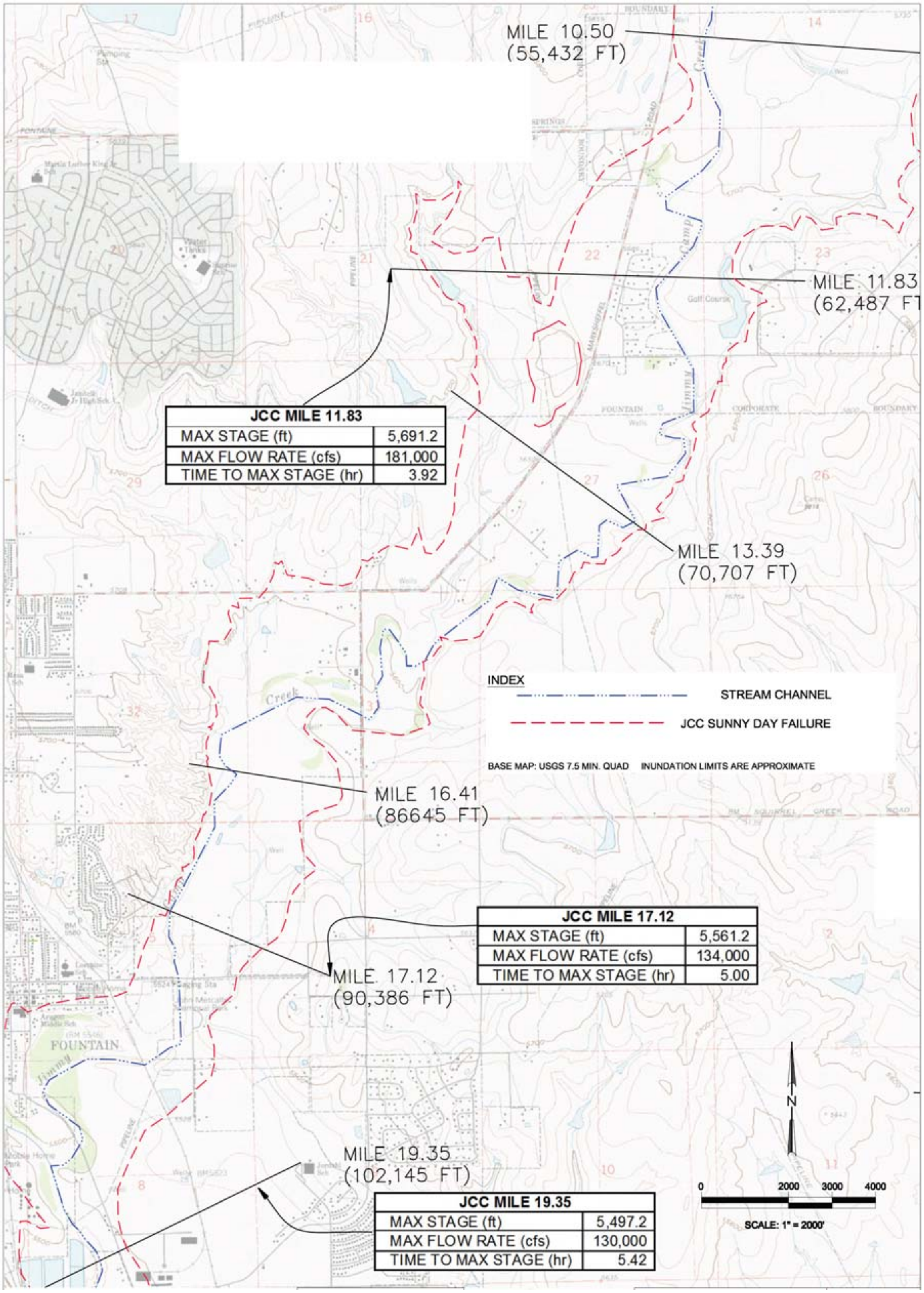


Figure G-2. Dam Failure Inundation Area near East Side of City of Fountain.
Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.

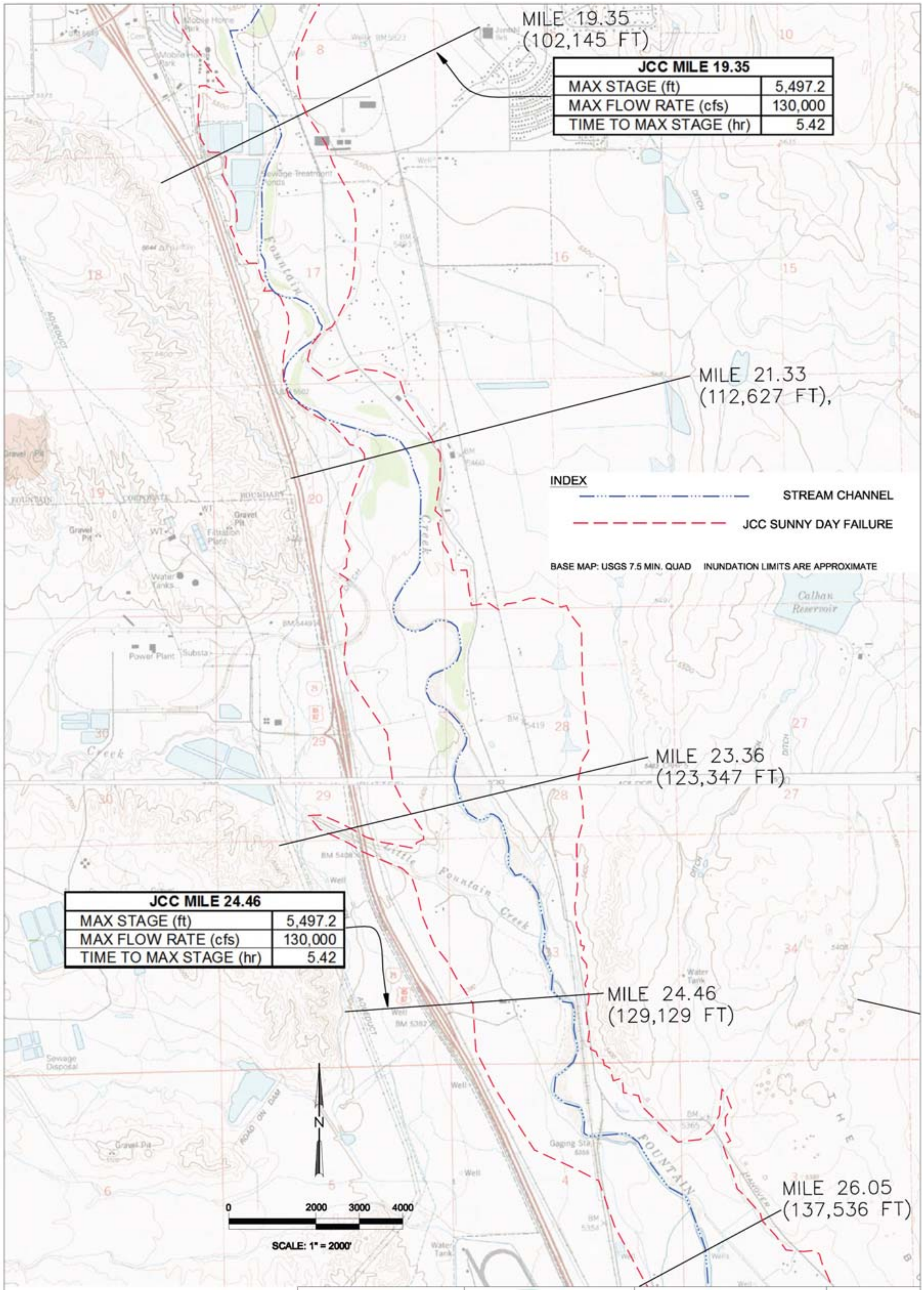
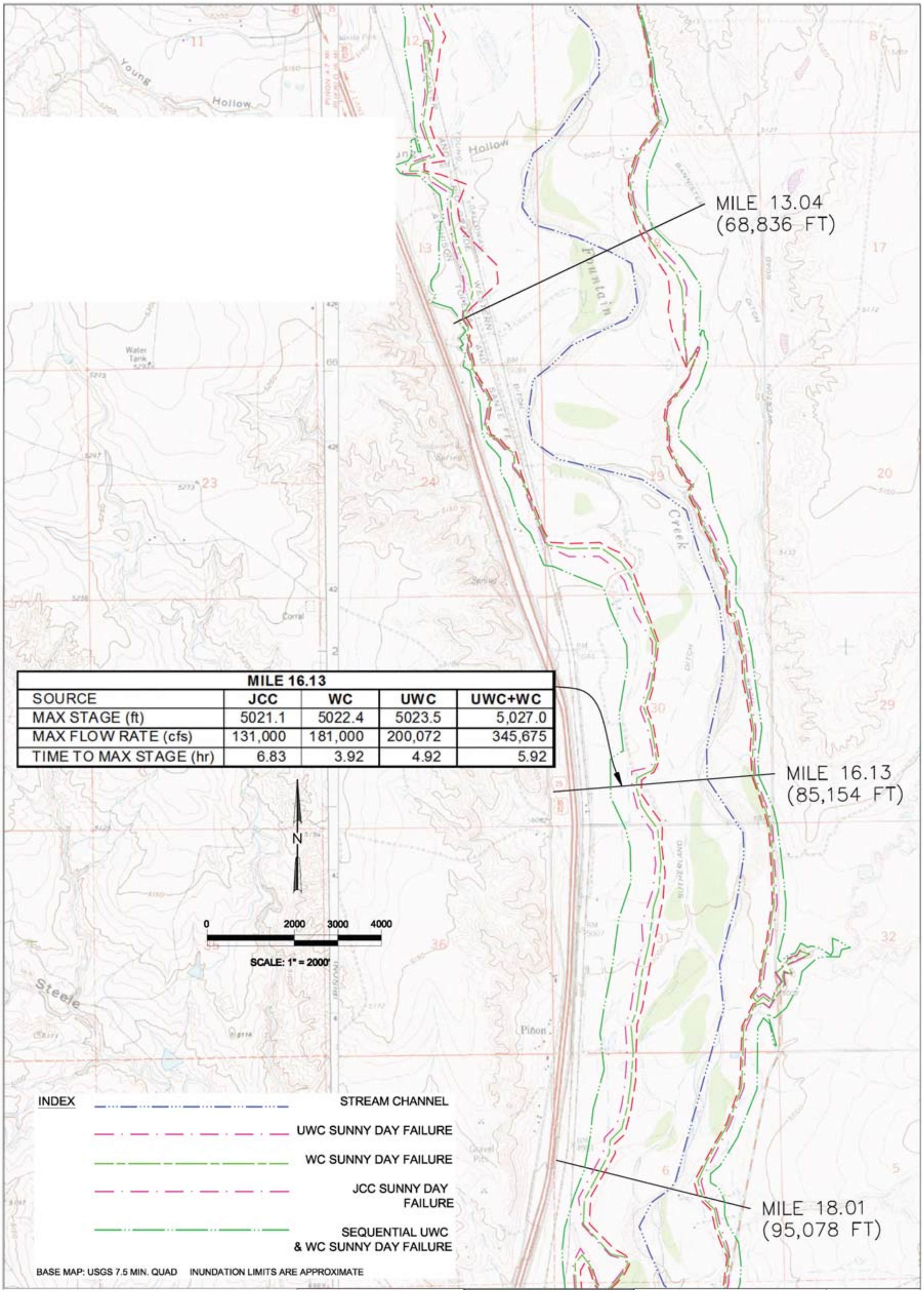
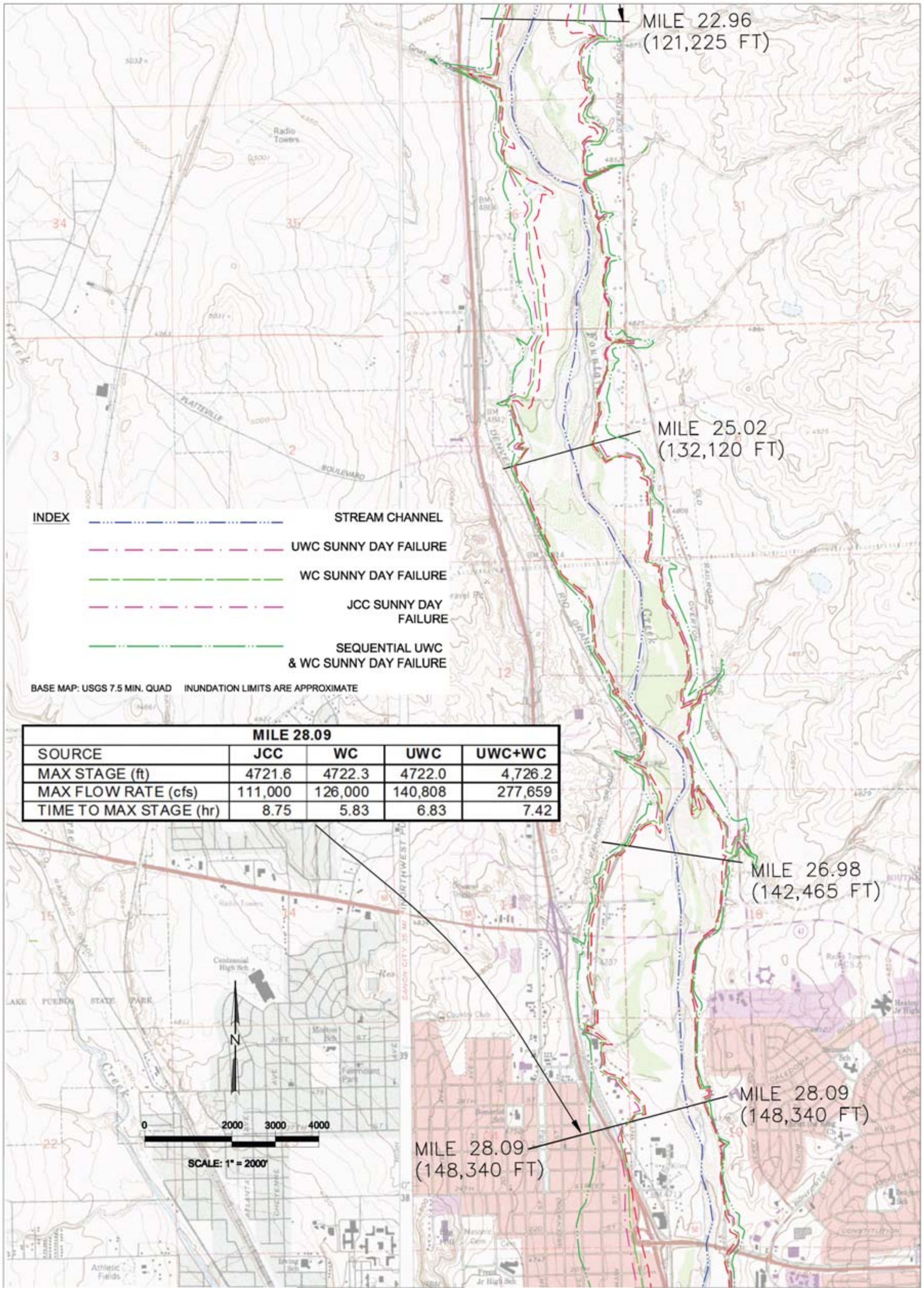


Figure G-3. Dam Failure Inundation Area near South Side of City of Fountain.
Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.



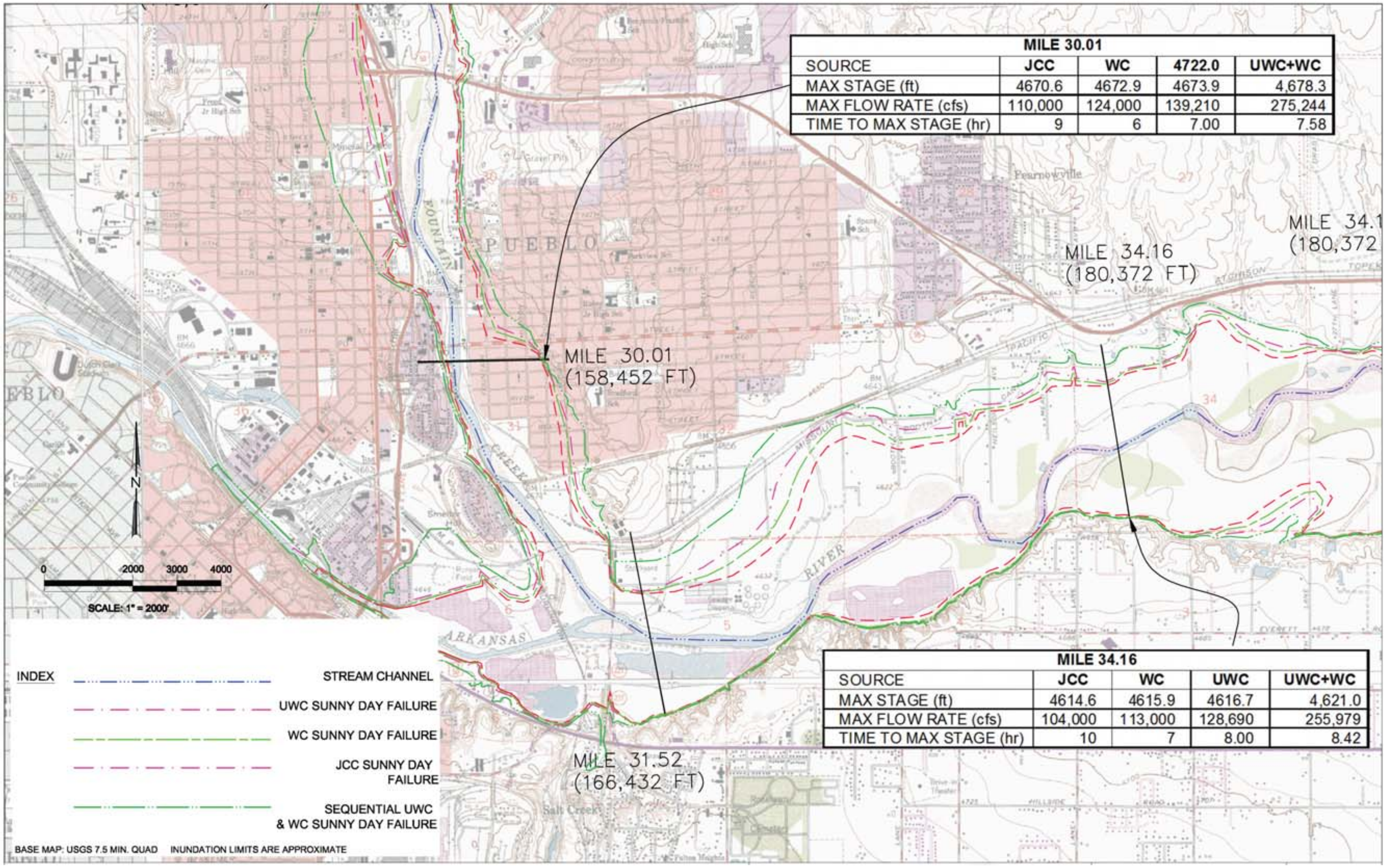
MILE 16.13				
SOURCE	JCC	WC	UWC	UWC+WC
MAX STAGE (ft)	5021.1	5022.4	5023.5	5,027.0
MAX FLOW RATE (cfs)	131,000	181,000	200,072	345,675
TIME TO MAX STAGE (hr)	6.83	3.92	4.92	5.92

Figure G-4. Dam Failure Flood Inundation Map near Town of Piñon.
Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.



MILE 28.09				
SOURCE	JCC	WC	UWC	UWC+WC
MAX STAGE (ft)	4721.6	4722.3	4722.0	4,726.2
MAX FLOW RATE (cfs)	111,000	126,000	140,808	277,659
TIME TO MAX STAGE (hr)	8.75	5.83	6.83	7.42

Figure G-5. Dam Failure Inundation Area near North Side of City of Pueblo.
Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.



MILE 30.01				
SOURCE	JCC	WC	4722.0	UWC+WC
MAX STAGE (ft)	4670.6	4672.9	4673.9	4,678.3
MAX FLOW RATE (cfs)	110,000	124,000	139,210	275,244
TIME TO MAX STAGE (hr)	9	6	7.00	7.58

MILE 34.16				
SOURCE	JCC	WC	UWC	UWC+WC
MAX STAGE (ft)	4614.6	4615.9	4616.7	4,621.0
MAX FLOW RATE (cfs)	104,000	113,000	128,690	255,979
TIME TO MAX STAGE (hr)	10	7	8.00	8.42

Figure G-6. Dam Failure Inundation Area for City of Pueblo.

Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.

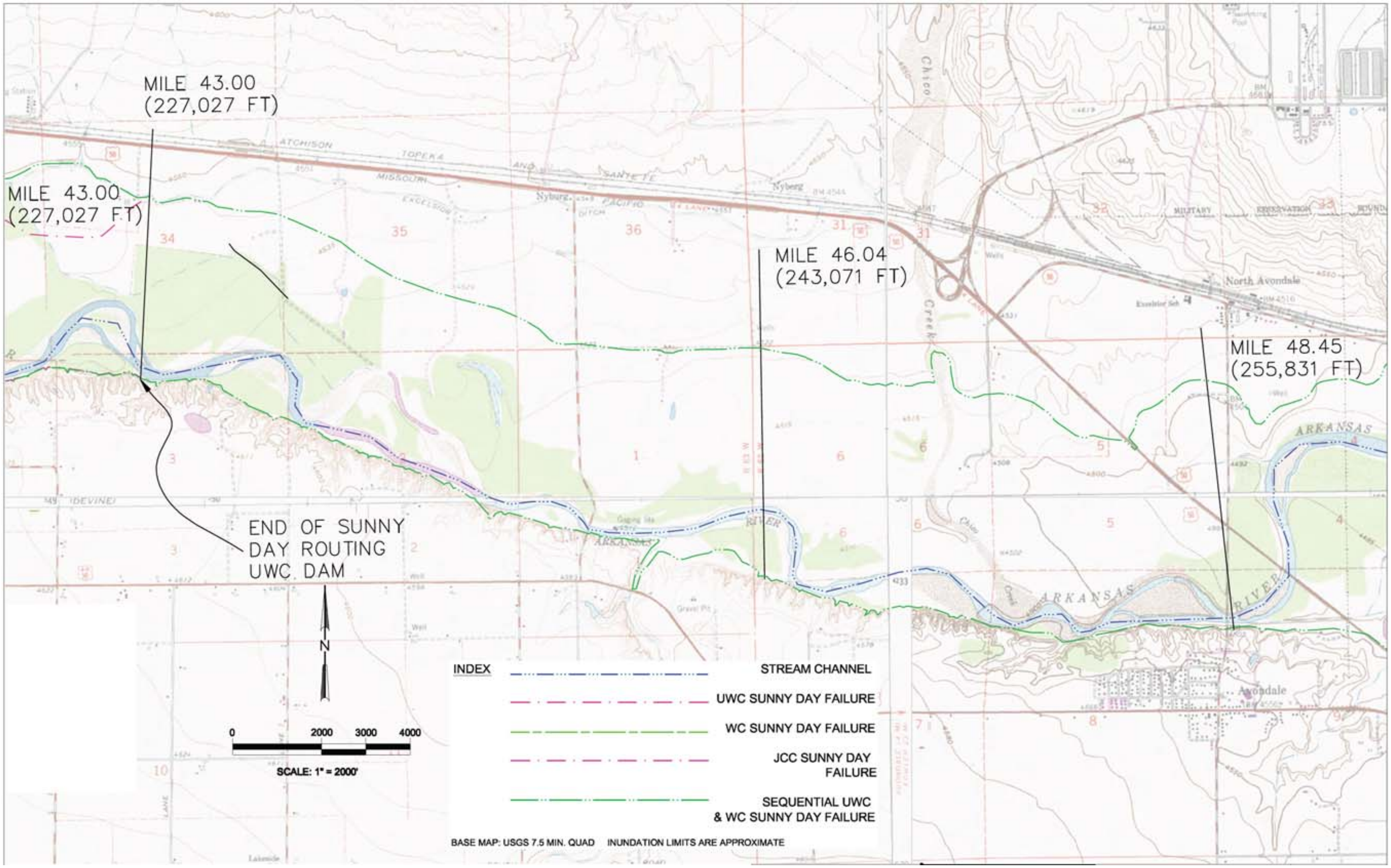


Figure G-7. Dam Failure Inundation Area near Town of Avondale.

