

Chapter 2: Purpose of and Need for Action

2.1 Introduction

This chapter includes background information about the irrigation canal systems in Cache County, describes why the Logan Northern Canal Reconstruction project is needed, and discusses the purpose of the project. It also identifies other agencies that might be involved in, and lists regulations that might apply to, the proposed action. Finally, it describes the results of the NEPA scoping process.

2.1.1 Project Setting

The 8-square-mile (5,139-acre) study area for the Logan Northern Canal Reconstruction project is located in the northeastern part of Cache County in northern Utah. Cache County covers an area of about 1,165 square miles. The study area includes unincorporated areas of Cache County and parts of the cities of Logan, North Logan, and Hyde Park (Figure 2-1).

What is the project study area?

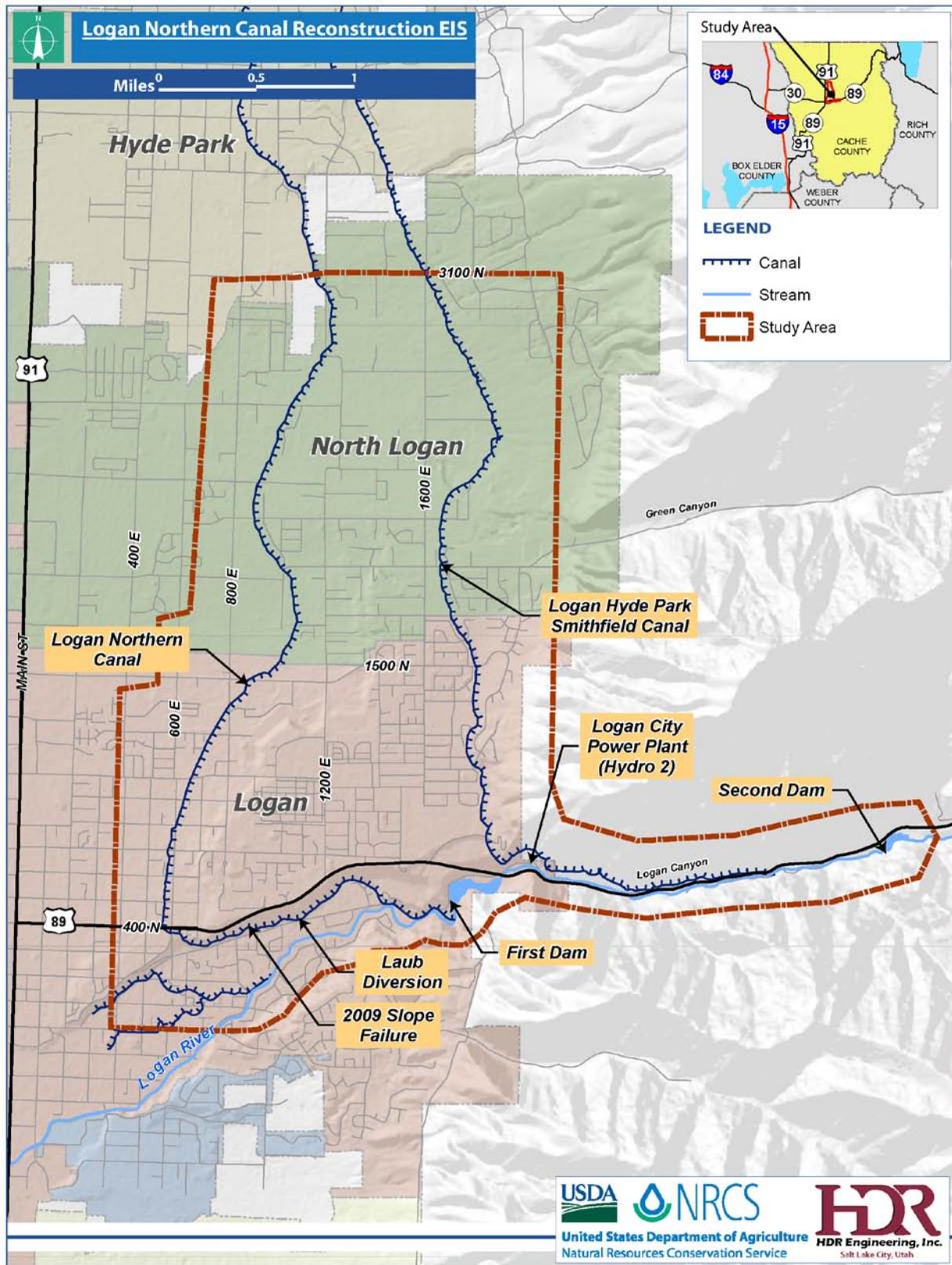
The project study area includes unincorporated areas of Cache County and parts of the cities of Logan, North Logan, and Hyde Park (Figure 2-1).

Several irrigation canals provide water to Cache County, including two canals that cross the project area: the LN Canal and the Logan Hyde Park Smithfield Canal (LHPS Canal). These two canals divert water from the Logan River at separate locations and convey and distribute water along parallel alignments to the north in open channels. The Logan River travels through the southern part of the study area.

During the summer of 2009, the slope of a hillside in Logan failed. As a result of this failure (landslide), a section of the LN Canal broke away. Three people were killed by the landslide, and the Logan & Northern Irrigation Company, the canal company that operates and maintains the LN Canal, has not been able to use the canal to distribute water since the failure. Figure 2-1 shows the location of the 2009 landslide.

