

# **I. PURPOSE AND NEED**

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## **A. Introduction**

The Coconino National Forest (CNF) has proposed to issue a permit to UniSource Energy Services (UES)<sup>1</sup> for installation of a natural gas pipeline from the Village of Oak Creek to Sedona on private and CNF lands in Yavapai and Coconino Counties, Arizona. This Environmental Assessment (EA) was prepared to comply with the National Environmental Policy Act (NEPA) of 1969 and other relevant federal and state laws and regulations. The EA describes the direct, indirect, and cumulative environmental impacts that would result from implementation of the proposed action. This chapter outlines the document structure, project scope, purpose and need, the proposed action, and decision framework in which this action is analyzed, as well as public involvement efforts, identified issues, and project record availability.

## **B. Document Structure**

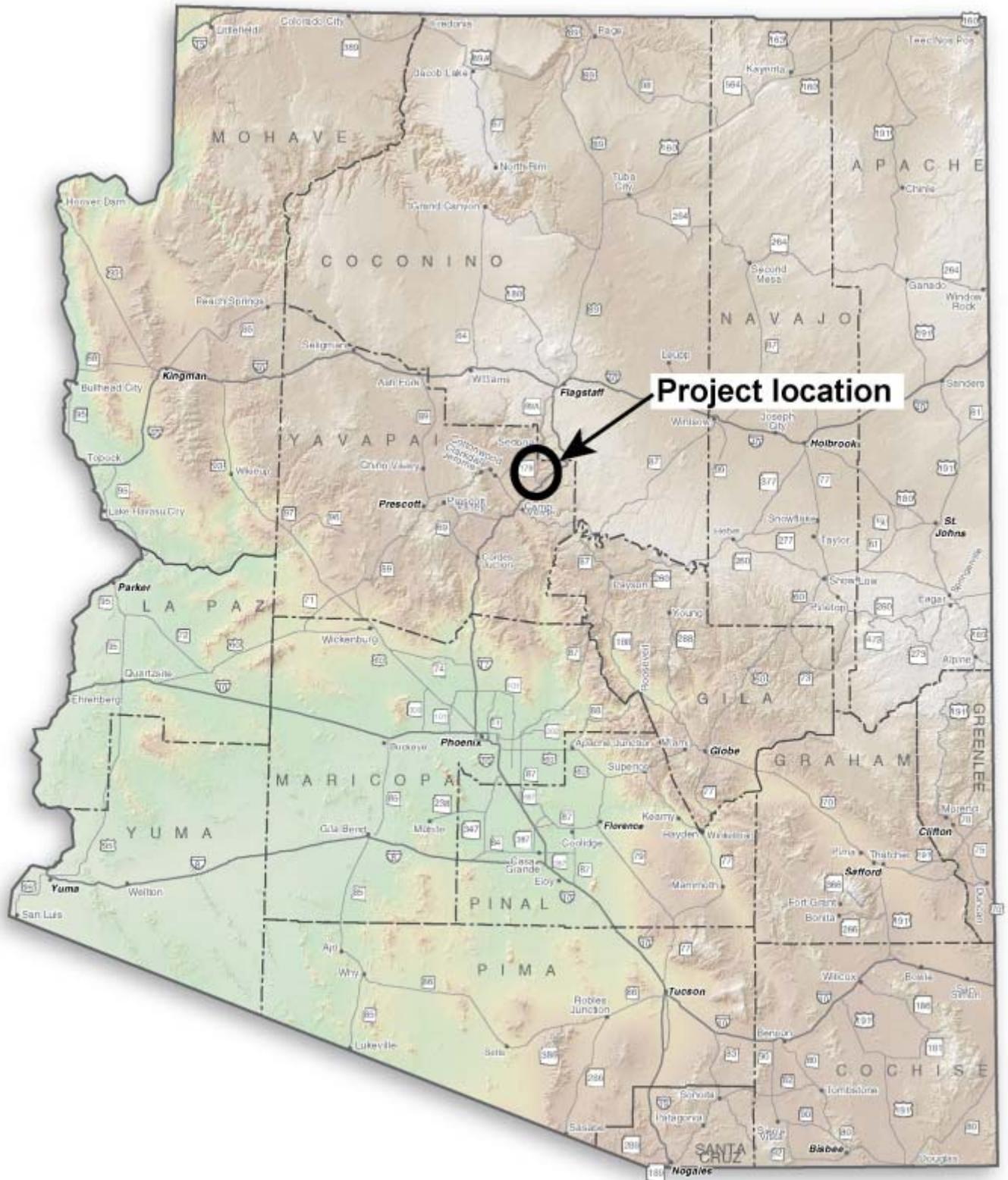
This EA is not a decision document, but instead discloses the purpose and need for action, public involvement, the Proposed Action and alternatives, and the environmental consequences of the action and no action alternatives considered in detail. The United States Department of Agriculture Forest Service (USFS), Coconino National Forest, Forest Supervisor's decision will be presented and explained in a Decision Notice when the environmental planning process is completed. Source documents referenced/cited from the project record are indicated throughout this EA by showing the document number in brackets [#].

