# CHAPTER 1

# PURPOSE AND NEED

## 1.1 BACKGROUND

Coal Creek is an active, alluvial stream that flows from Cedar Canyon, located southeast of Cedar City, Utah. Coal Creek has a watershed of approximately 81 square miles. Elevation in the watershed ranges from approximately 5,800 feet above mean sea level, near the mouth of Cedar Canyon, to a high point of approximately 9,860 feet, in the vicinity of Cedar Breaks National Monument. The channel slope is quite steep, and much of the watershed contains erodible soils. During periods of spring snowmelt and spring/summer thunderstorms, the runoff from Coal Creek carries a significant volume of sediment. Local Native Americans and original settlers reportedly called the creek the Little Muddy.

Coal Creek is a perennial stream with average monthly discharges at the canyon mouth that range from 10 to 20 cubic feet per second (cfs) during 9 months of the year. Average monthly discharges at the canyon mouth range from 60 to 150 cfs during the spring months due to snowmelt in the upper watershed. The peak recorded snowmelt event of 1,820 cfs occurred in May 1973. However, as often occurs in stream systems in arid areas, heavy seasonal thunderstorms can result in flash floods that are much larger than the typical spring snowmelt flood. The U.S. Geological Survey (USGS) has operated a stream gage at the mouth of Cedar Canyon continuously since 1935. During this period, twelve flood events have had a magnitude of at least 2,000 cfs. The largest recorded peak discharge—4,620 cfs—occurred on July 23, 1969. Each of these significant flood events was caused by a cloudburst thunderstorm.

Water from Coal Creek has played an important role in the development of Cedar City. It has been used to generate electrical power, utilized in operating flour, plaster, and iron mills, and used for irrigation. Irrigators currently utilize nearly all of the natural streamflow in Coal Creek. Three significant irrigation diversion/drop structures exist between I-15 and the old Utah Power & Light (UP&L) drop structure: one is located about one mile upstream of the Center Street Bridge; one is located about 300 feet downstream of the Main Street Bridge; and the other is located at the head of the Quichapa Channel, about 450 feet upstream of the 1045 North Street Bridge. During most years, the irrigation diversions operate between March 15 and November 30. During that period, the Coal Creek channel is normally dry downstream of the Main Street Diversion. Irrigation water is diverted into the Quichapa Channel at the Woodbury Diversion only during periods of higher flow, but this diversion also operates as a flood control feature by diverting approximately one-third of the high flows into the Quichapa Channel, which conveys runoff to Quichapa Lake, west of Cedar City.

The development of Cedar City has had significant impacts on Coal Creek. Construction of grade control structures, irrigation diversions, and bridges have had significant effects on the creek. In addition, many homes and business structures have been constructed within 50 feet of the stream bank between the Center Street Bridge and I-15. The urbanization process along the creek channel has located many structures within the Coal Creek floodplain and has significantly limited potential flood control options. Therefore, extreme flood events, through actual flooding and lateral channel migration caused by erosion, pose a hazard to both property and life in Cedar City.

Cedar City, in cooperation with the Natural Resources Conservation Service (NRCS), proposes to modify the Coal Creek channel to safely accommodate runoff from a 100-year flood. New statistical analyses will revise the 100-year discharge used to develop the existing Federal Emergency Management Agency (FEMA) floodplain maps. Proposed channel modifications will allow the flood to be confined to the Coal Creek channel, thereby protecting surrounding residential and business developments. In conjunction with the proposed channel improvements, two irrigation diversion structures on Coal Creek (the Main Street Diversion and the Woodbury Diversion) will have to be replaced to eliminate significant channel and capacity restrictions created by the existing diversions. It is also proposed to construct sedimentation facilities to remove gravel from water diverted from the Main Street Diversion. Also as part of this project, Cedar City proposes to improve and expand an existing parkway along Coal Creek to enhance aesthetic values and provide recreational opportunities for community residents and visitors.

Any proposal that would require federal action (e.g., partial or total federal funding, federal agency approval, or federal permit issuance) is subject to environmental review and analysis under the National Environmental Policy Act of 1969, as amended (NEPA) before being implemented. To disclose the environmental consequences associated with the flood control and parkway improvement actions proposed for this project, a Draft Environmental Impact Statement (Draft EIS) was prepared according to NEPA regulations and guidelines. Following public review and comment, a Final EIS (this document) was prepared to not only disclose environmental effects, but is designed to inform the decision-making process.