Source: CH2M HILL. 2008. Summary of Sunny Day Dam-Failure Inundation Limits for Jimmy Camp Creek, Upper Williams Creek and Williams Creek Dams, Southern Delivery System. Technical Memorandum 6-E.6.7. Prepared for Colorado Springs Utilities. September 15.

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Appendix H

List of Potentially Affected Parcels

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Potentially Affected Parcels in Chaffee County

*Chaffee County parcel data was obtained from the Chaffee County Assessor's Office, and is current as of November 25, 2008.					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
ANDERSON	ERIC W	37998 BUFFALO CREEK RD	BUENA VISTA, CO 81211	300935200016	Y	UTIL1	N		N		N		N		N		Y	UTIL7
BLM		2850 YOUNGFIELD ST	LAKEWOOD,CO,80215-7093	300909300820	Y	AO Intake PS, UTIL1	N		N		N		N		N		Y	AO Intake PS, UTIL7
BLOUNT	JOHN & BARBARA	511 CASTLE PINON DRIVE S	CASTLE ROCK, CO 80109	300909300826	Y	UTIL1	N		N		N		N		N		Y	UTIL7
CITY OF PUEBLO		1 CITY HALL PL	PUEBLO, CO, 81003	300907200007	Y	AO Intake PS	N		N		N		N		N		Y	AO Intake PS
D & M RESORT MINISTRY LLC		5871 SOUTH COLORADO BLVD	GREENWOODVILLAGE, CO 80122	300909300827	Y	UTIL1	N		N		N		N		N		Y	UTIL7
FERRIS	ROBERT & KATHLEEN	P O BOX 292	BUENA VISTA, CO 81211	300927100022	Y	UTIL1	N		N		N		N		N		Y	UTIL7
FERRIS/FERRIS	JOHN-JAMES/ROBERT-CHRISTOPHER	PO BOX 292	BUENA VISTA, CO 81211	300927100008	Y	UTIL1	N		N		N		N		N		Y	UTIL7
MASON	RONALD	99 S DOWNING NO 204	DENVER, CO,80209	300908100805	Y	AO Intake PS, UTIL1	N		N		N		N		N		Y	AO Intake PS, UTIL7
MILAM FAMILY TR, WILLIAM T SR CARL S CO TRTEES	C/O BANK OF OKLAHOMA	9520 N MAY ST STE 200	OKLAHOMA CITY, OK 73120	300922200809	Y	UTIL1	N		N		N		N		N		Y	UTIL7
NELSON	REGINA C, WILLIAM & DOROTHEA C	1350 ORCHARD ST	GOLDEN, CO 80401	300935200007	Y	UTIL1	N		N		N		N		N		Y	UTIL7
SEETON FAMILY PROPERTIES LLC		503 PELICAN COVE	WINDSOR, CO 80550	300909300804	Y	UTIL1	N		N		N		N		N		Y	UTIL7
STATE OF COLORADO		615 MACON AVE #108	DENVER, CO, 80203-2283	NO ASSESSOR INFO	Y	UTIL1	N		N		N		N		N		Y	UTIL7
TAYLOR FERN ELIZABETH 2006 GST, TAYLOR TED H TRUSTEE		2680 SE CR 0070	CORSICANA, TX 75109	300935200015	Y	UTIL1	N		N		N		N		N		Y	UTIL7
UNITED STATES OF AMERICA	C/O GENERAL SERVICES ADMIN		WASHINGTON, DC, 20405-0001	300922800810	Y	UTIL1	N		N		N		N		N		Y	UTIL7
USDA Forest Service - Pike & San Isabel National Forests/Cimarron & Comanche National Grasslands		2840 Kachina Drive	Pueblo, CO 81008	D ASSESSOR INI	Y	UTIL1	N		N		N		N		N		Y	UTIL7

Legend:
UTILx - Utility Line + Alternative No.
ARK-OTERO INTAKE/PS - Ark-Otero Intake Pump Station

Potentially Affected Parcels in El Paso County

***El Paso County parcel data current as of October 17, 2008. The Colorado Springs Utilities' Facilities Information Mapping System (FIMS) GIS data was updated using the El Paso County Assessor's website as of date shown above.**

					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
1005 N SANTA FE LLC		PO BOX 26566	COLORADO SPRINGS, CO, 80936	5531400018	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
1999 ROEDIGER FAMILY TRUST		206 E VIRGINIA AVE	PHOENIX, AZ, 85004	7600000194	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
ACADEMY SCHOOL DISTRICT 20		1110 CHAPEL HILLS DR	COLORADO SPRINGS, CO, 80920-3923	6222401001	Y	RW1	N		N		N		N		N		N	
ACADEMY SCHOOL DISTRICT 20		1110 CHAPEL HILLS DR	COLORADO SPRINGS, CO, 80920-3923	6200000530	Y	RW1	N		N		N		N		N		N	
ACADEMY SCHOOL DISTRICT 20		1110 CHAPEL HILLS DR	COLORADO SPRINGS, CO, 80920-3923	6225301002	Y	RW1	N		N		N		N		N		N	
ADAMS	GEORGE W & INGEBORG H	3146 BRECKENRIDGE DR W	COLORADO SPRINGS, CO, 80906	6432401021	N		N		Y	RF3	Y	RF4	N		N		N	
ADVANCED R V & SELF STORAGE LLP		4380 RUBY DR	COLORADO SPRINGS, CO, 80918	5405001004	N		Y	FW2	Y	FW3	N		N		N		N	
AE94 LLC		5150 E YALE CIR # 400	DENVER, CO, 80222	5400000174	Y	FW1	Y	RW2	Y	RW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
AGNER	MARY J	10835 SHUMWAY RD	FOUNTAIN, CO, 80817	5610000008	Y	RW1, RF1	N		N		N		N		N		Y	RW7, RF7
AHL FOUNDATION		13794 W KENTUCKY DR	DENVER, CO, 80228	5300000226	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
AHL FOUNDATION		13794 W KENTUCKY DR	DENVER, CO, 80228	5300000245	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
AHL FOUNDATION		13794 W KENTUCKY DR	DENVER, CO, 80228	5300000411	Y	FW1	N		N		Y	FW4	Y	FW5	Y	FW6	Y	FW7
AJAVON	AYITE J	5385 BARNSTORMERS AVE	COLORADO SPRINGS, CO, 80911	6501201197	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
ALCANTAR	LUIS A JR	4909 BLACK VULTURE GRV	COLORADO SPRINGS, CO, 80916	6436317138	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
ALEXANDER	MARK L/SUSAN G	5667 CROSS CREEK DR	COLORADO SPRINGS, CO, 80924	6236407090	Y	RW1	N		N		N		N		N		N	
ALLMENDINGER	ROSE MARY	2485 HITCH RACK RANCH RD	COLORADO SPRINGS, CO, 80926	7600000097	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
ALLMENDINGER	ROSE MARY	2485 HITCH RACK RANCH RD	COLORADO SPRINGS, CO, 80926	7600000137	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
ALLMENDINGER	ROSE MARY	2485 HITCH RACK RANCH RD	COLORADO SPRINGS, CO, 80926	7615000006	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
ALLUM	DESMOND M/ISABEL A	8734 QUINN PT	COLORADO SPRINGS, CO, 80924-8156	6236407094	Y	RW1	N		N		N		N		N		N	
ANDERSON	EVELYN H/JOHN C/DAVID B	7440 ANTELOPE LN	COLORADO SPRINGS, CO, 80920-3605	6309001003	Y	RW1	N		N		N		N		N		N	
ANDERSON	LAWRENCE	3430 WHIMBREL LN	COLORADO SPRINGS, CO, 80906	6432409003	N		N		Y	RF3	Y	RF4	N		N		N	
ANDERSON FAMILY PARTNERSHIP RLLLP		390 HIDDEN CREEK DR	COLORADO SPRINGS, CO, 80906	5530000017	Y	RW1, RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
ANDREWS	PHILLIP D	1515 SWEETBRIAR CIR	COLORADO SPRINGS, CO, 80906	6432402020	N		N		Y	RF3	Y	RF4	N		N		N	
APPLETREE 220 LLC		20 BOULDER CRESCENT ST	COLORADO SPRINGS, CO, 80903	5500000090	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
ARGOS	GEORGE & TINA	5390 PARK VISTA BLVD	COLORADO SPRINGS, CO, 80918	5321001008	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
ARGOS	GEORGE & TINA	5390 PARK VISTA BLVD	COLORADO SPRINGS, CO, 80918	5321001009	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
ARONSON	PETER/SONIK	8053 WINDING PASSAGE DR	COLORADO SPRINGS, CO, 80924-8108	6301113035	Y	RW1	N		N		N		N		N		N	
ATMEL CORP		1150 E CHEYENNE MOUNTAIN BLVD	COLORADO SPRINGS, CO, 80906	6432203011	N		N		Y	RF3	Y	RF4	N		N		N	
AURORA LOAN SERVICES LLC		10350 PARK MEADOWS DR	LITTLETON, CO, 80124	5617004001	Y	RW1	N		N		N		N		N		Y	RW7
AVERY OIL & GAS LLLP		14065 ROLLER COASTER RD	COLORADO SPRINGS, CO, 80921	5405001001	N		Y	FW2	Y	FW3	N		N		N		N	
B L R RANCH LLC		16 HEATHER DR	COLORADO SPRINGS, CO, 80906	5400000222	Y	FW1	Y	RW2	Y	RW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BAGAPORO	MARIA T C	5410 CONSTITUTION CT	COLORADO SPRINGS, CO, 80915	6432402021	N		N		Y	RF3	Y	RF4	N		N		N	
BAKER	DWANE E/CYNTHIA D	12505 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3701	5617003013	Y	RW1	N		N		N		N		N		N	
BAKER	GEORGE E + MARY M	13475 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3706	5600000145	Y	RW1	N		N		N		N		N		N	
BAN LLC		1816 N MARKSHEFFEL RD	COLORADO SPRINGS, CO, 80951	5405000006	N		Y	FW2	Y	FW3	N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000241	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5400000179	Y	FW1	Y	RW2	Y	RW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5400000180	Y	FW1	Y	RW2	Y	RW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7

Potentially Affected Parcels in El Paso County

***El Paso County parcel data current as of October 17, 2008. The Colorado Springs Utilities' Facilities Information Mapping System (FIMS) GIS data was updated using the El Paso County Assessor's website as of date shown above.**

					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5300000276	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000289	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000304	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5300000307	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CO, 92660-2070	5300000314	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000326	Y	RW1, FW1, FW NORTHFIELD BOOSTER PS	N		N		Y	FW4, FW NORTHFIELD BOOSTER PS	Y	FW5, FW NORTHFIELD BOOSTER PS	Y	FW6, FW NORTHFIELD BOOSTER PS	Y	FW7, FW NORTHFIELD BOOSTER PS
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5300000534	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5300000537	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5300000557	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5300000559	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000560	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000561	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000591	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000605	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000606	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5300000607	Y	RW1	N		N		N		N		N		N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5400000253	Y	RW1	Y	RW2	Y	RW3	Y	RW4, DRENNAN PS	Y	DRENNAN PS	Y	RW6, DRENNAN PS	Y	RW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5400000254	N		N		N		Y	DRENNAN PS	Y	DRENNAN PS	Y	DRENNAN PS	N	
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5400000255	Y	FW1	N		N		Y	FW4	Y	FW5	Y	FW6	Y	FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5400000258	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5400000259	Y	RW1, FW1	Y	RW2	Y	RW3	Y	RW4, FW4	Y	FW5	Y	RW6, FW6	Y	RW7, FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660-2070	5400000260	Y	JCCR1, FW1	N		N		Y	JCCR4, FW4	Y	JCCR5, FW5	Y	JCCR6, FW6	Y	JCCR7, FW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5500000225	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
BANNING LEWIS RANCH COMPANY LLC		4100 MACARTHUR BLVD STE 100	NEWPORT BEACH, CA, 92660	5500000291	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201188	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201194	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201195	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201196	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201198	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201201	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BARNSTORMERS LANDING LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6501201202	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAN	GRACE E	12450 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3545	5600000116	Y	RW1	N		N		N		N		N		Y	RW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317152	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317153	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317154	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7

Potentially Affected Parcels in El Paso County

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					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317155	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317156	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317157	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317158	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317159	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317160	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317161	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317162	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317163	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317164	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317165	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317166	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317167	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317168	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317169	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317170	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317171	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317172	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317173	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317174	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317175	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317176	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BEAZER HOMES HOLDINGS CORP		8310 S VALLEY HWY STE 100	ENGLEWOOD, CO, 80112	6436317177	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
BECKETT	TED & AUDREY	104 S CASCADE AVE STE 201	COLORADO SPRINGS, CO, 80903	6525000010	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
BENNETT	RICHARD M	7641 INDIAN VILLAGE HTS	PUEBLO, CO, 81008	5732001002	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
BENNETT	RICHARD M	7641 INDIAN VILLAGE HTS	PUEBLO, CO, 81008	5732001003	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
BIERLEY	EUGENIA M	12785 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3715	5621001002	Y	RW1	N		N		N		N		N		N	
BIRKENESS	DIANE L & THOMAS J	3375 TURKEY CANON RANCH RD	COLORADO SPRINGS, CO, 80926	7600000196	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
BLACK FOREST CONGREGATION OF JEHOVAHS WITNESSES		5501 CALVERT CREEK DR	COLORADO SPRINGS, CO, 80924	5304003011	Y	RW1	N		N		N		N		N		N	
BLACK HILLS FOUNTAIN VLY II LLC		350 INDIANA ST STE 400	GOLDEN, CO, 80401	5720007003	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
BLAIR	RONALD D	2945 LITTLE TURKEY CREEK RD	COLORADO SPRINGS, CO, 80926	7615000004	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
BLAKE	FRANCIS S JR	1410 TAMARISK DR	COLORADO SPRINGS, CO, 80906	6432409006	N		N		Y	RF3	Y	RF4	N		N		N	
BOND	DAVID W/CHRISTIE A/JAMES A/RUTH A	4877 ALBERTA FALLS W	COLORADO SPRINGS, CO, 80924	6225201010	Y	RW1	N		N		N		N		N		N	
BONFADINI	BERNADINE R	21290 EL ROCIO VW	PUEBLO, CO, 81008	5732008010	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
BORDEN	CHARLES L & HATSUME	641 DEXTER ST	COLORADO SPRINGS, CO, 80911	5523003004	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
BOW	MARSHA M/DENNIS	12402 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3545	5600000091	Y	RW1	N		N		N		N		N		Y	RW7
BRADLEY	JOHN J & ELAINE M	4050 OLD RANCH RD	COLORADO SPRINGS, CO, 80908-3751	6225100001	Y	RW1	N		N		N		N		N		N	

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Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
BROADACRE LANDFILL INC		7770 PALMER PARK BLVD	COLORADO SPRINGS, CO, 80951	5600000130	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	RW5	Y	RW6	Y	RW7
BRODERICK & GIBBONS INC		10170 CHURCH RANCH WAY UNIT 200	BROOMFIELD, CO, 80021	5600000108	Y	RW1	Y	TANK	Y	TANK	Y	TANK	Y	TANK	Y	TANK	Y	TANK
BUCK	HENRY P	5 SOUTH PARK	UNIVERSAL CITY, TX, 78148	7705002008	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
BUSY CORNER PROPERTY MGMT & TRUST		PO BOX 64142	SAINT PAUL, MN, 55164	5400000008	Y	RW1, FW1	Y	RW2	Y	RW3	Y	RW4, FW4	Y	FW5	Y	RW6, FW6	Y	RW7, FW7
C & M PROPERTIES LLC		1676 PINON GLEN CIR	COLORADO SPRINGS, CO, 80919	5321002001	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
CALHOUN	JAMES M JR	1085 E OHIO AVE	FOUNTAIN, CO, 80817	5604004001	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CAMPBELL HOMES LLC		4850 AUSTIN BLUFFS PKWY	COLORADO SPRINGS, CO, 80918-5069	6225306013	Y	RW1	N		N		N		N		N		N	
CAMPBELL HOMES LLC		4850 AUSTIN BLUFFS PKWY	COLORADO SPRINGS, CO, 80918-5069	6225307004	Y	RW1	N		N		N		N		N		N	
CAMPBELL REAL ESTATE INVEST LLC		4850 AUSTIN BLUFFS PKWY	COLORADO SPRINGS, CO, 80918-5069	6225307002	Y	RW1	N		N		N		N		N		N	
CAPE SLOVER TRUSTEE		306 W KINGS RD	ADA, OK, 74820	4500000005	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
CARROLL	SARAJANE M	1510 SWEETBRIAR CIR	COLORADO SPRINGS, CO, 80906	6432402017	N		N		Y	RF3	Y	RF4	N		N		N	
CAVAZOS	ABRAHAM H	3421 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317147	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
CHADIMA	JOSEPH T & JANE G	900 POND TER	FOUNTAIN, CO, 80817	5605200028	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CHARGUALAF	ARTURO B & WALTRAUD M	1214 EASTMEADOW DR	COLORADO SPRINGS, CO, 80906	6505207002	N		N		Y	RF3	Y	RF4	N		N		N	
CHENARD	ARMAND Y	5449 BARNSTORMERS AVE	COLORADO SPRINGS, CO, 80911	6501201189	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
CHILCOTT DITCH CO		10465 R E A RD	FOUNTAIN, CO, 80817	5605404032	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CHILCOTT DITCH CO		10465 R E A RD	FOUNTAIN, CO, 80817	5605404040	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CHILCOTT DITCH CO		10465 R E A RD	FOUNTAIN, CO, 80817	5609205034	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CHILCOTT DITCH CO		10465 R E A RD	FOUNTAIN, CO, 80817	5609205003	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CHILCOTT DITCH CO		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5606108030	Y	RF1	Y	RF2	N		N		Y	RF5	N		Y	RF7
CHILCOTT DITCH CO		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5606118018	Y	RF1	Y	RF2	N		N		Y	RF5	N		Y	RF7
CHILD	QUINN H/CHERI L	8710 QUINN PT	COLORADO SPRINGS, CO, 80924-8156	6236407091	Y	RW1	N		N		N		N		N		N	
CHISNELL BRUCE H		11340 VALLE VERDE DR	COLORADO SPRINGS, CO, 80926	7610001002	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
CHRIS MARC CHAD LLC		111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	6236400021	Y	RW1	N		N		N		N		N		N	
CHRIST CHURCH OF COLO SPRINGS		2864 S CIRCLE DR STE 312	COLORADO SPRINGS, CO, 80906	6500000183	N		N		Y	RF3	Y	RF4	N		N		N	
CHRIST COVENANT CHURCH INC		1615 E CHEYENNE RD	COLORADO SPRINGS, CO, 80906	6505300013	N		N		Y	RF3	Y	RF4	N		N		N	
CHURCH FOR ALL NATIONS INC		6540 TEMPLETON GAP RD	COLORADO SPRINGS, CO, 80923-1268	5400000236	Y	RW1, FW1	N		N		Y	FW4	Y	FW5	Y	FW6	Y	FW7
CLARK HANNA INC		1610 HOVER RD STE 203	LONGMONT, CO, 80501	5700000001	N		Y	RW2	Y	RW3	Y	RW4	Y	RF5	Y	RW6	N	
CLARK	JAMES L	13055 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3729	5621000001	Y	RW1	N		N		N		N		N		N	
CLARK HANNA INC		1610 HOVER RD STE 203	LONGMONT, CO, 80501-2461	5700000151	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
CLARY	THOMAS W & LORI A	13270 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3700	5600000090	Y	RW1	N		N		N		N		N		N	
CODY COMPANY		3773 CHERRY CREEK NORTH DR # 680	DENVER, CO, 80209	6432400022	N		N		Y	RF3	Y	RF4	N		N		N	
COKE	JAMES	202 COMANCHE VILLAGE DR	FOUNTAIN, CO, 80817	5531409010	Y	RW1, RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
COLORADO DISTRICT OF THE CHURCH		1615 E CHEYENNE RD	COLORADO SPRINGS, CO, 80905	6429101004	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO REAL ESTATE COMPANY		18950 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7700000088	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
COLORADO SPRINGS CITY OF		107 N NEVADA AVE	COLORADO SPRINGS, CO, 80903-1305	5600000098	Y	RW1	N		N		N		N		N		Y	RW7
COLORADO SPRINGS CITY OF		107 N NEVADA AVE	COLORADO SPRINGS, CO, 80903-1305	6304400011	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-3604	5300000124	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-1802	5300000141	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-3604	5300000170	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7