After the landslide, the Logan & Northern Irrigation Company worked with the City of Logan and the Logan, Hyde Park and Smithfield Canal Company on a temporary solution to deliver some water to its shareholders (for a description of the temporary system, see Section 2.1.2.2, Operation of the LN and LHPS Canals). The temporary system was used for the 2010 irrigation season to deliver water to LN Canal shareholders downstream of about 800 North. However, the system is not considered permanent and will eventually need to be taken out of service.

Figure 2-1. Project Study Area



2.1.2 Canal Management and Operation

2.1.2.1 Management of the Canal System in Cache County

At the basic level, the canal system in Cache County is managed to deliver water for irrigation purposes. Water is provided to water rights holders and shareholders, including municipalities, in Cache County through several canals and ditches. Once delivered, the water is used for agricultural irrigation and municipal irrigation (for example, for the Logan Golf & Country Club, schools, and parks). Some water is exchanged, which allows use of other sources for drinking water. Each canal is operated and maintained by an individual canal company. The LN Canal is operated by the Logan & Northern Irrigation Company, and the LHPS Canal is operated by the Logan, Hyde Park and Smithfield Canal Company.

After the 2009 landslide, these canal companies formed a partnership to plan and coordinate water delivery. This partnership is formally referred to as the Cache Highline Water Association. Cache County and the Cities of Logan, North Logan, Hyde Park, and Smithfield participate in Cache Highline Water Association meetings as stakeholders.

Day-to-day delivery of irrigation water is provided by each canal company's Water Master, who operates headgates and points of diversion (POD). When a shareholder wants water, he or she contacts the Water Master, who then adjusts the headgates to deliver the water to the shareholder. The amount of water flowing in the canals depends on the shareholders' water requests, which in turn are based on weather and crop conditions. The canal companies divert water in the late spring, summer, and fall. The canals are not used for water delivery in the winter and early spring.

What are headgates and points of diversion (POD)?

A headgate is a gate that is used to control the flow of water at the upper end of a water conveyance structure (such as a canal). A point of diversion is a specifically named place where water is removed from a body of water.

With the increased urbanization of Cache Valley, residential housing, commercial developments, city roads, parks, and other infrastructure have been built adjacent to the canals. The canals are crossed in many places by pedestrian bridges, roadway bridges, and municipal utilities. In addition, city stormwater systems are built to discharge municipal stormwater to the canals. In the past, this added source of water was viewed as a benefit by the canal companies, since more water was available for distribution. However, as the area has become more urbanized, the amount of municipal stormwater entering the canal system often exceeds the system's capacity, which causes flooding. Over the last several years, the canal companies and the Cities have been working together to identify solutions related to conveying stormwater in the canal system.

2.1.2.2 Operation of the LN and LHPS Canals

Before the 2009 landslide, the water that was ultimately delivered to LN Canal shareholders was diverted from the Logan River below First Dam along Canyon Road at about 1700 East (south of U.S. Highway 89). From this POD, the existing LN Canal route generally follows Canyon Road before turning north at about 600 East in Logan. The canal runs northerly through Logan, North Logan, Hyde Park, Smithfield, and unincorporated areas under the jurisdiction of Cache County and terminates north of Smithfield (Figure 2-2).

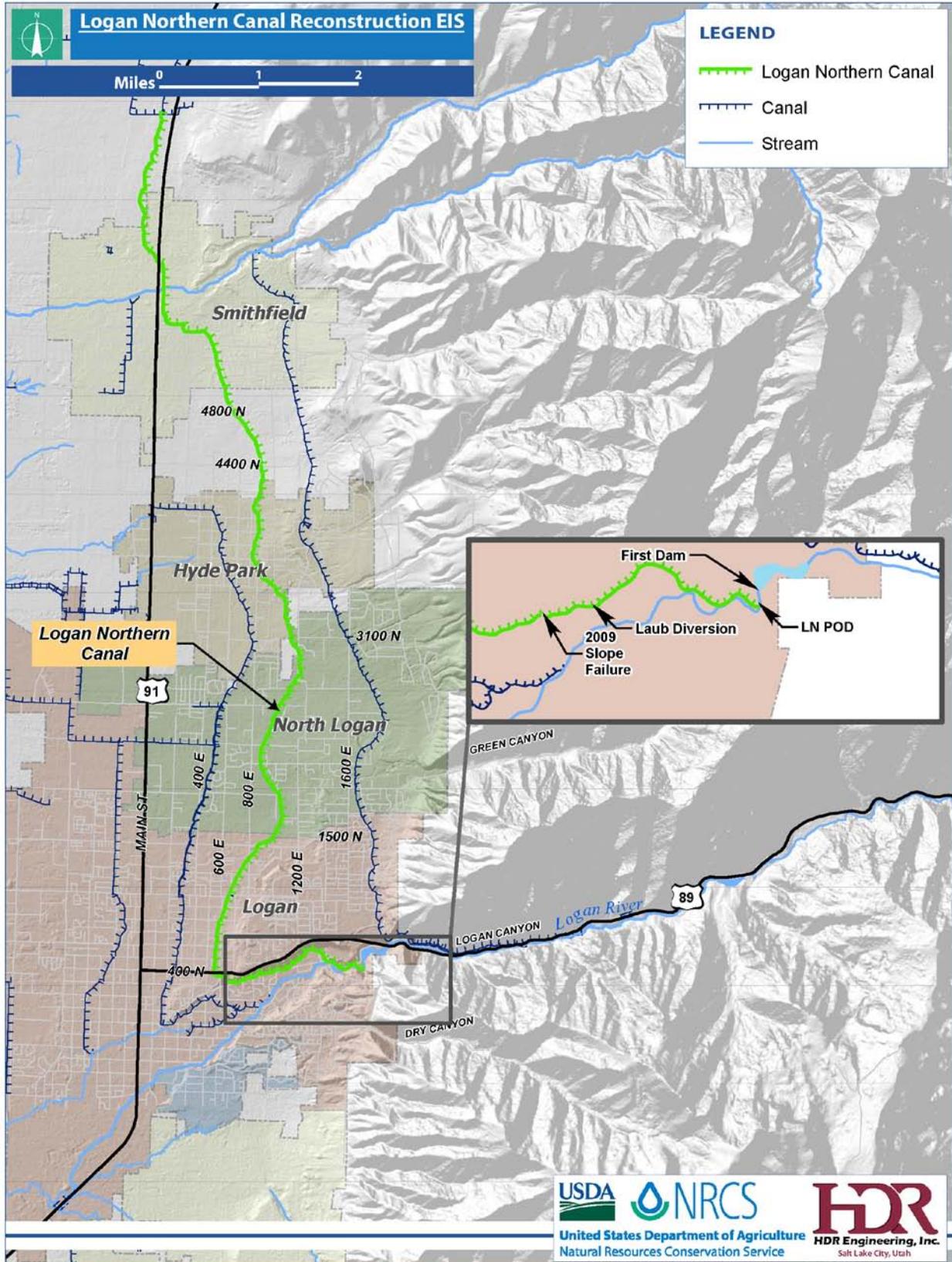
After the landslide, the Logan & Northern Irrigation Company worked with the State Engineer from the Utah Division of Water Rights; Utah State University (USU); the Logan, Hyde Park and Smithfield Canal Company; the City of Logan; and Cache County to establish a temporary water delivery system for LN Canal shareholders. This system is able to deliver only about 50% of the water shares associated with the LN Canal.

