



Utility Restoration, Replacement, and Relocation in the State of Colorado

*DRAFT Programmatic Environmental Assessment
Colorado | October 2014*



FEMA

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ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
CDBG-DR	Community Development Block Grant – Disaster Recovery
CDNR	Colorado Department of Natural Resources
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFLHD	Central Federal Lands Highway Division
CFR	Code of Federal Regulations
CPW	Colorado Parks and Wildlife
DHS	Department of Homeland Security
DURT	Disaster Unified Review Team
EA	Environmental Assessment
EDA	Economic Development Administration
EO	Executive Order
ESA	Endangered Species Act
EWP	Emergency Watershed Protection
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
GPD	Grants Program Directorate
HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
HUD	U.S. Department of Housing and Urban Development
IPaC	Information, Planning and Consultation System
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1996
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Health and Safety Administration
PA	Public Assistance
PDM	Pre-Disaster Mitigation Program
PEA	Programmatic Environmental Assessment
PFHD	Provisional Flood Hazard Delineation
PPE	Personal Protective Equipment
ROW	Right of Way
SCMP	Stream Corridor Master Plan

SEA	Supplemental Environmental Assessment
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
SRIA	Sandy Recovery Improvement Act
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service

SECTION ONE | INTRODUCTION

1.1 OVERVIEW

In accordance with Unified Federal Review as outlined in The Sandy Recovery Improvement Act (SRIA), Section 6: Unified Federal Review mandates the establishment of an “...expedited and unified interagency review process to ensure compliance with environmental and historic requirements under Federal law relating to disaster recovery projects, in order to expedite the recovery process, consistent with applicable law.”

The Federal Government, through multiple agencies and their programs, proposes to restore, replace, upgrade, expand, redesign, and relocate public utilities, in the State of Colorado. A utility is defined as infrastructure supplying a community with electricity, gas, water, or sewage services. Utilities may be built, upgraded, or repaired under funding programs from various federal Agencies.

The Federal Emergency Management Agency (FEMA) has prepared this Programmatic Environmental Assessment (PEA) to analyze the potential environmental consequences associated with the proposed actions while providing a framework for the evaluation of Federal and State laws and regulations. The proposed action and no action alternative is being analyzed in accordance with the National Environmental Policy Act of 1969 (NEPA)¹, the Council on Environmental Quality (CEQ) implementing regulations² and the Emergency Management and Assistance Code of Federal Regulations (CFR)³. This analysis is programmatic in nature and does not address individual site-specific impacts, which will be evaluated for individual projects prior to approval.

1.2 BACKGROUND

Geography, climate, and demographic trends have necessitated development of a complex infrastructure of utility systems across Colorado. Aging infrastructure, the need for increased capacity, and damage due to manmade and natural disasters all have the potential to limit the ability of these utility systems to function as designed. Failure of these systems can cause injury and loss of life; residents, government entities and businesses may lose capital and access to property and critical infrastructure; and significant environmental impacts may occur. Local governments may be unable to provide critical services including fire suppression, emergency communication, power generation, potable water and wastewater treatment. Sheltering and protection from the elements may be unavailable creating a potential threat to life, public health and safety. In an effort to restore these services and/or mitigate these impacts, federal agencies may provide funds for utility system restoration, replacement, upgrade, expansion, redesign, or relocation.

¹ 42 United States Code [USC] 55 parts 4321 et seq., 2000

² 40 Code of Federal Regulations [CFR] 30 parts 1500 et seq., 2004

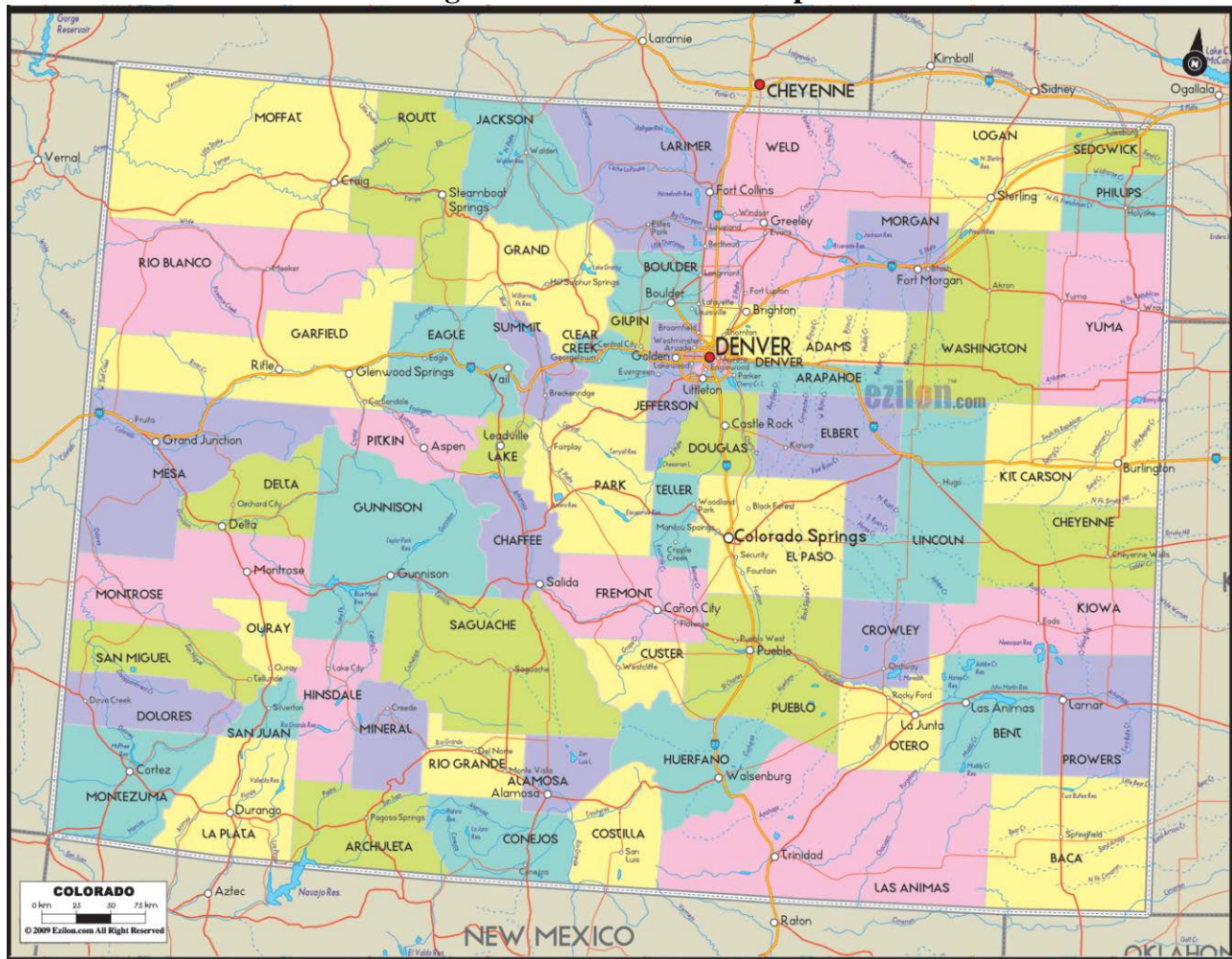
³ 44 Code of Federal Regulations [CFR] 1 part 10, and 23 CFR 771., 2013

NEPA and its implementing regulations direct federal agencies to take into consideration the consequences of proposed actions on the human and natural environment during the decision-making process. All federal agencies must comply with NEPA before making Federal funds available. FEMA has taken the lead in determining that the projects under consideration for funding have reached the level where an Environmental Assessment is required and can be grouped by type of action or location. FEMA proposes that the groups of actions related to the restoration, replacement, upgrade, expansion, redesign, or relocation of utility systems can be evaluated in a PEA for compliance with NEPA and its implementing regulations without the need to develop an individual agency Environmental Assessment (EA) for every action.

In accordance with Unified Federal Review as outlined in SRIA, FEMA coordinated with other federal agencies in order to facilitate a comprehensive strategy to address recovery and mitigation efforts for the State of Colorado. The programmatic nature of this document is a result of Unified Review coordination as federal agencies with the potential to provide recovery or mitigation funding have been asked to participate in the development of this PEA.

The interagency environmental analysis found that the project types identified in the PEA will not have a significant impact on the quality of the environment. Compliance with all other federal, tribal, state and local laws, regulations, Executive Orders, etc. is required and will be evaluated on a project-specific basis. If the description of the site-specific project work and the levels of analysis are fully and accurately described in this PEA, then Agencies will take no further action other than what is necessary to support and document that conclusion. All projects reviewed using this PEA must use the Utility Checklist (Appendix A) to document the project specific information and that the project is consistent with the PEA. If a specific project is expected to (1) create impacts not described in the PEA; (2) create impacts greater in magnitude, extent, or duration than those described in the PEA; or (3) require mitigation measures to keep impacts below significant levels that are not described in the PEA; then a Supplemental Environmental Assessment (SEA) is to be prepared by the grantee to address the specific action. The SEA would be tiered from this PEA, in accordance with 40 CFR Part 1508.28. Actions determined during the preparation of the SEA to require a more detailed or broader environmental review than covered in this document will be subject to a project specific EA.

Figure 1: Colorado State Map⁴



⁴ Ezilon Maps. Political Map of Colorado. www.ezilon.com/maps/united-states/colorado-counties-and-road-maps.html. Accessed 12/09/2014

SECTION TWO | PURPOSE AND NEED

This PEA addresses numerous individual projects where the restoration, replacement, upgrade, expansion, redesign, or relocation of utilities will be undertaken by Agencies to provide permanent restoration of function. It also addresses hazard mitigation activities that reduce disaster losses to existing utilities from future disaster damages and protect life and property. These actions are applicable to all proposed alternatives described in this document. This PEA also provides the public and decision-makers with the information required to understand and evaluate the potential environmental consequences of these actions and to consider these impacts in decision making. The purpose of this action is to help Agencies fulfill and expedite the environmental review process required by NEPA.

Agencies will use this PEA to determine the level of environmental analysis and documentation required under NEPA for permanent utility repairs or modifications for any of the proposed alternatives. Utility projects will be funded with a variety of federal sources including but not limited to, grants provided by FEMA, US Economic Development Administration (EDA), Federal Highway Administration (FHWA), US Department of Housing and Urban Development (HUD) and the Natural Resources Conservation Service (NRCS). These agencies all have programs that share a similar goal of helping state, local, or tribal governments recover from disasters and mitigate future losses.

The purpose of proposed projects to restore, replace, upgrade, expand, redesign, or relocate utilities is to meet these programs' goals. These projects will satisfy the need to:

- Restore utilities to a safe, sustainable, and permanent function and capacity;
- Minimize and mitigate future losses and impacts on the essential utilities; and
- Develop and construct resilient facilities with minimal impacts to natural and historic resources.

Other Federal agencies may use this document to demonstrate compliance with NEPA at their discretion and under their own authorities.

SECTION THREE | ALTERNATIVES

3.1 INTRODUCTION

The following Alternatives are being considered for further evaluation in this PEA. These alternatives represent classes of actions that may be implemented individually or in combination with one another. Depending upon the response or mitigation action The Agencies determines is necessary to maintain utilities, and the individual characteristics of the specific site, there may be only one viable option to be implemented. The following list of alternatives may not be available in all project locations. Therefore, each project may have a different preferred alternative. The selected alternative (or combination of alternatives) will be documented in the Utilities Checklist (Appendix A).

3.2 ALTERNATIVES CONSIDERED

Alternative 1: No Action

A No Action Alternative is required to be included in the environmental analysis and documentation in accordance with the Council on Environmental Quality regulations implementing NEPA. The No Action Alternative is defined as maintaining the status quo with no Agency involvement for any alternative. The No Action Alternative is used to evaluate the effects of not implementing the building, utility replacement, repair, relocation, or upgrade action on a programmatic level; thus, this alternative provides a benchmark against which other alternatives may be evaluated.

"No action" means the proposed activity would not take place and the utility would remain in its existing condition. Access may remain restricted due to the loss of service. For the purpose of the environmental analysis, under the No Action Alternative local governments would have to rely on savings, insurance, loans, or other forms of assistance to restore and retain access to utilities.

Alternative 2: Replacement

This alternative applies to replacement of an existing utility with a new iteration in the existing location. In some situations leaving utilities in their existing locations may be the safest or most cost-effective option that also meets most private property owners' desires. This alternative differs from No Action in that it includes projects such as ground stabilization, grade control, etc.; the hazard in that segment is mitigated without relocating the utility.

Changes to materials and dimensions are included in this alternative. This may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction. In the case of corridors that no longer serve as functional routes, bank stabilization and/or grade control may be needed to restore function and

stability. Included in this alternative are upgrades to current codes, standards, and construction of utilities necessary to maintain current infrastructure. Applicable design codes will be followed for all construction design.

Alternative 3: Relocation

This alternative includes utility realignment or relocation. In some locations the current utility alignment poses too great a threat to public safety and infrastructure, and prevents private property owners from returning to their homes. Utilities in these locations may need to be relocated to protect life and property during future events.

Included in this alternative is the construction of new or relocated utilities which are necessary to communities. Utility relocations will contain a beginning and end point that tie to the original segment. These segments may be either longer or shorter than the segments they are replacing, and/or include upgrades to meet existing codes and standards as well as upgrades needed to address site-specific conditions. Utilities that are replaced would be abandoned and/or removed. Applicable design codes will be followed for all construction.

Alternative 4: Combination

Alternative 4 includes some combination of No Action, Replacement, and Relocation. Individual utility segments may be left in their existing location and condition if it is determined that No Action is the safest, most cost-effective alternative. Adjacent utilities within the same reach may be replaced or relocated to mitigate risk and restore infrastructure.

3.3 ALTERNATIVES NOT CONSIDERED

Applicants for federal grant funding may repair utilities to pre-disaster condition or with minor mitigation upgrades under programs like FEMA's Public Assistance Program or Hazard Mitigation Grant Program. These types of projects may fall into a Statutory Exclusion or a Categorical Exclusion under NEPA and will be evaluated accordingly. No further review of these types of projects will be considered in this PEA. In addition, some proposed projects may involve significant upgrades, expansion, and redesign that may be too extensive to be considered under this PEA. These projects will be fully evaluated to determine the appropriate level of NEPA review.