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COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	5400000211	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-1802	6225101001	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-1802	6234101018	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-1802	5400000270	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	5500000240	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	5600000123	Y	RW1, WCR1	Y	RW2, WCR2, WC PS	Y	RW3, WC PS	Y	RW4, WC PS	Y	WCR5, WC PS	Y	RW6, WCR6 ,WC PS	Y	RW7, WCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-1802	6304400022	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	6505300010	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	6507100004	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	6507400007	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE	COLORADO SPRINGS, CO, 80903	6507400014	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE # 403	COLORADO SPRINGS, CO, 80903-1802	5300000200	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE # 701	COLORADO SPRINGS, CO, 80903-1802	5300000127	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE # 701	COLORADO SPRINGS, CO, 80903-1802	5300000322	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE # 701	COLORADO SPRINGS, CO, 80903-1802	5300000472	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 401	COLORADO SPRINGS, CO, 80903	6420301019	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 403	COLORADO SPRINGS, CO, 80903-1802	5300000349	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-3604	5308002009	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	5400000045	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	6234301025	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	5300000315	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	5300000457	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	5300000513	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	5300000515	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	5306003006	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903-1802	6236407136	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		30 S NEVADA AVE STE 701	COLORADO SPRINGS, CO, 80903	6501201209	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		8 S NEVADA AVE	COLORADO SPRINGS, CO, 80903-1802	5400000238	Y	JCCR1, FW1	N		N		Y	JCCR4, FW4	Y	JCCR5, FW5	Y	JCCR6, FW6	Y	JCCR7, FW7
COLORADO SPRINGS CITY OF		8 S NEVADA AVE STE 410	COLORADO SPRINGS, CO, 80903-1817	6301401005	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		8 S NEVADA AVE STE 410	COLORADO SPRINGS, CO, 80903	5600000140	Y	RW1, WCR1	Y	RW2, WCR2	Y	RW3	Y	RW4	Y	WCR5	Y	RW6, WCR6	Y	RW7, WCR7
COLORADO SPRINGS CITY OF		8 S NEVADA AVE STE 410	COLORADO SPRINGS, CO, 80903-1817	6301400004	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		8 S NEVADA AVE STE 410	COLORADO SPRINGS, CO, 80903-1817	6301401006	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		CITY HALL	COLORADO SPRINGS, CO, 80903	6432400012	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1103	COLORADO SPRINGS, CO, 80903	5400000261	Y	JCCR1	N		N		Y	JCCR4	Y	JCCR5	Y	JCCR6	Y	JCCR7
COLORADO SPRINGS CITY OF		PO BOX 1103	COLORADO SPRINGS, CO, 80901-1103	5400000262	Y	RW1, FW1	N		N		Y	RW4, FW4	Y	FW5	Y	RW6, FW6	Y	RW7, FW7
COLORADO SPRINGS CITY OF		PO BOX 1103	COLORADO SPRINGS, CO, 80901	5600000150	Y	RW1	N		N		N		N		N		Y	RW7, RF7
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	4600000041	Y	WCR1	Y	WCR2	N		N		Y	WCR5	Y	WCR6	Y	WCR7
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901-1575	6225301001	Y	RW1	N		N		N		N		N		N	

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Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901-1575	6301212041	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901-1575	6301400002	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901-1575	6304412148	Y	RW1	N		N		N		N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6420300015	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6436400004	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6436411001	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	4500000098	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901-1575	5600000095	Y	RW1	N		N		N		N		N		Y	RW7
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6429200048	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6436400005	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS CITY OF		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6436400006	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
COLORADO SPRINGS EQUITIES LLC		90 S CASCADE AVE STE 1500	COLORADO SPRINGS, CO, 80903	6500000135	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS LAND ASSOC		518 17TH ST STE 1500	DENVER, CO, 80202	5400000243	N		Y	RW2, FW2	Y	RW3, FW3	N		N		N		N	
COLORADO SPRINGS UTILITIES		PO BOX 1575	COLORADO SPRINGS, CO, 80901	6517301001	N		N		Y	RF3	Y	RF4	N		N		N	
COLORADO SPRINGS WORLD ARENA		10 LAKE CIR	COLORADO SPRINGS, CO, 80906	6432400021	N		N		Y	RF3	Y	RF4	N		N		N	
COMPASS CAPITAL GROUP LLC		PO BOX 5061	CAREFREE, AZ, 85377-5061	6235116001	Y	RW1	N		N		N		N		N		N	
COMPASS CAPITAL GROUP LLC		PO BOX 5061	CAREFREE, AZ, 85377-5061	6236206001	Y	RW1	N		N		N		N		N		N	
CONTINENTAL 140 FUND LLC		W134N8675 EXECUTIVE PKWY	MENOMONEE FALLS, WI, 53051-3310	6226402004	Y	RW1	N		N		N		N		N		N	
CONTINENTAL 140 FUND LLC		W134N8675 EXECUTIVE PKWY	MENOMONEE FALLS, WI, 53051-3310	6226402005	Y	RW1	N		N		N		N		N		N	
COOPER	MARION BEN	5501 COUNTY RD 98	FLORISSANT, CO, 80816	7705003039	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
CORNWALL LLC		1355 QUAIL LAKE LOOP	COLORADO SPRINGS, CO, 80906	6432101003	N		N		Y	RF3	Y	RF4	N		N		N	
CORUNDUM PROPERTIES V LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	5600000153	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	RW5	Y	RW6	Y	RW7
CREEKSIDE PARTNERS LLP		1375 RANGELY DR	COLORADO SPRINGS, CO, 80921-2693	6220107005	Y	RW1	N		N		N		N		N		N	
CREEKSIDE PARTNERS LLP		1375 RANGELY DR	COLORADO SPRINGS, CO, 80921-2693	6220107005	Y	RW1	N		N		N		N		N		N	
CREEKSIDE PARTNERS LLP		1375 RANGELY DR	COLORADO SPRINGS, CO, 80921-2693	6220107007	Y	RW1	N		N		N		N		N		N	
CREEKSTONE DEVELOPMENT INC DBA		6775 RANGEWOOD DR # 110	COLORADO SPRINGS, CO, 80918	6501201191	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
CREEKSTONE DEVELOPMENT INC DBA		6775 RANGEWOOD DR # 110	COLORADO SPRINGS, CO, 80918	6501201192	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
CREEKSTONE DEVELOPMENT INC DBA		6775 RANGEWOOD DR # 110	COLORADO SPRINGS, CO, 80918	6501201193	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
CROOKSTON	JOSEPH A JANICE K	4891 ALBERTA FALLS WAY	COLORADO SPRINGS, CO, 80924	6225201009	Y	RW1	N		N		N		N		N		N	
CROUSE	WILLIAM E	1201 N EL PASO ST	FOUNTAIN, CO, 80817	5606100022	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000287	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000313	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000314	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000315	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000316	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000317	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000318	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7

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CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000319	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000320	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CS 2005 INVESTMENTS LLC		4908 TOWER RD	DENVER, CO, 80249	5500000321	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
CUMBERLAND GREEN METRO DISTRICT		407 S TEJON ST	COLORADO SPRINGS, CO, 80903	5604207009	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
CYGNET LAND LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5404200003	N		Y	FW2	Y	FW3	N		N		N		N	
CYGNET LAND LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5417000001	N		Y	RW2	Y	RW3	N		N		N		N	
CYGNET LAND LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5400000268	N		Y	FW2	Y	RW3	N		N		N		N	
D & C LLC	C/O JOHN DONOHUE	345 WINDY HILL LN	FORT WORTH, TX, 76108	5609300009	Y	RW1	N		N		N		N		N		Y	RW7
DENMAN INVESTMENT CORP		388 W 8TH AVE STE 201	VANCOUVER, BC, V5Y 3X2	6500000201	N		N		Y	RF3	Y	RF4	N		N		N	
DENMAN INVESTMENT CORP		388 W 8TH AVE STE 201	VANCOUVER, BC, V5Y 3X2	6500000206	N		N		Y	RF3	Y	RF4	N		N		N	
DICKEY	SIDNEY C EST OF	13650 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7700000033	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
DILTS	JOHN	PO BOX 707	DOUGLAS, WY, 82633-0707	5617001007	Y	RW1	N		N		N		N		N		Y	RW7
DILTS	JOHN	PO BOX 707	DOUGLAS, WY, 82633-0707	5617002001	Y	RW1	N		N		N		N		N		Y	RW7
DILTS JOHN C LTD PARTNERSHIP		PO BOX 707	DOUGLAS, WY, 82633-0707	5617002018	Y	RW1	N		N		N		N		N		Y	RW7
DIXON	SCOTT J	PO BOX 6099	COLORADO SPRINGS, CO, 80934	7705003038	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
DODSON	DAVID R	20407 BEAR RD	LEANDER, TX, 78645	7600000249	N		N		Y	RF3	Y	RF4	N		N		N	
DOMMER	RICKEY E	4933 BLACK VULTURE GRV	COLORADO SPRINGS, CO, 80916	6436317134	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
DOVE	MORKEY L	3411 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317146	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
DUNBAR	LAWRENCE C	15625 RANCHO PAVO DR	COLORADO SPRINGS, CO, 80926	7704002006	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
DWYER	DANIEL	7749 LANTERN LN	FOUNTAIN, CO, 80817	5605111014	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EASTEP	DENNIS K	13550 BRADLEY RD	COLORADO SPRINGS, CO, 80928	4500000058	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
ECKMAN	JOHN M | ANN C	4864 STEAMBOAT LAKE CT	COLORADO SPRINGS, CO, 80924-1206	6225306007	Y	RW1	N		N		N		N		N		N	
EDW C LEVY CO D/B/A		2635 DELTA DR	COLORADO SPRINGS, CO, 80910	6600000002	Y	RW1	N		N		N		N		N		Y	RW7
EDW C LEVY CO D/B/A		2635 DELTA DR	COLORADO SPRINGS, CO, 80910	6600000046	N		Y	TANK	Y	TANK	Y	TANK	Y	TANK	Y	TANK	Y	TANK
EGBERT	DEREK & LEISA	10150 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7602400007	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
EISENBERGER	SIEGFRIED	5550 SANDY CREEK RANCH HTS	COLORADO SPRINGS, CO, 80926	7700000079	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
EISENBERGER	SIEGFRIED & MICHELLE	5550 SANDY CREEK RANCH HTS	COLORADO SPRINGS, CO, 80926	7700000078	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5531000040	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5530000025	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5530000065	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5530000071	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5531000049	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5531000051	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5531000052	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	5531000058	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	6501201208	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	6525000014	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
EL PASO COUNTY		27 E VERMIJO AVE	COLORADO SPRINGS, CO, 80903	6525000015	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7

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EL PASO COUNTY CONSLDTD SCHL DIST FALCON SCHOOL DISTRICT NO 49		10850 E WOODMEN RD	PEYTON, CO, 80831-8127	5303003016	Y	RW1	N		N		N		N		N		N	
ELTON E F TRUSTEE		PO BOX 17609	COLORADO SPRINGS, CO, 80935	7700000064	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
ENRIQUES	JENNIFER M	12820 BRADLEY RD	COLORADO SPRINGS, CO, 80928	4500000087	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
EVANS	ELIZABETH M	13825 OLD PUEBLO RD	FOUNTAIN, CO, 80817	5628302001	Y	RW1	Y	RF2	N		N		N		Y	RF6	Y	RF7
FAIR	PETER	5441 BARNSTORMERS AVE	COLORADO SPRINGS, CO, 80911	6501201190	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
FALCON TRUCKING CO		8800 DIX ST	DETROIT, MI, 48209	5300000340	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
FALLS	WARREN G & PHYLLIS S	11380 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3403	5608000053	Y	RW1	N		N		N		N		N		Y	RW7
FIRST METHODIST CHURCH		330 COLUMBINE ST	FOUNTAIN, CO, 80817	5531400012	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
FIRSTBANK HOLDING CO OF COLORADO		12345 W COLFAX AVE	DENVER, CO, 80215	5331301023	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
FLUX	FRANK E/GRACE E	4863 ALBERTA FALLS WAY	COLORADO SPRINGS, CO, 80924-1208	6225201011	Y	RW1	N		N		N		N		N		N	
FOUNTAIN CITY OF		106 S MAIN ST	FOUNTAIN, CO, 80817-2282	5609300005	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN CITY OF		116 S MAIN ST	FOUNTAIN, CO, 80817	5600000107	N		Y	TANK	Y	TANK	Y	TANK	Y	TANK	Y	TANK	Y	TANK
FOUNTAIN CITY OF		116 S MAIN ST	FOUNTAIN, CO, 80817	7600000033	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
FOUNTAIN CITY OF		1165 MAIN ST	FOUNTAIN, CO, 80817	5609205033	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
FOUNTAIN LAND DEV LLC		25 N TEJON ST STE 300	COLORADO SPRINGS, CO, 80903-1533	5607400001	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN LAND INVESTMENT LLC		25 N TEJON ST STE 300	COLORADO SPRINGS, CO, 80903-1533	5600000155	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN SANITATION DISTRICT		901 S SANTE FE AVE	FOUNTAIN, CO, 80817	5600000016	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN SANITATION DISTRICT		901 S SANTE FE AVE	FOUNTAIN, CO, 80817	5600000112	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN SANITATION DISTRICT		901 S SANTE FE AVE	FOUNTAIN, CO, 80817	5607000015	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN SANITATION DISTRICT		901 S SANTE FE AVE	FOUNTAIN, CO, 80817	5608000010	Y	RW1	N		N		N		N		N		Y	RW7
FOUNTAIN VALLEY AUTHORITY		13250 RAY NIXON RD	FOUNTAIN, CO, 80817-3801	5600000102	Y	RW1, FVA PS	N		N		N		N		N		Y	RW7, RF7, FVA PS
FOUNTAIN-FORT CARSON SCHOOL		400 W ALABAMA AVE	FOUNTAIN, CO, 80817	5609201002	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
FRANCHINI	JAMES	980 GLENROCK DR	COLORADO SPRINGS, CO, 80926	7601201001	N		N		Y	RF3	Y	RF4	N		N		N	
FROST LIVESTOCK CO		17825 HANOVER RD	PUEBLO, CO, 81008-9503	4700000009	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FROST LIVESTOCK CO		17825 HANOVER RD	PUEBLO, CO, 81008-9503	4700000023	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FROST LIVESTOCK CO		17825 HANOVER RD	PUEBLO, CO, 81008	5700000095	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
GARDINER	BRIAN C & BETTY	2010 ROCA ROJA CIR	COLORADO SPRINGS, CO, 80926	7611002014	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
GATES	ROBERT D	8190 BIRDSALL RD	FOUNTAIN, CO, 80817	5600000118	Y	RW1	Y	RF2	N		N		N		Y	RF6	Y	RF7
GAVIN	PHYLLIS	285 PAWNEE RD	COLORADO SPRINGS, CO, 80926	6530400004	N		N		Y	RF3	Y	RF4	N		N		N	
GETZ BERT A TRUST	BERT A TRUST	6730 N SCOTTSDALE RD STE 250	PARADISE VALLEY, AZ, 85253	6500000094	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
GIEBEL	J R	285 PAWNEE RD	WRIGHTSTOWN, NJ, 08562	6530309016	N		N		Y	RF3	Y	RF4	N		N		N	
GIEBEL	J R	PO BOX 217	WRIGHTSTOWN, NJ, 08562	6530309012	N		N		Y	RF3	Y	RF4	N		N		N	
GIEBEL	J R	PO BOX 217	WRIGHTSTOWN, NJ, 08562	6530309013	N		N		Y	RF3	Y	RF4	N		N		N	
GIOVENCA LLC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5600000006	Y	RW1, RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RW7, RF7
GOFF	KARA A	8678 QUINN PT	COLORADO SPRINGS, CO, 80924-8155	6236407087	Y	RW1	N		N		N		N		N		N	
GOMEZ	ELFEGO III & KATHLEEN H	11170 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7611002024	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
GOMEZ	ELFEGO JR & ELSIE	11280 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7611002023	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
GONZALES	SEVERO R	4903 BLACK VULTURE GRV	COLORADO SPRINGS, CO, 80916	6436317139	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
GOOD	HOWARD E & DAPHNE J	7470 N UNION BLVD	COLORADO SPRINGS, CO, 80920-3869	6309001011	Y	RW1	N		N		N		N		N		N	
GRIFFIN	CARLOS H	2390 OLYMPIC DR	SOUTH SAN FRANCISCO, CA, 94080	5605400008	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7

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GROTHE	DAVID B	4860 TURQUOISE LAKE CT	COLORADO SPRINGS, CO, 80919	6225305005	Y	RW1	N		N		N		N		N		N	
GROUP XIX LAND & CATTLE CO		1520 S BEVERLY GLEN BLVD APT 407	LOS ANGELES, CA, 90024	5700000099	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
GROUP XIX LAND & CATTLE CO		1520 S BEVERLY GLEN BLVD APT 407	LOS ANGELES, CA, 90024	5700000100	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
HAGA	JAMES D/STACEY L	8766 QUINN PT	COLORADO SPRINGS, CO, 80924-8146	6236407098	Y	RW1	N		N		N		N		N		N	
HAIGHT	GEORGE E	11325 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7611003005	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
HALL	HAROLD H	425 AUTUMN PL	FOUNTAIN, CO, 80817	5605107020	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
HALSTEAD	DARLA E	4075 HICKORY HILL DR	COLORADO SPRINGS, CO, 80906	6505116130	N		N		Y	RF3	Y	RF4	N		N		N	
HANNA RANCHES		15680 HANOVER RD	PUEBLO, CO, 81008	5600000131	Y	RW1	Y	RF2	N		N		N		Y	RF6	Y	RF7
HANNA RANCHES INC		15680 HANOVER RD	PUEBLO, CO, 81008	5700000152	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
HANOVER PUBLIC SCHOOLS		17050 S PEYTON HWY	COLORADO SPRINGS, CO, 80928	5728004005	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
HARDING	ELIZABETH L	8686 QUINN PT	COLORADO SPRINGS, CO, 80924-8155	6236407088	Y	RW1	N		N		N		N		N		N	
HARMONY HOMES INC		4525 NORTHPARK DR STE 210	COLORADO SPRINGS, CO, 80918	7601300002	N		N		Y	RF3	Y	RF4	N		N		N	
HARPER	RICKY R SR	5361 BARNSTORMERS AVE	COLORADO SPRINGS, CO, 80911	6501201200	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
HARRISON	BRUCE A/CAROL E	6325 ASHTON PARK PL	COLORADO SPRINGS, CO, 80919-4820	5621001004	Y	RW1	N		N		N		N		N		N	
HECKMAN	JAMES E	7905 HECKMAN POINT	FOUNTAIN, CO, 80817	5609205001	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
HEIGHTS AT SUMMERFIELD HOMEOWNERS ASSOC INC	C/O BETH JONES	10 N MEADE AVE	COLORADO SPRINGS, CO, 80909-5654	6234421007	Y	RW1	N		N		N		N		N		N	
HERMAN	LAURA N	8720 HIGHWAY 115	COLORADO SPRINGS, CO, 80926	6531200004	N		N		Y	RF3	Y	RF4	N		N		N	
HERMAN	LAURA N	9055 OLD CANON CITY RD	COLORADO SPRINGS, CO, 80926	7536411002	N		N		Y	RF3	Y	RF4	N		N		N	
HERMAN	MICHAEL &	PO BOX 60446	COLORADO SPRINGS, CO, 80960	7600000192	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
HIGH GATE FARMS LLC		154 DEL ORO CIR	COLORADO SPRINGS, CO, 80919	5605400005	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
HIGH VALLEY LAND CO INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS CO, CO, 80920-1018	6200000601	Y	RW1	N		N		N		N		N		N	
HIGH VALLEY LAND CO INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6200000602	Y	RW1	N		N		N		N		N		N	
HIGHWAY 115 INVESTMENTS LLC		5537 S INDIGO PL	BOISE, ID, 83716	7600000001	N		N		Y	RF3	Y	RF4	N		N		N	
HIGHWAY 115 INVESTMENTS LLC		5537 S INDIGO PL	BOISE, ID, 83716	7600000003	N		N		Y	RF3	Y	RF4	N		N		N	
HIGHWAY 115 INVESTMENTS LLC		5537 S INDIGO PL	BOISE, ID, 83716	7600000102	N		N		Y	RF3	Y	RF4	N		N		N	
HIGHWAY 115 INVESTMENTS LLC		5537 S INDIGO PL	BOISE, ID, 83716	7601300001	N		N		Y	RF3	Y	RF4	N		N		N	
HINER	REX M + SHARON A	11 AUSTIN RD	LAMAR, CO, 81052-4301	5303001021	Y	RW1	N		N		N		N		N		N	
HOCKENBERRY	ROY W/MARLEN	8758 QUINN PT	COLORADO SPRINGS, CO, 80924-8146	6236407097	Y	RW1	N		N		N		N		N		N	
HOLLENDONER	DANIEL A	3460 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317145	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
HOWELLS	PETER A C JR	13555 OLD PUEBLO RD	FOUNTAIN, CO, 80817	5628200001	Y	RW1	N		N		N		N		N		N	
HUBERT	RAYMOND N + PATRICIA A	12750 BRADLEY RD	COLORADO SPRINGS, CO, 80928	4500000046	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
HUGHES	WAYNE D & CAROL J	12060 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7615004007	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
INGERSOLL	HAROLD C	3075 WILD HORSE RD	COLORADO SPRINGS, CO, 80926	7600000099	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
INMAN	PHILIPE C	25 N DARTMOUTH ST	COLORADO SPRINGS, CO, 80911	5523003005	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
INTERWEST SAVINGS BANK		614 PETERSON RD	BURLINGTON, WA, 98233	5609400002	Y	RW1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RW7, RF7
JACKSON	KEISHA	3441 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317149	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
JENKINS	CAROLYN S	111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	6236400017	Y	RW1	N		N		N		N		N		N	
JENKINS DAVID D | C/O NOR'WOOD DEV		111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	5200000345	Y	RW1	N		N		N		N		N		N	