## **C. Project Scope**

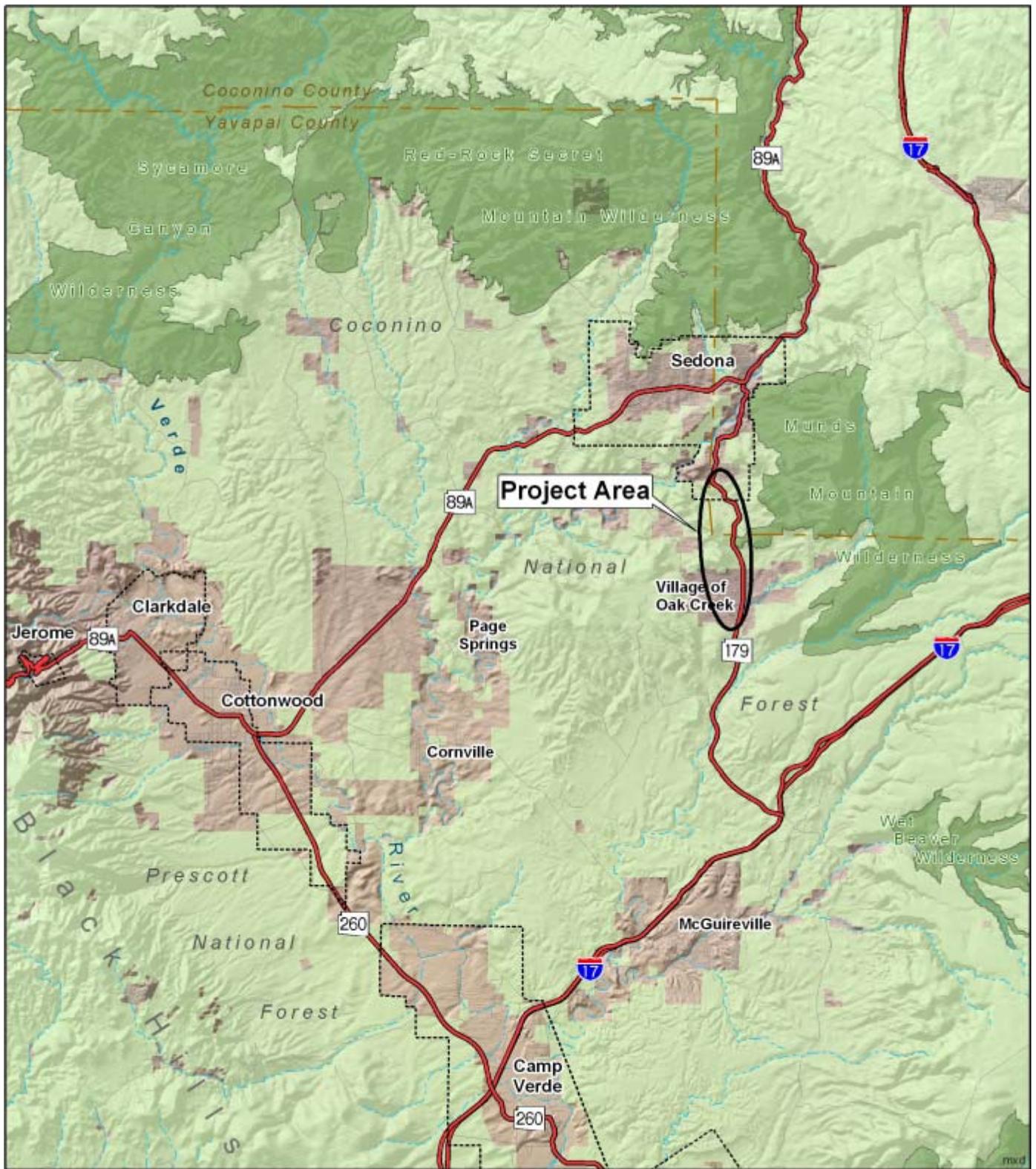
UES has requested to the CNF approval to obtain a permit or easement to install, operate, and maintain approximately 5.3 miles of 6-inch-diameter natural gas pipeline from the Village of Oak Creek to Sedona, within private property and lands managed by CNF, in Yavapai and Coconino Counties, Arizona (Figures I-1–I-3). The project area is located within CNF's Land and Resource Management Plan Neighborwoods (in the city of Sedona and Village of Oak Creek) and Redrock Frontcountry Management Areas, and adjacent to the Wilderness Management Area associated with Munds Mountain Wilderness—located immediately east of the project area.

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<sup>1</sup> The proposed project was originally initiated by Citizens Communications; UES purchased Citizens Communications' Arizona Electric and Natural Gas Divisions in 2003. Therefore, some information in the project record, as well as actions occurring before 2003 and discussed in this document, were performed by Citizens Communications. For the purposes of this document, only "UES" will be used.