## 1.2 Project Area

For the purposes of analysis in this document, the project area extends along Coal Creek from the old UP&L drop structure, approximately one mile upstream from the mouth of Cedar Canyon, to Airport Road, west of Interstate 15 (I-15) (approximately 4.35 miles). This project area has been divided into three study reaches (Figure 1.1). Most of the existing channel between I-15 and Center Street does not have the capacity to safely convey the 100-year flood through Cedar City. The existing channel stability and capacity deficiencies in each of the reaches are summarized below and in more detail in Chapter 3.

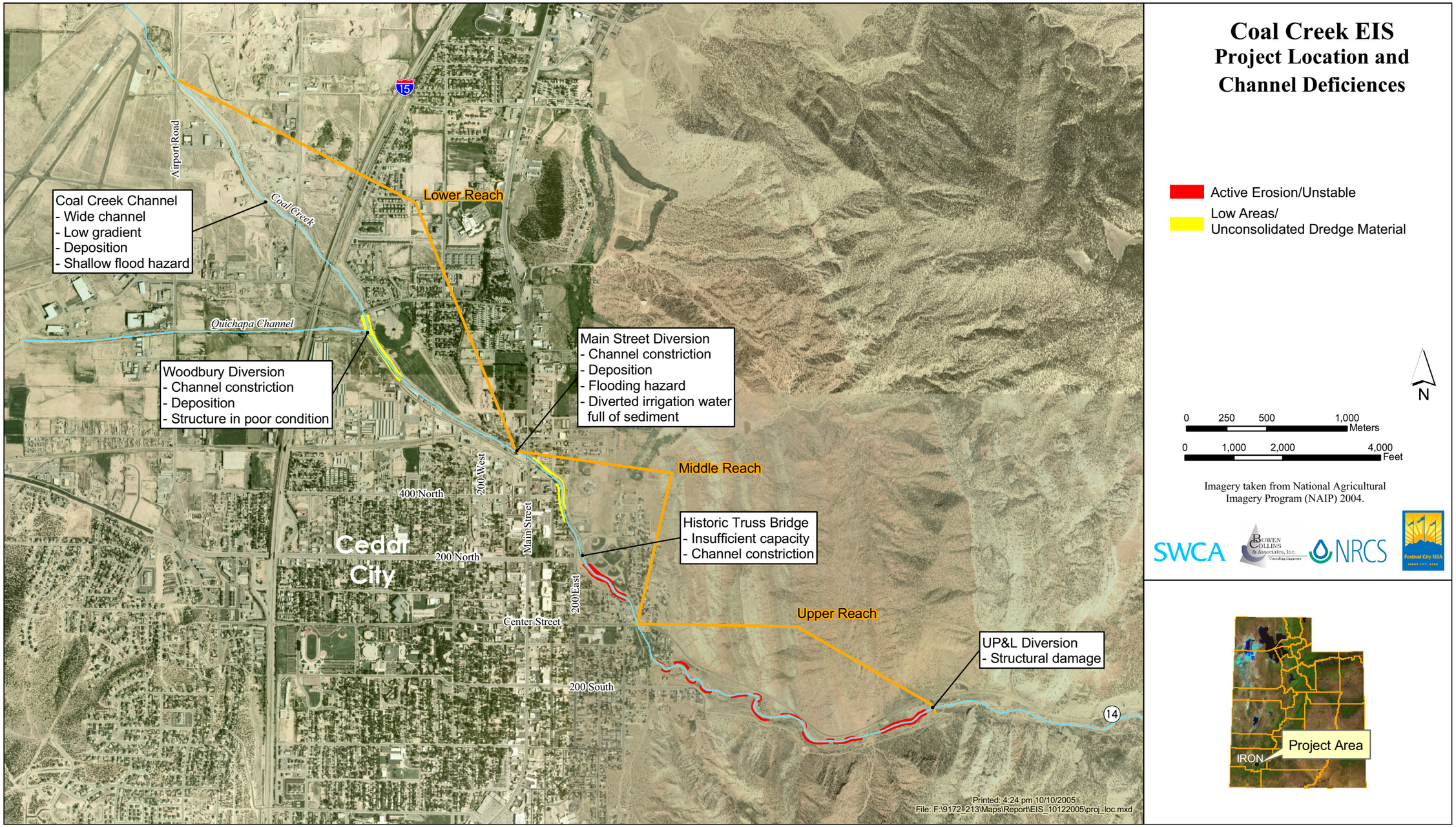


**Figure 1.1.** Project location and existing channel deficiencies.

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### 1.2.1 Upper Reach

**Sub-reach A, from UP&L Drop Structure to Center Street Bridge.** This sub-reach of Coal Creek has a channel that is well incised. Stream banks are actively eroding, particularly on the outside of channel bends. Significant erosion has also occurred on the creek bed immediately below the old UP&L drop structure and the South Fields irrigation diversion/drop structure. The channel bed erosion in these areas has caused unstable, nearly-vertical banks to form. The instability of the channel bed and banks in this sub-reach is placing existing infrastructure at risk of being lost or damaged through lateral migration of the channel. The active erosion in this sub-reach is also creating more maintenance work for City and County crews because the soils that are eroded in this sub-reach are deposited in downstream reaches and must be removed.

In addition to the channel erosion problems, erosion and wear have created the need for significant structural repairs on both the UP&L drop structure and the South Fields irrigation diversion/drop structure.

### 1.2.2 Middle Reach

**Sub-reach B, from Center Street Bridge to the 200 East Bridge.** A concrete floodwall and significant bank stabilization improvements have been constructed along the channel reach that begins at the Center Street Bridge and traverses downstream approximately 500 feet. The bank stabilization work has been completed in this area to protect existing structures that are within 50 feet of the top of the channel bank. Two short sections of channel in this sub-reach are also experiencing active bank erosion, particularly at bends. The channel erosion in these two areas has significantly widened the channel, thus creating a problem with sediment deposition and