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Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
JENKINS/JENKINS/JENKINS/PETRE/BRADEN	DAVID/CAROLYN/CHRIS/KENT/RALPH	111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	6236300010	Y	RW1	N		N		N		N		N		N	
JENKINS/PETRE/BRADEN		111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	6301100003	Y	RW1	N		N		N		N		N		N	
JIMENEZ	PAUL M	7777 LANTERN LN	FOUNTAIN, CO, 80817	5605111016	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JIMMY CAMP DEVELOPMENT INC		407 S TEJON ST	COLORADO SPRINGS, CO, 80903	5605111018	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JIMY CAMP DEVELOPMENT INC		407 S TEJON ST	COLORADO SPRINGS, CO, 80903	5605108004	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JOHNSON	JERALD J	15728 CALA ROJO DR	COLORADO SPRINGS, CO, 80926	7705003037	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
JOHNSTON	DOUGLAS L	12065 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7615004013	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
JONES	RICHARD W/CAROLYN L	8080 WINDING PASSAGE DR	COLORADO SPRINGS, CO, 80924-8108	6301113013	Y	RW1	N		N		N		N		N		N	
JONES	SANDRA J	4927 BLACK VULTURE GRV	COLORADO SPRINGS, CO, 80916	6436317135	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
JOVENCHI-I LLC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903-1336	6200000479	Y	RW1	N		N		N		N		N		N	
JRJ LAND LLC		101 N CASCADE AVE STE 300	COLORADO SPRINGS, CO, 80903-1415	5605101043	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JRJ LAND LLC		101 N CASCADE AVE STE 300	COLORADO SPRINGS, CO, 80903-1415	5605101044	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JRJ LAND LLC		101 N CASCADE AVE STE 300	COLORADO SPRINGS, CO, 80903-1415	5605101045	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JV RANCHES LLC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5600000010	Y	RW1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JV RANCHES LLC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5600000122	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
JV RANCHES LLC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5600000136	Y	RW1, RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RW7, RF7
JV RANCHES LLC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5600000137	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
KAYTON	RODNEY W	3680 SUNCREST CT	COLORADO SPRINGS, CO, 80906	6505207020	N		N		Y	RF3	Y	RF4	N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201007	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225304007	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201016	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201017	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201018	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201019	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201020	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201021	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225201022	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225304008	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225304009	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225304011	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225304012	Y	RW1	N		N		N		N		N		N	
KELLER HOMES INC		536 CHAPEL HILLS DR STE 150	COLORADO SPRINGS, CO, 80920-1065	6225308002	Y	RW1	N		N		N		N		N		N	
KETCHUM	KURTIS	8790 BIRDSALL RD	FOUNTAIN, CO, 80817	5628001002	Y	RW1	Y	RF2	N		N		N		Y	RF6	Y	RF7
KETTLE CREEK LAND CO LLC		102 N CASCADE AVE STE 500	COLORADO SPRINGS, CO, 80903-1428	6200000446	Y	RW1	N		N		N		N		N		N	
KETTLE CREEK LAND CO LLC		102 N CASCADE AVE STE 500	COLORADO SPRINGS, CO, 80903-1428	6200000529	Y	RW1	N		N		N		N		N		N	
KEY	JOHN B & GEORGIA L	7030 HERITAGE RD	COLORADO SPRINGS, CO, 80925	5524002001	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
KIEMELE FAMILY PARTNERSHIP LLLP		2065 MULLIGAN DR	COLORADO SPRINGS, CO, 80920	5300000593	Y	RW1	N		N		N		N		N		N	
KIEWIT CONSTRUCTION CO		KIEWIT PLZ	OMAHA, NE, 68131	5607000036	Y	RW1	N		N		N		N		N		Y	RW7
KIM	DAE SIK	5087 BROADMOOR BLUFFS DR	COLORADO SPRINGS, CO, 80906	6530300023	N		N		Y	RF3	Y	RF4	N		N		N	

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KIM	DAE SIK	5087 BROADMOOR BLUFFS DR	COLORADO SPRINGS, CO, 80906	6530400008	N		N		Y	RF3	Y	RF4	N		N		N	
KLADDER	DOUGLAS L	17250 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7700000063	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
KLAUS	LINA M	3450 WHIMBREL LN	COLORADO SPRINGS, CO, 80906	6432409005	N		N		Y	RF3	Y	RF4	N		N		N	
KOEHLER	JEANNILINE T	3430 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317142	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
L W D LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5721001001	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
L W D LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5721001010	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
LACHEY	JAMES R	10720 R E A RD	FOUNTAIN, CO, 80817	5609200002	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
LARA	ANGELA M | DANIEL JR	4876 STEAMBOAT LAKE CT	COLORADO SPRINGS, CO, 80924-1206	6225306008	Y	RW1	N		N		N		N		N		N	
LAZY E J LAND & CATTLE CO		2658 SPRING GROVE TER	COLORADO SPRINGS, CO, 80906	4500000092	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
LEE	WAYNE R	8790 QUINN PT	COLORADO SPRINGS, CO, 80924	6236407101	Y	RW1	N		N		N		N		N		N	
LEHOUILLIER	CHRISTI	11960 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3538	5600000142	Y	RW1	N		N		N		N		N		Y	RW7
LEHOUILLIER	PATRIC J & CHRISTI	11960 OLD PUEBLO RD	COLORADO SPRINGS, CO, 80817-3538	5600000143	Y	RW1	N		N		N		N		N		Y	RW7
LEMERE	PHILLIP E & CHRISTINE M	7075 HERITAGE RD	COLORADO SPRINGS, CO, 80925	5523003001	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LINCOLN	JOSEPH G & LORNA B	401 SLOCUM LAKE RD	WAUCONDA, IL, 60084	6505116126	N		N		Y	RF3	Y	RF4	N		N		N	
LIPEDE	MICHAEL O | ADEDAPO A	4858 STEAMBOAT LAKE CT	COLORADO SPRINGS, CO, 80924-1206	6225306006	Y	RW1	N		N		N		N		N		N	
LIVELY	LEO L/MARY L	8742 QUINN PT	COLORADO SPRINGS, CO, 80924-8156	6236407095	Y	RW1	N		N		N		N		N		N	
LONG	DOLORES K	183 STRATMOOR DR	COLORADO SPRINGS, CO, 80906	6432401022	N		N		Y	RF3	Y	RF4	N		N		N	
LOPEZ	JOHNNY A & JULIE P	1075 E OHIO AVE	FOUNTAIN, CO, 80817	5604004002	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
LORSON LLC NOMINEE FOR		212 N WAHSATCH AVE STE 301	COLORADO SPRINGS, CO, 80903	5500000266	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LORSON LLC NOMINEE FOR		212 N WAHSATCH AVE STE 301	COLORADO SPRINGS, CO, 80903	5500000272	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LORSON LLC NOMINEE FOR		212 N WAHSATCH AVE STE 301	COLORADO SPRINGS, CO, 80903	5500000282	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LORSON LLC NOMINEE FOR		212 N WAHSATCH AVE STE 301	COLORADO SPRINGS, CO, 80903	5500000283	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LORSON LLC NOMINEE FOR		212 N WAHSATCH AVE STE 301	COLORADO SPRINGS, CO, 80903	5500000284	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LORSON LLC NOMINEE FOR		212 N WAHSATCH AVE STE 301	COLORADO SPRINGS, CO, 80903	5500000297	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LOUGHRAN	TERESA M	7145 HERITAGE RD	COLORADO SPRINGS, CO, 80925	5523003006	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
LOUISIANA STATE UNIVERSITY		LOUISIANA STATE UNIV	BATON ROUGE, LA, 70803	7600000046	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225303023	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310010	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310028	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6234208041	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225201024	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225300003	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225303024	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225303025	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225303040	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225307014	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310011	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310012	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310027	Y	RW1	N		N		N		N		N		N	

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LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310029	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310030	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310047	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310048	Y	RW1	N		N		N		N		N		N	
LP47 LLC	C/O HIGH VALLEY LAND COMPANY INC	1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310060	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND CO INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, , 80920-1018	6236200004	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6200000600	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6222400002	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202001	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225300002	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80903-1336	6200000604	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202002	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202003	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202004	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202005	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202006	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225202007	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225304010	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225304013	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225305004	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225305008	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225305009	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225305010	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225305011	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225306011	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225306012	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225308007	Y	RW1	N		N		N		N		N		N	

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					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225308008	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225309020	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310049	Y	RW1	N		N		N		N		N		N	
LP47 LLC | C/O HIGH VALLEY LAND COMPANY INC		1755 TELSTAR DR STE 450	COLORADO SPRINGS, CO, 80920-1018	6225310050	Y	RW1	N		N		N		N		N		N	
LWD LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5721001002	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
LWD LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5721001009	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
LWD LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5721001011	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
LWD LLC		31 N TEJON ST STE 500	COLORADO SPRINGS, CO, 80903	5721001012	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
M3 LAND LLC		15 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	5300000319	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
MACHA	MATTHEW/JULIE	8662 QUINN PT	COLORADO SPRINGS, CO, 80924-8155	6236407085	Y	RW1	N		N		N		N		N		N	
MAGEE	WILLIAM E	7565 MAVERICK RD	COLORADO SPRINGS, CO, 80908-5022	5304003020	Y	RW1	N		N		N		N		N		N	
MAIER	ERIKA M	3431 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317148	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
MAKKINJE	JAN	15704 CALA ROJO DR	COLORADO SPRINGS, CO, 80926	7705003036	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
MARINO	CHARLES J/FELICIA E	8750 QUINN PT	COLORADO SPRINGS, CO, 80924-8146	6236407096	Y	RW1	N		N		N		N		N		N	
MARKSHEFFEL BUSINESS CENTER LLC		6040 N 22ND PL	PHOENIX, AZ, 85016	5405000048	N		Y	FW2	Y	FW3	N		N		N		N	
MASER	MERLE R & N EILEEN	12599 JORDAN RD	FOUNTAIN, CO, 80817-3535	5620001002	Y	RW1	N		N		N		N		N		N	
MASSE MICHAEL & DEBBIE REV TRUST		220 SENA ST	SANTA FE, NM, 87505-8833	5617001008	Y	RW1	N		N		N		N		N		Y	RW7
MAY JOHN M TRUSTEE		710 ROCK CREEK CANYON RD	COLORADO SPRINGS, CO, 80926	6531200007	N		N		Y	RF3	Y	RF4	N		N		N	
MAY JOHN M TRUSTEE		710 ROCK CREEK CANYON RD	COLORADO SPRINGS, CO, 80926	7500000236	N		N		Y	RF3	Y	RF4	N		N		N	
MAY JOHN M TRUSTEE		710 ROCK CREEK CANYON RD	COLORADO SPRINGS, CO, 80926	7500000236	N		N		Y	RF3	Y	RF4	N		N		N	
MCALISTER	ROBERT D/SHAWN C	6065 MEADOWBROOK DR	MORRISON, CO, 80465-2268	5607000017	Y	RW1	N		N		N		N		N		Y	RW7
MCCOLLOR	KENNETH A | KRISTY D	4877 RAINBOW GULCH TRL	COLORADO SPRINGS, CO, 80924-1210	6225308001	Y	RW1	N		N		N		N		N		N	
MCCULLOUGH	DARRELL D & BETTY L	506 E KANSAS AVE	FOUNTAIN, CO, 80817	5605200006	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
MCCUMBER	JAMES	5401 MARCO ALY	COLORADO SPRINGS, CO, 80924-8153	6236407084	Y	RW1	N		N		N		N		N		N	
MCDANIEL	MICHAEL R	PO BOX 15652	COLORADO SPRINGS, CO, 80935	6505116128	N		N		Y	RF3	Y	RF4	N		N		N	
MCGUIRE	SAMUEL B & BARBARA J	915 N EL PASO ST	FOUNTAIN, CO, 80817	5606100005	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
MCKENNA	WILLIAM T	1219 SUNCREST WAY	COLORADO SPRINGS, CO, 80906	6505207016	N		N		Y	RF3	Y	RF4	N		N		N	
MEDINA	RUBEN A	3450 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317144	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
MGF ACQUISITION CORP		ONE TOWNE SQUARE STE 600	SOUTHFIELD, MI, 48076	5400000177	Y	FW1	Y	RW2, FW2	Y	RW3, FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
MIENTKA	FREDERICK D	5 POLO DR	COLORADO SPRINGS, CO, 80906	6530309015	N		N		Y	RF3	Y	RF4	N		N		N	
MIENTKA	FREDERICK D	5 POLO DR	COLORADO SPRINGS, CO, 80906	6530401001	N		N		Y	RF3	Y	RF4	N		N		N	
MOBERLY	DARREL L & MARY E	11280 GREEN SPRING RD	COLORADO SPRINGS, CO, 80925	5605302004	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
MONROE	CARL G & DARLENE E	10230 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7602400002	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
MONTY	GREGORY S & FRANCOISE	2720 J HILL RD	JUNCTION CITY, KS, 66441	7602400011	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
MOORHEAD	STEVEN K	8718 QUINN PT	COLORADO SPRINGS, CO, 80924-8156	6236407092	Y	RW1	N		N		N		N		N		N	

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Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
MORA	SALVADOR & YONG SUN	3515 PENNYROYAL LN	COLORADO SPRINGS, CO, 80906	6505125032	N		N		Y	RF3	Y	RF4	N		N		N	
MORLAN	JAY R	20678 ARMADILLO HTS	PUEBLO, CO, 81008	5732005025	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
MORLEY COMPANIES FAMILY DEV LLLP		20 BOULDER CRESCENT ST FL 2	COLORADO SPRINGS, CO, 80903	5600000127	Y	RW1, RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RW7, RF7
MORTON	ORLAFF T JR & JUANA L	2250 FULLER RD	COLORADO SPRINGS, CO, 80920-3610	6309001007	Y	RW1	N		N		N		N		N		N	
MOUNT VERNON ESTATES | LAND HOLDINGS LLC		31 N TEJON ST STE 400	COLORADO SPRINGS, CO, 80903-1516	6200000569	Y	RW1	N		N		N		N		N		N	
MOYERS	JAMES P II	7585 PONCA RD	COLORADO SPRINGS, CO, 80908-5019	5304005006	Y	RW1	N		N		N		N		N		N	
MOYERS	ROBERT M	624 S CASCADE AVE	COLORADO SPRINGS, CO, 80903-4047	5304005008	Y	RW1	N		N		N		N		N		N	
MULLET	MARK D & ANGENETTE	10725 PEACEFUL VALLEY RD	COLORADO SPRINGS, CO, 80925	5523005001	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
MURPHY	CHARLES J	2245 BROADWAY ST	COLORADO SPRINGS, CO, 80904	5530000027	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
MURPHY	CHARLES J	2245 BROADWAY ST	COLORADO SPRINGS, CO, 80904	5530000028	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
NATURE CONSERVANCY		104 S CASCADE AVE STE 109	COLORADO SPRINGS, CO, 80903	7600000197	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
NEHME	SALIM F	456 WEMBLEY CT	COLORADO SPRINGS, CO, 80906	7705002007	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
NEVEU	WAYNE B & JUDY L	15645 RANCHO PAVO DR	COLORADO SPRINGS, CO, 80926	7704002005	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
NEW LIFE CHURCH		11025 VOYAGER PKWY	COLORADO SPRINGS, CO, 80921-3623	6220100009	Y	RW1	N		N		N		N		N		N	
NEW LIFE CHURCH	ATTN ACCOUNTS PAYABLE	11025 VOYAGER PKWY	COLORADO SPRINGS, CO, 80921-3623	6220100002	Y	RW1	N		N		N		N		N		N	
NOLDER	KIPTON A KAREN K	4878 RAINBOW GULCH TRL	COLORADO SPRINGS, CO, 80924-1210	6225201008	Y	RW1	N		N		N		N		N		N	
NORRELL	JARED	18780 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7700000087	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
NORRELL	JARED H	18780 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7700000082	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
NORRIS DELLORA A TRUST		PO BOX 810490	DALLAS, TX, 75381	5500000031	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
NORRIS ROBERT C & JANE W TRUSTEES	C/O T-CROSS RANCHES	970 SUMMER GAMES DR	COLORADO SPRINGS, CO, 80906	4500000048	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
NORRIS DELLORA A TRUST		PO BOX 810490	DALLAS, TX, 75381	5500000223	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
NORRIS PROPERTIES LLC		970 SUMMER GAMES DR	COLORADO SPRINGS, CO, 80906	4500000006	N		Y	UWCR2, BRADLEY PS	Y	UWCR3, BRADLEY PS	N		N		N		N	
NORRIS PROPERTIES LLC		970 SUMMER GAMES DR	COLORADO SPRINGS, CO, 80906	4500000007	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
NORRIS ROBERT C & JANE W TRUSTEES	C/O T-CROSS RANCHES	970 SUMMER GAMES DR	COLORADO SPRINGS, CO, 80906-1381	4700000017	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
NORTHCUTT	MARILYN	3410 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317140	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
OCHS	KENNETH+LAWRENCE/HARLAN+DONALD	PO BOX 603	COLORADO SPRINGS, CO, 80901-0603	5600000076	Y	RW1	N		N		N		N		N		N	
OCONNOR	JED R	3451 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317150	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
OFFUTT	LONNIE J	9325 OLD CANON CITY RD	COLORADO SPRINGS, CO, 80926	7536400005	N		N		Y	RF3	Y	RF4	N		N		N	
OHIO ROAD LLC		101 N CASCADE AVE STE 300	COLORADO SPRINGS, CO, 80903	5604000044	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
OLD RANCH METROPOLITAN DISTRICT		111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	6301113032	Y	RW1	N		N		N		N		N		N	
OLESZEK	GERALD M & SHARON A	1510 BIG VALLEY DR	COLORADO SPRINGS, CO, 80919	5321001005	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
OLESZEK	GERALD M & SHARON A	1510 BIG VALLEY DR	COLORADO SPRINGS, CO, 80919	5321001006	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
OLESZEK	GERALD M/SHARON A	1510 BIG VALLEY DR	COLORADO SPRINGS, CO, 80919-1026	5303003008	Y	RW1	N		N		N		N		N		N	
OQUIRRH USW LC		26 N STATE ST	SALT LAKE CITY, UT, 84103	5333202001	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
ORRL LLC		102 N CASCADE AVE STE 500	COLORADO SPRINGS, CO, 80903-1428	6227100004	Y	RW1	N		N		N		N		N		N	
ORTON	BETTY M	17710 STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7700000025	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7

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OSULLIVAN	RAYMOND F	25 N TEJON ST STE 300	COLORADO SPRINGS, CO, 80903-1533	5607301001	Y	RW1	N		N		N		N		N		Y	RW7
OSULLIVAN	RAYMOND F	25 N TEJON ST STE 300	COLORADO SPRINGS, CO, 80903-1533	5607302001	Y	RW1	N		N		N		N		N		Y	RW7
OTTAWAY	HOLLY	8774 QUINN PT	COLORADO SPRINGS, CO, 80924-8146	6236407099	Y	RW1	N		N		N		N		N		N	
OVERLOOK TH LLC	JORDY RUSS GRV	10700 E GEDDES AVE STE 100	ENGLEWOOD, CO, 80112-3861	6236407137	Y	RW1	N		N		N		N		N		N	
OVERLOOK TH LLC		10700 E GEDDES AVE STE 100	ENGLEWOOD, CO, 80112-3861	6236407040	Y	RW1	N		N		N		N		N		N	
PALASCHAK	MARIE S	7525 MUSTANG RD	COLORADO SPRINGS, CO, 80908-5014	5304004009	Y	RW1	N		N		N		N		N		N	
PARADAY	ROGER K + ANITA M	13575 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3720	5600000064	Y	RW1	N		N		N		N		N		N	
PARKER FAMILY LIVING TRUST		7445 ANTELOPE LN	COLORADO SPRINGS, CO, 80920-3604	6309001002	Y	RW1	N		N		N		N		N		N	
PATRIOT ESTATES LLC		1539 PAONIA ST	COLORADO SPRINGS, CO, 80915	5609401029	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
PATRIOT ESTATES LLC		1539 PAONIA ST	COLORADO SPRINGS, CO, 80915	5609401059	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
PATTEE	SHARON W	1080 E OHIO AVE	FOUNTAIN, CO, 80817	5604000038	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
PENCHOFF	JAMES G & JANICE A	25 ROCK CREEK CANYON RD	COLORADO SPRINGS, CO, 80926	7536108001	N		N		Y	RF3	Y	RF4	N		N		N	
PEOPLES UNITED METHODIST CHURCH		5110 TAMLIN RD	COLORADO SPRINGS, CO, 80938	5321001007	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
PERKEY FAMILY LLC		15565 TIMBERSIDE CT	COLORADO SPRINGS, CO, 80921	5405000024	N		Y	FW2	Y	FW3	N		N		N		N	
PERKINS	LUKE A	3550 LA MAR PL	COLORADO SPRINGS, CO, 80911	6501102026	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
PETERSON	JASMINE C	8726 QUINN PT	COLORADO SPRINGS, CO, 80924-8156	6236407093	Y	RW1	N		N		N		N		N		N	
PETERSON	PATIENCE L	4915 BLACK VULTURE GRV	COLORADO SPRINGS, CO, 80916	6436317137	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
PHILLIPS	BONNIE A R	2807 COUNTRY CLUB CIR	COLORADO SPRINGS, CO, 80909	5732005002	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
PIKES PEAK RACEWAY INC		101 COLLEGE ST STE 1-B	GREENVILLE, SC, 29601	5700000115	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
PINONS OF TURKEY CANON RANCH INC		15 N NEVADA AVE	COLORADO SPRINGS, CO, 80903	7705003035	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
PORTILLO	ARTURO/ISABEL FLORES	8782 QUINN PT	COLORADO SPRINGS, CO, 80924	6236407100	Y	RW1	N		N		N		N		N		N	
PREMIER LAND DEVELOPMENT CORP		4275 REGENCY DR	COLORADO SPRINGS, CO, 80906	5605100021	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
PROGRESSIVE HOLDINGS LLC		1720 JET STREAM DR STE 200	COLORADO SPRINGS, CO, 80921	6220107009	Y	RW1	N		N		N		N		N		N	
PULPIT ROCK INVESTMENTS LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919-5912	6200000302	Y	RW1	N		N		N		N		N		N	
PULPIT ROCK INVESTMENTS LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919-5912	6200000614	Y	RW1	N		N		N		N		N		N	
PULPIT ROCK INVESTMENTS LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919-5912	6216300004	Y	RW1	N		N		N		N		N		N	
PULPIT ROCK INVESTMENTS LLC		6385 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919-5912	6216300005	Y	RW1	N		N		N		N		N		N	
RAHIN	MOHAMMAD/DANIELL A T	3231 BLACKWOOD PL	COLORADO SPRINGS, CO, 80920-1476	6236407089	Y	RW1	N		N		N		N		N		N	
RAMTRON LLC		1850 RAMTRON DR	COLORADO SPRINGS, CO, 80921-3620	6216300001	Y	RW1	N		N		N		N		N		N	
RANDALL	MARK J	3461 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317151	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
RAYOS	RODOLFO L	3420 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317141	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
REAL ESTATE WORKS LLC		90 S CASCADE AVE STE 1500	COLORADO SPRINGS, CO, 80903	5332002013	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
REAMY	STEPHEN B & LISA A	PO BOX 403	FOUNTAIN, CO, 80817	5606100004	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
RED ROCK VALLEY ESTATES		11145 CALLE CORVO RD	COLORADO SPRINGS, CO, 80926	7611003004	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
REDLIN	MICHELLE A DOUGLAS L	1050 E OHIO AVE	FOUNTAIN, CO, 80817	5605400001	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
RENDERMAN	GERARD P	4045 HICKORY HILL DR	COLORADO SPRINGS, CO, 80906	6505116127	N		N		Y	RF3	Y	RF4	N		N		N	
RICHARDS	MICHAEL V CAROL S	2466 FULLER RD	COLORADO SPRINGS, CO, 80920-3614	6309001004	Y	RW1	N		N		N		N		N		N	
RIGGS	GREGORY L	4065 HICKORY HILL DR	COLORADO SPRINGS, CO, 80906	6505116129	N		N		Y	RF3	Y	RF4	N		N		N	