SECTION FOUR | AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 PHYSICAL RESOURCES

4.1.1 Affected Environment

Colorado has a diverse geology, ranging from the western mountains lifted and folded by tectonics and sculpted by glaciers to the eastern plains partly overlain by glacial till and dissected by wind and water. The 2007 state geological map included 324 distinct geological units.

Colorado's eastern plains contain more than 30,000 square miles of wind-blown (eolian) deposits. These eolian deposits consist of particles transported and deposited by the wind. Fine-grained particles (dust) form loess deposits. Coarser-grained deposits form sand dunes of varying shape.

Colorado has approximately a dozen glaciers. These are not remnants of the Pleistocene glaciers, but were formed approximately 500 years ago during the Little Ice Age. The maximum extent of the glaciers occurred about 1850. As the climate began warming again, the ice began to melt and the glaciers began retreating back into the cirques.

At 6,800 feet above sea level, Colorado has the highest average elevation in the United States. Thirty one percent (32,649 square miles) of the state is "mountainous", or greater than 8,000 feet. The vertical range in elevation is more than two miles, ranging from a low of 3,313 feet above sea level where the Arikaree River enters Kansas, to 14,440 feet at the crest of Mount Elbert near the center of the state. It is generally accepted that Colorado has 53 to 58 named peaks that are greater than 14,000 feet in elevation (depending on criteria used) and more than 700 peaks higher than 13,000 feet. The largely mountainous Continental Divide is the principal hydrological divide of the Americas. It extends from the Bering Strait to the Strait of Magellan, and separates the watersheds that drain into the Pacific Ocean from those river systems that drain into the Atlantic Ocean (including those that drain into the Gulf of Mexico and the Caribbean Sea), and along the northernmost reaches of the Divide, those river systems that drain into the Arctic Ocean. There are seven major river basins in Colorado: the Arkansas, Rio Grande, San Juan, Colorado, Green, Platte and Republican. Four major river systems – the Platte, Colorado, Arkansas, and Rio Grande – originate within the mountains of Colorado.

Five different physiographic provinces and three sub-provinces are found within Colorado: Colorado Plateau, Wyoming Basin, Southern Rocky Mountains, Middle Rocky Mountains, and the Great Plains which is divided into the Colorado Piedmont, High Plains, and Raton Basin.

Colorado's State soil is "Seitz soil" that consists of very deep, well drained, slowly permeable soils that were formed from igneous, sedimentary and volcanic rocks. Seitz soils are found on mountains, mainly in southwestern and central Colorado.

Colorado, especially the Front Range, is classified as having two types of soil existing together: expansive and hydro-compactable. Most soil in the Front Range can be classified as a swelling soil – a soil that contains a high percentage of certain types of clay that absorb vast quantities of water. This can cause the soil to expand 10% or more as moisture enters it, usually during winter snow melt and spring runoff, and then contract when the moisture evaporates during the hot summer months.

Land use in Colorado consists primarily of grassland/herbaceous areas (39.5%), Evergreen Forest (20.8%), and Small Grains (24.0%) according to the National Land Cover Statistics Database (USGS 2010) (Table 1). Residential development covers less than 1% of Colorado lands.

Table 1 - Land Cover of Colorado

Land Cover Classes	State Totals Units in Square Miles
Water	453
Perennial Ice/Snow	138
Low Intensity Residential	539
High Intensity Residential	76
Commercial/Industrial/Transportation	309
Bare Rock	1,111
Quarries/Mines	19
Transitional	89
Deciduous Forest	7,121
Evergreen Forest	21,663
Mixed Forest	798
Shrubland	16,878
Orchards/Vineyard	5
Grasslands/Herbaceous	41,073
Pasture/Hay	3,107
Row Crops	3,266
Small Grains	24,987

Fallow	2,291
Urban/Recreational Grasses	91
Woody Wetlands	14
Emergent/Herbaceous Wetlands	67
State Total	104,094

Source: USGS 2010

According to the Economic Research Service of the U.S. Department of Agriculture, there were 31,604,901 acres in Colorado classified as farmland and 36,700 farms. Prime farmland is found throughout the state. Prime farmland, as defined by the U.S. Department of Agriculture, is the land that is best suited to food, feed, and forage, fiber, and oilseed crops. Colorado had approximately 1,696,800 acres of nonfederal prime farmland recorded in 1997. This represents over 2 percent of the state's total land area or 4 percent of the nonfederal land in Colorado. Nationally, 64 percent of soils classified as prime farmland are being used for cropland. In Colorado, 93 percent of the soils classified as prime farmland are being utilized as cropland. There has been a gradual loss overall of prime farmlands in Colorado. Approximately 53,300 acres of prime farmland were converted urban or rural development between 1982 and 1997.

Colorado is the 8th largest state by land and has 103,730 square miles. Property is divided into private, federal, state, tribal and BIA, and water.

4.1.2 Environmental Consequences

Alternative 1: No Action

Under the No Action alternative there is no federal action. Alternative 1 has potential to permanently disrupt utility service to communities. Loss in residential, commercial, agricultural, or recreational land use may occur. This could lead to vegetation reclaiming right-of-way's (ROW), public, private properties in the State of Colorado.

Alternative 2: Replacement

Under this alternative, the existing utilities would be maintained. Existing utilities would be expanded to accommodate best construction practices as well as the changes in topography. However, the utility footprint is expected to remain within the previous ROW so no significant changes in land use are anticipated.

In some cases, small portions of new ROW may be required due to the additional width of infrastructural elements or topographical changes. There may be changes to land use but these impacts are not expected to be significant. If the footprint extends outside of the ROW into US Forest Service (USFS) land, a new or revised easement will be required from the USFS. If the footprint extends outside of the ROW into other state or federal lands, additional coordination and permitting will be required from the owner agency. For all ROW acquisitions, the Agencies

will comply fully with federal and state requirements including the Uniform Relocation Assistance and Real Property Acquisition Policies act of 1970, as amended (Uniform Act).

Alternative 3: Relocation

Alternative 3 would entail relocation of utilities. Small parcels of ROW may be repurposed into private property, and vice versa, to accommodate the relocation. Local governments may buy out some parcels of private if it is unsafe to rebuild. These purchased parcels would no longer be used for residential purposes and may instead be turned into public parking, a park, etc. If the footprint extends outside of the ROW into US Forest Service (USFS) land, a new or revised easement will be required from the USFS. If the footprint extends outside of the ROW into other state or federal lands, additional coordination and permitting will be required from the owner agency. For all ROW acquisitions, the Agencies will comply fully with federal and state requirements including the Uniform Act.

Vegetation along utility corridors may be lost in the short term. However, stabilization projects will use bioengineered, vegetative stabilization methods wherever possible, increasing the amount of vegetation in the long term.

The floodplain designation of certain parcels may change following relocation utilities.

Alternative 4: Combination

The environmental consequences of Alternative 4 would be similar to the consequences identified in Alternatives 2 and 3.

4.2 TRANSPORTATION FACILITIES

4.2.1 Affected Environment

Colorado has 88,259 miles of highways, roads and streets and 8,260 bridges as of 2010. There were 5,024,145 registered motor vehicles in the state as of 2009 and 3,638,374 licensed drivers in the state as of 2010. Mobility in regional areas is critical for social, recreational and economic activities. Commuting is a part of daily life and truck transportation plays a vital role in Colorado's economy. Any impediment to freight movement hinders economic performance and growth.

4.2.2 Environmental Consequences

Alternative 1: No Action

Under the No Action alternative no federal funding would be provided to repair utilities. Utilities would remain in disrepair and communities may be isolated or abandoned unless the State or local agencies took actions to maintain or improve utilities. This alternative may result in significant adverse impacts due to lack of access to community-sustaining utilities.

Alternative 2: Replacement

This alternative would maintain the utility infrastructure. Short term impacts would be expected during construction as temporary outages may be required. No significant adverse long term impacts are expected to the utility infrastructure form and function. Utility facilities would be more resilient and less likely to experience substantial damage from future events.

Alternative 3: Relocation

This alternative would generally maintain the existing utility network. Short term impacts would occur during construction from possible outages. No significant long term impacts are expected to the utility infrastructure. Relocating utilities farther from waterways may make the facilities more resilient and much less likely to experience substantial damage from future events.

Alternative 4: Combination

Generally, the impacts to utilities from this alternative would be similar to those described for Alternatives 2 and 3.

4.3 SAFETY AND OCCUPATIONAL HEALTH

4.3.1 Affected Environment

Safety and occupational health issues include exposure to natural hazards; one-time and long-term exposure to asbestos, lead, radiation, chemicals, and other hazardous materials; and injuries or deaths resulting from a one-time accident. Safety and occupational health concerns could impact personnel working on the project and in the surrounding area, as well as travelers using the project sites. Utilities are damaged or isolated creating public safety issues due to disaster events. Structures may be present in the project area that were constructed prior to 1978 and have the potential to contain lead-based paint or asbestos.

Lead exposure can result from paint chips or dust, or inhalation of lead vapors from torch-cutting operations. Lead exposure can adversely affect the human nervous system. Due to the size of children, exposure to lead based paint is especially dangerous to small children. Occupational Health and Safety Administration (OSHA) considers all painted surfaces in which lead is detectable to have a potential for occupational health exposure.

Asbestos exposure can result from the inhalation of dust from a plethora construction materials or household products. In 1988 the EPA issued regulations requiring certain companies to report the asbestos used in their products. However, to this day these products can easily be found anywhere in the United States. Asbestos fibers cannot be seen with the naked eye and when inhaled can cause asbestosis that often progresses to disability and death.

Residents of Colorado are vulnerable to natural hazards, the most significant of which include flood, debris flows, wildfire; drought, and windstorm. Other hazards that could impact Colorado include hailstorm, lightning, and severe winter storms.

4.3.2 Environmental Consequences

Alternative 1: No Action

In the no action alternative utilities would not be repaired, leaving communities without service. Damaged utilities are a safety concern as they remain vulnerable to future events. Utility infrastructure may be abandoned. A No Action Alternative results in restricted power, sanitary, or communications access for emergency, police and fire services causing the potential for significant delay. The No Action Alternative provides a significant adverse safety affect to localities in Colorado.

Alternative 2: Replacement

Alternative 2 would have no significant impact to public safety or occupational health. Utilities would be built to current codes and standards. Removal or repair of materials with painted surfaces or containing Asbestos may be required and construction workers are required to follow OSHA regulations to provide appropriate Asbestos abatement and avoid release of lead from paint. Construction workers and equipment operators are required to wear appropriate personal protective equipment (PPE) and be properly trained for the work being performed. All solid or hazardous wastes that might be generated by the activities of entities replacing utilities must be removed and disposed of at a permitted facility or designated collection point (e.g., for solid waste, a utility or construction company's own dumpster). Standard construction traffic control measures will be used to protect workers, residents and the travelling public.

Alternative 3: Relocation

Alternative 3 would have no significant impacts to public safety or occupational health. The new relocated utility would be designed to handle the capacity of pre-event function. Removal of materials with painted surfaces or containing Asbestos may be required and construction workers are required to follow OSHA regulations to provide appropriate Asbestos abatement and avoid release of lead from paint. Construction workers and equipment operators are required to wear appropriate personal protective equipment (PPE) and be properly trained for the work being performed. All solid or hazardous wastes that might be generated by the activities of entities replacing utilities must be removed and disposed of at a permitted facility or designated collection point (e.g., for solid waste, a utility or construction company's own dumpster). Standard construction traffic control measures will be used to protect workers, residents and the travelling public.

Alternative 4: Combination

Generally the impacts to public safety or occupational health from this alternative would be similar to those described for Alternatives 2 and 3.

4.4 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.4.1 Affected Environment

According to the U.S. Census, the population of Colorado in 2000 was 4,301,261; in 2010 it was 5,029,196, with an estimated 5,268,367 in 2013. The five largest cities in Colorado at the time of the 2010 Census were: Denver with 610,345; Colorado Springs with 399,803; Aurora with 323,288; Lakewood with 141,928; and Fort Collins with 138,722. Grand Junction is the largest city on the western slope with 56,630, making it sixteenth largest city in the state.

The majority of the Census respondents (96.6%) identified themselves as being of one race. Of those who identified themselves as being of one race, 81.3% identified themselves as being White and 1.1% identified themselves as an American Indian or Alaska Native. The remaining respondents identified themselves as Black or African American (4.0%), Asian (2.8%), Native Hawaiian and Other Pacific Islander (0.1%) or some other race (7.2%).

There are two federally recognized American Indian tribes in Colorado: Southern Ute Indian Tribe of the Southern Ute Reservation and Ute Mountain Tribe of the Ute Mountain Reservation (Colorado, New Mexico and Utah)

According to 2010 US Census data, poverty levels in Colorado were 13.4 % for all people and 17.4% for children under age 18.

Colorado's economy broadened from its mid-19th century roots in mining when irrigated agriculture developed, and by the late 19th century, raising livestock had become important. Early industry was based on the extraction and processing of minerals and agricultural products. Current agricultural products are cattle, wheat, dairy products, corn, and hay.

According to the Bureau of Labor Statistics, in October 2013 the largest non-farm employment sector in Colorado was trade, transportation, and utilities (17.37%), followed by government (17.05%), professional and business services (15.76%), education and health services (12.37%), and leisure and hospitality (12.35%). Unemployment was 6.8% compared to 7.2% nationally.

4.4.2 Environmental Consequences

Alternative 1: No Action

Under the No-Action alternative, impacted utilities would not receive federal assistance. There is no requirement for compliance with Executive Orders (EO) 12898 (Environmental Justice) and 13045 (Protection of Children from Environmental Health Risks and Safety Risks) since there are no federal actions. Alternative 1 has potential to result in significant adverse impact to

socioeconomics of a community if buildings and critical infrastructural elements such as utilities are not restored.

Alternative 2: Replacement

During the construction period this alternative may provide some short term benefits by providing construction jobs and a multiple effect of increased expenditures in the local economy. There may be major effects to populations during construction periods due to service interruption, road detours, and building construction.

