

## Summary

The Artists, Christo and Jeanne-Claude, propose to install a temporary work of art consisting of fabric panels suspended horizontally over approximately 5.9 miles of a 42.4-mile stretch of the Arkansas River between Cañon City and Salida, Colorado. The work of art, known as *Over The River™* (OTR), would require the use of federal, private, and state lands adjacent to the river. The Bureau of Land Management (BLM) Royal Gorge Field Office (RGFO) administers the federal lands within the proposed Project Area.

Over The River Corporation (OTR Corp or applicant) has applied for a land use authorization with the BLM RGFO for a three-year period to install, exhibit, and remove the work of art on public lands in western Fremont County and the southeast portion of Chaffee County, Colorado. The BLM is the lead federal agency and has the final authority to determine whether, and under what terms and conditions, a BLM land use permit would be issued to the project applicant for *Over The River™*.

The BLM RGFO determined that an Environmental Impact Statement (EIS) was required under the National Environmental Policy Act of 1969 (NEPA; 42 United States Code [U.S.C.] 4321 et seq.; Public Law [PL] 91-190) to analyze the Artists' proposal, define a range of reasonable alternatives, and disclose the project's potential environmental impacts. A Notice of Intent (NOI) was published in the *Federal Register* on June 19, 2006, and the Draft EIS (DEIS) on the project was released for public review July 16, 2010. This Final EIS has been prepared consistent with the requirements of the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 CFR 1500-1508) to enable informed decision-making.

### NEED FOR ACTION

The applicant has submitted a written proposal for a land use authorization to construct and display a work of art titled *Over The River™*. The BLM is responding to OTR Corp's application in accordance with NEPA, analyzing and disclosing the environmental impacts of issuing the requested land use authorization. Through this NEPA process, the BLM will make a decision on whether or not to approve the application and determine under what conditions the project should proceed, if approved.

### PURPOSE

The BLM's purpose is to ensure that the provisions and objectives established for the management of resources within the RGFO, including the Area of Critical Environmental Concern (ACEC), are maintained; to ensure that the public uses described herein will not cause unacceptable damage to public lands or ACEC values; and to assure that public health and safety concerns are addressed.

Additionally, the BLM's purpose for pursuing this action includes advancing the objective of providing a broad range of recreational opportunities on the lands under their administration. Specifically, the approved Resource Management Plan (RMP) states that various actions will occur to enhance recreation, emphasizing a balance between resource protection and tourism while providing support to the local and regional economies (BLM 1996).

**REVIEW OF THE APPROVED LAND USE PLAN**

All actions approved or authorized by the BLM must conform to the existing land use plan where one exists (43 CFR 1610.5-3, 43 CFR 2920.2-5). In this case, the 1996 RMP is silent on specific guidelines or management objectives pertinent to the proposed project. As such, the 1996 Approved RMP / Record of Decision (ROD) were reviewed to identify overarching or programmatic guidance, objectives, and/or decisions as they pertain to the applicants’ proposal.

In general, with the inclusion of appropriate constraints, stipulations, and mitigation measures, the applicants’ proposal appears to be broadly consistent with the overall RMP objective of providing “variety of levels, methods, and mix of multiple use resource management [and] utilization,” and support to the local and regional economy.

**ISSUES IDENTIFIED FOR ANALYSIS IN THE EIS**

The following issues were identified for analysis in this EIS through the scoping process for the project. The issues presented in Table S-1 are not intended as a comprehensive list of all issues that are evaluated in the EIS; these issues simply represent the key concerns of the public, project team staff, and cooperators that were expressed during scoping.

**Table S-1. Summary of Issues Identified for Further Analysis**

Resource	Installation and Removal Phases	Exhibition Window
Emergency Response	<ul style="list-style-type: none"> <li>• Response to industrial accidents</li> <li>• Response to hazardous material spills</li> <li>• Response to recreational accidents (rafting, ATV use, hiking, fishing, and climbing)</li> <li>• Search and rescue incidents</li> <li>• Motor vehicle and aircraft accidents</li> <li>• Wildfire and stormwater events</li> <li>• Crime incidents</li> <li>• Accessibility for canyon resident health issues</li> <li>• Response times</li> <li>• Adequacy of resources to respond to incidents and existing capabilities of response teams</li> <li>• Accessibility to canyon and evacuation</li> <li>• Emergency coordination and communication issues</li> <li>• Weather and air travel constraints</li> </ul>	<ul style="list-style-type: none"> <li>• Response to recreational accidents (rafting, ATV use, hiking, fishing, and climbing)</li> <li>• Search and rescue incidents</li> <li>• Motor vehicle and aircraft accidents</li> <li>• Wildfire and stormwater events</li> <li>• Crime incidents</li> <li>• Accessibility for canyon resident health issues</li> <li>• Response times</li> <li>• Accessibility to canyon and evacuation</li> <li>• Adequacy of resources to respond to incidents and existing capabilities of response teams</li> <li>• Emergency coordination and communication issues</li> <li>• Weather and air travel constraints</li> </ul>