the formation of alluvial bars. In addition, the channel in the vicinity of the historic truss bridge located just upstream of the 200 East Bridge, does not have capacity to safely convey the 100-year flood. The channel needs to be widened in this area to increase conveyance capacity. Even with these channel improvements, this old bridge does not have capacity to safely convey the 100-year flood and creates a significant safety and flood hazard.

**Sub-reach C, from the 200 East Bridge to Main Street Diversion/Drop Structure.** The channel slope decreases through this sub-reach. Through much of this sub-reach the elevation of the channel bed is not located very far below the natural ground surface outside the channel. Development borders the creek channel along the south stream bank through the entire sub-reach. Paiute Drive runs parallel to the north stream bank through most of this sub-reach. Alluvial material that has been dredged from the channel during previous channel maintenance activities has been stockpiled on both stream banks in the lower half of this sub-reach. During a 100-year flood event, the water surface inside the channel would be above the natural ground surface and could seep through the piles of alluvium and create flooding problems. In addition, the Main Street diversion/drop structure is located at the bottom of this reach, about 300 feet west of the Main Street Bridge. This structure, which constricts the channel width down to 28 feet and includes an approximate vertical drop of

14 feet, creates backwater effects that cause deposition in the channel between the diversion and 100 East as well as a significant flood hazard. The deposition problem creates a perpetual maintenance problem along with the flood hazard.

### 1.2.3 LOWER REACH

**Sub-reach D, from Main Street Diversion/Drop Structure to Woodbury Diversion Structure.** Most of this sub-reach is well incised. Maintenance dredging has left large piles of alluvium on the channel banks throughout this sub-reach, particularly on the north bank. Significant channel bed and bank erosion has occurred immediately below the Main Street diversion/drop structure. The lower third of this sub-reach does not have capacity to convey the 100-year flood. Levees will have to be constructed in this area to confine floodwaters to the Coal Creek channel. The North Field/East Extension Canal extends north and west of the Main Street Diversion/Drop Structure and periodically overflows and causes nuisance flooding in the vicinity of its intersection with 1045 North.

