# PROJECT CHECKLIST

MONTANA FOREST HIGHWAY ROUTE 98

# RIMINI ROAD

## LEWIS AND CLARK COUNTY

MP 0.0 TO MP 7.4

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

WESTERN FEDERAL LANDS HIGHWAY DIVISION

# LIST OF ACRONYMS

| | |
|---|---|
| 3R | Resurfacing, Restoration, and Rehabilitation |
| AASHTO | American Association of State Highway & Transportation Officials |
| BST | Bituminous Surface Treatment |
| CE | Categorical Exclusion |
| DHV | Design Hourly Volume |
| DOT | Department of Transportation |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EPA | Environmental Protection Agency |
| FH | Forest Highway |
| FR | Forest Road |
| FS | United States Forest Service |
| FY | Fiscal Year |
| ha | hectare |
| kg | kilogram |
| kL | kiloliter |
| km | kilometer |
| km/h | kilometer per hour |
| m | meter |
| m2 | square meter |
| m3 | cubic meter |
| MDT | Montana Department of Transportation |
| MMBF | Million Board Feet |
| MP | Mile Post |
| mph | Mile Per Hour |
| NEPA | National Environmental Policy Act |
| NF | National Forest |
| NPS | National Park Service |
| PE | Preliminary Engineering |
| RV | Recreational Vehicle |
| RVD | Recreational Visitor Day |
| SADT | Seasonal Average Daily Traffic |
| SPA | Stream Preservation Act |
| t | metric ton |
| US | United States |
| USC | United States Code |
| USFS | United States Forest Service |

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# Introduction

The Western Federal Lands Highway Division (WFLHD), in cooperation with the U.S. Forest Service (FS), Montana Department of Transportation (MDT), and Lewis and Clark County, is planning to improve a section of Montana Forest Highway 98 (MT FH 98), also known as Rimini Road. As part of this project, 9.8 kilometers (6.1 miles) of the road will be reconstructed.

The purpose of the proposed project is to make improvements to the existing roadway, which will provide safe and efficient transportation for local residents and forest-related traffic, consistent with the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highways and Streets (2001) and state and local guidelines. The AASHTO design standards for this road are based on the functional classification of the road and design speed, and on projected design year traffic volumes. The objectives are to: (1) Rehabilitate and pave the segment from MP 0.0 to MP 6.1 with a hot asphalt concrete pavement to eliminate airborne dust, reduce streamside sedimentation, improve safety and driveability, and reduce maintenance costs; (2) Widen the existing roadway where necessary from MP 0.0 to MP 6.1 to meet current geometric design standards; (3) Realign a portion of the segment from MP 0.5 to MP 1/6 to meet the current geometric design standards; (4) Realign portions of the road to pull road away from Tenmile Creek, and therefore, reduce sedimentation and other impacts to the creek; (5) Replace three bridges and construct curbs and bridge rails on all bridges to meet current traffic needs and safety standards and to prevent surface runoff from going directly into the creek from the bridge decks; (6) Upgrade signing and other roadside safety features to current design standards. This may include the addition of guardrail in some locations.

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## Purpose of Project Checklist

The WFLHD uses the project checklist as part of its early coordination and data-gathering process. The checklist provides those people whom the proposed project may affect and governmental agencies that have regulatory or administrative interest an opportunity to become informed and involved in the project development process at an early stage.

The project checklist describes why the project is needed, the scope of the proposed improvement, and the alternatives being considered. The checklist also contains an initial estimate of environmental resources and potential impacts. In addition, the checklist aids in identifying issues in the project study area.

The checklist provides information that helps WFLHD determine the classification of the project and what type of environmental analysis (Environmental Impact Statement, Environmental Assessment, or Categorical Exclusion) is required for compliance with the National Environmental Policy Act (NEPA).

The checklist contains the results of location studies, engineering investigations and preliminary environmental studies that have been performed to date. This engineering and environmental information will provide the principle input for future NEPA clearance documents and highway design activities associated with the proposed project. For more complex projects, these studies are often not yet complete at the time the checklist is developed and may not be available for inclusion in the checklist.