Resource	Installation and Removal Phases	Exhibition Window
Engineering	<ul style="list-style-type: none"> <li>• Glues and bonding chemicals used during installation</li> <li>• Anchor hole patching during removal</li> </ul>	<ul style="list-style-type: none"> <li>• Artwork's durability for wind and hail</li> <li>• Geological hazard (fault impacts)</li> <li>• Adequacy of engineering assumptions</li> </ul>
Natural and Cultural Resources (including soils, geology, noxious weeds, and wildland fire)	<ul style="list-style-type: none"> <li>• Potential for erosion and river sedimentation</li> <li>• Potential for noxious weed infestation</li> <li>• Potential for rock instability</li> <li>• Assurance of adequate restoration</li> <li>• Stress on natural resources beyond typical current conditions in canyon</li> <li>• Potential damage to cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>• Shading effects on river ecology</li> <li>• Geological hazard from cable vibrations</li> <li>• Potential for erosion and river sedimentation</li> <li>• Potential for noxious weed infestation</li> <li>• Fire danger</li> <li>• Stress on natural resources beyond typical current conditions in canyon</li> <li>• Potential damage to cultural resources</li> </ul>
Pollution and Sanitation	<ul style="list-style-type: none"> <li>• Potential for river contamination and water quality</li> <li>• Site aesthetics</li> <li>• Noise and dust resulting from drilling</li> <li>• Potential for river contamination and water quality</li> <li>• Hazardous materials spills</li> <li>• Capacity of area for sanitation, toilet facilities, and trash removal/recycling</li> </ul>	<ul style="list-style-type: none"> <li>• Debris if artwork collapsed</li> <li>• Potential for river contamination and water quality</li> <li>• Hazardous materials spills</li> <li>• Capacity of area for sanitation, toilet facilities, and trash removal/recycling</li> </ul>
Public Safety	<ul style="list-style-type: none"> <li>• Insurance and liability issues</li> <li>• Accident potential during construction/removal</li> <li>• Public safety risks and dangers in relation to activity</li> </ul>	<ul style="list-style-type: none"> <li>• Harm if artwork collapsed</li> <li>• Insurance and liability issues</li> <li>• General public safety</li> <li>• Potential for threat of terrorism</li> <li>• Considerations of public safety from operation planning</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>• Economic impacts to recreation industries (fishing, rafting/kayaking)</li> <li>• Duration of installation and removal impacts on river and river access for recreation</li> <li>• Effects on natural canyon/river experience and natural beauty</li> <li>• Impacts on nearby area's bicycle and hiking trails and off-road use</li> </ul>	<ul style="list-style-type: none"> <li>• Cable and fabric panel impacts on recreation, including fishing activities and rafting</li> <li>• Effects on natural canyon/river experience and natural beauty</li> <li>• River safety and conflicts with fabric panels</li> <li>• Exceeding visitor carrying capacity during the busy summer season</li> <li>• Impacts on area's nearby bicycle and hiking trails and off-road use</li> <li>• Recreational experience of viewing artwork</li> <li>• Attraction of new types of visitors to area</li> <li>• Railroad access and use potential</li> </ul>

Resource	Installation and Removal Phases	Exhibition Window
Socioeconomics	<ul style="list-style-type: none"> <li>• Costs to area, including disruption of life, work, and recreation in canyon</li> <li>• Commercial traffic impacts</li> <li>• Potential for increased crime</li> <li>• Boost for local economy (visitor expenditures)</li> </ul>	<ul style="list-style-type: none"> <li>• Exceeding visitor carrying capacity during the busy summer season</li> <li>• Commercial traffic impacts</li> <li>• Potential for increased crime</li> <li>• Effect on local economy (visitor expenditures)</li> <li>• Long-term social effect from work-of-art</li> <li>• Costs paid by Artists</li> <li>• Costs to area, including disruption of life, work, and recreation in canyon</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Narrow US 50 cross section</li> <li>• Delays - increased travel times</li> <li>• Duration and lane closures</li> <li>• Local traffic congestion and access</li> </ul>	<ul style="list-style-type: none"> <li>• Delays - increased travel times</li> <li>• Local traffic congestion and access</li> <li>• Temporary air pollution</li> <li>• Potential for increased crashes</li> <li>• Narrow US 50 cross section and narrow canyon constraints</li> <li>• Lack of alternate routes</li> <li>• Traffic Management Plan</li> <li>• Drivers' unfamiliarity with environment</li> <li>• Alternate display locations and times</li> <li>• Decreased speed to possibly reduce accidents</li> </ul>
Wildlife	<ul style="list-style-type: none"> <li>• Noise and vibration impacts</li> <li>• Physical disturbance</li> <li>• Wildlife accustomed to human presence, cars, boats, and previously to trains</li> <li>• Habitat and water access limitations</li> <li>• Increased vehicular traffic</li> </ul>	<ul style="list-style-type: none"> <li>• Potential cable and fabric hazards to wildlife</li> <li>• Increased vehicular traffic</li> <li>• Stress induced by visitor population</li> <li>• Shading effects of fabric panels on wildlife and river ecology</li> <li>• Habitat and water access limitations</li> <li>• Harm if artwork collapsed</li> </ul>

