

CHAPTER 1 - PURPOSE OF AND NEED FOR ACTION

This environmental assessment (EA) has been prepared by the Ashley National Forest, Duchesne/Roosevelt Ranger District, (the Forest Service) in accordance with the National Environmental Policy Act of 1969 (NEPA) (PL 91-190 as amended), the National Forest Management Act of 1976 (NFMA) (PL 94-588), and the Ashley National Forest Land and Resource Management Plan of 1986 (USFS 1986). The EA was prepared in response to the Duchesne County Upper Country Water Improvement District's (the Water District) request to amend its existing Special Use Permit. The Water District proposes to develop Spring #3 in Cow Canyon, and to connect flows from this spring into its existing culinary water system, which was previously built on Forest Land (hereafter referred to as the "Proposed Action"). The purpose of the Proposed Action is to develop a dependable culinary water supply that will meet both the immediate and long-term needs of the Water District's users.

1.1 Background

The Water District is a Public Water System (PWS) in the State of Utah. It's service area covers approximately 104 square miles in northern Duchesne County, supplying culinary water to the communities of Altamont, Altonah, Bluebell, Boneta, Mountain Home, Mt. Emmons, Sand Wash, and Talmage (Figure 1-1). The Water District was organized in August 1990 as a Special Improvement District to address long-standing culinary water problems faced by these communities. As organized, the Water District has the authority to levy taxes on landowners within the Water District's service area. State law requires that all tax-paying landowners within the Water District's service area must be provided equal access to the Water District's services; and that the Water District must provide access to its services when requested.

The Water District has water rights for two perennial springs in Cow Canyon, which is situated on Forest Land in the Yellowstone River watershed immediately downstream of the Moon Lake hydroelectric project (Figure 1-2). In 1991, the Water District sought a Special Use Permit from the Forest Service authorizing the development of Springs #1 and #2 in Cow Canyon, and the construction of a buried pipeline to convey the spring water to its culinary system. An EA was completed for the culinary water project and the Forest Service issued a Decision Notice and Finding of No Significant Impact in July 1992 for the development of the two springs. In the 1992 EA, Spring #1 is referred to as the upper spring; Spring #2 is referred to as the smaller lower spring; and Spring #3 is referred to as the larger lower spring.

The Water District also obtained a Clean Water Act (CWA) (33 U.S.C. 1251 et. seq) Section 404 Permit from the U.S. Army Corps of Engineers (USACE) authorizing the development of the two springs. Construction for the development of Springs #1 and #2 was completed during the winter of 1992-93. A source protection plan for Springs #1 and #2 has been filed with the Utah Division of Drinking Water (UDDW).

The Water District's Special Use Permit is renewable. Its current expiration date is December 31, 2011.

Figure 1-1. General Project Site Vicinity Map.

Cow Canyon Municipal Water Development Project
Environmental Assessment

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Figure 1-2. Cow Canyon Springs Site Location Map.

The initial start-up cost for the development of Spring #1 and #2 and the construction of the Water District's culinary water distribution system was approximately \$9.74 million. The Water District funded its start-up costs by obtaining \$7.83 million in general obligation and revenue bond loans, and \$1.3 million in grant monies from various State agencies. The balance was funded with the initial tax revenue and hook-up fees collected by the Water District. As of January 1, 2004, the Water District has approximately \$4.72 million in outstanding loans to be repaid; and its general obligation indebtedness exceeds the limits allowed under State regulations.

The development of Springs #1 and #2 provides the Water District with a dependable source of culinary-grade water that does not require any water quality treatment. Flows from these two springs are collected and piped directly into the Water District's water distribution system, which operates on a gravity flow basis. The water distribution system consists of approximately 144 miles of pipelines, five water storage tanks, and 19 pressure reducing valve (PRV) stations.

Figure 1-3 shows the distribution system relative to the Water District's service area, Forest boundaries, and Uintah and Ouray Indian Reservation tribal boundaries. A detailed description of the distribution system and its operational criteria is provided in the Water District's 2003 Water Resources Planning Report prepared by Horrocks Engineers (Appendix A).