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RINEHOLT	TIMOTHY	2004 ROCA ROJA CIR	COLORADO SPRINGS, CO, 80926	7611002015	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
RIVERA	JOSE A COLON	7763 LANTERN LN	FOUNTAIN, CO, 80817	5605111015	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
ROBERTS	PATRICIA C	11320 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7611002022	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
ROBERTS	RUTH D	13110 BRADLEY RD	COLORADO SPRINGS, CO, 80928	4505001001	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
ROBERTS	RYAN B	13110 BRADLEY RD	COLORADO SPRINGS, CO, 80928	4505001002	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
ROBINSON	DENNIS D	13710 OLD PUEBLO RD	FOUNTAIN, CO, 80817	5628301001	Y	RF1	Y	RF2	N		N		N		Y	RF6	Y	RF7
ROCKY MOUNTAIN INDUSTRIAL PARK		2010 FOX MOUNTAIN PT	COLORADO SPRINGS, CO, 80906-6909	5333303007	Y	FW1	N		N		Y	FW4	Y	FW5	Y	FW6	Y	FW7
RODO INVESTMENTS LLC		4390 N ACADEMY BLVD	COLORADO SPRINGS, CO, 80915	5404304013	N		Y	FW2	Y	FW3	N		N		N		N	
ROE	JAMES S	1214 SUNCREST WAY	COLORADO SPRINGS, CO, 80906	6505207014	N		N		Y	RF3	Y	RF4	N		N		N	
ROTHE	MICHAEL	3720 SAINTS CT	COLORADO SPRINGS, CO, 80904	5531400005	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
RS HOLDING COMPANY LLC		2760 BROGANS BLUFF DR	COLORADO SPRINGS, CO, 80919-3576	5306200003	Y	RW1	N		N		N		N		N		N	
RYAN	MELVIN	5195 BARRETT RD	COLORADO SPRINGS, CO, 80926	7700000065	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SALDIVAR	SIGIFREDO	15680 RANCO PAVO DR	COLORADO SPRINGS, CO, 80926	7704001008	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SAND CREEK INVESTMENTS NORTH LLC		90 S CASCADE AVE STE 1500	COLORADO SPRINGS, CO, 80903	5332002012	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SAND CREEK INVESTMENTS NORTH LLC		90 S CASCADE AVE STE 1500	COLORADO SPRINGS, CO, 80903	5332003011	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SAND CREEK INVESTMENTS NORTH LLC		90 S CASCADE AVE STE 1500	COLORADO SPRINGS, CO, 80903	5332300001	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SAND CREEK INVESTMENTS NORTH LLC		90 S CASCADE AVE STE 1500	COLORADO SPRINGS, CO, 80903	5405000036	N		Y	FW2	Y	FW3	N		N		N		N	
SANTOS	MARTIN W JR	3440 EAGLES BAY PT	COLORADO SPRINGS, CO, 80916	6436317143	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SCHRAMEK	GEROLD J	8786 S US HIGHWAY 85-87	FOUNTAIN, CO, 80817	5531100008	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SCHRANZ	RANDY	9160 S HIGHWAY 115	COLORADO SPRINGS, CO, 80926	6429101025	N		N		Y	RF3	Y	RF4	N		N		N	
SCHWANKE	KURT H	15665 RANCHO PAVO DR	COLORADO SPRINGS, CO, 80926	7704002004	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SHIROLA	MATT	4905 JUNIPER VALLEY RD	COLORADO SPRINGS, CO, 80926	7700000061	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SHIROLA	MATTHEW III	4905 JUNIPER VALLEY RD	COLORADO SPRINGS, CO, 80926	7700000035	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SHYKES	MARK A	4390 TIERRA ROJO DR	COLORADO SPRINGS, CO, 80926	7705002009	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SIMCO	JAY D	610 E KANSAS AVE	FOUNTAIN, CO, 80817	5605100003	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SIMCO	JAY D	610 E KANSAS AVE	FOUNTAIN, CO, 80817	5605200040	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SIMMONS	CHARLES J JR/LENORA E	739 RIDGEBURY PL	FOUNTAIN, CO, 80817-4702	5621001005	Y	RW1	N		N		N		N		N		N	
SLUDER	JOE W & ELIZABETH E	801 POND TER	FOUNTAIN, CO, 80817	5605217004	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SMELKER-SCHLEDER PARTNERSHIP		3420 CAPITAL DR	COLORADO SPRINGS, CO, 80939	5333201011	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SMELKER-SCHLEDER PARTNERSHIP		3420 CAPITAL DR	COLORADO SPRINGS, CO, 80939	5333201012	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SMITH	DARYL D & ROGENE M	12805 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3716	5621001007	Y	RW1	N		N		N		N		N		N	
SOARING EAGLES TOWNHOMES		109 E FONTANERO ST	COLORADO SPRINGS, CO, 80907	6436317126	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SOARING EAGLES TOWNHOMES		109 E FONTANERO ST	COLORADO SPRINGS, CO, 80907	6436317127	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SONNENSCHEIN	TEO M	1209 SUNCREST WAY	COLORADO SPRINGS, CO, 80906	6505207015	N		N		Y	RF3	Y	RF4	N		N		N	
SOUTH 750 LLC		PO BOX 430	FOUNTAIN, CO, 80817	5700000010	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
SOUTHWEST EQUITY ASSOC		1450 OLD NORTH GATE RD	COLORADO SPRINGS, CO, 80921	5321001003	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
SOUTHWESTERN HIGHWAY 115		160 ROCK CREEK MESA RD	COLORADO SPRINGS, CO, 80926	7705002005	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SOVEREIGN GRACE CHAPEL INC		320 E CHEROKEE DR	COLORADO SPRINGS, CO, 80926	6530400006	N		N		Y	RF3	Y	RF4	N		N		N	

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SPALDING	DIANE M	202 VERN ST	FOUNTAIN, CO, 80817	5605301004	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SPEIGHT FAMILY PARTNERSHIP LLC		8100 BANDLEY DR	FOUNTAIN, CO, 80817	6525000013	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SPEIGHT FAMILY PARTNERSHIP LLC		8100 BANDLEY DR	FOUNTAIN, CO, 80817	6525000016	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SPENCER	BONNIE L	1915 S PROSPECT AVE	COLORADO SPRINGS, CO, 80906	7700000007	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
SRPC LLC		111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903	5331302012	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
STAPP	LEE CINDY	4871 STEAMBOAT LAKE CT	COLORADO SPRINGS, CO, 80924	6225307003	Y	RW1	N		N		N		N		N		N	
STATE BOARD FOR COMMUNITY | COLLEGES & OCCUPATIONAL EDUCATION		9101 E LOWRY PL	DENVER, CO, 80230-6011	6221200002	Y	RW1	N		N		N		N		N		N	
STATE DEPT OF HIGHWAYS		4201 E ARKANSAS AVE	DENVER, CO, 80222	6429200045	N		N		Y	RF3	Y	RF4	N		N		N	
STATE DEPT OF HIGHWAYS		4201 E ARKANSAS AVE	DENVER, CO, 80222	6429200049	N		N		Y	RF3	Y	RF4	N		N		N	
STATE DEPT OF HIGHWAYS		4201 E ARKANSAS AVE	DENVER, CO, 80222	6429200058	N		N		Y	RF3	Y	RF4	N		N		N	
STATE OF COLORADO	C/O DIVISION OF PURCHASING	633 17TH ST STE 1520	DENVER, CO, 80202-3609	4600000046	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
STATE OF COLORADO	C/O DIVISION OF PURCHASING	633 17TH ST STE 1520	DENVER, CO, 80202-3609	4700000042	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
STATE OF COLORADO		1313 SHERMAN ST STE 618	DENVER, CO, 80203	6500000202	N		N		Y	RF3	Y	RF4	N		N		N	
STATE OF COLORADO		633 17TH ST STE 1520	DENVER, CO, 80202	4500000065	N		Y	UWCR2, BRADLEY PS	Y	UWCR3, BRADLEY PS	N		N		N		N	
STATE OF COLORADO		633 17TH ST STE 1520	DENVER, CO, 80202	4500000117	N		Y	UWCR2	Y	UWCR3	N		N		N		N	
STATE OF COLORADO		633 17TH ST STE 1520	DENVER, CO, 80202	5600000030	N		Y	RW2	Y	RW3	Y	RW4	Y	RF5	Y	RW6	N	
STATE OF COLORADO		633 17TH ST STE 1520	DENVER, CO, 80202	7700000039	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
STAUDINGER	JEFFREY J	8102 BRIGANTINE DR	COLORADO SPRINGS, CO, 80920-4403	5620001004	Y	RW1	N		N		N		N		N		N	
STRATMOOR HILLS UNITED		1705 CHEYENNE MEADOWS RD	COLORADO SPRINGS, CO, 80906	6432400023	N		N		Y	RF3	Y	RF4	N		N		N	
STRIEBEL	ROBERT L & PATRICIA J	730 STARGATE DR	COLORADO SPRINGS, CO, 80911	5531400003	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
STRIEBEL	ROBERT L & PATRICIA J	730 STARGATE DR	COLORADO SPRINGS, CO, 80911	5531400004	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
SUNDANCE INVESTMENTS		900 CASTLETON RD STE 115	CASTLE ROCK, CO, 80109	5700000125	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
SUNRISE UNITED METHODIST CHURCH EXTENSION SOCIETY INC		2655 BRIARGATE BLVD	COLORADO SPRINGS, CO, 80920-3866	6304412001	Y	RW1	N		N		N		N		N		N	
SVIHLA	DANIEL J	625 RAVENSWORTH CT	COLORADO SPRINGS, CO, 80906	6505125007	N		N		Y	RF3	Y	RF4	N		N		N	
TARGET CORPORATION	C/O PROPERTY TAX DEPT T-2221	PO BOX 9456	MINNEAPOLIS, MN, 55440-9456	6226402001	Y	RW1	N		N		N		N		N		N	
TEELING ALICE M LIVING TRUST		615 SOUTHPOINTE CT APT 302	COLORADO SPRINGS, CO, 80906	6432401020	N		N		Y	RF3	Y	RF4	N		N		N	
TERRA COTTA INVESTMENTS LLC		4275 REGENCY DR	COLORADO SPRINGS, CO, 80906	5605100011	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
TERRA COTTA INVESTMENTS LLC		4275 REGENCY DR	COLORADO SPRINGS, CO, 80906	5605107021	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
TERRA COTTA INVESTMENTS LLC		4275 REGENCY DR	COLORADO SPRINGS, CO, 80906	5605107022	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
THERES	KYLE J	4921 BLACK VULTURE GRV	COLORADO SPRINGS, CO, 80916	6436317136	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
TOLIN	RICHARD M & PATTIE L	11120 CALLE CORVO	COLORADO SPRINGS, CO, 80926	7611002017	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
TOMLINSON	CLAYTON	429 AUTUMN PL	FOUNTAIN, CO, 80817	5605107019	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
TRANCE	LEIGH	3410 WHIMBREL LN	COLORADO SPRINGS, CO, 80906	6432409001	N		N		Y	RF3	Y	RF4	N		N		N	
TRANSIT MIX CONCRETE CO		PO BOX 1030	COLORADO SPRINGS, CO, 80901	5300000551	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
TROJANOVICH FOREST REVOC TRUST		910 OLD DUTCH MILL RD	COLORADO SPRINGS, CO, 80907	7602400009	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
TRUJILLO	VIRGINIA	12520 JORDAN RD	FOUNTAIN, CO, 80817-3536	5617003012	Y	RW1	N		N		N		N		N		N	
TUCAN LLC		24 N TEJON ST	COLORADO SPRINGS, CO, 80903	5600000154	Y	RW1	N		N		N		N		N		Y	RW7

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TURKEY CANON RANCH/HOMEOWNERS ASSOC	C/O BRUCE WRIGHT	111 S TEJON ST STE 202	COLORADO SPRINGS, CO, 80903-2246	7600000229	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
UNITED STATES GOVERNMENT	C/O GENERAL SERVICES ADMIN		WASHINGTON, DC, 20405	5729000002	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
UNITED STATES OF AMERICA	C/O GENERAL SERVICES ADMIN		WASHINGTON, DC, 20405-0001	5600000100	Y	RW1, FVA PS	N		N		N		N		N		Y	RW7, RF7, FVA PS
VAN DER WEGE	DUANE A & DIANA M	5603 N MARKSHEFFEL RD	COLORADO SPRINGS, CO, 80923	5316002018	Y	FW1	Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
VANTAGE HOMES CORP		6215 CORPORATE DR STE 200	COLORADO SPRINGS, CO, 80919	6225305006	Y	RW1	N		N		N		N		N		N	
VARGAS	KIKO	1404 W NORTHERN AVE	PUEBLO, CO, 81004	5609401060	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RW7, RF7
VAUGHAN	GEORGE M/SHARON M	PO BOX 88116	COLORADO SPRINGS, CO, 80908-8116	6236407086	Y	RW1	N		N		N		N		N		N	
VICTORIA	EMILIO R	5369 BARNSTORMERS AVE	COLORADO SPRINGS, CO, 80911	6501201199	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
VIGIL	JESSE N	408 FOUNTAIN MESA RD	FOUNTAIN, CO, 80817	5605301003	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
VINTAGE COMMUNITIES INC		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903-1336	5600000138	Y	RW1	N		N		N		N		N		Y	RW7
VINTAGE DEV CO		116 N NEVADA AVE	COLORADO SPRINGS, CO, 80903-1336	6304412002	Y	RW1	N		N		N		N		N		N	
WADKOWSKI	CHARLES M & BRENDA M	15220 S STATE HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7600000193	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
WALSH EDWARD L LIVING TRUST		21003 N STONEGATE DR	SUN CITY WEST, AZ, 85375	5732005024	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
WARD	BRANDON M & THERESA L	8210 BIRDSALL RD	FOUNTAIN, CO, 80817	5628001001	Y	RW1	Y	RF2	N		N		N		Y	RF6	Y	RF7
WARD	JACKIE E & MARGARET S	RR 2 BOX 12406	FOUNTAIN, CO, 80817	5600000096	Y	RW1	N		N		N		N		N		Y	RW7
WARD	TIMOTHY T &	2454 WAYNOKA RD	COLORADO SPRINGS, CO, 80915	5732008001	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
WARD	TIMOTHY T SR	4444 WINDING CIR	COLORADO SPRINGS, CO, 80917	5732008011	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
WARD WILLIAM T III TRUSTEE		2454 WAYNOKA RD	COLORADO SPRINGS, CO, 80915	5729006001	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
WARD WILLIAM T III TRUSTEE		2454 WAYNOKA RD	COLORADO SPRINGS, CO, 80915	5720008001	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
WARD WILLIAM T III TRUSTEE		2454 WAYNOKA RD	COLORADO SPRINGS, CO, 80915	5729006006	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
WASTE CONNECTIONS OF COLORADO INC		35 IRON POINT CIR STE 200	FOLSOM, CA, 95630	5405000023	N		Y	FW2	Y	FW3	N		N		N		N	
WATKINS	CHARLES A	9580 HIGHWAY 115	COLORADO SPRINGS, CO, 80926	7600000248	N		N		Y	RF3	Y	RF4	N		N		N	
WATSON	FRANK C	3815 CRESTA LOMA PL	COLORADO SPRINGS, CO, 80911	6501101051	N		Y	FW2	Y	FW3	Y	FW4	Y	FW5	Y	FW6	Y	FW7
WEDGEWOOD DUCK CLUB LTD	C/O BRUCE KOPPER	102 S CASCADE AVE STE 220	COLORADO SPRINGS, CO, 80903	5600000109	Y	RW1	N		N		N		N		N		N	
WEDGEWOOD FARMS LTD	C/O W BRUCE KOPPER	102 SNCASCADE AVE STE 220	COLORADO SPRINGS, CO, 80903	5621001006	Y	RW1	N		N		N		N		N		N	
WESTCREEK AT WOLF RANCH LLC C/O NOR'WOOD DEV		111 S TEJON ST STE 222	COLORADO SPRINGS, CO, 80903-2246	6301113036	Y	RW1	N		N		N		N		N		N	
WETLESEN	DAVID C/ELOISE V	2340 FULLER RD	COLORADO SPRINGS, CO, 80920-3612	6309001006	Y	RW1	N		N		N		N		N		N	
WHEELER	KENNETH N + INGRID M	13220 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3700	5600000089	Y	RW1	N		N		N		N		N		N	
WIDEFIELD REAL ESTATE VENTURE LLC		3 WIDEFIELD BLVD	COLORADO SPRINGS, CO, 80911	5500000324	N		Y	RW2	Y	RW3	N		N		N		N	
WIDEFIELD REAL ESTATE VENTURE LLC		3 WIDEFIELD BLVD	COLORADO SPRINGS, CO, 80911	5500000347	Y	RW1	Y	RW2	Y	RW3	Y	RW4	Y	FW5	Y	RW6	Y	RW7
WILKINS	LOWELL	625 RANDALL ST	RIDGECREST, CA, 93555-3307	6309001005	Y	RW1	N		N		N		N		N		N	
WILMOT	ROBERT	3440 WHIMBREL LN	COLORADO SPRINGS, CO, 80906	6432409004	N		N		Y	RF3	Y	RF4	N		N		N	
WILSON	ROBERT B	13255 HONEY RUN WAY	COLORADO SPRINGS, CO, 80921	5605400006	Y	RF1	Y	RF2	N		N		Y	RF5	Y	RF6	Y	RF7
WLH LIBERTY LLC | C/O SENIOR LIFESTYLE CORP		111 E WACKER DR STE 2200	CHICAGO, IL, 60601-4601	6217403001	Y	RW1	N		N		N		N		N		N	
WOODMEN ROAD METRO DISTRICT		455 E PIKES PEAK AVE STE 100	COLORADO SPRINGS, CO, 80903-3672	5304005009	Y	RW1	N		N		N		N		N		N	
WOODMEN ROAD METROPOLITAN DIST		455 E PIKES PEAK AVE STE 100	COLORADO SPRINGS, CO, 80903-1305	5303003017	Y	RW1	N		N		N		N		N		N	

Potentially Affected Parcels in El Paso County

***El Paso County parcel data current as of October 17, 2008. The Colorado Springs Utilities' Facilities Information Mapping System (FIMS) GIS data was updated using the El Paso County Assessor's website as of date shown above.**

					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
WOODMEN ROAD METROPOLITAN DIST		520 E COLORADO AVE	COLORADO SPRINGS, CO, 80903-3604	5300000476	Y	RW1	N		N		N		N		N		N	
WOODMEN ROAD METROPOLITAN DIST		520 E COLORADO AVE	COLORADO SPRINGS, CO, 80903-3604	5300000492	Y	RW1	N		N		N		N		N		N	
WOODMEN ROAD METROPOLITAN DIST		520 E COLORADO AVE	COLORADO SPRINGS, CO, 80903-3604	5300000496	Y	RW1	N		N		N		N		N		N	
WOODMEN ROAD METROPOLITAN DIST		520 E COLORADO AVE	COLORADO SPRINGS, CO, 80903-3604	5300000595	Y	RW1	N		N		N		N		N		N	
WOODMEN ROAD METROPOLITAN DIST		520 E COLORADO AVE	COLORADO SPRINGS, CO, 80903-3604	5300000596	Y	RW1	N		N		N		N		N		N	
WOODMEN VALLEY CHAPEL		290 E WOODMEN RD	COLORADO SPRINGS, CO, 80919-1359	5300000594	Y	RW1	N		N		N		N		N		N	
WOODMEN WATER & SANITATION DIST C/O CITY OF COLORADO SPRINGS		PO BOX 1575	COLORADO SPRINGS, CO, 80901-1575	6304400006	Y	RW1	N		N		N		N		N		N	
WRIGHT	BRYAN R	518 CHARING CROSS RD	ELK GROVE VILLAGE, IL, 60007	6432409002	N		N		Y	RF3	Y	RF4	N		N		N	
WRIGHT	SHARON E & BRUCE M	111 S TEJON ST STE 202	COLORADO SPRINGS, CO, 80903	7600000191	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
YOUNG	ELGIE E & MICHELLE	7520 MAVERICK RD	COLORADO SPRINGS, CO, 80908-5021	5304004010	Y	RW1	N		N		N		N		N		N	
ZAFEREO	LEONA M	12410 OLD PUEBLO RD	FOUNTAIN, CO, 80817-3545	5600000115	Y	RW1	N		N		N		N		N		Y	RW7
ZIMMERMAN	JASON E	12665 HOPE PUEBLO RD	FOUNTAIN, CO, 80817	5620001003	Y	RW1	N		N		N		N		N		N	

Legend:
RWx - Raw (Untreated) Water + Alternative No.
UWCRx - Upper Williams Creek Reservoir Site + Alternative No.
JCCRx - Jimmy Camp Creek Reservoir Site + Alternative No.
TANK - Fountain Valley Authority Tap Site
FWx - Finished (Treated) Water + Alternative No.
RFx - Return Flow + Alternative No.
WCRx - Williams Creek Reservoir Site + Alternative No.
UTILx - Utility Line + Alternative No.
WCPS - Williams Creek Pump Station
DRENNAN PS - Drennan Pump Station
BRADLEY PS - Bradley (Upper Williams Creek) Pump Station
FW NORTHFIELD BOOSTER PS - Finished (Treated) Water Reduced Northfield Booster Pump Station
FVA PS - Fountain Valley Authority Pump Station

Potentially Affected Parcels in Fremont County

*Fremont County parcel data current as of October 17, 2008. The original 2005 GIS data was updated using the Fremont County Assessor's website as of date shown above.

