



**ENVIRONMENTAL ASSESSMENT  
FOR THE  
SEWER LINE IN THE VILLAGE OF RUIDOSO AND RUIDOSO DOWNS  
LINCOLN COUNTY, NEW MEXICO**

**Prepared for**  
Federal Emergency Management Agency

**On behalf of**  
Village of Ruidoso

**June 18, 2010**

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## Acronyms

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter of air
<b>CAA</b>	Clean Water Act
<b>CFR</b>	Code of Federal Regulations
<b>CH</b>	Designated Critical Habitat
<b>cm</b>	centimeters
<b>CO</b>	Carbon Monoxide
<b>CORRACT</b>	Corrective Action
<b>CWA</b>	Clean Water Act
<b>dB</b>	decibels
<b>E</b>	Endangered
<b>EA</b>	Environmental Assessment
<b>EIS</b>	Environmental Impact Statement
<b>EPA</b>	Environmental Protection Agency
<b>ERNS</b>	Emergency Response Notification System
<b>ESA</b>	Environmental Site Assessment
<b>FEMA</b>	Federal Emergency Management Agency
<b>FIRM</b>	Flood Insurance Rate Map
<b>FONSI</b>	Finding of No Significant Impact
<b>FS</b>	Forest Service
<b>ft</b>	feet
<b>FWS</b>	United States Fish and Wildlife Service
<b>HQCF</b>	High Quality Coldwater Fishery
<b>LLC</b>	Limited Liability Company
<b>LQG</b>	Large Quantity Generator
<b>LUST</b>	Leaking Underground Storage Tank
<b>m</b>	meters
$\text{mg}/\text{m}^3$	milligrams per cubic meter of air
<b>NAAQS</b>	National Ambient Air Quality Standard
<b>NEPA</b>	National Environmental Policy Act
<b>NFRAP</b>	No Further Remedial Action Planned
<b>NHPA</b>	National Historic Preservation Act
<b>NM</b>	New Mexico
<b>NMAC</b>	New Mexico Administrative Code
<b>NMDGF</b>	New Mexico Department of Game and Fish
<b>NMED</b>	New Mexico Environment Department
<b>NMHPD</b>	New Mexico Historic Preservation Division
<b>NMRPTC</b>	New Mexico Rare Plant Technical Council

<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>NRCS</b>	Natural Resources Conservation Service
<b>O<sub>3</sub></b>	Ozone
<b>OSHA</b>	Occupational Health and Safety Administration
<b>Pb</b>	Lead
<b>PM</b>	Particulate Matter
<b>ppm</b>	parts per million
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RCRAGN</b>	RCRA Generator
<b>REC</b>	Recognized Environmental Condition
<b>S</b>	Sensitive
<b>SHPO</b>	State Historic Preservation Officer
<b>SO<sub>2</sub></b>	Sulfur dioxide
<b>SOC</b>	Species of Concern
<b>std</b>	standard
<b>SWPPP</b>	Stormwater Pollution Prevention Plan
<b>SWQB</b>	Surface Water Quality Bureau
<b>T</b>	Threatened
<b>TES</b>	Threatened, Endangered and Sensitive
<b>U.S.</b>	United States
<b>USACE</b>	United States Army Corps of Engineers
<b>USFS</b>	New Mexico Forest Service
<b>USFWS</b>	United States Fish and Wildlife Service
<b>UST</b>	Underground Storage Tank
<b>WQCC</b>	Water Quality Control Commission

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## **1.0 INTRODUCTION**

### **1.1. Project Authority**

It is under the authority of the Robert T. Stafford Disaster Relief Emergency Assistance Act (42 U.S.C. 51521 et seq.) [Stafford Act] that Congress has determined “to provide an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from disasters.” This project has been initiated under the auspices of this Act. Furthermore, this document complies with the Code of Federal Regulations (CFR) for the Federal Emergency Management Agency (FEMA), 44 CFR, Subpart B, Part 10.9; section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended; regulations promulgated by the President’s Council on Environmental Quality (40 CFR Part 1500-1508).

The purpose of this Environmental Assessment (EA) is to analyze impacts that will occur as a result of the proposed action. Upon completion, it will be determined if further analysis is needed for the completion of an Environmental Impact Statement or a Finding of No Significant Impact (FONSI).

### **1.2. Project Location**

The project area lies within the Village of Ruidoso and Ruidoso Downs, Lincoln County, New Mexico. Figures 1-2 display the location of the Rio Ruidoso and the proposed roadways and sewer lines whose relocation or repair will be analyzed within this EA. The project area boundaries extend from the Mescalero Apache property line on the west to the regional waste water treatment facility on the east.

### **1.3. Purpose and Need**

On July 27, 2008, the remnants of Hurricane Dolly passed through the Ruidoso, New Mexico area. The Village of Ruidoso (Village), NM received 2.46 inches of precipitation with some reports of up to 9 inches in the area, which resulted in the flooding of the Rio Ruidoso (Photograph 1). This flood exposed and damaged the sewer line (Photograph 2) which currently lies in the stream bed of the Rio Ruidoso. As a result of the flooding, damage to the sewer line was severely damaged. Raw sewage leaked into the river, and river water entered the sewer line. Following the flooding, temporary repairs were made to the sewer line; however, the Village is seeking funding from the FEMA to replace the line and relocate it out of the river channel. The Village is seeking greater public health safety for its residents while protecting the waters of the Rio Ruidoso, a cold water fishery, from pollution.



Source: Ruidoso Flood 2008

**Photograph 1. Ruidoso Flood July 27, 2008**



**Photograph 2. Exposed Sewer Line in the Rio Ruidoso December 3, 2008**

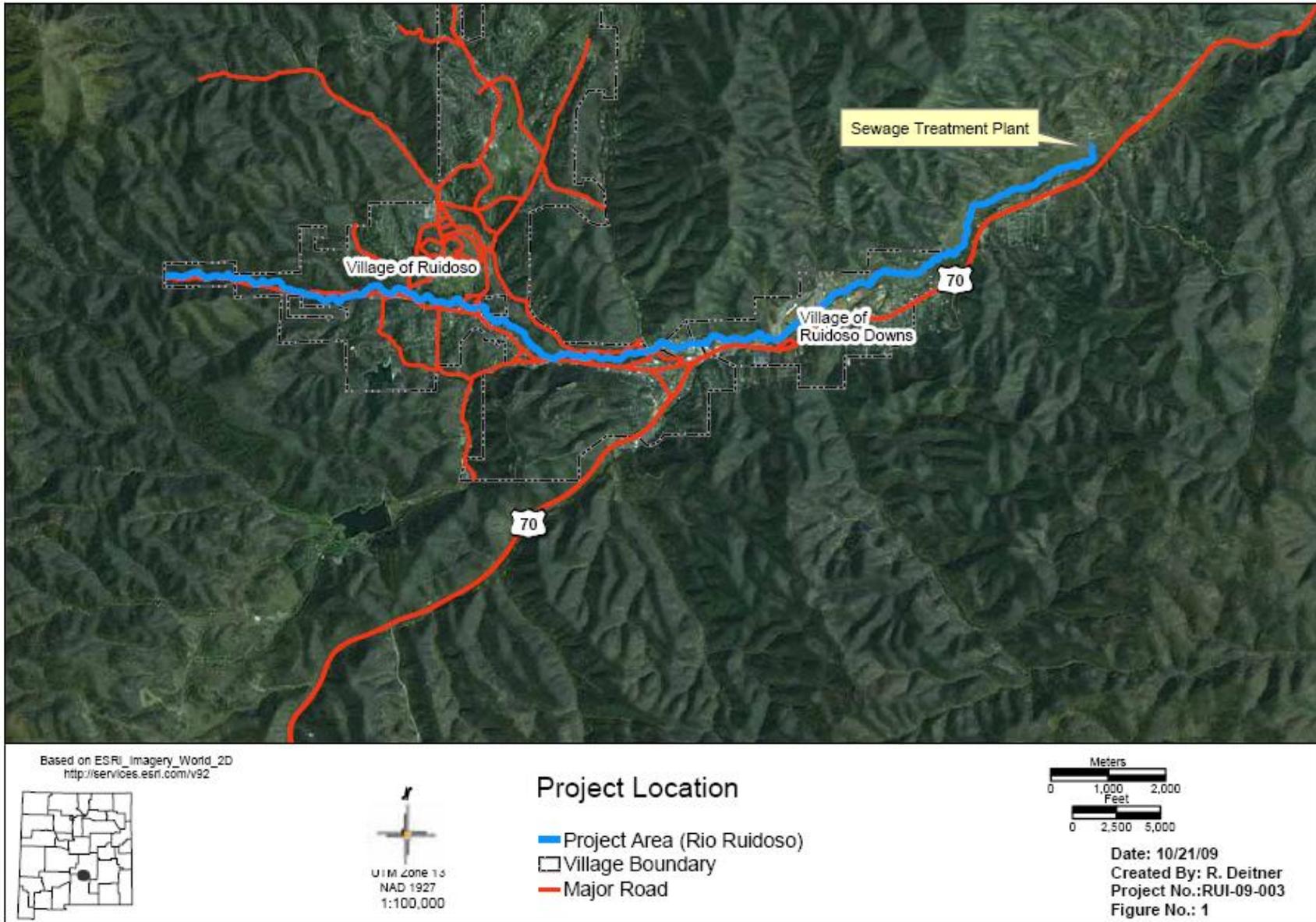


Figure 1. Project Area Overview

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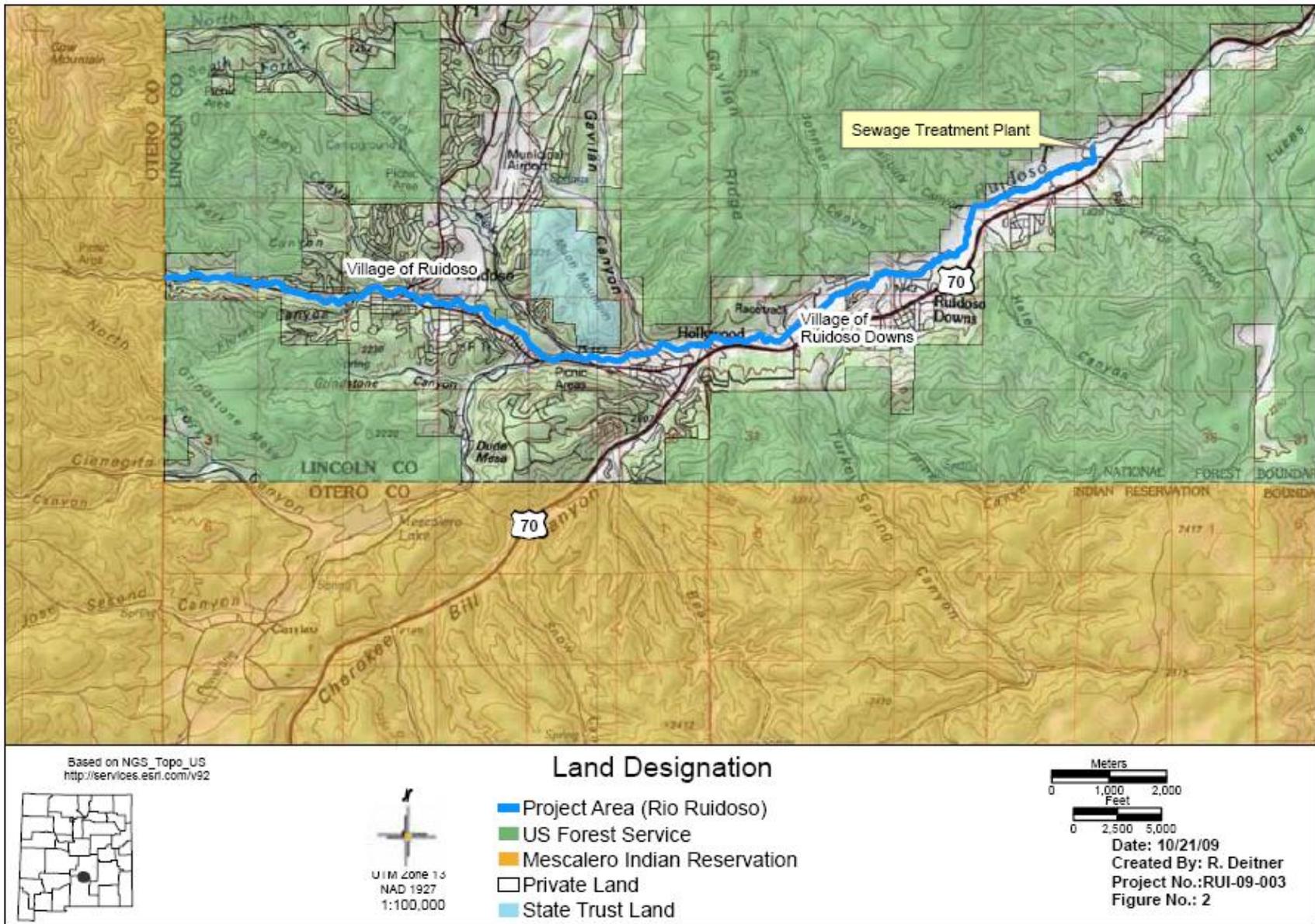