The Woodbury diversion structure is located at the bottom of this sub-reach and about 450 feet upstream of the 1045 North Bridge. Like the Main Street diversion, this structure constricts the channel width to about 27 feet and causes backwater, sedimentation, flood problems, and creates a perpetual maintenance problem. A vertical drop of 3 to 5 feet has been incorporated into this diversion/drop structure. This structure is in very poor condition. Sediment-laded water has scoured away much of the concrete, exposing reinforcing steel and creating a large scour hole on the downstream side of the Coal Creek side of the diversion structure.

**Sub-reach E, from Woodbury Diversion Structure to I-15.** Significant channel maintenance activities were recently completed on this sub-reach of Coal Creek in preparation for the snowmelt floods that were anticipated in the spring of 2005. That work and previous channel maintenance activities have deposited large piles of alluvium on the channel banks. This sub-reach of the Coal Creek channel has a fairly uniform cross section and slope. The only significant flooding problem worth noting in this sub-reach is that the 100-year flood elevation in a short channel section between 1045 North and I-15 is above the natural ground surface. The alluvium on the banks may not contain the floodwaters and could create some flooding problems in this area.

**Sub-reach F, from I-15 to Airport Road.** This sub-reach of Coal Creek has also undergone significant channel maintenance activities. Here, the channel banks are composed of alluvial material dredged from the Coal Creek channel. The invert of the channel bottom is located within a few feet of the elevation of the native ground surface. The channel slope reduces significantly in this sub-reach and the channel width is significantly larger than the upstream reaches. These two features create a significant problem with sediment deposition. It is likely that sediment deposition and related channel maintenance activities will always be an issue during flood events in this sub-reach. Inadequate culvert and diversion structure capacities west of I-15 and dredged river sediment that cannot be considered reliable to function as a levees during a flood create shallow flood hazard zones in significant areas west of I-15.

## 1.3 PURPOSE OF ACTION

According to the NRCS National Environmental Compliance Handbook Part 610.23 (USDA, NRCS 2003), the Purpose of an action is the goal to be attained, or an end or aim to be kept in view (while meeting an underlying Need). The Purpose of Cedar City's Proposed Action can be summarized as follows:

- To design and construct flood-control improvements that will allow the Coal Creek channel to safely convey the 100-year flood and reduce associated flooding from the mouth of the Canyon to below I-15.
- To stabilize the section of Coal Creek that extends from I-15 to the east city boundary to protect existing development and infrastructure, including structures, roads, and bridges.
- To construct new or modified irrigation diversion structures that will continue to provide entitled water rights to irrigators. These new diversions would reduce sediment deposition in the channel, maintain channel capacity, and, at the Main Street diversion, reduce sediment in diverted irrigation water.
- To expand the parkway along Coal Creek to connect existing park and trail facilities and provide access to natural resources along the stream and in Cedar Canyon. This parkway includes the maintenance of historic low flows in Coal Creek along the parkway and would add recreational and aesthetic elements, providing a functional, popular, multiple-use amenity for the entire community.

## 1.4 NEED FOR ACTION

According to the NRCS National Environmental Compliance Handbook Part 610.23 (USDA, NRCS 2003), the project Need is a problem to be solved or an opportunity. For NRCS conservation programs, the Need is usually related to improving the condition of one or more natural resources the program is authorized to address. The Need for Cedar City's Proposed Action includes the following elements:

- Developed areas in Cedar City need to be protected from flooding events to minimize property damage and the risk to public safety. Seasonal flooding occurs in areas adjacent to the creek and connected irrigation canals. Coal Creek is currently unable to safely convey the 100-year flood.
- Existing infrastructure (e.g., bridges, roads, utility lines, etc.) needs to be protected from hazards related to lateral bank erosion.
- There is strong local demand for recreational opportunities along Coal Creek.

## 1.5 Regulatory Authority and Decisions to be Made

Although Cedar City and its citizens are the developers and benefactors of the Proposed Actions discussed in Section 1.1, the NRCS maintains the responsibility of making the final decision on the administration of funds for the actions. In this case, the role of the NRCS includes:

- Overseeing the NEPA process and analysis from start to finish.
- Designating cooperating, contributing, and/or coordinating agencies.
- Ensuring that agency consultation occurs.
- Providing public involvement opportunities.
- Selecting the preferred alternative and making the final decision on the federal action or disbursement of funds.