## Project Name and Route Identification

Montana Forest Highway 98 – Rimini Road

## Lead Agency

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## Funding

Funding for the project would come from the Public Lands Highway Program, which is financed by the Federal Highway Trust Fund. The Public Lands Highway Program provides monies for improvements to Forest Highways which are selected public roads wholly or partly within, or adjacent to, and serving the National Forest (NF) system. These roads are necessary for the protection, administration, and utilization of the NF system and use and development of its resources. In Montana, the Public Lands Highway Program is administered jointly by the WFLHD, FS, and MDT. The project is currently funded for fiscal year 2005.

# Description of the Proposed Action_____

## Location of the Improvement

Rimini Road begins at Milepost (MP) 0.0 at the junction with US 12, ten miles southwest of Helena, and proceeds southwesterly through the town of Rimini. The entire route has a gravel surface and is owned and maintained by the county. Lewis and Clark County suggested improvements to the road between MP 0.0 and MP 7.4 in their original project proposal. After a field review attended by agency staff and publication of a Project Identification Report, the Montana Tri-Agency, which consists of the WFLHD, FS, and MDT, decided to terminate the project north of the town of Rimini at the Chessman Reservoir intersection, rather than at the community of Rimini itself (MP 0.0 to MP 6.1). It was decided not to improve the road through the town of Rimini because the buildings are very close to the road and some of the buildings may have historical significance. Additionally, there are expensive right-of-way, grading, and drainage issues from the Chessman Reservoir turnoff through the town of Rimini. The project's location is shown on the vicinity map on page 7.

## Scope and Nature of the Proposed Work

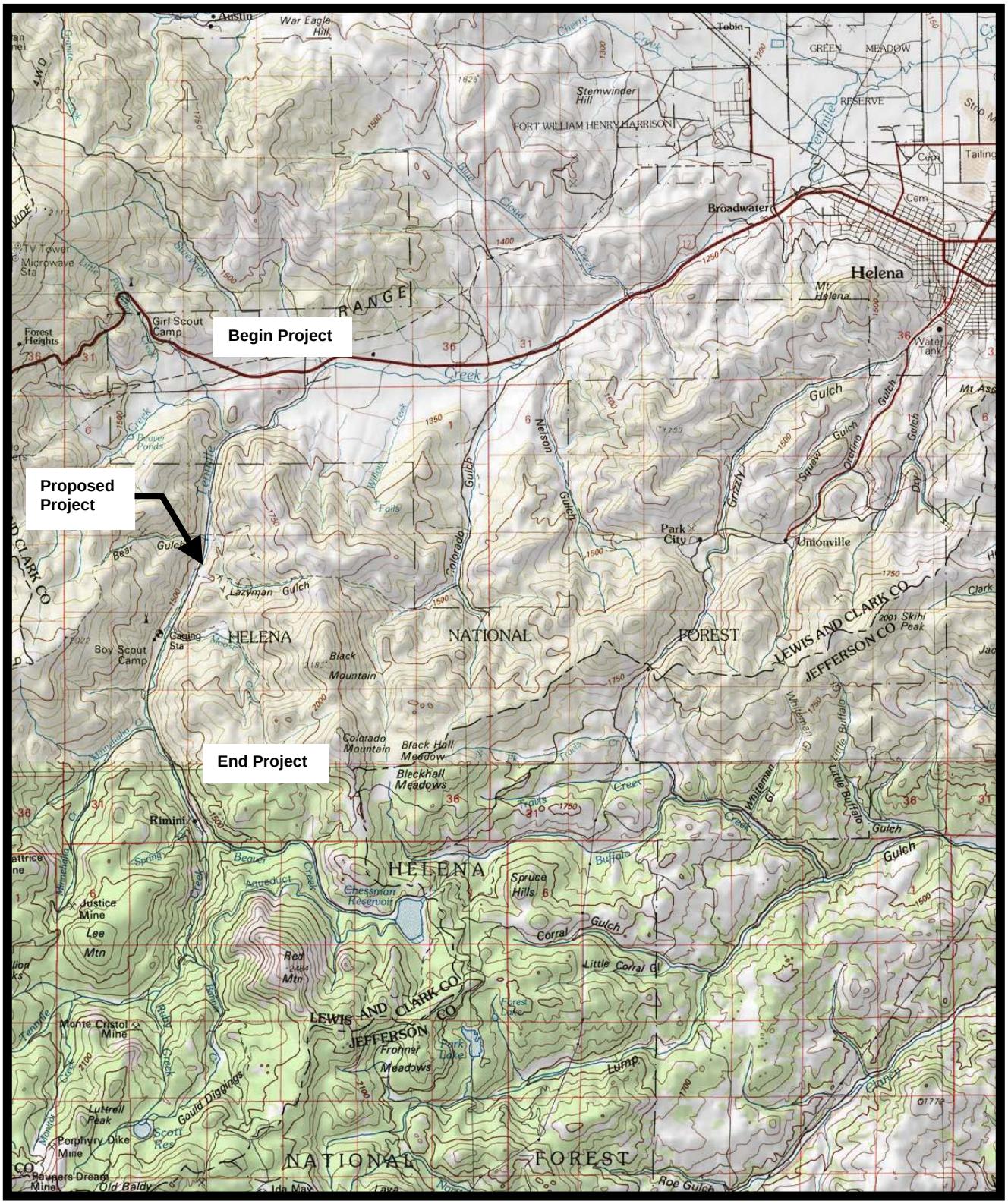
Major elements of the project include widening the roadway surface to a proposed 9.0 meters (30 feet) and adding an asphalt surface. The proposed width may be adjusted due to design or environmental factors revealed during the development of the project. The road will be designed for a speed of 70 kilometers per hour (45 miles per hour). Three bridges, located at MPs 1.1, 2.4, and 3.3 are proposed for replacement. All improvements are expected to stay within the existing corridor.