Figure 2. USGS Topographic Map of Project Area

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## **2.0 ALTERNATIVE ANALYSIS**

This section describes three alternatives proposed by the Village of Ruidoso to implement repair or replacement of the sewer line that was damaged during the July 2008 flooding of the Rio Ruidoso. The three alternatives evaluated were: the No Action Alternative, the Proposed Action which would remove the sewer line from the Rio Ruidoso and relocate it along nearby existing roadways and repair those lines that are already out of the river, or the Alternative Considered but eliminated which would replace and repair sections of the sewer line in the Rio Ruidoso and leave it in place. Technical information described within each of the alternatives came from the project's preliminary engineering report (Wilson 2009a-b). The locations provided within the preliminary engineering report have not been finalized at the time of this EA. Surveys and analysis provided within this report are cumulative for the Village of Ruidoso and Ruidoso Downs. Biological and cultural surveys conducted (Sections 3.2 and 3.5, Appendices D and E) were done of the general locations where the sewer line would most likely be located. The sewer line would not be located in an area that has not been previously surveyed during the biological and cultural surveys.

### **2.1. Alternative 1 – No Action Alternative**

It is required under NEPA to provide a No Action Alternative which proposes to maintain the *status quo*. The No Action Alternative provides a benchmark for evaluation of the other alternatives considered. The No Action Alternative states that FEMA would provide no funding for the further repair of the sewer line.

Under the No Action Alternative, the current temporary repairs completed on the damaged sewer line within the Rio Ruidoso would remain and no further repairs using federal funds would occur. The potential for contamination of the Rio Ruidoso will continue as well as to the surrounding environment would continue. Furthermore, repair of the sewer line will remain difficult due to a lack of manhole access resulting from nearby homes blocking access or covering manholes and difficulty accessing the pipeline within the river.

### **2.2. Alternative 2 – Proposed Action**

Alternative 2 would call for immediate closure and structural stabilization of the current sewer line in place and would permanently replace it with a new line located along nearby roadways and other utility easements out of the river channel. Lines that are outside the river channel and are tied to the current line within the river will be rehabilitated and connected to the new line. The sewer line in the river would be cleaned using environmentally safe methods and permanently sealed in place. The new sewer line would allow for easier and quicker repair, when necessary. Sanitary Lift stations (Photograph 3) would be necessary for continuous flow within the line to the treatment facility in Ruidoso Downs. The new lines would cross the Rio Ruidoso less than 20 times. Crossings would comply with U.S. Army Corps of Engineers

(USACE) regulations and be at least four (4) foot depth below the existing river bed, or would be located within bridge structures over the river that are being rebuilt following the flood.

Repairs within Upper Canyon and the Village of Ruidoso would include the following activities:

- Some sewer lines installed or rehabilitated would use lift stations or gravity for flow.
- Sanitary Lift Stations would be installed in the Village of Ruidoso. From each of these lift stations, nearby homes would utilize either those lift stations or have a single-home low-pressure pumping unit to push flow through the sewer lines against gravity.
- Construction of new manholes or refurbishing existing manholes would be initiated.
- Rehabilitated lines would utilize a trenchless technology method such as “pipe-bursting.” Pipe-bursting involves the use of a bursting machine that destroys and pushes fragments of pipe into the surrounding soil. A new pipe is pushed into place as the old pipe is destroyed.



**Photograph 3 Example of Lift Station**

### **2.3. Alternative 3 – Alternative Considered But Eliminated**

Alternative 3 would propose to create a new line and repair the existing line within the Rio Ruidoso channel. New lines would be placed near and parallel to the current line. The new line would be buried four (4) feet lower than the current line in order to abide by USACE regulations. Construction methods would utilize a trenchless pipe renewal method. There would not be a need for lift stations since the original design of the line allowed for gravity flow to carry the contents down river to the regional waste water treatment facility in Ruidoso Downs. The current, but replaced, line would be cleaned in an environmentally safe manner and sealed in place. This alternative proposes approximately 45 river crossings as well as parallel lines lying within the Rio Ruidoso channel. Homes located near the river and the sewer line (approximately 150) would have lines going from their backyards to the new sewer line. New manholes would need to be installed, mostly in the river channel, to allow access to the line.

Repairs within Upper Canyon through the Village would include the following activities:

- At the Mechem Avenue crossing, flow within the sewer line increases with influences from the north and south of Mechem Avenue as well as Sudderth Road. It is proposed that an upsized line be installed to replace the multiple segmented lines that currently range from 10 to 15-inch diameter.
- From Mechem Avenue to Paradise Canyon Road, the sewer line was damaged beyond repair and it is proposed that a new line be reconstructed within or parallel to the existing line. The current flow utilizes multiple lines with multiple diameters. A

single 12-inch or 15-inch pipeline would be installed through the entire area. The other lines would be abandoned in place. New manholes would need to be created and old manholes removed.

- From Paradise Canyon Road to Gavilan Canyon Road and Meander Lane within the roadway, the sewer alignment would be rehabilitated and reconstructed. Rehabilitation methods would include trenchless technology methods such as “pipe-bursting” that would effectively “combine” adjacent sewer lines.
- From the intersection of Meander Lane and Gavilan Canyon Road to the Ruidoso Downs boundary, the line would be rehabilitated using methods mentioned in the previous bullet. New manholes would be constructed and existing manholes would be inspected and either retained or rehabilitated.

Repairs within Ruidoso Downs would include the following activities:

- Most of the pipeline would be rehabilitated using the trenchless technology methods. New lines would be created using the same technology, and the old lines would remain in place.
- Manholes would be rehabilitated or new ones created depending on the need or extent of the rehabilitation.
- Repairs and lines would continue to the wastewater treatment plant.

This alternative was eliminated from consideration because of greater environmental concerns than Alternative 2. A consultation letter was provided by Steven Baumgarn (2009) from the New Mexico Environmental Department (NMED) concerning the three alternatives. The letter highly recommended that the sewer line be relocated to the adjacent streets so as to avoid the risk of further damage to the river channel and the potential for leakage directly into the Rio Ruidoso. Although initial costs would be lower for Alternative 3, Alternative 2 would be more effective and would result in less environmental damage to the river during construction and in the future.

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**Table 1. Summary Table**

Affected Environment		Findings			Mitigation Measures
		No Action	Proposed Action	Alternative Considered	
<b>Physical Environment</b>	Geology, Seismicity and Soils	The potential for contamination of the soils would remain.	None of the soils would result in long-term environmental problems that might result from construction of the project.	Replacement of the current sewer line within the Rio Ruidoso would temporarily stop contamination of the soils. However, the Rio Ruidoso maintains the potential for future flooding with a high risk of damage to the repaired line.	<p>Proper maintenance of construction equipment will eliminate potential impacts to soil and water resources.</p> <p>The Surface Water Quality Bureau requires the Village of Ruidoso to obtain a National Pollutant Discharge Elimination System (NPDES) permit which will require that a Stormwater Pollution Prevention Plan (SWPPP) be developed. The contractor that is awarded the construction of the sewer line will have the responsibility of obtaining the permit and plan.</p>
	Water Resources and Water Quality	Water resources and water quality would be directly and indirectly impacted if temporary repairs failed or the sewer line became damaged again.	Design features of the proposed action are expected to result in no adverse, direct, or indirect impacts to water resources and water quality.	Replacement of the current sewer line within the Rio Ruidoso would temporarily stop contamination of the Rio Ruidoso. However, the Rio Ruidoso maintains the potential for future flooding with a high risk of damage to the repaired line. Additional environmental impacts would result from future construction efforts during repair the line. Water quality would be impaired during construction, and mitigation measures would need to be implemented to reduce these impacts.	
	Floodplain Management	Floodplains would be directly and indirectly impacted by wastewater release if temporary repairs failed or the sewer line became damaged again.	Floodplains would be temporarily impacted during the construction of the new sewer line in the Upper Canyon and in Ruidoso Downs. The sewer line would remain below the ground surface and would not alter the direction or flow of water during a flooding event.	Floodplains would remain in their current state are if the sewer line was replaced within its current position in the Rio Ruidoso channel. Floodplains would be directly and indirectly impacted by released wastewater if temporary repairs failed or the sewer line became damaged again.	

Affected Environment		Findings			Mitigation Measures
		No Action	Proposed Action	Alternative Considered	
	Air Resources and Air Quality	Under the No Action Alternative, air quality would not change.	Air quality would be temporarily impacted during the construction of the new sewer line due to increased dust and engine emissions from construction-related vehicles. Upon completion of the proposed action, air quality would return to its pre-construction status.	Air quality would be temporarily impacted during the construction of the new sewer line due to increased dust and engine emissions from construction-related vehicles. Upon completion of the proposed action, air quality would return to its pre-construction status.	
<b>Biological Environment</b>	Terrestrial and Aquatic Environment	There would be no direct or indirect impacts would not incur to wildlife or vegetation along the banks and within the river. However, if the sewer line were to become damaged again, these populations would be directly impacted through the contamination of their water source.	Wildlife species would be temporarily impacted during construction activities. However, wildlife species would likely avoid the project area during construction activities and return upon completion. Cumulative impacts would not be expected to occur.  Vegetation of the impacted lands would be expected to re-grow quickly after construction activity ceased due to high nutrient quality and moisture of the soil. Long term impacts to vegetation are not anticipated.	Wildlife and vegetation along the banks of the river would be minimally impacted or would not be impacted. Wildlife and vegetation within the channel would be impacted. Construction activities would temporarily impact wildlife that was dependent on the river. If the sewer line were to become damaged again, direct impacts to those populations would likely occur since an important water and food source would be contaminated.	Regardless of what the population status for wildlife species, trenching guidelines provided by the NMDGF will be followed to minimize wildlife impacts.
	Threatened and Endangered Species	State and federally listed threatened, endangered, or sensitive species were not observed during the pedestrian surveys. The no action alternative would have no effect on TES species.	State and federally listed threatened, endangered, or sensitive species were not observed during the pedestrian surveys. The proposed action would have no effect on TES species.	State and federally listed threatened, endangered, or sensitive species were not observed during the pedestrian surveys. The alternative considered but eliminated would have no effect on TES species.	