**Figure I-1. State Location Map**

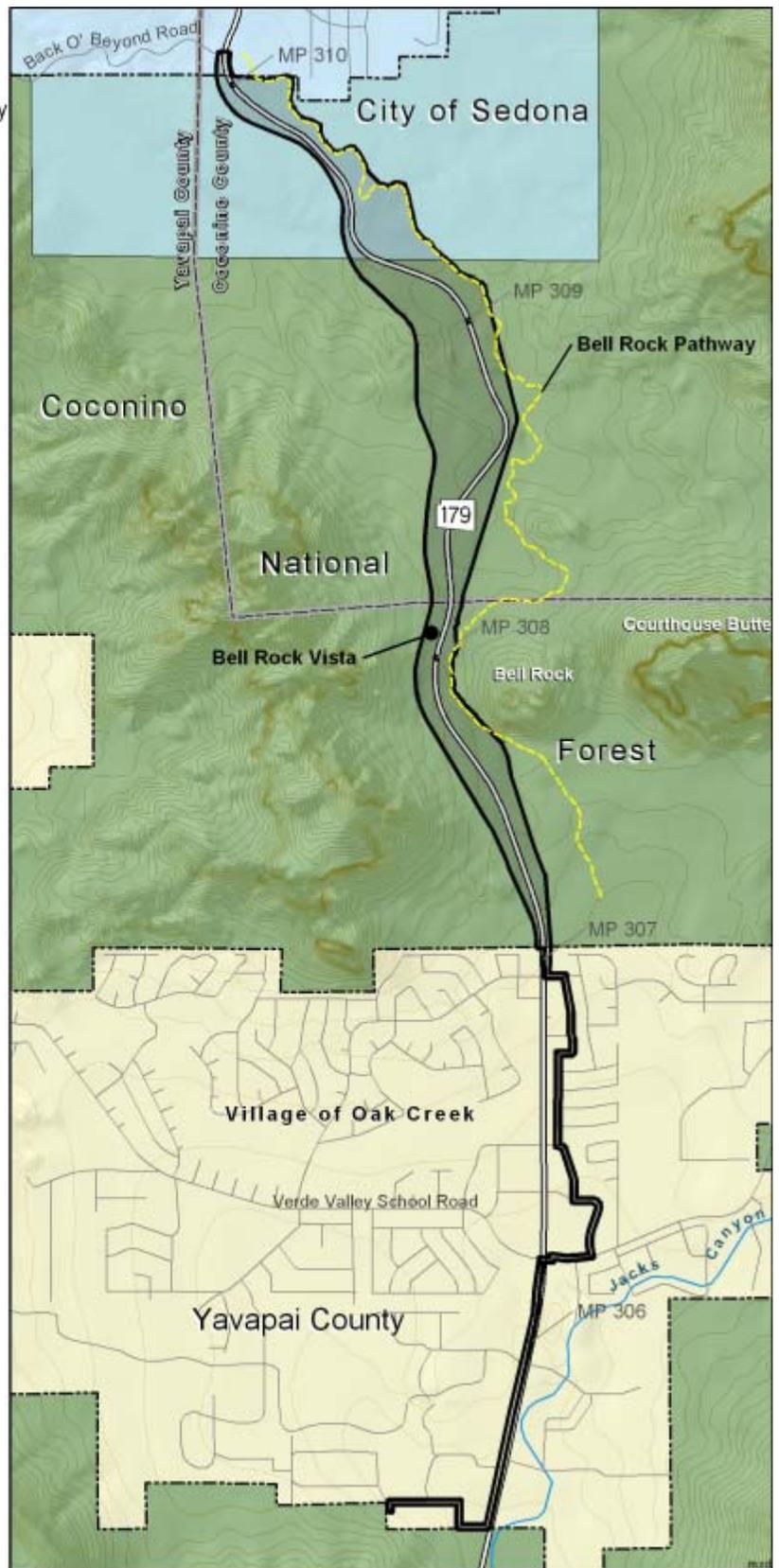


**Figure I-2.** Project Vicinity Map

**Key**

-  Project Area
-  Coconino National Forest (CNF) Boundary
-  City of Sedona
-  City of Sedona within CNF
-  Coconino National Forest
-  Yavapai County

*Note:* Sedona city limits extend into CNF. The location of the Yellow and Purple Alternatives has been modified to reflect the September 2004 ADOT/FHWA proposed southbound SR 179 alignment on National Forest lands. Refer to Figure A-1 (Appendix A) to view the previous Draft EA and the September 2004 ADOT/FHWA alignments for these alternatives.