## Need for Project

The road provides year-round access to the Helena and Beaverhead-Deerlodge National Forests and to residents within the town of Rimini, as well as recreationists, miners, and other commercial users at an average rate of 319 vehicles per day. Historically, the road experiences dust and washboarding during the summer months, but dust abatement efforts funded by mine cleanup activities have lessened this problem for the past few years. The existing road varies in width from 18 to 24 feet with little or no shoulder area. The road's deficiencies may be compromising safety for the mix and level of use it receives.

Rimini Road is functionally classified as a rural minor collector according to the guidelines of the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets (2001). This manual provides guidance for minimum design standards for the nation's highway system. A rural collector is a road that carries traffic of primarily intracounty importance. These roads also normally provide service to smaller communities and link the locally important traffic generators with more rural areas. The route is not designated as a scenic byway under either the Forest Service or State of Montana Scenic Byway program. It is not on the National Highway System.

# Figure 1: Project Location Map



## Road Use

The route provides primary access to 40,000 acres of National Forest Service Land on the Helena NF and secondary access to 250,000 acres on the Helena and Beaverhead-Deer Lodge National Forests. Recreational, commercial, and residential use exists along this road year-round. Recreational opportunities include four developed sites, a 12-unit campground, a picnic area, and two trailheads. Four special use cabins belonging to the Forest Service occur adjacent to the road. The Tenmile Environmental Education Trail is one of several Forest Development Trails available through a managed partnership between the Forest and the Helena School District. Fishing, firewood gathering, berry picking, exploring historic mining sites, and wildlife viewing are activities enjoyed by both residents and tourists.

The road provides access to the Tenmile Creek Watershed, which provides drinking water to the City of Helena. Activities in the watershed must improve or maintain surface and subsurface water quality. Upper Tenmile, located above the Town of Rimini, was listed as a potential Superfund site in 1999, due to the presence of a large number of abandoned mining sites in the area. The Environmental Protection Agency is actively involved in the clean-up of these sites and will be for years to come. Rimini Road provides access not only to old mine tourist attractions, but to these clean-up efforts as well.

Residents in the Town of Rimini use the road to access their homes and businesses. Mail delivery and school bus service is provided throughout the route. The road also links US Highway 12 into the southwestern portion of the Helena and Deer Lodge National Forests. Good road access in and around this end of the Forest will benefit local services such as restaurants, motels, and gas stations. The road also provides a means for the County and the Forest Service to manage lands and activities under their jurisdiction.

There is little timber harvest in the vicinity of Rimini Road, but the route leads to more important harvest areas such as Park Lake and Minnehaha Road. Truck traffic makes up about 10% of the estimated road use. The road is owned and maintained by Lewis and Clark County and is open to public travel on a year-round basis.

