# Sun River Bridge Replacement Project

## Environmental Assessment

MT FLAP BOR 2980(1)

**Prepared for**
U.S. Department of Transportation
Federal Highway Administration
Western Federal Lands Highway Division

**Prepared by**
Robert Peccia & Associates

January 24, 2024

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## Teton and Lewis & Clark Counties, Montana

## Environmental Assessment

MT FLAP BOR 2980(1)

Submitted
Pursuant to Public Law 91-190
National Environmental Policy Act

U.S. Department of Transportation
Federal Highway Administration
Western Federal Lands Highway Division

In Cooperation with
U.S. Bureau of Reclamation
U.S. Bureau of Land Management
U.S. Forest Service

1.24.2024
Date Approved

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January 24, 2024

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# Acronyms and Abbreviations

| | |
|---|---|
| ADT | Average Daily Traffic |
| APE | Area of Potential Effect |
| AST | Above-Ground Storage Tank |
| AUM | Animal Unit Month |
| BA | Biological Assessment |
| BMPs | Best Management Practices |
| BRR | Biological Resources Report |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CO | Contracting Officer |
| dBA | A-weighted decibels |
| EA | Environmental Assessment |
| ESA | Endangered Species Act |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FLAP | Federal Lands Access Program |
| FLTP | Federal Lands Transportation Program |
| GID | Greenfield Irrigation District |
| IPaC | Information for Planning and Consultation |
| LWCF | Land and Water Conservation Fund |
| LWM | Low-Water Mark |
| MAAQS | Montana Ambient Air Quality Standards |
| MBTA | Migratory Bird Treaty Act |
| MCA | Montana Code Annotated |
| MDEQ | Montana Department of Environmental Quality |
| MDNRC | Montana Department of Natural Resources and Conservation |
| MFWP | Montana Fish, Wildlife & Parks |
| MNHP | Montana Natural Heritage Program |
| MSAT | Mobile Source Air Toxic |
| MSE | Mechanically Stabilized Earth |
| NAC | Noise Abatement Criteria |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NRHP | National Register of Historic Places |
| OHWM | Ordinary High-Water Mark |
| PDC | Project Decision Committee |
| PER | Preliminary Engineering Report |
| PM | Particulate Matter |
| POM | Polycyclic Organic Matter |
| Project | Sun River Bridge Replacement Project |
| RCRA | Resource Conservation and Recovery Act |
| RV | Recreational Vehicle |
| SHPO | State Historic Preservation Office |
| SWPPP | Stormwater Pollution Prevention Plan |
| TMDL | Total Maximum Daily Load |
| USACE | United States Army Corps of Engineers |
| USBLM | United States Bureau of Land Management |
| USBR | United States Bureau of Reclamation |
| USEPA | United States Environmental Protection Agency |
| USFS | United States Forest Service |
| USFWS | United States Fish and Wildlife Service |
| UST | Underground Storage Tank |
| WMA | Wildlife Management Area |
| WRP | Watershed Restoration Plan |
| WFLHD | Western Federal Lands Highway Division |

# Table of Contents

# List of Figures

# List of Tables



# Appendices

# Executive Summary

The *National Environmental Policy Act of 1969* (NEPA) requires that all projects carried out by a Federal agency, or which invoice Federal funding, require a Federal permit, or occur on Federal land, must consider the effects of their actions on the quality of the human environment. This environmental assessment (EA) for the Sun River Bridge Replacement Project is part of the NEPA process.

The Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA), in cooperation with the U.S. Bureau of Reclamation (USBR), U.S. Bureau of Land Management (USBLM), U.S. Forest Service (USFS), and Greenfields Irrigation District (GID), is proposing to construct a new single-lane bridge approximately 250 to 300 feet downstream of the existing Sun River Bridge crossing the Sun River. The proposed Project is located in Section 36 of Township 22 North, Range 9 West and Section 31 of Township 22 North, Range 8 West, approximately 73 miles west of Great Falls, 19 miles west of Augusta, and 0.75 mile downstream from the GID Diversion Dam near Gibson Reservoir in Montana (**Figure ES-1**).

The new Sun River Bridge would provide service continuity for a variety of Federal, State, and local agencies whose personnel use the crossing to access and maintain the surrounding public lands as well as the irrigation infrastructure in the area. The bridge is also used by local residents to reach their homes, members of the public to access the surrounding lands for recreation, local law enforcement and emergency response vehicles for fire-fighting activities, and local conservation groups for weed control and management activities in the area.

The purpose of the Project is to provide safe access across the Sun River to the surrounding Federal lands, irrigation facilities, local residences, and other destinations in the vicinity. The Project is needed because the existing bridge is in poor condition, and its unimproved access roads do not meet standards and impose limitations for users (see **Appendix B** for additional details).

A multi-step evaluation process considered alternatives to construct a new Sun River Bridge, as described in the *Sun River Bridge Replacement Alternatives Analysis Memorandum* (**Appendix A** of this EA). After evaluating 11 conceptual alternatives and the No Action Alternative, followed by two preliminary alternatives and the No Action Alternative, the Preferred Alternative was selected because it meets the Project's purpose and need and minimizes risks, impacts, and costs. The Preferred Alternative would place a new single-lane bridge approximately 250 to 300 feet downstream of the existing bridge and provide two new approach roadways that would tie into the existing roadways on either side of the Sun River.

The alternatives analyzed in this EA include the No Action Alternative and the Preferred Alternative. **Table ES-1** summarizes the Project's potential adverse and beneficial environmental impacts by alternative.

**Figure ES-1. Sun River Bridge Replacement Project – Vicinity Map**

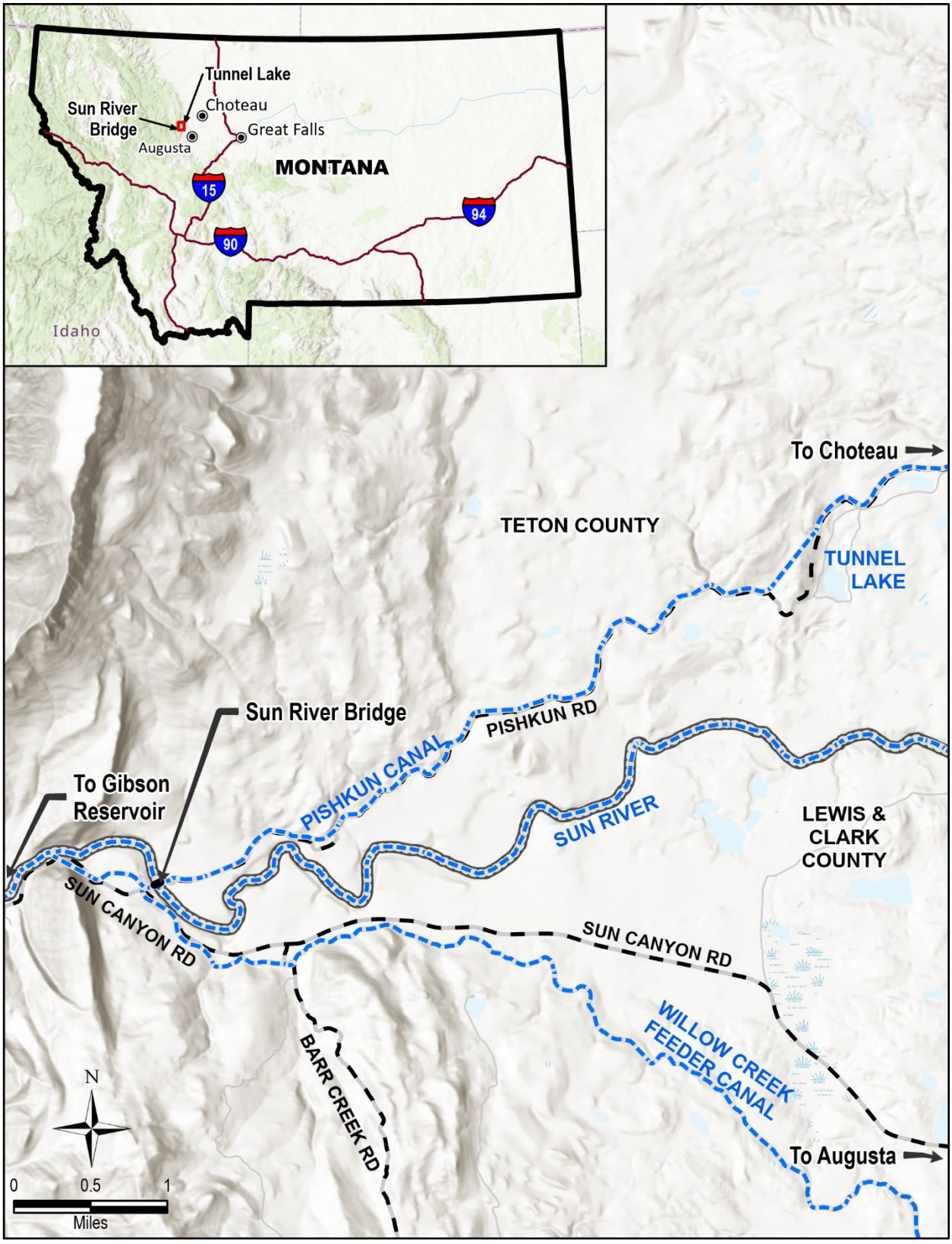


**Table ES-1. Summary of Impacts by Alternative for the Proposed Sun River Bridge Replacement Project**

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Transportation | Direct and indirect effects<br>• Weight limit restrictions would remain and access to public and private lands would be restricted to lighter vehicles only.<br>• Weight limit restrictions may delay first responders.<br>• In the event of a bridge closure, vehicles would be required to continue using a lengthy detour of as much as 76 miles and three hours to reach the opposite side of the river. | Temporary construction effects<br>• None.<br>Direct and indirect effects<br>• Service continuity would be provided for a variety of Federal, State, and local agencies as well as local residents, outfitters, and the public.<br>• Bridge approach roadways would no longer include switchbacks and sharp curves.<br>• Emergency services would have improved access across the Sun River without concerns about weight limit restrictions. |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Land Use, Farmland, Forestland, Right-of-Way, and Utilities | Direct and indirect effects<br>• Large-vehicle access to surrounding public and private lands would continue to be hindered by weight limit restrictions. | Temporary construction effects<br>• During construction, access to public and private properties on the east side of the Sun River may be modified or adjusted as new connections to the approach roadway alignment are developed.<br>• FHWA will secure any temporary construction occupancy permits required for staging areas within the APE. The Contractor would be responsible for obtaining any temporary construction occupancy permit that may be required for staging areas outside of the APE.<br>Direct and indirect effects<br>• Minor adjustments at approach roadways in the Project area to would be needed allow for new road connections.<br>• Approximately 3.6 acres of new right-of-way would need to be acquired from one USBLM parcel and one private parcel owned by Klick and Robinson, LLC for the new roadway.<br>• One power pole would need to be relocated on the west bridge approach.<br>• The existing river gauge would need to be relocated if the superstructure of the existing bridge is removed. |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Social/Economic Changes and Environmental Justice | Direct and indirect effects<br>• Access across the river would continue to be limited for vehicles not meeting the weight limit restrictions, resulting in the potential for lost economic revenue to the region from tourism and recreation. | Temporary construction effects<br>• Brief travel delays would occur due to the presence of construction equipment using local roadways.<br>• Short-term economic benefits will result from construction activities.<br>• An increase in demand for local housing, goods, and services will occur during construction.<br>Direct and indirect effects<br>• Residents would not be displaced, buildings or other developed improvements would not be directly affected, and existing residential areas would not be isolated or divided.<br>• No disproportionately high or adverse human health or environmental effects on Environmental Justice communities would occur.<br>• New development in the vicinity of the Project area is not anticipated due to no additional roadway capacity and no new access to parcels.<br>• The road's viability as an emergency service route would be restored.<br>• There would be no significant impact on the location, distribution, density, or growth rate of the population of the Project area.<br>• Long-term economic benefits may be provided to the economies of Augusta, Choteau, and Fairfield. |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Air Quality/Noise/ Energy | Direct and indirect effects<br>• No additional vehicle emissions, noise generation, or fuel consumption associated with vehicular travel or maintenance activities would occur within the Project area.<br>• Higher emissions, noise, and fuel consumption may result from continued use of longer detour routes. | Temporary construction effects<br>• Increased dust, noise levels, and energy consumption from construction activities and equipment would occur during construction.<br>Direct and indirect effects<br>• No violations of air quality standards or significant noise impacts by regional vehicle emissions, noise, and fuel consumption, or any changes in traffic patterns are anticipated. |
| Soils and Geology | Direct and indirect effects<br>• None | Temporary construction effects<br>• If left unprotected, areas of ground disturbance could be prone to erosion.<br>• Soil disturbance could facilitate the spread of noxious weeds, and soil compaction can increase surface erosion.<br>Direct and indirect effects<br>• Long-term erosion and drainage capabilities of soils may be altered from the creation of new slopes or steepening of existing slopes. Minor blasting is not anticipated but may potentially be required and would permanently impact a small portion of the area's geology. |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Water Resources, Water Quality, and Floodplains | Direct and indirect effects<br>• Fuel spills or debris associated with maintenance equipment could potentially enter the river during maintenance activities. | Temporary construction effects<br>• Construction activities (including placement of temporary fill, limited construction vehicle water crossings prior to temporary stream diversion installation, minor potential blasting, and storing, operating, and maintaining equipment) could impact water quality by introducing sediment and/or pollutants into the river.<br>• Vegetation removal, soil disturbance, and soil compaction during construction could potentially affect water quality in the Project area.<br>Direct and indirect effects<br>• Spanning the canyon and placing bridge abutments outside of the OHWM and the floodplain would avoid permanent impacts to the river below the OHWM.<br>• Vehicle pollutants associated with minimal increased vehicular traffic that are carried by stormwater have the potential to enter the Sun River. |
| Wetlands | Direct and indirect effects<br>• None | Temporary construction effects<br>• None<br>Direct and indirect effects<br>• None |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Fish, Wildlife, and Vegetation | Direct and indirect effects<br>• Limited in-water work has the potential for direct or indirect impacts to vegetation, fish, and wildlife during ongoing maintenance activities. | Temporary construction effects<br>• Temporary vegetation impacts would occur in staging, laydown, and construction access areas. Additionally, temporary effects on pollinators and dust covering leaves would temporarily impact vegetation during construction.<br>• Work bridges and in-water work could create temporary water quality impacts and change fish habitat in a localized area.<br>• Habitat will be temporarily cleared during construction.<br>• Noise and visual disturbance from use of heavy equipment could directly result in mortality or injury of small animal species and may cause wildlife to avoid the construction area.<br>• Improperly stored food or petroleum products could attract bears and other wildlife.<br>• Project activities have the potential to affect lynx, grizzly bear, and wolverine due to noise and disturbance from construction equipment.<br>Direct and indirect effects<br>• Permanent vegetation impacts would occur due to construction of the new road and approaches.<br>• The Project could result in direct wildlife mortality and altered habitat in the immediate Project area.<br>• Removal of the existing bridge would potentially result in minor additional direct wildlife mortality.<br>• Invasive plants and noxious weeds could spread into previously non-infested areas. |
| Cultural Resources | Direct and indirect effects<br>• None | Temporary construction effects<br>• Excavation for the bridge abutments could expose buried archaeological resources. An inadvertent discovery plan will be in place and construction work halted in the area if resources are found.<br>Direct and indirect effects<br>• No direct effects. |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Recreation | Direct and indirect effects<br>• Access to the various recreational resources in the surrounding area would continue to be restricted due to weight limit restrictions on the existing bridge and access road deficiencies. | Temporary construction effects<br>• Recreational access to the Sun River and the areas immediately surrounding the Project site would be restricted from approximately June through November to ensure public safety.<br>• Noise and potential traffic delays associated with construction equipment may affect recreational access and users' experiences.<br>Direct and indirect effects<br>• Minor conversion of Federal land to roadway right-of-way would occur from development of the new approach roadways.<br>• Maintained consistent access and improved safety to recreational opportunities in the surrounding area and to Federally managed lands would be provided. |
| Hazardous Materials | Direct and indirect effects<br>• None | Temporary construction effects<br>• Potential disturbance of unknown hazardous materials in the soils could occur.<br>• Accidental spills of hazardous materials used during construction could occur.<br>• Depending on testing results, release of asbestos and lead-based paint could occur if the steel superstructure of the existing bridge is removed.<br>Direct and indirect effects<br>• None. There are no known hazardous material sites located within the Project area. |
| Visual Quality | Direct and indirect effects<br>• None | Temporary construction effects<br>• Construction equipment, workers, materials, and staging area would add new elements into existing views.<br>• Viewers would perceive a temporary decrease in visual quality.<br>Direct and indirect effects<br>• Direct impacts on the visual quality of the area would result from the construction of a new bridge.<br>• Views from adjacent land parcels and access roadways would include two parallel bridge structures. |

| Environmental Resource | No Action Alternative | Preferred Alternative |
|---|---|---|
| Cumulative Effects | • None | • None. |

# Chapter 1 Purpose of and Need for Action

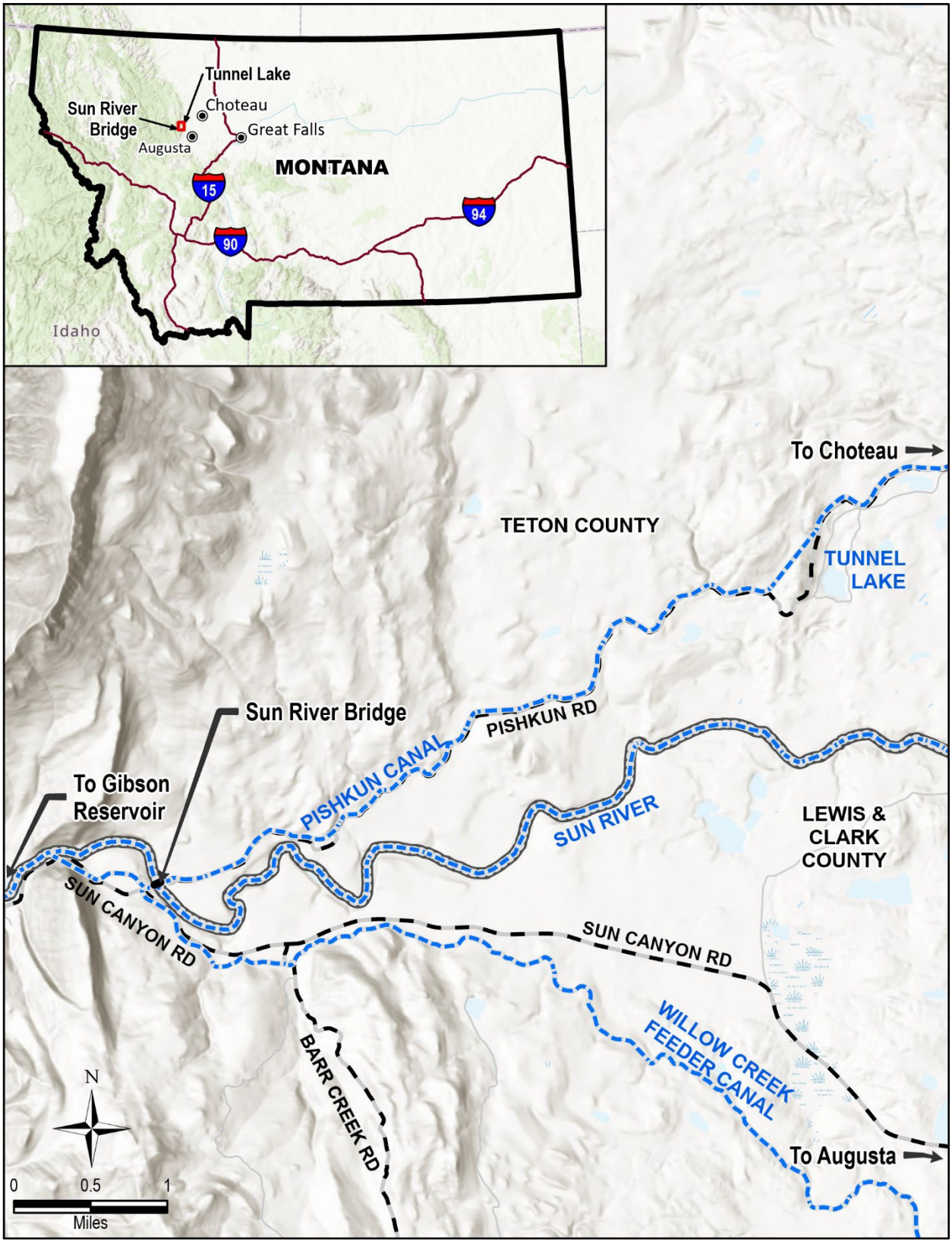
## 1.1 Introduction

The WFLHD of the FHWA, in cooperation with the USBR, USBLM, and USFS, is proposing to construct a new Sun River Bridge crossing the Sun River. The proposed Sun River Bridge Replacement Project (Project) is located in Section 36 of Township 22 North and Range 9 West and Section 31 of Township 22 North and Range 8 West, approximately 73 miles west of Great Falls, 19 miles west of Augusta, and 0.75 mile downstream from the GID Diversion Dam near Gibson Reservoir in Montana. The bridge crosses the Sun River and spans the boundaries of Lewis and Clark County and Teton County. **Figure 1-1** depicts the Project vicinity.

A 2019 *Preliminary Engineering Report* (PER) that was prepared to support the application for Federal funds for this Project (TD&H 2019) noted that the Sun River Bridge (NBI# MTA-SR-001) was originally built in 1916 by the USBR as part of the Sun River Canal Project. Its primary purpose at the time was to support and convey an 8-foot-diameter wood-stave siphon pipe across the Sun River. The original design intended for lightly loaded vehicles to travel across the upper truss chord of the single-lane structure, primarily to support GID maintenance duties, although it has also been used by the public since it was constructed. In the 1940s, the wood-stave siphon was removed and replaced with a buried, cast-in-place concrete siphon that passes under the Sun River channel and remains in operation today.