Affected Environment		Findings			Mitigation Measures
		No Action	Proposed Action	Alternative Considered	
	Wetlands	Additional repairs to the sewer line would not take place and the potential for contamination of the river would remain. Wetlands and jurisdictional waters of the U.S. would be directly and indirectly impacted if temporary repairs failed or the sewer line became damaged again.	Replacement of the current sewer line would comply with USACE regulations of a four (4) foot depth, and the existing sewer line in the river would be cleaned in an environmentally safe manner and permanently sealed. These design features of the proposed action are expected to result in no adverse, direct, or indirect impacts to wetlands and jurisdictional waters of the United States (U.S.).	Replacement of the sewer line in place would comply with USACE regulations and a 404 permit would need to be obtained from the USACE. Wetlands and jurisdictional waters of the U.S. would be directly and indirectly impacted if the sewer line becomes damaged again.	
<b>Hazardous Materials</b>		The sewer line will not impact these mapped and unmapped locations.	The removal of the sewer line to the roadways is not anticipated to impact any of these mapped and unmapped locations. Mitigation measures are required if soil staining pertaining to the leaking storage tanks are identified.	It is not anticipated that fixing the sewer line in the same location will impact any of the mapped and/or the unmapped facilities.	Should any affected soils or groundwater be encountered during future excavations, proper procedures will be followed with respect to worker health and safety and the soils or groundwater will be properly handled and disposed in accordance with local and state regulations.
<b>Socioeconomics</b>	Zoning and Land Use	Existing zoning and land use would not be impacted.	New and rehabilitated sewer lines would occur within existing utility easements and disturbed roadways. Lines leading to and from private property will require permission from land owners for lines to be constructed or rehabilitated on their land. Existing zoning and land use would not be adversely affected.	The sewer line would be replaced in the same location as the existing line; therefore, it is anticipated that current zoning and land use would not be impacted.	Construction will take place during normal business hours and will not operate between 10:00 PM and 7:00 AM so as not to disturb residents. Machine noise must not exceed 50 dB(A), or 10 dB(A) above the ambient noise level whichever is higher, when measured at the residential property line. Detours and closures will not continue through evening hours.

Affected Environment	Findings			Mitigation Measures
	No Action	Proposed Action	Alternative Considered	
Visual Resources	Under the no action alternative, the viewshed will remain in its current state and not be impacted.	Replacement of the sewer line will impact the viewshed temporarily with the increased amount of construction vehicles until construction is complete. Sewer lines and lift stations would be located near ground-level and would not obstruct the overall viewshed.	Aesthetic impacts related to the presence of construction equipment would be temporary, lasting only until construction is complete. By replacing the sewer line within the Rio Ruidoso, the view of the river may be affected if a new line were installed and new manhole accesses had to be developed. The tranquil view of the flowing water will be interrupted by emergent manhole structures.	
Noise	Noise levels would not be impacted. There would be no change in current noise levels.	Noise levels would temporarily increase during construction of both action alternatives and during maintenance activities. Any increases to the existing noise levels would cease once the project and/or maintenance was complete. Long term impacts or increases to noise levels are not anticipated as a result of either of the action alternatives.	Noise levels would temporarily increase during construction of both action alternatives and during maintenance activities. Any increases to the existing noise levels would cease once the project and/or maintenance was complete. Long term impacts or increases to noise levels are not anticipated as a result of either of the action alternatives.	

Affected Environment		Findings			Mitigation Measures
		No Action	Proposed Action	Alternative Considered	
	Public Services and Utilities	Public services and utilities will not be impacted.	Construction may temporarily impact these services when construction activities are underway. However, upon completion, impacts to public services and utilities would cease.	Construction may temporarily impact these services when construction activities are underway. However, upon completion, impacts to public services and utilities would cease.	
	Traffic and Circulation	Impacts to traffic and circulation would not be impacted.	Traffic may be halted and/or detoured to accommodate construction activities during installation of the new pipes along the roadways and connections to residences. Traffic will return to normal activity once construction has ceased. Cumulative impacts are not expected as a result of the proposed action.	Traffic may be halted or detoured in a few locations where the replacement line will cross major thoroughways, resulting in temporary impacts. However, once construction efforts have ceased, traffic will return to its normal activity and flow. Cumulative impacts are not expected as a result of this alternative.	
	Environmental Justice	This alternative would not disproportionately affect low-income or minority populations.	This alternative would not disproportionately affect low-income or minority populations.	This alternative would not disproportionately affect low-income or minority populations.	

Affected Environment		Findings			Mitigation Measures
		No Action	Proposed Action	Alternative Considered	
	Safety and Security	Repair to only the existing line would continue the potential for contamination of the river by wastewater if the line were to be damaged again.	Stabilizing the current sewer line and permanently replacing it with a new line would provide greater safety and public health for residents by preventing possible contamination to the Rio Ruidoso. This alternative would provide the greatest level of safety and contamination minimization.	Stabilizing the current sewer line and permanently replacing it with a new line would provide greater safety and public health for residents by preventing possible contamination to the Rio Ruidoso.	
<b>Cultural Resources</b>	Historic Properties	Historic properties or prehistoric or tribal artifacts would not be impacted.	Cultural resources that are listed, or eligible for listing, on the National Register of Historic Places were not observed within the project areas. The proposed action would not affect historic properties or prehistoric or tribal artifacts.	Cultural resources that are listed, or eligible for listing, on the National Register of Historic Places were not observed within the project areas. The proposed action would not affect historic properties or prehistoric or tribal artifacts.	Non-vibratory machinery will be used during construction to prevent impact to historic-age structures. In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project shall be halted and the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured and access to the sensitive area restricted. The applicant will inform FEMA immediately and FEMA will consult with the SHPO or THPO and Tribes and work in sensitive areas cannot resume until consultation is completed and appropriate measures have been taken to ensure that the project is in compliance with the National Historic Preservation Act.

### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

#### 3.1. Physical Environment

##### 3.1.1. Geology, Seismicity, and Soils

Analysis of soils in the area helps determine if further protections may be required by Federal agencies for prime and unique farmlands. Under the Farmland Protection Policy Act, Federal agencies are required to protect lands with prime or unique farmland distinctions and prevent conversion of these lands for local or nonagricultural use. According to the Natural Resources Conservation Service (NRCS) for New Mexico, soils must be comprised of over 50 percent prime, unique or statewide importance soils to be protected under the Farmland Protection Policy Act (USDA 2010).

##### 3.1.1.1. Affected Environment

###### *Geology/ Seismicity*

The Ruidoso and Ruidoso Downs area was created during the Permian Period (290 to 248 million years ago) within Yeso and San Andres Formations consisting of marine limestone, sandstone, and mudstones. (Wilkes 2005)

###### *Soils*

Soil information found within the following tables was collected from the NRCS Web Soil Survey (USDA 2008). All soils listed within Table 2 are found throughout all alternatives. Further analysis of these soils is presented in Section 3.2.2 Wetlands.

**Table 2. Soils Impacted by Alternatives**

Name	Key Characteristics	Prime or Unique Farmland
Cumulic Haplustolls, gently sloping	Cumulic Haplustolls, gently sloping soils consist of 100 percent Cumulic Haplustolls soil (0 to 8 percent slopes) consisting of igneous and sedimentary rock found in valley floors and valleys. Its natural drainage class is well drained, and it is occasionally flooded but not ponded. Its depth to a root restrictive layer is greater than 60 inches, and has moderately high water movement in the most restrictive layer. Available water to a depth of 60 inches is low, and it has a moderate shrink-swell potential. It does not meet hydric criteria.	No

Name	Key Characteristics	Prime or Unique Farmland
Monjeau-Docdee complex, 15 to 30 percent slopes	<p>Monjeau-Docdee complex, 15 to 30 percent slopes consists of 45 percent Monjeau soils (15 to 30 percent slopes), and 35 percent Docdee soils (15 to 30 percent slopes).</p> <p>Monjeau soil consists of alluvium and residuum weathered from igneous and sedimentary rock, and is found on mountain slopes and mountains. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and paralithic, is 20 to 40 inches, and water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low, and its shrink-swell potential is high. It does not meet hydric criteria.</p> <p>Docdee soil consists of alluvium and residuum weathered from igneous and sedimentary rock, and is found on ridges and mountains. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and lithic, is 5 to 20 inches, and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low, and its shrink-swell potential is low. It does not meet hydric criteria.</p>	No
Monjeau-Docdee complex, 30 to 75 percent slopes	<p>Monjeau-Docdee complex, 30 to 75 percent slopes consists of 40 percent Docdee soils (30 to 75 percent slopes), and 40 percent Monjeau soils (30 to 75 percent slopes).</p> <p>Docdee soil consists of alluvium and residuum weathered from igneous and sedimentary rock, and is found on ridges and mountains. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and lithic, is 5 to 20 inches, and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low, and its shrink-swell potential is low. It does not meet hydric criteria.</p> <p>Monjeau soil consists of alluvium and residuum weathered from igneous and sedimentary rock, and is found on mountain slopes and mountains. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and paralithic, is 20 to 40 inches, and water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low, and its shrink-swell potential is high. It does not meet hydric criteria.</p>	No
Nolten loam, 8 to 15 percent slopes	<p>Nolten loam, 8 to 15 percent slopes is comprised of 85 percent Nolten soil, which consists of alluvium and residuum weathered from igneous and sedimentary rock and is found on mountain slopes and uplands. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and paralithic, is 20 to 40 inches, and water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate, and its shrink-swell potential is high. It does not meet hydric criteria.</p>	No
Tortugas-Rock outcrop association, extremely steep,	<p>Tortugas-Rock outcrop association, extremely steep, consists of 60 percent Tortugas soils (15 to 75 percent slopes), and 20 percent Rock-outcrop, a miscellaneous area which is not further described below.</p> <p>Tortugas soil consists of alluvium and residuum weathered from limestone, and is found on ridges and hills. Its natural drainage class is well drained, and it is neither flooded nor ponded. Its depth to a root restrictive layer, bedrock and lithic, is 6 to 20 inches, and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low, and its shrink-swell potential is low. It does not meet hydric criteria.</p>	No

### **3.1.1.2. Environmental Consequences**

#### Alternative 1: No Action

Additional repairs to the sewer line would not take place and the potential for contamination of the soils would remain. The soils would be directly and indirectly impacted if temporary repairs failed or the sewer line became damaged again.

#### Alternative 2: Proposed Action

Soils within the proposed project areas described by the NRCS are not identified as prime farmland, farmland of local importance, farmland of statewide importance, or unique farmland (NRCS 2009). Farmland would not be impacted directly or indirectly by the proposed action or no-action alternative. None of the soils would result in long-term environmental problems that might result from construction of the project.

#### Alternative 3: Alternative Considered but Eliminated

Replacement of the current sewer line within the Rio Ruidoso would temporarily stop contamination of the soils. However, the Rio Ruidoso maintains the potential for future flooding with a high risk of damage to the repaired line. If the line were to break again, mitigation measures would need to be initiated to prevent contamination to the soils.

### **3.1.2. Water Resources and Water Quality**

Under the New Mexico Water Quality Act and the federal Clean Water Act, the state of New Mexico is required to adopt water quality standards to “protect the public health or welfare, enhance the quality of water, and are consistent with and serve the purposes of the New Mexico Water Quality Act and the federal Clean Water Act” (New Mexico Administrative Code [NMAC] 20.6.4). NMAC 20.6.4.209 designates the Rio Ruidoso as a perennial waterway in the Pecos River Basin. Its designated use is for “fish culture, irrigation, livestock watering, wildlife habitat, coldwater aquatic life, and secondary contact.”

The New Mexico Water Quality Control Commission (WQCC) has designated by the recommendation of the Surface Water Quality Bureau (SWQB) that the Rio Ruidoso is a high quality coldwater fishery (HQCF). A coldwater fishery is defined within NMAC 20.6.4 as “a surface water of the state where the water temperature and other characteristics are suitable for the support or propagation or both of coldwater aquatic life.” A HQCF is defined as “a perennial surface water of the State in a minimally disturbed condition which has considerable aesthetic value and is a superior coldwater fishery habitat. A surface water of the State to be so categorized must have water quality, stream bed characteristics, and other attributes of habitat sufficient to protect and maintain a propagating coldwater fishery.”