**DRAFT EIS**

A Notice of Availability (NOA) for the DEIS was published in the *Federal Register* on July 16, 2010, commencing a 45-day public comment period. On August 14, 2010, the BLM announced a 15-day extension of the public comment period to September 14, 2010. The public had the opportunity to comment on the DEIS through the project web site, at public meetings, via postal mail, email, or fax.

All comment submissions received by the BLM during the public comment period were reviewed and evaluated for substantive comments. Over 3,500 submissions were received during the comment period. Within these submissions, more than 4,558 comments were recorded. Responses to substantive comments are included in Appendix F of the Final EIS.

**KEY CHANGES FROM DRAFT TO FINAL EIS**

Key changes from Draft to Final EIS are summarized below:

- Alternative 1a, with modifications, was identified as the Preferred Alternative.
- The viewing center at Parkdale, including the parking area, temporary bridge, and related facilities, was eliminated from all alternatives. The need for acceleration and deceleration lanes, which were identified as a mitigation measure in the DEIS, was also eliminated through the removal of the Parkdale Viewing Center. Elimination of the Parkdale facilities reduces impacts on traffic flow, the amount of ground disturbance, and impacts to a variety of resource considerations. These facilities were eliminated in recognition of these impacts and through consideration of the added costs associated with their development. Services that were to be provided at Parkdale would be provided at other AHRA sites or information centers.
- In recognition of the need for further coordination with state and local jurisdictions and other considerations, the exhibition would occur one year later than was indicated in the DEIS, August of 2014 instead of 2013. This would apply to Alternative 1a and all alternatives with a two-year construction schedule.
- The overall project construction schedule was modified. These modifications included changes to the timing and duration of cable installation, and are reflected in Tables 2-5 and 2-6 of the FEIS. At some panel locations, cable installation would commence up to four months prior to exhibition. Lane closures, lane shifts, and lane delays that would occur under the revised schedule have been clarified in Table 4-56 of the FEIS.
- Minor modifications were made to Alternative 1a, including elimination of a waste storage pit at Texas Creek and selection of a specific site for the Salida Information Center. Clarifications on construction methods and equipment were also incorporated.
- Additional mitigation measures were developed to reduce impacts to bighorn sheep. These measures, which are described in Chapter 5.0, include habitat improvements and additional seasonal restrictions on construction activities. As a result, predicted impacts to bighorn sheep were reduced to the moderate level in both the short and long term.
- Additional mitigation measures were developed for a variety of resources, including avian species, threatened and endangered species, water resources, recreation, transportation, cultural resources, and others. These measures are described in Chapter 5.0.

A temporary rationing program would be implemented under Alternative 1a, which would provide for increased boating use during blossoming, the 2-week exhibition period, and the removal of fabric panels immediately following the exhibition period (4-6 weeks total).

Additional analysis of potential impacts to angling use was conducted and incorporated in the FEIS. The most current angling use data available was used to quantify direct displacement of anglers from immediate panel areas due to the presence of cables and fabric panels in the Project Area. These calculations were used to support impact conclusions in Section 4.20, Recreation Resources.

Each of these changes was either included in the range of alternatives analyzed in the DEIS or reflect minor clarifications or modifications to project planning and design.

## ALTERNATIVES DEVELOPMENT

Four project components, each of which could be altered in various ways to respond to known issues and concerns, formed the basis of the alternatives development process.

1. **Panel Placement**, which refers to the physical extent and specific locations where the fabric panels would be located.
2. **Transportation**, which refers to traffic management strategies and/or the inclusion of transit options to facilitate the movement of visitors through the exhibit.
3. **Visitor Management**, which addresses how visitors would be managed and the infrastructure needed to accommodate those visitors.
4. **Temporal Considerations**, which includes the timing, duration, and season of the project phases.