In 2021, USBR and GID applied for and received $6.2 million in funding awarded under the Federal Lands Access Program (FLAP) by the Montana Project Decision Committee (PDC). Additional matching funds of $1.8 million were provided by USBR through the Federal Lands Transportation Program (FLTP), for a total of $8.0 million for reconstruction of the Sun River Bridge (FLAP; WFLHD 2021). After initial cost verification efforts conducted by WFLHD, the PDC allocated an additional $2.5 million in FLAP funding to the Project. Allocated funds are currently being used to conduct preliminary design activities and the environmental review process. All Federal funding is dependent on the availability of appropriations from Congress. All FLAP funding is subject to local match and funding agreements.

**Figure 1-1. Sun River Bridge Replacement Project – Vicinity Map**



## 1.2 Purpose and Need Statement

The following identifies the purpose of the Project and the needs to be addressed.

### 1.2.1 Purpose

The purpose of the proposed Project is to ensure safe transportation access across the Sun River to Federal lands, irrigation facilities, and other destinations in the vicinity.

The Project would provide service continuity for a variety of Federal, State, and local agencies including USBR, USBLM, USFS, GID, Montana Department of Natural Resources and Conservation (MDNRC), and Montana Fish Wildlife & Parks (MFWP), whose personnel use the crossing to access and maintain public lands and irrigation infrastructure including Gibson Dam, the Diversion Dam, Pishkun Supply Canal, and the Pishkun Canal Siphon. Additionally, the new bridge would serve local residents and outfitters who access privately held ranches, homes, cabins, and range land and would support public access to Federal, State, and local lands used for recreation, including the Sun River, Gibson Reservoir, public campgrounds, trailheads, guest ranches, hunting areas, and fishing access sites. The bridge is also used by local law enforcement and emergency response vehicles for fire-fighting activities and by the Sun River Watershed Group and the Rocky Mountain Front Weed Roundtable for weed control and management activities.

### 1.2.2 Need

The existing Sun River Bridge is in poor condition, and its outdated design poses safety hazards and limitations to users. Based on an inspection conducted by USBR in 2017 (**Appendix B**), the 2019 PER prepared for this Project identified the following specific deficiencies (TD&H 2019).

- **Weight Limitations** – The bridge is currently limited to five tons for small trucks. Public travelers in the area include recreational vehicles, horse trailers, and other large vehicles, all of which can overload the bridge beyond five tons. Members of the public may not be aware of their vehicle's weight, and they may unknowingly endanger themselves and the bridge. Additionally, heavy emergency response vehicles, such as fire trucks, may not be able to safely cross the existing bridge, and emergency personnel could be delayed in their response due to alternate routes requiring two to three hours of out-of-direction travel.
- **Bridge Railings** – The top chord of the steel truss structure serves as the bridge guardrail. This condition is not desirable because vehicular impact to the truss structure can cause damage and collapse of the entire truss.
- **Concrete Deck** – The precast concrete deck panels are not attached to the steel stringers, allowing for lateral movement of the precast concrete decking. The deck panels are free to shift around, posing a risk to people below and to bridge users.

- **Steel Superstructure** – The steel truss superstructure has several deficiencies. The expansion bearing plates are non-functional due to excessive movement, debris, and deterioration. The truss paint has worn off and left the steel exposed to weather, leading to minor structural deterioration due to corrosion. Some truss members have sustained impact damage from either vehicles or flood debris. Seven gusset plates are missing rivets. Deficiencies associated with the existing superstructure could lead to further weight limitations, closure of the bridge for public use, or potentially failure.
- **Substructure** – The concrete pier at the northeast approach span is deteriorated beyond reliability for support. Large boulders have been placed as fill under the approach span and are inducing additional lateral pressure on the damaged pier. The pier is at risk of failing and causing a collapse of the northeast approach span.
- **Approach Guardrail** – Concrete jersey barriers on the northeast approach are not properly supported. Substantial loss of subgrade material below the barriers has resulted in potentially unstable conditions, and the existing barrier may not be capable of containing an errant vehicle.
- **Approach Roadway** – Steep slopes navigated by switchbacks and sharp, hairpin curves at both ends of the bridge require a substantial reduction in speed when approaching the structure and reduce the line of sight across the bridge. These conditions present safety hazards for vehicular traffic and make passage difficult, especially for travel during inclement weather.

The bridge design, condition, weight limitations, and approach deficiencies pose a threat to continued user access.

## 1.3 NEPA Compliance

This environmental assessment (EA) was prepared by the FHWA as the Federal lead agency for compliance with NEPA. The USBR, USBLM, and USFS are cooperating agencies. This EA describes the reasonable range of alternatives and the process used to determine these alternatives. It analyzes the impacts of these alternatives in the context of the existing environmental conditions and, if needed, proposes measures to avoid, minimize or mitigate potential impacts.

## 1.4 Scoping Process

NEPA defines scoping as an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Public and agency scoping meetings were held on May 16, 2023, at the Augusta Community Center in August, MT, located approximately 19 miles east of the Project site.

A complete list of the public, tribal and agency outreach activities conducted for the Project is included in Chapter 4 of this EA. The input that was received through this process was used by FHWA, USBR, USBLM, and USFS to develop and narrow the range of alternatives.

# Chapter 2 Proposed Action and Alternatives

This chapter provides a description of the two alternatives that are being considered, which are the No Action Alternative and the Preferred Alternative. In addition, this chapter describes the alternatives development and screening process that was conducted to narrow the range of alternatives and identify the Preferred Alternative.

## 2.1 No Action Alternative

The existing bridge is a single-lane, two-span bridge approximately 224 feet long and 14 feet wide. The bridge superstructure consists of two 112-foot riveted Warren trusses with vertical members for extra strength. The bridge is a through type truss, with the original wood-stave siphon formerly supported at the bottom chord level and a roadway/deck placed just below the top chord level. The bridge timber deck was replaced (unknown timeline) and now consists of 6.5-inch-thick precast-concrete panels that are placed perpendicular to the span atop the trusses' steel I-beams and stringers. The substructure consists of poured-concrete abutments and a central poured-concrete pier. The bridge's northeast approach span has timber decking, while the southwest approach is graveled earth.

Under the No Action Alternative, the existing bridge would remain in place and no work would be done to rehabilitate the existing structure apart from routine maintenance provided by GID. The bridge would continue to have a 5-ton weight limit, restricting use of the bridge to small cars and trucks. Larger vehicles such as heavy emergency medical response vehicles, fire trucks, recreational vehicles, horse trailers, and boats on trailers would be prevented from crossing the river, delaying emergency response and preventing public access. Safety hazards associated with the bridge railings, concrete deck, steel superstructure, substructure, approach guardrail, and approach roadway would remain. These hazards would continue to pose a limitation to the traveling public and multiple Federal, State, and local agencies that rely on the crossing to access public lands and irrigation infrastructure, privately held ranches, homes, cabins, and range land as well as public campgrounds, trailheads, guest ranches, hunting areas, and fishing access sites.

**Figure 2-1** shows the existing alignment of the Sun River Bridge and approach roadways associated with the No Action Alternative.

By failing to address safety hazards and access limitations for users, the No Action Alternative would not address the purpose and need of the Project because it would not provide safe transportation access and service continuity across the Sun River to destinations in the vicinity.

## 2.2 Preferred Alternative

The Preferred Alternative would provide a new bridge that would meet current design and safety standards and provide a design life of approximately 75 years. The Preferred Alternative meets the purpose and need for the Project because it would provide safe transportation access and service continuity across the Sun River to destinations in the vicinity.

New Bridge

The Preferred Alternative would place a new single-lane bridge approximately 250 to 300 feet downstream of the existing bridge, as depicted in **Figure 2-1**. The single travel lane would provide a 14-foot roadway width and 1-foot shoulders on each side for a total curb-to-curb width of 16 feet. The new bridge ends would be placed at the top of the river canyon on the west side and slightly below the top edge of the river canyon on the east side. The bridge length is estimated at approximately 455 feet and would consist of three bridge spans fitted with curbing and guardrail. The forecasted main span crossing the river would be 175 feet long, and the two side spans would each be 140 feet long. **Figure 2-2** provides plan and elevation views of the new bridge. The bridge deck would be approximately 85 feet above the water surface, with the bottom chord elevation of the proposed bridge located above the lowest elevation of the existing bridge, resulting in a bridge hydraulic opening between the low chord of the bridge and the river channel greater than the existing opening.

New Approach Roads

Two new approach roadways totaling approximately 1,300 feet in length and 22 feet in width would connect the new bridge to tie into existing roadways on either side of the Sun River. The grades of the new road would range from 0% to approximately 3%. The approaches would require approximately 20,000 cubic yards of earthwork along with approximately 3.6 acres of new right-of-way acquisition to allow for the new road connection through public and private property. The gravel-surfaced roadway would be located within a variable right-of-way corridor to encompass the proposed side slopes and roadway drainage ditches. Vegetation would be cleared within the footprint of the new roadway alignment, and fill material would be imported to create the roadbed.

### 2.2.1 Construction of New Bridge and New Approach Roads

A construction impact area coinciding with the Area of Potential Effect (APE) has been determined to indicate the extent of potential construction impacts, as depicted in **Figure 2-1**.

**Figure 2-1. Sun River Bridge Replacement Project – Preferred Alternative**

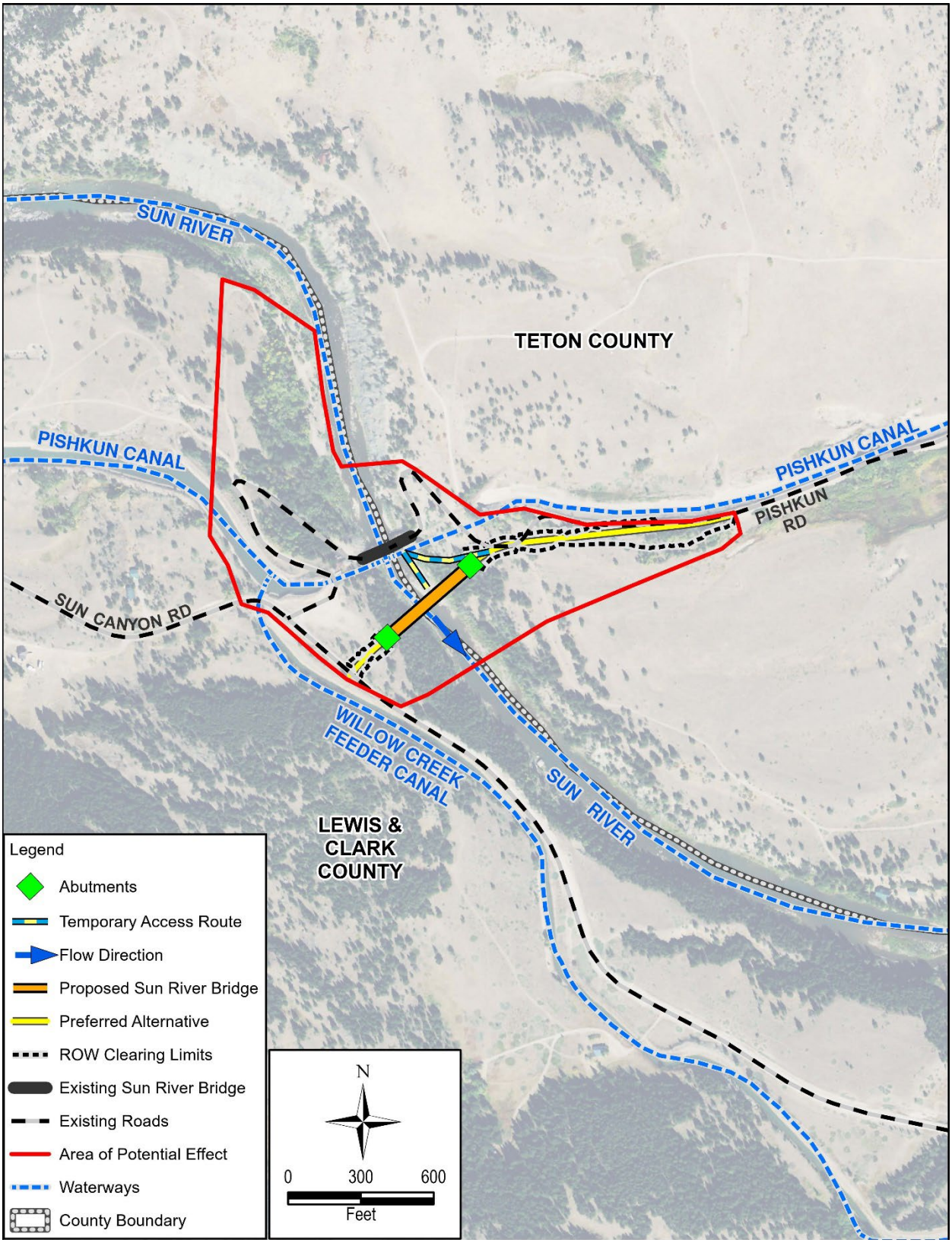
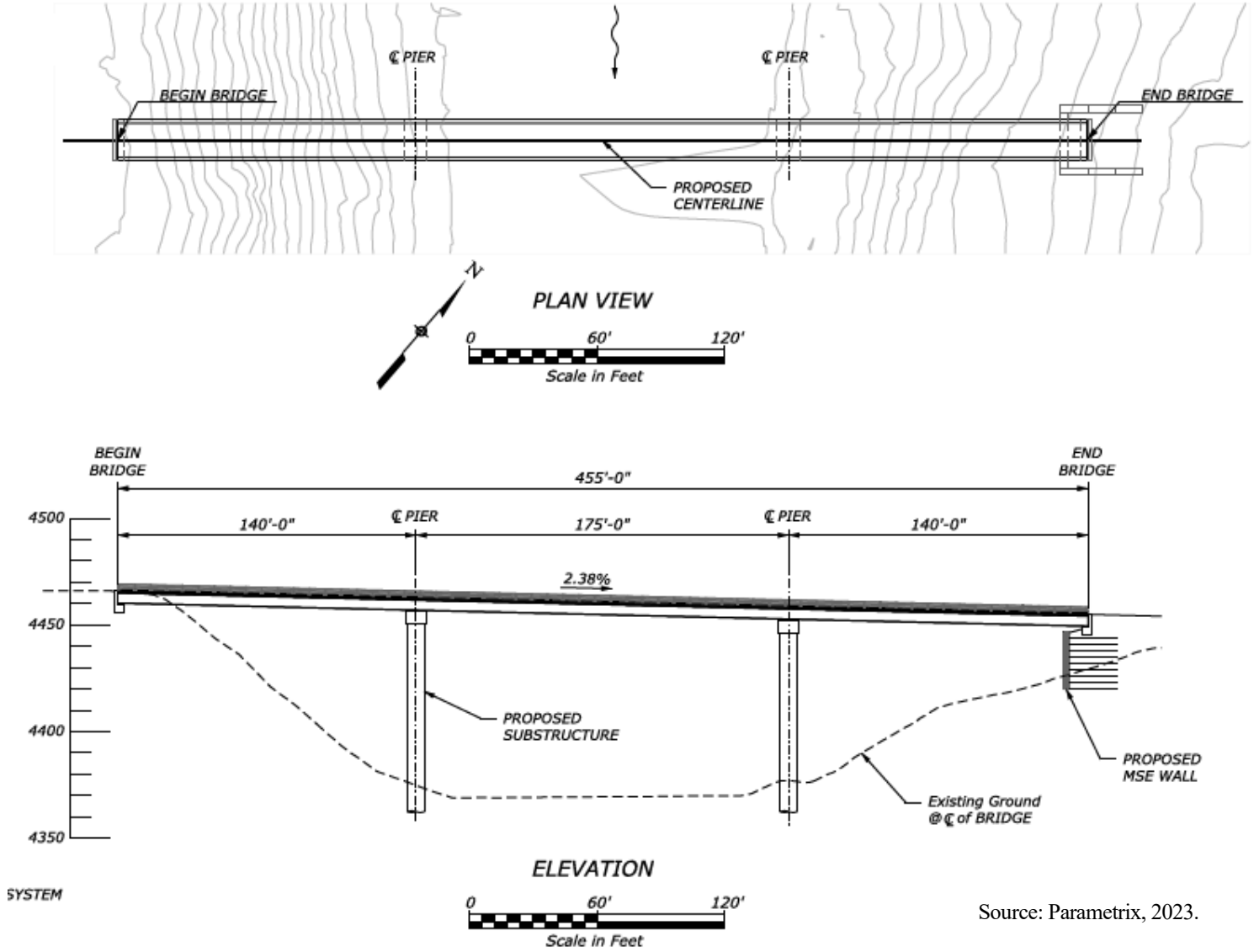


**Figure 2-2. Sun River Bridge Replacement Project – Preferred Alternative Plan and Elevation Views**




Source: Parametrix, 2023.

Construction of the Preferred Alternative would result in impacts within the immediate footprint of the new access roadways and bridge alignment, within staging, lay-down, access, and work areas for construction equipment and materials. The APE boundary accounts for the maximum potential extent of anticipated impacts relating to ground-disturbing activities at the bridge site. Temporary easements or special use permits would be obtained for portions of the construction area that would be outside of the permanently acquired right-of-way.

All construction access and staging would be contained within the APE identified at the Project site. Construction of the Preferred Alternative would be expected to last approximately two years (2025 and 2026, with winter shutdown in between construction seasons). Anticipated construction activities and approximate timeframes are listed in **Table 2-1**.

**Table 2-1. Sun River Bridge Replacement Project – Anticipated Construction Activities and Timeframes**

| Timeframe | Activity |
|---|---|
| Spring/Summer 2025 | • Vegetation clearing and grubbing after nesting bird survey<br>• Earthwork including excavation (with some areas of minor potential rock blasting), embankment construction on the east side of the river, and grading of the roadbed<br>• Connection to private roads on the east side of the canyon<br>• Construction of bridge abutments and Mechanically Stabilized Earth (MSE) wall |
| Fall 2025 | • Concrete foundation and bridge pier installation |
| Spring/Summer 2026 | • Bridge girder splicing (if needed)<br>• Bridge girder placement |
| Fall 2026 | • Access road restriction or obliteration (if pursued)<br>• Existing bridge removal (if pursued)<br>• Revegetation |

Construction Access and River Diversion

On the east side of the river, construction access would be provided via an existing access route leading from the upper east side of the canyon down to the existing siphon at the east riverbank. Currently, this existing access route is infrequently used to access a siphon release valve on the east bank and provide siphon maintenance. The route would be improved to facilitate construction access and left in place following completion of the Project.

From the existing siphon on the east bank of the river, construction access is anticipated along a gravel bar on the eastern shoreline. Reshaping of features may be required to create a drivable surface for tracked equipment. Access would then need to be developed from the eastern shoreline up the river embankment to the east foundation site approximately ten feet above the ordinary high-water mark (OHWM).

To enable construction of the bridge foundation and pier on the western bank of the river, construction access across the river channel would be required since the steep topography of the western canyon walls prevents access. Coordination with the GID would be conducted to time construction activities based on operation of the dam. The normal operating season of the siphon is May through September. No Project-related alterations to Sun River flows will occur.

The Contractor may elect to divert river water to one side or the other using temporary diversion techniques which could be constructed from river gravels or other stream diversion materials such as super sacks, water bladders, or shoring to control the river. If pursued, diversion would enable a temporary work bridge to be placed across a narrowed river channel for access from the east to the west side of the river. Additionally, a diversion may be used to provide a work area on the west riverbank. After access across the river is no longer needed, river diversion and temporary crossing materials would be removed and streambed materials would be reshaped to pre-existing conditions. Instream work would primarily be conducted during the MFWP-recommended in-water work window for the Sun River Drainage from June 15 to September 1. However, some work would likely be required outside this period and would be coordinated with regulatory agencies.

Vegetation Clearing

Trees on both slopes of the river canyon would be topped to ten feet vertical distance below the level of the new bridge and ten feet horizontal distance on each side of the bridge. Vegetation would be flush cut on the existing GID access road on the east bank. A 40- by 60-foot square of vegetation would be temporarily removed for work areas next to each of the bridge piers. An additional 30-foot by 50-foot laydown area would be temporarily cleared to use for drilled shaft and column construction equipment and materials. Vegetation would also be cleared for the approach roadways and bridge abutments.

Bridge Foundations

It is currently anticipated that foundations for the proposed bridge piers would consist of either drilled shafts (ten- to 12-foot diameter) or driven piles. The two proposed bridge pier foundations would be located approximately five to 15 feet outside of the OHWM of the active channel. The anticipated foundation type and layout would be determined based on the results of subsurface investigations and geotechnical site analysis. Spread footings supported by MSE walls would be used for the east abutment to reduce the length of the bridge, reduce the earthwork required, and reduce the area of ground disturbance. Excavation would be required to create a level foundation for the wall, and minor blasting is unlikely but may be required to construct the bridge abutments due to the presence of shallow bedrock.

Bridge Superstructure

Bridge spans between the abutments and piers would be either a single span or spliced sections. If spliced sections are used, it would be necessary to place temporary shoring towers during construction to support the girders during the splicing operation. Proposed splice locations may be 30 feet towards the river on either side of the intermediate bridge piers. Shoring towers would be created by installing piles using pile driving or vibratory equipment and placing a cap on top of the piles.

## 2.3 Existing Bridge and Access Roadways

A Determination of Eligibility (DOE) for listing the existing bridge on the National Register of Historic Places (NRHP) was issued in 1985 by the Keeper of the National Register. Since that time, changes to the bridge have led the bridge owner, USBR, to determine that the bridge no longer retains sufficient integrity to convey its significance. The Montana State Historic Preservation Office (SHPO) does not concur with this determination, and USBR intends to pursue a final determination with the Keeper of the National Register.

Two options are under consideration for the existing bridge. An option will be chosen based on final determination of NRHP eligibility and funding availability.

**Option 1 – Close the Existing Bridge to Vehicular Access and Maintain in Place**

Under this option, the existing bridge and access roadways would remain in place under the ownership of USBR. Concrete barriers and signage would be used to block vehicular access across the bridge due to safety concerns and weight limitations. Routine maintenance would be required to preserve the bridge in place.