### 3.1.2.1. *Affected Environment*

The Village of Ruidoso's and Ruidoso Downs' main surface water is the Rio Ruidoso. The Rio Ruidoso is a 30-mile river whose watershed is primarily within the Lincoln National Forest. The river starts within the Mescalero Apache Reservation and flows through the Sacramento Mountains to the Pecos River. Its headwaters are found near the top of Sierra Blanca Peak at an elevation of 12,300 feet (3,749 meters). Tributaries to the Rio Ruidoso within the Village of Ruidoso limits are Carrizo Creek and Cedar Creek. Various other streams feed into the Rio Ruidoso or fork from the Rio Ruidoso. The Rio Ruidoso is a tributary to the Pecos River which is defined as a jurisdictional water by the USACE (consultation with Edward Paulsgrove, USACE, Appendix D). Under the determinations of the USACE, those tributaries that feed into a jurisdictional water is also deemed a jurisdictional water which means the Rio Ruidoso is classified as a jurisdictional water. The Rio Ruidoso is also classified as a cold water fishery that supports substantial recreational use in the Village of Ruidoso and Ruidoso Downs (Photograph 4).



**Photograph 4. Cold Water Fishery sign**

At the time of publishing this EA, a USACE 404 Clean Water Permit is in the process of being completed. Final approval of this EA from FEMA is one component that must be completed prior to concluding the permitting process. Other efforts that must be approved prior to completion of the 404 permit are the final locations of the sewer line and final designs. The USACE will provide the appropriate mitigation measures as well as additional efforts if necessary for the completion of the 404 permit to help reduce any impact to the Rio Ruidoso.

### 3.1.2.2. *Environmental Consequences*

#### Alternative 1: No Action

Additional repairs to the sewer line would not take place and the potential for contamination of the river would remain. Water resources and water quality would be directly and indirectly impacted if temporary repairs failed or the sewer line became damaged again.

#### Alternative 2: Proposed Action

Replacement of the current sewer line would comply with USACE regulations of a four (4) foot depth or being contained within bridge structures at river channel crossings, and the existing sewer line in the river would be cleaned in an environmentally safe manner and permanently sealed. These design features of the proposed action are expected to result in no adverse, direct, or indirect impacts to water resources and water quality.

Consultation with NMED surface water bureau and groundwater bureau on February 25, 2009 with Steven M. Baumgarn and on January 22, 2010 with Georgia Cleverly (Appendix D) states that this alternative is recommend in order to minimize impacts to the Rio Ruidoso.

Alternative 3: Alternative Considered but Eliminated

Replacement of the current sewer line within the Rio Ruidoso would temporarily stop contamination of the Rio Ruidoso. However, the Rio Ruidoso maintains the potential for future flooding with a high risk of damage to the repaired line. Additional environmental impacts would result from future construction efforts during repair the line. Water quality would be impaired during construction, and mitigation measures would need to be implemented to reduce these impacts.

Consultation was conducted with NMED surface water bureau and groundwater bureau on February 25, 2009 with Steven M. Baumgarn and on January 22, 2010 with Georgia Cleverly (Appendix D) concerning this alternative. Their letters state that the NMED does not concur with this alternative. The potential risks of leaving the line within the Rio Ruidoso are higher due to the high potential of the sewer line breaking again during high flooding events.

**3.1.3. Floodplain Management (Executive Order 11988)**

Executive Order 11988 (Floodplain Management) (1977a) requires Federal agencies to avoid direct or indirect impact of identified floodplains if a practical alternative is available. A floodplain is defined as a low plain area near a water source that is prone to periodic flooding. Two floodplains are typically defined, 100-year floodplain and 500-year floodplain. A 100-year floodplain is defined as an area that is prone to flooding with a one percent chance of flood occurrence any given year. A 500-year floodplain is an area that has a 0.2 percent chance of flood occurrence any given year.

Flood zones are defined by FEMA as zones of flood risk. These are identified on flood insurance rate maps (FIRM) which have been created for flood management and flood insurance purposes.

**3.1.3.1. Affected Environment**

All the flood zones listed with the next sections are also found within Alternative 1.

Flood zones identified within the areas utilized under Alternative 2: Proposed Action

Few areas that would be impacted by this alternative are located within a 100-year flood zone (Appendix C). The flood-prone areas are primarily at river crossings and places where the roadways run closer to the river. FIRMs identifying zones within this alternative are FEMA Map number 3500330083C (1994a), 3500330084C (1994b), 3500330092C (1994c),

3500330111C (1994e). The flood zone depicted by these FIRMs is defined as being Zone AE, base flood elevations determined.

*Flood zones identified within the areas utilized under Alternative 3: Alternative Considered but Eliminated*

The entire area that would be impacted by this alternative is located within a 100-year flood zone (Appendix C). FIRMs identifying flood zones within this alternative are FEMA Map number 3500330083C (1994a), 3500330084C (1994b), 3500330092C (1994c), 3500330111C (1994e), 3500340001B (1982), 3500330104C (1994d), 3501220040A (1978b), and 3501220036A (1978a). Maps with the suffix C states that the river is in Zone AE with base flood elevations determined. The map with suffix B defines the river in Zone A4 with Zones B and C nearby: A4 has 100-year flood areas determined, B is the area between the boundaries of a 100-year floodplain and a 500-year floodplain, and C is an area of minimal flooding. Maps with the suffix A define the river channel as being Zone A, or a 100-year floodplain.

### **3.1.3.2. Environmental Consequences**

*Alternative 1: No Action*

Additional repairs to the sewer line would not take place and the potential for contamination of the river would remain. Floodplains would be directly and indirectly impacted by wastewater release if temporary repairs failed or the sewer line became damaged again.

*Alternative 2: Proposed Action*

Floodplains would be temporarily impacted during the construction of the new sewer line in the Upper Canyon and in Ruidoso Downs. The sewer line would remain below the ground surface and would not alter the direction or flow of water during a flooding event.

*Alternative 3: Alternative Considered but Eliminated*

Floodplains would remain in their current state are if the sewer line was replaced within its current position in the Rio Ruidoso channel. Floodplains would be directly and indirectly impacted by released wastewater if temporary repairs failed or the sewer line became damaged again.

### **3.1.4. Air Resources and Air Quality**

The United States Environmental Protection Agency (EPA) under the Clean Air Act (CAA) has established standards for maintaining ambient air quality. Air pollution occurs when pollutant materials exceed the standards set for a region. Air pollution has the capacity to cause physical harm to a human being. Pollutant materials can be broken up into six groups: ozone (O<sub>3</sub>), particulate material (PM), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Under the CAA, EPA is required to establish a National Ambient Air Quality Standard (NAAQS) for each of the six pollutant groups.

Ruidoso, New Mexico lies within EPA Region 6. The NMED has created statewide ambient air quality standards (NMAC 20.2.3).

#### **3.1.4.1. Affected Environment**

The Ruidoso, New Mexico region tends to be semi-arid throughout most of the year with average rainfall being approximately 23 inches (58.4 centimeters [cm]). Most rainfall occurs within August with an average of approximately 4 inches (10.2 cm) of precipitation. Maximum average temperatures are in the 80's °F (26.7 – 31.7°C) and average minimum temperature is in the high teens. (IDcide.com 2008)

The Village of Ruidoso and Ruidoso Downs are in air quality attainment with New Mexico and NAAQS.

#### **3.1.4.2. Environmental Consequences**

##### Alternative 1: No Action

Under the no action alternative, air quality would not change.

##### Alternative 2: Proposed Action

Air quality would be temporarily impacted during the construction of the new sewer line due to increased dust and engine emissions from construction-related vehicles. Upon completion of the proposed action, air quality would return to its pre-construction status.

##### Alternative 3: Alternative Considered but Eliminated

Air quality would be temporarily impacted during the construction of the new sewer line due to increased dust and engine emissions from construction-related vehicles. Upon completion of the proposed action, air quality would return to its pre-construction status.

### **3.2. Biological Environment**

#### **3.2.1. Terrestrial and Aquatic Environment**

Biological surveys of the Rio Ruidoso and roadways were performed by Zia Engineering & Environmental Consultants, LLC (2009a). During these surveys, the proposed action areas were described and observations of plants and wildlife were noted (Appendix E).

##### **3.2.1.1. Affected Environment**

The vegetation observed within the Village of Ruidoso and Ruidoso Downs contained highly disturbed habitat along the roadways, and in the lift station locations, and in areas of livestock grazing within the easements in Ruidoso Downs (Dick-Peddie 1993). The

vegetation within the Rio Ruidoso channel area consisted of highly disturbed montane riparian habitat (Dick-Peddie 1993). Areas in Ruidoso Downs tended to have minimal disturbance and the dominant plant species were black grama (*Bouteloua eriopoda*), blue grama (*B. gracilis*), and western wheatgrass (*Elymus smithii*).

Wildlife observed during the pedestrian surveys were those commonly found within montane riparian habitat which was located adjacent to the roadways. Activity indicators (scat, tracks, etc.) were not observed during the roadway survey, and burrows and tracks of rodents and birds, black bear (*Ursus americanus*) scat, elk (*Cervus canadensis*) scat, and raccoon (*Procyon lotor*) tracks during the river surveys.

### **3.2.1.2. Environmental Consequences**

#### Alternative 1: No Action

Under the no action alternative, there would be no direct or indirect impacts would not incur to wildlife or vegetation along the banks and within the river. However, if the sewer line were to become damaged again, these populations would be directly impacted through the contamination of their water source.

#### Alternative 2: Proposed Action

The proposed action would temporarily impact wildlife species during construction activities. However, wildlife species would likely avoid the project area during construction activities and return upon completion. Cumulative impacts would not be expected to occur as a result of the proposed action.

Minimal vegetation would be impacted within the Village of Ruidoso since the sewer line would be constructed within existing disturbed road rights-of-way. Greater impacts to vegetation would occur within Ruidoso Downs where the existing sewer line crosses through grazing lands associated with neighboring farms. Vegetation of the impacted lands would be expected to re-grow quickly after construction activity ceased due to high nutrient quality and moisture of the soil. Long term impacts to vegetation are not anticipated as a result of the proposed action.

#### Alternative 3: Alternative Considered but Eliminated

Wildlife and vegetation along the banks of the river would be minimally impacted or would not be impacted. Wildlife and vegetation within the channel would be impacted. Construction activities would temporarily impact wildlife that was dependent on the river. Wildlife, excepting fish and other aquatic organisms, would avoid the project area during construction activities and return upon their completion. Fish and other aquatic organisms would attempt to avoid construction areas and would likely find refugia in water impoundments developed during construction in the immediate vicinity.

If the sewer line were to become damaged again, direct impacts to those populations would likely occur since an important water and food source would be contaminated.

### **3.2.1. Threatened and Endangered Species**

Under the Endangered Species Act of 1973, the New Mexico Wildlife Conservation Act of 1978, and other agency regulations, threatened, endangered, and sensitive species (TES) are subject to protection from impacts associated with construction projects. Protection varies depending upon the State or Federal listing status of each species. An endangered listing provides Federal and/or State protection for any species in danger of extinction throughout all or a significant portion of their range. A threatened listing provides protection for species which are likely to become endangered within the foreseeable future through all or a significant portion of their range. Take of Federally-listed or State-listed endangered or threatened species may result in fines and imprisonment if the action occurs without appropriate permits. Federal Species of Concern (SOC) are included for planning purposes only and include taxa for which further information is needed to resolve their conservation status. Federal SOC are often also listed by the state or other agencies as Sensitive or SOC. Sensitive species are those for which an agency (New Mexico Game & Fish Department [NMDGF], United States Forest Service [USFS], USFWS, New Mexico Rare Plant Technical Council [NMRPTC]) has conservation concerns and recommends avoidance of unnecessary impacts to the species on lands managed by that agency. Legal protection does not extend to SOC or sensitive species, but failure to consider those species in project planning may result in project delays. Protection is warranted only to keep the population from becoming legally listed as threatened or endangered. Extirpated species (by USFWS and NMDGF) are no longer known to occur in areas that they previously inhabited, but in some cases may actually occur or there is potential to re-establish them. Candidate species are those for which data has been presented to USFWS in support their being listed as threatened or endangered, but the process of listing has not yet gone to completion or is on hold for various reasons.