For each of these four project components, a comprehensive list of reasonable elements (options and variations within a project component) was developed in coordination with the BLM Interdisciplinary Team, Cooperating Agencies, and EIS Contractor Staff.

Individual alternatives were assembled by combining one element of each project component into an alternative package. *Panel Placement* elements (e.g., 5.9 miles of panels, 4.8 miles of panels, etc.) served as the foundation for each alternative. Five basic panel configurations resulted from this methodology, including a No Action scenario (0.0 miles). The resulting range of reasonable alternatives is described in Chapter 2.0 and summarized in Table S-2. (A more detailed description of the alternative development process is provided in Appendix B.)

## ALTERNATIVES CONSIDERED IN THE EIS

Six separate action alternatives and the No Action Alternative are described and analyzed in the remainder of this EIS, as shown in Table S-2.

**Table S-2. Summary of EIS Alternatives**

			No Action	Alternative 1				Alt. 3	Alt. 4	
				1a	1c	1d	2			
PANELS		5.9 miles at 8 sites		X	X	X				
		4.8 miles at 5 sites					X			
		4.1 miles at 8 sites						X		
		1.4 miles at 4 sites							X	
VISITOR MANAGEMENT	Rationing	Existing boat rations				X	X	X	X	
		New, temporary rations*		X	X					
	AHRA Sites	AHRA sites open, existing uses permitted; lump sum payment to State Parks		X						
		AHRA sites open, existing uses permitted; State Parks entrance fees apply					X	X	X	
		AHRA sites open, OTR-related rec. uses only; event-only fees applied			X					
		Close AHRA rec. sites; lump sum payment to offset revenue loss				X				
	Staging/Info	Texas Creek		X	X	X	X	X	X	
		Vallie Bridge		X	X	X	X	X	X	
		Fremont Road		X	X	X	X	X	X	
		Salida		X	X	X	X	X	X	
	TEMPORAL	Const. Duration	Two years		X	X	X	X	X	
			One year							X
Viewing Window		Two weeks		X		X	X	X	X	
		Three weeks			X					
Viewing Season		June/July					X			
		August		X	X			X	X	
		September				X				

\*New rations would apply during blossoming, exhibition, and panel removal (approximately 4-6 weeks total).

**1. Alternative 1a – Preferred Alternative**

BLM has identified a preferred alternative in this FEIS, pursuant to NEPA regulations at 40 CFR 1502.14. As recognized by CEQ, the preferred alternative is the alternative that the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors.

Alternative 1a (Preferred Alternative) would consist of approximately 5.9 miles of fabric panels suspended above the Arkansas River in eight areas within a 42-mile stretch of river between Salida and Cañon City. The fabric panels would be supported above the river by a system of cables and anchors. The exhibit is proposed for a 2-week display and viewing period. The proposed art exhibit is a no-fee visitor event and includes no viewing charge. At the end of the 2-week exhibition period, the system of cables and anchors and other above-ground materials would be removed and recycled. The applicant would be responsible for restoring the river corridor to BLM standards per the terms and conditions defined in a land use authorization.

The installation, exhibition, and removal phases are projected to attract 416,000 visitors over an approximately three-year period, including 344,000 visitors during the 2-week exhibition proposed for the first half of August.

#### a. Installation

Each panel display would consist of a series of ground anchors, anchor transition frames (ATF), steel cables and carabiners, and fabric panels. The installation phase would be accomplished in five progressive stages: (1) survey anchor points, (2) install anchors, (3) install ATFs, (4) install cables, and (5) install fabric panels.

Installation would be scheduled to occur over a 28-month period (approximately); this timeframe includes several seasonal avoidance periods to avoid resource-specific concerns. No visitor amenities would be offered during installation.

**Table S-3. Alternative 1a Installation Timeframes (based on a September 2011 ROD)**

Installation Stage	Duration	Est. Beginning Date
Anchor surveys	16 months	July 2012
Anchor drilling	16 months	July 2012
ATF installation	5 months	September 2013
Cable installation (Three Rocks, Spikebuck, Parkdale)	4 months	April 2014
Cable installation (Tunnel, County Line, Vallie Bridge, Texas Creek, Maytag)	2 months	May 2014
Blossom of fabric panels	14 days	July 2014

The total level of effort for installation is estimated to be 3,000 crew work days. At a minimum, four, four-man crews would be working in the corridor during the installation phase. However, project support and management staff would also be present at the panel work sites and throughout the project area, in general. It is estimated that 20 to 30 people would be working in the project corridor for the duration of the installation phase.

It is estimated that U.S. Highway 50 (US 50) lane closures would occur on 177 days over the 28-month installation period when crews are working on the highway side of the river. This timeframe includes seasonal avoidance periods to avoid resource-specific concerns.