### *1.5.1 Lead Agency: Natural Resources Conservation Service (NRCS)*

The mission of the NRCS is to provide leadership in a partnership effort with local governments and private individuals to help conserve, maintain, and improve natural resources while providing for land-use opportunities. The NRCS accomplishes this mission by providing technical and/or financial assistance to its constituents for the purposes of natural resource conservation or by directly administering natural resource conservation programs.

The Farm Security and Rural Investment Act of 2002 provides for conservation funding focusing on land use and environmental issues. The conservation provisions in the Act are to assist farmers and ranchers in meeting environmental challenges on their land. This legislation simplifies existing programs and creates new natural resource conservation programs to address high-priority environmental and production goals. For those attempting to develop rural lands, these new programs provide on- and off-site environmental, societal, financial, and technical benefits, including:

- Sustaining and improving agricultural productivity,
- Providing cleaner, safer, and more dependable water supplies,
- Minimizing damage caused by floods and other natural disasters, and
- Enhancing natural resource bases that support continued economic development, recreation, and other purposes.

The federal action associated with this project and invoking NEPA is the disbursement of funds under the Farm Security and Rural Investment Act for the design and construction of the proposed channel modifications, pipeline installation, and parkway construction. These funds would be administered through NRCS's Small Watershed Program, which applies to watersheds less than 250,000 acres in size. Projects include resource issues related to water-

shed protection, flood prevention, erosion and sediment control, water supply, water quality, fish and wildlife habitat enhancement, wetlands creation and restoration, and public recreation.

In addition, the proposed project would augment the mission of the NRCS's existing Resource Conservation and Development (RC&D) program administered in the Color Country RC&D Area. This program coordinates and utilizes the services of all available resources and is dedicated to improving the economy, environment, and way of life of the communities in Beaver, Iron, Garfield, Washington, and Kane Counties. Key goals of this program include:

- Increasing farm income through more efficient use of water, forage, and resource management;
- Improving community services, including flood protection and water development; and
- Balancing recreation- and wildlife-use opportunities to meet local demands.

### *1.5.2 Cooperating Agencies*

NEPA guidelines strongly urge local and state agencies and other relevant federal agencies to participate and cooperate fully with each other, deferring to the lead agency for oversight and final decision-making responsibilities. Efforts should include joint research and studies, planning activities, public hearings, and the preparation of the environmental impact statement (EIS). The final EIS should reflect the interests and missions of all agencies involved.

#### 1.5.2.1 Cedar City

As the author of the flood control and recreation enhancement proposal and as a financial contributor to the project, Cedar City maintains the role of cooperating agency and has and will continue to work closely with all parties involved, including the NRCS and the third-party consultants. As mentioned above, the NRCS as lead agency has the final decision regarding final funding for the flood control project. However, this decision must reflect the needs and interests of the City, which are expressed in the Purpose and Need of this EIS.

#### 1.5.2.2 Other Cooperating Agencies

In addition to Cedar City, several governmental agencies and non-governmental organizations participated as cooperators in the process. Representatives from each agency participated in developing the Purpose and Need statement for the project and in formulating alternatives for analysis.

- Utah Division of Water Rights (UDWRi)
- Utah Department of Transportation (UDOT)
- Iron County

- Cedar Valley Water Community
- Southwest Wildlife Foundation

#### 1.5.2.3 Agency and Native American Consultation

Several agencies and Native American groups have been or will be consulted on various aspects of the Proposed Action. These include:

- U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (EPA)
- U.S. Fish and Wildlife Service (USFWS)
- State Historic Preservation Office (SHPO)
- Cedar Band of Paiutes
- Hopi Tribe
- Navajo Nation
- Northern Ute Tribe
- Paiute Indian Tribe of Utah
- Shivwits Band of Paiutes

## 1.6 Laws, Regulations, and Other Documents that Affect the Scope of the Final Environmental Impact Statement (EIS)

**Clean Air Act (42 U.S.C. § 7401).** The Environmental Protection Agency (EPA) delegates the authority to manage air resources to the State when a State Implementation Plan (SIP) is approved and implemented. The Utah Department of Environmental Quality (UDEQ) currently has approved SIPs for air quality programs under its jurisdiction and has received delegated authority from EPA for all air quality issues in the State of Utah, excluding Tribal reservation lands. The air quality in Utah is currently regulated by the UDEQ, Division of Air Quality (UDAQ). All stationary sources of air pollution are subject to the air quality regulations and standards under the UDAQ's administration.