#### **3.2.1.1. Affected Environment**

Habitats within the proposed action areas were compared with those associated with TES species listed for Lincoln County. TES species were not observed within the proposed project areas for either action alternatives during the pedestrian surveys. Table 3 describes those species for which biological analysis indicated that suitable habitats occur within the project area (NMDGF 2009b, USFWS 2009a, NMRPTC 1999).

**Table 3. Potential TES Species That May Utilize Project Area Habitat**

Scientific Name	Common Name	Status	Habitat
<b>Plants</b>			
<i>Hedeoma pulcherrima</i>	Mescalero pennyroyal	FWS-SOC NM-SOC	Usually on steep hillsides, in rocky and/or disturbed habitats including roadsides, in montane coniferous forest and piñon-juniper woodland; 1,500-2,350 meters (m) (5,000-9,000 feet [ft]).
<i>Philadelphus microphyllus</i> var. <i>argyrocalyx</i>	silvercup philadelphus	FWS-SOC NM-SOC	Mountain slopes of usually sedimentary rock in piñon-juniper woodland and lower montane coniferous forest; 2,100-2,600 m (6,900-8,500 ft).
<b>Fish</b>			
<i>Catostomus plebeius</i>	Rio Grande sucker	FS-S	Lives in small to large, middle elevation (2000-2600 m) streams usually over gravel and/or cobble, but also in backwaters and in pools below riffles.
<i>Gila pandora</i>	Rio Grande chub	FS-S NM-S	Mainstream Rio Grande and Pecos River habitats. This species is found in impoundments and pools of small to moderate streams and is frequently associated with aquatic vegetation. They occupy perennial mainstream and tributary habitat at higher elevations
<b>Birds</b>			
<i>Accipiter gentilis atricapillus</i> ; <i>apache</i>	northern goshawk	FWS-SOC FS-S NM-S	The small New Mexico population occurs locally in mature, closed canopied coniferous forests of mountains and high mesas. The principal forest types occupied in the Southwest are ponderosa pine, mixed-species, and spruce-fir.
<i>Buteo swainsoni</i>	Swainson's hawk	FS-S	This species has been observed in grasslands and farmlands. Additionally they are found in ponderosa pine, aspen(hardwoods), chaparral, and pinyon-juniper forest types
<i>Ceryle alcyon caurina</i> ; <i>alcyon</i>	belted kingfisher	FS-S	This species prefers riparian habitat for nesting. Nests are horizontal or slightly upslanting burrows dug by the pair in sand, clay, or gravel bank of a creek, river, lake, pond, gravel, sand pit, or railroad cut.
<i>Cynanthus latirostris magicus</i>	broad-billed hummingbird	FS-S NM-T	They are found primarily in riparian woodlands at low to moderate elevations.
<i>Falco peregrinus anatum</i>	peregrine falcon	FWS-SOC FS-S NM-T	Douglas fir, ponderosa pine, larch/white pine, lodgepole pine, fir-spruce, aspen, chaparral, and pinyon-juniper forests; nest in cliffs, usually near water (prefer 6500 - 8599 ft but may be found from 3500 - 9000 ft in NM, usually found at lower elevations).
<i>Falco peregrinus tundrius</i>	Arctic peregrine falcon	FWS-SOC FS-S NM-T	In New Mexico, the breeding territories of peregrine falcons center on cliffs that are in wooded/forested habitats, with large "gulfs" of air nearby in which these predators can forage
<i>Lanius ludovicianus excubitorides</i> ; <i>sonoriensis</i> ; <i>gambeli</i>	loggerhead shrike	FS-S NM-S	Desert scrub and grassland.
<i>Otus flammeolus</i>	flamulated owl	FS-S	Flamulated owls use ponderosa pine, ponderosa pine/quaking aspen, and mixed conifer habitats.

Scientific Name	Common Name	Status	Habitat
<i>Strix occidentalis lucida</i>	Mexican spotted owl	FWS-T FWS-CH FS-S NM-S	Forested lands, wooded canyons.
<i>Vireo vicinior</i>	gray vireo	FS-S NM-T	Brushy mountain slopes (summer migratory).
<b>Mammals</b>			
<i>Corynorhinus townsendii pallescens</i>	pale Townsend's big-eared bat	FWS-SOC FS-S NM-S	Coniferous forest and woodland, desert scrub, mixed woodland, perennial water source (insectivore); roosts in caves and abandoned mines and buildings (only NM bat species regularly found in winter).
<i>Myotis ciliolabrum melanorhinus</i>	western small-footed myotis bat	NM-S	Riparian, coniferous and mixed woodland, montane coniferous forest, grassland, savanna and desert scrub, perennial water; roosts in rock crevices, caves, dwellings, burrows, among rocks, under bark, and beneath rocks on the ground.
<i>Myotis lucifugus occultus</i>	occult little brown myotis bat	FS-S NM-S	Coniferous forest, mixed woodland, riparian, desert scrub, perennial water; roosts in buildings occasionally mines.
<i>Myotis thysanodes thysanodes</i>	fringed myotis bat	NM-S	Coniferous forest, grassland, desert scrub, coniferous and mixed woodlands, riparian, perennial water; roosts in caves, mines, buildings, ponderosa pine tree snags.
<i>Myotis velifer incautus; brevis</i>	cave myotis bat	FS-S NM-S	Desert and lower elevation grassland, juniper-pinyon, riparian woodland and rabbitbush habitat.
<i>Myotis volans interior</i>	long-legged myotis bat	NM-S	Coniferous forests, coniferous and mixed woodlands, desert scrub, riparian, perennial water source; roosts in caves, mines, buildings, crevices in rock faces, ground fissures in evenly eroded areas, trees and large snags.
<i>Myotis yumanensis yumanensis</i>	Yuma myotis bat	NM-S	Riparian, desert scrub, woodlands and forests, perennial water; roosts in bridges, buildings, cliff crevices, caves, mines, rock crevices, swallow's nests and trees (4,000 - 7,000 ft).
<i>Neotamias canipes canipes</i>	gray-footed chipmunk	NM-S	Occur in the Gallinas, Capitan, Carrizozo, and Guadalupe mountains. Downed logs at the edge of clearings in montane forest and pinyon/juniper woodland.
<i>Spilogale gracilis</i>	western spotted skunk	NM-S	Mixed woodlands, farmlands, open areas
<i>Tamiasciurus hudsonicus lynchuchus</i>	red squirrel	FS-S NM-S	High elevation montane forest, mixed conifers and spruce- fir
<i>Thomomys bottae alienus; aureus; cultellus; fulvus; lachuguilla; pectoralis; peramplus; pervagus; rufidulus; toltecus</i>	Botta's pocket gopher	FS-S	For this gopher, the habitat must contain sufficient tuberous roots and plant material available and soil suitable for digging tunnels. They have been found in sycamore, cottonwood, and rabbitbrush riparian habitats.

FS – Forest Service, FWS – Fish and Wildlife, NM – New Mexico, E – Endangered, T – Threatened, SOC – Species of Concern, S – Sensitive, CH – Designated Critical Habitat

### **3.2.1.2. Environmental Consequences**

#### Alternative 1: No Action

State and federally listed threatened, endangered, or sensitive species were not observed during the pedestrian surveys. The no action alternative would have no effect on TES species.

#### Alternatives 2 and 3

Consultations with NMDGF (March 11, 2009) and USFWS (November 9, 2009) stated that the sewer line project would not have any adverse impacts to TES species (Appendix D). FEMA discussed sending the Biological Survey Report (Appendix E) to the USFWS, but determined that the proposed project would not impact federal TES species and that no effect would occur.

#### Plants

Consultation with the New Mexico Forestry Division indicated that the silvercup philadelphus and the Mescalero pennyroyal occur within bounds of the Village of Ruidoso (personal communication, Bob Sivinski 2008). Neither species was identified at the time of the surveys. However, both of these species are locally abundant and endemic to the Sacramento Mountains. Because suitable habitat for either species was not noted within the project area, it is not anticipated that these species would have no effect by either Alternative 2 or 3.

#### Fish

Of the species known to occur in Lincoln County, the project areas contain potentially suitable habitat for two fish, Rio Grande sucker and Rio Grande chub. The Rio Ruidoso provides adequate habitat needs for both fish through natural and human introduced means. However, neither is known to currently exist within the project area and they are not proposed to be introduced into the Rio Ruidoso. Alternative 2 or 3 would have no effect on these fish species.

#### Birds

According to the Lincoln County TES list and knowledge of habitats of the birds, 10 species have the potential to occur within the project area. These are northern goshawk, Swainson's hawk, belted kingfisher, broad-billed hummingbird, peregrine falcon, Arctic peregrine falcon, loggerhead shrike, flammulated owl, Mexican spotted owl, and gray vireo. Of these species, northern goshawk, peregrine falcon, Arctic peregrine falcon, belted kingfisher, flammulated owl, broad-billed hummingbird and loggerhead shrike have potentially suitable habitat in the project area, but are rarely to never observed and would be considered to be transient species. Swainson's hawk and gray vireo are summer residents in the Sacramento Mountain range and may pass through the project area.

The Mexican spotted owl is listed as threatened by the USFWS and is known to occur in the Sacramento Mountain range. The Village of Ruidoso and Ruidoso Downs contains suitable vegetative habitat that the owl may use in transit, but the habitat is not suitable for nesting. The project areas are too sparsely vegetated with trees and the spotted owl requires a dense forest for occupancy.

It is anticipated that these bird species would avoid the project area during construction, and no effect would occur on them or on the Mexican spotted owl critical habitat.

### Mammals

Of the species listed in the Lincoln County TES list, 12 mammals have the potential to utilize the project area. These are pale Townsend's big-eared bat, western small-footed myotis bat, occult little brown myotis bat, fringed myotis bat, cave myotis bat, long-legged myotis bat, Yuma myotis bat, one gray-footed chipmunk specie, western spotted skunk, red squirrel, and Botta's pocket gopher.

None of the bat species have suitable long-term roosting habitats within the project area. They may use the project area to forage for food and use the river as a source of water intake and may roost in large trees or buildings near the project area. Construction activities would be done during daylight hours which are outside of the bats' normal foraging time. Alternative 2 and 3 would have no effect on bat species.

The two gray-footed chipmunk species, the western spotted skunk, and the Botta's pocket gopher have not been reported within the project area nor were they observed during the pedestrian surveys. The project areas contain potentially suitable habitat for the Botta's pocket gopher. However, gopher mounds were not seen during the pedestrian surveys. If any of the species were to enter in the project area, they would most likely avoid the construction activities and return when the activities ceased. Alternative 2 and 3 would have no effect on these mammals.

The red squirrel not only has potentially suitable habitat within the project areas, but specimens were collected in 1996 at the forks of the Rio Ruidoso. They are known to utilize mature trees. Red squirrels were not observed during the pedestrian surveys. The proposed action would not harm or removing any trees that could be used by the red squirrel. If red squirrels are in the project areas, they would avoid the area until construction activities have ceased. Alternative 2 and 3 would have no effect on the red squirrel.

### 3.2.2. Wetlands (Executive Order 11990)

Sections 404 and 401 of the Clean Water Act (CWA) provide for protection of wetlands and jurisdictional waters of the United States as defined by the USACE and the EPA. Executive Order 11990 was created to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” As a result, federal agencies are to consider alternatives that prevent impact to wetlands or minimize damage, if possible. Implementation of Executive Order 11990 (1977b) under FEMA regulations can be found in 44 CFR Part 9: Floodplain Management and Protection of Wetlands (FEMA 1980).

#### 3.2.2.1. Affected Environment

According to the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory map, *Ruidoso, New Mexico* (USFWS 1984), the Rio Ruidoso is a perennial river classified by USFWS as a riverine, upper perennial with unconsolidated shore and commonly flooded. Following the flow of the river, the Rio Ruidoso transitions to the Rio Hondo which in turn flows east to the Pecos River, a jurisdictional water of the U.S. It is the determination of the USACE that the Rio Ruidoso is a jurisdictional water of the United States. In addition to the river itself, adjacent wetlands (Photographs 5-7) were noted during the pedestrian biological survey of the project area (Figure 3).