**b. Exhibition**

The exhibition period would begin when installation of the art is complete; no construction or installation activities would occur during this phase of the project. Alternative 1a would include a 2-week (14-day) exhibition period in early August. The exhibit would be open for viewing 24 hours a day for the 2-week duration. A temporary event-only commercial boat rationing plan and private boat permit system would be in place during exhibition to control boating use in the Project Area.

The Artists would not require or collect admission fees for viewing. The Artists intend for visitors to view the art by raft, kayak, or other watercraft from the river, or by automobile from the highway. Bicyclists would only be permitted in the corridor Monday through Thursday.

**c. Removal / Restoration**

Removal of the physical features of the work of art would commence immediately after the exhibition period and would be completed within approximately three months, weather permitting. No visitor amenities would be offered after fabric panel removal (deblossoming) during the removal period.

Removal of the exhibit would consist of breaking down the temporary visitor information and viewing area facilities, and removing all above-ground hardware and fabric elements of the exhibit.

**d. Visitation Projections and Arrival Patterns**

An independent visitation projection was produced for the purposes of conducting the impact comparisons presented in this document. (A detailed report of visitation projections is provided in Appendix C.) This analysis is inclusive of general tourism or other area attraction visitors, but does not include local, residential, or commercial traffic viewers. Visitation is estimated at 344,000 visitors for Alternative 1a during the 2-week exhibition period.

It is anticipated that approximately 80% of visitors would arrive from the east, travelling westbound through the corridor; the remaining 20% would travel eastbound through the corridor. The majority of visitors would arrive via private vehicles, such as passenger cars or vans.

**e. Event Visitor Information Centers and Visitor Facilities**

During the exhibition period, the Fremont Road Information Center, Texas Creek Limited Rest Stop, Vallie Bridge Limited Rest Stop, and Salida Information Center would be temporarily developed, staffed, and operated.

In addition to the OTR event visitor information centers and the rest stop, all Arkansas Headwaters Recreation Area (AHRA) recreation sites in the project corridor would remain open to the public, including OTR visitors, for the duration of the exhibition period, and existing recreational activities would be permitted to continue. Due to public safety and traffic concerns, daily park pass fees would not be collected at AHRA fee sites within the project area during blossoming, exhibition, and fabric panel removal (approximately 4-6 weeks total). Standard fees (park pass and camping permit fees) would apply to all AHRA fee campgrounds at all times (both inside and outside of the project area). Outside of the project area, daily park pass fees would remain at all AHRA fee areas at all times.

## 2. Alternative 1c

Alternative 1c includes the same panel arrangement as the Preferred Alternative (Alternative 1a). The following project components would vary from Alternative 1a for this alternative:

- Under Alternative 1c, visitation to all AHRA sites located along US 50 would be open to OTR-related visitation uses only. Temporary, event-only use fees would apply.
- Alternative 1c would use a 3-week (21-day) viewing period.
- **Visitation during the exhibition period would increase to 434,000.**

## 3. Alternative 1d

Alternative 1d includes the same panel arrangement as the Preferred Alternative (Alternative 1a). The following project components would vary from Alternative 1a for this alternative:

- Under Alternative 1d, visitation to all AHRA sites located along US 50 would be closed to the public and/or OTR-related visitation uses. State Parks would require a lump sum payment from the applicant to offset revenue lost by closing fee areas in addition to the Special Activity Agreement fee.
- Under Alternative 1d, the 2-week viewing period would occur during early to mid-September (ending no later than September 21).
- Under Alternative 1d, existing State Parks commercial boat rations would remain in effect.
- **Visitation during the exhibition period would decrease to 224,000.**

## 4. Alternative 2

Alternative 2 varies from the Preferred Alternative (Alternative 1a) in that it would include only the panels located east of Texas Creek, a total of approximately 4.8 miles of panels at five sites in the project corridor. This would be a reduction of 1.1 miles and three sites relative to the Preferred Alternative. The panel configuration in this alternative was reduced to address Cooperating Agency concerns regarding panel placement west of Texas Creek. Specifically, the Cooperating Agencies expressed concerns regarding potential impacts to residents in more populated areas of the upper canyon during all project phases, and potential safety concerns in the Tunnel section. This option would alleviate construction disturbances and most exhibition phase traffic from populated areas in the upper canyon; however, the removal of all panels west of Texas Creek would not alleviate commuter impacts for eastbound commuters. Additionally, under Alternative 2, the 2-week viewing period would occur sometime in the period June 21-July 14. Visitation during the exhibition period would increase to 361,000.