## Existing Road Conditions

### 1. Surface

The road has a gravel surface throughout its length. Safety hazards that result from the gravel surface can include dusty conditions during the summer months, as dust abatement treatments lose their effectiveness, as well as potholing, and washboarding. Trees sometimes limit the clear zone and cast shadows on the road that slow the melting of ice in the winter. The road parallels Tenmile Creek and crosses the creek at five locations. Due to the lack of drainage features and close proximity to the creek, portions of the road are sometimes flooded during storm events. Vehicles traveling on the gravel surface contribute sediment to the creek during periods of runoff and during grading operations performed by the County. This sediment delivery likely harms fish populations in Tenmile Creek and may degrade the quality of drinking water for the City of Helena.

### 2. Geometrics

The average width of Rimini Road is 6.1 meters (20 feet). The posted legal speed limit is 35 miles per hour. Overall, the slope of the road corridor is flat. In some places, the road edge drops off abruptly

toward Tenmile Creek. Of the five bridges that cross the creek, only two meet the standard travel width of 7.3 meters (24 feet). The warning, regulatory, guide, and speed limit signs could use an upgrade. The bridge railing on three of the five bridges does not meet AASHTO requirements. Private mailboxes, fences, and utility poles often exist within the right-of-way or right along the road's edge. The shoulders are narrow and trees and other vegetation often come right down to the edge of the roadside. Sharp curves exist in some areas and there are no drainage ditches.

### 3. Drainage/Hydraulics

Rimini Road is located within the Tenmile Creek Watershed. The watershed drains into an area that covers 80 square kilometers (31 square miles). The peak discharge for the 100-year event is 33 cms (1150 cfs), although during the floods of 1981, the flow volume recorded 4.0 kilometers (2.5 miles) north of Rimini reached a level of 93 cms (3290 cfs).

Tenmile Creek closely parallels Rimini Road for most of its length and there are bridge crossings at five locations. The floods in 1981 washed out two of the five bridges, but these structures have since been replaced and appear to be in good operating condition with sufficient carrying capacity. Two of the remaining three bridges have narrow widths [6.7 meters (22 feet)] and all three have below legal carrying capacity. If the proposed road is reconstructed, these three bridges should be replaced.

There are many issues associated with erosion, stream sedimentation, and water quality along this corridor. The creek has eroded away portions of the stream bank in some areas. Sediment enters the creek from the road during runoff events. Tenmile Creek contributes 70% of the water needed for the City of Helena, and water quality is therefore, critical. The creek is listed as a Section 303(d) stream under the Clean Water Act, which means that water quality is limited for a particular factor or combination of factors including nutrients, temperature, sediments, and heavy metals. It is a priority for this stream to establish Total Maximum Daily Loads for the factors that are most limiting.

## 4. Geotechnical

Rimini Road winds through a complex geological terrain consisting of highly folded and faulted sedimentary and volcanic rock. Large areas of granite that originate deep within the earth but have worked their way to the surface are called "batholiths." When these areas are particularly large or have distinguishing features they are given local names. The batholith that intrudes into much of the project-area rock formations, has been termed the "Boulder Batholith." The rock formations are exposed in the hillside outcrops along both sides of Tenmile Creek. From Milepost 0.0 to 1.0, the exposed rock is predominantly hard, well-bedded sandstone. For the remainder of the route to the Town of Rimini, the rock mostly consists of granite and very hard, fine-grained, dark-colored rocks called "hornfels." A hornfel is a type of rock whose mineralogy has been altered due to the heat generated from nearby rocks (in this case, granite).

Much of the roadway is aligned beneath the layer of bedrock. Outside the road prism, the bedrock rises to form cliffs above the roadway. A few road cuts do however, occur in the bedrock itself and several cuts exist at the toe of weathered bedrock slopes or talus. The existing roadway template is fairly wide and most of the proposed widening can be accomplished without creating new cuts, but a few may be necessary. At these locations, the type of rock, type of excavation material, and cutslope ratio must be determined. Excavated material will consist mostly of talus, bedrock, and smaller amounts of alluvial terrace gravel. Much of this material will be reused in construction.