**Photograph 5. Wetland Area 1**

**Notes:**

This wetland area appears to represent be an ongoing source of problems for the area. A water depth measuring stick was shown within the confines of the wetland. The wetland is approximately 115 feet from the existing pipeline. This portion of the pipeline is proposed to be rehabilitated and no new line is expected to be constructed in a different location.



**Photograph 6. Wetland Area 2**

**Notes:**

This wetland area appears to be the result of runoff from the trailer park. The wetland is approximately 20 feet from the point where the existing and proposed pipelines converge.

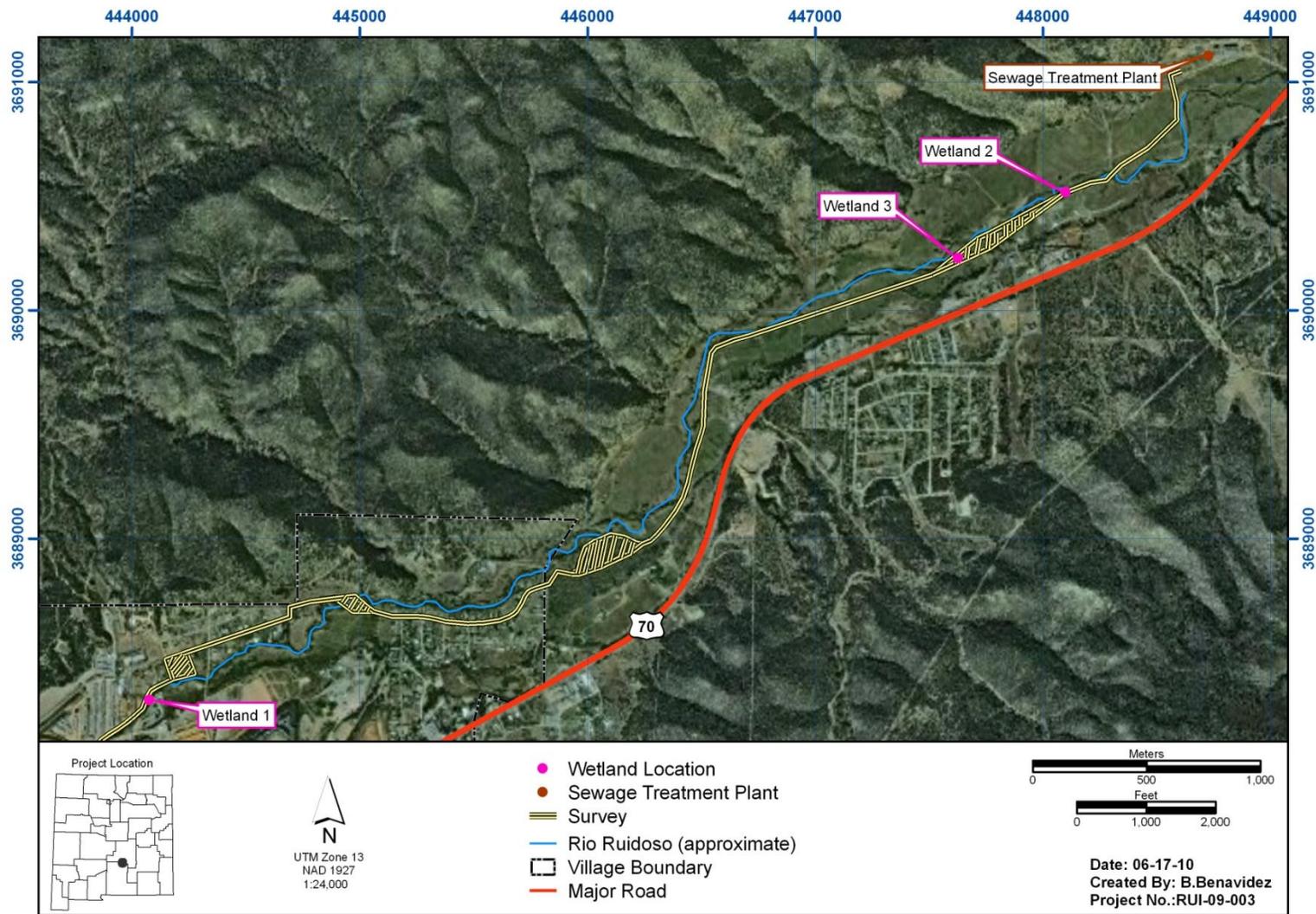


**Photograph 7. Wetland Area 3**

**Notes:**

This wetland appears to be well established, and used by the locals. Lawn chairs were observed near one of the edges. The wetland is approximately 100 feet from the existing pipeline and approximately 100 feet from the proposed new pipeline.

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**Figure 3. Wetland Locations**

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### **3.2.2.2. Environmental Consequences**

#### Alternative 1: No Action

Additional repairs to the sewer line would not take place and the potential for contamination of the river would remain. Wetlands and jurisdictional waters of the U.S. would be directly and indirectly impacted if temporary repairs failed or the sewer line became damaged again.

#### Alternative 2: Proposed Action

Construction activities for the proposed action would comply with USACE regulations and any conditions put into the CWA Section 404 permit which would be obtained prior to initiating construction. The 404 permit would be granted for the sewer line crossings of the Rio Ruidoso which would primarily use the new bridges being constructed to replace those damaged by the flood to carry the sewer lines. The construction plans, which would allow for the least amount of direct and indirect impacts to the Rio Ruidoso and would reduce cumulative impacts, would need to be approved by the USACE. The 404 is currently being applied for through the USACE Albuquerque District Office, and is awaiting the final designs and locations of the sewer line placement outside the Rio Ruidoso.

Evaluation of the final sewer line placement drawings would determine if a wetland delineation would need to be done prior to construction so as to not impact the Rio Ruidoso and the three wetlands identified during the biological survey. The wetland delineation report would need to be approved by the USACE prior to construction initiation.

Replacement of the current sewer line would comply with USACE regulations of a four (4) foot depth, and the existing sewer line in the river would be cleaned in an environmentally safe manner and permanently sealed. These design features of the proposed action are expected to result in no adverse, direct, or indirect impacts to wetlands and jurisdictional waters of the United States (U.S.).

#### Alternative 3: Alternative Considered but Eliminated

Replacement of the sewer line in place would comply with USACE regulations and a 404 permit would need to be obtained from the USACE. Wetlands and jurisdictional waters of the U.S. would be directly and indirectly impacted if the sewer line becomes damaged again.

### **3.3. Hazardous Materials**

While completion of a formal Phase I Environmental Site Assessment (ESA) is intended to constitute one of the requirements of all appropriate inquiry for purposes of Comprehensive Environmental Response Compensation and Liability Act (CERCLA) liability protections, it is not intended that its use be limited to that purpose. Phase I ESAs takes into account commonly known and reasonably ascertainable information. The ESA review is intended primarily as an approach to conducting an inquiry designed to identify recognized

environmental conditions (REC) in connection with a property and represents a commercially prudent and reasonable inquiry.

### **3.3.1. Affected Environment**

An informal Phase 1 ESA was conducted to accumulate data for use by parties who wish to evaluate the level of environmental risk associated with commercial real estate and takes into account commonly known and reasonably ascertainable information. United States EPA and State of New Mexico regulatory database information was obtained from Environmental FirstSearch (2009), a contract information services company, for use as a source of indications of environmental concern on and in the vicinity of the proposed project areas. Information in this section is subject to the accuracy of the data provided by the information service company and the date at which the information was updated, and the scope herein did not include location of facilities listed as “unmappable.”

#### **3.3.1.1. Listed Facilities**

The regulatory review (Appendix G) identified one (1) Resource Conservation and Recovery Act Generator (RCRAGN), seven (7) leaking underground storage tanks (LUSTs), eleven (11) underground storage tanks (USTs) and one (1) discharge permit regulated facilities within the specified search radii. Based on distance, gradient, direction and current regulatory status, the listed regulated sites do not appear to constitute a recognized environmental concern (REC) relative to the proposed sewer line locations.

#### **3.3.1.2. Unmapped Facilities**

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the proposed sewer line routes. The Environmental FirstSearch report listed 29 facilities in the unmapped section. Of the 29 facilities, two (2) facilities may be near the proposed pipeline project. Determining the location of unmapped facilities is beyond the scope of this assessment. The following table summarizes the site-specific information provided by the database for the two (2) facilities.

Of these two (2) facilities the regulatory review identified two (2) UST facilities. Due to lack of adequate information, the unmapped regulated facilities may not be assessed as to whether they constitute RECs to the proposed pipeline route.

### **3.3.2. Environmental Consequences**

#### **Alternative 1: No Action**

Under the no action alternative, the sewer line will not impact these mapped and unmapped locations.

Alternative 2: Proposed Action

The removal of the sewer line to the roadways is not anticipated to impact any of these mapped and unmapped locations. Mitigation measures are required if soil staining pertaining to the leaking storage tanks are identified.

Alternative 3: Alternative Considered but Eliminated

It is not anticipated that fixing the sewer line in the same location will impact any of the mapped and/or the unmapped facilities.

**3.4. Socioeconomics**

According to 2000 Census data, the Village of Ruidoso, NM had a population of 7,698 individuals and Ruidoso Downs had 1,824. The median income in 2000 was \$37,107 for the Village and \$29,375 for the Downs.

**3.4.1. Zoning and Land Use**

**3.4.1.1. Affected Environment**

The current sewer line lies within an existing utility easement that runs through private property, both commercial and residential. The project area contains farmlands, commercial property, and residential property. Roadways are either maintained by the Village of Ruidoso (Upper Canyon), New Mexico Department of Transportation, or Lincoln County.

**3.4.1.2. Environmental Consequences**

Alternative 1: No Action

Existing zoning and land use would not be impacted as a result of the no action alternative.

Alternative 2: Proposed Action

New and rehabilitated sewer lines would occur within existing utility easements and disturbed roadways. Lines leading to and from private property will require permission from land owners for lines to be constructed or rehabilitated on their land. Existing zoning and land use would not be adversely affected as a result of the proposed action.

Alternative 3: Alternative Considered but Eliminated

The sewer line would be replaced in the same location as the existing line; therefore, it is anticipated that current zoning and land use would not be impacted.

### **3.4.2. Visual Resources**

Visual resources are the quality of the environment as perceived through the visual sense only. These resources include scenic landscapes, landscape visibility, landscape character, and visual sensibility. All projects maintain the goal of non adverse obstruction to the viewshed in the project areas.

#### **3.4.2.1. Affected Environment**

The Village of Ruidoso and Ruidoso Downs are located in the Sacramento Mountains in Lincoln County, New Mexico. They abut the Lincoln National Forest. Most of the upper canyon area in the Village of Ruidoso contains Ponderosa pine trees. Traveling east towards Ruidoso Downs, the area becomes more urban with a few scattered trees and urban landscaping. Further east, the area becomes open valley landscape with grasses, cottonwoods, and farmlands (Additional project area photographs Appendix B).

The Rio Ruidoso region contains the tranquil flow of river water coming from higher elevations. The upper canyon portion of the river has ponderosa pine trees along its banks as well as residential homes. The river flows through the Village of Ruidoso near urban development flowing under bridges and through culverts. As it flows east into Ruidoso Downs, the scenery becomes more open with sporadically observed cottonwoods along the banks. It flows through the middle fields of the Ruidoso Downs race track and through farmlands and then passes the wastewater treatment facility which lies to the north of its banks.

Roadways within the project areas are either paved or compacted dirt. They are lined by Ponderosa pine, quaking aspen, and cottonwood trees. Wild oats and wheatgrass make up much of the understory.

Ruidoso Downs contains primarily farmlands with llamas, cattle, horses, and apple trees. The area consists of grazed flat lands with few native trees, which are mostly situated near the river's edge or along Highway 70. The Ruidoso Downs Racetrack as well as neighboring residential neighborhoods with paved or maintained dirt roadways make up the west end of the Downs.

#### **3.4.2.2. Environmental Consequences**

##### Alternative 1: No Action

Under the no action alternative, the viewshed will remain in its current state. The viewshed will not be impacted by this alternative.