All AHRA recreation sites in the project corridor would remain open to the public, including OTR visitors, for the duration of the exhibition period, and existing recreational activities would be permitted to continue. State Parks entrance fees would apply to all vehicles entering the AHRA.

All other design elements of Alternative 2, including installation and removal techniques and exhibition period details (viewing areas, traffic management, and transportation), would be the same as described for Alternative 1a.

## 5. Alternative 3

The Alternative 3 panel configuration would eliminate 1.8 miles of panels from the Preferred Alternative (Alternative 1a). This alternative would include a total of 4.1 miles of panels at eight sites in the project corridor. The Alternative 3 panel configuration would eliminate selected panels throughout the corridor to reduce potential impacts to bighorn sheep populations and raptor nesting and roosting sites. Other species, including migratory birds and bats, were also considered in the development of this alternative. Visitation during the exhibition period would decrease to 320,000.

All other elements of Alternative 3, including installation and removal time frame and techniques, and exhibition period details (viewing areas, traffic management, and transportation), would be the same as described for Alternative 1a, unless otherwise noted. All AHRA recreation sites would be managed as described for Alternative 2.

## 6. Alternative 4

The Alternative 4 panel configuration varies substantially from Alternative 1a. Alternative 4 would include a total of 1.4 miles of panels at four sites in the project corridor (Map 2-6 and Table 2-11). The proposed panel configuration would be reduced to eliminate panels from the Arkansas Canyonlands Area of Critical Environmental Concern (ACEC). The ACEC was designated "to protect, enhance, and interpret the significant scenic, historic, and archaeological values; the threatened and endangered peregrine falcon; key raptor habitat area; bighorn sheep habitat; and important fisheries," (BLM 1993, p. 3-46).

This reduction in panel length would require less than the 28-month construction period identified for Alternative 1a. Alternative 4 assumes construction duration of approximately 14 months. Additionally, the reduction in panels is expected to result in a decrease in visitation to the project corridor, and would change viewing patterns and key visitation areas relative to those described under the other alternatives. Visitation during the exhibition period would decrease to 145,000. Under Alternative 4, visitor facilities and amenities would be available at the Fremont Road Information Center, Texas Creek Limited Rest Stop, Vallie Bridge Limited Rest Stop, Salida Information Center and at AHRA recreation fee sites. All AHRA recreation sites would be managed as described for Alternative 2.

## AFFECTED ENVIRONMENT

The Arkansas River is situated in a canyon setting surrounded by hilly, steep terrain. US 50 and the Union Pacific Railroad (UPRR) parallel the river through the entire Project Area. Access to and through the Project Area is provided by US 50, which is the primary access to all recreation sites and residential areas within the Arkansas River corridor and serves as a major thoroughfare for east-west travel in central Colorado. Between Cañon City and Salida, Colorado, State Highway (SH) 9 east of Parkdale and Colorado SH 69 at Texas Creek provide access to and from US 50 in the Project Area. A number of county roads also provide access to the Project Area. Although Cañon City and Salida are the nearest incorporated population centers, several smaller residential communities are located along or adjacent to the river corridor, including Wellsville, Swissvale, Howard, Coaldale, Cotopaxi, Texas Creek, and Parkdale.

The Project Area generally refers to the area encompassing the 42-mile stretch of the Arkansas River Canyon between Cañon City and Salida. This includes all jurisdictions along the river and adjacent US 50 and UPRR rail corridor that provide access to the river. The footprint of the proposed project would

encompass approximately 297 acres. The majority of the Project Area is located in Fremont County; however, a small portion at the western end of the project is also located in Chaffee County. Although the great majority of the proposed project would be located on BLM-administered lands, some project elements would be on lands owned by the Colorado State Land Board (SLB), private lands, and lands cooperatively managed by State Parks in the AHRA (Map 1-2). The AHRA is a nationally significant multiple-use resource that provides a variety of recreational opportunities and serves as a regional hub for outdoor recreational pursuits.

Approximately 80% of the area encompassed by the proposed project would be located in the Arkansas Canyonlands ACEC, a BLM-specific designation that recognizes areas where special management attention is needed to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources, or other natural systems or processes. The Arkansas Canyonlands ACEC contains scenic, historic, and cultural values; and key habitat for raptor, bighorn sheep, and fisheries. The panel sites on the eastern end of the project (the area nearest to Cañon City) would occur within parts of the ACEC, including the Spikebuck, Three Rocks, Maytag, and Texas Creek panel sites as well as the majority (but not all) of the Parkdale panel site (Map 1-2).

The Arkansas River corridor has retained its natural characteristics even though it has been modified by a railroad, a busy highway and substantial agricultural, residential, and commercial development along much of its length. The Arkansas River has a significant and vital impact on the valley's economy and beyond because of water rights for irrigation, municipal and industrial purposes, and for the sale and storage of water. Also, because of its natural beauty, biological productivity, steep gradient and diversity of river environments, the Arkansas River is very popular with recreationists.