The temporary delivery system, which operated intermittently during the 2009 and 2010 irrigation seasons, included the following elements:

- Water was diverted from the Logan River at the LN Canal POD below First Dam and delivered to a segment of the canal between the POD and a temporary diversion (known as the Laub Diversion) at about 1200 East upstream of the landslide site. In 2009, culinary water from a City of Logan well was discharged into the LN Canal at about 700 North in Logan.
- LN Canal water was diverted at the LHPS Canal POD, which is located below Second Dam upstream of the LN Canal POD. The LN Canal water was carried in the LHPS Canal and was diverted back to LN Canal shareholders at the following three points.
 - A small pipeline belonging to the East Bench Irrigation Company was used to take water from the LHPS Canal at the Logan Golf & Country Club. This pipeline travels under the USU campus and discharges to the LN Canal at about 800 North in Logan. This provided some water to shareholders between about 800 North and 1400 North in Logan.
 - A pipeline and storm drain system took LN Canal water from the LHPS Canal at Lundstrom Park. This water was carried under city streets and discharged to the LN Canal at about 1400 North. This provided some water to shareholders downstream of 1400 North.
 - A recently constructed pipeline at about 4800 North in an unincorporated area of Cache County (between Hyde Park and Smithfield) took LN Canal shares from the LHPS Canal and discharged them to the LN Canal. This temporary diversion was outside the project study area.

Additionally, in 2009 and 2010, check dams were installed and used to collect water and to prevent water from draining into the landslide area.

Figure 2-2. Route of the Logan Northern Canal



Because this temporary system uses the LHPS Canal, it has less capacity to deliver water to the shareholders of both the LN and LHPS Canals. As a result, about 50% of the LHPS Canal's water shares were delivered using the LHPS Canal POD under the temporary system.

The temporary diversion of LN Canal water into the LHPS Canal system required the State Engineer from the Utah Division of Water Rights to approve a temporary change in the LN Canal's POD. After the temporary change was approved, the Logan & Northern Irrigation Company submitted a formal request to the State Engineer for a permanent change in the LN Canal water rights. The request asks that LN Canal water be permanently changed and diverted from the existing LN Canal POD and the LHPS Canal POD upstream.

The Logan & Northern Irrigation Company originally sought this permanent transfer to prevent temporary transfer requests that might be filed before the proposed action is implemented. The State Engineer is currently considering the permanent change request.

The temporary system cannot and will not be used in the long term. The temporary system does not have enough capacity to deliver all of the water allowed under the LN Canal and LHPS Canal water rights and therefore cannot efficiently deliver water to all shareholders of both canals. USU and the City of Logan are not in the irrigation water delivery and water management business, and using systems that USU and the City normally operate and maintain results in cost, responsibility, and liability that they might not want to carry.

2.1.2.3 Other Uses of the Canal System in the Study Area

Private Uses

Some people who live along the LN and LHPS Canals in the study area value the appearance and presence of the canal system. These landowners feel that the canals' appearance and the water conveyed through the canals are amenities that contribute to their quality of life.

Most of the adjacent parcels abut the canals and the canal maintenance roads, but in many cases the parcel owners do not actually own the land that is occupied by the canals. Cache County records show that most of the LN and LHPS Canals are situated on land that does not have a recorded owner, but some adjacent parcels do extend to the centerline of the canal. The Logan & Northern Irrigation Company and the Logan, Hyde Park and Smithfield Canal Company have historically used the land under a prescriptive easement (that is, using the land openly, in a clearly observable fashion, and continuously and without the property owners' formal permission). The Logan, Hyde Park and Smithfield Canal Company has a recorded easement on the section of the LHPS Canal in the project area.

Public Uses

Local residents consider the canal system to be a community amenity. The canal system and canal maintenance roads are used for recreational floating in the canals using inner tubes and wading, hiking, and mountain biking along the canals. Even though the canals are not formal

public recreation facilities, the historic presence of the canals is an important element of the social framework of the community.