Efforts would be made during any construction to minimize short-term disruption to the local utility system. Low income and minority populations may actually benefit during the construction process through the provision of construction jobs and multiplier effects of expenditures in the local economy. Any adverse impacts to low income or minority populations are expected to be short-term and not significant.

Alternative 3: Relocation

Generally, the impacts to socioeconomics and environmental justice from this alternative would be similar to those described for Alternative 2 although there is the potential for original utility infrastructure to be abandoned.

During the construction period this alternative may provide some short term benefits by providing construction jobs and a multiple effect of increased expenditures in the local economy.

In addition, this alternative would potentially impact agricultural production at some locations. The agricultural effects anticipated to result from where construction of new utilities requires acquiring farmland and converting it into a permanent ROW. Agricultural land conversions may adversely impact low income and minority population, if done at a significant scale. It is not anticipated that the amount of land required for utility relocations would be significant.

Alternative 4: Combination

Generally, the impacts to socioeconomics and environmental justice from this alternative would be similar to those described for Alternatives 2 and 3.

4.5 AIR QUALITY

4.5.1 Affected Environment

Colorado is currently in attainment or maintenance for air quality with the exception of the Denver-Boulder-Greeley-Ft. Collins-Loveland area which is listed as in nonattainment for 8-hour ozone under the National Ambient Air Quality Standards.

4.5.2 Environmental Consequences

Alternative 1: No Action

Under the No Action alternative, there would be no federal action. Alternative 1 has potential to permanently disrupt utility service to communities. Loss in residential, commercial, agricultural, or recreational land use may occur. Areas without utility access may experience a reduction in localized vehicle emissions; while other areas may experience an increase compared to pre-disaster conditions due to construction efforts related to the relocation of disaster affected communities.

Alternative 2: Replacement

Construction of utilities may include pre-cast concrete and some poured in place concrete. During construction there may be temporary increases in equipment exhaust emissions and fugitive dust. However, the temporary increase in equipment exhaust is expected to be negligible as long as the equipment is well maintained and idling is minimized. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.

If fugitive dust were to become a problem it can be mitigated by periodic watering of active construction areas, particularly areas close to any nearby sensitive receptors (e.g., hospitals, senior citizen homes, schools). Impacts from fugitive dust are anticipated to be short-term and negligible.

Where removal of utility infrastructure is required there would be some short term increase in fugitive dust and vehicular emissions. Mitigation of fugitive dust, if necessary, can be accomplished by periodically watering the demolition site.

The Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division may require a land development permit. Projects that last less than 6 months and disturb less than 25 acres do not require a permit. Generator engines in place for more than one year would require a permit, though most projects should have a shorter duration.

Alternative 3: Relocation

Generally, the impacts to air quality from this alternative would be similar to those described for Alternative 2.

Alternative 4: Combination

Generally, the impacts to air quality from this alternative would be similar to those described for Alternatives 2 and 3 with temporary air quality impacts affecting both the replacement and relocation project sites.

4.6 NOISE

4.6.1 Affected Environment

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise that occurs during the night (9 p.m. to 7 a.m.) are generally considered more annoying than those that occur during normal waking hours (7 a.m. to 9 p.m.).

Noise events in the project vicinity are associated with climatic conditions (e.g., wind, thunder); transportation noise (e.g., traffic on roads, airplanes) and “life sounds” (e.g., people talking, children playing).

4.6.2 Environmental Consequences

Alternative 1: No Action

Under this alternative, utilities would remain damaged due to the event. This would result in a natural shift in occupation density and transportation patterns. Transportation noise along other roadway segments within the County may increase under this alternative due to increasing traffic on alternate roadways. Noise in the immediate area would decrease as communities may be abandoned. Overall noise levels in the immediate area may also decrease due to some migration of residents from the region.

Alternative 2: Replacement

Utility restoration is anticipated to carry a similar noise level to that which it had at pre-disaster damage levels. Noise from construction activities may have short term adverse effects on persons who live nearby. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise impacts on residences can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours. Noise levels of construction equipment (70 to 72 dB) at the distance in which affected parties would likely be located (>200 feet/60 meters) will not be of a duration to be significant.

Alternative 3: Relocation

There would be no short term noise impacts from construction activities under this alternative at the original location. Noise from construction activities may have short term adverse effects on persons who live nearby. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise impacts on residences can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours. Noise levels of construction equipment (70 to 72 dB) at the distance in which affected parties would likely be located (>200 feet/60 meters) will not be of a duration to be significant.

Alternative 4: Combination

Generally, the noise impacts from this alternative would be similar to those described for Alternatives 2 and 3 with noise impacts affecting both the replacement and relocation project sites.

4.7 PUBLIC SERVICES AND UTILITIES

4.7.1 Affected Environment

Utility lines often cross or run along roads, either overhead or underground. Public services and utilities include:

- Fire protection
- Law Enforcement
- Emergency Medical Services
- Schools
- Water
- Wastewater
- Sanitation
- Solid waste disposal
- Stormwater drainage
- Electric utilities
- Natural gas
- Telephone/Telecommunications

4.7.2 Environmental Consequences

Alternative 1: No Action

This alternative does not include any Agency action. Alternative 1 does have the potential to affect public services and utilities because natural hazards would continue to damage roads, bridges, utilities which would adversely impact the ability to provide service. Fire, emergency, law enforcement, and school services would be delayed as a result of continued inaccessibility of the route due to closed roads, bridges or disrupted utilities. Depending on the length of detour required or utility service unavailable these services could be significantly impacted. In addition, any utility repair crews may not be able to reach damaged utility lines, resulting in lengthy service outages.

Alternative 2: Replacement

During construction utility interruption and delays in fire, emergency, law enforcement, and school services would continue, but these would be short term impacts. Once completed, public services would be restored to pre-disaster levels. No long term impacts would occur under this alternative.

Alternative 3: Relocation

Relocations could produce short term disruptions to customers. Fire, emergency, law enforcement, and school services could be temporarily impacted depending on the length of alternate routes.

Alternative 4: Combination

Utility services, fire, emergency, law enforcement, and school services may be temporarily delayed as a result of construction. Depending on the increase in the length of alternate routes, these services could be temporarily impacted. Impacts to utilities under this alternative would be similar to those described in Alternative 3.

4.8 WATER RESOURCES

4.8.1 Affected Environment

Water resources in Colorado are heavily regulated. Colorado has more than 105,344 river miles and more than 249,787 lake acres. There are seven major river basins in Colorado: the Arkansas, Rio Grande, San Juan, Colorado, Green, Platte and Republican. Four major river systems – the Platte, Colorado, Arkansas, and Rio Grande – originate within the mountains of Colorado. These systems drain fully one-third of the landmass of the lower 48 states. Around 80 percent of the state’s population lives on the Eastern Slope of Colorado between Fort Collins and Pueblo, but about 80 percent of Colorado’s precipitation falls on the Western Slope.

Sixty-three percent of Colorado’s 4.3 million residents obtain at least part of their water from areas west of the Continental Divide via natural channels and a vast network of artificial conveyances such as tunnels, ditches, aqueducts, pipelines, and canals.

Colorado is divided into eight ground water regions: Kiowa-Bijou, Southern High Plains, Upper Black Squirrel Creek, Lost Creek, Camp Creek, Upper Big Sandy, Upper Crow Creek, and Northern High Plains. Groundwater provides 18% of public water supply and 85% of agricultural water supply in Colorado. 2,780,000 acre-feet of ground water are used annually in Colorado.

There are nine principle aquifers within the state that are categorized as follows: unconsolidated Quaternary age alluvial aquifers associated with the major river systems; poorly consolidated or unconsolidated sediments; consolidated sedimentary rock aquifers; and volcanic and crystalline rock aquifers.

The South Platte River basin drains an 18,924 square mile area. The Arkansas River basin drains a 28,273 square mile area. The Colorado River basin watershed encompasses an area of approximately 9,830 square miles. The Colorado portion of the drainage basin encompasses an

area of approximately 6,765 square miles. The White River basin drains approximately 3,770 square miles. The Gunnison River basin of southwestern Colorado encompasses approximately 8,000 square miles. The Republican/ Arikaree River basin in eastern Colorado encompasses an area of 8,775 square miles. The San Juan River encompasses about 26,000 square miles of Colorado, New Mexico, and Arizona. The Dolores River basin encompasses an area of just over 5,300 square miles.

Wild and Scenic Rivers

Colorado has one river classified under the wild and scenic river designation: Cache La Poudre River with 30 miles designated as Wild and 46 miles as Recreational.

Floodplains

Executive Order (EO) 11988 requires federal agencies to consider the effect of their actions on the floodplain, evaluate alternatives to taking action in the floodplain and to provide opportunity for public comment if there is no practicable alternative. Colorado has 245 participating and 16 non-participating entities in the National Flood Insurance Program (NFIP). Under requirements established in 44 CFR Section 60.3, participating communities shall require permits for all development, including temporary development, in the Special Flood Hazard Areas (SFHA). Development is defined as “any man-made change to improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.” It includes both permanent and temporary actions such as stream crossings and conveyance structures (public and private), sediment removal, channel restoration or relocation, etc. Effective January 14, 2011, the State of Colorado adopted the enhanced Colorado Floodplain Damage Prevention Ordinance, which requires higher standards for floodplain management. These standards are intended to prevent loss of life and property as well as economic and social hardships that result from flooding.⁵

Wetlands

EO 11990 requires federal agencies minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. To meet these objectives, the EO requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Colorado has lost approximately half of its naturally occurring wetlands since settlement. Wetlands provide flood control, recharge groundwater, stabilize stream flows, improve water

⁵ The Colorado Floodplain Damage Prevention Ordinance is available at: http://cwcb.state.co.us/water-management/flood/documents/comodelordinance_12_7_12.pdf.

quality, and provide habitat for wildlife; however, these positive attributes have not always been recognized. The Federal Clean Water Act (CWA) requires that impacts to wetlands be avoided, then minimized, and finally mitigated. If no practicable alternative exists for wetland filling projects then wetlands will continue to be impacted in the face of development.

4.8.2 Environmental Consequences

Alternative 1: No Action

In the No Action alternative, utilities are not repaired, leaving communities without services and vulnerable to future flood events. No work would occur in water, thus there would be no impact to water due to project work. Erosion and sedimentation may increase if banks are further damaged from being left unrepaired. Damaged utility infrastructure may cause a flow impediment, potentially causing significant impacts to stream and floodplain hydraulics and function.

Alternative 2: Replacement

Existing utilities may be expanded within the existing footprint or ROW. Fill material may be needed around utility infrastructure thus impacting waters. The discharge of fill material into surface water may provide a temporary alteration of surface water quality including but not limited to temperature, dissolved oxygen, or turbidity.

The design of some utility features may require a hydrologic analysis to determine the magnitude and frequency of flows and a hydraulic analysis to locate and size drainage facilities. During construction, the Agencies would mitigate impacts by requiring projects to apply Best Management Practices (BMPs) to reduce sediment and fill material from entering the water. Projects may be required to prepare a storm water pollution prevention plan (SWPPP). Projects may also be required to obtain a Section 404 or other permit from the U. S. Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification permit from CDPHE Water Quality Control Division or EPA. Discharges of water encountered during excavation or work in wet areas may require a Construction Dewatering Discharge Permit. Project management is responsible for complying with any conditions outlined within these permits.

Because some utilities are location-dependent and potentially located within a floodplain, the scope of work of this alternative may have some impacts to the floodplains. Construction of utilities may result in alteration of the course or magnitude of floodwater. Utility repair and changes within floodplains may also have some impact. If changes to utility infrastructure is anticipated to impact the floodplain/floodway, Agency projects must adhere to EO 11988: Floodplain Management, which requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a

practicable alternative. A hydrology and hydraulics report may be required to evaluate changes to stream hydraulics in detail and compliance with local ordinance will be required.

While this alternative is not expected to impact wetlands because actions are limited to existing ROWs, certain sites could result in some fill being placed in a wetland. This alternative would have little if any impact on increasing impervious surfaces, reduce groundwater recharge, and adversely affect water quality through the transmission of sediment, debris, oils, and hazardous substances into surface waters. During construction, the Agencies would mitigate these impacts by requiring the applicant to apply BMPs to reduce transport of sediment, debris, oils, concrete waste, and hazardous substances into wetlands or waterways.

The results of the analyses and consultation discussed above would be documented in a memorandum to this PEA or in a SEA.

Alternative 3: Relocation

This alternative would generate impacts similar to those described for Alternative 2.

Alternative 4: Combination

This alternative would generate impacts similar to those described for Alternative 2 and 3.

4.9 BIOLOGICAL RESOURCES

Biological resources include native or naturalized plants and animals and the habitats (e.g., wetlands, forests, and grasslands) in which they exist. Protected and sensitive biological resources include federally listed (endangered or threatened), proposed, and candidate species designated by the United States Fish and Wildlife Service (USFWS). Sensitive habitats include those areas designated by the USFWS as critical habitat protected by the Endangered Species Act (ESA) and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer and winter habitats).

4.9.1 Affected Environment

Vegetation

Colorado contains parts of six major eco-regions and is divided into approximately 60 ecosystems (Table 3). The most prominent is the Southern Rockies, which occupies most of the state's central and western portions and the Great Plains-Palouse Dry Steppe in the eastern half of the state. Other eco-regions include the Intermountain Semi-Desert and Desert, the Nevada-Utah Mountains and the Colorado Plateau. Forests are found in all eco-regions of the state, but the Southern Rockies contain the most forested area and the greatest variety of forest types.

Many ecosystems in North America have evolved with fire as a natural and necessary contributor to habitat vitality and renewal. Many plant species in naturally fire-affected environments require fire to germinate. Natural wildland fuels and fuel patterns have been displaced or changed by the planting, cultivating, and production of crops and the grazing of domestic livestock.