**Figure I-3. Project Area**

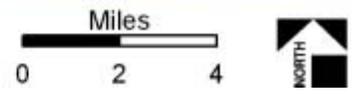
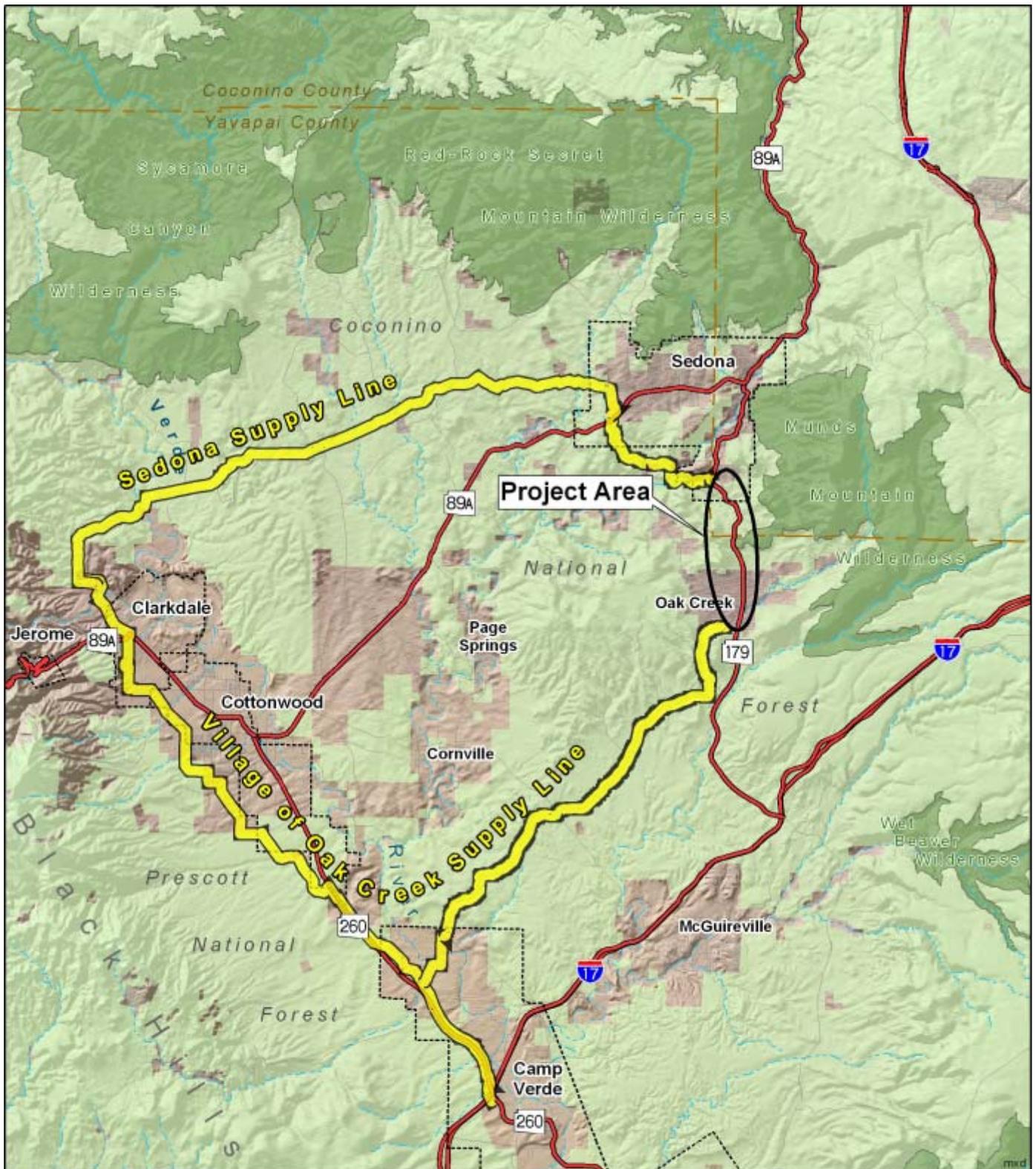
If approved, the construction corridor would consist of a 40-foot-wide temporary construction right-of-way (ROW), with wider segments where staging areas occur. A 10-foot-wide permanent ROW, which includes 5 feet on either side of the pipeline, would be required for maintenance activities. Portions of the 40-foot-wide temporary ROW would be impacted for construction of the proposed pipeline. Wherever possible, vegetation would be sheared or trampled, which would retain as much topsoil as possible and minimize the amount of required revegetation. Revegetation, including planting of trees and shrubs and temporary irrigation would be done at places along the construction area. Staging areas would be required for storage of construction items needed to build the pipeline (e.g., sand, backfill, pipe). Three relatively small staging areas, approximately 125 by 200 feet, would be required along the construction corridor. The locations of the staging areas would be coordinated with CNF and would use existing cleared areas where possible. Temporary fencing or flagging would be used to restrict construction activities to the designated disturbance limits.

A trencher would be used to dig the trench for the pipeline along one side of the 40-foot-wide construction ROW. The pipeline would be laid down within the construction corridor in segments, which would later be welded together. Sidebooms would be used to lower the pipe into the trench, which would then be backfilled. Because of Arizona Corporation Commission requirements, the entire pipeline would be demarcated by posts that identify its location. These posts are required to be located within line-of-sight, whereby the adjacent posts are visible at any given location along the alignment. Upon completion of construction, the 10-foot permanent ROW would be used as a maintenance/emergency access route. A maximum of 5 months of construction would be anticipated.

Ongoing maintenance activities occurring within the 10-foot permanent ROW would consist of surveys for leaks and checks of underground valve boxes. The surveys would occur approximately four times a year. Depending on terrain access and location relative to designated trails, the pipeline alignment would be driven (by all-terrain vehicles or cars) or walked with a leak detector, and valve boxes would be checked with small voltage regulators. In areas not on designated trails, the 10-foot-wide permanent corridor would be revegetated with grasses and low seedlings; no shrubs or trees would be planted, thereby allowing for maintenance access to the line. If approved, construction of the pipeline is anticipated to occur prior to any State Route 179 (SR 179) improvements.