2.2 Proposed Action

Cache County has requested assistance from NRCS to provide funding through the EWPP. This Federal funding, along with matching funds from project stakeholders, would be used to construct a system that will safely restore delivery of water that was diverted using the LN Canal before the 2009 landslide. The new system would have an operational life of about 50 years.

What is the proposed action?

The proposed action is to construct a system that will safely restore delivery of water that was diverted using the LN Canal before the 2009 landslide.

Alternatives for the proposed action are described in Chapter 3, Alternatives. Rather than identify specific details about a defined project, this EIS studies project alternatives at an equal level of detail. The alternatives for the proposed action that are studied at an equal level of detail in this EIS are the following:

- **Purple Alternative:** Improvements to the LHPS Canal POD, change in the size and structure of the LHPS Canal between the POD and Lundstrom Park, new underground pipeline carrying LN Canal water from the LHPS Canal to the LN Canal at about 1500 North, and improvements to LN Canal delivery between 400 North and 1500 North.
- **Orange Alternative:** Improvements to the LHPS Canal POD, change in the size and structure of the LHPS Canal between the POD and either 2900 North or 3100 North, new underground pipeline carrying LN Canal water from the LHPS Canal to the LN Canal at either 2900 North or 3100 North, and improvements to LN Canal delivery between 400 North and either 2900 North or 3100 North.
- **Blue Alternative:** Improvements to the LN Canal POD and change in the size and structure of the LN Canal between the POD and 400 North.

Section 3.5, Preferred Alternative, of this Draft EIS identifies the Purple Alternative as the preferred alternative. Detailed information about the alternative routes and features is presented in Chapter 3, Alternatives. NEPA also requires NRCS to consider a No-Action Alternative.

The following sections describe the need for and purpose of this proposed action. As it developed the project, NRCS primarily focused on how well potential solutions met the project's need and purpose but also considered other objectives that support the need and purpose. Those objectives are described in Section 2.2.2.1, NRCS Objectives, and Section 2.2.2.2, SLO Objectives.

2.2.1 Need for Action

The proposed action is needed to:

- Restore the safe delivery of water that was conveyed by the LN Canal before the 2009 landslide, and
- Address the remaining hazards associated with the landslide zone between about 700 East and 1100 East.

Why is the proposed action needed?

The proposed action is needed to restore the safe delivery of water that was conveyed by the LN Canal before the 2009 landslide and address the remaining hazards associated with the landslide zone between about 700 East and 1100 East.

2.2.1.1 Restore the Safe Delivery of Water

Since the landslide and subsequent breach of the LN Canal in 2009, the amount of water delivered to the LN Canal's shareholders has been greatly reduced. The temporary system put in place to deliver some water to shareholders with the LN Canal also reduced the amount of water delivered to LHPS Canal shareholders. The temporary system used in 2009 and 2010 cannot and will not be used in the long term. The Logan & Northern Irrigation Company wishes to restore full delivery of water to its shareholders, and the Logan, Hyde Park and Smithfield Canal Company wishes to return to full delivery to its shareholders using the LHPS Canal.

Before the landslide, the LN Canal diverted an average of about 60 cfs (cubic feet of water per second) from the LN Canal POD just below First Dam. Since the landslide, the overall amount of both LN Canal and LHPS Canal shares that is being delivered has decreased by about 50%. The temporary system described in Section 2.1.2.2, Operation of the LN and LHPS Canals, allowed the continued delivery of some water, but all shareholders experienced adverse effects from not receiving their full shares of water. This reduction has affected the financial performance of agricultural production (only 50% of the water is delivered, but production costs are nearly the same as they would be if 100% of the water were delivered); irrigation of public land such as the golf course, parks, and school grounds; and the amount of water available for drinking-water exchanges downstream.

The proposed action is needed for the delivery of allocated canal shares to LHPS and LN Canal shareholders as follows:

- Recently, the LN Canal has diverted about 60 cfs from the Logan River. The Logan & Northern Irrigation Company has 3,279 shares that are conveyed to municipal and industrial (M&I) users, USU, the City of Smithfield, the City of Hyde Park, the Richmond Irrigation Company, and the Smithfield Irrigation Company.
- Recently, the LHPS Canal has diverted about 65 cfs from the Logan River. The Logan, Hyde Park and Smithfield Canal Company has 1,997 shares, about two-thirds of which are dedicated to M&I use with the remainder used for agriculture. Its majority shareholders are the City of Logan, USU, the Logan Golf & Country Club, the City of Smithfield, and the Smithfield Irrigation Company.

Irrigation water in the canals is also used to facilitate exchange agreements that allow the City of Smithfield, the City of Logan, and the City of Hyde Park to use other water sources for culinary purposes.