Access roadways would continue to be maintained by GID to enable administrative and maintenance access to the existing bridge. However, jersey barrier, boulders, a gate, or some other measure would be used to prevent public vehicular access to the bridge.

**Option 2 – Remove the Existing Bridge (Preferred)**

Following construction of the Preferred Alternative, the existing bridge would no longer be needed for vehicular access across the Sun River. Removal of the existing bridge is therefore desired by cooperating agencies to minimize ongoing maintenance needs and eliminate risks associated with the aging structure.

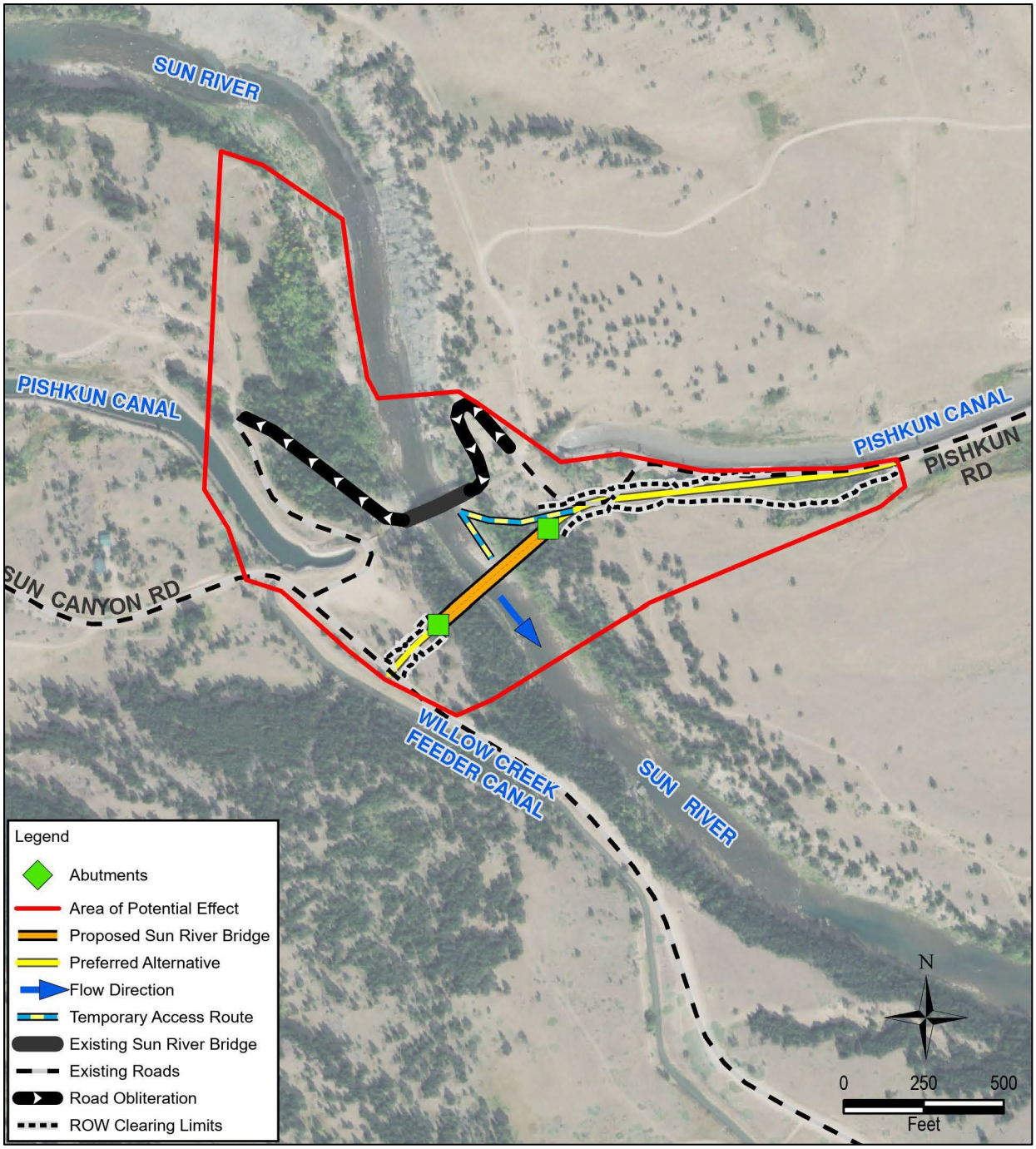
If the existing bridge is determined to not be eligible for listing on the NRHP and sufficient funding is available, the steel superstructure would be removed. To minimize impacts to the river and the existing siphon buried below the streambed directly adjacent to the bridge, the existing concrete piers would be allowed to remain standing in their current locations and would continue to be maintained in place.

Netting would be placed under the bridge for fall protection and to catch large debris during removal of the steel superstructure. A crane would be used to lift bridge sections as they are cut, and sections would be hauled offsite. A crane would access the work area by driving on the existing campsite access road on the west bank, then driving south along the riverbank. It may be necessary to divert the river to the east to create a drivable surface for the crane. Diversion methods would be the same as the options described for the west bank pier construction.

Following removal of the existing bridge's steel superstructure, the section of road on the west bank between the bridge and the hairpin turn and the section on the east bank between the bridge and the intersection with the private road at the top of the slope would be obliterated, as illustrated

in **Figure 2-3**. These road sections would be ripped and seeded with a government-approved native seed mix and blocked to prevent vehicle access.

**Figure 2-3. Sun River Bridge Replacement Project – Existing Bridge Removal**




Note: Road obliteration would occur only if the existing bridge is removed.

## 2.4 Alternatives Development and Screening

This section describes the process that occurred to develop and screen alternatives to meet the Project's purpose and need and how the Preferred Alternative was selected. The process included an initial evaluation of 11 conceptual alternatives, a secondary analysis of three conceptual alternatives, followed by analysis of two Preliminary Alternatives. Additional detail is provided in the *Sun River Bridge Replacement Alternatives Analysis Memorandum* (**Appendix A)**.

### 2.4.1 Conceptual Alternatives

The 2019 PER identified 11 conceptual alternatives for construction of a new Sun River Bridge. Variables including location of a new bridge, number of bridge spans and span lengths, superstructure types, foundation and substructure alternatives, and approach roadway alignments were explored. Additional information on assumptions, costs, advantages, and disadvantages associated with the 11 alternatives is provided in the PER.

All conceptual alternatives identified in the PER were determined to meet the purpose and need statements by constructing a new bridge meeting current design standards that would provide a safe, local crossing of the Sun River to serve all users. Some alternatives were determined to be unreasonable, however, because they would be difficult to construct, excessively costly, and would result in greater environmental impacts.

Through preliminary analysis, the PER considered environmental impacts, right-of-way requirements, impacts to the existing siphon and canal, ability of the existing bridge to remain open, approach navigability, and planning-level costs. Based on the screening process GID used to evaluate the conceptual alternatives, Alternatives 1A, 7, and 10 were shortlisted in the PER, and refined road alignments, bridge layouts, and appraisal-level cost estimates were developed. An alternatives screening process was conducted for these three alternatives using screening criteria for environmental impacts, siphon and canal impacts, ability to maintain the canal and siphon, right-of-way requirements resulting in new land acquisition, ability of the existing bridge to remain open, approach navigability, and total costs. The PER determined that all three alternatives were feasible, however Alternative 10 was identified as the recommended alternative due to a determination of lowest cost based on preliminary analysis.

After FLAP funding was awarded, WFLHD reviewed the PER for geotechnical and other design criteria assumptions as well as quantity calculations and unit costs. WFLHD considered the PER recommendation (Alternative 10) alongside Alternative 2, which was determined to present lower risks and cost uncertainty and reduced potential impacts to cultural resources and wildlife due to the combination of a longer bridge, smaller footprint, and reduced road construction, rock blasting, and retaining walls. Because the updated costs from the initial design verification were significantly higher than the awarded amount, WFLHD explored alternatives to modify the Project scope and reduce construction costs. Since the new bridge would connect to a single-lane road, WFLHD determined there was no need for a two-lane structure and developed single-lane designs for Alternatives 2 and 10. Additionally, due to the potential historic status of the existing bridge, this element was separated from the bridge reconstruction Project scope and is being evaluated

independently. WFLHD developed a range of total Project costs in 2025 dollars to account for the uncertainty in bid prices, with higher costs than reported in the PER.

During independent verification of the WFLHD results by a consultant team, it was determined that Alternative 8 would provide a more desirable bridge configuration by crossing the river at a perpendicular angle while resulting in similar risks, impacts, and costs compared to Alternative 2. Accordingly, Alternative 8 was advanced as a Preliminary Alternative in place of Alternative 2.

### 2.4.2 Preliminary Alternatives

The Project team identified the following screening criteria to guide preliminary evaluation of Alternatives 8 and 10 and determine selection of the Preferred Alternative for evaluation in the EA.

- Environmental Impacts: Potential impacts to wetlands and streams, upland and riparian vegetation, endangered species, general wildlife and fish species, and cultural and historical resources
- Historic Structures: Risk of potential impacts to existing bridge, siphon, and canal
- Constructability: Geotechnical stability and associated risks
- Right-of-way Impacts: Amount of new land to be disturbed in terms of number of parcels and landowners impacted, severity of impacts, quantity of right of way required and estimated costs, and potential risks related to the right of way acquisition.
- Schedule: Amount of time required to complete design and construction of proposed alternatives.
- Financial Feasibility: Total estimated construction costs

WFLHD conducted a screening process that evaluated advantages and disadvantages associated with Alternatives 8 and 10 based on the most current design as of May 2023, which differed in some cases from the 2019 PER. The preliminary alternatives evaluation determined that **Alternative 8** in a single-lane configuration would meet the Project purpose and need and also minimize risks, impacts, and costs. Alternative 8 offers the following advantages.

- A smaller footprint with minimal approach road work would reduce potential impacts to environmental resources.
- The crossing alignment and minimal approach road work would minimize potential damage to the existing canal and siphon.
- Conventional construction methods would be employed without the need for specialty blasting Contractors.
- Reduced right-of-way would be required.

- The Project schedule would be streamlined due to the smaller footprint, simplified approach roadway construction, and concurrent roadway and bridge construction.
- The estimated construction cost is anticipated to fall within the available funding amount for the Project.

Alternative 8 in a single-lane configuration meets the purpose and need of the Project to provide a safe crossing for GID, the general public, and Federal land management agencies. It meets applicable design standards, minimizes impacts to surrounding undisturbed areas, and offers a lower-cost alternative compared to Alternative 10. Therefore, Alternative 8 was selected as the Preferred Alternative for evaluation in the Project EA.

### 2.4.3 Alternatives Previously Considered but Dismissed

All alternatives identified in the PER were determined to meet the purpose and need statements by constructing a new bridge structure meeting current design standards that would provide a safe, local crossing of the Sun River to serve all users.

Some alternatives were determined to be unreasonable, however, because they would be difficult to construct, excessively costly, and would result in greater environmental impacts than the reasonable alternatives. These alternatives were considered but were dismissed based on the evaluation criteria. Refer to the *Sun River Bridge Replacement Alternatives Analysis Memorandum* (**Appendix A**) for further details.

# Chapter 3 Affected Environment, Environmental Consequences and Mitigation Measures

This chapter describes the existing conditions or environmental resources occurring within the Project area (affected environment) and documents the potential adverse, beneficial, or negligible effects (environmental consequences) to environmental resources associated with the No Action Alternative and the Preferred Alternative. No Action Alternative effects are discussed in terms of the direct effects and indirect effects (which are caused by the action at a later time or farther removed in distance but still reasonably foreseeable) that would occur as a result if the existing Sun River Bridge were to remain in use. Since no Project-related construction would occur with the No Action Alternative, temporary effects are not discussed. Preferred Alternative effects are discussed in terms of temporary effects during construction, direct effects resulting from Project implementation and associated with the operation and maintenance of the facility, and indirect effects. If applicable, mitigation measures are proposed to address potential adverse effects from the Preferred Alternative. Cumulative effects of the Project with other past, present, and reasonably foreseeable future activities are documented in Section 3.13.

## 3.1 Transportation

### 3.1.1 Affected Environment – Existing Conditions

**Existing Conditions and Deficiencies**

The existing Sun River Bridge is a 224-foot long, single-lane, two-span, steel truss bridge supported on concrete abutments and a central concrete pier. The Sun River Bridge was originally built in 1916 as part of the Sun River Project to support and convey an 8-foot diameter wood-stave siphon pipe across the Sun River. This single-lane structure was originally designed for lightly loaded vehicles mainly to support the GID's maintenance activities, but the structure has also been used by landowners to access private property and by the public to access lands used for recreation, hunting, fishing, boating, hiking, and sightseeing.

The bridge is in poor condition and is limited to weights of five tons. The concrete substructure is deteriorated, decking is inadequately attached, roller bearings and anchor bolts have failed, and there are missing rivets in the steel truss (TD&H 2019). The bridge carries Pishkun Road, a gravel-surfaced roadway that is owned by the USBR.

The bridge approach sections consist of narrow, steep roadways with switchbacks and sharp curves at both ends of the bridge, requiring a reduction in speed when approaching the bridge. These narrow approaches also preclude larger vehicles or trailers from using the bridge.

**Bridge Uses**

The Sun River Bridge provides service continuity for a variety of Federal, State, and local agencies whose personnel use the crossing to access and maintain the surrounding public lands as well as the irrigation infrastructure in the area including the Gibson Dam, Diversion Dam, Pishkun Supply Canal, and the Pishkun Canal Siphon. The bridge is used not only by local residents to access ranches,

homes, and cabins in the area but also by the public to access the surrounding lands for recreation. Local law enforcement and emergency response vehicles use the Sun River Bridge for fire-fighting activities, and local conservation groups such as the Sun River Watershed Group and the Rocky Mountain Front Weed Roundtable use the bridge for weed control and management activities in the area.

**Traffic Volumes**

According to the 2017 bridge inspection report conducted by the USBR (**Appendix B)**, an Average Daily Traffic (ADT) volume of 30 vehicles was estimated for the Sun River Bridge, and a 30-year future ADT of 33 vehicles was estimated. The condition of the existing bridge and the nature of the approaches result in substantial restrictions for users desiring to cross the bridge. The current weight limit restriction of five tons restricts vehicles larger than small passenger cars and pick-up trucks. The approach roadways are narrow and have steep grades, sharp curves, and switchbacks, which preclude larger vehicles and towed units. Drivers are also deterred from crossing the bridge due to the narrowness and the deteriorated appearance of the existing bridge deck.

**Crash History**

According to GID's 2021 *Montana FLAP Application* (GID 2021), no reported crashes relating to the bridge have occurred in the last five years. However, GID maintenance crews have observed collisions or vehicular impacts to the bridge and guard rails.

### 3.1.2 Environmental Consequences – No Action Alternative

**Direct Effects**

Without the Project, the weight limit restrictions would remain and over time be reduced leading to closure, and access to public and private lands would continue to be restricted to lighter vehicles only. Everyday users including local residents and the general public would not be able to safely use the bridge for passage of recreational vehicles or horse trailers. Weight limitations on the existing bridge would continue to hinder irrigation infrastructure operations and maintenance along with State, Federal, and local agency access to public lands. Larger vehicles would be required to continue using a lengthy detour of as much as 76 miles and three hours to reach the opposite side of the river.

**Indirect Effects**

In the event of a future fire or other emergency, weight restrictions on the bridge may delay first responders from reaching an emergency scene and responding to an event. This could potentially result in detrimental consequences to human life, property, and the environment.

### 3.1.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

No impacts to transportation during construction are anticipated. Access to all properties would be maintained during the construction period.

**Direct Effects**

The Preferred Alternative would provide service continuity for a variety of Federal, State, and local agencies whose personnel use the crossing to access and maintain public lands and irrigation infrastructure including the Gibson Dam, Diversion Dam, Pishkun Supply Canal, and the Pishkun Canal Siphon. Additionally, the new bridge would serve local residents and outfitters who access privately held ranches, homes, cabins, and range land and would support public access to Federal, State, and local lands used for recreation, including the Sun River, Gibson Reservoir, public campgrounds, trailheads, guest ranches, hunting areas, and fishing access sites.

Bridge approach roadways would no longer include switchbacks and sharp curves and would be wider than the existing bridge approaches, allowing larger vehicles to access the area including GID maintenance equipment as well as large recreational vehicles, livestock trailers, and towed recreational units which are not currently able to cross the existing bridge.

**Indirect Effects**

Emergency services would have direct access across the Sun River to reach future emergency scenes and respond to events. The new bridge would ensure that first responders could travel along the shortest route to minimize detrimental consequences to human life, property, and the environment.

### 3.1.4 Mitigation Measures

The following measures should be implemented during construction to minimize any impacts to transportation associated with the construction of the Project:

- Maintain traffic in the area during construction by allowing the continued use of the existing bridge.
- Maintain access to properties in the area throughout the construction period.
- Coordinate and communicate the construction schedule with the USBR, USBLM, USFS, GID, MFWP, and Lewis and Clark and Teton Counties, so they can post construction alerts on their preferred communication channels to inform area travelers.
- Post public notifications on Sun Canyon Road and Pishkun Road announcing any temporary access limitations during periods of construction.

## 3.2 Land Use, Farmland, Forestland, Right-of-Way, and Utilities

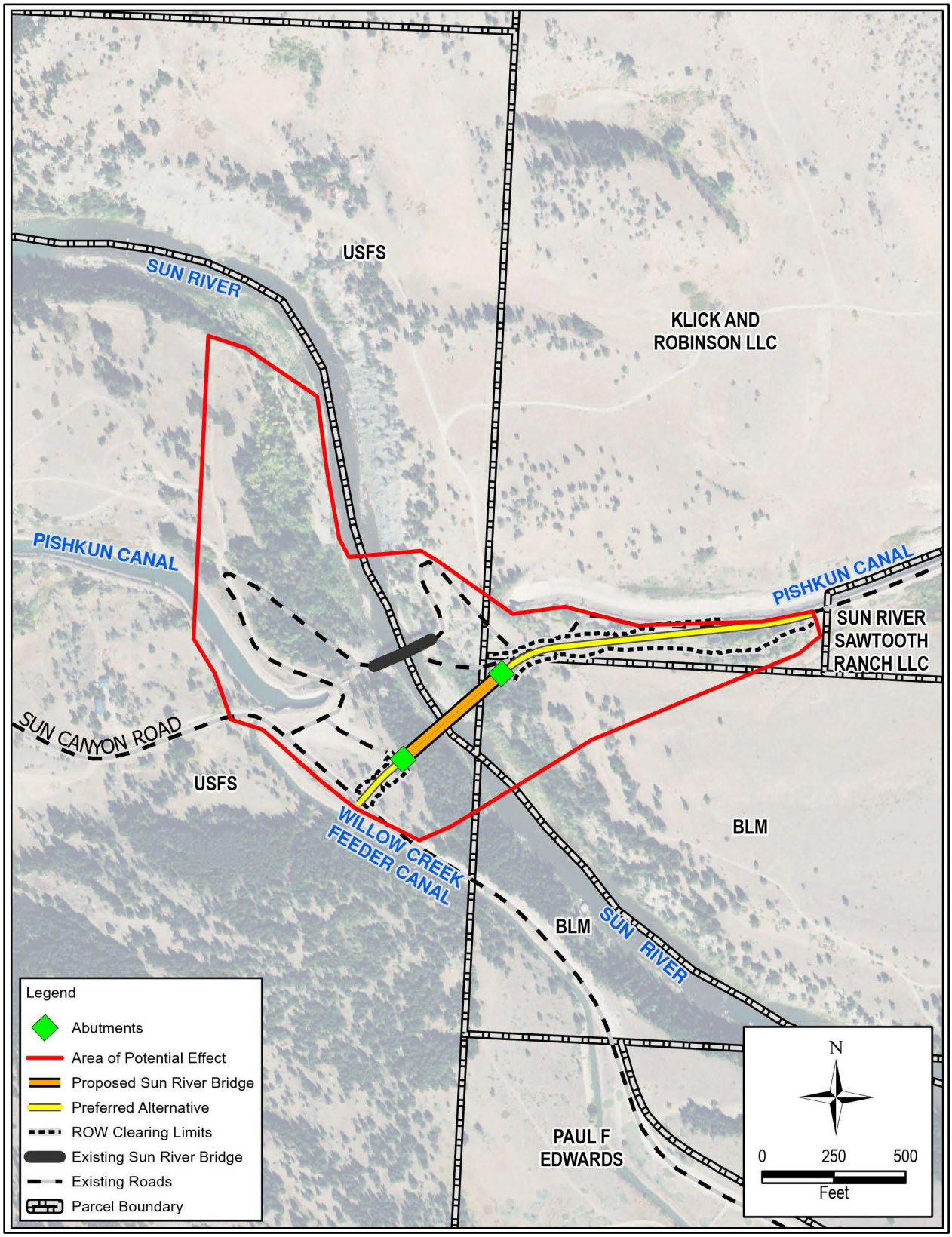
### 3.2.1 Affected Environment – Existing Conditions

Land Use, Farmland, and Forestland: Lands in the Project area include USFS National Forest lands that have been withdrawn for USBR Project purposes under the 1890 Canal Act (43 U.S.C. 945), USBLM lands including lands leased for grazing, and privately owned lands as shown on **Figure 3-1**. These lands are primarily used for public recreation including sightseeing, hiking, camping, hunting, and fishing. According to the US Department of Agriculture Natural Resources Conservation Service Web Soil Survey, there are no soils in the Project area that are identified as prime farmlands or farmlands of Statewide importance (NRCS 2023).

Land Ownership and Right-of-Way: Pishkun Road and the Sun River Bridge are owned by the USBR, and both are maintained by the GID. Pishkun Road crosses private property, USBLM property, and USFS property that has been withdrawn for USBR project purposes in the Project area. The existing Sun River Bridge is located entirely on USFS lands withdrawn for USBR project purposes. USBLM owns property to the south of the existing bridge, with land leased for grazing south of the existing fence line. A private parcel owned by Klick and Robinson LLC is located northeast of the bridge and is crossed by Pishkun Road. Land ownership in the Project vicinity is shown in **Figure 3-1**.