Alternative 2: Proposed Action

Replacement of the sewer line will impact the viewshed temporarily with the increased amount of construction vehicles until construction is complete. The sewer line location will remain underground. Those lines crossing bridges will be located within the bridge and will not be observed. Replacing the existing sewer line with a new line in nearby roadways and easements and installing lift stations would minimally impact the visual character of the area, which is mostly urban. Sewer lines and lift stations would be located near ground-level and would not obstruct the overall viewshed.

Alternative 3: Alternative Considered but Eliminated

Aesthetic impacts related to the presence of construction equipment would be temporary, lasting only until construction is complete. Since the Rio Ruidoso maintains the potential for future flooding with a high risk of damage to incur to the repaired line. By replacing the sewer line within the Rio Ruidoso, the view of the river may be affected if a new line were installed and new manhole accesses had to be developed. The tranquil view of the flowing water will be interrupted by emergent manhole structures.

**3.4.3. Noise**

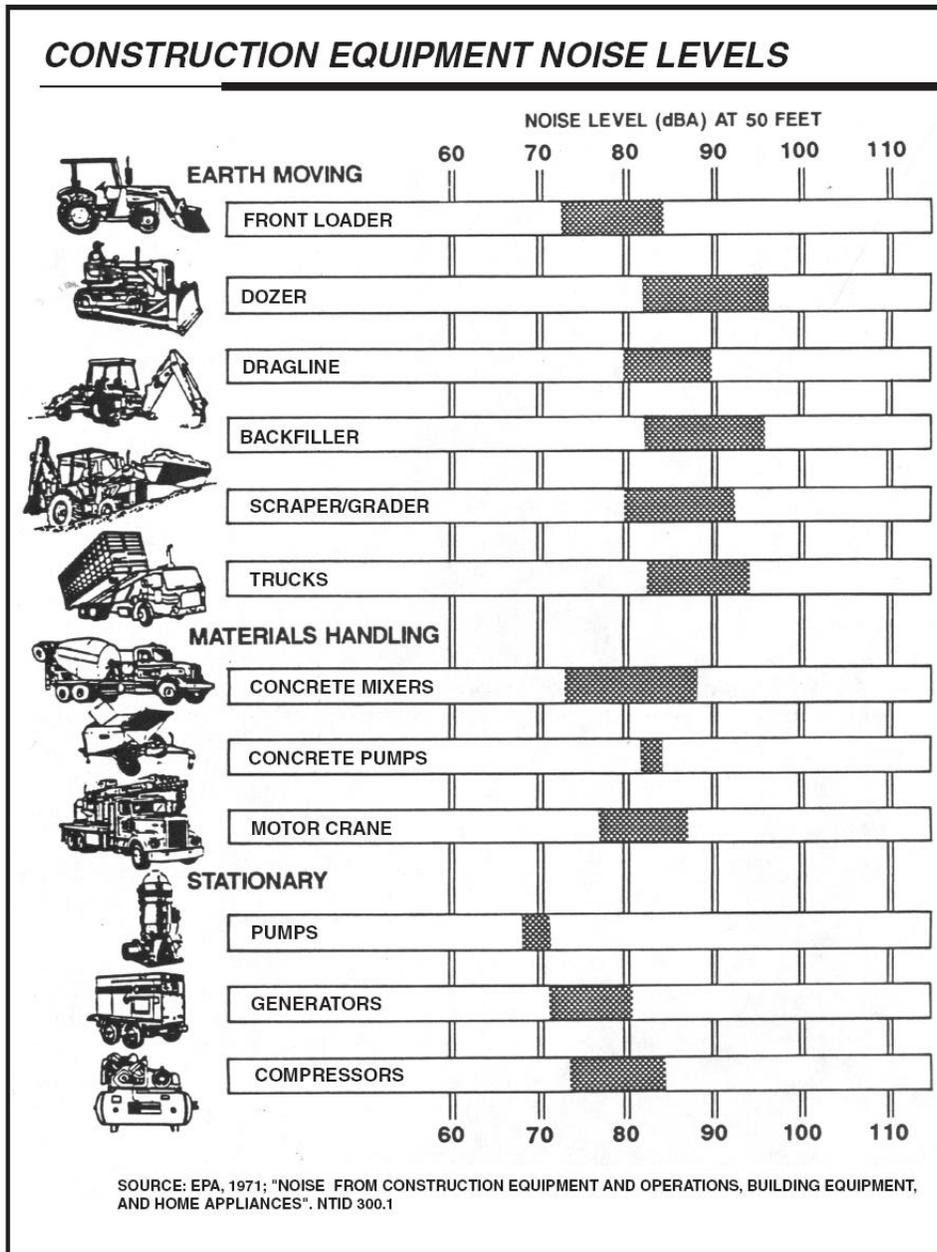
The general definition of noise is unwanted sound. Excessive noise can be determined to be noise pollution which may be judged to be an annoyance and may lead to hearing loss. Noise is generally measured in decibels (dB) with the human threshold of sound being defined as 0 dB. Hearing loss and physical discomfort occur at around 120 dB.

The Occupational Health and Safety Administration (OSHA) has developed regulations for occupational noise limitations and safety (29 CFR 1910.95). Although these regulations must be followed by construction workers, the regulations also cover those in close proximity to the zone of noise generation. Table 4 displays the permissible noise exposures at continuous levels (noise level at maximum intervals of one second or less are considered continuous).

**Table 4. OSHA Permissible Noise Exposure**

Duration per day (hours)	A-Scale Sound level, slow response (dBA)
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

In 1971, a study was completed by Bolt, Beranek and Newman for EPA concerning noise from construction equipment and operations, building equipment, and home appliances. Figure 4, taken from their study, shows various equipment noise levels. The figure represents an example of noise levels that may occur during project construction.



**Figure 4. Construction Equipment Noise Levels**

#### **3.4.3.1. Affected Environment**

Ambient noise within and near the Rio Ruidoso are those of running water and urban and residential traffic. The river flows through the main portion of the Village where noise levels increase due to traffic from roadways and businesses. In Ruidoso Downs, most of the noise near the Rio Ruidoso is a result of the race track or nearby residential and roadway traffic.

Roadways within the Village of Ruidoso maintain constant to sporadic noise levels.

#### **3.4.3.2. Environmental Consequences**

##### Alternative 1: No Action

Under the no-action alternative, noise levels would not be impacted. There would be no change in current noise levels.

##### Alternative 2 and 3

Noise levels would temporarily increase during construction of both action alternatives and during maintenance activities. Any increases to the existing noise levels would cease once the project and/or maintenance was complete. Long term impacts or increases to noise levels are not anticipated as a result of either of the action alternatives.

#### **3.4.4. Public Services and Utilities**

##### **3.4.4.1. Affected Environment**

The Village of Ruidoso and Ruidoso Downs provides their residents with sewer line, water, and electric connections. Both maintain their own police and fire departments. The Village of Ruidoso has its own airport for private use.

##### **3.4.4.2. Environmental Consequences**

##### Alternative 1: No Action

Under the no action alternative, these public services and utilities will not be impacted.

##### Alternative 2 and 3

Both construction alternatives may temporarily impact these services when construction activities are underway. However, upon completion, impacts to public services and utilities would cease.

### **3.4.5. Traffic and Circulation**

#### **3.4.5.1. Affected Environment**

The Village of Ruidoso and Ruidoso Downs contains residential streets, county roads, and New Mexico State highways. The Village of Ruidoso and Ruidoso Downs each maintain the residential roadways whereas the county maintains their roads, and New Mexico Department of Transportation maintains the highways.

#### **3.4.5.2. Environmental Consequences**

##### Alternative 1: No Action

Under the no action alternative, impacts to traffic and circulation would not be impacted.

##### Alternative 2: Proposed Action

Traffic may be halted and/or detoured to accommodate construction activities during installation of the new pipes along the roadways and connections to residences. Construction efforts in Ruidoso Downs will be minimal since the line mostly runs through farmlands. Coordination with the Ruidoso Downs Race Track should be conducted to minimize impacts to traffic and circulation by scheduling construction activities during times of low activity. Traffic will return to normal activity once construction has ceased. Cumulative impacts are not expected as a result of the proposed action.

##### Alternative 3: Alternative Considered but Eliminated

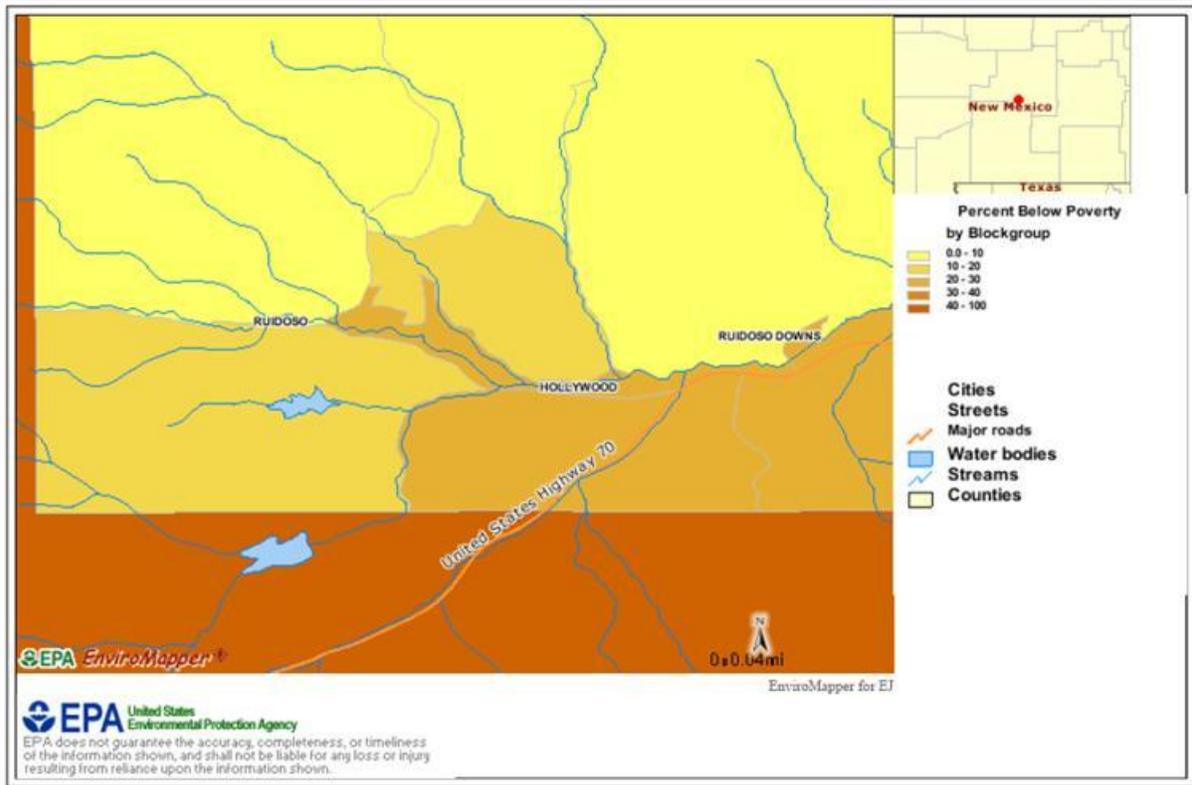
Traffic may be halted or detoured in a few locations where the replacement line will cross major throughways, resulting in temporary impacts. However, once construction efforts have ceased, traffic will return to its normal activity and flow. Cumulative impacts are not expected as a result of this alternative.

### **3.4.6. Environmental Justice (Executive Order 12898)**

In 1994, President Clinton signed Executive Order 12898 that mandates federal agencies to assess environmental justice for the proposed actions as part of their mission. The mission is to identify and address adverse health effects on minority and low-income communities due to a proposed action. The Executive Order also insures public involvement and access to information concerning any proposed action.