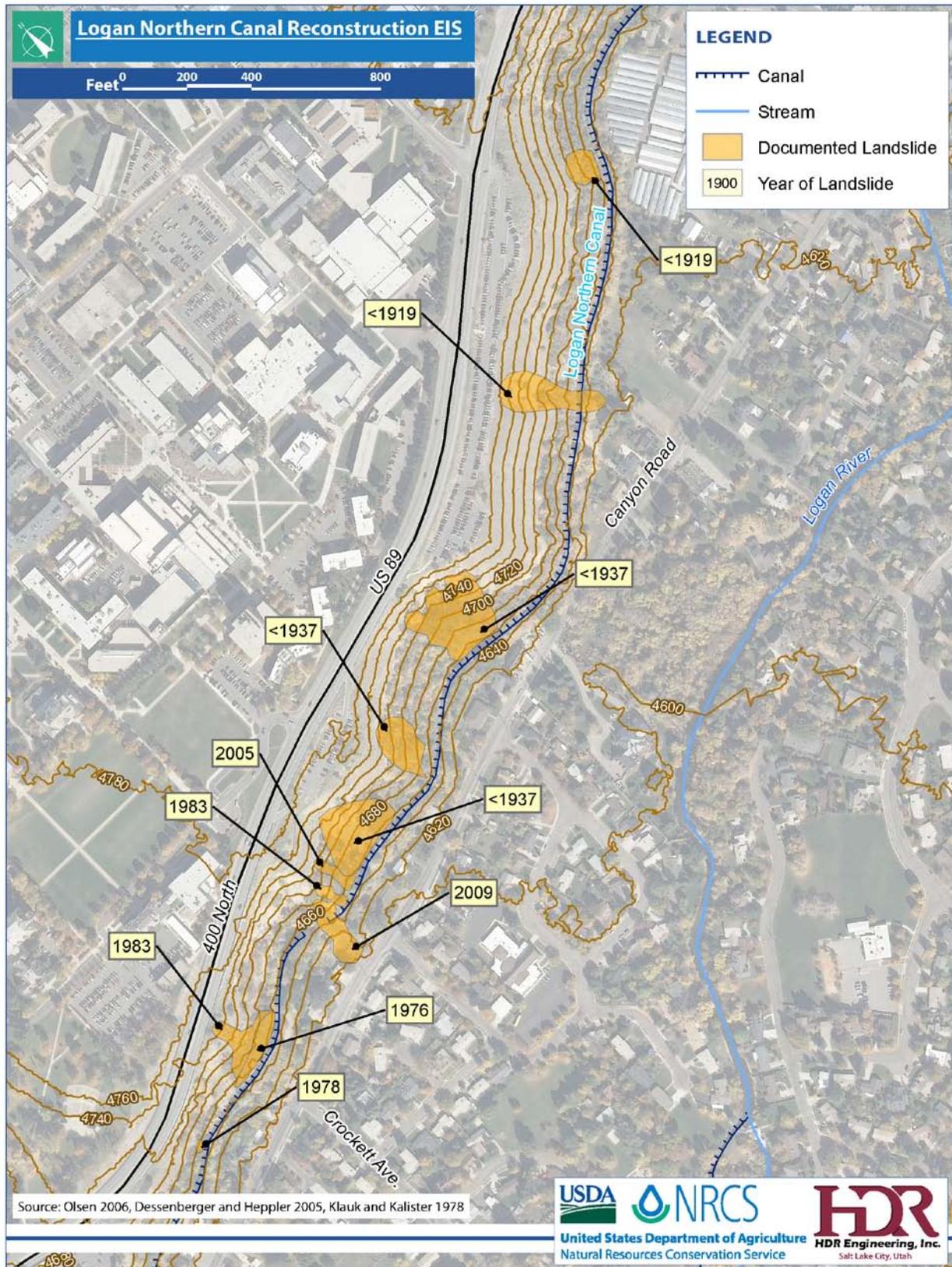
2.2.1.2 Address the Remaining Hazards Associated with the Landslide Zone

The 2009 landslide occurred in an area that has a history of slope instability. A recent landslide compilation map shows landslide areas in the area of the Logan Bluff south of U.S. Highway 89 (US 89) in the study area (Klauk and Kaliser 1978; Harty 1992; Dessenberger and Heppler 2006; Olson 2006; Elliott and Harty 2010). Documented historic landslides along the Logan Bluff and the 2009 landslide are compiled and shown in Figure 2-3. The historic landslides date back to about 1906 (Olson 2006) and have had various effects on the LN Canal. Several landslides caused the LN Canal to fill and overflow, and other landslides have caused canal breaks. The 2009 landslide resulted in loss of life.

NRCS believes that there is a need to address the hazards that remain in the area around the 2009 landslide site. Based on the long history of landslides and the hydrology and geologic conditions of the Logan Bluff, future landslides are likely to occur in the area. NRCS did not conduct any detailed geologic investigations for this EIS but instead reviewed historic landslide information about the area. A preliminary review of this information, the existing conditions, and the location of structures relative to the slope indicates that the area between about 750 East and 1100 East, which includes the 2009 landslide site, continues to pose the greatest risk to life and property. Areas west of 750 East and east of 1100 East are adjacent to this historic landslide zone but could also be subject to landslides in the future.

Even if the proposed action addresses some risks associated with the remaining landslide hazards in the historic landslide zone, the proposed action would not eliminate the future threat of landslides, potential property damage, and loss of life in this area of the Logan Bluff.

Figure 2-3. Historic Landslides



2.2.2 Purposes of Action

The purposes of the proposed action are to *restore safe water delivery capability to the LN Canal and to address remaining hazards in the 2009 landslide zone.*

In addition to addressing the need for and purposes of the proposed action, NRCS has identified a number of objectives that the proposed action should achieve. These objectives, which are listed in Section 2.2.2.1 below, are based on the requirements of the EWPP; the Uinta-Wasatch-Cache National Forest policies, standards, and guidelines; and the requirements of Section 404 of the CWA. Section 2.2.2.2, SLO Objectives, lists the SLO’s objectives for the proposed action.

What are the purposes of the proposed action?

The purposes of the proposed action are to restore safe water delivery capability to the LN Canal and to address remaining hazards in the 2009 landslide zone.