Table 2: Colorado Ecosystems

Central Mixed Grass Prairie	Colorado Plateau Blackbrush-Mormon-tea Shrubland
Colorado Plateau Hanging Garden	Colorado Plateau Mixed Bedrock Canyon and Tableland
Colorado Plateau Mixed Low Sagebrush Shrubland	Colorado Plateau Pinyon-Juniper Shrubland
Colorado Plateau Pinyon-Juniper Woodland	Inter-Mountain Basins Active and Stabilized Dunes
Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe	Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Interdunal Swale Wetland	Inter-Mountain Basins Juniper Savanna
Inter-Mountain Basins Mat Saltbush Shrubland	Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe	Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland
Inter-Mountain Basins Playa	Inter-Mountain Basins Semi-Desert Grassland
Inter-Mountain Basins Semi-Desert Shrub-Steppe	Inter-Mountain Basins Shale Badland
Inter-Mountain Basins Wash	North American Alpine Ice Field
North American Arid West Emergent Marsh	Northern Rocky Mountain Avalanche Chute Shrubland
Rocky Mountain Alpine Bedrock and Scree	Rocky Mountain Alpine Dwarf-Shrubland
Rocky Mountain Alpine Fell-Field	Rocky Mountain Alpine-Montane Wet Meadow
Rocky Mountain Aspen Forest and	Rocky Mountain Cliff, Canyon and Massive

Woodland	Bedrock
Rocky Mountain Dry Tundra	Rocky Mountain Dry-Mesic and Mesic Montane Mixed Conifer Forest and Woodland
Rocky Mountain Foothill Limber Pine-Juniper Woodland	Rocky Mountain Gambel Oak-Mixed Montane Shrubland
Rocky Mountain Lodgepole Pine Forest	Rocky Mountain Lower Montane Riparian Woodland and Shrubland
Rocky Mountain Lower Montane-Foothill Shrubland	Rocky Mountain Ponderosa Pine Savanna
Rocky Mountain Subalpine Dry-Mesic and Mesic Spruce-Fir Forest and Woodland	Rocky Mountain Subalpine Mesic Meadow
Rocky Mountain Subalpine-Montane Fen	Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland
Rocky Mountain Subalpine-Montane Riparian Shrubland	Rocky Mountain Subalpine-Montane Riparian Woodland
Southern Rocky Mountain Juniper Woodland and Savanna	Southern Rocky Mountain Montane-Subalpine Grassland
Southern Rocky Mountain Pinyon-Juniper Woodland	Southern Rocky Mountain Ponderosa Pine Woodland
Southwestern Great Plains Canyon	Western Great Plains Cliff, Outcrop, and Shale Barren
Western Great Plains Closed Depression Wetland	Western Great Plains Big River Floodplain
Western Great Plains Foothill and Piedmont Grassland	Western Great Plains Riparian Woodland, Shrubland and Herbaceous
Western Great Plains Saline Depression	Western Great Plains Sand Prairie
Western Great Plains Sandhill Shrubland	Western Great Plains Shortgrass Prairie
Western Great Plains Tallgrass Prairie	Wyoming Basins Low Sagebrush Shrubland

Wildlife

Colorado hosts about 750 species of fish, mammals, birds, reptiles, insects, and amphibians. Big game hunted in Colorado includes black bear, deer, elk, pronghorn, moose, bighorn sheep, mountain goat, mountain lion and Turkey. Smaller game species hunted include sharp-tailed grouse, prairie chickens, sage grouse, mountain grouse, ptarmigan, and pheasants. Hunted waterfowl includes ducks, geese, and swans. Bobcat, otter and swift fox are trapped.

Across the state, Colorado Parks and Wildlife (CPW) manages more than 348 State Wildlife Areas, totaling more than 684,252 acres. In addition, CPW leases approximately 550,000 acres of State Trust Lands. CPW also manages fifteen properties that house State Fish Units - hatcheries or fish rearing operations. Out of the 750 fish and wildlife species in Colorado, 74 are listed as species in need of conservation and protected by CPW.^{6 7}

Protected Species

There are 46 species listed as Endangered (E), Threatened (T), Candidate (C), or Proposed (P) (see Table 4) by the USFWS under ESA that historically occurred, occur, or may potentially occur within Colorado. Thirteen of these species have designated critical habitat in Colorado. They are Preble's Meadow Jumping Mouse, New Mexico Meadow Jumping Mouse, Mexican Spotted Owl, Southwestern Willow Flycatcher, Colorado Pikeminnow, Whooping Crane, Razorback Sucker, bonytail, humpback chub, clay-loving wild buckwheat, Pagosa skyrocket, Parachute beardtongue, and DeBeque phacelia The threatened Yellow-billed Cuckoo has proposed critical habitat. In addition, critical habitat designations have been included with the proposed Gunnison Sage Grouse. Specific project areas can be searched for presence of these species through the USFWS Information, Planning and Consultation System (IPaC).⁸

Table 3: Federally Listed Threatened, Endangered and Candidate Species in Colorado

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Arapahoe Snowfly	<i>Capnia Arapahoe</i>	C	Typically found in cold, clean, well-oxygenated streams and rivers.
Arkansas darter	<i>Etheostoma cragini</i>	C	Prefers shallow, clear, cool water, sand or silt bottom streams with spring-fed pools and abundant rooted aquatic vegetation. During late summer low-water periods when streams may become intermittent, Arkansas darter populations in Colorado persist in large, deep pools.

⁶ More on Colorado Parks and Wildlife Species Profiles: <http://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx>

⁷ For Colorado Parks and Wildlife Spatial Data: <http://ndis.nrel.colostate.edu/index.html>

⁸ For U.S. Fish and Wildlife Service Endangered Species Information, Planning and Consultation System : <http://ecos.fws.gov/ipac/> or <http://www.fws.gov/ipac/>

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Black footed Ferret	<i>Mustela nigripes</i>	E	Most of this species has been block-cleared in Colorado.
Bonytail chub	<i>Gila elegans</i>	E	Large, fast-flowing waterways of the Colorado River system.
Canada lynx	<i>Lynx canadensis</i>	T	Dense subalpine forest, willow corridors along mountain streams, avalanche chutes. Occurs at elevations between 8,000 and 14,000 feet.
Clay-loving wild buckwheat	<i>Eriogonum pelinophilum</i>	E	Endemic to the rolling clay (adobe) hills and flats immediately adjacent to the communities of Delta and Montrose, Colorado
Colorado Butterfly plant	<i>Gaura neomexicana</i>	T	Moist areas of floodplains
Colorado hookless Cactus	<i>Sclerocactus glaucus</i>	T	Exposed stretches of gravelly clay, including alluvial benches above floodplains and on mesa slopes
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	E	Swift flowing muddy rivers with quiet, warm backwaters.
DeBeque Phacelia	<i>Phacelia submutica</i>	T	Grows on barren patches of shrink-swell clay of the Wasatch Formation at about 5,000 to 6,200 feet elevation in the southern Piceance Basin oil and gas fields of Mesa and Garfield Counties, western Colorado.
Dudley Bluffs Bladderpod	<i>Lesquerella congesta</i>	T	Barren white outcrops exposed along drainages by erosion from downcutting of streams in the Piceance Basin in Rio Blanco County, Colorado

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Dudley Bluffs Twinpod	<i>Physaria obcordata</i>	T	Steep side slopes of barren white outcrops exposed along drainages by erosion from down cutting of streams in the Picaence Basin in Rio Blanco County, Colorado.
Gray Wolf	<i>Canis lupus</i>	E	USFWS does not consult on the gray wolf as they consider it not to occur in Colorado.
Greater sage-grouse	<i>Centrocercus urophasianus</i>	C	Sagebrush ecosystem, usually inhabiting sagebrush-grassland or juniper sagebrush-grassland communities. Meadows surrounded by sagebrush may be used as feeding grounds.
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	T	South Platte basin, Arkansas River Basin
Grizzly Bear	<i>Ursus arctos horribilis</i>	T	USFWS does not consult on the grizzly bear as they consider it not to occur in Colorado.
Gunnison Sage-grouse	<i>Centrocercus minimus</i>	P	Require a variety of habitats such as large expanses of sagebrush with a diversity of grasses and forbs and healthy wetland and riparian ecosystems. It requires sagebrush for cover and fall and winter food.
Humpback chub	<i>Gila cypha</i>	E	Deep, fast-moving, turbid waters often associated with large boulders and steep cliffs
Knowlton's Cactus	<i>Pediocactus knowltonii</i>	E	On rolling, gravelly hills in a piñon-juniper-sagebrush community at about 1,900 m (6,200-6,300 ft).
Least tern*	<i>Sterna antillarum</i>	E	Bare sand and gravel bars along rivers and waste sand piles along several rivers in Nebraska.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Lesser prairie-chicken	<i>Tympanuchus pallidicinctus</i>	P	Found throughout short- and mid-grass prairies
Mancos Milk-vetch	<i>Astragalus humillimus</i>	E	Cracks or eroded depressions on sandstone rimrock ledges and mesa tops
Mesa Verde Cactus	<i>Sclerocactus mesae-verdae</i>	T	Sparsely vegetated low rolling clay hills formed from the Mancos or Fruitland shale formations at 1,500-1,700 m (4,900-5,500 feet).
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	T	Old-growth forests in western North America, where it nests in tree holes, old bird of prey nests, or rock crevices
New Mexico meadow jumping mouse	<i>Zapus hudsonius luteus</i>)	P	Lives only along the banks of southwestern streams.
North Park Phacelia	<i>Phacelia formosula</i>	E	Ravines and bare slopes of eroding rock originating from the Coalmont Formation.
Osterhout milkvetch	<i>Astragalus osterhoutii</i>	E	Grows in high-selenium soils
Pagosa Skyrocket	<i>Ipomopsis polyantha</i>	E	Grows on weathered Mancos Shale outcrops at about 7,000 feet elevation in the vicinity of Pagosa Springs in southwestern Colorado
Pallid sturgeon*	<i>Scaphirhynchus albus</i>	T	Pallid sturgeons evolved and adapted to living close to the bottom of large, silty rivers with natural a hydrograph. Their preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats and gravel bars.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Parachute beardtongue	<i>Penstemon debilis</i>	T	Only on oil shale outcrops on the Roan Plateau escarpment in Garfield County, Colorado.
Pawnee Montane Skipper	<i>Hesperia leonardus montana</i>	T	Only in the South Platte Canyon River drainage system in Colorado, in portions of Jefferson, Douglas, Teller, and Park Counties
Penland alpine fen Mustard	<i>Eutrema penlandii</i>	T	Limestone outcrops in the Hoosier Ridge and Hoosier Pass areas of Summit County
Penland Beardtongue	<i>Penstemon penlandii</i>	E	Alkaline shale that weathers into barren clay containing selenium
Piping plover*	<i>Charadrius melodus</i>	T	Bare sand and gravel bars along rivers and waste sand piles along several rivers in Nebraska.
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	T	Heavily vegetated riparian habitats.
Razorback sucker	<i>Xyrauchen texanus</i>	E	Deep, clear to turbid waters of large rivers and some reservoirs over mud, sand, or gravel.
Rio Grande Cutthroat trout	<i>Oncorhynchus clarkii virginalis</i>	C	Rapidly flowing water. Backwaters or banks adjacent to fast waters provide holding areas during the day. These suckers move to swifter water at night.
Schmoll milk-vetch	<i>Astragalus schmolliae</i>)	C	Found primarily growing in red loess on mesa tops in old growth. pinyon-juniper woodlands between 6,500 and 7,500 feet in elevation.
skiff milkvetch	<i>Astragalus microcymbus</i>	C	Found on sparsely vegetated slopes within open sagebrush habitat.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Sleeping Ute milkvetch	<i>Astragalus tortipes</i>	C	This species is found only on the lower slopes of Sleeping Ute Mountain and grows in gravels over Mancos shale.
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E	Dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. In most instances, the dense vegetation occurs within the first 10 to 13 feet above ground.
Uncompahgre Fritillary Butterfly	<i>Boloria acrocneuma</i>	E	Patches of snow willow in alpine meadows at elevations above the tree line
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T	Along riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows along perennial streams. Stable wetland and seepy areas associated with old landscape features within historical floodplains of major rivers. It also is found in wetland and seepy areas near freshwater lakes or springs.
Western Prairie Fringed Orchid*	<i>Platanthera praeclara</i>	T	Occurs Most often in mesic to wet unplowed tall grass prairies and meadows but have been found in old fields and roadside ditches
Whooping crane*	<i>Grus americana</i>	E	Mid-river sandbars and wet meadows along the Platte River in Nebraska. This species does not occur in CO, but occurs downstream and is affected by water depletions.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>	T	Prefer open woodlands with clearings and a dense shrub layer. They are often found in woodlands near streams, rivers or lakes.

*Water depletions in the North Platte, South Platte and Laramie River Basins may affect the species and/or critical habitat associated with the Platte River in Nebraska.

ENDANGERED (E) - Any species that is in danger of extinction throughout all or a significant portion of its range.

THREATENED (T) - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

PROPOSED (P) – Any species of that is proposed in the Federal Register to be listed under section 4 of the Act.

CANDIDATE (C) - Those taxa for which the Service has sufficient information on biological status and threats to propose to list them as threatened or endangered. We encourage their consideration in environmental planning and partnerships, however, none of the substantive or procedural provisions of the Act apply to candidate species

4.9.2 Environmental Consequences

Alternative 1: No Action

Under the No Action Alternative, no localized or regional effects to threatened or endangered species are expected. This alternative does not include any Federal action. Therefore, the Agencies would not be required to consult with USFWS to comply with the ESA, Migratory Bird Treaty Act (MBTA), Fish and Wildlife Coordination Act (FWCA), or state laws. Damaged utilities left in the stream may cause a flow impediment, which could in turn cause significant impacts to stream and floodplain hydraulics and function and negative impacts to fish habitat and passage.

Alternative 2: Replacement

The actions under this alternative may affect sensitive biological resources, wetlands, or natural waterways due to construction activities. A review must be conducted based on available information of the potential for species and critical habitat occurrence in the area. This alternative consists of performing work on utilities in existing alignments. Embankment work and in-water work may occur. This work may require a Senate Bill (SB) 40 permit from CPW for impacts to riparian areas. Alternative 2 may impact the federally-listed endangered, threatened, and proposed or candidate species identified in Table 3. As specific projects are identified, the impacts will be assessed and addressed as appropriate. The Agencies will consult with USFWS as necessary to ensure compliance with the ESA.