					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
ALSINGER-MONTEE INVESTMENTS LLC		201 E ENCANTO	PUEBLO WEST, CO, 81007-3407	3939000000063	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
BARELA	JOE A & PATRICIA A	9429 NEWTON	WESTMINSTER, CO, 80030-0000	3823000000106	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
BLM		3028 E MAIN ST	CANON CITY, CO, 81212-2731	3825140000009	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
BREHM ARTHUR W & ANDREA	ARTHUR W & ANDREA	322 FRE CO RD F45	PENROSE, CO, 81240-9115	3825140000007	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
BRUSH HOLLOW FAMILY ENTERPRISES		20 BOULDER CRESCENT 2ND FLOOR	COLORADO SPRINGS, CO, 80903-3340	3823000000044	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
CHRISTIANSON	JOHN	41 BROADMOOR AVE	COLORADO SPRINGS, CO, 80906-3615	3825140000002	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
CITY OF FLORENCE		600 W 3RD ST	FLORENCE, CO, 81226-1117	3939144003002	Y	UTIL1	N		N		N		N		N		Y	UTIL7
CLAUS	JACLYNN A & CLAUS DANIEL M	P O BOX 742	PENROSE, CO, 81240-0742	3823000000105	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
COLON	JEAN M	202 MACKENZIE AVE	CANON CITY, CO, 81212-9317	3939000000015	Y	RW1, UTIL1, 115 INTAKE/PS	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7, 115 INTAKE/PS
COLORADO VENTURE IV LLC, ROCOLO III LLC		20 BOULDER CRESCENT 2ND FLOOR	COLORADO SPRINGS, CO, 80903-3300	3939000000058	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
CROSSEY JAMES M	JAMES M	P O BOX 51	PENROSE, CO, 81240-0051	3825000000043	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
DARDEN	SIDNEY W	21250 STATE HWY 115	PENROSE, CO, 81240-9370	3825000000053	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
DONALDSON	DANIELA L F	483 GRAZING BIT TRL	PENROSE, CO, 81240-9152	3825000000052	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
EMBORSKY	DAVID E SR	8550 FRE CO RD 123	PENROSE, CO, 81240-9145	3823000000104	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
FEATHERSTON	CHARLES R TRUST 1	305 FRE CO RD F45	PENROSE, CO, 81240-9114	3825220000002	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
HICKS	NORMAN E & ESTHER M	0311 FRE CO RD F-45	PENROSE, CO, 81240-9115	3825140000006	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
JOHN KNOX PRESBYTERIAN CHURCH		2929 E 31ST ST	TULSA, OK, 74105-0000	3823000000153	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
JOHNSON	JOHN CHARLES-CONNIE JO KERRIGAN	333 N COTTONWOOD AVE	CANON CITY, CO, 81212-2508	3825220000005	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
KERR	THOMAS L & MARLENE P	P O BOX 234	PENROSE, CO, 81240-0234	3825220000001	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
LAKEWOOD BRICK & TILE CO		1325 JAY ST	LAKEWOOD, CO, 80214-0000	3825220000004	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
LANCE	ERIC W & TRESSA D	485 GRAZING BIT TRAIL	PENROSE, CO, 81240-9152	3825000000051	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
LOADER	LONNIE L & DINAH P	1015 M ST	PENROSE, CO, 81240-9642	3823000000107	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
LODI INVESTMENTS II LLC		62651 U S HWY 50 E	PENROSE, CO, 81240-9518	3939000000004	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
MC CALLISTER JAMES C	JAMES C	P O BOX 414	CANON CITY, CO, 81215-0414	3823000000045	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
MC DONALD	DOUGLAS JOHN	8325 COUNT RD 123	PENROSE, CO, 81240-9145	3823000000046	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
MITCHELL CURTIS A	CURTIS A	12690 MOUNT SHASTA DR	ELBERT, CO, 80106-8821	3825000000046	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
MONKS ROBERT E 2007 TRUST		3190 CATHEDRAL SPIRES DR	COLORADO SPRINGS, CO, 80904-4706	3939144000001	Y	RW1, 115 INTAKE/PS	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7, 115 INTAKE/PS
MONTEE-VAN EGMOND PROPERTIES LLC		238 WILDHORSE D	PUEBLO, CO, 81007-1025	3939000000005	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
PEARSALL	TIMOTHY L & TINA	P O BOX 182	PENROSE, CO, 81240-0182	3825300000003	Y	RW1, UTIL1, 115 PS 2	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7, 115 PS 2
PITTMAN	CYNTHIA E & BENNY F	303 GRAZING BIT TRAIL	PENROSE, CO, 81240-9658	3825140000001	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
ROCOLO III LLC A COLORADO LLC		20 BOULDER CRESCENT 2ND FLOOR	COLORADO SPRINGS, CO, 80903-3300	3939000000007	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
ROCOLO III LLC A COLORADO LLC		20 BOULDER CRESCENT 2ND FLOOR	COLORADO SPRINGS, CO, 80903-3300	3939000000051	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
ROCOLO III LLC A COLORADO LLC		20 BOULDER CRESCENT 2ND FLOOR	COLORADO SPRINGS, CO, 80903-3300	3939000000059	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7

Potentially Affected Parcels in Fremont County

***Fremont County parcel data current as of October 17, 2008. The original 2005 GIS data was updated using the Fremont County Assessor's website as of date shown above.**

					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
SIMMONS AL L	AL L	1155 HOUSEMAN RD	COLORADO SPRINGS, CO, 80970-6702	3825000000047	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
SLANOVICH	DANIEL L & GUS J	7340 S XANTHIA WAY	CENNTENIAL, CO, 80112-1925	3939000000048	Y	UTIL1	N		N		N		N		N		Y	UTIL7
STATE OF COLORADO	STATE BOARD OF LAND COMM	1313 SHERMAN ST #620	DENVER, CO, 80203-2283	3825000000002	Y	RW1, UTIL1, 115 PS 3	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7, 115 PS 3
STATE OF COLORADO	STATE BOARD OF LAND COMM	1313 SHERMAN ST #620	DENVER, CO, 80203-2283	3825000000057	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
STATE OF COLORADO	STATE BOARD OF LAND COMM	1313 SHERMAN ST #620	DENVER, CO, 80203-2283	3825000088888	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7
STATE OF COLORADO	STATE BOARD OF LAND COMM	615 MACON AVE #108	DENVER, CO, 80203-2283	3663000000027	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
STATE OF COLORADO	STATE BOARD OF LAND COMM	615 MACON AVE #108	DENVER, CO, 80203-2283	3663000000036	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
STATE OF COLORADO	STATE BOARD OF LAND COMM	615 MACON AVE #108	DENVER, CO, 80203-2283	3825290000001	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7
STATE OF COLORADO	STATE BOARD OF LAND COMM	P O BOX 306	DENVER, CO, 80203-2283	3825300000001	Y	RW1, UTIL1, 115 PS 2	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7, 115 PS 2
TROTTI	MELINDA SUE	0058 STATE HWY 120	FLORENCE, CO, 81226-0000	3939231000002	Y	UTIL1	N		N		N		N		N		Y	UTIL7
UNITED STATES OF AMERICA	BUREAU OF LAND MANAGEMENT	3170 E MAIN ST	CANON CITY, CO, 81212-9326	3939240000003	Y	RW1, UTIL1, 115 INTAKE/PS	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7, 115 INTAKE/PS
USA-FORT CARSON			WASHINGTON, DC, 20420-0000	3825000000001	Y	RW1	N		Y	RF3	Y	RF4	N		N		Y	RW7
WOFFENDEN	GEORGE R & JOYCE M	115 CT RD F42	PENROSE, CO, 81240-0415	3823000000050	Y	RW1, UTIL1	N		Y	RF3	Y	RF4	N		N		Y	RW7, UTIL7

Legend:
RWx - Raw (Untreated) Water + Alternative No.
RFx - Return Flow + Alternative No.
UTILx - Utility Line + Alternative No.
115 INTAKE/PS - Highway 115 Intake Pump Station
115 PS 2 - Highway 115 Pump Station 2
115 PS 3 - Highway 115 Pump Station 3

Potentially Affected Parcels in Pueblo County

***Pueblo County parcel data current as of October 17, 2008. The original 2003 GIS data was updated using the Pueblo County Assessor's website as of date shown above.**

					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
2 KFN LTD		1760 OAKMOND CIR	NEW BRAUNFELS, TX, 78132	9520017078	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
240 LLC		1292 S RENEE PL	PUEBLO WEST, CO, 81007	517000001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
240 LLC		1292 S RENEE PL	PUEBLO WEST, CO, 81007	517000004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
610 RLLLP		503 N MAIN ST	PUEBLO, CO, 81003	416000009	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
610 RLLLP		503 N MAIN ST	PUEBLO, CO, 81003	416000010	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ABAKA REPUBLIC MARKETING INC		1415 E COLORADO ST	GLENDALE, CA, 91205	505010006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ABAKA REPUBLIC MKTG INC		1415 E COLORADO ST	GLENDALE, CA, 91205	9520005016	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ADAMS	JOHN W + SANDRA J	12101 PEARL ST	SOUTHGATE, MI, 48195	9520017077	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ADKINS	JAY D	119 E PARAMOUNT DR	PUEBLO WEST, CO, 81007	508003011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
AGAG	ANTONIO R + ELEANOR A	1470 DILLINGHAM BLVD	HONOLULU, HI, 96817-4819	9520005017	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
AKEO	ADAM + GINA	1070 E KIRKWOOD DR	PUEBLO WEST, CO, 81007	9520005008	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ALMEDA	FRANK	2035 ELMWOOD LN	PUEBLO, CO, 81005	433000030	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ANDERSON	ARLEN M	8000 E 12TH AVE	DENVER, CO, 80220	9517004010	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BALLOU	ROBERT W + PATRICIA A	3640 OVERTON RD	PUEBLO, CO, 81008	9418000028	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BALLOU	ROBERT W + PATRICIA A	3640 OVERTON RD	PUEBLO, CO, 81008	9418000029	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BAMBER	CALVIN N	3301 E 8TH ST	PUEBLO, CO, 81001	427000003	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BAMBER	CALVIN N/CALVIN NORMAN	3301 E 8TH ST	PUEBLO, CO, 81001	428400009	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BARALDI	VICTOR ROBERT/DIANE MARIE	2248 COUNTRY CLUB LOOP	WESTMINSTER, CO, 80234	9400000019	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BARR	ROBERT C + BARBARA S	2023 OVERTON RD	PUEBLO, CO, 81008	9406000006	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
BELL	CURTIS N + BETTY M	PO BOX 801	OAKLEY, CA, 94561	508015001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BELL	JOAN M TRUST	3033 E FIRST AVE	DENVER, CO, 80206	9500000002	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
BERGMAN	KENNETH E/MICHELLE S	1110 E JAROSO DR	PUEBLO WEST, CO, 81007	9532017015	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BERNARDO	PEDRO S	2620 MCCORMICK AVE	PUEBLO, CO, 81001	433000067	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BLAND	DAVID D + GADISON DIANA D	1587 S PITKIN CIR	AURORA, CO, 80017	9520017070	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BOTELLO	RICHARD G/ALICE C RAFAEL	20426 S VERMONT AVE	TORRANCE, CA, 90502	9517004009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BRATCHER	JOHN J + LINDA E	PO BOX 7811	PUEBLO WEST, CO, 81007	9532006037	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BRATNICK	JUDY ANN	3041 EASY AVE	PUEBLO, CO, 81005	428427014	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BREWER	LLOYD M + FRANCES E	1016 MARS DR	COLORADO SPRINGS, CO, 80906	8407000006	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
BUNDESEN	THELMA T WANDAHL	228TH SIGNAL COMPANY	APO, AE, 9366	9520017018	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BURKE	VIRGIL G JR + PEGGY A	23387 COUNTY RD 2	CANON CITY, CO, 81212	9529001003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BURNS	LEILANI ANN RODRIGUEZ	1126 NORWOOD AVE	COLORADO SPRINGS, CO, 80906	9532006021	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
BUTORAC	BARBARA J	587 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006020	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
C F + I STEEL LP		P O BOX 316	PUEBLO, CO, 81002	1406000064	N		N		N		Y	RW4, UPSTREAM INTAKE PS	N		Y	RW6	N	
C F + I STEEL LP		P O BOX 316	PUEBLO, CO, 81002	1406000102	N		N		N		Y	RW4, UTIL4	N		Y	RW6, UTIL6	N	
C F and I STEEL LP		P O BOX 316	PUEBLO, CO, 81002	1406000102	N		N		N		Y	RW4, UTIL4	N		Y	RW6, UTIL6	N	
CAMERON	JOHNNY V/STEPHANIE G	695 N CANVAS DR	PUEBLO WEST, CO, 81007	9532018002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CAPE	KENNETH B + ROBBYNE L	2008 WYOMING AVE	PUEBLO, CO, 81004	517003007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CARBONNEAU	RICHARD S	13422 CORDOVA DR	LARGO, FL, 81008	8500003013	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CARDOS	JUAN + EMILIA	APARTADO 240	VALENCIA, , 48917-4426	9520004003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CAREFREE CORP		1025 W FILLMORE ST	COLORADO SPRINGS, CO, 80907	9508001004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CAREFREE CORP		1025 W FILLMORE ST	COLORADO SPRINGS, CO, 80907	9517005019	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CARMBE INC		2103 HILLSIDE RD	PUEBLO, CO, 81006	1405002032	N		N		N		N		N		Y	RW6, DOWNSTREAM PS	N	
CARR	HELEN JEAN	3200 LANGDON RD	PUEBLO, CO, 81001	433018001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	

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CENTRAL ELECTRIC + GAS CO		709 2ND ST	DODGE CITY, KS, 67806	410000003	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
CHAPO	GEORGE JR + DIXIE E	1011 36 1/2 LN	PUEBLO, CO, 81006	428427011	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
CHAVIRA	JESUS R + JUANITA	3109 MCCORMICK AVE	PUEBLO, CO, 81001	433000113	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
CHHORN	DARAN S	7392 BRUSHWOOD PEAK AVE	LAS VEGAS, NV, 89113	508013001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CIMINO	FRANK J + THELMA S, ESPINOZA LISA*	126 5TH ST	DACONO, CO, 80514	9520004004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CIMINO/ESPINOZA	THELMA S/LISA K	126 5TH ST	DACONO, CO, 80514	9520004007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CITY OF PUEBLO	1 CITY HALL PL	1 CITY HALL PL	PUEBLO, CO, 81003	1405000068	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
CITY OF PUEBLO		1 CITY HALL PL	PUEBLO, CO, 81003	432400001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
CITY OF PUEBLO		1 CITY HALL PL	PUEBLO, CO, 81003	434000053	N		N		N		N		Y	RF5	N		N	
CITY OF PUEBLO		1 CITY HALL PL	PUEBLO, CO, 81003	500000002	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
CITY OF PUEBLO		1 CITY HALL PL	PUEBLO, CO, 81003	500000025	N		Y	RW2, UTIL2	Y	RW3, UTIL3	N		N		N		N	
CITY OF PUEBLO		1 CITY HALL PL	PUEBLO, CO, 81003	517000009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
COBLE	BOBBY L + RANDY L	1110 E 13TH ST	PUEBLO, CO, 81001	1405021002	N		N		N		N		N		Y	RW6, DOWNSTREAM PS	N	
COLE	EDWIN DAVID + LUCILLE CLAUDINE	1128 E RANCH DR	PUEBLO, CO, 81007	508003019	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
COLE	EDWIN DAVID + LUCILLE C	1128 E RANCH DR	PUEBLO WEST, CO, 81007	508003018	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
COLE	WILLIAM WALLACE	PO BOX 7551	BRECKENRIDGE, CO, 80424	505014011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
CONGER	RICHARD M + JOYCE P	1725 LAKE AVE	PUEBLO, CO, 81004	428427012	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
COSYLEON	FRANCES GAY	3750 OVERTON RD	PUEBLO, CO, 81008	9418000030	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
COSYLEON	FRANCES GAY	3750 OVERTON RD	PUEBLO, CO, 81008	9418000031	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
COWEN/MOHR/HELMIG/GABLE	WILLIAM/HERMAN/JEANNE/KATHLEEN	3 AUTUMN LN	WALPOLE, MA, 02081	422000005	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
DAURIO	JOHN A + CHARLENE M	58 MACARTHUR RD	PUEBLO, CO, 81001	427000011	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
DE CHABERT	SATURNINA V & PIERRE	6501 YOUNG HOLLOW RD	PUEBLO, CO, 81008	8500001020	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
DEARMAN	JOHN BRYAN, PAMELA ANN , JULIE CHR*	1801 LUCILLE AVE	LOS ANGELES, CA, 90026	9520005009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
DESJARDINS/KEEN/KEEN/JEFFRIES/KEEN		PO BOX 1242	LITTLETON, CO, 80160	422000006	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
DILCHER	MATTHEW B	655 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006043	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
DIONISIO	ALBERT W	1152 41ST LN	PUEBLO, CO, 81006	432425001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
DIONISIO	ALBERT W	1152 41ST LN	PUEBLO, CO, 81006	432426001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
DUSTROL INC		PO BOX 309	TOWANDA, CO, 81001	433020001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
EGGERING	JAMES W	2302 WHEATLAND DR	PUEBLO, CO, 81008	1405012001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ESPINOSA	JUAN L + DEBORAH K	4450 OVERTON RD	PUEBLO, CO, 81008	9406000005	N		N		N		Y	RW4, UTIL4	Y	RF5	Y	RW6, UTIL6	N	
ESPINOSA	JUAN L + DEBORAH K	4450 OVERTON RD	PUEBLO, CO, 81008	9407000001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ESPINOZA	ROBERTO	407 S BIRCHWOOD DR	PUEBLO WEST, CO, 81007-1404	517003006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
FILLAS	ROSALIE B	4084 S YOSEMITE ST	DENVER, CO, 80237	9520005006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
FILLAS	ROSALIE B	4084 S YOSEMITE ST	DENVER, CO, 80237	9520005007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
FOGNANI/SMAUS	VICTOR M + JOHN D/KAREN E	7226 YARROW CT	LITTLETON, CO, 80123	9400000038	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FOLTZ HOMES INC		463 S VENANGO DR	PUEBLO, CO, 81007	9508001005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
FOOTHILLS FARM RLLLP		4810 QUITA CT	PUEBLO, CO, 81001	400000114	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FOOTHILLS FARM RLLLP		4810 QUITA CT	PUEBLO, CO, 81001	422001022	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FOOTHILLS FARM RLLLP		4810 QUITA CT	PUEBLO, CO, 81001	422001024	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FOOTHILLS FARM RLLLP		4810 QUITA CT	PUEBLO, CO, 81001	422001035	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FOOTHILLS FARM RLLLP		4810 QUITA CT	PUEBLO, CO, 81001	422001039	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
FRAZIER	EDWARD J	4444 E OGDEN AVE	LAS VEGAS, NV, 89110	9517004006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
FUNK	BEN + TAYLOR WANDA	2652 N GRANTLAND	FRESNO, CA, 93722	9517004028	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	

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FUNK	BEN + TAYLOR WANDA	2652 N GRANTLAND	FRESNO, CA, 93722	9520017082	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
FURNEY	JAY W	6033 STATE HWY 78	PUEBLO, CO, 81005	9532006036	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
GERSICK COLLEGE PROPERTY LLC		230 MELROSE AVE	PUEBLO, CO, 81004	415000008	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
GIANNETTO	SALVATORE	295 W BALDWYN DR	PUEBLO WEST, CO, 81007	9529011004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
GOFFARD/EDEN LEASING INC	WILLIAM PETER	PO BOX 8244	PUEBLO, CO, 81008	9400001070	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
GOFFARD/EDEN LEASING INC	WILLIAM PETER	PO BOX 8244	PUEBLO, CO, 81008	9400001071	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
GOFFARD/EDEN LEASING INC	WILLIAM PETER	PO BOX 8244	PUEBLO, CO, 81008	9400001072	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
GOFFARD/EDEN LEASING INC	WILLIAM PETER	PO BOX 8244	PUEBLO, CO, 81008	9400001073	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
GOFFARD/EDEN LEASING INC	WILLIAM PETER	PO BOX 8244	PUEBLO, CO, 81008	9400001074	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
GOOD	JOSEPH L	PO BOX 7083	PUEBLO WEST, CO, 81007	508013010	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
GOWDA	C V BYRE + USHA B	139 REGAL CT	MONROEVILLE, PA, 15146-4735	9517004016	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
GRACE	MARCUS J	1972 W GUADALUPE LN	PUEBLO WEST, CO, 81007-1404	508011031	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
GUIMONT	SHERMAN T/RAMONA J	2864 S WINONA CT	DENVER, CO, 80236-2048	517003005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
H E SMITH + DTCHLS CORP		2020 BACULITE MESA RD	PUEBLO, CO, 81001	409000018	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
H E SMITH + DTCHLS CORP		2020 BACULITE MESA RD	PUEBLO, CO, 81001	410000012	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HALL	JACKIE N + URSULA	1865 JUNTURA CT S	SALEM, OR, 97302	9520005015	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HAMMOND	CARMAN V	RR 3 STATION MAIN	HANOVER, ON, 81007	517003002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HANEY	BRANSON A	788 E ALAMEDA LN	PUEBLO WEST, CO, 81007	9517004027	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HARVEY	BETTY LOU TR	4667 N INTERSTATE 25	PUEBLO, CO, 81008	9419000014	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4667 N INTERSTATE 25	PUEBLO, CO, 81008	9419001001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4667 N INTERSTATE 25	PUEBLO, CO, 81008	9419001002	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4909 N INTERSTATE 25	PUEBLO, CO, 81008	9407000003	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4909 N INTERSTATE 25	PUEBLO, CO, 81008	9407000004	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4909 N INTERSTATE 25 N	PUEBLO, CO, 81008	8400000015	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4909 N INTERSTATE 25 N	PUEBLO, CO, 81008	8407000010	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	BETTY LOU TR	4909 N INTERSTATE 25 N	PUEBLO, CO, 81008	8418000009	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HARVEY	KELLY	729 N CANVAS DR	PUEBLO WEST, CO, 81007	9532018009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HARVEY/URENDA	BETTY LOU TR/MARY LOU	4667 N INTERSTATE 25	PUEBLO, CO, 81008	405001005	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
HARVEY/URENDA	BETTY LOU TR/MARY LOU	4667 N INTERSTATE 25	PUEBLO, CO, 81008	9501000008	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
HEARN/OLIVER	HELEN V/JAMES F	2221 S PRAIRIE AVE	PUEBLO, CO, 81005	415000003	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HEMBERGER	WILLIAM A	14673 SUMMER BLOSSOM LN	CHESTERFIELD, MO, 63017-5670	9532006033	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HERNASY	RICHARD P + CAROLINE	563 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006024	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HILDRETH	CHRISTOPHER A + SARAH B	1102 E ORCHID DR	PUEBLO WEST, CO, 81007	505015023	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HOME PARTNERS FINANCE I LLC		1154 HIGHLAND AVE	CHESHIRE CT, CT, 6410	9532006042	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HOME TOWN FINANCE CO		8511 PINE DR	BEULAH, CO, 81023	405000048	N		N		N		Y	RW4, UTIL4	Y	RF5	Y	RW6, UTIL6	N	
HOME TOWN FINANCE CO		8511 PINE DR	BEULAH, CO, 81023	405001009	N		N		N		Y	RW4, UTIL4	Y	RF5	Y	RW6, UTIL6	N	
HOME TOWN FINANCE CO		8511 PINE DR	BEULAH, CO, 81023	405001010	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
HOME TOWN FINANCE CO		8511 PINE DR	BEULAH, CO, 81023	408000001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HOME TOWN FINANCE CO		8511 PINE DR	BEULAH, CO, 81023	408030002	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HOWELL	GERALD W	3049 MCCORMICK AVE	PUEBLO, CO, 81008	433000118	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	