2.2.2.1 NRCS Objectives

Emergency Watershed Protection Program

The project’s need and purpose directly address two important components of the EWPP objectives: provide protection from additional flooding or soil erosion and reduce threats to life or property from a watershed impairment. The proposed action should achieve the following EWPP requirements:

- [Provide measures that are] economically, socially, and environmentally defensible and technically sound (7 CFR 624.6[c]). *Defensibility* means the extent to which an action is:
 - More beneficial than adverse in the extent and intensity of its environmental and economic effects;
 - In compliance with Federal, State, and local laws;
 - Acceptable to affected individuals and communities;
 - Effective in restoring or protecting the natural resources;
 - Complete with all necessary components included; and
 - Efficient in achieving the desired outcome (7 CFR 624.4[a]).
- Emphasize measures that are the most economical and are to be accomplished using the least damaging practical construction techniques and equipment that retain as much of the existing characteristics of the landscape and habitat as possible.

Management Direction for the Uinta-Wasatch-Cache National Forest

Federally owned land in Logan Canyon is administered by USFS and is subject to management direction in the *Revised Forest Plan for the Wasatch-Cache National Forest* (USFS 2003). This land includes a reach of the Logan River, which is the source of the water diverted into the LN and LHPS Canals. The LHPS Canal POD is on National Forest System land, but the LN Canal POD is not.

The *Revised Forest Plan* identifies specific management direction for National Forest System land. Because USFS is a cooperating agency for the proposed action, NRCS must ensure that a solution is consistent with the plan. The project team considered management direction articulated in forestwide goals and sub-goals along with specific standards and guidelines for activity on National Forest System land as it developed the project alternatives and as it completed the impact analyses described in Chapter 5, Environmental Consequences. An overarching guideline for issuing a special-use authorization is as follows:

Guideline 81: Before issuing recreation or non-recreation special-use authorizations, ensure that each proposal clearly demonstrates why use of National Forest System lands is necessary and why lands under other ownership cannot be used. Deny proposals for use when the request is based solely on affording the proponent a lower cost or less restrictive location than can be obtained on non-Federal lands, or when reasonable options exist on non-National Forest System lands. Use the process identified in FSH [Forest Service Handbook] 2709.11 to determine whether special-use proposals will be accepted for detailed review under NEPA. Provide only for authorizations that meet the tests of prudent, reasonable, and absolutely in the public interest. (USFS 2003, 4-54)

Because the direction provided in the plan is subject-specific, applicable standards and guidelines are identified and discussed under the applicable resource sections in Chapter 5.

Section 404 of the Clean Water Act

Section 404 of the CWA lists specific requirements for activity that must be authorized under the Act. One of the primary focal points of the Section 404 program is avoiding and minimizing impacts to waters of the United States. The project team considered opportunities for avoiding and minimizing impacts to waters of the United States as it completed the impact analyses described in Chapter 5, Environmental Consequences.

2.2.2.2 SLO Objectives

In addition to the EWPP requirements; Uinta-Wasatch-Cache National Forest policies, standards, and guidelines; and Section 404 objectives; the SLO has identified a number of objectives it wants the proposed action to achieve. These objectives are:

1. Restore water for all canal users, which includes farmers, ranchers, Towns, and Cities, while optimizing safety.
2. Promote amenities and citizen use along the canal route for recreation and aesthetic appreciation, including preserving or restoring vegetation.
3. Promote secondary benefits of the rebuilt canal for the betterment of existing and future citizens of Cache County which include, but are not limited to, water conservation, improved water quality, and energy conservation.
4. Minimize temporary and permanent impacts to private and public property, including roadways.
5. Minimize unknown cost and time associated with the project and avoid unnecessary delay.
6. Minimize the need for specialized construction techniques and foster competitiveness within the bid process.
7. Minimize the operation and management cost for overseeing the canal system in the future.

The project team considered these objectives as it developed the project alternatives.

2.3 Laws, Regulations, Policies, and Determinations

Table 2-1 summarizes the laws, regulations, and policies that could apply to the proposed action and the determinations that NRCS and other agencies might need to make in order to implement the preferred alternative. These laws, regulations, and policies are in addition to the EWPP requirements.

Table 2-1. Laws, Regulations, and Policies That Could Apply to the Proposed Action

Law, Regulation, or Policy	Issuing/Approving Agency	Determination	Responsibility and Timing
<i>Federal Laws, Regulations, and Policies</i>			
Clean Water Act (33 United States Code [USC] 1251 and subsequent sections), Section 401 ^a	Utah Division of Water Quality	Water quality certification; required only if the action is subject to authorization under CWA Section 404.	CWA Section 404 permittee (SLO or Logan & Northern Irrigation Company or their contractors); receive certification before construction begins.
Clean Water Act, Section 402 (National Pollutant Discharge Elimination System) ^a	Utah Division of Water Quality	<ul style="list-style-type: none"> • Compliance with the State's general permit for construction-related stormwater discharges. • Small Municipal Separate Storm Sewer System (MS4) general permits issued to municipalities and to USU for stormwater. 	CWA Section 402 permittee (SLO or Logan & Northern Irrigation Company or their contractors); demonstrate compliance before construction begins.
Clean Water Act, Section 404	USACE	Authorization for the discharge of fill material to waters of the United States; depending on the magnitude of impact, project activity might be authorized under either an existing General (Nationwide) Permit or a new Standard (Individual) Permit.	CWA Section 404 permittee (SLO or Logan & Northern Irrigation Company or their contractors); receive authorization before construction begins.
National Forest Management Act (16 USC 1600 and subsequent sections)	USFS	Consistency with <i>Revised Forest Plan for the Wasatch-Cache National Forest</i> (USFS 2003).	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
Executive Order 11990: Protection of Wetlands	NRCS	Compliance with the Executive Order.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
Executive Order 11988: Floodplain Management	NRCS	Compliance with the Executive Order.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
Farmland Protection Policy Act (7 USC 4201)	NRCS	Compliance with the Act.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.