#### **D. Purpose and Need**

Currently, UES's existing Verde Valley supply pipeline infrastructure consists of approximately 56 miles of 4- to 10-inch pipeline. The Verde Valley pipeline begins at the natural gas supply source in Clarkdale, then branches, with one leg of the pipeline (the Sedona Supply Line) heading northeast to Sedona and the other leg of the pipeline (the Village of Oak Creek Supply Line) running southeast to Camp Verde and continuing northeast to the Village of Oak Creek (Figure I-4). No supply pipeline is currently present between the Village of Oak Creek and Sedona.



**Figure I-4.** Existing UES Supply Lines

Natural gas in the supply pipelines is transported one-way, and under high delivery pressure, measured in pounds per square inch gauge (psig). The existing Sedona Supply Line is a 4-inch-diameter, 18-mile-long, steel pipeline, and is the only natural gas feed to the city of Sedona. Currently, the Sedona Supply Line operates at 660 psig. The natural gas supply lines feed into pressure-reducing equipment near Sedona and the Village of Oak Creek; this equipment reduces the pressure from supply lines to pressure levels that can be handled by the distribution pipe system in communities (i.e., pipes located under roads or leading to structures). The majority of the distribution system in Sedona is rated to accommodate an operating pressure of no more than 60 psig.

Because the current natural gas infrastructure is not constructed as a loop, pressure levels at the end of the supply lines in Sedona and the Village of Oak Creek are lower than pressure levels at the source. The pressure level in the supply lines is a factor that drives the volume (or “load”) of transported natural gas. This volume is measured in units of 1,000 cubic feet per hour (Mcfh). The current Sedona Supply Line transports a load of 240 Mcfh. Pressure and load are correlated such that as pressure decreases, so too does the load carried in the pipes (e.g., if the current pressure level of 660 psig drops to 550 psig, the load will drop from 240 Mcfh to 191 Mcfh). This results in a corresponding decrease in natural gas available to UES customers.

The Sedona Supply Line, originally constructed to accommodate fewer than 1,000 customers, now supplies natural gas to over 5,700 customers. UES projects that its customer base in Sedona will grow an additional 60 percent over the next 12 years. Traditionally, the peak-use period for natural gas in the Verde Valley region is the winter months, when natural gas is used as a source of heat; UES refers to this period of peak demand as the “heating season.” Temperature is inversely proportional to demand, meaning that as temperatures drop, the required supply, or load, needed to meet that demand increases.

Electric generating stations, owned by other utility companies, have also been added to the supply infrastructure in northwest Arizona and California. These gas-fired electric plants have increased demand, and thereby reduced the delivery pressure from UES’s interstate pipeline provider over the past several years. As populations are expected to increase, so too is the projected need for energy. UES anticipates that the number of gas-fired electric plants (operated by other utility companies) will increase, resulting in a corresponding decrease in delivery pressure. Because supply load is dependent on delivery pressures, the addition of these plants will limit the supply of natural gas available to customers.

To meet the increased demand caused by the historical increased customer base in the Verde Valley and the expected addition of gas-fired electric plants in the future, UES has completed all feasible system improvements to increase the performance of the distribution system. Because of the existing and anticipated growth in Sedona and decreasing supply pressure, the Sedona Supply Line is projected to be unable to convey sufficient natural gas to meet the increasing needs of the Sedona community in the winter of 2004. UES, under Arizona Administrative Code (AAC) is mandated to provide for a continuity of service;

under AAC R14-2-308.C Continuity of service, “[e]ach utility shall make reasonable efforts to supply a satisfactory and continuous level of service.”

Based on current supply pressures of 660 psig and current supply loads of 240 Mcfh, UES projects a high risk of customer outages in Sedona if the temperature drops below 20° Fahrenheit (F) for 3 consecutive days [#1]. If supply pressures decrease to 550 psig (which is the minimum pressure that UES’s supplier is required to deliver), the load will decrease to 191 Mcfh, and the projected temperature at which UES predicts it will not meet demand increases to 30°F. According to the Sedona Chamber of Commerce, average lows in December, January, and February are 30.5°, 29.7°, and 32.2°F [#2]. UES records indicate that actual temperatures have dropped below 18°F on 14 days over the past 20 years.

The critical need for the completion of the Verde Valley Regional Loop, with the installation of the 6-inch steel line from the Village of Oak Creek to Sedona, was substantiated during the 2003/2004 heating season. UES installs pressure-recording charts to monitor system integrity and validate computer generated pressure models. The pressure chart for the sole feed to Sedona for the time period of December 16, 2003, to January 12, 2004, showed that at four instances the pressure reaching the city of Sedona had fallen below 400 psig, with the minimum pressure reaching levels of 330 psig.