Utilities: An underground reinforced concrete siphon parallels the existing bridge approximately 25 feet downstream (TD&H 2019). This siphon conveys water from the Pishkun Supply Canal, which has a capacity of 1,400 cubic feet per second and is operational from April to September. The canal supplies irrigation water from the Sun River Diversion Dam upstream of the existing bridge to 14 miles downstream to the Pishkun Reservoir. An overhead single-phase power and communication line crosses the Sun River above the existing bridge and crosses over the approach road on both sides of the river (TD&H 2019). Additionally, a river gauge is located on the existing bridge.

**Figure 3-1. Sun River Bridge Replacement Project – Land Ownership**



### 3.2.2 Environmental Consequences – No Action Alternative

**Direct Effects**

Farmlands and Forests: The No Action Alternative would not directly impact farmlands or forests.

Land Conversion and Right-of-Way: The No Action Alternative would maintain current conditions and would not convert land from its current use to public right-of-way for a roadway. No impacts to existing utilities are anticipated.

Property Access: Although all existing accesses to adjacent properties would be retained, large-vehicle access to surrounding public and private lands would continue to be hindered by current and future further weight restrictions associated with the existing bridge.

Utilities: The No Action Alternative would not directly impact utilities.

**Indirect Effects**

Although the No Action Alternative would hinder travel across the Sun River, it is not anticipated to affect use of lands or development potential in the Project vicinity. No indirect effects are anticipated as a result of the No Action Alternative.

### 3.2.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

During construction, access to public and private properties on the east side of the Sun River may be modified or adjusted as new connections to the approach roadway alignment are developed. Access to all properties would be maintained during construction. Suitable sites are available for construction staging near the new bridge site. FHWA will secure any temporary construction occupancy permits required for areas within the APE. The Contractor would be responsible for negotiating with the USFS, USBLM, GID and/or private landowners to obtain any temporary construction occupancy permit that may be required outside of the APE.

Of the lands in the Project area that are not withdrawn for USBR Project purposes, temporary construction staging impacts would occur within approximately 1.1 acres between the mid-section line (coinciding with the USBLM property boundary) and the USBLM grazing allotment boundary that parallels the existing fence line. Temporary impacts will also occur on 0.05 acre within the grazing allotment at the northwest corner of the USBLM property for construction staging purposes. Lastly, the existing fence will be temporarily disconnected where it intersects the new approach roadway alignment to enable road construction. Coordination with USBLM will be conducted to determine the desired temporary and permanent configuration for reconnecting the fence.

**Direct Effects**

Farmlands and Forests: No direct impacts to farmlands and forests would occur.

Land Conversion, Right-of-Way, and Property Access: The Preferred Alternative would require minor adjustments at approach roadways in the Project area to allow for new road connections to public and private properties. Approximately 3.6 acres of new right-of-way would need to be acquired from one USBLM parcel and one private parcel owned by Klick and Robinson, LLC for the new roadway. Approximately 0.34 acre of USBLM land leased for grazing (0.036% of the total 939 acres within the Willow Creek Canal grazing allotment) and 0.06 acre of USBLM land outside of the grazing allotment boundary would be permanently impacted within an envelope surrounding the new bridge reflecting a permanent easement to the USBR for operation and management. Although approximately 0.34 acre would be permanently removed from grazing in the Willow Creek Canal allotment, there would be no changes to the authorized grazing use because only 0.06 Animal Unit Months (AUMs) of forage would be removed from the allotment.

Utilities: A new bridge would allow the GID and USBR to access the Pishkun Canal and Siphon that runs under the Sun River to efficiently maintain the utilities. Approach road construction would require the relocation of one power pole on the west bridge approach. No other overhead facilities would be affected. Coordination with the USGS and USBR would be required to reestablish the river gauge if the existing bridge is removed.

**Indirect Effects**

The new bridge and approach roadways will not induce any changes in land use. Land management surrounding the Project area will continue to be primarily in public ownership, and no new development is anticipated as a result of the Project.

### 3.2.4 Mitigation Measures

The following measures should be implemented during construction to minimize any impacts to right-of-way and utilities associated with the construction of the Project:

- Maintain access to all properties during construction.
- Provide a construction schedule to all potentially affected landowners and recreational facilities in the area.
- Relocate power pole and reestablish river gauge, as needed.
- Inspect the siphon after construction to ensure no damage has occurred.
- Coordinate with landowners to develop restoration plan for lands temporarily impacted during construction.
- Reconnect and re-establish the existing fence line paralleling the USBLM grazing boundary as determined in coordination with USBLM.

## 3.3 Social/Economic Changes and Environmental Justice

### 3.3.1 Affected Environment – Existing Conditions

The Sun River Bridge crosses the Sun River and spans the county lines of Lewis and Clark County and Teton County. The Project area is located in a remote, rural area, and very few residences are located in the vicinity. The closest towns to the Project area are Augusta (approximately 19 miles to the southeast via Sun Canyon Road), Choteau (approximately 45 miles to the northeast via Sun Canyon Road and Highway 287), and Fairfield (approximately 45 miles to the west via Sun Canyon Road, Highway 287, and Highway 408).

**Economy**

Much of the Project area's economy, including the nearby towns of Augusta, Choteau, and Fairfield, are dependent on tourism associated with the area's recreation, hunting, fishing, boating, hiking, and sightseeing. The institute for Tourism and Recreation Research at the University of Montana has conducted a number of Economic Contribution Studies from recreation/tourism spending. The 2018 Economic Contribution of Nonresident Travel Spending in Montana Travel Region and Counties found that non-resident travelers spent $3.58 billion throughout Montana during 2018, up 10.5% from the previous year's spending. Within central Montana, non-resident travelers spent $317,750,000, approximately 9% of total spending. Approximately 81% of Montana residents participate in outdoor recreation each year. This recreation use generates $7.1 billion in consumer spending annually, creates 71,000 direct jobs, produces $2.2 billion in wages and salaries, and generates $286 million in State and local tax revenue. Approximately 10% of the economic benefits are generated within the central Montana region including the Project area (GID 2021).

**Environmental Justice**

*Title VI of the U.S. Civil Rights Act of 1964*, as amended, *Executive Order 12898* (*Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*), *Executive Order 13985* (*Advancing Racial Equality and Support for Underserved Communities Through the Federal Government*), *FHWA Order 6640.23A*, and *USDOT Order 5610.2(a)* (Environmental Justice) require that no minority, low-income person, persons with disabilities, or persons who live in rural areas shall be disproportionately adversely impacted by any Project receiving Federal funds.

Within the communities of Augusta and Choteau, racial minorities make up approximately eight to ten percent of the population, while approximately 11 to 13 percent of the population qualifies as low-income according to data from the US Census Bureau. As shown in **Table 3-1**, the communities of Augusta and Choteau have similar percentages of racial minorities and low-income persons compared to Census Tracts 1 and 3 that encompasses the Project (**Figure 3-2**). Census Tracts 1 and 3 are much larger than the immediate Project area, and Augusta and Choteau are located approximately 20 to 45 miles away from the Project site. Therefore, these geographic areas may not be representative of the few households within the Project area. It is unknown which specific households may be occupied by low-income and minority individuals. No clusters of low-income or racial minority households are known to be located in the Project vicinity. The nearest clusters of these populations would likely be located in the communities of Augusta and Choteau.

**Table 3-1. Study Area Demographics**

| Data Source and Element | GEOGRAPHY | | | | | | |
|---|---|---|---|---|---|---|---|
| | Census Tract 1 | Census Tract 3 | Augusta CDP[1] | City of Choteau | Lewis and Clark County | Teton County | State of Montana |
| **2020 Census Data** | | | | | | | |
| **Total Population** | 2,165 | 2,351 | 316 | 1,721 | 70,973 | 6,226 | 1,084,225 |
| **Racial[2] Minority** | 7.8% | 10.1% | 8.2% | 10.5% | 11.2% | 8.7% | 15.5% |
| **Ethnic[3] Minority** | 2.8% | 1.2% | 1.3% | 1.3% | 3.7% | 1.4% | 4.2% |
| **Elderly (65+)** | 30.4% | 27.6% | 32.3% | 27.5% | 19.5% | 23.8% | 19.9% |
| **Youth (<18)** | 17.4% | 20.4% | 16.8% | 21.3% | 21.5% | 23.4% | 21.6% |
| **Total Housing Units** | 1,672 | 1,279 | 161 | 898 | 33,599 | 2,935 | 514,803 |
| **Total Seasonal, recreational, or occasional use units** | 35.8% | 10.0% | 18.5% | 2.4% | 5.6% | 5.8% | 6.4% |
| **Vacant Housing Units** | 41.8% | 19.7% | 21.5% | 14.1% | 10.1% | 15.2% | 13.0% |
| **2017-2021 ACS[4] Data** | | | | | | | |
| **Total Population** | 1,908 | 2,210 | 233 | 1,826 | 72,223 | 6,173 | 1,104,271 |
| **Low-Income** | 12.9% | 10.3% | 12.5% | 10.7% | 7.6% | 13.9% | 11.9% |
| **LEP (5+)[5]** | 0.2% | 0.0% | 0.0% | 0.1% | No Data Available | 0.2% | 0.8% |
| **Households with Social Security Income** | 48.8% | 49.4% | 41.5% | 45.2% | 36.0% | 42.3% | 35.3% |
| **With a Disability** | 15.5% | 17.0% | 11.6% | 17.2% | 13.4% | 14.2% | 13.8% |

1 CDP = Census Designated Place, a population concentration identifiable by name but not legally incorporated by State law

2 Racial minority refers to any race option on the 2020 U.S. Census other than White and regardless of ethnicity, including: Black or African American alone, American Indian and Alaskan Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, Some Other Race alone, and Two or More Races.

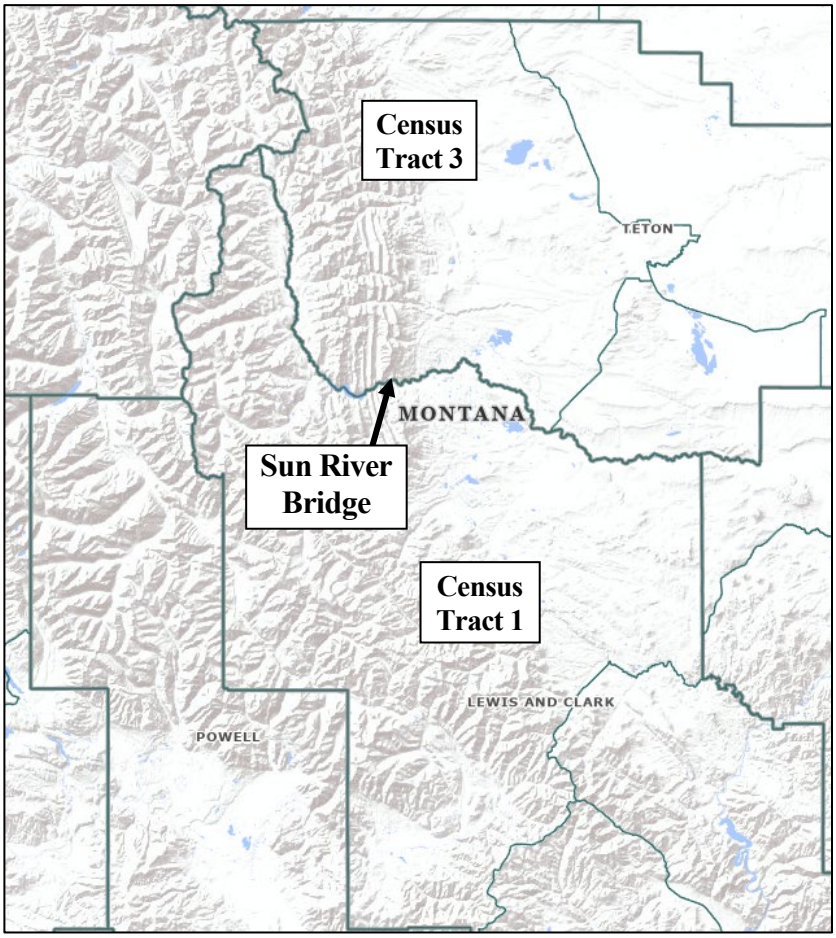
3 Ethnic minority is independent of race and includes Hispanic or Latino, the only ethnic minority option available on the 2020 U.S. Census (e.g., a person can be White and Latino, and would thus be an ethic minority but not a racial minority).

4 ACS data are population estimates. The data have inherent margins of error that can vary from small to large. As a result, ACS data varies in accuracy, but it is the best data available for these demographics.

5 LEP - Limited English Proficient as determined by census respondent's self-assessment of ability to speak English; LEP data includes respondents that selected speaking English "less than very well" (Vickstrom 2015)

Sources: U.S. Census Bureau 2020, U.S. Census Bureau 2017-2021

**Figure 3-2. Sun River Bridge Replacement Project – Census Tracts**




Source: U.S. Census Bureau TIGERweb, 2023.

### 3.3.2 Environmental Consequences – No Action Alternative

**Direct Effects**

The No Action Alternative would not adversely affect any social or ethnic groups and it would not isolate or divide existing residential areas. This alternative would not create disproportionately high or adverse human health or environmental effects on Environmental Justice communities, including minority, low-income, disabled, rural, or other disadvantaged populations in the Project area.

**Indirect Effects**

Over time, ongoing deterioration of the Sun River Bridge would continue to limit access across the river, resulting in the potential for lost economic revenue to the region from tourism and recreation.

### 3.3.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

Adverse temporary construction effects are anticipated to be minor. During construction of the Preferred Alternative, residents and visitors to the area may experience brief travel delays due to the presence of construction equipment using local roadways. However, construction of the Project will occur while the existing Sun River Bridge is still operational, and access across the river will be maintained. For owners and users of land parcels immediately adjacent to the Project area on the east side of Sun River, minor adjustments to access would result from the reconfiguration of the approach access roadway, however access to properties would be maintained throughout construction.

Short-term economic benefits could occur during construction, particularly if the Project is built by Contractors employing local or regional workers. Construction would likely result in an increase in demand for local housing, goods, and services. Benefits could also be realized through the purchase of construction materials.

**Direct Effects**

The Preferred Alternative would maintain safe, local vehicular access across the Sun River by replacing an existing deteriorated structure. Although minor right-of-way acquisition would be needed to accommodate new approach roadways, the Project would not displace any residents, directly affect any buildings or other developed improvements, or isolate or divide existing residential areas.

Existing access to properties would be maintained. The Project would not provide additional roadway capacity or new access to parcels previously without public access and thus would not facilitate new development of parcels. Providing a new, safe bridge across the Sun River would restore the road's viability as an emergency service route, providing safety benefits to area residents and users. The Project would not produce any significant impact on the location, distribution, density, or growth rate of the population of the Project area.

**Indirect Effects**

By providing safe access for large vehicles across the Sun River, the Preferred Alternative would maintain access to surrounding Federal lands and other recreation areas along the Rocky Mountain Front, which would provide a long-term economic benefit to the nearby recreation-based economies of Augusta, Choteau, and Fairfield.

**Environmental Justice Determination**

The Project would not displace any existing residences or businesses, nor is it expected to have other adverse effects on the nearby communities of Augusta, Choteau, or Fairfield. Environmental Justice individuals in the area would experience the same economic, safety, and access benefits anticipated for all individuals in the area described under the Preferred Alternative. Therefore, the Preferred Alternative would not result in disproportionately high or adverse human health or environmental effects to Environmental Justice populations.

### 3.3.4 Mitigation Measures

The following measures should be implemented during construction to minimize any impacts to social groups, the local economy, and individuals protected under environmental justice regulations associated with the construction of the Project:

- Maintain traffic and access to properties throughout the Project area during construction.
- Provide Project updates and offer opportunities to address community questions and concerns about the Project by posting information to the Project website.

## 3.4 Air Quality/Noise/Energy

### 3.4.1 Affected Environment – Existing Conditions

The Clean Air Act of 1970, as amended in 1990, is the basis for most Federal air pollution control programs. *National Ambient Air Quality Standards* (NAAQS) and *Montana Ambient Air Quality Standards* (MAAQS) are health-based standards established primarily to protect human health and public welfare. The NAAQS and MAAQS address six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. The U.S. Environmental Protection Agency (USEPA) designates areas as meeting (attainment) or not meeting (nonattainment) the standards. An unclassifiable area means there is not enough information to determine the area's status (USEPA 2023a) (MDEQ 2023c). A maintenance area is an area that was designated as a nonattainment area for one of the NAAQS but later met the standard and was re-designated after a maintenance plan was established to keep the area within the standards approved by USEPA. Montana DEQ has adopted the standards set by USEPA.

Air quality within the Project area can be described as good. No violations of State or Federal air quality standards are known. The Project area is located in an unclassifiable/attainment area for air quality under 40 CFR 81.327, as amended (MDEQ 2023c).

Noise, defined as a loud or unpleasant sound, can be disruptive to the normal activities of humans and wildlife and in some extreme cases can have adverse health effects, such as hearing loss. The Noise Control Act of 1972 established a national policy to promote an environment free from noise that jeopardizes Americans health and welfare. Certain land uses, facilities, and people are more sensitive to noises than others. These sensitive receptors include schools, retirement homes, campgrounds, wilderness areas, hiking trails, as well as some species of wildlife.

The Sun River Bridge is located within a rural setting. Current noise levels in the area are low due to existing low traffic volumes that cross the Sun River Bridge. The current weight limit of five tons restricts vehicles larger than small passenger cars and pick-up trucks. The approach roadways are narrow and have steep grades, sharp curves, and switchbacks, which prevent access by larger vehicles and towed units. Drivers are also deterred from crossing the bridge due to the narrowness and the deteriorated appearance of the existing bridge deck.

The limit of construction-generated airborne noise associated with the Project is the distance at which noise generated from construction activities is undistinguishable from background or ambient conditions. Project-related terrestrial noise was calculated following the noise assessment protocol in

the WSDOT *Biological Assessment Preparation Manual* (WSDOT 2020). Anticipated construction activities include minor potential blasting (94 A-weighted decibels [dBA]) and use of heavy equipment including a pile driver (95 dBA) and a crane (85 dBA) (FHWA 2023). Using rules for decibel addition, the combined maximum noise estimate for construction activities is 98 dBA at a distance of 50 feet from the work zone. Background noise in the Project area is estimated to be 40 dBA based on a grassland and forest site. Using a scenario including blasting, Project-related noise is expected to extend approximately two miles over land before attenuating to the background sound level. This distance was established to include all areas of conceivable impact associated with the proposed Project, however the cliffs west of the Project area would likely block transmission of noise in that direction (Herrera 2023a).

Ambient noise levels in the Project area are characteristic of rural lands with short periods of higher noise levels caused by vehicle and equipment use related to irrigation infrastructure maintenance, timber and fire-fighting activities, and recreational activities. Noise levels in the area are typically low. Noise receptors in the Project area representing noise-sensitive land uses outlined in the Noise Abatement Criteria (NAC) listed in 23 CFR 772, mainly include scattered rural residences. There are approximately six residences ranging from 0.2 to 0.5 mile from the Project site. Recreational areas are also considered noise receptors, and dispersed recreation may occur in the Project vicinity. Undeveloped rural lands are not specified by the NAC with an associated maximum noise level. Noise receptors including churches, parks, schools, and hospitals are located in Augusta and Choteau at a distance too far from the Project area to be considered.

Energy use in the Project area is primarily from fuel consumed by vehicles on area roads and by roadway maintenance activities. Due to low ADT volumes, energy use in the Project area is low.

### 3.4.2 Environmental Consequences – No Action Alternative

**Direct Effects**

Under the No Action Alternative, air quality, noise levels, and energy usage in the Project area would continue to be influenced by existing sources including vehicular traffic and routine bridge maintenance equipment. Maintaining the existing bridge would result in no additional vehicle emissions, noise generation, or fuel consumption associated with vehicular travel or maintenance activities within the Project area.

**Indirect Effects**

If the existing bridge were to deteriorate further and become unusable, vehicles could no longer access the area without using long detours. Long detours would result in higher vehicle emissions, noise, and fuel consumption to reach intended destinations.

### 3.4.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

During construction, traffic would be maintained on the existing Sun River Bridge, and no changes to traffic volumes on the roadway are anticipated.

However, construction of the Preferred Alternative would result in temporary adverse effects on air quality, primarily from dust and construction vehicle emissions. Earthwork activities, such as land clearing and ground excavation, could result in the generation of dust associated with the movement of dirt. Construction vehicle and equipment emissions would also occur along the Project area during construction, resulting in the generation of dust, particulate matter, and exhaust emissions. These effects would be localized, temporary in nature, and would not result in violations of air quality standards. Construction Contractors are required to comply with Montana Administrative Rule 17.8 which addresses visible emissions. Subchapter 3 places limits on fugitive dust that causes a nuisance or violates other regulations. Violations of the regulations can result in enforcement action and fines. These Administrative Rules provide a list of reasonable precautions to be taken to avoid, minimize and mitigate temporary adverse impacts to dust emissions. These measures are listed in the mitigation measures section below.

Noise levels in the Project area during construction of the Preferred Alternative would be higher than existing noise levels due to vehicles and equipment operating during construction. Anticipated construction activities include minor potential blasting (94 dBA) and use of heavy equipment including a pile driver (95 dBA) and a crane (85 dBA) (FHWA 2023). Using rules for decibel addition, the combined maximum noise estimate for construction activities is 98 dBA at a distance of 50 feet from the work zone. Background noise in the Project area is estimated to be 40 dBA based on a grassland and forest site. Using a scenario including blasting, Project-related noise is expected to extend approximately two miles over land before attenuating to the background sound level. This distance was established to include all areas of conceivable impact associated with the proposed Project, however the cliffs west of the Project area would likely block transmission of noise in that direction (Herrera 2023). Increased noise levels during construction may be noticeable to nearby residences and recreators but would be temporary during the construction period.