**Endangered Species Act (7 U.S.C. § 136; 16 U.S.C. § 460 et seq. 1973).** The Endangered Species Act provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The law prohibits any action, administrative or real, that results in a "taking" of a listed species or that adversely affects habitat.

**Environmental Impact Statements (40 CFR § 1502).** The primary purpose of an EIS is to serve as an action-forcing device to ensure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the federal government. The EIS

document will provide a full and fair discussion of significant environmental impacts and shall inform the agencies and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment in Cedar City.

**Executive Order 11988 (Floodplain Management (g) Floodplains and Wetlands).** This order restricts federal support of development in floodplains by requiring federal projects in a floodplain to meet National Flood Insurance Program standards, consider alternatives, and require agencies to inform all participants of the dangers involved in floodplain activities.

**Executive Order 11990 (Protection of Wetlands).** This order sought to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands" by planning their actions to avoid and minimize direct or indirect loss of wetlands whenever there is a practicable alternative, achieve a no net loss of wetland quantity and quality, and preserve and enhance the natural and beneficial values of wetlands.

**Executive Order 12898 (Environmental Justice).** This order directs federal agencies to assess whether their actions have disproportionately high and adverse human health or environmental effects on minority and low-income communities.

**Migratory Bird Treaty Act (16 U.S.C. §§ 703-712, as amended).** The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful.

**National Ambient Air Quality Standards (NAAQS) (40 CFR § 50).** The purpose of primary NAAQS is to protect the welfare of the most sensitive people, such as elderly and asthmatic individuals. The purpose of secondary NAAQS is to protect vegetation, soil, etc. An area that does not meet the NAAQS is designated as a non-attainment area on a pollutant-by-pollutant basis.

**National Environmental Policy Act of 1969 (NEPA), Sec. 102 (42 U.S.C. § 4332).** All agencies of the federal government shall—

A. Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment;

B. Identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations;

C. Include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on–

i. the environmental impact of the proposed action,

ii. any adverse environmental effects which cannot be avoided should the proposal be implemented,

iii. alternatives to the proposed action,

iv. the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

v. any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

**Section 106 of the National Historic Preservation Act (NHPA) of 1966 (36 CFR § 800)**. These regulations mandate the consideration of potential impacts to historic properties resulting from a project with any federal nexus (e.g., permitting, funding, etc.).

**Section 404 of the Clean Water Act (33 CFR § 230).** These regulations establish a program to regulate the discharge of dredged and fill material into Waters of the U.S., including wetlands. Activities in Waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry.

**Utah State Code R317-2-13.6a**. The State of Utah has identified the designated beneficial uses for Coal Creek as secondary contact recreation; cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain; and agricultural water supply, including irrigation of crops and stock watering (Utah State Code R317-2-13.6a).

## 1.7 Identification of Issues

NEPA requires that the public and cooperating agencies be involved from an early stage in decision-making. An important part of this strategy is public scoping, which the Council on Environmental Quality (CEQ) regulations describe as the process for determining the "scope of the issues to be addressed and for identifying the significant issues related to the proposed action" (40 CFR § 1501.7). NEPA also requires that a complete environmental impact disclosure of the proposed project be made available to all potentially affected parties, including the general public.

### 1.7.1 PUBLIC SCOPING PROCESS

To satisfy the requirements of NEPA for public involvement in the current project, the scoping process was intended to clarify tentative issues, determine the appropriate scope of environmental analysis, and gather new input on alternative development from public comments received in response to the February 11, 2005 Notice of Intent (NOI), which opened the comment period for this EIS. The NOI outlined the NRCS's plan to prepare an EIS for Cedar City's Proposed Action regarding the Coal Creek channel and watershed.