The pressure chart showed that during these instances the pipeline had in fact reached critically low pressures, substantiating that the existing pipeline—during nondesign temperatures<sup>2</sup>—is reaching full capacity of the line. At these times, if the demand in Sedona were increased slightly, the system pressure would have fallen to critical levels leading to a gas outage in the Sedona distribution systems. If the Loop is completed, it will make available the additional capacity needed by Sedona gas customers, allowing for reliable gas service.

Customer outages present safety concerns beyond the lack of heat. If supply pressure drops off during an outage, natural gas regulators at customers’ houses/businesses stop working; at locations with pilot-ignited appliances, pilot lights will go out. When the pressure returns to customers, the regulators start working again. However, if the customer has pilot-ignited appliances, natural gas may pass into the home/business because no pilot light is burning. Most new homes/structures/appliances have electric-ignited burners that will automatically light and continue working when pressure is restored to the customer. There is a chance, however, in older homes/appliances (from the mid-1970s), for the natural gas to pass into the home until the problem is identified. Under AAC R14-2-308.A. *Utility responsibility (1)*, “Each utility shall be responsible for the safe transmission and distribution of gas until it passes the point of delivery to the customer”; this further drives the need for continuous service to customers.

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<sup>2</sup> The design day temperature refers to the lowest temperature that would be expected in a given area in which a system is located; in the case of Sedona, 8°F. Since gas load is related to the temperature, a system’s heaviest load would be expected when the design day temperature is reached. The term “nondesign temperatures” refers to any temperature that is higher than the design day temperature and, therefore, lower than design loads.

Customer outages may also impact the economic viability of resorts in Sedona. UES basically has two classes of customers in the area, small users (e.g., residential customers) and large users (e.g., resorts). Under AAC R14-2-308 H. Curtailment, “[w]hen the availability of service is so restricted that the reduction of service on a proportionate basis to all customer classes will not maintain the integrity of the total system, the utility shall develop procedures to curtail service giving service priority to those customers and/or customer classes where health, safety and welfare would be adversely affected.” To comply with this regulation, in the event of supply shortages, UES’s residential customers—to the extent possible—would retain service. Resort service, however, might have to be curtailed to maintain the integrity of the system for the remaining customers. Loss of supply to resorts may create negative economic impacts to the Sedona economy. UES met with its large user class in Sedona in February and March 2004 (refer to Section I. G. Public Involvement, below). Concern from these users was expressed, including statements that in the event of an outage, economic consequences would be both immediate and residual—possibly lasting for months.

Because the existing infrastructure forms two legs (the Sedona Supply and Village of Oak Creek Supply Lines) from the source in Clarkdale, natural gas is transported in one-way flow to all distribution points along the supply line. If a section of the supply line were damaged by a third party, shut-off for maintenance activities, or impacted by unforeseen events, all distribution beyond that point would stop (e.g., if the Village of Oak Creek Supply Line were damaged in Cottonwood, supply to Horseshoe Bend, Camp Verde, and the Village of Oak Creek would be impacted).

The construction of a pipeline connecting the existing infrastructure in the Village of Oak Creek and Sedona would create a continuous supply loop in the distribution system. The construction of the Village to Oak Creek segment would complete the “Verde Valley Regional Loop,” and thereby allow UES to reinforce its service area throughout the Verde Valley Region, meet the demands of the Sedona/Village of Oak Creek area, and ensure adequate reliability in the system. Completing the Verde Valley Regional Loop would allow for increased pressure and load to Sedona because an additional 538 Mcfh would be added. This would ensure that natural gas supply to the Sedona area would be available to meet current and projected demands and ensure that natural gas would be available throughout the heating seasons, at any likely external temperature.

## **E. Proposed Action**

CNF is considering approval to allow UES to construct, operate, and maintain a 6-inch-diameter steel supply pipeline extending from existing UES facilities located on the southern boundary of the Village of Oak Creek north to Back O’ Beyond Road in southern Sedona. The pipeline would follow the existing northbound SR 179 lanes, at the edge of, and inside, the existing Arizona Department of Transportation (ADOT) ROW, for 5.3 miles (Figure I-2). It would encompass a permanent area of 6.4 acres (although 27.4 acres would be required for construction), and require an approximately 6-foot-deep, 2- to 4-foot-wide trench be excavated. This initial proposal was presented to the public in 2002.

## **F. Decision Framework**

The CNF Forest Supervisor is the official responsible for deciding whether or not to approve construction, operation, and maintenance of the Village of Oak Creek to Sedona natural gas pipeline and what mitigation measures, if any, would be applied if the proposed action were implemented. In the context of the purpose and need, the Forest Supervisor, as the deciding official, will review the Proposed Action and the other alternatives, and may decide to select the No Action Alternative, the Proposed Action, an alternate route, or a modification of any of the alternatives.

## **G. Public Involvement**

An integral element of the EA process, as required by NEPA, is informing and involving interested and affected members of the public and agencies. CNF issued a news release in July 2002 to announce the project and ask for comments. The proposal has been listed in CNF's Schedule of Proposed Actions (SOPA) since August 2002. SOPA provides information to the public on project proposals for USFS. This project was included on a CNF project list, which was sent to applicable Native American tribes in 2003 and 2004. Additionally, CNF meets with these tribes annually; no concerns were identified as a result of tribal coordination.