**Direct Effects**

Improved access for large vehicles across the Sun River could reduce local trip distances by eliminating the need for taking longer, alternative routes. Overall, the Preferred Alternative would be expected to have a negligible effect on regional vehicle emissions, noise, and fuel consumption, and any changes in traffic patterns would not result in violations of air quality standards or significant noise impacts.

Additional noise impacts to fish and wildlife in the Project area are further discussed in Section 3.10.

**Indirect Effects**

The Preferred Alternative could reduce vehicle volumes on roadways that have served as alternate routes for larger vehicles since the existing Sun River Bridge has weight limit restrictions. This shift in vehicle volumes from alternate roadways to the new Sun River Bridge could result in minor changes in the location of vehicle emissions, noise, and fuel consumption, however, it is not expected to result in a measurable change in the local air quality.

### 3.4.4 Mitigation Measures

The following measures should be implemented during construction to minimize any air quality impacts associated with the construction of the Project:

- Use water to control dust in areas subjected to land clearing, road grading, and operation of heavy construction vehicles.
- Apply water on unpaved roads, material stockpiles, and other surfaces which can create airborne dusts.
- Fully or partially enclose material stockpiles in cases where application of water is not sufficient to prevent PM from becoming airborne.

Since there would be no significant long-term changes to noise levels in the Project area from vehicles using the new bridge, no mitigation measures would be needed for the Preferred Alternative. To minimize temporary higher noise levels during construction, all construction vehicles and equipment would be required to comply with FHWA's standard noise mitigation measures.

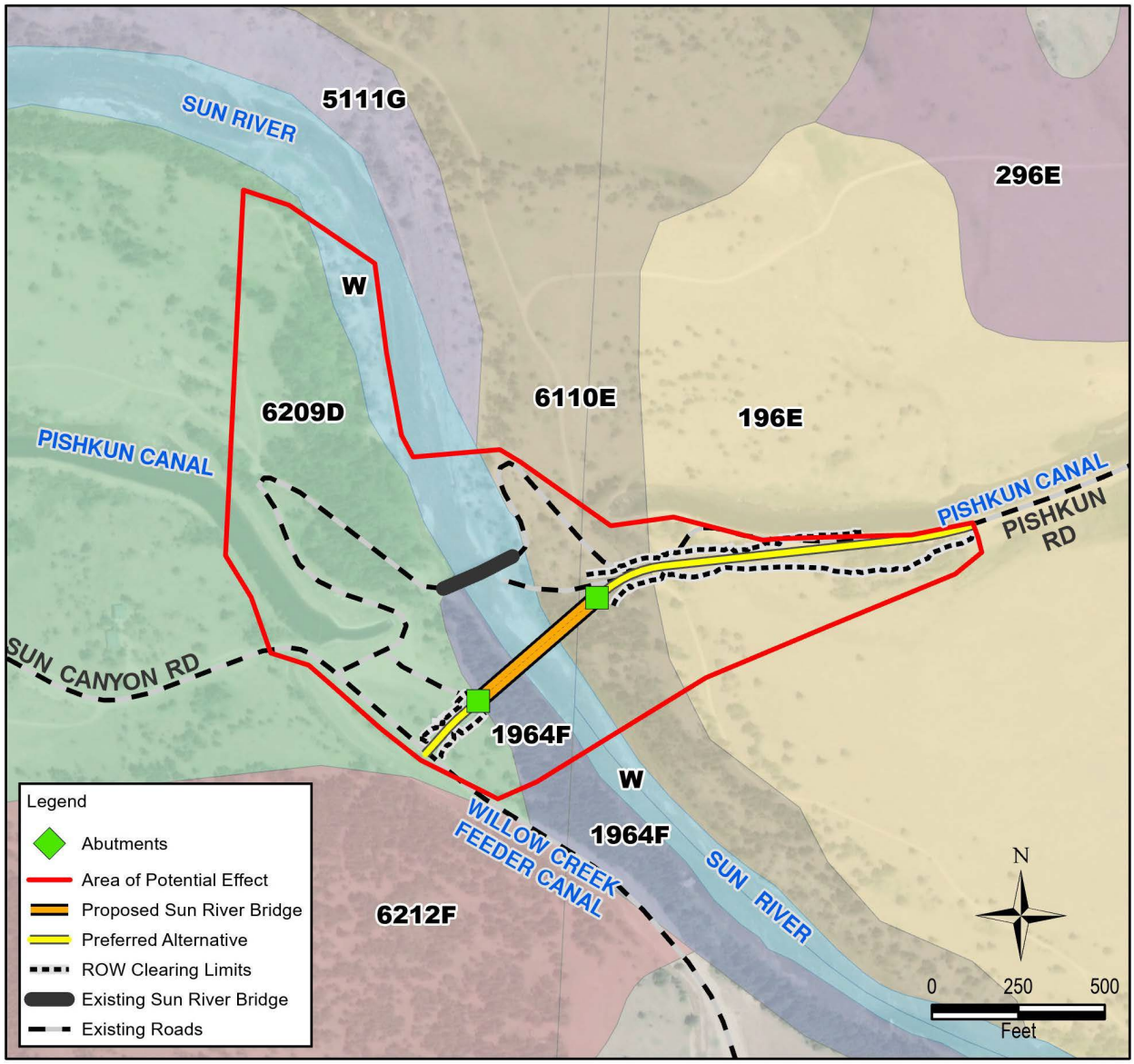
No energy mitigation measures are required or proposed for the Preferred Alternative.

## 3.5 Soils and Geology

### 3.5.1 Affected Environment – Existing Conditions

As shown on **Figure 3-3**, four soil map units occur within the Sun River Bridge Project area (NRCS 2023). These soils are detailed in **Table 3-2**.

**Figure 3-3. Sun River Bridge Replacement Project – Soils**




Source: NRCS, 2023. Soil map unit descriptions are provided in **Table 3-2**.

**Table 3-2. Sun River Bridge Replacement Project – Soils in the Project Area**

| Soils | Soil Map Unit | Percent Slope (%) | Hydric Rating (%) |
|---|---|---|---|
| Firada, extremely stony-Checkerboard, very rubbly families-Rock outcrop complex | 6110E | 8 - 35 | 0 |
| Teton-Tibson-Cheadle complex | 196E | 4 - 35 | 0 |
| Tibson, very stony-Jonescreek, extremely stony, occasionally flooded-Bearmouth, very stony families, complex | 6209D | 2 - 15 | 3 |
| Warneke, extremely stony-Darret-Whitecow, very stony families, complex | 1964F | 8 - 45 | 0 |
| Klev-Roundor Loams | 184D | 2 - 15 | 0 |
| Beanlake – Winspect Cobbly loams | 327C | 2 - 15 | 2 |
| Cabba-Wayden-Castner complex, 4 to 35 percent slopes | 574E | 4 - 35 | 0 |

Source: NRCS, 2023.

The soils in the Project area are generally rocky, with areas of steep slopes and rock outcrops.

The geology to the west of the Sun River Bridge comprises the Overthrust Belt of the Sawtooth Mountains, and to the east is the hummocky moraine, the scar of the glacier that once overflowed from the Sun River Canyon that was formed by the Sun River eroding through the Madison limestone on the front of the Sawtooth Range (HRA 2023).

The surface geology in the area of the Sun River Bridge consists of Cretaceous sedimentary formations including the Blackleaf and Kootenai Formations, the Two Medicine Formations as well as glacial till and outwash deposits and alluvial terrace deposits (MGMB 2023). During the late Wisconsin glaciation, the Project area existed between the Laurentide Ice sheet and the mountain glaciers associated with the Cordilleran Ice Sheet and later, was under Glacial Lake Great Falls (HRA 2023).

### 3.5.2 Environmental Consequences – No Action Alternative

**Direct Effects**

The No Action Alternative would have no impact on the area soils and geology since no new earthwork would occur.

**Indirect Effects**

The No Action Alternative would have no indirect impact on the Project area geology and soils.

### 3.5.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

During construction of the Preferred Alternative, exposed cut and fill slopes required for the new approach roadways would be prone to erosion if left unprotected during periods of wet weather. The slopes would be designed and constructed in general accordance with standard slope design practices, and appropriate methods would be used to prevent weather related stability or erosion effects. In areas where MSE retaining walls are required for stability purposes, the retaining wall would be designed by a licensed professional engineer and constructed in accordance with general standards. During the construction phase, cleared slopes and adjacent areas would be graded and seeded with a government-approved native seed mix to limit long-term erosion and stabilize the slopes. Following completion of construction activities, site monitoring would be performed by the jurisdictional land management agencies to support vegetative recovery of the area and prevent invasion by noxious weeds.

Staging areas for construction equipment would require temporary disturbance of soils. Soil disturbance could facilitate the spread of noxious weeds, and soil compaction can increase surface erosion.

**Direct Effects**

Primary impacts to soils and geology would occur from the realignment of the approach roadways. Cut and fill slopes would be required, resulting in changes in surface features through currently undeveloped land areas. Approximately 20,000 cubic yards of earthwork would be required for construction of the new roadway. These changes could have an impact on the long-term erosion and drainage capabilities of the surface soils and would be mitigated through the design process to avoid or limit the impacts on soils and geology.

Minor blasting is not anticipated but may potentially be required to facilitate excavation and construction of the new approach roadways and would permanently impact a small portion of the area's geology.

**Indirect Effects**

Indirect impacts of the Preferred Alternative could include geotechnical risks such as long-term erosion resulting from the creation of new slopes or steepening of existing slopes.

### 3.5.4 Mitigation Measures

The following measures should be implemented during construction to minimize any soils and geology impacts associated with the construction of the Project:

- Implement and maintain erosion and sediment control measures throughout the construction of the Project.
- Implement standard best management practices (BMPs) for weed control to minimize the introduction and spread of noxious weeds.

- Reseed using a government-approved native seed mix and restore all disturbed areas to pre-Project conditions after construction activities have been completed.
- Restrict clearing and grubbing operations to the minimum area necessary to accommodate the planned construction activities.

## 3.6 Water Resources, Water Quality, and Floodplains

### 3.6.1 Affected Environment – Existing Conditions

**Water Resources**

The Sun River Bridge crosses the Sun River, which has its headwaters in the Bob Marshall Wilderness Area. The North and South forks of the Sun River join together at the Gibson Reservoir, where the river is impounded by the Gibson Dam and then flows three miles through a mountainous canyon to the Diversion Dam. Below the Diversion Dam, the river is entrenched in a narrow valley for approximately 12 miles before the valley broadens out onto the prairie. The Sun River flows 97 miles downstream of the Diversion Dam to join with the Missouri River at Great Falls.

Water intercepted by the Diversion Dam is diverted into the Pishkun Supply Canal, sending water to the Pishkun Reservoir approximately 12 miles from the Sun River Bridge. The Pishkun Supply Canal is approximately 75 feet in width in the Project area. It is a major water feature of the Sun River Irrigation Project, which was one of the first major Federal irrigation projects in Montana developed by the USBR. The canal has been operational since 1917 and has played an integral part in the delivery of water to area farmers (HRA 2023). Originally, the Sun River Bridge was built to bring water from the canal to the other side of the canyon via a wood-stave siphon that was attached to the bridge. Between 1944 and 1946, the wood pipe was replaced with a buried concrete siphon that parallels the existing Sun River bridge and across the Sun River (HRA 2023).

Water from the Pishkun Canal is diverted on the west side of the Project area just upstream of the siphon into the Willow Creek Feeder Canal. This canal flows through the Sun River Wildlife Management Area and sends water to the Willow Creek Reservoir approximately seven miles south of the Sun River Bridge.

While there are no groundwater wells located in the Project area, the Montana Bureau of Mines and Geology (MBMG) shows three groundwater wells just outside of the Project area, with one to the north of the Project and two to the south (MBMG 2023b). All three wells are used for domestic use. The well to the north of the Project area was drilled to 70 feet and has a static water level of 20 feet. The two wells drilled to the south were drilled at 115 feet and 300 feet and have static water levels of 35 feet and 50 feet, respectively.

## Water Quality

Surface water quality is typically assessed according to the amount and kind of substances present in the water, by the water's ability to support beneficial uses such as irrigation and recreation, and by the overall health of the aquatic ecosystem. The health of these surface waters is assessed based on constituents dissolved in the water, the condition of the banks and associated riparian zone, and the types and numbers of plants and animals living in the water.

All waters in Montana are classified and have designated uses and supporting standards. The Montana Department of Environmental Quality (MDEQ), under the *Montana Water Quality Act* (75-5-701 MCA, et seq.), establishes the water use classifications. The Sun River, the Pishkun Canal, and the Willow Creek Feeder Canal are all classified as B-1 (MDEQ 2023c). Waters classified as B-1 are to be maintained suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

The MDEQ also has the responsibility under the Section 401 of the Federal *Clean Water Act* (33 U.S.C. 1251-1376) and the *Montana Water Quality Act* (75-5-101 MCA, et seq.) to monitor and assess the quality of Montana surface waters and to identify impaired or threatened stream segments and lakes. The MDEQ sets limits, known as Total Maximum Daily Loads (TMDLs), for each pollutant entering a body of water. TMDLs are established for streams or lakes that fail to meet certain standards for water quality and describe the amount of each pollutant a water body can receive without violating water quality standards. The legislatively mandated TMDL process determines the concentration of pollutants in water bodies and stipulates controls needed to improve water quality in order to support designated uses.

The MDEQ has identified water bodies that do not fully meet water quality standards and support the appropriate beneficial uses such as recreation, aquatic life, fisheries, water supply, agriculture and industrial use, or that are fully supporting their uses as stipulated in the standards but are threatened. Such water bodies are referred to as "water quality limited." Section 303(d) of the Clean Water Act requires States to identify waters where quality is impaired or threatened. The MDEQ prepares and submits a list of the impaired water bodies to the USEPA every two years. The Sun River from Gibson Dam to Muddy Creek is on MDEQ's 2020 Section 303(d) list of waters that do not meet State water quality standards for not fully supporting aquatic life. The water quality impairments for the Sun River are summarized in **Table 3-3** below.

**Table 3-3. Sun River Bridge Replacement Project – Summary of Water Quality Data**

| Montana 303(d) List - 2020 | |
|---|---|
| **Probable Causes** | **Probable Sources** |
| Alteration in stream-side or littoral vegetative cover<br>Sedimentation-siltation<br>Temperature<br>Flow regime modification | Channelization<br>Impacts from hydrostructure flow regulations/ modifications<br>Grazing in riparian or shoreline zones<br>Agriculture |

Source: MDEQ, 2023a.

The Sun River has been listed on MDEQ's Section 303(d) for decades and in 2004, MDEQ developed the *Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area* (MDEQ 2004). The ultimate goal of a water quality restoration plan, once it is implemented, is to ensure that all designated beneficial uses are fully supported and all water quality standards are met (MDEQ 2004).

In response to the findings of the 2004 TMDL Report, the Sun River Watershed Group, along with the MDEQ, developed the *Sun River Watershed Restoration Plan* (WRP) in 2012 to provide an approach to addressing water quality concerns in the Sun River Watershed that includes the portion of the Sun River located in the Project area. To address sediment, nutrient, and temperature concerns identified in the TMDL, this plan was created to implement projects to improve water quality for the Sun River. (SRWG 2022). This is a working plan and has been revised as recently as June 2022. Overall watershed improvements and impacts of projects to the Sun River Watershed are assessed through monitoring annually through the Project Prioritization Matrix developed as part of the plan, and these projects that are being planned and implemented help accomplish the objectives of the WRP.

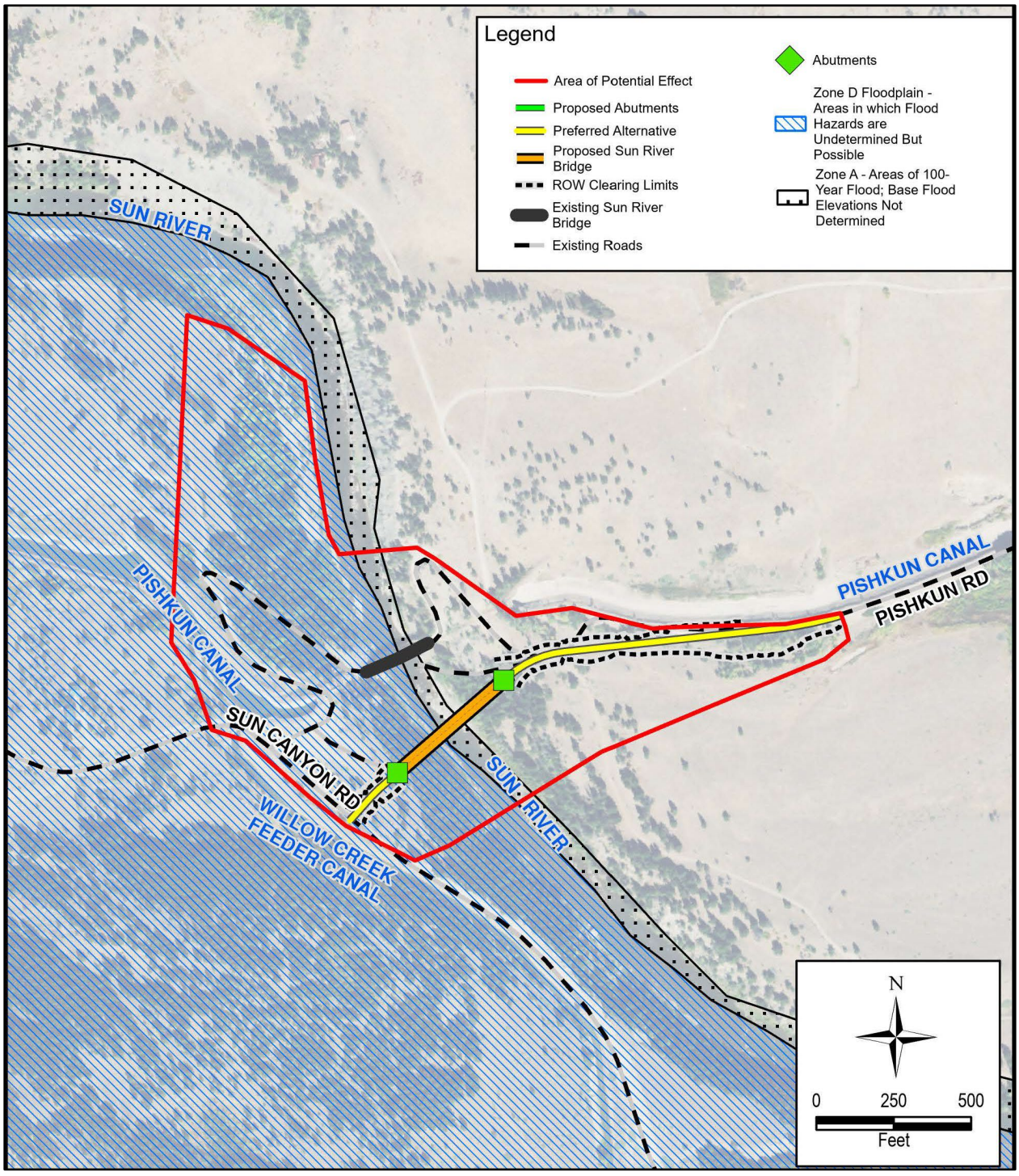
**Floodplain**

The Sun River is bisected by Lewis and Clark County and Teton County. The Federal Emergency Management Agency (FEMA) has not delineated the floodplain on the Lewis and Clark side of the river, and it is considered Zone D at this time. Zone D is considered an area of possible but undetermined flood hazard.

FEMA has delineated the floodplain associated with the Sun River on the Teton County side and determined that the lower portion of the river's canyon in the Project area is considered to be Zone A, an area of the 100-year flood. The 100-year flood represents a flood event that has a one percent chance of being equaled or exceeded in any given year. **Figure 3-4** shows the floodplains that have been mapped in the Project area.

Herrera Environmental Consultants, Inc. performed an OHWM delineation on May 23, 2023, in support of development of the *Wetland and Stream Report for the Sun River Bridge Project* (Herrera 2023). The OHWM was identified using guidance from the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version*, which evaluates the physical characteristics of the river to determine the OHWM (USACE 2022). A detailed description of the delineation is located in *Wetland and Stream Report* in **Appendix C**. The OHWM was determined to be 4,371.5 feet (Herrera 2023c). Both abutments of the existing bridge are perched above the channel on the canyon walls and do not encroach on the floodway. The west abutment ties into the canyon wall at an elevation of 4,386 ft, approximately 14 feet above the OHWM. The east abutment ties into the canyon wall at an elevation of 4,391 ft, about 19 feet above the OHWM (RPA 2023).

**Figure 3-4. Sun River Bridge Replacement Project – Floodplain**




Source: FEMA, 2023.

### 3.6.2 Environmental Consequences – No Action Alternative

**Direct and Indirect Effects**

Under the No Action Alternative, ongoing maintenance of the existing Sun River Bridge would continue and may result in minor impacts to water resources in the area. With each maintenance activity, fuel spills or debris associated with maintenance equipment could potentially enter the river, causing minor localized water quality impacts.

### 3.6.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

An existing access route leading from the upper east side of the canyon down to the existing siphon at the east riverbank would be used during construction of the Project. This route would be improved to facilitate construction and left in place following the completion of the Project. Construction access downstream would be provided across an existing scour hole and along a gravel bar on the eastern shoreline, which would require in-water work to reshape these features to enable a drivable surface for tracked equipment. Instream work would primarily occur during the MFWP-recommended work window for the Sun River Drainage from June 15 to September 1, however some work would likely be required outside this period and would be coordinated with regulatory agencies.

The Contractor may elect to divert river water to one side or the other using temporary diversion techniques such as super sacks, water bladders, or shoring for access from the east to the west side of the river and to provide a work area on the west riverbank. Once construction is complete, the river diversion and temporary crossing materials would be removed and the streambed would be restored to preexisting conditions. The following construction activities could impact water quality by introducing sediment and/or pollutants into the river:

- Operating equipment in or near the Sun River.
- Storing equipment or fueling and maintaining equipment near the river.
- Blasting, if required, may allow dust to fall into the river.
- Placement of temporary fill/culverts for temporary road access and temporary fill for drilling pads and shoring tower.
- Reshaping the streambed to preconstruction conditions.