Table 2-1. Laws, Regulations, and Policies That Could Apply to the Proposed Action

Law, Regulation, or Policy	Issuing/Approving Agency	Determination	Responsibility and Timing
Fish and Wildlife Coordination Act (16 USC 661 and subsequent sections)	U.S. Fish and Wildlife Service (USFWS) and Utah Division of Wildlife Resources	Compliance with the Act; applies to activity that would modify the Logan River. Consultation and coordination as part of the EIS process.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
Endangered Species Act (16 USC 1531 and subsequent sections)	USFWS	Consultation under Section 7 of the Act to determine the project's potential to affect listed species. Consultation as part of the EIS process.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
Migratory Bird Treaty Act (16 USC 703 and subsequent sections)	USFWS	Compliance with the Act.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process. SLO or sponsor's contractor monitors compliance during construction, if necessary.
Bald and Golden Eagle Protection Act (16 USC 668)	U.S. Department of Interior (DOI), usually USFWS	Compliance with the Act.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process. SLO or sponsor's contractor monitors compliance during construction, if necessary.
Executive Order 13112: Invasive Species	NRCS	Compliance with the Executive Order.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
National Historic Preservation Act ^a (16 USC 470)	Utah Division of State History, State Historic Preservation Officer; and Advisory Council on Historic Preservation	Consultation under Section 106 of the Act to determine the project's potential to affect listed or eligible resources.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; consultation during the EIS process.
Indian Trust Assets (1988 Memorandum of Agreement between DOI and USDA)	Native American groups, DOI, and Bureau of Indian Affairs	Determine the location of and effects to any trust assets.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; consultation during the EIS process.
Executive Order 13007: Indian Sacred Sites	NRCS	Compliance with the Executive Order; considered during the EIS process.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.

Table 2-1. Laws, Regulations, and Policies That Could Apply to the Proposed Action

Law, Regulation, or Policy	Issuing/Approving Agency	Determination	Responsibility and Timing
Executive Order 12898: Environmental Justice for Low- Income and Minority Populations	NRCS	Compliance with the Executive Order.	Federal lead (NRCS) and cooperating (USFS, USACE) agencies; considered during the EIS process.
<i>Utah Laws, Regulations, and Policies</i>			
Water Rights	Utah Division of Water Rights	Consistency with permitted water rights.	NRCS considers during EIS process; ultimately the responsibility of the permittee (Logan & Northern Irrigation Company).
Stream Alteration	Utah Division of Water Rights	Compliance with State code.	NRCS considers during EIS process; ultimately the responsibility of the permittee (Logan & Northern Irrigation Company) or its contractor.
Antidegradation (Water Quality)	Utah Division of Water Quality	Compliance with State code for maintenance of high-quality waters; requires separate review.	NRCS considers during EIS process; ultimately the responsibility of the SLO or permittee (Logan & Northern Irrigation Company).
Drinking Water Source Protection	Utah Division of Drinking Water	Compliance with State code.	NRCS considers during EIS process; ultimately the responsibility of the SLO, Logan & Northern Irrigation Company, or their contractor.
Utah Air Quality Rules	Utah Division of Air Quality	Compliance with applicable rules for construction activity.	NRCS considers during EIS process; ultimately the responsibility of the SLO, Logan & Northern Irrigation Company, or their contractor.

^a Federal law for which implementation has been partially or wholly delegated to the State.

2.4 Decisions To Be Made

The information in this EIS will support the decisions of NRCS. If USFS needs to issue a special-use permit and USACE needs to authorize the project under Section 404 of the CWA, then they would use this EIS during their decision-making processes. The expected Federal actions for this project are:

- As the administrator of the EWPP, NRCS must decide if the canal reconstruction as described in the project's Record of Decision meets the requirements of NEPA and therefore is eligible for assistance under the EWPP.
- If a build alternative is selected and that alternative requires construction on National Forest System land, then USFS must decide whether to authorize the action and, if so, under what conditions.
- If a build alternative is selected and the proposed project activity must be authorized under Section 404 of the CWA, the USACE District Engineer must authorize the project under an existing Nationwide Permit or through an Individual Permit.

2.5 Scoping Summary

NRCS conducted scoping for this EIS according to the NEPA guidelines and NRCS guidance. Scoping activities included a public meeting on August 11, 2010; correspondence with interested persons, organizations, and Federal, State, and local agencies, including Native American tribal organizations; and an agency scoping meeting on August 11, 2010.

The scoping period for the Logan Northern Canal Reconstruction project began on July 22, 2010, with a Notice of Intent to prepare an EIS advertised in the U.S. government's *Federal Register*. The Notice of Intent was also published in the local newspaper, the *Logan Herald Journal*.

The scoping period ran from July 22 to August 31, 2010. NRCS received over 100 individual comments during scoping. These comments primarily focused on project options (or alternatives) but also addressed potential impacts on recreation use of the canals; fish, wildlife, and plant resources along the canals; socioeconomic conditions of individuals and the region; public safety; and water rights. Several people also commented on the project schedule and the process and administration of the EWPP.

NRCS used information gathered during the scoping process to identify project alternatives and to identify subjects that require specific focus in the EIS. Table 2-2 describes how issues raised during scoping are addressed in this document. Appendix A, Scoping Report, contains the entire scoping summary report.

What is scoping?