The majority of comments received regarding the proposed action (from publicly open meetings [described below] and the SOPA listing) stated that the project should be delayed until FHWA and ADOT's proposed SR 179 highway project was either more definitively designed or until construction of the proposed highway was completed, to ensure minimum impacts to the vegetation and scenic resources along the corridor. UES and CNF have coordinated with ADOT to address potential impacts to the SR 179 highway project and the proposed project. While UES has delayed implementation of improvements to coincide with the ADOT decision-making process, current supply pressures and volumes lead to the projection that gas supply could be interrupted to Sedona citizens in the 2004/2005 heating season. Therefore, CNF has agreed to proceed with the environmental analysis for this project.

UES representatives met twice with both the Big Park Regional Coordinating Council<sup>3</sup> and the City of Sedona City Council—at regularly scheduled meetings open to the public. Additionally, UES presented information to the Big Park Regional Coordinating Council Pipeline Transportation Subcommittee to provide further information to the City Council and the public. Meetings with individual City Council members, and the city mayor and manager were held. A public meeting regarding the NEPA process was also held by UES, in conjunction with CNF. A chronological discussion of these meetings is described below, followed by a summary of public/agency comments received regarding this project.

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<sup>3</sup> The purpose of the Council is to provide community feedback and advice for county, state, and federal organizations that make decisions that affect the Big Park community.

On July 25, 2002, UES presented information about the proposed project to the Big Park Regional Coordinating Council at the Village of Oak Creek Community Center. The meeting was announced in the Sedona *Red Rock News* on July 24, 2002, inviting the public to attend a presentation and ask questions. Approximately 50 people attended this regularly scheduled meeting. UES discussed the Verde Valley Regional Loop, summarized the purpose and need for the project, and discussed what portions of the loop have been previously completed. Alternative routes within the project area were also discussed.

On December 11, 2002, UES met with the Sedona City Council. The meeting was located at the Sedona City Council chambers and, although not advertised in local media, was open to the public. UES presented the City Council with background on the project and discussed the purpose and need for the project. The City Council, concerned with timing of the project, requested that UES research potential delays to this project to coordinate with construction of the proposed SR 179 improvements as well as the potential to install the pipeline within the Bell Rock Pathway.

On June 12, 2003, UES met again with the Big Park Regional Coordinating Council (the Chairman and Council Members) at the Village of Oak Creek Community Center. Notice of this meeting was posted in the *Red Rock News* on June 11, 2003. Approximately 15 people were in attendance at this meeting, including a representative from CNF. UES provided background information about the project and presented information about the Verde Valley Regional Loop. Additionally, possible alternative construction routes were presented; one attendee expressed support for the most westerly route (which avoided construction within the Bell Rock Pathway).

On June 24, 2003, UES met for a second time with the Sedona City Council, at the Sedona City Council Chambers. Notice of this meeting was also posted in the *Red Rock News* on June 11, 2003. The meeting was open to the public. The mayor of Sedona and a representative from CNF were also in attendance. UES presented background, the purpose and need, as well as alternatives considered in detail (refer to Section II. Alternatives for more information) for this proposed project. The City Council and members of the public expressed concern regarding this project proceeding before the ADOT SR 179 EA roadway improvements were more definitively planned.

On September 10, 2003, at the Sedona Winds Assisted Living Care Center, UES met with the Big Park Regional Coordinating Council's Pipeline Transportation Subcommittee. This subcommittee requested a project update, along with information about alternatives for the proposed pipeline construction that were being considered. UES detailed the purpose and need for the project and the necessity for urgency, and provided information about the project alternatives. UES also explained that five alternatives were being analyzed in detail in the environmental assessment, and that when complete, the proposed pipeline route would then be decided. Attendees expressed concern that the alternatives that would impact Bell Rock Pathway would have an adverse affect on the community and tourism in general. Support was expressed for an alternative west of the existing SR 179, which would benefit the community by providing a definitive trail in an area with high numbers of "off-trail" hikers.

On December 9, 2003, UES representatives met with various City of Sedona officials in one-on-one meetings. UES met with Sedona City Councilpersons Stephan Nahmanson, Susan Soloman, and Ernie Strauch to discuss the proposed project and alternatives under consideration, and with Sedona City Manager Eric Levitt, to discuss project details. The city manager expressed the importance of the project purpose and need and public involvement associated with the project. Information packets (which included a Frequently Asked Questions Sheet and contact information) were provided by UES at both of these meetings; copies are included in Appendix B. The council members were concerned with the coordination between the proposed action and FHWA and ADOT's SR 179 EA proposed improvements to SR 179. Also on December 9, 2003, UES met with Sedona Mayor Dick Ellis. An information packet about the project was provided to the mayor, who expressed concern about the timing of the project and coordination with the ADOT EA proposed improvements.

On March 4, 2004, UES representatives met with the Sedona Lodging Council, Councilwoman Soloman, and Mayor Ellis. The purpose of this meeting was to continue discussions about the need for the project and to provide information regarding potential natural gas outages. At that time, the president of the Sedona Lodging Council expressed support for the installation of the pipeline.