The total combined flows of Springs #1 and #2 was estimated in the 1992 environmental analysis to be 900 gallons per minute (gpm), or about 2.0 cubic feet per second (cfs). The Water District has measured flows on a regular basis since the development of the springs. According to these measurements, the average combined flow of Springs #1 and #2 is approximately 756 gpm (1.7 cfs); and there is little variation in flows throughout the year (Horrocks Engineers 2003). The Forest Service requires a combined flow of 0.5 cfs (225 gpm) to be continually released as mitigation bypass flows to maintain downstream aquatic and wetland habitats. This is implemented by continually releasing approximately 112.5 gpm from each spring. Thus, the Water District is authorized to use 531 gpm (or about 70 percent of the available spring flows) for its culinary water supply.

In its 1997 Master Plan, the Water District predicted that its water demands would exceed the available water supply in Springs #1 and #2 by 2003. The Water District presently has enough water supplies to meet its user's demands during the non-irrigation months, but can not meet peak user demands during the summer. The shortfall in water supplies has placed the Water District out of compliance with State rules and regulations; and it cannot sell any new connections until additional water supplies are added to its culinary system.

1.2 Need for Additional Water Supplies

There is an immediate need for the Water District to develop additional water supplies in order to:

- Maintain compliance with State-mandated requirements; and
- Meet both present-day and future user demands.

Figure 1-3. Duchesne Country Upper Country Water Improvement District Service Area and Culinary Water Distribution System.

State of Utah Requirements. The UDDW has rules and regulations pertaining to the minimum amount of source water that a PWS must have available for its tax-paying users (see R-309-510 of the State of Utah Administrative Rules). The amount of source water for residential connections has two components: (1) indoor domestic use, and (2) outdoor irrigation. UDDW rules require that a PWS in Duchesne County must be able to supply each residential connection a minimum of 0.56 gpm for indoor domestic use and 3.39 gpm per acre of irrigated land. The combined flow requirement for indoor domestic use and outdoor irrigation is referred as an equivalent residential connection (ERC).

In its 2003 Water Resources Planning Report, the Water District determined that its average residential connection irrigates approximately 0.16 acre of land, which equates to an approximately 0.54 gpm flow requirement for outdoor use. Based on this determination, the Water District calculated its ERC flow requirement to be 1.12 gpm: 0.56 gpm for indoor use, 0.54 gpm for outdoor use; and 0.02 gpm for contingency. The Water District's ERC flow calculation is consistent with UDDW rules and regulations (Horrocks Engineers 2003). The Water District's authorized use of Springs #1 and #2 can supply a total of 474 ERCs based on the 1.12 gpm ERC flow requirement and the availability of 531 gpm from the existing spring development.

The Water District has obligations to provide service for a total of 736 ERCs (or about 824 gpm). This includes 675 ERCs that are currently in use, and an additional 61 ERCs that have been obligated but are currently not in use (Horrocks Engineers 2003). As such, the Water District's water system is currently over-appropriated by a total of 262 ERCs (or about 294 gpm) and is out of compliance with State-mandated ERC requirements. The Water District could lose funding opportunities, be fined, and/or forfeit its PWS to the State if it does not resolve its ERC requirements.

User Demands. The Water District does not have sufficient water supplies to meet the peak summer demands of its existing users. The shortage in water supply has precluded the Water District from issuing new connections to its system. In the summer of 2003, the Water District was forced to enact a moratorium on the issuance of new connections until additional water supplies are brought into the system. As of July 2004, the moratorium remains in effect. Figure 1-4 shows the Water District's 2002 water usage based on meter readings.

The Water District does, however, have ample water supplies to meet the demands of its existing users during the non-irrigation months. When user demand is less than the available water supplied by Springs #1 and #2, the unused water (i.e., surplus water) is released with the mitigation bypass flows. Approximately 50 percent of the Water District's authorized flow volume, or 350 acre-feet (114 million gallons), is bypassed as unused surplus water (Horrocks Engineers 2003).

In its 2003 Water Resources Plan, the Water District estimated future water usage demands based on projected population growths for a 25-year planning period. Presently, the Water District estimates that 30 percent of its users use the system's culinary water for outdoor irrigation,

Figure 1-4. Duchesne County Upper Country Water Improvement District's 2002 Metered Water Usage.

Figure 1-5. Duchesne County Upper Country Water Improvement District Water Usage Projections.

whereas 70 percent irrigate with secondary water. As shown in Figure 1-5, all usage demands are projected to increase exponentially over time as a result of new homes being built that will not have access to secondary water.

Based on the Water District's projections, it will need 1,124 gpm of water supply at the end of the 25-year planning period for peak daily usage, and 1,161 gpm for compliance with State-mandated ERC flow requirements. In order to meet these long-term needs, the Water District will have to develop an additional 593 gpm for peak daily demands and 630 gpm for compliance with State-mandated ERC requirements. These projections account for water conservation measures that are currently in place.