Scoping is an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

Table 2-2. Issues Raised during Scoping

Issue	Summary of Issue(s)	Where Addressed
<i>Alternatives</i>		
Options	The EIS should evaluate an alternative to rebuild the LN Canal on its original alignment.	This was added as a project alternative in Chapter 3, Alternatives, and is evaluated in Chapter 5, Environmental Consequences.
Service	As presented during scoping, the alternatives do not appear to provide service to shareholders upstream of about 1500 North.	The build alternatives described in Chapter 3, Alternatives, address service to this area.
	The options using the LHPS Canal POD do not appear to provide service to shareholders along Canyon Road.	The build alternatives described in Chapter 3, Alternatives, address service to this area.
Open canal	The alternatives should include an open canal option.	Chapter 5, Environmental Consequences, describes the effects of enclosing the canals. All of the build alternatives include modification to either the LN Canal or LHPS Canal. Where those canals would be modified, they would be placed in a closed system. Because of the expected average and maximum flows associated with the alternatives that would use the LHPS Canal and safety concerns associated with reconstructing the LN Canal on its historic alignment, the alternatives do not consider open canal systems. This is consistent with NRCS's conservation standards for irrigation canals and laterals (Code 320), lined waterway or outlets (Code 468), and irrigation pipelines (Code 430).
Stormwater	The alternatives need to accommodate stormwater.	All of the build alternatives described in Chapter 3, Alternatives, would accommodate historic stormwater flows. Stormwater is also addressed in Section 4.4.6, Water Resources, and Section 5.3.6, Water Resources.
<i>Natural Resources</i>		
In-stream flow	Changing the POD could affect the amount of water available for use by Logan City Light and Power and the USU Water Research Laboratory.	The effects on the Logan River are discussed in Section 5.3.6, Water Resources.
Water supply to shareholders	Concern that all shareholders won't receive their full shares because of potential system changes.	The purpose of the project is to restore delivery of the Logan & Northern Irrigation Company shares. This is addressed as part of the overall project and is addressed in Section 2.2, Proposed Action.

Table 2-2. Issues Raised during Scoping

Issue	Summary of Issue(s)	Where Addressed
Water conservation	System should be constructed so that it minimizes water loss to seepage and evaporation.	Water loss and conservation are discussed in Section 5.3.6, Water Resources.
Aquifer recharge	Enclosing the canals would adversely affect aquifer recharge.	Groundwater recharge is discussed in Section 5.3.6, Water Resources.
Vegetation	Enclosing the canals would adversely affect vegetation growing along the canals that relies on the canal water for survival.	The effects on vegetation are discussed in Section 5.3.2, Biological Resources.
Wildlife habitat	Enclosing the canals would eliminate open-water wildlife habitat and would require removal of vegetation that provides wildlife habitat.	The effects on wildlife habitat are discussed in Section 5.3.2, Biological Resources.
Abandoned canal	Abandoned LN Canal would have stagnant water and weedy vegetation; concern that the abandoned canal would not be maintained; concern about what the abandoned canal might be used for.	See Section 5.2.5, Recreation, regarding potential future use of the canal alignments. If the LN Canal is abandoned, the Logan & Northern Irrigation Company would probably abandon its easement. If the canal is abandoned, the Cities of Logan and North Logan would probably continue to use the canal for conveying stormwater.
Slope instability	Future stability of the existing unstable slope along the Logan Bluff needs to be addressed.	EWPP funds cannot be used to solve watershed or natural problems that existed prior to the natural disaster (Title 390, Part 511.4[v]). The Blue Alternative described in Chapter 3, Alternatives, would address slope instability along the canal but not instability of the Logan Bluff upslope or downslope of the existing easement. The other alternatives described in Chapter 3 do not address the instability of the Logan Bluff.
Historic resources	The canals are an important historic resource and should be preserved as a cultural amenity in the future.	The canals are discussed in Section 4.4.4, Cultural and Tribal Resources, and Section 5.3.4, Cultural and Tribal Resources.

Socioeconomic Conditions and Resources

Quality of life	Enclosing the canals would adversely affect the quality of life of local residents.	The effects on quality of life are discussed in Section 5.2.1, Community Resources.
Recreation	Enclosing the canals would adversely affect recreation use of the canals and of the trails (canal maintenance roads) that currently follow the canals.	The effects on recreation are discussed in Section 5.2.5, Recreation.
Visual quality	Enclosing the canals would adversely affect the visual quality of the area.	The effects on visual quality are discussed in Section 5.2.6, Scenic Beauty and Landscape Resources.

Table 2-2. Issues Raised during Scoping

Issue	Summary of Issue(s)	Where Addressed
Property values	Enclosing the canals would adversely affect the property values of homes along the canals.	Property values are discussed in Section 4.3.3, Economics, and Section 5.2.4, Economics.
Agricultural economy	The solution needs to address the importance of the agricultural economy.	The effects on the agricultural economy are discussed in Section 4.3.3, Economics, and Section 5.2.4, Economics.
Irrigation disruption	Construction activity could disrupt irrigation and affect shareholders' use of the water.	The effects of construction timing are discussed in Section 5.4, Construction Impacts.
Property impacts	Construction could adversely affect landowners' property improvements such as retaining walls and vegetation and could require larger easements that would affect a property owner's use of his or her land.	Construction impacts are discussed in Section 5.4, Construction Impacts.
Public safety	Combining the flows of the LN Canal and the LHPS Canal could result in unsafe velocities in the LHPS Canal, especially if the canal is open.	Any alternative would be designed to safely convey expected flows. Section 3.2, Alternatives Studied in This EIS, contains general information about preliminary design. Preliminary design details are included in the project cost estimates in Appendix C1, Action Alternative Cost Estimates.