Migratory birds nest on many substrates (e.g., ground, shrubs, trees, utility boxes). Accordingly, should the proposed work occur during the breeding season (May 1st to August 15th), the Service recommends: the required cutting of trees or shrubs occur between August 16th and April 30th to remove potential nesting surfaces prior to project commencement; and the removal of swallow nests as they are built, but prior to egg laying, from the utility structures that are to be removed; and/or netting of the affected structures or implementation of other measures to prevent swallow nesting prior to the breeding season. In addition, some migratory birds are known to nest outside of the aforementioned primary nesting season period. For example, raptors can be expected to nest during February 1 through July 15. For projects near raptors it is recommended the CPW Raptor Guidelines be applied as necessary.⁹ For implementation within 0.5 mile of occupied eagle nests, CPW and National Bald Eagle Management Guidelines would be applied as necessary.¹⁰

This alternative will not disrupt the life cycle of indigenous fish species by preventing them from swimming upstream.

The Agencies will review the project and make a determination of effect. If an Agency determines that a project has the potential to affect sensitive biological resources, it will initiate the review process under the ESA, MBTA, or FWCA. The results of this consultation with USFWS would be documented in a memorandum to this PEA or in a SEA.

Alternative 3: Relocation

This alternative is expected to have effects similar to those discussed under Alternative 2 and will be treated the same.

Alternative 4: Combination

This alternative consists of performing work on existing utilities and building new utilities.

⁹ Colorado Parks and Wildlife | Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors: <http://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf>

¹⁰ U.S. Fish and Wildlife Service | National Bald Eagle Management Guidelines, <http://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>

Alternative 4 is expected to have effects similar to those discussed under Alternative 2 and will be treated the same.

4.10 CULTURAL RESOURCES

4.10.1 Affected Environment

To preserve historical and archaeological sites in the United States of America, the National Historic Preservation Act (NHPA) passed in 1966. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation Offices (SHPO).

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation and is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. To be eligible for listing, a property must meet one of four eligibility criteria and have sufficient integrity.

Colorado has a rich cultural history. Native Americans have left petroglyphs, abandoned villages, and many other items from their life and travels throughout the state. Spanish explorers, trappers and hunters, and gold miners made their way through the state and settled in Colorado. Westward expansion brought European settlers to the area, for mining, ranching, and farming. Colorado has over 1500 listings on the National Register.

4.10.2 Environmental Consequences

Alternative 1: No Action

The No Action Alternative does not include construction, and thus no new impacts to historic resources would occur.

Alternative 2: Replacement

This alternative has the potential to affect historic or cultural resources. Destruction or alteration of any site, structure, or object of prehistoric or paleontological importance may occur during construction. Physical change could affect unique cultural values. There could be effects on existing religious or sacred uses of a site or area. Infrastructure may be of cultural significance or archeological resources may be present. For non-tribal lands, the Agencies will determine if a project meets any outlined programmatic allowances from Programmatic Agreements with the Colorado SHPO. If so, the Agencies would consider the project to be in compliance with Section 106 of NHPA and no further review would occur. If a project does not fall within an

allowance, the Agencies will make a determination of the effect and consult with the SHPO. Additional archaeological surveys of ground disturbing activities may be required depending on consultation with Tribal Historic Preservation Office (THPO) and SHPO.

Alternative 3: Relocation

Impacts are similar to those listed under Alternative 2 and will be treated the same.

Alternative 4: Combination

Impacts are similar to those listed under Alternative 2 and will be treated the same.

4.11 CUMULATIVE IMPACTS

The CEQ regulations implementing the procedural provisions of NEPA defines “cumulative impacts” as:

“the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or local) or person undertakes such other action”. 40 CFR 1508.7

Based on these regulations, if the alternative does not have direct or indirect effects, there can be no cumulative effects resulting from the project because there would be no impacts added to past, present, or reasonably foreseeable actions.

CEQ regulations also describe cumulative impacts as impacts that “can result from individually minor but collectively significant actions taking place over a period of time.” On a programmatic level and combined with other actions affecting the utilities and resource areas within Colorado alternatives could lead to cumulative impacts depending on the scale (number of projects) or geography (localized area) in which the actions are performed.

4.11.1 Summary of Cumulative Impacts

Individual projects proposed under this PEA are not anticipated to cause significant impacts, even when combined with other actions. Other than the “No Action Alternative”, project impacts that are implemented at an individual or cumulative scale, such as to produce significant impacts generally can be reduced below the level of significance by mitigating for individual impacts using the mitigation measures as addressed in Section 5. The Utilities Checklist (Appendix A) will be used to define any significant individual or cumulative impacts requiring mitigation on a project specific basis. A Supplemental Project Specific Environmental Assessment (SEA) will be completed, for any projects that are anticipated to occur at a scale or localized area such that impacts cannot be addressed under Mitigation Measures listed in Section 5.

SECTION FIVE | MITIGATION MEASURES

Project impacts at an individual or cumulative scale such that are significant impacts can generally be reduced through avoidance, minimization, or by mitigating for individual impacts using mitigation measures as described below. The Utilities Checklist (Appendix A) will be used to define any significant individual or cumulative impacts requiring mitigation on a project specific basis. If impact avoidance cannot be achieved, specific mitigation measures including agency consultation will be undertaken by the Agencies to reduce any potentially significant impacts to less than significant levels. Table 4 lists the specific mitigation measures the Agencies will use if necessary.

Table 4: Mitigation Measures by Resource Area

Resource Area	Mitigation Measure
Physical Resources, Water Resources	If projects extend outside of the previously disturbed footprint and wetland areas will be impacted, The Agencies will evaluate individual and cumulative impacts and implement avoidance, minimization and/or mitigation measures as necessary to reduce impacts below level of significance.
Physical Resources, Water Resources	For projects in which soil erosion potential is determined to be significant, a project erosion control plan to minimize soil loss, including the use of Best Management Practices, to isolate the construction site and minimize adverse effects of soil loss and sedimentation on soil and water resources will be implemented.
Physical Resources, Water Resources	To mitigate for impacts to floodplain, a hydrology and hydraulics study will be completed to ensure the flow of flood waters. The project must not serve as a dam or otherwise impede water movement thus aggravating flooding upstream of the roadway.
Physical Resources, Land Use	The Agencies will consult with US Fish and Wildlife Service and/or Natural Resources Conservation Service for any project which extends outside of the road right of way and has the potential to affect land use, including Fish and Wildlife Service easements, prime farmland, or farmland of state/local significance.
Safety and Occupational Health	To minimize any potential to occupation health and safety, construction workers and equipment operators are required to wear appropriate PPE and to be properly trained for the work being performed, including removal and disposal of asbestos and lead-based paint for demolition projects.
Safety and Occupational Health	All waste material associated with the project must be disposed of properly and not placed in identified floodway or wetland areas or in habitat for threatened or endangered species. All hazardous material resulting from demolition activities, including asbestos and lead paint will be disposed of in hazardous waste landfill.
Air Quality	To mitigate for fugitive dust during construction periodic watering of active construction areas, particularly in areas close to sensitive receptors (e.g. hospitals, senior citizen homes, and schools) will be implemented.
Noise	Construction noise levels will be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Impact to noise levels will be minimized by limiting construction activities that occur during early morning or late evening hours.

Resource Area	Mitigation Measure
Invasive Species	Ground disturbance will be minimized and disturbed areas will be re-vegetated using native plant species.
Biological Resources	The Agencies will consult with USFWS, who is the regulatory authority, on any actions that have the potential to affect biological resources including Threatened and Endangered species and will include measures to avoid or minimize potential impacts. Coordination will include measures to avoid or minimize potential impacts as grant conditions. This includes migratory birds and raptors. Projects may be subject to additional documentation through Colorado Senate Bill 40.
Biological Resources	Fill material must not come from nor be deposited in threatened and/or endangered species habitat.
Biological Resources	The Agencies will coordinate with CPW concerning guidelines regarding impacts to State species of interest. Coordination may include measures to avoid or minimize potential impacts as grant conditions. This includes migratory birds and raptors.
Cultural Resources	Unless a project is covered under a programmatic agreement exemption all other ground disturbing projects must consult with the SHPO under Section 106 of the NHPA. The absence of cultural property documentation in the area does not mean they do not exist, but rather may reflect the absence of any previous cultural resource inventory in the area. If during the course of any ground disturbance related to this project, cultural materials are inadvertently discovered, the project would be immediately stopped and the SHPO/THPO and Agency notified.
Cultural Resources	To avoid impacts to cultural resources from material borrow source, borrow material source will be reviewed and approved by SHPO or THPO prior to use.
Cultural Resources	The Agencies will consult with the State/Tribal Historic Preservation Office on project specific activities for any project that has the potential to affect previously undisturbed areas or historic properties.

SECTION SIX | SUMMARY OF IMPACTS

The following table summarizes the potential impacts of each alternative on the resource areas discussed in Section 4. The table is organized by the eight reaches identified during the SCMP process. Best construction practices are listed and the preliminary assessment of historical properties as well as the potential buyout candidates are summarized.

Table 5: Summary of Impacts

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
Physical Resources	Alternative 1 has potential to permanently disrupt utility service to communities. Loss in residential, commercial, agricultural, or recreational land use may occur. This could lead to vegetation reclaiming right-of-way's (ROW), public, private properties in the State of Colorado.	Existing utilities would be expanded to accommodate best construction practices as well as the changes in topography. However, utility footprint is expected to remain within the previous ROW so no significant changes in land use are anticipated. If ROW acquisitions occur the Agencies will comply fully with federal and state requirements including the Uniform Relocation Assistance and Real Property Acquisition Policies act of 1970, as amended (Uniform Act).	Alternative 3 is similar to Alternative 2.. The Agencies will consult with US Fish and Wildlife Service and/or Natural Resources Conservation Service for any project which extends outside of the road right of way and has the potential to affect land use, including Fish and Wildlife Service easements, prime farmland, or farmland of state/local significance	Similar to alternative 2 and 3.	May need easements or permits from owner agency if new parcel boundaries/footprints extend into state or federal lands.
Transportation Facilities	This alternative may result in significant adverse impacts due to lack of access to community sustaining utilities.	Short term impacts would be expected during construction as temporary outages may be required. No significant adverse long term impacts are expected to the utility infrastructure form and function.	Short term impacts would occur during construction from possible outages. No significant long term impacts are expected to the utility infrastructure. Relocating utilities further from waterways may make the facilities be more resilient and much less likely to experience substantial damage from future events.	Similar to alternative 2 and 3.	
Safety and Occupational Health	A No Action Alternative results in restricted power, sanitary or communications access for emergency, police and fire services causing the potential for significant delay. The No Action Alternative provides a significant adverse safety affect to localities in the state of Colorado.	Alternative 2 would have no significant impact to public safety or occupational health. Utilities would be built to current codes and standards. Removal or repair of materials with painted surfaces or containing Asbestos may be required and construction workers are required to follow OSHA regulations to provide appropriate Asbestos abatement and avoid release of lead from paint. Construction workers and	Alternative 3 is similar to alternative 2 and would have no significant impacts to public safety or occupational health. The new relocated utility would be designed to handle the capacity of pre-event function.	Similar to alternative 2 and 3.	

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
		equipment operators are required to wear appropriate personal protective equipment (PPE) and be properly trained for the work being performed. All solid or hazardous wastes that might be generated by the activities of entities replacing utilities must be removed and disposed of at a permitted facility or designated collection point (e.g., for solid waste, a utility or construction company's own dumpster). Standard construction traffic control measures will be used to protect workers, residents and the travelling public.			
Socioeconomic and Environmental Justice	Alternative 1 has potential to result in significant adverse impact to socioeconomics of a community if buildings and critical infrastructural elements such as utilities are not restored.	Potential short-term benefits through job creation in construction and increased expenditures in local economy. Small negative impacts from travel delays due to construction.	Generally the impacts to socioeconomics and environmental justice from this alternative would be similar to those described for Alternative 2 although there is the potential for original utility infrastructure to be abandoned.	Similar to alternative 2 and 3.	
Air Quality	Possible increase in vehicle emissions if detour routes are longer than the routes they replaced.	Temporary increase in vehicle emissions, dust from construction, etc. during construction. No change in air quality after construction is complete.	Similar to alternative 2 and 3.	Similar to alternative 2 and 3.	
Noise	Under this alternative, utilities would continue to be damaged due to the event. This would result in a natural shift in occupation density and transportation patterns. Transportation noise along other roadway segments within the County may increase under this alternative due to increasing traffic on alternate roadways. Noise in the immediate area would decrease as communities may be abandoned. The potential exists that overall noise levels in the immediate area may also decrease due to some migration of residents from the region.	Utility restoration is anticipated to carry a similar noise level to that which it had at pre-disaster damage levels. Noise from construction activities may have short term adverse effects on persons who live near the construction area.	No short term noise impacts would occur from construction activities under this alternative at the original location. Noise from construction activities may have short term adverse effects on persons who live near the new construction area.	Similar to alternative 2 and 3.	

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
Public Services and Utilities	This alternative does not include any Agency action. Alternative 1 does have the potential to affect public services and utilities because natural hazards would continue to damage utilities which would adversely impact the ability to provide service. Fire, emergency, law enforcement, and school services would be delayed as a result of continued inaccessibility of the route due to closed roads, bridges or disrupted utilities. Depending on the length of detour required or utility service unavailable these services could be significantly impacted. In addition, any utility repair crews may not be able to reach damaged utility lines, resulting in lengthy service outages.	During construction utility interruption and delays in fire, emergency, law enforcement and school services would continue, but these would be short term impacts.	Relocations could produce short term disruptions to customers. Fire, emergency, law enforcement, and school services could be temporarily impacted depending on the length and location of alternate routes.	Similar to alternative 2 and 3.	
Water Resources	In the no action alternative, utilities are not repaired, leaving communities without services and vulnerable to future flood events. No work would occur in water, thus there would be no impact to water due to project work. Erosion and sedimentation may increase if banks are further damaged from being left unrepaired. Damaged utility infrastructure may cause a flow impediment, potentially causing significant impacts to stream and floodplain hydraulics and function.	This alternative may result in discharge into surface water may provide a temporary alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity. Construction of utilities may result in alteration of the course or magnitude of floodwater. Utility repair and changes within floodplains may also have some impact. If changes to utility infrastructure is anticipated to impact the floodplain/floodway, Agency projects must adhere to Executive Order 11988: Floodplain Management	This alternative would generate impacts similar to those described for Alternative 2.	Similar to alternative 2 and 3.	Projects may require a hydrologic analysis. During construction the Agencies would apply Best Management Practices (BMPs) to reduce sediment and fill material from entering the water or being deposited in wetlands. Projects may be required to prepare a storm water pollution prevention plan (SWPPP), to obtain a Section 404 or other permit from the U. S. Army Corps of Engineers and a Section 401 Water Quality Certification permit from CDPHE Water Quality Control Division or EPA. Discharges of water encountered during excavation or work in wet areas may require a Construction Dewatering Discharge Permit.
Biological Resources	No impacts to threatened or endangered species expected. Damaged structures left in the stream corridor could impede streamflow and impact fish habitat and passage.	Potential to impact biological resources. The Agencies will review projects and make determinations of affect.	Potential to impact biological resources. The Agencies will review projects and make determinations of affect.	Similar to alternative 2 and 3.	Possible consultation with USFWS to comply with the ESA, Migratory Bird Treaty Act (MBTA), Fish and Wildlife Coordination Act (FWCA), or state laws
Cultural Resources	No impacts expected.	Potential to impact cultural resources. Archaeological survey may be required	Similar to alternative 2.	Similar to alternative 2	Possible consultation with Tribal Historic Preservation Office (THPO) and State

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
		depending on consultation with Tribal Historic Preservation Office (THPO) and State Historic Preservation Office (SHPO). No historic buildings identified in this reach.		and 3.	Historic Preservation Office (SHPO).