Also on March 4, 2004, UES and CNF presented information on the NEPA process at a public meeting. The meeting was held at the Church of the Red Rocks and announced in the *Red Rock News* on Friday February 20, 2004 and again on Wednesday February 25, 2004. Fifteen people signed in at the meeting. The meeting was an open-house format, and exhibits showing the build alternatives, the desired regional loop, and alternative construction options, and engineering modeling of the system and pressures were shown. Information handouts were distributed, and comments were requested.

Comments received from the public/agencies throughout the study process are summarized below, and further detailed in Appendix B. Thirty-seven letters/phone calls/comment sheets were received. The most frequent response received asked that the project wait until ADOT makes a decision or begins construction on improvements to SR 179. Both project support and opposition were voiced, including expressed desire that the project progress faster, and that project support is contingent on a complete site restoration and/or employment of an environmentally sound philosophy for construction and design. Support for the Blue and Yellow Alternatives as expressed; supporters of the Yellow Alternative stressed the importance of avoiding impacts to Bell Rock Pathway (refer to Section II. Alternatives for alternative information). Additional comments received requested that the public be kept informed that a public meeting be held.

The Draft Environmental Assessment was advertised for public review by CNF on June 4, 2004. A public meeting was held on Wednesday June 23, 2004, at the Church of the Red Rocks to share information about the environmental analysis. The public meeting was advertised on the Coconino National Forest Web site and in the *Red Rock News* on June 9, 2004, and again on June 16, 2004. Ten people signed in at the meeting. The meeting was an open-house format.

During the 30-day public comment period, which began on June 9, 2004, nine comment letters were received. An additional nine comments were submitted on comment sheets at the public meeting. Comments received regarding the EA consisted of:

- statements of support and opposition to the project,
- concern about the required coordination between ADOT and the CNF/UES to ensure that impacts would be minimized rather than magnified,
- concern regarding the extent of vegetation disturbance and applicable revegetation efforts,
- requests to minimize staging areas (from the originally proposed staging area every 1,500 feet),
- requests for additional visual analysis and a minimized staging area, and
- requests for a trail.

Each comment received during the 30-day public comment period and at the June 2004 public meeting was individually addressed in "Agency and Public Comments on *Natural Gas Pipeline SR 179 (Village of Oak Creek to Sedona)* Draft Environmental Assessment," which is available in the project record and included in Appendix C. Most of the comments were addressed in the Draft EA mitigation measures and in the analysis. The EA has, however, been amended to include the minimized number of staging areas (now three), additional visibility analysis, and clarification regarding revegetation efforts, as well as commitments for cooperation from ADOT, with the goal of minimizing construction impacts to the CNF.

A list of issues to address was formulated based on these responses from the public and other agencies, these issues are described below.

## **H. Issues**

Issues associated with the proposed action were developed from agencies, public comments, and internal concerns generated during the project process. Potential issues were identified and analyzed to evaluate which issues are "significant" in the context of NEPA (40 Code of Federal Regulations [CFR] 1500.4[g]); significant issues are those that meet the following criteria:

- Issue is within the scope of analysis
- Issue is not already decided by law, regulation, the *Coconino National Forest Plan*, or previous decision
- Issue is related to the decision to be made
- Issue can be supported by scientific analysis rather than conjecture
- Issue is not limited in extent, duration, or intensity

Based on input from the public and applicable agencies, four issues of concern were identified by CNF. These issues warranted the evaluation of alternatives to the proposed action [#3]:

- Concern that construction activities could remove vegetation beyond what ADOT would disturb during any future highway improvements, thereby leaving an unnatural-appearing corridor or spots detracting from the scenic character along the road and from key viewing areas.
- Concern that construction adjacent to the existing road could cause traffic congestion and may require the relocation of the pipeline because of future FHWA and ADOT's SR 179 EA proposed improvements. Additionally, there is concern that the potential for relocation would prompt UES to place the pipeline away from possible highway conflicts, increasing the possibility of this project removing more vegetation that ultimately required for any proposed ADOT work.
- Concern that construction of a pipeline along Bell Rock Pathway could substantially impact the character of the trail through removal of mature vegetation, soil disturbance, and elimination of ground cover adjacent to the trail. This impact would be of special concern in areas where the footprint of pipeline construction is three to five times wider than the existing trail.
- Concern that restoration techniques for visually sensitive areas would be inadequate to meet the Forest Plan objectives for this area.

## **I. Forest Plan Consistency**

National Forest planning occurs at the national, regional, Forest, and project levels. This Natural Gas Pipeline (SR 179) (Village of Oak Creek to Sedona) EA is a project-level analysis. Therefore, its scope is limited to disclosing the issues and possible environmental consequences of the proposed project.

The *Coconino National Forest Plan* incorporates the National Forest Management Act of 1976 and applicable regulations and guidance documents and provides, in detail, direction for managing land and resources of the CNF. This EA tiers to, and is consistent with, the Coconino Forest Plan Final Environmental Impact Statement, 40 CFR 1502.20.