One public meeting was held by the NRCS on March 10, 2005, at the Cedar City public library. Approximately 140 citizens of Cedar City and surrounding communities attended the meeting. Pursuant to NEPA requirements, the scoping meeting was advertised at least two weeks prior to the scheduled date in a variety of media formats.

In addition to the public meeting, the public was invited to submit comments until March 21, 2005, which marked the close of the comment period. During this time, comments were accepted in a variety of formats, including email, project web page, and regular mail.

### 1.7.2 KEY ISSUES IDENTIFIED DURING SCOPING

The public meeting and the 38-day comment period resulted in 34 individual letters and a total of 105 unique comments. The significant issues identified during the comment period were used throughout the course of the alternative-development phase of the NEPA process. CEQ regulations require that a reasonable range of alternatives be included for analysis to provide a clear comparison of choice among options to the decision-maker and the public (40 CFR § 1502.14). The major issues identified during the initial comment period are summarized below.

#### 1.7.2.1 ALTERNATIVES

After being presented with possible alternatives at the public meeting, many community citizens weighed in on the alternative that they liked best. Suggestions for the placement or relocation of the Main Street irrigation diversion (within the valley or up the canyon) and/or the development of off-stream water storage reservoirs were frequently made. Many citizens noted, however, that the purpose of the project is not irrigation development but flood control, and that any alternative chosen should focus on flood control, not irrigation.

Alternatives carried forward for detailed analysis are found in Section 2.4 and those eliminated from detailed analysis are in Section 2.3.

#### 1.7.2.2 CULTURAL RESOURCES

It was suggested that impacts to cultural resources such as the Civilian Conservation Corps (CCC) dams near the mouth of Cedar Canyon be avoided.

Note the information in Section 3.9.1.1 on the CCC structures and proposed mitigation in Sections 3.9.4.2 and 3.9.5.2.

#### 1.7.2.3 FLOODPLAIN

Citizens were concerned that the flood control actions described do not extend far enough downstream and asked that the project area be extended to include areas west of I-15. It was also suggested that the buffer width between Coal Creek and any development be expanded to ensure that flood-related hazards will not threaten future buildings.

See Sections 2.3.8 and 2.3.13.

#### 1.7.2.4 GROUNDWATER

Many citizens were concerned that the project would have a negative impact on groundwater, specifically aquifer recharge and the wells in the valley.

Discussion of this issue may be found in Sections 3.5.1, 3.5.3.1, 3.5.4.1, and 3.5.5.1.

#### 1.7.2.5 IRRIGATION

Although this is not an irrigation project, there were a considerable number of comments concerning the impact of the project on irrigation. Many felt that any chosen alternative needed to support the irrigators in the valley, and that this project could be an opportunity for future irrigation development. It was also frequently noted that existing water rights need to be honored and respected.

See Section 3.5 for more information on this issue. Sections 3.5.4.1.2 and 3.5.5.1.2 also contain information on proposed improvements to irrigation water quality.

#### 1.7.2.6 PARKWAY

Although most citizens were in support of developing a parkway along Coal Creek, many were concerned about the impact on adjacent property owners. Many citizens in favor of the parkway would like trails to complement what is already there. Some suggested the trail should go under the Main Street Bridge, while others were opposed to this route for safety reasons.

Please see Sections 2.4.2.2, 2.4.3, and 2.4.4 for more information on parkway alternatives and options.

#### 1.7.2.7 PROCESS

Many citizens were concerned about the funding of the project and whether their taxes would increase due to project implementation. Others commented on the NEPA process, questioning the ability of the City to make decisions without putting it to vote. Still others

looked at this project as an opportunity to work together, plan for the future, and balance the rights and interests of all involved. It was suggested that collaboration with other municipalities and the county would make this project more successful. In addition, many believed there is a need to educate the community and directly involve community citizens in the decision-making process.

Please see the summary of the economic analysis in Section 3.12.

#### 1.7.2.8 Recreation and Visual Resources

Most community citizens were in support of development of the parkway for recreational and aesthetic reasons but wanted to make sure that any alternative put forward for analysis allowed their current recreational opportunities to continue.

See Section 3.10.

#### 1.7.2.9 Socioeconomics

Community members felt that it was important for the City to choose an alternative that would be the least expensive and promote tourism.

Please see Section 3.12.