Vegetation removal, soil disturbance, and soil compaction during construction would increase impervious surfaces, erosion, sediment deposition, and stormwater runoff, potentially affecting water quality in the Project area. Impacts to water quality during construction would be localized and short-term. The Contractor would implement BMPs to reduce these impacts at the Project area.

If the steel superstructure of the existing bridge is removed, netting would be placed under the bridge for fall protection and to catch large debris. A crane would be used to lift bridge sections as they are cut, and sections would be hauled offsite. A crane would access the work area by driving on the existing camp site access road on the west bank, then driving south along the riverbank. It may be necessary to

divert the river to the east to create a temporary drivable surface for the crane. Diversion methods would be the same as the options described for the west bank pier construction.

**Direct Effects**

The new Sun River Bridge would be constructed downstream of the Pishkun Supply Canal, the Pishkun Siphon, and the Willow Creek Feeder Canal. Therefore, no impacts to these water resources are expected with construction of the Preferred Alternative.

Permanent impacts to the Sun River will be avoided by spanning the canyon and placing bridge abutments outside of the OHWM and the floodplain. It is anticipated that foundations for the proposed bridge piers would consist of either drilled 10 to 12-foot diameter shafts or driven piles. The two proposed bridge pier foundations would be located approximately five to 15 feet outside of the OHWM of the active channel. The anticipated foundation type and layout would be determined based on the results of subsurface investigations and geotechnical analysis. Since the proposed bridge structure and abutments do not encroach on the river, contraction, pier, and abutment scour will be prevented.

Once construction of the new bridge is completed, the shoring towers (if used), work pads, work bridge, temporary crossing/in-channel culverts would all be removed, and the river channel would be restored to its original contours. Therefore, no permanent changes to the channel of the Sun River are anticipated.

If the existing bridge is removed, only the steel superstructure would be removed to minimize impacts to the river and the existing siphon buried below the streambed adjacent to the bridge. The existing concrete piers would remain standing in their current locations. No permanent impacts to the stream channel or to the siphon are anticipated from removal of the existing steel superstructure.

**Indirect Effects**

Traffic volumes may increase slightly following completion of the Project. However, volumes overall are low and the long-term, induced effect of increased vehicular traffic and associated vehicle pollutants carried by stormwater and entering the Sun River is anticipated to be minimal.

### 3.6.4 Mitigation Measures

The following measures should be implemented during construction to minimize any water resources, water quality, and floodplain impacts associated with the construction of the Project:

- Implement soil erosion and sediment control BMP measures such as silt fencing and fiber rolls, as well as isolating construction work areas to prevent runoff from flowing across disturbed areas and minimize sediment-laden runoff from leaving the construction site and entering the Sun River.
- Require the Contractor to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) to control erosion and sediment transport during and after construction of the Project.
- Clearly mark construction limits to avoid inadvertent impacts to the Sun River.

- Stabilize and revegetate disturbed areas after work is completed to minimize erosion and sediment transport.
- Prevent sediment, petroleum products, chemicals, and other liquids or solid materials from entering the river by locating equipment staging in upland areas away from the river.
- Check equipment daily for leaks and repair leaks immediately.
- Install containment systems if blasting is required to prevent debris from entering the river.
- Work in low flow conditions during the MFWP-recommended work window for the Sun River Drainage from June 15 to September 1 or as determined through coordination with regulatory agencies.
- Use only appropriately sized material for the drilling pads or shoring towers.
- Place netting under the existing bridge for fall protection and to catch large debris if removal of the steel superstructure is pursued.

## 3.7 Wetlands

### 3.7.1 Affected Environment – Existing Conditions

The Clean Water Act and Executive Order 11990, Protection of Wetlands, establish the Federal Government's authority over activities that occur within wetlands. Agencies must ensure their actions minimize the destruction, loss, or degradation of wetlands. It also assures the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable.

According to the Montana Natural Heritage Program (MNHP) Wetland Mapper, freshwater forested-shrub wetlands are located on the west bank of the Sun River upstream of the existing bridge. The Sun River is mapped as a riverine perennial stream and the Pishkun Canal is mapped as a riverine excavated system. A palustrine scrub-shrub wetland is mapped along the south bank of the Pishkun Canal (Herrera 2023c).

A *Wetland and Stream Report* was completed by Herrera Environmental Consultants, Inc in August 2023 for the Project (**Appendix C**). As part of this report, the wetlands mapped by the MNHP in the Project area were investigated to determine if wetland indicators were present. A delineation was conducted according to the criteria and methods outlined in the U.S. Army Corps of Engineers (USACE) 1987 *Corps of Engineers Wetlands Delineation Manual* (ELab, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (Version 2) (USACE 2010). With the exception of the Sun River and the Pishkun Canal, it was determined there are no wetlands present in the Project area.

### 3.7.2 Environmental Consequences – No Action Alternative

**Direct and Indirect Effects**

No direct or indirect effects to wetlands would result from the No Action Alternative. Impacts associated with the Sun River and the Pishkun Canal are discussed in Section 3.6.

### 3.7.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

No temporary construction effects would result from the Preferred Alternative since no wetlands are located within the Project area. Temporary impacts associated with the Sun River and the Pishkun Canal are discussed in Section 3.6.

**Direct and Indirect Effects**

No direct or indirect effects would result from the Preferred Alternative since no wetlands are located within the Project area. Temporary impacts associated with the Sun River and the Pishkun Canal are discussed in Section 3.6.

### 3.7.4 Mitigation Measures

No mitigation measures would be required.

## 3.8 Vegetation, Fish, and Wildlife

### 3.8.1 Affected Environment – Existing Conditions

A *Biological Resources Report* (BRR) and *Biological Assessment* (BA) for the Project were completed by Herrera Environmental Consultants, Inc. in August 2023. The BRR and BA evaluate wildlife, aquatic resources, botanical resources, noxious weeds, threatened and endangered species, and species of concern present in the Project vicinity and document the Project potential effects on these resources. Further details regarding the survey methodology and results can be found in the BRR and BA included in **Appendix D** and **Appendix E**, respectively.

**Vegetation**

The Sun River Wildlife Management Area (WMA) is an important winter range and migration corridor for the Sun River elk herd and also provides important winter range for bighorn sheep and other big game such as mule and whitetail deer. The Project area and vicinity encompass a wide range of highly productive habitats that support a variety of plant species. These include grasslands dominated by perennial bunch grasses and mixed forbs, montane forests dominated by Douglas-fir (*Pseudotsuga menziesii*) and lodgepole pine (*Pinus contorta*), shrublands with a mix of species including species include rusty leaf menziesia (*Menziesia ferruginea*), black twinberry (*Lonicera involucrata*), alder buckthorn (*Rhamnus alnifolia*), prickly currant (*Ribes lacustre*), thimbleberry (*Rubus parviflorus*), Sitka alder (*Alnus viridis*), cascade mountain ash (*Sorbus scopulina*), Sitka mountain ash (*Sorbus sitchensis*), and thinleaf huckleberry (*Vaccinium membranaceum*). Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) forests occur at higher elevations, and sparsely vegetated cliff faces, narrow canyons, rock outcrops, and scree and talus slopes occur west of the Project area.

***Species of Concern and Sensitive Species***

During the development of the BRR, a search of the MNHP database and a field review was conducted to determine if Montana State and Helena-Lewis and Clark National Forest species of

concern may occur within two miles of the Project area. According to the report, no USBLM-sensitive plant species were listed as occurrences. While no species of conservation concern were observed, timing of the field study may not have coincided with the window to observe many of the listed plant species. Therefore, past observations, suitable habitat descriptions, and observations of current habitat determined that it is not likely that botanical species of concern and sensitive species occur in the Project area (Herrera 2023b).

### *Noxious Weeds*

According to the BRR completed for the Project, one noxious weed was observed in the Project area. Spotted knapweed (*Centaurea stoebe*) is present in small patches along the Pishkun Canal south of the bridge (Herrera 2023b). Additionally, USBLM has indicated houndstongue (*Cynoglossum officinale*) and leafy spurge (*Euphorbia esula*) are also present in the Project area (USBLM 2024).

## Fish and Wildlife

According to the BRR completed for the Project, the Project area and vicinity encompass a wide range of habitats that provide essential support for numerous wildlife species. Within the Helena-Lewis and Clark National Forest and Sun River WMA, adjacent to the Project area, a variety of wildlife species have been observed. Examples include pronghorn (*Antilocapra americana*), elk (*Cervus canadensis*), moose (*Alces alces*), bighorn sheep (*Ovis canadensis*), mule deer (*Odocoileus hemionus*), and whitetail deer (*Odocoileus virginianus*). Additionally, the area is home to various species of bats, water birds, raptors, as well as large carnivores like grizzly bears (*Ursus arctos horribilis*) and black bears (*Ursus americanus*) (Herrera 2023b).

The Sun River drainage contains populations of native and non-native fish. Native species include brook stickleback (*Culaea inconstans*), burbot (*Lota lota*), fathead minnow (*Pimephales promelas*), lake chub (*Couesius plumbeus*), longnose dace (*Rhinichthys cataractae*), mountain sucker (*Catostomus platyrhynchus*), mountain whitefish (*Prosopium williamsoni*), rocky mountain sculpin (*Cottus bondi*), stonecat (*Noturus flavus*), and white sucker (*Catostomus commersonii*). None of these are designated as MNHP species of concern. Non-native species are also present including brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), common carp (*Cyprinus carpio*), northern pike (*Esox lucius*), and tiger muskellunge (*Esox masquinongy x lucius*) (Herrera 2023b).

### *Threatened and Endangered Wildlife*

According to the United States Fish and Wildlife Service's Information for Planning and Consultation (USFWS IPaC) resource list, five Federally listed species have been documented or could potentially occur within the Project area (Herrera 2023b). These species include:

- Grizzly bear (*Ursus arctos horribilis*) – threatened
- Canada lynx (*Lynx canadensis*) – threatened
- Whitebark Pine (*Pinus albicaulus*) – threatened
- North American wolverine (*Gulo gulo luscus*) – threatened
- Monarch butterfly (*Danaus plexippus*) – candidate

There are no critical habitats and no Federally listed aquatic species in the Project area (Herrera 2023b). Below is a description of the possible Federally listed species documented or with the potential to occur in the area. Additional information is provided in the BA (**Appendix E)**.

**Grizzly Bear**

Grizzly bears were listed as threatened in the lower 48 states under the *Endangered Species Act* (ESA) on July 28, 1975. Critical habitat for grizzly bears was proposed in 1976 but has not been designated. Grizzly bear range is expanding in Montana. They use a variety of habitats including meadows, seeps, riparian zones, forests, snow chutes, and alpine rockslides. The Project area is within the year-round range of grizzly bears, and they have been documented in the area as recently as March 2023. Grizzlies could be present at any time during the Project. Grizzly bears would be most likely to use the area at night when human use declines, using darkness for cover.

**Canada Lynx**

Canada lynx were designated as a distinct population segment and listed as threatened under the Endangered Species Act in 2000. The Project area is within the year-round range of Canada lynx and contains minor (5 percent cover) amounts of secondary habitat. Lynx avoid large open areas, such as the grassland habitats prevalent in the Project area but may use shrub-steppe habitats to move between their primary habitat types. There have been no documented occurrences of Canada lynx within the area.

**Whitebark Pine**

On December 15, 2022, the U.S. Fish and Wildlife Service published a final rule (87 FR 76882) to list the whitebark pine as a threatened species under the Endangered Species Act. Critical habitat has not been designated for this species. A portion of the Project area overlaps the mapped range of whitebark pine, however, no individual whitebark pine trees or suitable habitat were observed by Herrera biologists within the area during the development of the BA.

**North American Wolverine**

In 2013, the USFWS proposed to list the North American wolverine as threatened due to habitat loss stemming from increasing temperatures and reduced late spring snowpack as a result of climate change (78 FR 7864). In November 2023 the U.S. Fish and Wildlife Service announced its final rule to list the distinct population segment of the North American wolverine in the contiguous U.S. as a threatened species under the Endangered Species Act (88 FR 83726).The Project area is within the current known range of the wolverine in Montana, and there is a confirmed occurrence of wolverine in the area documented in March 2023.

**Monarch Butterfly**

The monarch butterfly is a candidate for listing under the ESA. USFWS determined in December 2020 that listing the monarch under the ESA is warranted but precluded by higher priority listing actions. No critical habitat has been designated for this species. No monarch butterflies or milkweed was observed

in the Project area during the site visit by Herrera biologists on May 24 and 25, 2023 as part of the development of the BA for the Project.

### *Species of Concern and Sensitive Species*

**Table 3-4** below lists the MNHP species of concern and USBLM sensitive species in the Project area (Herrera 2023b). Additionally, the BRR included in **Appendix D** shows a map of the location of known bald and golden eagle nests within one mile of the Project area.

**Table 3-4. Wildlife Species of Concern and Sensitive Species Occurrence**

| Common Name | Species | State Rank[a] | State Species of Concern | BLM Sensitive Species Lewistown Field Office | Occurrences |
|---|---|---|---|---|---|
| Northern goshawk | *Accipiter gentilis* | S3 | SOC | Not listed | Latest observation documented in June 2022 (MNHP 2023b) |
| Golden eagle | *Aquila chrysaetos* | S3 | SOC | SENSITIVE | Several observations documented with the latest in 2018 (MNHP 2023b) |
| Veery | *Catharus fuscescens* | S3B | SOC | SENSITIVE | Latest occurrence observed in June of 2021 (MNHP 2023b) |
| Cassin's finch | *Haemorhous cassinii* | S3 | SOC | Not listed | One occurrence documented in June 1996 (MNHP 2023b) |
| Bald Eagle | *Haliaeetus leucocephalus* | S4 | SSS | SENSITIVE | Several occurrences documented with the latest in May 2021 (MNHP 2023b) |
| Gray-crowned rosy-finch | *Leucosticte tephrocotis* | S2 | SOC | Not listed | One occurrence documented in November 2007 (MNHP 2023b) |
| Clark's nutcracker | *Nucifraga columbiana* | S3 | SOC | Not listed | Several occurrences documented with the latest in April 2022 (MNHP 2023b) |
| Eastern red bat | *Lasiurus borealis* | S3B | SOC | SENSITIVE | One occurrence documented in August 2015 (MNHP 2023b) |
| Hoary bat | *Lasiurus cinereus* | S3B | SOC | SENSITIVE | Several occurrences documented with the most recent in September 2015 (MNHP 2023b) |
| Long-eared myotis | *Myotis evotis* | S3 | SOC | Not listed | Several occurrences documented with the most recent in May 2016 (MNHP 2023b) |
| Little brown myotis | *Myotis lucifugus* | S3 | SOC | Not listed | Several occurrences documented with the most recent in May 2016 (MNHP 2023b) |
| Fringed myotis | *Myotis thysanodes* | S3 | SOC | SENSITIVE | One occurrence documented in June 1999 (MNHP 2023b) |
| Long-legged myotis | *Myotis volans* | S3 | SOC | Not listed | Most recent occurrence documented July 2008 (MNHP 2023b) |
| Preble's shrew | *Sorex preblei* | S3 | SOC | Not listed | Most recent occurrence documented August 1998 (MNHP 2023b) |

| Common Name | Species | State Rank[a] | State Species of Concern | BLM Sensitive Species Lewistown Field Office | Occurrences |
|---|---|---|---|---|---|
| Grizzly bear | *Ursus arctos* | S2S3 | SOC | Not listed | One occurrence documented in 1985 by MNHP (MNHP 2023b). Species occurrence represents areas delineated by USFWS that encompass both home ranges and potential transitory movements based on verified sightings (MNHP 2023a). |
| Wolverine | *Gulo gulo* | S3 | SOC | SENSITIVE | Confirmed area of occupancy supported by recent (post-1980) observations of adults or juveniles within six miles (MNHP 2023a). |
| Fisher | *Pekania pennanti* | S3 | SOC | Not listed | Confirmed area of occupancy based on the documented presence of adults or juveniles within tracking regions containing core habitat for the species (MNHP 2023a). |

Source: Herrera, 2023b

[a] State Status and Rank codes:

S1: At high risk because of extremely limited and/or rapidly declining population numbers, range and/or habitat, making it highly vulnerable to global extinction or extirpation in the State.

S2: At risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to global extinction or extirpation in the State.

S3: Potentially at risk because of limited and/or declining numbers, range and/or habitat, even though it may be abundant in some areas.

S4: Apparently secure, though it may be quite rare in parts of its range, and/or suspected to be declining.

The Helena-Lewis and Clark National Forest no longer recognizes regional forester sensitive species, which have since been replaced with Species of Conservation Concern (SCC species). Those species include the flammulated owl (*Psioscops flammeolus*) and Lewis's woodpecker (*Melanerpes lewis*). The MNHP database does not show occurrences of these two species, and there is not sufficient quality habitat present to support them in the Project area (Herrera 2023b).

### 3.8.2 Environmental Consequences – No Action Alternative

**Direct and Indirect Effects**

Maintenance activities on the existing Sun River Bridge would continue and may result in limited in-water work. There is little potential for direct or indirect impacts to vegetation, fish, and wildlife.

### 3.8.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

Vegetation

Trees on both slopes of the river canyon would be topped to ten feet vertical distance below the level of the new bridge and ten feet horizontal distance on each side of the bridge. Vegetation would be flush cut on the existing GID access road on the east bank. Additionally, temporary vegetation impacts would occur in staging, laydown, and construction access areas. A 40- by 60-

foot square of vegetation would be temporarily removed for work areas next to each of the bridge piers. An additional 30-foot by 50-foot laydown area would be temporarily cleared to use for drilled shaft and column construction equipment and materials.

After construction has been completed, revegetation of the staging areas, laydown, and construction access areas as well as roadside slopes along the new approach roads will be implemented with any required erosion control measures to remain in place until vegetation becomes established. Following completion of construction activities, site monitoring would be performed by the jurisdictional land management agencies to support vegetative recovery of the area and prevent invasion by noxious weeds.

Additional potential effects on vegetation during construction include effects on pollinators and dust covering leaves thereby reducing photosynthesis.

Fish and Wildlife

Temporary water quality impacts (turbidity) could occur due to sedimentation during installation and removal of culverts for river diversion or from minor blasting activities. Also, installation and removal of temporary fill for work bridges, temporary access roads, and shoring towers needed for construction of the new bridge could cause temporary turbidity. Placement of a temporary road or bridge for access across the river would change the aquatic habitat in the immediate vicinity of the structure, but effects would be minor and localized. Driving across the river could impact water quality if petroleum products encounter the river. Temporary aquatic habitat impacts could occur during construction. Work bridges could change fish habitat in a localized area by shading the water surface.

It is anticipated that approximately 1.8 acres of habitat will be temporarily cleared during construction. Birds covered under the *Migratory Bird Treaty Act* (MBTA) could use the habitat for nesting or foraging and could be affected by vegetation removal, which would nesting and foraging opportunities in the immediate vicinity of the Project. Vegetation removal may also temporarily affect the availability of suitable habitat for other wildlife species. However, species relying on the habitats within the vicinity of the Project for foraging purposes would likely relocate during the construction phase therefore effects will likely be minor and short term until the revegetation reaches maturity following construction (Herrera 2023b).

Noise and visual disturbance from use of heavy equipment could directly result in mortality or injury of small animal species, such as birds, rodents, and amphibians, especially if nests or young are present in the Project area. Noise from pile driving could cause wildlife to avoid the construction area but impacts would be short term. No pile driving would occur below the OHWM, therefore no resultant impacts on aquatic species would occur. Work would primarily occur outside the mid-November to mid-April timeframe to minimize impacts to bighorn sheep, although some construction activity may occur during that time period. Increased traffic associated with construction activities could heighten the potential for wildlife-vehicle collisions on Sun Canyon Road and Pishkun Road (Herrera 2023b).

Improperly stored food or petroleum products could attract bears and other wildlife to the construction zone creating a potential human/animal conflict. In addition, bears could be attracted

to construction equipment and can damage hoses and seats. Bighorn sheep could be attracted to the construction site due to leaking antifreeze (Herrera 2023b).

As part of the construction process, minor blasting may be needed to facilitate excavation. The wildlife within the Project area would likely avoid the vicinity during the unlikely event of minor blasting activity. If the existing bridge is removed during construction, there is the potential for minor additional direct wildlife mortality, including bats that may be roosting on the existing bridge.

Threatened and Endangered Species

The Project activities with the potential to affect lynx, grizzly bear and wolverine are noise and disturbance from construction equipment for approximately six months each year in 2025 and 2026. Construction noise could cause grizzly bear, Canada lynx and wolverine to alter behavior through avoidance. The increase in traffic during construction could increase the risk of collision with wildlife (Herrera 2023b). The risk of impacts on grizzly bear, Canada lynx and wolverine will be reduced by limiting the duration of the Project to the shortest time feasible and limiting road work to daytime hours between 6:00 am and 9:00 pm (Herrera 2023b).

Some grizzly bears travelling through the area could be temporarily disturbed or displaced by noise and human activity from the proposed actions. Foraging efficiency may be reduced for grizzly bear as they may be using the Project area for foraging. If blasting occurs during sensitive periods when grizzly bears are denning in fall or emerging from dens in spring, the noise could disrupt normal behavior. During construction activities, unnatural food sources or attractants may become available and attract grizzly bears which could lead to individuals becoming nuisance bears that are habituated to human activity and require management intervention. The Project will implement measures to minimize the availability of Project-related attractants. Additionally, the Project will implement timing restrictions that would minimize direct conflict with grizzly bears. Blasting, if needed, would not occur during the month of November and from March 1 through May 15 when grizzly bears enter and emerge from dens.

Canada lynx are most susceptible to noise and other disturbances during the denning period and while newborns are developing (May through August). The Project will implement timing restrictions that would minimize direct conflict with Canada lynx. However, there are no known dens in the Project area, and temporary construction impacts are not anticipated.

If a wolverine were to occur in the Project area during construction, the Project could cause a behavioral response (avoidance). However, wolverines are highly mobile, wide-ranging carnivores that could easily avoid the area during construction, and impacts from noise and disturbance are unlikely to result in adverse effects.