Several borrow pits are located along both sides of Rimini Road. These pits may be utilized for the

production of crushed base rock and paving aggregates for this project. There are talus and/or bedrock outcrops and borrow pits at MPs 0.75, 1.0, 1.2, 1.5, 2.2, 2.4, and along the stretch between MPs 5.09 and 5.15. These sites have been noted during the field review, but the quality of rock at each is unknown. Testing and sampling is necessary to establish the potential of each site.

Currently, there appears to be no need for retaining walls. But there are sections of the road that lie in close proximity to Tenmile Creek (MPs 1.4 to 1.6, 2.15 to 2.2, 3.1 to 3.15, and 5.01 to 5.15). Due to right-of-way concerns and unstable slopes, it may not be possible to shift the road away from the creek. Once the preliminary line and grade has been developed, it will be much easier to determine whether retaining walls are necessary.

## 5. Structural

There are five bridges along the project that cross Tenmile Creek. Below is a summary of the length, width, and type of each bridge followed by a more detailed description.

| Milepost | Length | Width | Type |
|---|---|---|---|
| 1.1 | 11.3 meters (35.5 feet) | 7.6 meters (27.5 feet) | Timber |
| 2.4 | 11.3 meters (35.5 feet) | 6.7 meters (22 feet) | Timber |
| 3.3 | 14.3 meters (47 feet) | 6.7 meters (22 feet) | Timber |
| 4.4 | 18.3 meters (60 feet) | 7.3 meters (24 feet) | Concrete |
| 5.2 | 21.3 meters (70 feet) | 7.3 meters (24 feet) | Concrete |

**Bridge No. 1 (Milepost 1.1)**
This bridge is a single span structure built in 1955. The superstructure (includes girders, decking, rails, and surfacing) sits on the foundation and consists of simply supported timber beams with a glulam (wood members glued together) timber deck. The substructures (or foundation, such as footers and piers) consist of timber posts with timber abutments (the fill under each end of the bridge). The bridge rail consists of timber posts with timber railing and does not meet AASHTO requirements. There is no approach guardrail but there are hazard markers at each end of the bridge. Based on the bridge inspection report and field review, a wide flange or collared steel beam used to strengthen the structure has been placed adjacent to one of the timber beams. The live load (vehicles traveling over the top) capacity of the bridge is below the legal limit.

**Bridge No. 2 (Milepost 2.39)**
This bridge is a single span structure and was built in 1955. It is similar in construction and deficiency level to Bridge No. 1. This bridge has a live load that is below legal limits. There may be inadequate width between the bottom of the bridge and the river surface (freeboard) during flood events to pass debris and/or water.

**Bridge No. 3 (Milepost 3.29)**
This is another single span structure also constructed in 1955. It is similar in construction and deficiency level to Bridge No. 1, except that the superstructure is supported by cast-in-place concrete abutments. The bridge has a below-legal live load capacity. The freeboard may be inadequate to handle storm events.

Bridges 1, 2, and 3 were inspected in April 1999, and also reviewed during the field review in September

of 2000. All three bridges are recommended for replacement because:

- live load capacity is low
- current bridge width is too narrow for the proposed road construction
- bridge railing does not meet AASHTO requirements
- presence of other structural deficiencies as noted in the inspection report

**Bridge No. 4 (Milepost 6.1)**
This bridge was built in 1981. It is a single span structure consisting of precast deck girders supported on pilings with precast concrete cap abutments. The bridge rail is made of precast concrete barriers and the approach guardrail has hazard markers at each end. There are no curbs on the bridge. Overall, the bridge appears to be in good condition.

**Bridge No. 5 (Milepost 6.3)**
This bridge was built in 1981, and is similar in structure and overall condition as Bridge No. 4. This bridge might benefit from deck cleaning and the application of a protective surface.

Bridges 4 and 5 are adequate and will not be replaced.

## Traffic Volumes

The Average Daily Traffic (ADT) is the average number of vehicles that travel the route each day over the course of a year. Traffic is counted traveling in both directions. For this road, there are two distinct sections where ADT counts are different. In the first section, up to MP 0.5, the road serves the Landmark subdivision. The current ADT for the project area is 319 vehicles per day, an average over the past 10 years. It is estimated that 10% of this traffic is truck-related and another 10% accounts for traffic that originates or is destined for National Forest lands.