SECTION SEVEN | PUBLIC INVOLVEMENT

7.1 INITIAL PUBLIC NOTICE

The following Initial Public Notice was published in the *Denver Post* on Dec 14th and 21st 2014.

PUBLIC NOTICE OF INTENT TO PREPARE A PROGRAMMATIC ENVIRONMENTAL ASSESSMENT (PEA)

The Federal Emergency Management Agency (FEMA) is providing notice of its intent to prepare a Programmatic Environmental Assessment (PEA) to evaluate utility projects in the State of Colorado. We provide this notice to advise other Federal and State agencies, Native American tribes, non-governmental organizations, and the public of our intention as well as to obtain suggestions and information on the scope of issues to consider during the PEA planning process. These actions are part of our effort to comply with the general provisions of the National Environmental Policy Act (NEPA); NEPA regulations; other Federal laws, regulations, and Executive Orders; and our policies for compliance with those laws and regulations including 44 C.F.R. Parts 9 and 10.

Our PEA will focus on numerous utilities located in Colorado that require repair, replacement, restoration, or relocation as a result of damages sustained during disaster events. A “utility” supplies a community with electricity, gas, water, or sewage services. In an effort to restore these utilities or mitigate from future events, FEMA (and other agencies) may provide funds for expansion, enlargement, and other upgrades along with replacement, relocation, or changes in materials. The purpose of the PEA is to provide an assessment of the expected environmental impacts associated with implementing these projects. More specifically, it will address the purpose and need of the proposed projects, project alternatives considered, affected environment, environmental consequences, and impact of mitigation measures. The PEA would not address site-specific impacts, which would be evaluated prior to project approval.

The projects would be performed within existing rights of way to the extent practicable. However, because disaster events may have disrupted original footprints there will be situations that warrant upgrading a site to meet existing codes and standards or to address conditions that have changed since the original construction. All Federally-funded projects will be completed in compliance with applicable Federal, tribal, state and local laws, regulations, Executive Orders, etc. Some specific items of work may include, but not be limited to:

- Placement of temporary crossings, utilities, staging areas, access, and safety features.
- Repair, replacement, and relocation of production, transmission, and treatment facilities in order to provide communities with utility services.

- Construction, excavation, trenching, and directional boring to allow repair, replacement, and relocation of utilities and ancillary facilities.
- Upsizing, encasing, armoring, and upgrading utilities to improve function and protect from future events.
- Repair and reconstruction of adjacent roadway and other connected infrastructure necessary to restore function.
- Operating equipment within waterways to allow repair, replacement, and relocation of utilities.

The comment period for the proposed PEA will remain open for two weeks following publication of this notice. After gathering public comments, FEMA will develop a draft PEA that will be available for public review and comment according to [44 CFR Part 10](#).

You can obtain more detailed information about the proposed PEA from Steven Hardegen, FEMA Region VIII, Regional Environmental Officer, Denver, CO steven.hardegen@fema.gov.

Comments should be made in writing to the FEMA point of contact listed above and post-marked within fourteen (14) days of publication of this notice.

7.2 PUBLIC NOTICE OF AVAILABILITY FOR DRAFT COMMENTARY

The following Public Notice of availability was published in the *Denver Post* on Jan 11th and 18th 2015. For comments received see Appendix C.

PUBLIC NOTICE OF AVAILABILITY FOR COMMENT ON A PROGRAMMATIC ENVIRONMENTAL ASSESSMENT (PEA)

The Federal Emergency Management Agency (FEMA) is providing notice of availability for comment on a Programmatic Environmental Assessment (PEA) to evaluate utility projects in the State of Colorado. We provide this notice to invite other Federal and State agencies, Native American tribes, non-governmental organizations, and the public to provide commentary or suggestions on the scope of issues considered during the PEA planning process. These actions are part of our effort to comply with the general provisions of the National Environmental Policy Act (NEPA); NEPA regulations; other Federal laws, regulations, and Executive Orders; and our policies for compliance with those laws and regulations including 44 Code of Federal Regulations [CFR] Parts 9 and 10.

Our PEA focuses on numerous utilities located in Colorado that require repair, replacement, restoration, or relocation as a result of damages sustained during disaster events. A “utility” supplies a community with electricity, gas, water, or sewage services. In an effort to restore these utilities or mitigate from future events, FEMA (and other agencies) may provide funds for expansion, enlargement, and other upgrades along with replacement, relocation, or changes in materials. The purpose of the PEA is to provide an assessment of the expected environmental impacts associated with implementing these projects. More specifically, addresses the purpose and need of the proposed projects, project alternatives considered, affected environment, environmental consequences, and impact of mitigation measures. The PEA does not address site-specific impacts, which will be evaluated prior to project approval.

The projects will be performed within existing rights of way to the extent practicable. However, because disaster events may have disrupted original footprints there will be situations that warrant upgrading a site to meet existing codes and standards or to address conditions that have changed since the original construction. All Federally-funded projects will be completed in compliance with applicable Federal, tribal, state and local laws, regulations, Executive Orders, etc. Some specific items of work may include, but not be limited to:

- Placement of temporary crossings, utilities, staging areas, access, and safety features.
- Repair, replacement, and relocation of production, transmission, and treatment facilities in order to provide communities with utility services.

- Construction, excavation, trenching, and directional boring to allow repair, replacement, and relocation of utilities and ancillary facilities.
- Upsizing, encasing, armoring, and upgrading utilities to improve function and protect from future events.
- Repair and reconstruction of adjacent roadway and other connected infrastructure necessary to restore function.
- Operating equipment within waterways to allow repair, replacement, and relocation of utilities.

The Utilities PEA can be found at <http://bit.ly/PEA01062015>. Comments will be accepted from the affected public; local, state, and federal agencies; and other interested parties in order to consider and evaluate environmental impacts of the proposed projects. The comment period for this PEA will remain open for two weeks following publication of this notice.

You can obtain more detailed information about the proposed PEA from Steven Hardegen, FEMA Region VIII, Regional Environmental Officer, Denver, CO steven.hardegen@fema.gov.

Comments should be made in writing to the FEMA point of contact listed above and post-marked within fourteen (14) days of publication of this notice.

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SECTION NINE | LIST OF PREPARERS

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Appendix A: Utilities PEA Checklist

POST-DISASTER Utility Restoration, Replacement, and Relocation in the State of Colorado	Date:	Project Code:
Assessment under the Utility Restoration, Replacement, and Relocation Programmatic Environmental Assessment (PEA) and Finding of No Significant Impact (FONSI) (FEMA Insert Date if FONSI Signed)		
Disaster Description and Date:		
Project Name and Location:		
Project Description:		
Name and Date of Hydraulic Study (attach a copy to this checklist):		

I. PEA Alternative Used (Check all that apply)

- Alternative 1 – No Alternative
- Alternative 2 - Replacement
- Alternative 3 – Relocation
- Alternative 4 – Combination

II. Evaluation

ENVIRONMENTAL IMPACT ASSESSMENT:				
Document impacts to human, socio economic, or natural environment for environmental setting or circumstances.				
Setting/Resource/Circumstance	Are Impacts Consistent with Descriptions in PEA? (Yes/No)	Are There Additional Impacts? (Yes/No)	Date Reviewed	Are Site Specific Study Documents Attached? (Yes/No)
Geology, Soils and Land Use				
Transportation Facilities				
Safety and Occupational Health				
Socioeconomics and Environmental Justice				
Air Quality				
Noise				
Public Services and Utilities				
Water Resources				
Biological Resources				
Cultural Resources				
REGULATORY CHANGES:				
Document changes to laws, regulations, and/or guidelines since signature of PEA FONSI:				

IMPACTS ASSESSMENT: For items checked as having additional impacts: assess the affected natural and socio-economic environment, impacts and new issues/concerns which may now exist:
MITIGATION: List specific mitigation measures for each resource impacted (both impacts from PEA or additional impacts):

III. Public/Agency Involvement (if any)

Document any public meetings, notices, & websites, and/or document agency coordination. For each provide dates, and coordination:

IV. Permits

List required permits and status of permit:

V. Attachments Listed

List maps, studies, background data, permits, etc.
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VI. Conclusion and Recommendation

- The project is consistent with the alternatives and impacts as described in the PEA.
- The project generally is consistent with the alternatives and impacts as described in the PEA, but includes some minor impacts not described in the PEA which are documented in this checklist.
- The project requires a Supplemental Environmental Assessment because (1) creates impacts not described in the PEA; (2) creates impacts greater in magnitude, extent, or duration than those described in the PEA; or (3) requires additional mitigation measures that are not described in the PEA to keep impacts below significant levels.

Applicant or Utility Agency Signature

Date

Funding Agency

Date

Appendix B: Resources, Maps and Tables

Figure 1: Colorado State Map

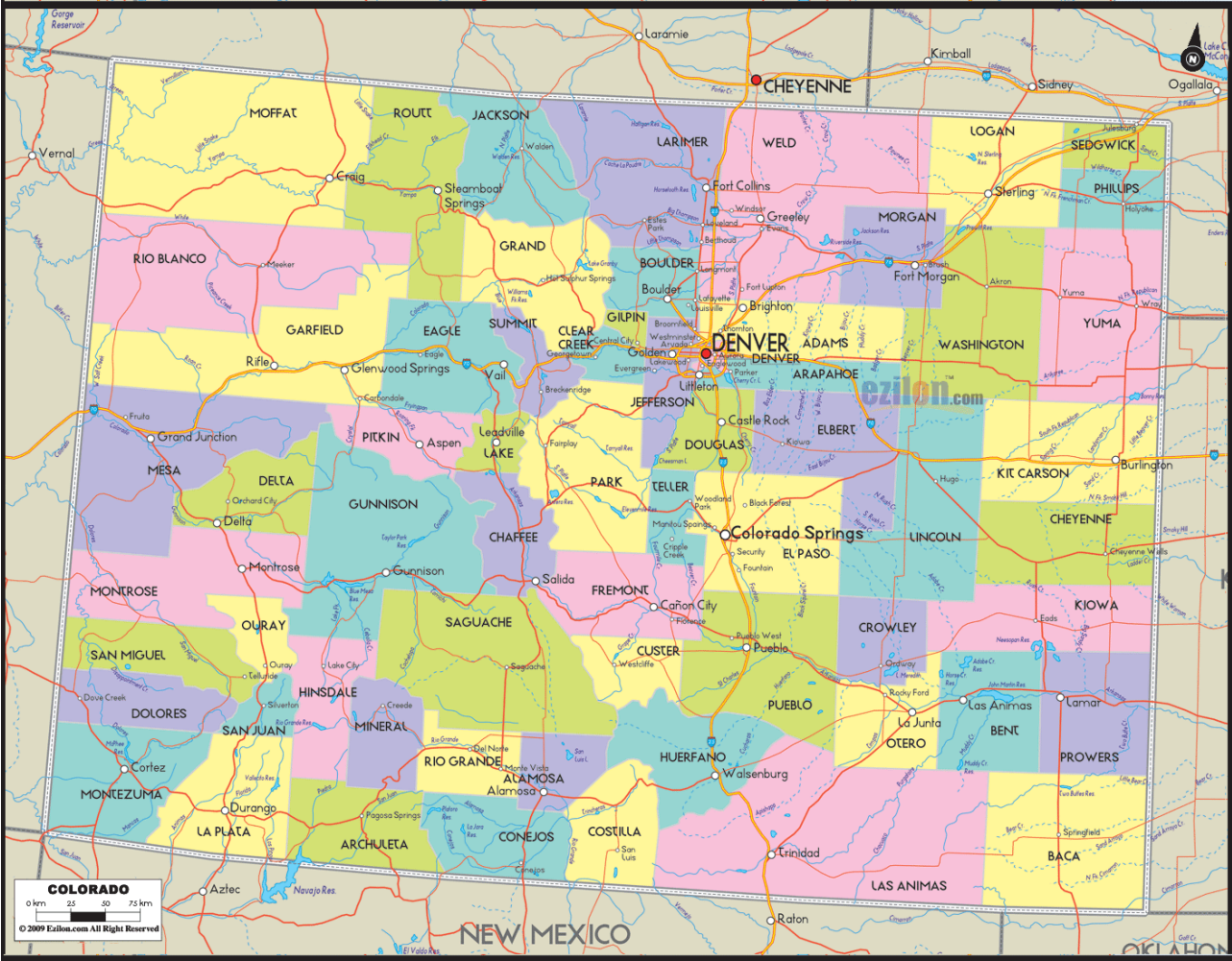


Table 1 - Land Cover of Colorado

Land Cover Classes	State Totals Units in Square Miles
Water	453
Perennial Ice/Snow	138
Low Intensity Residential	539
High Intensity Residential	76
Commercial/Industrial/Transportation	309
Bare Rock	1,111
Quarries/Mines	19
Transitional	89
Deciduous Forest	7,121
Evergreen Forest	21,663
Mixed Forest	798
Shrubland	16,878
Orchards/Vineyard	5
Grasslands/Herbaceous	41,073
Pasture/Hay	3,107
Row Crops	3,266
Small Grains	24,987