## Direct Effects

Vegetation

Permanent impacts on vegetation would occur due to construction of the new road and approaches needed to tie in the new bridge. The impact of loss of this habitat is relatively minor, as similar abundant habitat exists surrounding the Project area (Herrera 2023b).

The existing bridge would no longer be needed for vehicular traffic. Therefore, portions of the approach road on both sides of the existing bridge would either be blocked to prevent vehicular access by the public or ripped and seeded with a government-approved seed mix.

Fish and Wildlife

Work bridges and shoring towers will be removed after construction is complete, and the river channel would be regraded to the original contours. Therefore, no permanent changes to aquatic habitat or channel form would occur. Although portions of the river's buffer would be lost and construction activities would have short-term impacts on the river itself, moving the abutments out of the OHWM would allow the natural migration and changes to the river which creates a variety of habitats for aquatic plants, fish, amphibians, and other aquatic organisms. The Sun River would continue to support a wide variety of fish, wildlife, and vegetation.

Permanent effects to terrestrial wildlife habitat within the new roadway and bridge accesses would likely result from the removal of vegetation and soils where clearing is necessary. Construction of the Project could result in direct wildlife mortality, primarily to those species with limited mobility and/or those that could conceivably be in burrows at the time of construction (e.g., mice, voles, frogs, salamanders, snakes, and ground squirrels). More mobile species, such as adult deer, coyotes, and most adult birds, would be able to avoid direct mortality by moving into adjacent habitat.

Threatened and Endangered Species

The proposed Project will have no effect on whitebark pine because no whitebark pine trees are present in the Project area.

The Project is not likely to adversely affect grizzly bears because loss of grizzly bear habitat is not anticipated due to the limited scope and footprint of the Project. Habitat fragmentation is not anticipated given that the Project would only result in a shift of the bridge alignment and existing bridge access roads would be blocked to prevent public vehicular access or obliterated. A road density analysis conducted by the USFS determined that the new road approaches will not cause an increase in road density that would affect grizzly bears. Although the new approach roads will enable use by larger vehicles that are currently precluded from using the existing crossing, grizzly bears generally avoid areas near roads during daylight hours so they would be unlikely to be at higher risk of disturbance or injury (Herrera 2023a).

It is anticipated that the Project is not likely to adversely affect Canada Lynx. Primary threats to this species are habitat destruction and fragmentation, and there is no suitable foraging or denning habitat in the Project area, and the Project will implement timing restrictions that would minimize direct conflict with Canada lynx.

The Project is not likely to adversely affect wolverine because the Project will result in negligible loss of habitat and the Project will implement timing restrictions that would minimize direct conflict with wolverine.

The Project is not anticipated to impact the monarch butterfly because no milkweed habitat was observed in the Project vicinity that would be necessary to support populations of this candidate species.

**Indirect Effects**

Vegetation

Areas disturbed by road construction can provide an opportunity for increased density of existing native plant populations, as well as the expansion of invasive plants and noxious weeds into previously non-infested areas. The new approach roadway could also become a potential corridor for the introduction, establishment, and expansion of new noxious weeds and invasive plants to the area. The use of BMPs and implementation of mitigation measures discussed below would prevent the introduction or spread of noxious weeds in or adjacent to the Project area and prevent the transport or spread of known noxious weeds from within to outside the Project area.

Wildlife

Indirect Project effects to wildlife typically include altered predator-prey relationships, long-term habitat alteration, and indirect land use impacts. Additionally, the new bridge and approach roadways will enable use by semi-tractor trailers and other GID maintenance equipment, as well as large RVs, livestock trailers, and towed recreational units which are currently precluded from using the existing crossing. This could potentially increase traffic on the approach roads and bridge, but it would not enable any new types of uses because there are other routes that large vehicles currently use to access the Project area. Due to the Project's limited scope, small footprint, minimal direct impacts to vegetation and habitat, and minimal effect on traffic, any indirect impacts resulting from the Project would be minimal and would not threaten overall population numbers.

### 3.8.4 Mitigation Measures

The following measures should be implemented during construction to minimize impacts to vegetation, fish and wildlife, and threatened and endangered species associated with the construction of the Project:

- Schedule work between 6 am and 9 pm to minimize nighttime disturbance to wildlife.
- Avoid work within the mid-November to mid-April timeframe to minimize impacts to bighorn sheep.
- Avoid removal of the existing bridge within the May to July timeframe to minimize potential impacts to roosting bats. If the bridge removal occurs from May to July, bat surveys will be completed to identify if there are roosting bats on the existing structure.
- Schedule construction activities, including blasting if needed, to minimize disruptions during sensitive periods and breeding seasons. Do not conduct blasting operations during November and from March 1 through May 15.
- Equip all construction equipment with adequate mufflers to reduce noise.

- Store food, fuel, trash, or other attractants in a manner that does not attract bears and require bear-proof Contractor-supplied garbage bins.
- Do not feed bears.
- Report grizzly bear sightings or incidents to the Contracting Officer (CO) as soon as possible. The CO should notify the local MFWP Bear Specialist of any nuisance or aggressive bears.
- Remove any wildlife carcasses in the Project area within 24 hours.
- Do not leave gasoline, oil, or other petroleum products unattended outside of vehicles or on the ground.
- Ensure that all vehicles and equipment are free from leaks, and if any leaks occur, promptly remove them from the Project area and/or get them repaired.
- Contain and clean up spills to prevent the spill areas from becoming major attractants.
- Secure clothing, shoes, and tool handles out of the reach of sheep and other wildlife.
- Ensure portable toilets are strapped down or otherwise secured to the ground to prevent spillage. Clean up any portable bathroom spills immediately should they occur.
- Conduct any shrub or tree removal in compliance with the MBTA and the Bald and Golden Eagle Protection Act. Conduct vegetation clearing outside the nesting season (April 1 – July 15 (Herrera 2023b)) when no active nests are present. If clearing must occur during nesting season, conduct a nesting survey by qualified biologists before work starts to ensure there are no active nests within clearing limits.
- Remove only those trees and shrubs in direct conflict with the permanent construction limits.
- Where possible, do not remove, but trim trees and shrubs as necessary for equipment access and construction activities.
- Minimize vegetation clearing to the extent possible.
- Mark clearing limits.
- Use already disturbed areas as staging areas rather than disturbing new areas.
- Power wash all vehicles free of dirt and plant seeds prior to entering the Project area to prevent the spread of noxious weeds.
- Materials (soil/gravel) imported should be inspected and certified as weed-free before use on the Project site.
- Seed exposed soils with government-approved native seed mix as soon as the work is completed to facilitate rapid vegetative recovery of the area and to prevent invasion by noxious weeds.

- Ensure prompt reclamation and revegetation of cleared areas, including staging, laydown, and construction access areas but excluding the area underneath the bridge, with appropriate plant species to restore habitat quality and connectivity.
- Conduct in-river work during low flow conditions during the MFWP-recommended in-water work window for the Sun River Drainage from June 15 to September 1 or as determined through coordination with regulatory agencies.
- Prevent sediment, petroleum products, chemicals, and other liquids or solid materials from entering the Sun River.

## 3.9 Cultural Resources

### 3.9.1 Affected Environment – Existing Conditions

Cultural resources are protected by the NHPA of 1966, as amended (16 U.S.C. 470 et seq.), which requires the identification and evaluation of significant historical resources that may be impacted by the Project. This law further requires avoidance of these resources, if possible, or when avoidance is not possible, that any adverse effects of the Project on the resources be mitigated.

To comply with Section 106 of the NHPA, Historical Research Associates, Inc. completed a cultural resources survey for the Project in August of 2023. This work included conducting background research for cultural resources within one mile of the Project's APE for the Sun River Bridge in order to search the Montana SHPO cultural resources site and report database for cultural properties previously listed or determined eligible, ineligible, and undetermined for listing in the NRHP. Also included was the completion of a cultural resources survey within the APE to identify cultural properties potentially eligible for listing in the NRHP (HRA 2023).

The background research disclosed 36 previous cultural resources investigations conducted, 12 of which covered some portion of the APE. In addition, the research disclosed site forms and updates for 23 previously recorded precontact and historic-period sites, six of which extend into or border the APE and were previously recommended eligible for listing in the NRHP, including three historic-period irrigation systems, one historic-period road, one historic-period bridge, and one historic-period residence. All six resources were previously recommended eligible for listing in the NRHP due to their association with the Sun River Irrigation Project. The Sun River Bridge site was previously determined eligible by the Keeper of the National Register in 1985, and that determination is still in effect today. The field study conducted as part of the report observed two new historic-period isolates (HRA 2023).

Of the six previously recorded cultural resources and the two newly recorded isolates within the APE, four are recommended as eligible for listing in the NRHP, two are recommended ineligible, and a previous determination of eligibility for the remaining site remains in effect.

These sites and associated recommendations are listed in **Table 3-5**.

**Table 3-5. Sun River Bridge Replacement Project – Cultural Resources Recommendations**

| Site Name | Smithsonian Number / Field Number | Site Description | NRHP Eligibility Recommendations | HRA Recommendations |
|---|---|---|---|---|
| Bureau Tract Neighborhood | 24LC806 | Historic-period residence | Eligible | No Further Work |
| Pishkun Canal | 24LC808/ 24TT134 | Historic-period irrigation system | Eligible | No Further Work |
| Willow Creek Feeder Canal | 24LC2147 | Historic-period irrigation system | Eligible | No Further Work |
| Sun Canyon Road | 24LC2695 | Historic-period road | Eligible | No Further Work |
| Sun River Bridge | 24TT199 | Historic-period bridge | Determined Eligible* | No Further Work |
| ------ | 3523.02-01i | Historic-period debris | Not Eligible | No Further Work |
| ------ | 3523.02-02i | Historic-period debris | Not Eligible | No Further Work |

Source: HRA, 2023. *Determination of Eligibility issued by the Keeper of the National Register in 1985.

### 3.9.2 Environmental Consequences – No Action Alternative

**Direct and Indirect Effects**

The No Action Alternative would result in no change from present conditions and would have no direct or indirect impacts to cultural, historic, or archaeological resources.

### 3.9.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

No temporary construction effects are anticipated to the following sites recommended as eligible for listing in the NRHP (or pending final determination of eligibility).

- Bureau Tract neighborhood (Site 24LC806): The site boundary barely overlaps the Project APE, and there are no site components located within the APE. No impacts would occur during construction.

- Pishkun Canal (Site 24LC808/24TT134): Construction activity will avoid the area surrounding the Pishkun Canal and Siphon. A pre-construction inspection was conducted on August 21, 2023, to confirm the current condition of the siphon, and an inspection will be conducted following construction to confirm that no construction-related impacts occurred during the course of the Project.
- Willow Creek Feeder Canal (Site 24LC2147): Construction activity will avoid the area surrounding the Willow Creek Feeder Canal. No impacts would occur during construction.
- Sun Canyon Road (Site 24LC2695): The portion of the road within the APE (approximately 650 feet) is paved. Use of the road to access the Project site during construction will not impact its condition. No adverse effects are anticipated to this resource during construction.
- Sun River Bridge (Site 24TT199): The existing bridge will not be disturbed by construction activities associated with the new bridge. No temporary construction effects are anticipated to this resource.

Excavation for the bridge abutments could expose buried archaeological resources. An inadvertent discovery plan will be in place and construction work halted in the area if resources are found.

**Direct Effects**

The steel superstructure of the existing bridge will be removed only if the structure is determined to not be eligible for listing on the NRHP. No known sites that are eligible for listing in the NRHP will be impacted by the Project. Because the Project will result in no adverse effect to historic properties, no further work was recommended for these resources (HRA 2023).

**Indirect Effects**

The Preferred Alternative would not have indirect effects to cultural resources.

### 3.9.4 Mitigation Measures

Excavation for the bridge abutments could expose previously buried cultural resources. The following measures should be implemented during construction to minimize any cultural or historic impacts associated with the construction of the Project:

- If unanticipated cultural materials are encountered during construction, the Contractor should suspend work in the immediate vicinity of the find until the cultural materials can be assessed.

## 3.10 Recreation

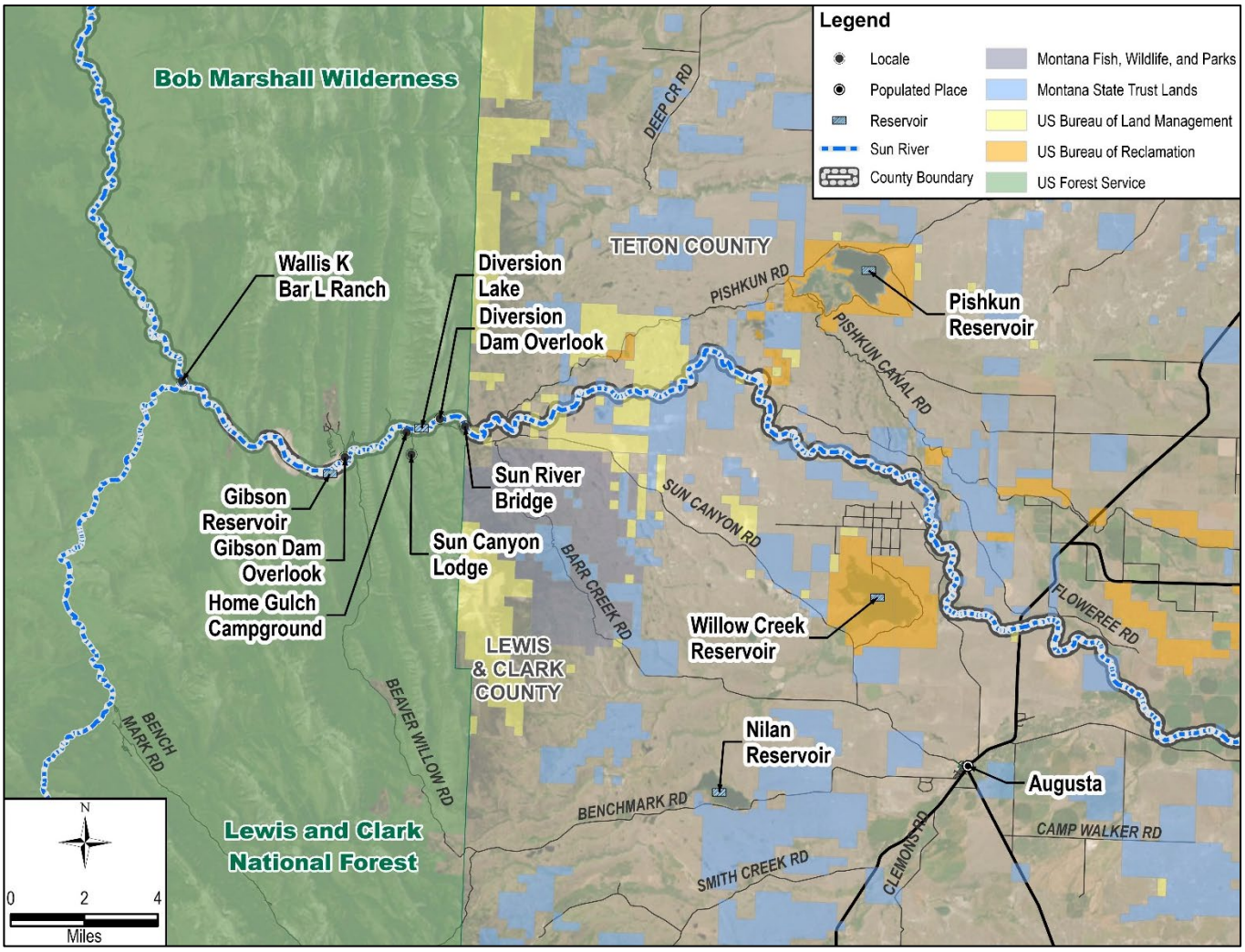
### 3.10.1 Affected Environment – Existing Conditions

The Sun River Bridge is located on the Rocky Mountain Front. The bridge provides a primary or secondary access route to a variety of recreational opportunities in the area, as shown in **Figure 3-5** and described below.

- **Sun River.** The Sun River is considered one of Montana's most beautiful and scenic rivers. The river passes through the Sun Canyon in the Project area, where it is an isolated and wild river used for floating, fishing, and other recreational activities. A small, informal boat launch located upstream (north) of the existing bridge is routinely used by commercial guides and members of the public for boating in the area.
- **Sun River Canyon.** The Sun River Canyon is a 20-mile canyon northwest of Augusta located on the edge of the Rocky Mountain Front. The steeply sloped canyon provides wild, remote scenery and is an eastern gateway to the Helena-Lewis and Clark National Forest and the Bob Marshall Wilderness. It offers a variety of recreational opportunities including hunting, fishing, hiking, picnicking, and camping at the Sun Canyon Lodge
- **Gibson Reservoir.** The Gibson Reservoir is located in the Helena-Lewis and Clark National Forest and is a man-made reservoir created by the construction of the Gibson Dam. This reservoir is located just south of the Bob Marshall Wilderness and offers opportunities for boating, hiking, fishing, and camping. Below the Gibson Dam, Home Gulch Campground offers recreational vehicle (RV) and tent camping, along with enhanced amenities not provided at other dispersed camping areas along the Sun River.
- **Sun River Wildlife Management Area.** The Sun River WMA was established in 1948 to provide winter range habitat for the Sun River elk herd. The WMA provides a variety of recreational opportunities including hiking, horseback riding, and wildlife viewing.
- **Helena-Lewis and Clark National Forest.** The scenic Helena-Lewis and Clark National Forest spreads across 13 counties and seven mountain ranges in Montana. The Bob Marshall Wilderness and the Scapegoat Wilderness comprise approximately half of this forest land. The National Forest provides considerable recreational opportunities including camping, skiing, snowmobiling, hunting, fishing, hiking, and wildlife viewing.
- **Bob Marshall Wilderness Complex.** The Bob Marshall Wilderness Complex includes the Bob Marshall Wilderness and the Scapegoat Wilderness and is the third largest wilderness complex in the lower 48 states. The complex covers more than one million acres and is split by the Continental Divide. A large variety of wildlife can be found in this complex. With no roads and a ban on any motorized vehicles, there are over 1,000 miles of hiking trails to enjoy the area's vast recreational opportunities.
- **Rocky Mountain Front Conservation Management Area**. The Rocky Mountain Front Conservation Area encompasses over 200,000 acres including Federal lands managed by USFS and USBLM as well as private lands with conservation easements that protect riparian areas, grasslands, and other habitat supporting grizzly bears, birds, and other species while enabling ranching and gazing activities. The area offers a variety of recreational opportunities.
- **Pishkun Reservoir.** The Pishkun Reservoir is an off-stream storage reservoir that was constructed as part of the Sun River Irrigation Project. This reservoir offers a variety of recreational opportunities including boating, camping, and major game fishing for northern pike and kokanee salmon.

- **Diversion Lake and Dam.** The Diversion Lake and Dam is located 3 miles downstream from the Gibson Dam and was constructed as part of the Sun River Irrigation Project. This reservoir is also located just south of the Bob Marshall Wilderness and offers opportunities for boating, hiking, fishing, and camping.

**Figure 3-5. Sun River Bridge Replacement Project – Recreation Sites**




Portions of the properties listed above may qualify for protection under *Section 4(f) of the Department of Transportation Act of 1966* only if they are determined to be significant public parks, recreation areas, or wildlife/waterfowl refuges. While public lands in the vicinity offer recreational opportunities, they are also managed for other purposes. The public multiple use land holdings surrounding the immediate Project vicinity are not known to be specifically designated for protected Section 4(f) uses. Further, this Project meets an exception under 23 CFR 774.13(e) for Federal lands transportation facilities described in 23 U.S.C. 101(a)(8).

*Section 6(f) of the Land and Water Conservation Fund Act* provides funds for buying or developing public use recreational lands through grants to local and State governments. Section 6(f) of the Act prevents conversion of lands purchased or developed with LWCF funds to non-recreation uses, unless the Secretary of the Department of the Interior, through the National Park Service, approves the conversion. Although the Helena-Lewis and Clark National Forest received funding from the Land and Water Conservation Fund (LWCF 2023), USFS lands are exempt from the post-completion compliance responsibilities in 36 CFR Part 59.

### 3.10.2 Environmental Consequences – No Action Alternative

**Direct Effects**

Under the No Action Alternative, access to the various recreational resources in the surrounding area would continue to be restricted due to the current bridge condition and the road deficiencies that limit usage. The existing Sun River Bridge is limited to a weight of five tons, and the steep terrain of the bridge approaches and roadway switchbacks does not allow for the safe passage of large recreational vehicles, boats, or horse trailers. These types of vehicles must continue to undertake a lengthy detour of up to 76 miles and three hours to reach recreational opportunities that are located on the opposite sides of the river.

**Indirect Effects**

Over time, ongoing deterioration of the Sun River Bridge would continue to limit access across the river, resulting in the potential for lost economic revenue to the region from tourism and recreation.

### 3.10.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

During construction of the new Sun River Bridge, recreational access to the Sun River and areas within the Project APE, specifically recreationalists utilizing the upstream boat launch, would be restricted from approximately June through November while the new bridge is being constructed to ensure public safety. During temporary periods of river closure, signs would be placed on the access roads leading to the affected boat launch noting the closed access and providing direction to an alternate public river access location downstream of the Project area.

Additionally, noise and potential traffic delays associated with construction equipment may affect recreational access and users' experiences, however these impacts would be localized and temporary in nature.

**Direct Effects**

Land Conversion: The Preferred Alternative would require minor adjustments on each approach roadway to allow for new road connections to public and private properties. Approximately 3.6 acres of new right-of-way would need to be acquired from one USBLM parcel and one private parcel owned by Klick and Robinson, LLC. Although some of these lands are located within the boundaries of the Helena-Lewis and Clark National Forest, the lands constitute a minor portion of the larger properties

and the Project would not adversely affect public recreational use of the properties or other managed uses.