The proposed Project Area described above would also encompass portions of the Arkansas River Special Recreation Management Area (SRMA) and is located adjacent to the McIntyre Hills Wilderness Study Area (WSA). A thorough description of these and other resources in the Project Area is provided in Chapter 3.0.

## IMPACTS

### 1. Intensity

The following terms are used to describe the degree, level, or significance of project effects:

- **No effect:** No discernable effect.
- **Negligible:** Effect is at the lowest level of detection and causes very little or no disturbance or improvement.
- **Minor:** Effect that is slight but detectable, with some perceptible effects of disturbance or improvement.
- **Moderate:** Effect is readily apparent and has measurable effects of disturbance or improvement.
- **Significant:** Effect, when considered in local, regional or global context, has substantial intensity based on factors such as those specified in 40 CFR 1508.27, including but not limited to: public health or safety, unique geographic characteristics, controversy, uncertain or unknown risks, precedential impact, relation to other actions, scientific, cultural or historical resources, endangered or threatened species, and applicable legal requirements. Effect is readily apparent

and has measurable effects of disturbance or improvement that are of local, regional or global importance; or sets a precedent for future project undertakings by federal agencies.

## **2. Summary of Impacts**

Alternatives 1a, 1c, and 1d would generally result in more impacts than the other alternatives as more area would be disturbed for the project, and more visitation and associated traffic would be projected. Alternative 4 would generally result in the least amount of impacts as the associated project disturbance would be greatly reduced from the other alternatives considered, and visitation and associated traffic would be reduced compared to the other alternatives.

A summary of impact conclusions is presented in Table S-4, which presents the overall impact ratings based on the application of design features proposed by OTR Corp that are presented in Chapter 2.0. Based on the impact analyses, mitigation measures were identified, which would minimize or offset potential adverse impacts (See Chapter 5.0). Mitigation measures may be included as conditions of the BLM Land Use Authorization or other state or local permits.

A more detailed summary of impacts is presented in Chapter 2.0 (Table 2-14). The analysis behind the conclusions is discussed in Chapter 4.0.

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**Table S-4 Impact Summary Table (Impacts are short-term and adverse unless otherwise noted.)**

Resource Area	No Action	Alternative 1			Alt. 2	Alt. 3	Alt. 4
		1a	1c	1d			
Terrestrial Wildlife and Habitat	Bighorn sheep (overall)*	No effect	Moderate (short and long term)	Moderate (short and long term)	Moderate (short and long term)	Minor (short and long term)	Minor
	Mule deer (overall)	No effect	Moderate	Moderate	Moderate	Minor	Minor
	Elk (overall)	No effect	Minor	Minor	Minor	Minor	Minor
	Black bear	No effect	Minor	Minor	Minor	Negligible	Minor
	Mountain lion	No effect	Minor	Minor	Minor	Minor	Minor
	Bats	No effect	Minor to Moderate	Minor to Moderate	Minor to Moderate	Minor to Moderate	Minor to Moderate
	Fossorial mammals	No effect	Minor	Minor	Minor	Minor	Minor
	Reptiles	No effect	Minor	Minor	Minor	Minor	Minor
	Amphibians	No effect	Minor	Minor	Minor	Minor	Minor
Avian Wildlife and Habitat*	No effect	Moderate	Moderate	Moderate	Moderate	Minor to moderate	Minor
Aquatic Wildlife and Habitat*	No effect	Moderate	Moderate to significant (short and long term)	Moderate	Moderate	Moderate	Moderate
Wetlands, Floodplains and Riparian Habitat*	No effect	Minor	Minor	Minor	Minor	Minor	Minor
Vegetation and Plant Communities*	No effect	Minor	Minor	Minor	Minor	Minor	Minor
Noxious Weeds and Invasive Species*	No effect	Minor	Minor	Minor	Minor	Minor	Minor
Range Resources*	No effect	Minor	Minor	Minor	Minor	Minor	Minor
Threatened, Endangered, and Sensitive Species	Big free-tailed bat*	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate
	Botta's pocket gopher	No effect	Moderate	Moderate	Moderate	Minor	Moderate
	Fringed myotis*	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate
	Gunnison's prairie dog	No effect	Minor	Minor	Minor	Minor	Minor
	Northern river otter	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate
	Townsend's big-eared bat*	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate
	Yuma myotis*	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate
	Bald eagle*	No effect	Moderate	Moderate	Moderate	Minor	Moderate
	Barrow's goldeneye	No effect	Moderate	Moderate	Moderate	Moderate	Moderate
	Lewis' woodpecker	No effect	Minor to Moderate	Minor to Moderate	Minor to Moderate	Minor to moderate	Minor to Moderate
	Mexican spotted owl	No effect	Minor	Minor	Minor	Minor	Minor
	Northern Goshawk	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate
	Peregrine falcon	No effect	Minor to Moderate	Minor to Moderate	Minor to Moderate	Minor to Moderate	Minor to Moderate
	Flathead chub	No effect	Negligible	Negligible	Negligible	Negligible	Negligible
	Greenback cutthroat trout	No effect	Negligible	Negligible	Negligible	Negligible	Negligible
	Southern redbelly dace	No effect	Negligible	Negligible	Negligible	Negligible	Negligible
	Northern leopard frog	No effect	Minor	Minor	Minor	Minor	Minor
	Colorado checkered whiptail	No effect	Moderate	Moderate	Moderate	Moderate	Moderate
Fendler's false cloak fern	No effect	Negligible to moderate	Negligible to moderate	Negligible to moderate	Negligible to moderate	Negligible to moderate	
Arkansas Canyon stickleaf	No effect	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	Minor to moderate	