In the second section from MP 0.5 to MP 6.1, ADT is much lower with a current count of 104 ADT, averaged over the past 10 years.

Traffic volumes for the future are estimated by applying an annual growth factor to the current traffic volume. The County calculated that for the year 2005 (the current program year for the project) the ADT on the first section would be 400 vehicles. For design purposes, the ADT is inflated by a growth factor of 20 years into the future, in this case, the year 2025. A typical growth factor used in semi-rural Montana is 1% per year. Inflating the 400 ADT by 1% annually for 20 years gives a design ADT of 488.

For the second section, inflating the 104 ADT at a 1% growth factor from 1999 to 2025 results in a design year ADT of 135.

Further refinement and additional studies are needed to better define traffic volumes for the project. The WFLHD is coordinating with MDT to obtain additional counts in different locations to verify that the drop in traffic occurs near the Landmark subdivision.

## Accident History

Over the last few years, there have been thirty-two recorded accidents on Rimini Road. Seventeen of these accidents occurred south of the junction with Highway 12 within the first couple of miles. The higher accident rate in this area may be due to the presence of several sharp, blind curves. Approximately 50% of the accidents involved injury, but there were no fatalities. Reasons for the accidents (as stated in the reports) include road conditions, sight distance, collisions with animals, and driver error. Sometimes in rural areas minor accidents go unreported, so the accident rate may be higher than is currently reflected. Again, further studies and current accident information are needed to better define accident data. The overall accident rate for the period 1/89 – 2/99 is 3.98.

**Summary**

Rimini Road provides access to portions of the Helena and Deerlodge National Forests, as well as to private residences and mining sites. Since it is one of several important linkage routes serving southwestern Montana, it is important that the road remain open, reasonably safe and reasonably convenient. Deficiencies along the road that detract from this goal include:

1. The average current road width [6.0 meters (20 feet)]. The average current road width is too narrow for safe use as defined by the current design standards.
2. The gravel surface is difficult and expensive for the County to maintain. Dust and washboarding in the summer months are potentially hazardous conditions. Dust and sediments from the gravel surface also wash into the adjacent Tenmile Creek.
3. Three of the five bridges are below standards for width, live load capacity, and bridge railing.
4. There are areas of limited sight distance due to blind curves and vegetation alongside the roadway and there is little or no clear zone in many locations.

# Alternatives Considered

The WFLHD is considering four alternatives for improving Rimini Road. These are the 4R (Reconstruction, Resurfacing, Restoration, and Rehabilitation), Heavy 3R (Resurfacing, Restoration, and Rehabilitation), No Paving, and the No Action Alternatives. Alternatives on completely new alignment were not considered, although minor realignments to straighten sharp curves and to widen the existing surface are part of several of the action alternatives.

For the first section of the road, the minimum AASHTO standard for a local rural road with an ADT of between 400 and 1500, and a design speed of 70 kilometers per hour (45 miles per hour) is to provide 6.6-meter (21.7-foot) lanes and a 1.2-meter (4.0-foot) paved shoulder on each side, for a total surface width of 10.2 meters (30 feet). If roadside barriers are proposed, a buffer width of at least 1.2 meters (3.9 feet) from the roadside to the barrier is desired.

For the second section of the road, the minimum AASHTO standard for a local rural road with an ADT of under 400, and a design speed of 70 kilometers per hour (45 miles per hour) is to provide 6.0-meter (20.0-foot) lanes and a 0.6-meter (2.0-foot) paved shoulder on each side, for a total surface width of 7.2 meters

(24.0 feet). Based on the lower volume of ADT in this section, AASHTO would allow this width to be reduced to 6.6-meter (21.7-foot) lanes and a 0.6-meter (2.0-foot) paved shoulder on each side for a total surface width of 7.8 meters (26 feet). Because the accident rate in this section is lower than in the first section, the reduced road width appears to be justifiable.

Under County standards, the road should have a 9.1-meter (30-foot) total paved width, with 0.91-meter (3.0-foot) paved shoulders on each side.