#### **3.4.6.1. Affected Environment**

The Village of Ruidoso in the upper canyon contains approximately 20-30 percent minority populations. From the middle of the village through Ruidoso Downs, the minority populations increase to about 40 percent. Figure 5, from the EPA Environmental Justice EnviroMapper, displays the minority populations of the project areas.



**Figure 5. Minority Populations of the Project Areas**

**3.4.6.2. Environmental Consequences**

Alternative 1: No Action

This alternative would not disproportionately affect low-income or minority populations.

Alternative 2: Proposed Action

This alternative would not disproportionately affect low-income or minority populations.

Alternative 3: Alternative Considered but Eliminated

This alternative would not disproportionately affect low-income or minority populations.

### **3.4.7. Safety and Security**

#### **3.4.7.1. Affected Environment**

The Rio Ruidoso is the main draw and visual attraction to the Village of Ruidoso and Ruidoso Downs. Its tranquil flows and cold water fishery draw residents and tourists to the Village.

#### **3.4.7.2. Environmental Consequences**

##### Alternative 1: No Action

Under the no action alternative, repair to only the existing line would continue the potential for contamination of the river by wastewater if the line were to be damaged again.

##### Alternative 2 and 3

Stabilizing the current sewer line and permanently replacing it with a new line would provide greater safety and public health for residents by preventing possible contamination to the Rio Ruidoso. Alternative 2, the preferred action, would provide the greatest level of safety and contamination minimization.

### **3.5. Cultural Resources**

#### **3.5.1. Historic Properties**

The New Mexico Historic Preservation Division (NMHPD) is mandated to follow both federal and state laws for archaeological, historic, and traditional resources within New Mexico depending on the funding agency or land ownership. It is through the State Historic Preservation Officer (SHPO) that regulations are enforced for all activities.

Under the National Historic Preservation Act (NHPA) of 1966, the Protection of Historic Properties (36 CFR 800) contains federal regulations must be followed. Section 106 of the NHPA states that if a federal agency is involved in a project, historic and prehistoric surveys must be conducted prior to funding, licensing, and authorization of a project for the purpose of assessing impacts to historical resources in the project area during. This is part of the federal agency's decision-making process. The Protection of Historic Properties (36 CFR 800) provides guidelines for consulting with other agencies, in particular for Tribal consultations.

##### **3.5.1.1. Affected Environment**

Cultural surveys were performed by Zia Engineering & Environmental Consultants, LLC (2009b) (Appendix F). During these surveys, 27 historic homes dating from between 1915 and 1950 were identified within 100 feet (30.5 meters) of the project area. Of these homes, none were considered eligible and/or historically contributing to the surrounding area.

Historic districts were not identified within the project area nor do historic districts occur within the Village of Ruidoso or Ruidoso Downs. Prehistoric or tribal artifacts were not found within the project area. No known Traditional Cultural Properties associated with the Mesacalero Apache Tribe occur in the project area. Tribal letters were submitted to the tribes including the Mescalero Apache Tribe, and no response was received. Consultation was conducted with the New Mexico SHPO on January 25, 2010 (Appendix D). Their response on March 1, 2010 concurred with the Cultural Survey Report (Appendix F) that the undertaking will not have an adverse effect on registered or eligible cultural properties.

### **3.5.1.2. Environmental Consequences**

#### Alternative 1: No Action

Historic properties or prehistoric or tribal artifacts would not be impacted under the no action alternative.

#### Alternative 2 and 3

Cultural resources that are listed, or eligible for listing, on the National Register of Historic Places were not observed within the project areas. The proposed action would not affect historic properties or prehistoric or tribal artifacts.

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## **4.0 CUMULATIVE IMPACTS**

### **4.1. Physical Environment**

#### **4.1.1. Geology, Seismicity, and Soils**

Cumulative impacts are not expected to occur to the geology, seismicity and soils within the proposed project area.

#### **4.1.2. Water Resources and Water Quality**

According to consultation with the NMED Ground Water Quality and Surface Water Quality Bureaus, cumulative impacts would most likely occur if contamination continues to persist or the sewer line is not adequately repaired (Appendix D). Consultation with Steven M. Baumgarn of the NMED Surface Water Quality Bureau (Appendix D) strongly recommends Alternative 2 in which the line is completely removed from the Rio Ruidoso. This effort will reduce the possibility of continued contamination into the Rio Ruidoso and negate cumulative impacts.

#### **4.1.3. Air Resources and Air Quality**

Consultation with the Air Quality Bureau at the NMED did not suggest that there would be cumulative impacts associated with either Alternative 2 or 3 (Appendix D).

### **4.2. Biological Environment**

#### **4.2.1. Terrestrial and Aquatic Environment**

Cumulative impacts are not expected to occur for terrestrial and aquatic environments if either Alternative 2 or 3 are chosen. If no action is taken, cumulative impacts have a greater possibility of occurring if the sewer line continues to break and then repaired. Persistent continuing contamination of the riverine system may have detrimental and cumulative effects to both terrestrial and aquatic life.

#### **4.2.2. Wetlands (Executive Order 11990)**

When the final location and design of the sewer line is determined and if these locations for are in close proximity to or impacts wetlands, a wetland delineation will be conducted in order to eliminate cumulative impacts for either Alternative 2 or 3. If no action is taken, cumulative impacts have a greater possibility of occurring if the sewer line continues to break and then be repaired. Persistent contamination of the riverine system may have detrimental and cumulative effects on the wetlands and the biotic environment they represent.

#### **4.2.3. Threatened and Endangered Species**

Cumulative impacts are not expected to occur to threatened and endangered species if either Alternative 2 or 3 are chosen. If no action is taken, cumulative impacts have a greater possibility of occurring if the sewer line continues to break and then repaired. Persistent contamination into the area may have detrimental effects on these species of concern.

#### **4.3. Hazardous Materials**

Cumulative impacts are not expected to occur to hazardous materials.

#### **4.4. Socioeconomics**

Cumulative impacts are not expected to occur to zoning and land use, visual resources, noise, public services and utilities, traffic and circulation, environmental justice, and safety and security if either Alternative 2 or 3 are chosen. If no action is taken, cumulative impacts have a greater possibility of occurring if the sewer line continues to break and be repaired. Negative impacts will persist in the community, and residents' morale as well as health and safety.

#### **4.5. Cultural Resources**

##### **4.5.1. Historic Properties**

Cumulative impacts are not expected to occur from any of the alternative options.

## 5.0 MITIGATION MEASURES

### 5.1. Physical Environment

Proper maintenance of construction equipment will eliminate potential impacts to soil and water resources.

The Surface Water Quality Bureau requires the Village of Ruidoso to obtain a National Pollutant Discharge Elimination System (NPDES) permit which will require that a Stormwater Pollution Prevention Plan (SWPPP) be developed. The contractor that is awarded the construction of the sewer line will have the responsibility of obtaining the permit and plan. These efforts will minimize the potential of construction materials or other construction-related waste to enter the Rio Ruidoso.

### 5.2. Biological Environment

Regardless of what the population status for wildlife species, trenching guidelines provided by the NMDGF will be followed to minimize wildlife impacts. These guidelines are summarized below, but a full description is provided in Appendix D.

Periods of highest activity for many of these species include night time, summer months, and wet weather.

- To minimize the amount of open trenches at any given time, keep trenching and back-filling crews close together.
- Trench during the cooler months (October – March). However, there may be exceptions (e.g., critical wintering areas) which need to be assessed on a site-specific basis.
- Avoid leaving trenches open overnight. Where trenches cannot be back-filled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches sloping to the surface or wooden planks extending to the surface. The slope should be less than 45 degrees (100%). Trenches that have been left open overnight, especially where endangered species occur, should be inspected and animals removed prior to back-filling.

### 5.3. Hazardous Materials

After conducting a database search through the Environmental FirstSearch report (2009) (Appendix G), 20 mapped facilities were listed and 29 facilities were found to be unmapped. Should any affected soils or groundwater be encountered during future excavations, proper procedures will be followed with respect to worker health and safety and the soils or groundwater will be properly handled and disposed in accordance with local and state regulations.

#### **5.4. Socioeconomics**

Construction will take place during normal business hours and will not operate between 10:00 PM and 7:00 AM so as not to disturb residents. Machine noise must not exceed 50 dB(A), or 10 dB(A) above the ambient noise level whichever is higher, when measured at the residential property line. Detours and closures will not continue through evening hours.

#### **5.5. Cultural Resources**

Non-vibratory machinery will be used during construction to prevent impact to historic-age structures. In the event that archeological deposits, including any Native American pottery, stone tools, bones, or human remains, are uncovered, the project shall be halted and the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured and access to the sensitive area restricted. The applicant will inform FEMA immediately and FEMA will consult with the SHPO or THPO and Tribes and work in sensitive areas cannot resume until consultation is completed and appropriate measures have been taken to ensure that the project is in compliance with the National Historic Preservation Act.

#### **5.6. Permitting**

It is the responsibility of the Village of Ruidoso, Ruidoso Downs, and the hired contractors to obtain the appropriate local, state, and/or federal permits appropriate for this project prior to project initiation.

## 6.0 CONCLUSION

Findings within this EA has determined if the proposed action is approved, there would be no significant negative impacts on the physical environment, the biological environment, hazardous materials, socioeconomics, or cultural resources. Temporary impacts may occur during construction of the sewer line; however, upon construction completion, the areas surrounding the construction would return to its original state prior to construction initiation. The approval of the proposed action would have positive impacts on the physical environment in particular with the Rio Ruidoso and the health and safety of the residents of the Village of Ruidoso and Ruidoso Downs.

Upon final approval of this EA from FEMA, this report would be used as one of the required elements for the completion of the USACE 404 Clean Water permit for further reductions in impact to the Rio Ruidoso.

Preliminary findings within this EA conclude that the mitigation measures required by the agencies and in particular with the final approval and mitigation measures provided by the USACE would negate the significance of the potential impacts to the project area. It is anticipated that the proposed action would meet the requirements of a FONSI under NEPA. The preparation of an Environmental Impact Statement (EIS) would not be required.

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## **7.0 PUBLIC PARTICIPATION**

FEMA is the lead agency for ensuring environmental compliance for the proposed sewer line relocation in the Village of Ruidoso and Ruidoso Downs. It is the goal of the lead agency to be responsive to the needs of the community and the purpose and need of the proposed action, while meeting the intent of federal environmental and cultural resource laws, including NEPA, and complying with all necessary provisions.

The Village of Ruidoso and Ruidoso Downs will notify the public of the availability of the draft EA through publication of a notice in the local newspaper of record. The draft EA will be available at both a local repository and at FEMA.gov. A 30-day public comment period will commence on the initial date of the public notice. FEMA will consider and respond to all public comments either individually or in the final EA.

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## 8.0 CONSULTATIONS AND REFERENCES

### 8.1. Agency Consultation

Agency	Date of Response	Name of Individual who responded	Title
New Mexico Department of Game and Fish	March 11, 2009	Terra Manasco	Assistant Chief, Conservation Services Division
New Mexico Environment Department	January 22, 2010	Georgia Cleverly	Environmental Impact Review Coordinator
New Mexico Environment Department	February 25, 2009	Steven M. Baumgarn	Environmental Scientist/Specialist Point Source Regulation Section
New Mexico Historic Preservation Division	January 25, 2010	Michelle Ensy signed for the State Historic Preservation Officer	State Archaeological Permits & Archaeological Review
U.S. Army Corps of Engineers	October 8, 2008	Edward Paulsgrove	Regulatory Manager, Albuquerque District
U.S. Fish and Wildlife Service	November 9, 2009	Wally Murphy	Field Supervisor

### 8.2. References

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- 2002 Environmental Protection Air Quality (Statewide) Ambient Air Quality Standards. Title 20, Chapter 2, Part 3. October 31, 2002.

New Mexico Environment Department

- 2009 Personal Communications with Steven Baumgarn, Environmental Scientist/Specialist Point Source Regulation Section, concerning alternatives for the environmental assessment for Ruidoso. February 25, 2009.
- 2010 Personal Communications with Georgia Cleverly, Environmental Impact Review Coordinator. January 22, 2010.

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