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HOWEY	HAROLD E JR	102 W NOLANA	PHARR, TX, 78577	428427005	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
HUDDLESON	RENEE A	353 N ESCAMBIA DR	PUEBLO WEST, CO, 81007	505005031	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HUDSON	GERALD E	38 LUNA CT	CANON CITY, CO, 81212	9532006018	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
HUNT	JAMES R	2300 CATALPA ST	PUEBLO, CO, 81001	433006028	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
IDOLOR	GASPAR P JR + LORNA V	400 BLOSSOM FIELD RD	FOUNTAIN, CO, 80817-3123	8500005011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
J B T N LLC		1541 STOCKYARD RD	PUEBLO, CO, 81001	1405000087	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
JANSEN	BONNIE	PO BOX 444	PENROSE, CO, 81240	427000046	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
JENRO PROPERTIES LLC		230 MELROSE AVE	PUEBLO, CO, 81004	400000156	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
JENRO PROPERTIES LLC		230 MELROSE AVE	PUEBLO, CO, 81004	415000012	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
JENRO PROPERTIES LLC		230 MELROSE AVE	PUEBLO, CO, 81004	415000012	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
JENRO PROPERTIES LLC		230 MELROSE AVE	PUEBLO, CO, 81004	422000004	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
JOHNSON	CASEY + LELA	7989 MCKISSIC AVE	FREDERICK, CO, 80530	9508003008	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KAY	LAVETTA	1104 E RANCH DR	PUEBLO WEST, CO, 81007	505014004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KEEN	CHARLES J	1266 S THOREAU PL	PUEBLO WEST, CO, 81007	9520004011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KENNEY	NOAH	579 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006035	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KENT	GREGORY LEE/SHERRYL LYNN	3220 LANGDON RD	PUEBLO, CO, 81001	433018002	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
KENT	WENDEL G ROTH IRA	401 MAIN ST	LONGMONT, CO, 80502	9517005011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KIRKLAND	JAMES H + MARY E	PO BOX 580	RYE, CO, 81069	428100010	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
KOEHLER	KENNETH MARK	2036 REIDSVILLE RD	AYR, ON, 44444-9746	9508001008	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KOEHLER	KIM LORNE	463 S VENANGO DR	KITCHENER, ON, 81050	9508001006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KORB	ROBERT M TR	3923 AUGUSTA LN	PUEBLO, CO, 81001-1419	517000005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KRELOVICH	VICTOR A + PAT	PO BOX 1513	RIFLE, CO, 81650	9532017008	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KRUPP	HERBERT W JR + DEBRA L	620 HAGERER ST	RACINE, WI, 53402	9532006032	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KYLE	DAVID C	5541 PRONGHORN RD RR 3	PUEBLO, CO, 81008	8500005019	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
KYLE	DAVID C	5541 PRONGHORN RD RR 3	PUEBLO, CO, 81008-9654	8500005027	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
LEGACY HOMES OF PUEBLO INC		PO BOX 7327	PUEBLO WEST, CO, 81007	9508001007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
LEHMAN	CHARLES R + DIANNE C	27 GREENDALE CRES	KITCHENER, ON, 80901-0817	505015024	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
LUTTRELL	BOBBY KEITH JR/DAUGHERTY MELINDA M	1703 N BEAR BULCH LN	PUEBLO WEST, CO, 81007	9508003007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MADRID	CLYDE G + JOSE WILFRED/MANZANARES *	132 LARCH DR	SECURITY, CO, 80911	8500006010	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MANCUOSO	SHARON	1080 E DESERT COVE DR	PUEBLO WEST, CO, 81007	9532026011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MANJI	ROSHANA H	2700 SATTLEY CIR	LAS VEGAS, NV, 89117	9532006041	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MARTIN	DON H + JOY M	3114 MCCORMICK AVE	PUEBLO, CO, 81001	433000012	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
MARTINEZ	RUEBEN JR + JACQUELINE ANN	9855 E 112TH WAY	HENDERSON, CO, 80640	9520017083	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MASS/MASCIANTONIO/RIDER/RHODES/MASCIANTONIO/WINDWALKER/BATTAGLIA	FRANK III/ETC	27 APOLLO LN	PUEBLO, CO, 81001	9400000016	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
MAXWELL	DWAIN B + HELEN E	1123 N KIRKWOOD DR	PUEBLO WEST, CO, 81007	9520004010	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MC GRANAHAN	WILLIAM RICHARD J/KAREN J	3334 NW BUNGALOW DR	BEND, OR, 97701	9532006023	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MCLAIN/ALLENBACK	ROBIN LYNN/RHONDA LEE	3116 FRANKLIN AVE	PUEBLO, CO, 81008	9532006019	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MICHEL	RICHARD G	1168 S MONTCLAIR DR	PUEBLO WEST, CO, 81007	9517004035	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MIND YOUR OWN BUSINESS TRUST		19955 E PEAKVIEW CT	CENTENNIAL, CO, 80016	9508001001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MONTNEY GERALD		519 SALANO DR	COLORADO SPRINGS, CO, 80906	9529011047	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
MORGAN	BARBARA J	1702 BONNY BRAE LN	PUEBLO, CO, 81001	427000019	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
MORGAN	BARBARA J	1702 BONNY BRAE LN	PUEBLO, CO, 81001	428427001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
MOSHER	ANGELA S CALLOW	320 W 50TH ST	LOVELAND, CO, 80538	9532006034	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	

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MURPHY + HOFFMAN JOINT VENTURE		1524 N CORRINGTON AVE	KANSAS CITY, MO, 64120	434000006	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
NAUMANN	DANIEL J	1491 25TH LN	PUEBLO, CO, 81006	433020002	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
NEFF	ROBERT A	146 E COUNTRYSIDE DR	PUEBLO WEST, CO, 81007	508010006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
NGUYEN	NGUNG	1841 S PUEBLO BLVD	PUEBLO, CO, 81005	508010002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
NICHOLS	CHASE	30671 SUN CREEK DR	EVERGREEN, CO, 80439	9529011006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
NOLEN	TIMOTHY R	355 S BIRCHWOOD DR	PUEBLO WEST, CO, 81007	517003004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
NORRIS	ROBERT C	970 SUMMER GAMES DR	COLORADO SPRINGS, CO, 80906	8400000002	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
NOWACK	JARED M	623 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006040	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
OCCHIATO	JOAN + MICHAEL A TR	207 BRIDLE TRL	PUEBLO, CO, 81005	415000014	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ORTIZ	ALFRED	815 KENNIE RD	PUEBLO, CO, 81001	428428003	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ORTIZ	ALFRED	815 KENNIE RD	PUEBLO, CO, 81001	428428011	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
OSBORN	PATRICIA A	1101 E 14TH ST	PUEBLO, CO, 81001	428428005	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
OSBORN	PATRICIA A	1101 E 14TH ST	PUEBLO, CO, 81001	428428006	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
OSBORN	PATRICIA A	721 N 9TH AVE	TUCSON, AZ, 85705	428428004	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
OWENS	VERA	224 BRIDLE TRL	PUEBLO, CO, 81005	433000011	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
P A L CONSTRUCTION INC		PO BOX 248	PENROSE, CO, 81024	9517004011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PADILLA	RUBEN E + CYNTHIA A HUNGERFORD	16473 DAWNLIGHT DR	FENTON, MI, 48430	9517005009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PAPEZ	ROSE ANN/LOUIS J/DAVID H/JOE	1215 W NORTHERN AVE	PUEBLO, CO, 81004	1405000010	N		N		N		Y	RW4	N		Y	RW6	N	
PARADA	LUCY EVELYN/OLIVIA MARY	728 E CUCHARRAS ST	COLORADO SPRINGS, CO, 80903-3620	8500005012	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PARADISO	DENNIS + RICHARD	2648 MCCORMICK AVE	PUEBLO, CO, 81001	433000117	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PARK	DOUGLAS G + KELLY S	220 BOOTH AVE	PUEBLO, CO, 81001	433000022	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PARKER	JASON J + JENNIFER L	1078 E MARENGO DR	PUEBLO WEST, CO, 81007	505010011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PHILLIPS	THOMAS G	3740 N SHERIDAN BLVD	DENVER, CO, 80812	1405021004	N		N		N		Y	RW4	Y	RF5	Y	RW6, DOWNSTREAM PS	N	
PRADO	ESTRELLA	23708 OAK CIR	NEWHALL, CA, 91321	9520004002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PREDOVICH	WALTER J	302 DITTMER AVE	PUEBLO, CO, 81004	433000001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PROVOST	JOE M + VESTA MAE	2227 41 1/2 LN	AVONDALE, CO, 81022	1405000064	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO COUNTY		215 W 10TH ST	PUEBLO, CO, 81003	427000031	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO COUNTY		215 W 10TH ST	PUEBLO, CO, 81003	427000042	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO COUNTY		215 W 10TH ST	PUEBLO, CO, 81003	427000042	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO COUNTY		215 W 10TH ST	PUEBLO, CO, 81003	432400003	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8400000078	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8400000079	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8400000082	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8400000083	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8400000086	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8400000086	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	8407000017	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH II LLC		1675 BROADWAY	DENVER, CO, 80202	9400000125	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO SPRINGS RANCH LLC		5440 W SAHARA AVE	LAS VEGAS, NV, 89146	409000020	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	506099242	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	506099242	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	506099242	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	506099242	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-1404	508011005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	

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PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-1404	508011006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-1404	508016006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	508099254	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	517000007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	517099386	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	517099386	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-1404	625001001	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	625002001	N		Y	RW2	Y	RW3	N		Y	RF5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	9520099239	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	9521099400	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	9529099237	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	9529099238	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	9532018001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST METRO DISTRICT		PO BOX 7005	PUEBLO WEST, CO, 81007-0005	9533099233	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST REAL ESTATE CO LLC		905 W BELLA CASA DR	PUEBLO, CO, 81007	9517005012	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST REAL ESTATE CO LLC		905 W BELLA CASA DR	PUEBLO WEST, CO, 81007	9520005003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
PUEBLO WEST REAL ESTATE CO LLC		905 W BELLA CASA DR	PUEBLO WEST, CO, 81007-1404	9520005013	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
QUINTANA	THOMAS L/BEATRIZ M	3525 PONY TRACKS DR	COLORADO SPRINGS, CO, 80922	9532017005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
RAEL	FRED S	1536 BACULITE MESA RD	PUEBLO, CO, 81001	415000004	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
RAEL	FRED S	1536 BACULITE MESA RD	PUEBLO, CO, 81001	415000004	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
RASMUSSEN TRUST INC		1461 32ND LN	PUEBLO, CO, 81006	1405019001	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
REETZ	ROGER T + BERNADETTE R	1163 N KIRKWOOD DR	PUEBLO WEST, CO, 81007-1206	9520004006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
REITER	DAVID PAUL + DIANE MARIE	10200 CASEY LN	PARKER, CO, 80138	9520017069	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
REPOLLO	GEORGE E	66 WANINI ST	WAIALUA, HI, 96791	9508001002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
REPOLLO	GEORGE E	66 WANINI ST	WAIALUA, HI, 96791	9508001003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ROBINSON	JASON W	329 S BIRCHWOOD DR	PUEBLO WEST, CO, 81007	517003003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
RODRIGUE	STEVEN + AMY A	8035 NW CORN MOUNTAIN PL	ALBUQUERQUE, NM, 87114	9517004015	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ROGERS	STEPHAN L + SHARON C	145 E DEL RIO DR	PUEBLO WEST, CO, 81007	9529011019	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ROMERO	BERNARD P SR + REBECCA A	1043 E MARENGO DR	PUEBLO WEST, CO, 81007	505015010	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SALMAN	MO + CAROLE	1143 LAWRENCE DR	FT COLLINS, CO, 80521	9520004012	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SANDOVAL	MERCY J/MICHAEL D	703 N CANVAS DR	PUEBLO WEST, CO, 81007	9532018011	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SCHADEN	EVELYN T + PAUL H	254 CALLE DE LA PALOMA	FALLBROOK, CA, 92028	505015025	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SCHILLING	THOMAS C	539 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006031	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SCHUMANN	RUDOLF P	6670 OVERTON RD	PUEBLO, CO, 81008	8407000014	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
SMITH	DENNIS P	10512 BETHOUD WAY	PARKER, CO, 80134	9520005004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SMITH	MARY ANN MICHELLE	1065 N KIRKWOOD DR	PUEBLO WEST, CO, 81007	9529011005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SMUCZEROWICZ	ROGER J	18044 S HIGHLAND AVE	TINLEY PARK, IL, 60477-4271	508011003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SMUCZEROWICZ	ROGER J	18044 S HIGHLAND AVE	TINLEY PARK, IL, 60477-4271	508011004	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SNYDER	JAMES L	2715 S GREENWOOD ST	PUEBLO, CO, 81003	517003001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SPENCER	WILLIAM KAGUA/MARY KAEKAE WOOLSEY	1586 KAMOHOALII ST	HONOLULU, HI, 96819	9532006030	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	

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SPRAGUE + PARADISO PARTNERSHIP		2648 MCCORMICK AVE	PUEBLO, CO, 81001	433000043	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
SPRAGUE + PARADISO PARTNERSHIP		2648 MCCORMICK AVE	PUEBLO, CO, 81001	433000044	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
STAACK	DENNIS E + BONNIE S	1714 OVERTON DR	CASTLE ROCK, CO, 80109	9529011002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
STATE OF COLORADO	DEPT OF NATURAL RESOURCES DIV OF P*	1375 SHERMAN ST	DENVER, CO, 80203-2246	500000019	N		Y	RW2, UTIL2	Y	RW3, UTIL3	N		N		N		N	
STATE OF COLORADO		1375 SHERMAN ST	DENVER, CO, 80203-2246	500000012	N		Y	RW2, UTIL2	Y	RW3, UTIL3	N		N		N		N	
STEWART	SEAN M + MICHELLE A	1191 N KIRKWOOD DR	PUEBLO WEST, CO, 81007	9520004005	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SURNIAK	CYNTHIA + BERNARD	1049 LARAMIE ST	ANAHEIM, CA, 92806	8500001002	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
SWICK	BECKY A	3832 DEVONSHIRE LN	PUEBLO, CO, 81005	508011001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
TANO	DARREL G	46 HEEIA ST	KANEOHE, HI, 96744	9532018007	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
THATCHER	JOHN H JR TRUST/BETH E TRUST	PO BOX 25	BOONE, CO, 81025	427000057	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
THORNTON	CHARLES ANTHONY/PATRICIA JANNELL	607 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006038	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
THORNTON	CHARLES/PATRICIA JANNELL	607 N CANVAS DR	PUEBLO WEST, CO, 81007	9532006039	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
TORRI	NATE + TRACEY	1851 N BAT MASTERSON LN	PUEBLO WEST, CO, 81007	9508001009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
TROTTER	RAMONA	923 GEMINI LN	PUEBLO, CO, 81008	406000080	N		N		N		Y	RW4, UTIL4	Y	RF5	Y	RW6, UTIL6	N	
UNDERHILL	SMITH ADAM D/CANDY S	1097 N KIRKWOOD DR	PUEBLO WEST, CO, 81007	9529011001	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
UNITED STATES OF AMERICA		BLDG 20 DENVER FED CEN	DENVER, CO, 80225	500000008	N		Y	UTIL2	Y	UTIL3	N		N		N		N	
UNITED STATES OF AMERICA		BLDG 20 DENVER FED CEN	DENVER, CO, 80225	531000001	N		Y	UTIL2	Y	UTIL3	N		N		N		N	
UNITED STATES OF AMERICA		BLDG 20 DENVER FED CEN	DENVER, CO, 80225	531000012	N		Y	UTIL2	Y	UTIL3	N		N		N		N	
UNITED STATES OF AMERICA		BLDG 20 DENVER FED CEN	DENVER, CO, 80225	531000014	N		Y	UTIL2	Y	UTIL3	N		N		N		N	
UNITED STATES OF AMERICA		BLDG 20 DENVER FED CEN	DENVER, CO, 80225	600000058	Y	RW1	Y	RW2, UTIL2	Y	RW3, UTIL3	N		N		N		N	
UNITED STATES OF AMERICA		BLDG 20 DENVER FED CEN	DENVER, CO, 80225	625000004	N		Y	RW2, UTIL2, JUNIPER PS	Y	RW3, UTIL3, JUNIPER PS	N		Y	RF5	N		N	
URENDA	MARY LOU + ALBERT PETE	2605 LOWELL AVE	PUEBLO, CO, 81008	9406000011	N		N		N		Y	RW4, INTERMEDIATE PS	Y	RF5	Y	RW6, INTERMEDIATE PS	N	
URENDA	MARY LOU + ALBERT PETE	2605 LOWELL AVE	PUEBLO, CO, 81008	9406000014	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
URENDA	MARY LOU + ALBERT PETE	4667 N INTERSTATE 25	PUEBLO, CO, 81008	9400000003	N		N		N		Y	RW4, INTERMEDIATE PS	Y	RF5	Y	RW6, INTERMEDIATE PS	N	
VALCO INC		PO BOX 550	ROCKY FORD, CO, 81067	432400004	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
VELASQUEZ	ELOVEIDA B	1115 E IVANHOE DR	PUEBLO WEST, CO, 81007	508006029	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
VIGIL	JOSE M + SYLVIA G	527 KENNIE RD	PUEBLO, CO, 81001	428427006	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
VIGIL	JOSE M + SYLVIA G	527 KENNIE RD	PUEBLO, CO, 81001	428427007	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
VISION PARTNERS LLC		87 N MISSION DR	PUEBLO WEST, CO, 81007	433000036	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WALKER RANCHES LLLP	WALKER GEORGIA A	7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007-1046	9508000001	N		Y	RW2	Y	RW3	Y	UTIL4	Y	RW5	Y	UTIL6	N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	8500000006	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	8500000037	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	8500000045	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	8500000046	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	8500000049	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	9500000003	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	9500000004	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	9500000005	N		N		N		Y	UTIL4	N		Y	UTIL6	N	

Potentially Affected Parcels in Pueblo County

*Pueblo County parcel data current as of October 17, 2008. The original 2003 GIS data was updated using the Pueblo County Assessor's website as of date shown above.					Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6		Alternative 7	
Last Name	First Name	Address	City and Zip	Parcel Number	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component	Included	Component
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	9500000006	N		Y	RW2	Y	RW3	Y	UTIL4	Y	RW5	Y	UTIL6	N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	9500000029	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
WALKER RANCHES LLLP		7170 TURKEY CREEK RANCH RD	PUEBLO, CO, 81007	9501000007	N		N		N		Y	UTIL4	N		Y	UTIL6	N	
WALSH	HERBERT S + KATHERINE L	1131 N KIRKWOOD DR	PUEBLO WEST, CO, 81007	9520004009	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WARE	DON	1000 KENNIE RD	PUEBLO, CO, 81001	427000051	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WARE	DON	1000 KENNIE RD	PUEBLO, CO, 81001	427000052	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WARE	DON	PO BOX 11580	PUEBLO, CO, 81001	428428010	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WARE	DON R + ARLEEN L	900 KENNIE RD	PUEBLO, CO, 81001	427000035	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WARREN JIM	JIM + BERNADETTE	831 SANTA FE DR	PUEBLO, CO, 81006	1406000005	N		N		N		Y	RW4, UTIL4, UPSTREAM INTAKE PS	N		Y	RW6, UTIL6	N	
WATERMAN/WARDS	VERA M/DEBRA A	215 BOOTH AVE	PUEBLO, CO, 81001	433000025	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WATERMAN/WARDS	VERA M/DEBRA A	215 BOOTH AVE	PUEBLO, CO, 81001	433000025	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
WEATHERS	LAURIE A	1070 E SEQUOYA DR	PUEBLO WEST, CO, 81007	505005020	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WESTERLAGE	DAVID M	1112 E PARAMOUNT DR	PUEBLO WEST, CO, 81007	508006016	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WESTERN TAMPA LLC		7173 HWY 159 E	BELLVILLE, TX, 77418	1406000128	N		N		N		Y	RW4, UTIL4	N		Y	RW6	N	
WILLIAMS	ANNA	PO BOX 131615	CARLSBAD, CA, 92013	9400000041	N		N		N		Y	RW4, UTIL4	Y	RF5	Y	RW6, UTIL6	N	
WILLIAMS	PAUL L + PAMELA L	1081 N KIRKWOOD DR	PUEBLO WEST, CO, 81007	9529011003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WILLIAMS	ROGER A + CLINT O	717 N CANVAS DR	PUEBLO WEST, CO, 81007	9532018003	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
WILSON	STEVEN A	1090 E LINDA AVE	PUEBLO WEST, CO, 81007	9529010017	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ZAGGY	CAROLYN S	10770 ROEDEL RD	FRANKENMUTH, MI, 48734-9130	505011015	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ZAUTCKE	CAROL	PO BOX 206	CASCADE, CO, 80809-0206	9520004008	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	
ZERCHER	BURNELL D	6333 BURNT MILL RD	BEULAH, CO, 81023	1405000063	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ZERCHER	BURNELL D	6333 BURNT MILL RD	BEULAH, CO, 81023	1405000063	N		N		N		Y	RW4	Y	RF5	Y	RW6	N	
ZOPH	LINCOLN E JR + BETTY R	2107 GABRIEL AVE	ZION, IL, 60099-2220	9520005014	N		Y	RW2	Y	RW3	N		Y	RW5	N		N	