#### 1.7.2.10 Vegetation

Citizens who were concerned that taking water out of the Coal Creek stream will negatively impact riparian resources along the creek bed emphasized that minimum flow needs to be maintained. It was also suggested that restoration and maintenance of the creek should include native soils and stones, as opposed to concrete and other non-natural building materials.

A discussion of vegetation and riparian resources and possible mitigation measures is found in Sections 3.6 and 3.7.

#### 1.7.2.11 Water (General)

Many citizens were concerned that water be used efficiently and conservatively for future generations.

See Section 3.5 for more detail on these issues.

#### 1.7.2.12 Water Flow

Many community citizens were concerned that water flow in Coal Creek would be reduced and wanted an alternative that would maintain, or nearly maintain, water flow in Coal Creek.

Alternative C was developed specifically to address this concern. Please find details on this alternative in Section 2.4.4.

#### 1.7.2.13 WATER QUALITY

Community citizens do not want their water quality threatened in any way.

Details are located in Section 3.5.

#### 1.7.2.14 WILDLIFE

Community citizens wanted to make sure that the impacts of any alternatives on wildlife, specifically threatened or endangered species were considered. It was suggested that, when implementing the project, the City should seek to establish riparian and stream channel habitats that are suitable for native wildlife species.

A discussion of wildlife issues and proposed mitigation measures may be found in Section 3.8.

## 1.8 PERMITS, LICENSES, AND OTHER REQUIREMENTS

Several permits are required for implementation of the Proposed Action (Table 1.1).

**Table 1.1.** Permits Required for the Proposed Action Involving Coal Creek

| Project Action | Permit/Requirement | Responsible Agency |
|---|---|---|
| Channel Improvements | Stream Alteration Permit | Utah Division of Water Rights |
| | 404 Wetlands Permit | U.S. Army Corps of Engineers |
| Relocate Irrigation Diversion | Move Point of Diversion | Utah Division of Water Rights |
| Construct Sedimentation Structures, Levees, and Parkway Improvements | Right-of-way or Easement | Cedar City and irrigation companies |

## 1.9 ORGANIZATION OF THE FINAL EIS

The purpose of this Final EIS is to disclose the NEPA process and the environmental impacts analysis of the alternatives proposed for the Coal Creek corridor. In order to meet CEQ regulations, this Final EIS includes:

- **Cover Sheet.** The cover sheet lists the lead and cooperating agencies, the title of the Proposed Action, the location of the Proposed Action, NRCS contact information, the "Final" designation, where to send comments on the Final EIS, and the date such comments must be received by.

- **Executive Summary.** The executive summary briefly describes the major issues identified, as well as the Purpose and Need, the alternatives, and the impacts analysis conclusions.
- **Chapter 1. Purpose of and Need for Action.** The chapter above should specify the underlying Purpose and Need to which the NRCS is responding, including the Proposed Action.
- **Chapter 2. Description of the Proposed Action and Alternatives.** This chapter will describe the three proposed alternatives (A, B and C) in detail.
- **Chapter 3. Affected Environment and Environmental Consequences.** This chapter will describe the environment surrounding the Coal Creek corridor that may be affected by the alternatives and will analyze the environmental consequences of each of the alternatives on the affected environment. Natural resources and other resources of the human environment at issue for this project are described and analyzed individually in this chapter; they include Air Quality, Cultural Resources, Geology and Soils, Floodplain, Vegetation, Wetlands and Riparian, Surface and Groundwater Resources, Wildlife, Recreation and Visual Resources, and Socioeconomics.

  These individual resource sections must present an analysis of the affected environment that is detailed enough for the reader to understand and distinguish among the consequences of each alternative. Mitigation measures (to minimize or eliminate adverse impacts) and cumulative impacts are also discussed in Chapter 3 as aspects of the environmental consequences for each resource.
- **Chapter 4. List of Consulted Agencies, Individuals, and Organizations.** This chapter provides a list of all those agencies, organizations, and individuals that were consulted and will receive a copy of the Final EIS.
- **Chapter 5. List of Preparers.** This section includes the names and qualifications of those responsible for preparing this EIS.
- **Appendix.** The appendixes contain information that supplement or support analysis disclosed in Chapter 3.

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