1.3 Scoping and Identification of Issues

In 1997, the Water District began discussions with the Forest Service about its need for additional water and the possibility of developing Spring #3. At the Water District's request, the Forest Service began the scoping process for the proposed development of Spring #3 in February 1998. Scoping letters were mailed to federal, state, and local agencies and interest groups that participated in the 1992 EA for the development of Springs #1 and #2. In addition, a Public Notice was printed in the Uinta Basin Standard to inform the public of the proposed project and inviting comments from the public.

The Forest Service released a predecisional EA for public and agency review in August 2002 and subsequently received numerous comment letters that were considered. Further input was obtained through various meetings and site visits with representatives from the Forest Service, USACE, U.S. Fish and Wildlife Service (USFWS), the Water District, and third party consultants.

In addition, the Water District sought agency comment on its 2003 Water Resources Planning Report, which is attached to this EA as Appendix A. The report was prepared, in part, to satisfy Forest Service requirements. It documents the Water District's existing culinary water system and water rights; financial situation; user fees and water conservation incentives; State-mandated ERC requirements; historic and present-day water usage; projected needs for additional water supplies over a 25-year planning period; and certain water supply alternatives that were considered by the Water District. The Water District received comment letters from the USACE, USFWS, U.S. Environmental Protection Agency (EPA), and UDDW.

Issues identified during the scoping process are summarized below.

Purpose and Need

- The State-mandated ERC requirements appear to be much greater than the actual user demand. Can the Water District seek a substantial reduction in this requirement?
- What are the potential consequences if the Water District remains non-compliant with its ERC requirements?
- What are the potential consequences if the Water District cannot provide services to its existing users or to new users seeking connections to the Water District's system?

Alternatives

- Since the Water District's water shortage appears to only apply to peak summer demands, are there other alternatives for addressing summer (i.e., irrigation) needs?
- Have water conservation alternatives been considered?
- Have storage alternatives for unused water that is bypassed during the non-irrigation months been considered?

Soils/Plants

- What would be the impacts to upland vegetation?
- How would disturbed soils be revegetated and stabilized?
- How many trees would be removed?

Fish/Wildlife

- Would the proposed project deplete flows in the Green and Colorado Rivers or otherwise affect habitat for T&E fish?
- What would be the potential effects to T&E species that may be present within the spring development area?
- What would be the potential effects to Forest Management Indicator Species?
- What would be the potential effects to migratory birds?
- What would be the potential effects to Forest Sensitive Species?
- Would there be any effects to big game winter range?
- Would there be any impacts to the Yellowstone River fishery?
- Are there any rare or unusual macroinvertebrates inhabiting Spring #3?
- Is Spring #3 a unique environment?

Water Resources/Wetlands/Water Quality

- What would be the effects of construction equipment crossing the Yellowstone River to access the spring development area?
- Would there be a net depletion of water in the Yellowstone River (Colorado River Compact)?
- Is the Proposed Action compliant with applicable wetlands and floodplains regulations?
- What would be the direct, indirect, and cumulative impacts to wetlands?
- How would wetland impacts be mitigated?
- Could the water quality of the Yellowstone River be impacted?

Recreation

- What would be the potential effects to existing inventoried Roadless Areas and Wilderness?

Water Rights

- Does the Water District's current water rights allow for the development of Spring #3?
- Would the development of Spring #3 effect any other water rights?

Grazing

- Would there be any impacts to the Grazing Allotment?

1.4 Required Permits, Approvals and Authorizing Actions

The construction and operation of the proposed Spring #3 development project would require several authorizations, including:

- Amendment of the Water District's Special Use Permit by the Forest Service;
- Issuance of a Clean Water Act Section 404 Permit by the USACE;
- Cultural clearance by the State Historic Preservation Office;
- Notification by the State Engineer that the Water District has water rights for the development of additional spring sources.
- Spring development engineering and design approval by the UDDW; and
- Approval of a source protection plan by the UDDW.

1.5 Decision Framework

The Forest Supervisor for the Ashley National Forest will make a decision whether to select an action alternative that would be authorized through an amendment to the existing Special Use Permit. This decision would not require an amendment to the Forest Plan. Neither the Special Use Permit nor the Forest Plan would have to be amended if the No Action Alternative is selected.