Access: The Preferred Alternative would maintain access to the vast recreational opportunities in the surrounding area by allowing larger recreational vehicles, boats, and horse trailers to use the Sun River Bridge instead of having to detour over 70 miles in some cases to access sites on the opposite sides of the bridge. No permanent adverse impacts to any recreational facility surrounding the Project area are expected.

**Indirect Effects**

Over the long term, a slight increase in traffic in the area may have a minor impact on the recreational experience of some users seeking quiet and tranquility, but the potential increase in traffic compared to the No Action Alternative is not expected to be substantial.

### 3.10.4 Mitigation Measures

The following measures should be implemented to minimize any recreational resource impacts associated with the construction of the Project:

- Provide the public with notices of any potential traffic delays or closures in the Project area and on Sun Canyon Road or Pishkun Road.
- Provide and install temporary signs to communicate alternate river access during any periods of temporary river closure.

## 3.11 Hazardous Materials

### 3.11.1 Affected Environment – Existing Conditions

Hazardous materials are regulated by the USEPA or the MDEQ. These include substances regulated under the *Comprehensive Emergency Response, Compensation, and Liberty Act* (CERCLA, or Superfund), the *Resource Conservation and Recovery Act* (RCRA), as well as regulations for above-ground storage tanks (ASTs), underground storage tanks (USTs), and solid waste management.

Federal and State environmental databases were reviewed to determine whether known hazardous materials may be located in the Project area. No areas of hazardous material contamination were identified in the Project area (USEPA 2023b, MDEQ 2023b).

If the existing bridge is removed, testing and inspections would be required to determine the presence of asbestos and lead-based paint.

### 3.11.2 Environmental Consequences – No Action Alternative

**Direct and Indirect Effects**

Since there are no known hazardous material sites located within the Project area, the No Action Alternative is not expected to have an effect on the release of hazardous materials into the environment.

### 3.11.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

Hazardous wastes associated with construction equipment including fuels, lubricants, hydraulic fluids, and related items needed for construction vehicles and equipment could be released to the environment unexpectedly. A minor risk of an accidental release of these hazardous fluids exists since vehicles and heavy equipment would be operating in the Project area throughout the construction period. Potential disturbance of unknown hazardous materials in the soils could occur. Additionally, there is potential risk for release of asbestos and lead-based paint if the steel superstructure of the existing bridge is removed as part of the Preferred Alternative.

**Direct Effects**

Since there are no known hazardous material sites located within the Project area, the Preferred Alternative is not expected to have an effect on the release of hazardous materials into the environment.

**Indirect Effects**

The No Action Alternative would have no indirect effect on hazardous materials.

### 3.11.4 Mitigation Measures

The following measures should be implemented during construction to minimize any hazardous waste impacts associated with the construction of the Project:

- Notify MDEQ and remove and properly dispose of materials if previously unknown contaminants are encountered during construction.
- Require the Contractor to plan for and implement containment procedures in response to any accidental spills that may occur during construction of the Project.
- Require the Contractor to store fuels and other hazardous materials away from surface waters and wetlands to reduce potential adverse effects of an accidental spill.
- Conduct testing and inspections to determine the presence of asbestos and lead-based paint on the existing bridge and, if found, implement a containment plan before any demolition activities occur.

## 3.12 Visual Quality

### 3.12.1 Affected Environment – Existing Conditions

The Project area is located in the western central portion of Montana on the eastern slope of the Rocky Mountain Front. The Sun River Bridge sits in the mouth of the Sun River Canyon, a steeply sloped canyon providing wild and remote scenery. The high rock walls of the Sun Canyon rise abruptly, providing visually majestic views. The Sun River Bridge is surrounded by plains characterized primarily by foothills prairie vegetation that give rise to the spectacular views of the rocky cliffs of the Rocky Mountain Front. Depending on flow volumes, this section of the Sun River can experience extensive rapids before it spills out onto the high prairie and is considered one of Montana's most beautiful and scenic rivers.

### 3.12.2 Environmental Consequences – No Action Alternative

**Direct and Indirect Effects**

Under the No Action Alternative, no construction would occur in the area. There would be no vegetation removal or changes to the landform from grading or earthwork. The existing bridge would be maintained in place, and no changes in the existing visual condition of the natural and developed environmental components would occur. No direct or indirect effects to visual quality of the Project area are anticipated.

### 3.12.3 Environmental Consequences – Preferred Alternative

**Temporary Construction Effects**

Construction would temporarily impact the visual quality of the area due to the presence of construction equipment. The removal of vegetation and the presence of bare earth is expected, however, all disturbed areas would be regraded and revegetated. Dust would likely be visible in the immediate vicinity of earthwork activities. The Contractor may elect to divert river water to one side or the other using a temporary cofferdam constructed from river gravels or other stream diversion materials such as super sacks, water bladders, or shoring to control the river during the MFWP-recommended in-water work window for the Sun River Drainage from June 15 to September 1 or as determined through coordination with appropriate regulatory agencies. Diversion would enable a temporary work bridge to be placed across a narrowed river channel for access from the east to the west side of the river. Additionally, a diversion may be used to provide a work area on the west riverbank. These activities would temporarily alter views of the Sun River channel within the immediate Project vicinity. After access across the river is no longer needed, river diversion and temporary crossing materials would be removed and streambed materials would be restored to pre-existing conditions.

**Direct Effects**

Direct impacts on the visual quality of the area would result from the construction of a new bridge downstream from the existing bridge and the realignment of the approach roadways. Since the sharp, switch-backed portions of the existing approach roadways would be closed to vehicular access, motor vehicle occupants would no longer experience views from a descent into the river canyon or an ascent

from the crossing. Instead, users crossing the bridge would be afforded views only from the top of the canyon looking upstream and downstream from the new bridge. Depending on whether the existing bridge remains in place or if the existing steel superstructure is removed, views from adjacent land parcels and access roadways may include two parallel bridge structures or just a single, new structure downstream of the existing concrete piers, which would remain in place.

Temporary visual impacts to the river channel would be reversed once the river channel is regraded to the original contours, and therefore, no permanent changes to the channel form are anticipated.

**Indirect Effects**

An indirect effect of the Preferred Alternative could be an increase in recreational viewers crossing the Sun River. This would be expected to have a neutral effect on visual quality.

### 3.12.4 Mitigation Measures

The following measures should be implemented during construction to minimize any visual impacts associated with the construction of the Project:

- Reseed and restore all disturbed areas to pre-Project conditions after construction activities have been completed.

## 3.13 Cumulative Effects

Cumulative effects are those effects that result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions regardless of the agency (Federal or non-Federal) undertaking the action. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 Code of Federal Regulations [CFR] 1508.7).

The scope of a cumulative effects analysis is related to the magnitude of the impacts of the proposed action. The resources analyzed individually in this EA were each found to not have any reasonably foreseeable permanent adverse impact because of the Preferred Alternative. Therefore, no cumulative adverse effect will result from constructing the Preferred Alternative.

Past actions that have had the most measurable effect on the Project area include the Sun River Irrigation Project, completed in the early 1900s by the USBR, which was one of the first major Federal irrigation projects in Montana. No future actions within the Project vicinity are known.

## 3.14 Irreversible and Irretrievable Commitment of Resources

Irreversible commitments are those that cannot be regained, such as the extinction of a species, the expenditure of Federal funds, or the removal and use of fossil fuels. Irretrievable commitments are those that are lost for a period of time, such as the loss of production, harvest, or use of renewable resources.

Fossil fuels, labor, and construction materials such as aggregate would be irreversibly expended by construction of the proposed Project. Labor and fossil fuels would be consumed during

operation of construction equipment for grading, material movement, and construction activities. In addition, labor and natural resources would be used in the fabrication and preparation of construction materials. Construction would also require an expenditure of Federal funds that could not be used for any other projects.

# Chapter 4 Consultation and Coordination

An integral part of the environmental review process is engagement of other stakeholders, such as other agencies, tribes, and the public. The goal of the consultation and coordination process is to develop public awareness and understanding of the Project, gain input from potentially affected interests, and appropriately consider that input in the Project development process.

## 4.1 Public Outreach

FHWA has led the Project's public outreach using a variety of methods to inform the community of the status of Project progress (refer to **Table 4-1** below).

**Table 4-1. Public Outreach**

| Public Outreach Type | Date | Notes/Comments |
|---|---|---|
| Project Website | April 2023 – Ongoing | FHWA developed a Project website containing Project details, Project contact information, background and Project description, cooperating agencies, anticipated timeline, and Project documents. Website is updated by FHWA staff as needed. Provides option for electronic comment and/or written comment. |
| Media Coordination | April 2023 – May 2023 | Notice of public scoping meeting was published in the *Fairfield Sun Times*. |
| Public Scoping Meeting | 5/16/2023 | FHWA met with members of the public to discuss the proposed Project and request feedback on issues and concerns. |
| Media Coordination – Notice of Availability | January-February 2024 | To be issued upon release of the EA. |
| Public Meeting | February-March 2024 | To be conducted following release of the EA. |
| Project Website Updates and Media Coordination | 2024-2026 | To be conducted during the Project construction process. |

Public interest and support for providing a new crossing of the Sun River has been strong throughout the Project development process. However, no formal written comments have been received at this time.

## 4.2 Agency Involvement and Tribal Outreach

FHWA has led agency coordination and Tribal outreach efforts using a variety of methods to inform the community of the status of Project progress (refer to **Table 4-2** below).

**Table 4-2. Agency and Tribal Outreach**

| Public Outreach Type | Date | Notes/Comments |
|---|---|---|
| Agency Coordination | April 2023 – September 2023 | FHWA coordinated with agencies by email and telephone to inform them of the Project, informally request their participation in the EA process, and request review of the *Alternatives Analysis Memorandum* (**Appendix A**). |
| Letters to Tribal Governments | 4/20/2023 | FHWA emailed and mailed letters to area Tribes to inform them of the Project and request their input. |
| Agency Meeting | 5/16/2023 | FHWA met with resource agencies to discuss the proposed Project and request feedback on issues and concerns. |
| Agency Coordination | 8/30/2023 and 9/15/2023 | FHWA sent emails to agencies requesting confirmation to participate in the EA as a Participating/Cooperating Agency. |
| Tribal Coordination Meeting | 9/12/2023 and 9/13/2023 | FHWA met with the Blackfeet Tribe (including THPO staff and Elders) at the Project site to review potential cultural resources. |
| Ongoing Agency Coordination | 2024-2026 | To be conducted during the Project construction process. |

Agency and Tribal interest and support for providing a new crossing of the Sun River has been strong throughout the Project development process. See **Appendix F** for a summary of agency and public scoping meetings.

## 4.3 List of Preparers

This EA was prepared by FHWA, with technical assistance from Robert Peccia & Associates (RPA), Parametrix, Herrera Environmental Consultants, and Historical Research Associates. **Table 4-3** provides the names, organization and role of individuals involved in preparing the EA for the Project.

**Table 4-3. List of EA Preparers**

| Name | Organization | Project Role |
|---|---|---|
| Mike Traffalis | FHWA | Project Manager |
| Jennifer Chariarse | FHWA | Environmental Specialist |
| Kimber Miller | FHWA | Designer |
| Michael Schurke | FHWA | Archaeologist |
| Brad Thompson | RPA | Consultant Project Manager, EA Reviewer |
| Sarah Nicolai | RPA | EA Author |
| Trish Bodlovic | RPA | EA Author |
| Mike Pyszka | Parametrix | Preferred Alternative, Alternatives Development |
| Sue Wall | Herrera | Wetlands/Other Waters, Fish, Wildlife, Vegetation |
| Jeannie Larmon | HRA | Cultural, Historical, Archaeological |
| Kathryn Burk-Hise | HRA | Cultural, Historical, Archaeological |

## 4.4 EA Distribution

**Table 4-4** documents the interested parties distribution list, which includes agencies and organizations identified as Project stakeholders and who were provided with electronic copies of this EA. In addition, as cooperating agencies, USBR, USBLM, and USFS distributed this EA to applicable Federal entities.

A public notice announcing the availability of the EA for public review was published in the *Fairfield Sun Times*. A copy of the EA was made available to the public at the following location:

Lewis and Clark County Library – Augusta Branch
205 Main Street
August, MT 59410

**Table 4-4. EA Interested Parties Distribution List**

| Organization/Agency | Primary Contacts |
|---|---|
| GID | Erling Juel |
| MDEQ | Keenan Storrar and Gina Self |
| MFWP | Katie Vivian |

| Organization/Agency | Primary Contacts |
|---|---|
| Montana SHPO | Pete Brown |
| USACE | Alexandra Hutton |
| USBLM | Brett Blumhardt |
| USBR | Morgan Kimmet and Jeff Baumberger |
| USFS | Michael Munoz |
| USFWS | Mike McGrath |
| TRIBES | Assiniboine and Sioux Tribes; Blackfeet Tribe; Chippewa Cree Tribe; Crow Tribe; Confederated Salish and Kootenai Tribes; Eastern Shoshone Tribe; Fort Belknap Indian Community; Little Shell Tribe; Nez Perce Tribe; Northern Arapaho Tribe; Northern Cheyenne Tribe; and Shoshone-Bannock Tribes |

# Chapter 5 Permits and Approvals Needed

Required permits and approvals would be obtained prior to construction. The following permits and approvals (**Table 5-1**) are expected to be required for implementation of any of the build alternatives.

**Table 5-1. Required Permits and Approvals**

| Permit/Approval | Lead Responsibility/ Applicant | Permitting/Approval Agency |
|---|---|---|
| NEPA Approval | FHWA WFL | FHWA WFL |
| National Historical Preservation Act and Section 106 Approval | FHWA WFL | Montana SHPO |
| ESA Section 7 Consultation and USFWS Biological Opinion | FHWA WFL | USFWS |
| Clean Water Act Section 404 Permit – Nationwide 33 (Temporary Construction, Access, and Dewatering) | FHWA WFL | USACE |
| Uniform Relocation Assistance and Real Property Acquisitions Policies Act | FHWA WFL | FHWA WFL |
| Section 401 Water Quality Certification | FHWA WFL | MDEQ |
| Section 402 NPDES General Construction Stormwater Permit | FHWA WFL | MDEQ |
| | | |
| Special Use Permit for Staging Areas | FHWA WFL | USFS |
| Floodplain Permit for Temporary Work | FHWA WFL | Teton County |

# Chapter 6 Project Commitments and Conservation Measures

For each resource that was discussed in Chapter 3, **Table 6-1** provides a list of the commitments and conservation measures that would be a part of the Preferred Alternative to further avoid, minimize or mitigate for potential impacts.

**Table 6-1. List of Project Commitments and Conservation Measures**

| Resource | Commitment and/or Conservation Measure |
|---|---|
| Transportation | • Maintain traffic in the area during construction by allowing the continued use of the existing bridge.<br>• Maintain access to properties in the area throughout the construction period.<br>• Coordinate and communicate the construction schedule with the USBR, USBLM, USFS GID, MFWP, and Lewis and Clark and Teton Counties, so they can post construction alerts on their preferred communication channels to inform area travelers.<br>• Post public notifications on Sun Canyon Road and Pishkun Road announcing any temporary access limitations during periods of construction. |
| Land Use, Farmland, Forestland, Right-of-Way, and Utilities | • Maintain access to all properties during construction.<br>• Provide a construction schedule to all potentially affected landowners and recreational facilities in the area.<br>• Relocate power pole and reestablish river gauge, as needed.<br>• Inspect the siphon after construction to ensure no damage has occurred.<br>• Coordinate with landowners to develop restoration plan for lands temporarily impacted during construction.<br>• Reconnect and re-establish the existing fence line paralleling the USBLM grazing boundary as determined in coordination with USBLM. |
| Social/Economic Changes and Environmental Justice | • Maintain traffic and access to properties throughout the Project area during construction.<br>• Provide Project updates and offer opportunities to address community questions and concerns about the Project by posting information to the Project website. |
| Air Quality/Noise/ Energy | • Use water to control dust in areas subjected to land clearing, road grading, and operation of heavy construction vehicles.<br>• Apply water on unpaved roads, material stockpiles, and other surfaces which can create airborne dusts.<br>• Fully or partially enclose material stockpiles in cases where application of water is not sufficient to prevent PM from becoming airborne. |
| Soils and Geology | • Implement and maintain erosion and sediment control measures throughout the construction of the Project.<br>• Implement standard BMPs for weed control to minimize the introduction and spread of noxious weeds.<br>• Reseed using a government-approved native seed mix and restore all disturbed areas to pre-Project conditions after construction activities have been completed. |

| Resource | Commitment and/or Conservation Measure |
|---|---|
| | • Restrict clearing and grubbing operations to the minimum area necessary to accommodate the planned construction activities. |
| Water Resources, Water Quality, and Floodplains<br><br>Water Resources, Water Quality, and Floodplains, continued | • Implement soil erosion and sediment control BMP's measures such as silt fencing and fiber rolls as well as isolating construction work areas to prevent runoff from flowing across disturbed areas and minimize sediment-laden runoff from leaving the construction site and entering the Sun River.<br>• Require the Contractor to develop and implement a SWPP to control erosion and sediment transport during and after construction of the Project.<br>• Clearly mark construction limits to avoid inadvertent impacts to the Sun River.<br>• Stabilize and revegetate disturbed areas after work is completed to minimize erosion and sediment transport.<br>• Prevent sediment, petroleum products, chemicals, and other liquids or solid materials from entering the river by locating equipment staging in upland areas away from the river.<br>• Check equipment daily for leaks and repair leaks immediately.<br>• Install containment systems if blasting is required to prevent debris from entering the river.<br>• Work in low flow conditions during the MFWP-recommended work window for the Sun River Drainage from June 15 to September 1 or as determined through coordination with appropriate regulatory agencies.<br>• Use only appropriately sized material for the drilling pads or shoring towers.<br>• Place netting under the existing bridge for fall protection and to catch large debris if removal of the steel superstructure is pursued. |
| Vegetation and Wildlife | • Schedule work between 6 am and 9 pm to minimize nighttime disturbance to wildlife.<br>• Avoid work within the mid-November to mid-April timeframe to minimize impacts to bighorn sheep.<br>• Avoid removal of the existing bridge within the May to July timeframe to minimize potential impacts to roosting bats. If the bridge removal occurs from May to July, bat surveys will be completed to identify if there are roosting bats on the existing structure.<br>• Schedule construction activities, including blasting if needed, to minimize disruptions during sensitive periods and breeding seasons. Do not conduct blasting operations during November and from March 1 through May 15<br>• Equip all construction equipment with adequate mufflers to reduce noise.<br>• Store food, fuel, trash, or other attractants in a manner that does not attract bears and require bear-proof Contractor-supplied garbage bins.<br>• Do not feed bears.<br>• Report grizzly bear sightings or incidents to the CO as soon as possible. The CO will notify the MFWP Bear Specialist of any nuisance or aggressive bears.<br>• Remove any wildlife carcasses in the Project area within 24 hours.<br>• Do not leave gasoline, oil, or other petroleum products unattended outside of vehicles or on the ground. |

| Resource | Commitment and/or Conservation Measure |
|---|---|
| Vegetation and Wildlife, continued | • Ensure that all vehicles and equipment are free from leaks, and if any leaks occur, promptly remove them from the Project area and/or get them repaired.<br>• Contain and clean up spills to prevent the spill areas from becoming major attractants.<br>• Secure clothing, shoes, and tool handles out of the reach of sheep and other wildlife.<br>• Ensure portable toilets are strapped down or otherwise secured to the ground to prevent spillage. Clean up any portable bathroom spills immediately should they occur.<br>• Conduct any shrub or tree removal in compliance with the MBTA and the Bald and Golden Eagle Protection Act. Conduct vegetation clearing outside the nesting season (April 1 – July 15 (Herrera 2023b)) when no active nests are present. If clearing must occur during nesting season, conduct a nesting survey by qualified biologists before work starts to ensure there are no active nests within clearing limits.<br>• Remove only those trees and shrubs in direct conflict with the permanent construction limits.<br>• Where possible, do not remove, but trim trees and shrubs as necessary for equipment access and construction activities.<br>• Minimize vegetation clearing to the extent possible.<br>• Mark clearing limits.<br>• Use already disturbed areas as staging areas rather than disturbing new areas.<br>• Power wash all vehicles free of dirt and plant seeds prior to entering the Project area to prevent the spread of noxious weeds.<br>• Materials (soil/gravel) imported should be inspected and certified as weed-free before use on the Project site.<br>• Seed exposed soils with government-approved native seed mix as soon as the work is completed to facilitate rapid vegetative recovery of the area and to prevent invasion by noxious weeds.<br>• Ensure prompt reclamation and revegetation of cleared areas, including staging, laydown, and construction access areas but excluding the area underneath the bridge, with plant species to restore habitat quality and connectivity.<br>• Conduct in-river work during low flow conditions during the MFWP-recommended in-water work window for the Sun River Drainage from June 15 to September 1 or as determined through coordination with appropriate regulatory agencies.<br>• Prevent sediment, petroleum products, chemicals, and other liquids or solid materials from entering the Sun River. |
| Cultural Resources | • If unanticipated cultural materials are encountered during construction, the Contractor should suspend work in the immediate vicinity of the find until the cultural materials can be assessed. |
| Recreation | • Provide the public with notices of any potential traffic delays or closures in the Project area and on Sun Canyon Road or Pishkun Road. |

| Resource | Commitment and/or Conservation Measure |
|---|---|
| | • Provide and install temporary signs to communicate alternate river access during any periods of temporary river closure. |
| Hazardous Materials | • Notify MDEQ and remove and properly dispose of materials if previously unknown contaminants are encountered during construction.<br>• Require the Contractor to plan for and implement containment procedures in response to any accidental spills that may occur during construction of the Project.<br>• Require the Contractor to store fuels and other hazardous materials away from surface waters and wetlands to reduce potential adverse effects of an accidental spill.<br>• Conduct testing and inspections to determine presence of asbestos and lead-based paint on the existing bridge and, if found, implement a containment plan before any demolition activities occur. |
| Visual Quality | • Reseed and restore all disturbed areas to pre-Project conditions after construction activities have been completed |

# Chapter 7 References


| In-text Citation | Reference |
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| In-text Citation | Reference |
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