Legend:
RWx - Raw (Untreated) Water + Alternative No.
RFx - Return Flow + Alternative No.
UTILx - Utility Line + Alternative No.
JUNIPER PS - Juniper Pump Station
UPSTREAM INTAKE PS - Arkansas River Upstream of Confluence Pump Station
INTERMEDIATE PS - Intermediate Pump Station
DOWNSTREAM PS - Arkansas River Downstream of Confluence Pump Station

Appendix I

Programmatic Agreement for Cultural Resources

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PROGRAMMATIC AGREEMENT
AMONG
THE BUREAU OF RECLAMATION, EASTERN COLORADO AREA OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
COLORADO SPRINGS UTILITIES, AND
THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE SOUTHERN DELIVERY SYSTEM PROJECT

WHEREAS, Colorado Springs Utilities, the City of Fountain, Security Water District, and Pueblo West Metropolitan District (Project Participants) intend to develop and construct a water delivery system from Pueblo, Colorado or Fremont County to Colorado Springs, Colorado, for the purpose of providing water to the Project Participants' service areas, called the Southern Delivery System (Project); and

WHEREAS, the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) which owns and operates the Fryingpan-Arkansas Project, proposes to issue long term storage, conveyance, and exchange contracts with the Project Participants to use Fryingpan-Arkansas Project facilities, and is acting as lead Federal Agency for purposes of complying with Section 106 of the National Historic Preservation Act (NHPA); and

WHEREAS, the project represents a series of undertakings with similar, repetitive effects to historic properties, the effects usually can not be determined before final siting, and Reclamation has consulted with the Advisory Council on Historic Preservation (ACHP) and the Colorado State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 14; and

WHEREAS, Reclamation has identified and notified the Apache Tribe of Oklahoma, the Cheyenne and Arapaho Tribes of Oklahoma, the Comanche Nation of Oklahoma, the Fort Sill Apache Tribe, the Jicarilla Apache Nation, the Kiowa Tribe of Oklahoma, the Mescalero Apache Tribe, the Northern Arapaho Tribe, the Northern Cheyenne Tribe, the Northern Ute Tribe, the Pawnee Nation of Oklahoma, the Shoshone Tribe (Eastern Band), the Shoshone-Bannock Tribe, the Southern Ute Indian Tribe, the Ute Indian Tribe, and the Ute Mountain Ute Tribe as Native American tribes that may attach religious and cultural significance to historic properties in the Area of Potential Effect (APE); and

WHEREAS, The Cheyenne and Arapaho Tribes of Oklahoma, the Comanche Nation, the Jicarilla Apache Nation, the Kiowa Tribe of Oklahoma, the Northern Arapaho Tribe, the Northern Cheyenne Tribe, Northern Arapaho Tribe, the Northern Ute Tribe, the Pawnee Nation of Oklahoma, the Southern Ute Indian Tribe, and the Ute Mountain Ute Tribe have requested to be Consulting Parties for this undertaking, according to 36 CFR 800.2(c)(2) and 800.3(f)(2); and these tribes have indicated their interest in this PA and have been invited to sign as Concurring Parties, pursuant to 36CFR 800.6(c)(3)(consulting parties invited to concur in the agreement); and

WHEREAS, Colorado Springs Utilities will be responsible for constructing the Project, will manage the project for the Project Participants, is considered a consulting party under 36 CFR 800.2(c) (4)(applicants for Federal approval are entitled to participate as consulting parties), and has been invited to be a Signatory to this Programmatic Agreement (PA) 36CFR 800.6(c)(2)(iii)(any party that assumes a responsibility in this agreement); and

WHEREAS, Reclamation has limited authority and control once the long term contracts are in place and will not be active with design changes, discoveries of historic properties, and discoveries of Native American Remains on State Lands once the primary treatment (mitigation) report has been accepted (See timeline, Appendix C), and, through this PA, intends that Colorado Springs Utilities will undertake the primary management of historic resources thereafter during construction;

NOW, THEREFORE, Reclamation, the ACHP, the SHPO, Colorado Springs Utilities (Signatories), and the Concurring Parties agree that the following stipulations shall be implemented in order to take into account the effects of the undertaking on historic properties, and to satisfy all responsibilities under Section 106 of the NHPA.

STIPULATIONS

In coordination with the Signatories and Concurring Parties, Reclamation shall ensure that the following measures are implemented:

I. Identification and Evaluation of Historic Properties

A. Reclamation shall refine the APE, in consultation with the Signatories and Consulting Parties, as the project develops. Modifications to the APE may be made from time to time after consultation with the SHPO.

B. Reclamation, with the cooperation of the Project Participants, will complete pre-field research of previously recorded sites within one mile of the reservoir boundaries, and for the pipelines, a 250 foot corridor for purposes of evaluating the expected resources for the Environmental Impact Assessment, and as a factor in selecting the most appropriate alternative(s). Reclamation will also conduct a cultural resource field inventory within the project boundary to identify and evaluate all historic properties that have the potential to be affected by the project. Certain historic features will be recorded as detailed in Appendix A. Minor geotechnical and other testing may be conducted in areas surveyed but with no historic resources present.

C. If the NRHP eligibility of potentially affected cultural properties cannot be evaluated during field inventory, Reclamation, with the cooperation of the Project Participants, will accomplish the necessary testing to determine eligibility. Site boundaries shall be determined based on artifactual and historical evidence.

D. Reclamation, with the cooperation and approval of the Project Participants, will prepare a cultural resources inventory report based on the results of this field work and submit the report to the Signatories and Concurring Parties for review and comment regarding the identification of historic properties, their National Register of Historic Places (NRHP) eligibility, and project effects. The reviewers shall either provide written comments to Reclamation within 30 calendar days after receiving the report or will be considered to have "no comment." Reclamation acknowledges that Native American Consulting Parties possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to them. Reclamation will consult with Native American tribes to determine whether there are any tribal religious or cultural properties of significance within the APE.

E. Reclamation, with the cooperation and approval of Colorado Springs Utilities, will prepare a final inventory report incorporating the comments and provide a copy for all Signatories and Concurring Parties.

F. Reclamation, with the cooperation and approval of Colorado Springs Utilities, shall propose determinations of NRHP eligibility for concurrence by the SHPO pursuant to 36CFR 800.4(c). Reclamation shall also provide this finding to the Concurring Parties of this PA.

II. Treatment Plan to Resolve Adverse Effects

A. Reclamation, with the cooperation and approval of Colorado Springs Utilities, will prepare a treatment plan before construction begins on the project that is designed to resolve adverse effects on eligible historic properties within the APE. The treatment plan shall address all characteristics making the properties eligible for inclusion in the NRHP. The treatment plan shall be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR 68), the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-42), and shall take into account the ACHP's publication *Treatment of Archaeological Properties: A Handbook* (Advisory Council on Historic Preservation 1980). The treatment plan shall contain at least the items specified in Appendix B.

B. Reclamation, with the cooperation and approval of Colorado Springs Utilities, will provide the draft treatment plan to all Signatories and Concurring Parties for review and comment. The Signatories and Concurring Parties shall provide comments to Reclamation within 30 calendar days after receiving the plan. Any comments shall be in writing, with copies provided by Reclamation to other Signatories and Concurring Parties. Any Signatory or Concurring party not commenting within the review period shall be considered to have "no comment" on the plan. Review of the treatment plan may be conducted concurrently with review of the inventory report described in stipulation I, above.

C. Reclamation, with the cooperation and approval of Colorado Springs Utilities, will compile all comments received from the reviewing parties and revise the draft plan

D. Reclamation shall provide the final treatment plan to the SHPO and request the SHPO's concurrence that the plan adequately resolves adverse effects. The SHPO shall respond to Reclamation's request for concurrence within 15 calendar days.

E. Once Reclamation, Colorado Springs Utilities, and the SHPO concur that the final treatment plan is acceptable in consideration of all the comments received, Reclamation shall notify Colorado Springs Utilities to begin implementing the treatment plan. Reclamation, with the cooperation of the Project Participants, will provide a copy of the final treatment plan to all Signatories and Concurring Parties.

III. Treatment Report

A. Colorado Springs Utilities shall prepare a draft treatment report covering all resources in areas expected to be impacted by the Project, after cultural resource field work in the primary treatment plan has been completed. The treatment report shall document the analyses and results of investigations covered by the treatment plan. Colorado Springs Utilities will provide the draft treatment report to Reclamation, and Reclamation will provide copies to all Signatories and Concurring Parties for review and comment. The Signatories and Concurring Parties shall provide written comments to Reclamation within 45 calendar days after all needed information has been received. Any Signatories or Concurring party failing to comment within the review period shall be considered to have "no comment" on the report.

B. Colorado Springs Utilities shall compile all comments received and revise the draft report in accordance with direction provided by Reclamation. Upon concurrence of the final treatment report by the SHPO and acceptance by Reclamation, Reclamation will provide a copy to the Signatories and Concurring Parties.

IV. Modifications to Project Design

A. Modifications of project design that would cause an effect to newly included areas of the APE or other significant sites shall be dealt with in accordance with Stipulations I, II, and III, producing secondary treatment plans and reports. The Signatories and Concurring Parties will receive a copy of all final reports of historic property investigations conducted under this Stipulation.

V. Unanticipated Discovery of Historic Properties

A. If previously unrecorded cultural properties are discovered during construction, the following actions will be assured by Colorado Springs Utilities:

1. Construction shall immediately cease in the area of the discovery and measures will be taken to protect the cultural properties.
2. The discovery shall be reported within two (2) working days to the SHPO and to Reclamation.

3. Reclamation, with the assistance of the Project Participants, shall submit a proposed eligibility determination and site-specific treatment consistent with the primary treatment plan and in accordance with Stipulation II.A above.

B. Reclamation (or after the primary Treatment Report is accepted, Colorado Springs Utilities, hereafter termed Reclamation/Colorado Springs Utilities) shall conclude consultation with the SHPO within five (5) working days of delivery of the treatment proposal regarding the discovery and proposed treatment. On SHPO's agreement that the proposed site-specific treatment of the discovered cultural resource is acceptable, Colorado Springs Utilities shall begin implementing the treatment. Construction may proceed after application of the agreed treatment.

C. If the discovered historic property is near an area identified by a Native American tribe as a Traditional Cultural Property (TCP), as described in *National Register Bulletin 38*, Reclamation/ Colorado Springs Utilities will consult with the Concurring tribes regarding the proposed treatment before consulting with the SHPO pursuant to Stipulation V.B above. The tribe(s) shall provide comments to Reclamation/Colorado Springs Utilities within 15 calendar days. Any tribe failing to comment within the review period shall be considered to have concurred with the proposed treatment.

VI. Unanticipated Discovery of Human Remains

A. In the event that human remains or funerary objects are discovered on lands owned by the Federal Government, Colorado Springs Utilities or its contractors will immediately cease construction in the area of the discovery and take steps to protect the discovery. Colorado Springs Utilities shall notify the Federal Agency by telephone within 24 hours of discovery, followed by written confirmation. If it is determined by an archaeologist or physical anthropologist that the human remains or funerary objects are of Native American origin, the Federal Agency shall notify and consult with appropriate Native American tribes to determine treatment and disposition measures in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). Non-Native American remains will be handled according to the procedures of the Federal Agency. After any necessary consultations, the Federal Agency will authorize a resolution to the situation, which shall address resumption of construction. This clause shall be in effect for the duration of project construction. Details on who to contact for each agency will be included in the treatment plan.

B. In the event that Native American burials/human remains are discovered on state, county, municipal or private lands in Colorado during the Project, the provisions in CRS 24-80-1301 to 1305 (Unmarked Human Graves), and subsequent regulations by the Colorado State Archaeologist (8CCR 1504-7) shall be followed. These regulations identify methods and procedures for the recovery, analysis, and disposition of human remains and associated funerary objects that reflect concerns and/or conditions identified as a result of consultations among the SHPO and those groups claiming cultural affiliation with the remains or objects.

VII. Curation

All materials and records resulting from the testing and treatment program that are from Project Participants, Reclamation, state, county, or municipal lands will be curated at the Colorado Springs Pioneer Museum, or other repository jointly agreed upon by the owner and the SHPO, except as specified after consultations under Stipulation VI, above. Actions on other Federal lands will be coordinated with the Agency in advance. Private landowners will be requested to donate materials to the Colorado Springs Pioneer Museum or other repository jointly agreed upon by the owner and the SHPO. In no case will artifacts be removed from the ground prior to having a signed curation agreement with a museum or curation facility approved by the SHPO, except for a private landowner who wishes to retain possession of materials from his or her land, but is willing for the materials to be studied and recorded. All materials to be returned to private land owners will be maintained in accordance with 36 CFR 79 until their analysis, including photographic documentation of all materials, is complete.

VIII. Other Terms and Conditions

A. Any Signatory may request that this PA be modified, amended or terminated by notifying all the other Signatories and Concurring Parties in writing. The request must specify the reason for the modification, amendment or termination. Within 30 calendar days after receiving the notice, Reclamation shall consult with the other Signatories regarding the request and, if necessary, draft an amendment to the PA and distribute it to the Signatories and Concurring Parties. The Signatories and Concurring Parties shall have 30 calendar days to sign the amendment after receiving it. If no response is received within the thirty day period the amendment shall be deemed to be accepted by that party. If agreement cannot be reached, any of the Signatories may request the participation of the ACHP to assist in resolving the dispute.

B. Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, Reclamation shall consult with such party to resolve the objection. If Reclamation determines that such objection cannot be resolved, Reclamation will:

1. Forward all documentation relevant to the dispute, including Reclamation's proposed resolution, to the Advisory Council on Historic Preservation (ACHP). The ACHP shall provide Reclamation with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, Reclamation shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. Reclamation will then proceed according to its final decision.
2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, Reclamation may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, Reclamation shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

3. It is Reclamation's responsibility to ensure the Colorado Springs Utilities carries out all actions required by the terms of this MOA that are not the subject of the dispute and remain unchanged.

C. Reclamation's active role in the cultural resources investigations of the project will end on acceptance by the SHPO of the primary treatment report. Colorado Springs Utilities will assume active management, keeping Reclamation informed of consultations, finds, and reports prepared under this agreement. For design changes occurring after the primary treatment report is completed and accepted by the SHPO, Reclamation's role will be assumed by Colorado Springs Utilities and Reclamation will no longer **actively** participate in the activities covered by this PA. Reclamation will help mediate disputes between the Signatories or Consulting Parties, help resolve discoveries on Federal lands, and participate in the annual meetings that are described below in Stipulation VIII, F.

D. Reclamation shall ensure that all historic preservation work conducted pursuant to this PA is carried out by or under the direct supervision of a person or persons meeting at a minimum the standards set forth in the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9).

E. Reclamation shall ensure all cultural resource investigations on state, county and municipal lands that are carried out pursuant to the PA are properly permitted by the SHPO pursuant to C.R.S. 24-80-401 and C.R.S. 24-80-1301.

F. An annual meeting shall be held to discuss progress toward meeting the terms of this agreement. All Signatories and Concurring Parties shall be informed of the meeting and invited to attend.

G. Termination. If Colorado Springs Utilities determines that it cannot implement the terms of this agreement, or if a signatory determines that the agreement is not being properly implemented, such party may propose to the other signatories to this agreement that it be terminated, in accordance with 36 C.F.R. §800.6(c)(1) and (8).

1. The party proposing to terminate this agreement shall so notify all parties to this agreement, including the Signatories and concurring parties, explaining the reasons for termination and affording the parties at least thirty (30) days to consult and seek alternatives to termination. The parties shall then consult.
2. If after the expiration of thirty (30) days (or such greater time period as may be agreed upon by all signatories) an agreement to avoid termination cannot be reached, the signatory may terminate this agreement by so notifying all parties in writing.
3. Should this agreement be terminated, Reclamation shall either:
   (a) Consult in accordance with 36 C.F.R. §800.6 to develop a new MOA; or
   (b) Request the comments of the ACHP pursuant to 36 C.F.R. §800.7.

H. If any provision of this Agreement shall be found to be illegal, the remaining provisions of this Agreement shall remain in full force and effect, and such term or provision shall be deemed stricken for as long as it remains illegal

I. This Agreement with attachments constitutes the entire agreement among the parties and supersedes all previous written or oral communications, understandings, and agreements among the parties unless specifically stated herein. This Agreement may only be amended by a written agreement signed by Reclamation, Colorado Springs Utilities, and the SHPO. Email and all other electronic (including voice) communications shall not constitute "written agreements" for purposes of this paragraph.

Execution of this PA, its subsequent filing with the ACHP, and implementation of its terms, evidences that Reclamation has afforded the ACHP an opportunity to comment on the Project and its effects on historic properties and has, therefore, taken the effects of the undertaking into account, and has satisfied its Section 106 responsibilities for all individual actions of this undertaking.

SIGNATORIES

BUREAU OF RECLAMATION, EASTERN COLORADO AREA OFFICE

By:____________________________ Date:__________

Title:____

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By:____________________________ Date:__________

Title:____

COLORADO STATE HISTORIC PRESERVATION OFFICER

By:____________________________ Date:__________

COLORADO SPRINGS UTILITIES

By:____________________________ Date:__________

Title:____

CONCURRING PARTIES

CHEYENNE AND ARAPAHO TRIBES OF OKLAHOMA

By:______________________________ Date:____________

Title:____

COMANCHE NATION

By:______________________________ Date:____________

Title:____

JICARILLA APACHE NATION

By:______________________________ Date:____________

Title:____

KIOWA TRIBE OF OKLAHOMA

By:______________________________ Date:____________

Title:____

NORTHERN ARAPAHO TRIBE

By:______________________________ Date:____________

Title:____

NORTHERN CHEYENNE TRIBE

By:______________________________ Date:____________

Title:____

NORTHERN UTE TRIBE

By:______________________________ Date:____________

Title:____

PAWNEE NATION OF OKLAHOMA

By:______________________________ Date:____________

Title:____

SOUTHERN UTE TRIBE

By:______________________________ Date:____________

Title:____

UTE MOUNTAIN UTE TRIBE

By:______________________________ Date:____________

Title:____

Appendix A
Evaluation of Historic Features

The following project specific guidelines with regard to the documentation of certain historic features present within the SDS study area were defined and agreed upon by Reclamation and the Colorado SHPO at a meeting on June 23, 2004:

A. Proposed Jimmy Camp Creek Reservoir
   a. Historic sites recorded within the Banning-Lewis Ranch can be recorded as separate sites; they do not need to be recorded as part of a larger Banning-Lewis Ranch site. It should be indicated on the site form that WCRM believes the site is likely part of the Ranch (see item I.C. below).
   b. The historic Jimmy Camp Trail should be recorded as a separate site.
   c. Historic features such as fence segments and road segments (other than the trail) should not be recorded as sites, but should be discussed in the report narrative with a map that shows their general location.

B. Proposed Williams Creek Reservoir
   a. The erosion control berms are likely 50 years old, however, they do not need to be recorded as sites. These should be discussed in the report narrative with a map that shows their general location.
   b. Historic features such as fence segments, road segments, irrigation ditches and stock ponds should not be recorded as sites. They should be discussed in the report narrative with a map that shows their general location.

C. Pipeline Link between the Proposed Reservoirs
   a. The northern portion of the area was part of the Banning-Lewis Ranch. Therefore, resources should be documented as outlined above for Jimmy Camp Creek.
   b. The resources located in the central and southern portions of the link should be documented as outlined above for Williams Creek.

D. Study Area south of the Proposed Williams Creek Reservoir
   a. The erosion control berms are likely 50 years old, however, they do not need to be recorded as sites. These must be discussed in the report narrative with a map that shows their general location.
   b. Historic features such as fence segments, road segments, irrigation ditches and stock ponds should not be recorded as sites, but should be discussed in the report narrative with a map that shows their general location.

Appendix B
Contents of Treatment Plan

A. The property, properties, or portions of properties where treatment will be carried out;

B. Any property, properties, or portions of properties that will be destroyed or altered without treatment;

C. The results of previous research relevant to the project;

D. The research problems or questions to be addressed through treatment, with an explanation of their relevance and importance;

E. The field and laboratory analysis methods to be used with a justification of their cost-effectiveness and how they apply to the properties and research needs;

F. The methods to be used in artifact, data and other records management, including curation of recovered materials and records in accordance with 36 CFR 79;

G. Explicit provisions for disseminating the research findings to professional peers and the public in a timely manner;

H. Procedures for monitoring, evaluating and treating discoveries of unexpected or newly identified historic properties during construction of the project, including necessary consultation with other parties; and,

I. A Collection Plan that will indicate how and when artifacts are to be collected. Historic artifacts, (nails, for example) rapidly become redundant when machine made parts are found. The Collection Plan should specify the number of each size and style to be collected as representative of the finds for historical data, and the type of prehistoric artifacts to be collected. For example, fire-cracked rock can be sampled rather than completely collected.

Appendix C
Approximate Timeline

Time Schedule for Construction

A. Colorado Springs Utilities has determined that Phase 1 facilities must be operational in 2012; therefore, construction has been scheduled in the period from 2009 through 2011.

   Phase 1 construction includes Raw Water Intake (not including the Arkansas/Otero facilities and groundwater), Raw Water Pipelines and Pump Stations, conventional Water Treatment Plant, Finished Water Conveyance, exchange facilities for Alternative 5 only, and Return Flow Pipelines and Pump Stations for Alternatives 3 and 4. For Alternatives 1 and 7, Phase 1 also includes construction of terminal storage at Jimmy Camp Creek Reservoir (JCCR), and an extension of the Fountain Valley Authority (FVA) pipeline to the SDS pipeline.

B. For Alternatives 2 through 6, Terminal Storage is constructed in 2015 through 2017 and is operational in the year 2018. Terminal Storage is considered Phase 2 but is constructed earlier than the balance of Phase 2 work.

C. Springs Utilities has determined that Phase 2 facilities must be fully operational in 2025, with the exception of the Arkansas/Otero and groundwater facilities, which are required to be operational by 2027 and 2029, respectively.

   Phase 2 construction includes construction of the Arkansas/Otero facilities for Alternatives 1 and 7, groundwater for Alternative 1, Water Treatment and Finished Water Conveyance expansions, Exchange Storage and Exchange Conveyance for Alternatives 1, 2, 6 and 7. For the Phase 2 facilities operational by 2025, construction has been scheduled for the period of 2020 through 2024. For the Arkansas/Otero and groundwater facilities, construction is assumed to occur over a 2 year period, 2025-2026 and 2027-2028 respectively.

The alternatives are:

- Alternative 1 No Action
- Alternative 2 Proposed Action
- Alternative 3 Wetland Alternative
- Alternative 4 Arkansas River Alternative
- Alternative 5 Fountain Creek Alternative
- Alternative 6 Downstream Intake Alternative
- Alternative 7 Highway 115 Alternative

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