Fallow	2,291
Urban/Recreational Grasses	91
Woody Wetlands	14
Emergent/Herbaceous Wetlands	67
State Total	104,094

Table 2: Colorado Ecosystems

Central Mixed Grass Prairie	Colorado Plateau Blackbrush-Mormon-tea Shrubland
Colorado Plateau Hanging Garden	Colorado Plateau Mixed Bedrock Canyon and Tableland
Colorado Plateau Mixed Low Sagebrush Shrubland	Colorado Plateau Pinyon-Juniper Shrubland
Colorado Plateau Pinyon-Juniper Woodland	Inter-Mountain Basins Active and Stabilized Dunes
Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe	Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Interdunal Swale Wetland	Inter-Mountain Basins Juniper Savanna
Inter-Mountain Basins Mat Saltbush Shrubland	Inter-Mountain Basins Mixed Salt Desert

	Scrub
Inter-Mountain Basins Montane Sagebrush Steppe	Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland
Inter-Mountain Basins Playa	Inter-Mountain Basins Semi-Desert Grassland
Inter-Mountain Basins Semi-Desert Shrub-Steppe	Inter-Mountain Basins Shale Badland
Inter-Mountain Basins Wash	North American Alpine Ice Field
North American Arid West Emergent Marsh	Northern Rocky Mountain Avalanche Chute Shrubland
Rocky Mountain Alpine Bedrock and Scree	Rocky Mountain Alpine Dwarf-Shrubland
Rocky Mountain Alpine Fell-Field	Rocky Mountain Alpine-Montane Wet Meadow
Rocky Mountain Aspen Forest and Woodland	Rocky Mountain Cliff, Canyon and Massive Bedrock
Rocky Mountain Dry Tundra	Rocky Mountain Dry-Mesic and Mesic Montane Mixed Conifer Forest and Woodland
Rocky Mountain Foothill Limber Pine-Juniper Woodland	Rocky Mountain Gambel Oak-Mixed Montane Shrubland
Rocky Mountain Lodgepole Pine Forest	Rocky Mountain Lower Montane Riparian Woodland and Shrubland
Rocky Mountain Lower Montane-Foothill Shrubland	Rocky Mountain Ponderosa Pine Savanna
Rocky Mountain Subalpine Dry-Mesic and Mesic Spruce-Fir Forest and Woodland	Rocky Mountain Subalpine Mesic Meadow
Rocky Mountain Subalpine-Montane Fen	Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland
Rocky Mountain Subalpine-Montane Riparian Shrubland	Rocky Mountain Subalpine-Montane Riparian Woodland

Southern Rocky Mountain Juniper Woodland and Savanna	Southern Rocky Mountain Montane-Subalpine Grassland
Southern Rocky Mountain Pinyon-Juniper Woodland	Southern Rocky Mountain Ponderosa Pine Woodland
Southwestern Great Plains Canyon	Western Great Plains Cliff, Outcrop, and Shale Barren
Western Great Plains Closed Depression Wetland	Western Great Plains Big River Floodplain
Western Great Plains Foothill and Piedmont Grassland	Western Great Plains Riparian Woodland, Shrubland and Herbaceous
Western Great Plains Saline Depression	Western Great Plains Sand Prairie
Western Great Plains Sandhill Shrubland	Western Great Plains Shortgrass Prairie
Western Great Plains Tallgrass Prairie	Wyoming Basins Low Sagebrush Shrubland

Table 3: Federally Listed Threatened, Endangered and Candidate Species in Colorado

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Arapahoe Snowfly	<i>Capnia Arapahoe</i>	C	Typically found in cold, clean, well-oxygenated streams and rivers.
Arkansas darter	<i>Etheostoma cragini</i>	C	Prefers shallow, clear, cool water, sand or silt bottom streams with spring-fed pools and abundant rooted aquatic vegetation. During late summer low-water periods when streams may become intermittent, Arkansas darter populations in Colorado persist in large, deep pools.
Black footed Ferret	<i>Mustela nigripes</i>	E	Most of this species has been block-cleared in Colorado.
Bonytail chub	<i>Gila elegans</i>	E	Large, fast-flowing waterways of the Colorado River system.
Canada lynx	<i>Lynx canadensis</i>	T	Dense subalpine forest, willow corridors along mountain streams, avalanche chutes. Occurs at elevations between 8,000 and 14,000 feet.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Clay-loving wild buckwheat	<i>Eriogonum pelinophilum</i>	E	Endemic to the rolling clay (adobe) hills and flats immediately adjacent to the communities of Delta and Montrose, Colorado
Colorado Butterfly plant	<i>Gaura neomexicana</i>	T	Moist areas of floodplains
Colorado hookless Cactus	<i>Sclerocactus glaucus</i>	T	Exposed stretches of gravelly clay, including alluvial benches above floodplains and on mesa slopes
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	E	Swift flowing muddy rivers with quiet, warm backwaters.
DeBeque Phacelia	<i>Phacelia submutica</i>	T	Grows on barren patches of shrink-swell clay of the Wasatch Formation at about 5,000 to 6,200 feet elevation in the southern Piceance Basin oil and gas fields of Mesa and Garfield Counties, western Colorado.
Dudley Bluffs Bladderpod	<i>Lesquerella congesta</i>	T	Barren white outcrops exposed along drainages by erosion from downcutting of streams in the Piceance Basin in Rio Blanco County, Colorado

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Dudley Bluffs Twinpod	<i>Physaria obcordata</i>	T	Steep side slopes of barren white outcrops exposed along drainages by erosion from down cutting of streams in the Picaence Basin in Rio Blanco County, Colorado.
Gray Wolf	<i>Canis lupus</i>	E	USFWS does not consult on the gray wolf as they consider it not to occur in Colorado.
Greater sage-grouse	<i>Centrocercus urophasianus</i>	C	Sagebrush ecosystem, usually inhabiting sagebrush-grassland or juniper sagebrush-grassland communities. Meadows surrounded by sagebrush may be used as feeding grounds.
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	T	South Platte basin, Arkansas River Basin
Grizzly Bear	<i>Ursus arctos horribilis</i>	T	USFWS does not consult on the grizzly bear as they consider it not to occur in Colorado.
Gunnison Sage-grouse	<i>Centrocercus minimus</i>	P	Require a variety of habitats such as large expanses of sagebrush with a diversity of grasses and forbs and healthy wetland and riparian ecosystems. It requires sagebrush for cover and fall and winter food.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Humpback chub	<i>Gila cypha</i>	E	Deep, fast-moving, turbid waters often associated with large boulders and steep cliffs
Knowlton's Cactus	<i>Pediocactus knowltonii</i>	E	On rolling, gravelly hills in a piñon-juniper-sagebrush community at about 1,900 m (6,200-6,300 ft).
Least tern*	<i>Sterna antillarum</i>	E	Bare sand and gravel bars along rivers and waste sand piles along several rivers in Nebraska.
Lesser prairie-chicken	<i>Tympanuchus pallidicinctus</i>	P	Found throughout short- and mid-grass prairies
Mancos Milk-vetch	<i>Astragalus humillimus</i>	E	Cracks or eroded depressions on sandstone rimrock ledges and mesa tops
Mesa Verde Cactus	<i>Sclerocactus mesae-verdae</i>	T	Sparsely vegetated low rolling clay hills formed from the Mancos or Fruitland shale formations at 1,500-1,700 m (4,900-5,500 feet).
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	T	Old-growth forests in western North America, where it nests in tree holes, old bird of prey nests, or rock crevices

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
New Mexico meadow jumping mouse	<i>Zapus hudsonius luteus</i>)	P	Lives only along the banks of southwestern streams.
North Park Phacelia	<i>Phacelia formosula</i>	E	Ravines and bare slopes of eroding rock originating from the Coalmont Formation.
Osterhout milkvetch	<i>Astragalus osterhoutii</i>	E	Grows in high-selenium soils
Pagosa Skyrocket	<i>Ipomopsis polyantha</i>	E	Grows on weathered Mancos Shale outcrops at about 7,000 feet elevation in the vicinity of Pagosa Springs in southwestern Colorado
Pallid sturgeon*	<i>Scaphirhynchus albus</i>	T	Pallid sturgeons evolved and adapted to living close to the bottom of large, silty rivers with natural a hydrograph. Their preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats and gravel bars.
Parachute beardtongue	<i>Penstemon debilis</i>	T	Only on oil shale outcrops on the Roan Plateau escarpment in Garfield County, Colorado.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Pawnee Montane Skipper	<i>Hesperia leonardus montana</i>	T	Only in the South Platte Canyon River drainage system in Colorado, in portions of Jefferson, Douglas, Teller, and Park Counties
Penland alpine fen Mustard	<i>Eutrema penlandii</i>	T	Limestone outcrops in the Hoosier Ridge and Hoosier Pass areas of Summit County
Penland Beardtongue	<i>Penstemon penlandii</i>	E	Alkaline shale that weathers into barren clay containing selenium
Piping plover*	<i>Charadrius melodus</i>	T	Bare sand and gravel bars along rivers and waste sand piles along several rivers in Nebraska.
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	T	Heavily vegetated riparian habitats.
Razorback sucker	<i>Xyrauchen texanus</i>	E	Deep, clear to turbid waters of large rivers and some reservoirs over mud, sand, or gravel.
Rio Grande Cutthroat trout	<i>Oncorhynchus clarkii virginalis</i>	C	Rapidly flowing water. Backwaters or banks adjacent to fast waters provide holding areas during the day. These suckers move to swifter water at night.

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Schmoll milk-vetch	<i>Astragalus schmolliae</i>)	C	Found primarily growing in red loess on mesa tops in old growth. pinyon-juniper woodlands between 6,500 and 7,500 feet in elevation.
skiff milkvetch	<i>Astragalus microcymbus</i>	C	Found on sparsely vegetated slopes within open sagebrush habitat.
Sleeping Ute milkvetch	<i>Astragalus tortipes</i>	C	This species is found only on the lower slopes of Sleeping Ute Mountain and grows in gravels over Mancos shale.
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E	Dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. In most instances, the dense vegetation occurs within the first 10 to 13 feet above ground.
Uncompahgre Fritillary Butterfly	<i>Boloria acrocneuma</i>	E	Patches of snow willow in alpine meadows at elevations above the tree line

Common Name	Scientific Name	Federal Status	Habitat Requirements/Notes
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T	Along riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows along perennial streams. Stable wetland and seepy areas associated with old landscape features within historical floodplains of major rivers. It also is found in wetland and seepy areas near freshwater lakes or springs.
Western Prairie Fringed Orchid*	<i>Platanthera praeclara</i>	T	Occurs Most often in mesic to wet unplowed tall grass prairies and meadows but have been found in old fields and roadside ditches
Whooping crane*	<i>Grus americana</i>	E	Mid-river sandbars and wet meadows along the Platte River in Nebraska. This species does not occur in CO, but occurs downstream and is affected by water depletions.
Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>)	T	Prefer open woodlands with clearings and a dense shrub layer. They are often found in woodlands near streams, rivers or lakes.

*Water depletions in the North Platte, South Platte and Laramie River Basins may affect the species and/or critical habitat associated with the Platte River in Nebraska.

ENDANGERED (E) - Any species that is in danger of extinction throughout all or a significant portion of its range.

THREATENED (T) - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

PROPOSED (P) – Any species of that is proposed in the Federal Register to be listed under section 4 of the Act.

CANDIDATE (C) - Those taxa for which the Service has sufficient information on biological status and threats to propose to list them as threatened or endangered. We encourage their consideration in environmental planning and partnerships, however, none of the substantive or procedural provisions of the Act apply to candidate species

Table 4: Mitigation Measures by Resource Area

Resource Area	Mitigation Measure
Physical Resources, Water Resources	If projects extend outside of the previously disturbed footprint and wetland areas will be impacted, The Agencies will evaluate individual and cumulative impacts and implement avoidance, minimization and/or mitigation measures as necessary to reduce impacts below level of significance.
Physical Resources, Water Resources	For projects in which soil erosion potential is determined to be significant, a project erosion control plan to minimize soil loss, including the use of Best Management Practices, to isolate the construction site and minimize adverse effects of soil loss and sedimentation on soil and water resources will be implemented.
Physical Resources, Water Resources	To mitigate for impacts to floodplain, a hydrology and hydraulics study will be completed to ensure the flow of flood waters. The project must not serve as a dam or otherwise impede water movement thus aggravating flooding upstream of the roadway.

Resource Area	Mitigation Measure
Physical Resources, Land Use	The Agencies will consult with US Fish and Wildlife Service and/or Natural Resources Conservation Service for any project which extends outside of the road right of way and has the potential to affect land use, including Fish and Wildlife Service easements, prime farmland, or farmland of state/local significance.
Safety and Occupational Health	To minimize any potential to occupation health and safety, construction workers and equipment operators are required to wear appropriate PPE and to be properly trained for the work being performed, including removal and disposal of asbestos and lead-based paint for demolition projects.
Safety and Occupational Health	All waste material associated with the project must be disposed of properly and not placed in identified floodway or wetland areas or in habitat for threatened or endangered species. All hazardous material resulting from demolition activities, including asbestos and lead paint will be disposed of in hazardous waste landfill.
Air Quality	To mitigate for fugitive dust during construction periodic watering of active construction areas, particularly in areas close to sensitive receptors (e.g. hospitals, senior citizen homes, and schools) will be implemented.
Noise	Construction noise levels will be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Impact to noise levels will be minimized by limiting construction activities that occur during early morning or late evening hours.
Invasive Species	Ground disturbance will be minimized and disturbed areas will be re-vegetated using native plant species.
Biological Resources	The Agencies will consult with USFWS, who is the regulatory authority, on any actions that have the potential to affect biological resources including Threatened and Endangered species and will include measures to avoid or minimize potential impacts. Coordination will include measures to avoid or minimize potential impacts as grant conditions. This includes migratory birds and raptors. Projects may be subject to additional documentation through Colorado Senate Bill 40.
Biological Resources	Fill material must not come from nor be deposited in threatened and/or endangered species habitat.