Resource Area		No Action	Alternative 1			Alt. 2	Alt. 3	Alt. 4
			1a	1c	1d			
	Rock-loving aletes	No effect	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor
	Brandegeee wild buckwheat	No effect	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor
	Degener beardtongue	No effect	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor	Negligible to minor
<b>Atmosphere, Air Resources, and Air Quality</b>		No effect	Minor	Minor	Minor	Minor	Minor	Minor
<b>Water Resources*</b>		No effect	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor
<b>Soil Resources*</b>		No effect	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor	Negligible to Minor
<b>Geologic Substrate and Terrain*</b>		No effect	Minor	Minor	Minor	Minor	Minor	Minor
<b>Environmental Justice/Protection of Children</b>		No effect	Minor	Minor	Minor	Minor	Minor	Minor
<b>Socioeconomics, Social Impacts</b>		No effect	Negligible to moderate	Negligible to moderate	Negligible to moderate	Negligible to moderate	Negligible to moderate	Negligible to moderate
<b>Public Health and Safety*</b>		No effect	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
<b>Transportation and Traffic*</b>		No effect	Significant	Significant	Significant	Significant	Significant	Moderate
<b>Hazardous Materials*</b>		No effect	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
<b>Waste (Nonhazardous)</b>		No effect	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
<b>Realty Authorizations and Land Use</b>		No effect	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
<b>Recreation Resources*</b>	Boating	No effect	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)
	Angling	No effect	Significant	Significant	Significant	Significant	Significant	Significant
	Wildlife Viewing and Bird Watching	No effect	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
	Camping	No effect	Significant	Significant	Significant	Significant	Significant	Significant
	Hiking and Mountain Biking	No effect	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
	Rock Climbing	No effect	Minor	Minor	Minor	Minor	Minor	Minor
	OHV Trail Use	No effect	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
	Hunting	No effect	Moderate	Moderate	Significant	Moderate	Moderate	Moderate
	Horseback Riding	No effect	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
	Placer Mining	No effect	Significant	Significant	Significant	Minor	Significant	Significant
	Scenic Driving	No effect	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)	Significant (both adverse and beneficial)
Festivals and Events	No effect	Moderate (beneficial)	Moderate (beneficial)	Moderate (beneficial)	Moderate (beneficial)	Moderate (beneficial)	Moderate (beneficial)	
Other Local Attractions	No effect	Significant (beneficial)	Significant (beneficial)	Significant (beneficial)	Significant (beneficial)	Significant (beneficial)	Significant (beneficial)	
<b>Visual/Aesthetic Resources*</b>		No effect	Significant	Significant	Significant	Significant	Significant	Moderate
<b>Wild and Scenic Rivers</b>		No effect	No effect	No effect	No effect	No effect	No effect	No effect
<b>Wilderness and Special Management Areas (ACEC)</b>		No effect	Negligible to Significant	Negligible to Significant	Negligible to Significant	Negligible to Significant	Negligible to Significant	No effect
<b>Sound Resources and Noise</b>		No effect	Minor	Minor	Minor	Minor	Minor	Minor
<b>Historic Properties and Native American Religious Concerns</b>		No effect	TBD**	TBD**	TBD**	TBD**	TBD**	TBD**
<b>Paleontological Resources*</b>		No effect	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

\*Rating reflects implementation of identified mitigation.

\*\*Sixteen historic properties would be directly or indirectly impacted by construction activities. The level of effect will be determined following Section 106 consultation and application of appropriate mitigation measures.