Resource Area	Mitigation Measure
Biological Resources	The Agencies will coordinate with CPW concerning guidelines regarding impacts to State species of interest. Coordination may include measures to avoid or minimize potential impacts as grant conditions. This includes migratory birds and raptors.
Cultural Resources	Unless a project is covered under a programmatic agreement exemption all other ground disturbing projects must consult with the SHPO under Section 106 of the NHPA. The absence of cultural property documentation in the area does not mean they do not exist, but rather may reflect the absence of any previous cultural resource inventory in the area. If during the course of any ground disturbance related to this project, cultural materials are inadvertently discovered, the project would be immediately stopped and the SHPO/THPO and Agency notified.
Cultural Resources	To avoid impacts to cultural resources from material borrow source, borrow material source will be reviewed and approved by SHPO or THPO prior to use.
Cultural Resources	The Agencies will consult with the State/Tribal Historic Preservation Office on project specific activities for any project that has the potential to affect previously undisturbed areas or historic properties.

Table 5: Summary of Impacts

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
Physical Resources	Alternative 1 has potential to permanently disrupt utility service to communities. Loss in residential, commercial, agricultural, or recreational land use may occur. This could lead to vegetation reclaiming right-of-way's (ROW), public, private properties in the State of Colorado.	Existing utilities would be expanded to accommodate best construction practices as well as the changes in topography. However, utility footprint is expected to remain within the previous ROW so no significant changes in land use are anticipated. If ROW acquisitions occur the Agencies will comply fully with federal and state requirements including the Uniform Relocation Assistance and Real Property Acquisition Policies act of 1970, as amended (Uniform Act).	Alternative 3 is similar to Alternative 2.. The Agencies will consult with US Fish and Wildlife Service and/or Natural Resources Conservation Service for any project which extends outside of the road right of way and has the potential to affect land use, including Fish and Wildlife Service easements, prime farmland, or farmland of state/local significance	Similar to alternative 2 and 3.	May need easements or permits from owner agency if new parcel boundaries/footprints extend into state or federal lands.
Transportation Facilities	This alternative may result in significant adverse impacts due to lack of access to community sustaining utilities.	Short term impacts would be expected during construction as temporary outages may be required. No significant adverse long term impacts are expected to the utility infrastructure form and function.	Short term impacts would occur during construction from possible outages. No significant long term impacts are expected to the utility infrastructure. Relocating utilities further from waterways may make the facilities be more resilient and much less likely to experience substantial damage from future events.	Similar to alternative 2 and 3.	
Safety and Occupational	A No Action Alternative results in restricted power, sanitary or	Alternative 2 would have no significant impact to public safety or occupational	Alternative 3 is similar to alternative 2 and would have no significant impacts to public	Similar to alternative 2	

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
Health	communications access for emergency, police and fire services causing the potential for significant delay. The No Action Alternative provides a significant adverse safety affect to localities in the state of Colorado.	health. Utilities would be built to current codes and standards. Removal or repair of materials with painted surfaces or containing Asbestos may be required and construction workers are required to follow OSHA regulations to provide appropriate Asbestos abatement and avoid release of lead from paint. Construction workers and equipment operators are required to wear appropriate personal protective equipment (PPE) and be properly trained for the work being performed. All solid or hazardous wastes that might be generated by the activities of entities replacing utilities must be removed and disposed of at a permitted facility or designated collection point (e.g., for solid waste, a utility or construction company’s own dumpster). Standard construction traffic control measures will be used to protect workers, residents and the travelling public.	safety or occupational health. The new relocated utility would be designed to handle the capacity of pre-event function.	and 3.	
Socioeconomic and Environmental Justice	Alternative 1 has potential to result in significant adverse impact to socioeconomics of a community if buildings and critical infrastructural elements such as utilities are not restored.	Potential short-term benefits through job creation in construction and increased expenditures in local economy. Small negative impacts from travel delays due to construction.	Generally the impacts to socioeconomics and environmental justice from this alternative would be similar to those described for Alternative 2 although there is the potential for original utility infrastructure to be abandoned.	Similar to alternative 2 and 3.	
Air Quality	Possible increase in vehicle emissions if detour routes are longer than the routes they replaced.	Temporary increase in vehicle emissions, dust from construction, etc. during construction. No change in air quality after construction is complete.	Similar to alternative 2 and 3.	Similar to alternative 2 and 3.	
Noise	Under this alternative, utilities would continue to be damaged due to the event. This would result in a natural shift in occupation density and transportation patterns.	Utility restoration is anticipated to carry a similar noise level to that which it had at pre-disaster damage levels. Noise from construction activities may have short term adverse effects on persons who live near the construction area.	No short term noise impacts would occur from construction activities under this alternative at the original location. Noise from construction activities may have short term adverse effects on persons who live near the new construction area.	Similar to alternative 2 and 3.	

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
	<p>Transportation noise along other roadway segments within the County may increase under this alternative due to increasing traffic on alternate roadways. Noise in the immediate area would decrease as communities may be abandoned. The potential exists that overall noise levels in the immediate area may also decrease due to some migration of residents from the region.</p>				
Public Services and Utilities	<p>This alternative does not include any Agency action. Alternative 1 does have the potential to affect public services and utilities because natural hazards would continue to damage utilities which would adversely impact the ability to provide service. Fire, emergency, law enforcement, and school services would be delayed as a result of continued inaccessibility of the route due to closed roads, bridges or disrupted utilities. Depending on the length of detour required or utility service unavailable these services could be significantly impacted. In addition, any utility repair crews may not be able to reach damaged utility lines, resulting in lengthy service outages.</p>	<p>During construction utility interruption and delays in fire, emergency, law enforcement and school services would continue, but these would be short term impacts.</p>	<p>Relocations could produce short term disruptions to customers. Fire, emergency, law enforcement, and school services could be temporarily impacted depending on the length and location of alternate routes.</p>	<p>Similar to alternative 2 and 3.</p>	
Water Resources	<p>In the no action alternative, utilities are not repaired, leaving communities without services and vulnerable to future flood events. No work would occur in water, thus there would be no impact to water due to project work. Erosion and sedimentation may increase if banks are further damaged</p>	<p>This alternative may result in discharge into surface water may provide a temporary alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity. Construction of utilities may result in alteration of the course or magnitude of floodwater. Utility repair and changes within floodplains may</p>	<p>This alternative would generate impacts similar to those described for Alternative 2.</p>	<p>Similar to alternative 2 and 3.</p>	<p>Projects may require a hydrologic analysis. During construction the Agencies would apply Best Management Practices (BMPs) to reduce sediment and fill material from entering the water or being deposited in wetlands. Projects may be required to prepare a storm water pollution prevention plan (SWPPP), to obtain a Section 404 or other permit from the U. S. Army Corps of</p>

Resource Area	Alternative 1: No Action	Alternative 2: Replacement	Alternative 3: Relocation/Realignment	Alternative 4: Combination	Permits and Conditions Required
	from being left unrepaired. Damaged utility infrastructure may cause a flow impediment, potentially causing significant impacts to stream and floodplain hydraulics and function.	also have some impact. If changes to utility infrastructure is anticipated to impact the floodplain/floodway, Agency projects must adhere to Executive Order 11988: Floodplain Management			Engineers and a Section 401 Water Quality Certification permit from CDPHE Water Quality Control Division or EPA. Discharges of water encountered during excavation or work in wet areas may require a Construction Dewatering Discharge Permit.
Biological Resources	No impacts to threatened or endangered species expected. Damaged structures left in the stream corridor could impede streamflow and impact fish habitat and passage.	Potential to impact biological resources. The Agencies will review projects and make determinations of affect.	Potential to impact biological resources. The Agencies will review projects and make determinations of affect.	Similar to alternative 2 and 3.	Possible consultation with USFWS to comply with the ESA, Migratory Bird Treaty Act (MBTA), Fish and Wildlife Coordination Act (FWCA), or state laws
Cultural Resources	No impacts expected.	Potential to impact cultural resources. Archaeological survey may be required depending on consultation with Tribal Historic Preservation Office (THPO) and State Historic Preservation Office (SHPO). No historic buildings identified in this reach.	Similar to alternative 2.	Similar to alternative 2 and 3.	Possible consultation with Tribal Historic Preservation Office (THPO) and State Historic Preservation Office (SHPO).

Appendix C: Comments Received

Alison Deans Michael

CDOT/USFWS Liaison

Colorado Field Office

- Requested multiple editorial revisions, semantics and formatting
- Requested update of *Biological Resources* Section.
 - Four species listed as Proposed for Critical Habitat designation have been withdrawn: New Mexico Meadow Jumping Mouse, White River Beardtongue, Graham Beardtongue and Gunnison’s Prairie Dog.
 - One species has been withdrawn from Protected status: North American Wolverine
 - One species changed from Candidate to Threatened: Yellow-Billed Cuckoo
 - Requested link to Colorado Parks and Wildlife (CPW) Raptor Guidelines for migratory birds as CPW has guidelines that are specific to Colorado that FWS recommends following instead of the national guidelines.
 - Requested consideration of Colorado Senate Bill (SB) 40 Wildlife Certification.

Randy Jensen

Program Delivery Team Leader

Colorado Division Office FHWA

- Requested multiple editorial revisions, semantics and formatting.
- Citations requested for *Colorado State Map* figure.
- Requested addition of “Federally Listed” to the title of *Figure 3*.



U.S. Department of Homeland Security
FEMA Region VIII
Denver Federal Center
Building 710, Box 25267
Denver, CO 80225-0267

**FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
FINAL PROGRAMMATIC ENVIRONMENTAL ASSESSMENT UTILITY
RESTORATION, REPLACEMENT AND RELOCATION IN THE STATE OF
COLORADO**

BACKGROUND

Geography, climate, and demographic trends have necessitated development of a complex infrastructure of utility systems across Colorado. Aging infrastructure, the need for increased capacity, and damage due to manmade and natural disasters all have the potential to limit the ability of these utility systems to function as designed. Failure of these systems can cause injury and loss of life; residents, government entities and businesses may lose capital and access to property and critical infrastructure; and significant environmental impacts may occur. Local governments may be unable to provide critical services including fire suppression, emergency communication, power generation, potable water and wastewater treatment. Sheltering and protection from the elements may be unavailable creating a potential threat to life, public health and safety. In an effort to restore these services and/or mitigate these impacts, federal agencies may provide funds for utility system restoration, replacement, upgrade, expansion, redesign, or relocation.

Regarding the vulnerabilities detailed above utility projects are needed to:

- Restore utilities to a safe, sustainable, and permanent function and capacity;
- Minimize and mitigate future losses and impacts on the essential utilities; and
- Develop and construct resilient facilities with minimal impacts to natural and historic resources.

In accordance with the National Environmental Policy Act (NEPA) of 1969, FEMA's regulations for implementing NEPA at 44 Code of Federal Regulations (CFR) Part 10, the President's Council on Environmental Quality (CEQ) NEPA implementing regulations at 40 CFR Parts 1500-1508, and in the spirit of Unified Review as outlined in Section 6 of the Sandy Recovery Improvement Act (SRIA) of 2013 FEMA prepared a draft Programmatic Environmental Assessment (PEA) to evaluate the potential environmental impacts resulting from utility projects.

The PEA evaluated four alternatives: (1) No Action; (2) Replacement; (3) Relocation; and (4) Combination of Alternatives 2 and 3. A given alternative may not be available in all locations. Therefore, specific project sites may have different preferred alternatives.

Notice of the availability of the draft PEA was published in the *Denver Post* on January 11th and 18th, 2015, covering a two week comment period. All comments received on the draft PEA were incorporated into the document and are detailed in Appendix C.

CONDITIONS

Actions under this PEA and FONSI must meet the following conditions. Failure to comply with these conditions would make the FONSI determination inapplicable for the project and could jeopardize the receipt of funding.

1. In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site.
2. The applicant will follow best management practices and requirements under applicable stormwater pollution requirements for the placement of fill and construction activities.
3. Contractor and/or Subcontractors will properly handle, package, transport, and dispose of hazardous materials and/or waste in accordance with all local, state, and federal regulations, laws, and ordinances. If hazardous substances are released to the project area during construction, these federal, state, and local requirements must be followed in response and cleanup.
4. If during the course of work, unmarked graves, burials, human remains, or archaeological artifacts (prehistoric or historic) are discovered, the applicant shall stop work in the vicinity of the discovery, secure the site, and take all reasonable measures to avoid or minimize harm to the finds. All archaeological findings will be secured and access to the sensitive area restricted. The applicant shall inform their federal grant program contacts, who will in turn consult with Historic Preservation (HP) staff. The applicant will not proceed with work until HP staff completes consultation with the State Historic Preservation Office (SHPO), or Tribal Historic Preservation Office (THPO), to ensure that the project is in compliance with the National Historic Preservation Act (NHPA).
5. The applicant will follow applicable mitigation measures as identified in Section 5 of the PEA to the maximum extent possible.
6. The applicant must meet any project-specific conditions developed and agreed upon between the federal grant program and environmental planning or historic preservation resource or regulatory agencies during consultation or coordination.
7. Construction traffic should be closely monitored and controlled as appropriate. All construction activities would be conducted in a safe manner in accordance with OSHA requirements. To alert motorists and pedestrians of project activities, appropriate signage and barriers would be on site prior to and during construction activities. During construction activities, the construction site(s) would be fenced off to discourage trespassers.

8. The applicant will submit any changes to the scope of work that was originally submitted as part of the application for the federal grant program determination of whether the PEA is still valid or whether any supplementation or re-evaluation is needed.

FINDINGS

Based upon the information contained in the Final PEA, the potential impacts resulting from the four project types analyzed in the PEA, and in accordance with FEMA's regulations at 44 CFR Part 10 and Executive Orders 11988 (Floodplain Management), 11990 (Protection of Wetlands), and 12898 (Environmental Justice), FEMA finds that the implementation of the proposed action will not have significant impacts to the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) will not be prepared. This FONSI is based upon proposed actions fitting one of the four project types (alternatives) described in the Final PEA and meeting all conditions prescribed for that particular project type.

APPROVAL

Richard Myers

Date

Acting Regional Environmental Officer, FEMA Region VIII