Under MDT standards, the first section of the road should have an 8.5-meter (28-foot) total paved width of 0.6-meter (2.0-foot) paved shoulders on each side. Based on lower traffic volumes, the second section of the road should have a 7.2-meter (24-foot) total paved width that includes 0.6-meter (2.0-foot) paved shoulders on each side.

For the purposes of alternative development, the MDT standards described above will be utilized. The standards for the project will be finalized once current traffic and safety data is obtained and analyzed. The standards will provide for safety and mobility, minimize impacts, and address community concerns.

Beyond MP 1.0, the road generally follows Tenmile Creek. The road is a mix of long, flat stretches and sharp curves that often intermix unexpectedly for drivers not used to traveling the route. In some areas the roadway fill encroaches into the creek. The existing width varies between 5.8 to 7.3 meters (19 to 24 feet). The gravel surface generates dust during the summer months and contributes sediment into Tenmile Creek during periods of runoff. An old railroad bed lies adjacent to the route from MP 1.0 to MP 6.0. This bed may be useful as a detour route during replacement of the three bridges.

### Alternative 1: 4R (Reconstruction, Resurfacing, Restoration, and Rehabilitation)

This alternative would rehabilitate, resurface, widen, and pave the segment from MP 0.0 to MP 6.1 with intermittent reconstruction in various spots. Horizontal realignments would occur between MP 0.3 to 1.0 and three bridges would be replaced. The intent of this alternative is to widen and improve the roadway to meet MDT standards in the first and second sections of the road.

The alternative satisfies all six of the project objectives. Disadvantages of this alternative include short-term traffic delays, increased soil erosion into Tenmile Creek during construction and until vegetation is reestablished (especially in the area of realignment), potential wildlife impacts from a paved rather than gravel surface such as increased wildlife mortality due to collisions, increased habitat fragmentation, and "avoidance" of the roadway (especially by carnivores). Advantages include reduced maintenance costs to the County, reduced sedimentation into Tenmile Creek, and improvements in safety.

### Alternative 2: Heavy 3R (Resurfacing, Restoration, and Rehabilitation)

This alternative would rehabilitate, resurface, widen, and pave the road from MP 0.0 to MP 6.1. Three bridges would be replaced. The intent of this alternative is to widen and improve the road to meet County standards, but not to realign the section proposed in Alternative 1. This alternative satisfies 5 of the 6 project objectives (objective 3 is not satisfied, as no realignment would occur).

Disadvantages of this alternative include short-term traffic delays, increased soil erosion into Tenmile Creek during construction and until vegetation is reestablished, wildlife impacts from a paved rather than gravel surface such as increased wildlife mortality due to collisions, increased habitat fragmentation, and "avoidance" of the roadway (especially by carnivores). Advantages include reduced maintenance costs to the County, reduced sedimentation into Tenmile Creek, and improvements in safety, although safety issues regarding the realignment section would remain.

### Alternative 3: No Paving

This alternative would rehabilitate, resurface, widen, and provide aggregate surfacing on the segment from MP 0.0 to MP 6.1, with intermittent reconstruction in various spots. Horizontal realignments would occur between MP 0.3 to 1.0 and three bridges would be replaced. The intent of this alternative is to widen and improve the roadway to meet MDT standards in the first and second sections of the road.

This alternative satisfies four of the six objectives, and partially satisfies one other. It does not address the reduction of airborne dust or sedimentation into Tenmile Creek, although dust may be regulated with the application of dust palliatives, such as magnesium chloride, calcium chloride, and lignin sulfonate.

Disadvantages of this alternative include short-term traffic delays, continued dust and sedimentation problems from the gravel surface, unresolved safety issues due to lack of uniform width, and continued maintenance costs to the County. Advantages include partial resolution of safety issues due to realignment and spot widening, fewer wildlife impacts resulting from paved roads such as fewer roadside mortalities, less habitat fragmentation, and less avoidance behavior by carnivores.

### Alternative 4: No Action

Under this alternative the road would remain in its present condition. Routine maintenance by the County, such as blading and dust abatement, would continue. Washboarding and dusty conditions during the summer would also continue. This alternative does not address the needs of present and future road users and would not solve any of the maintenance problems or safety conditions.

Disadvantages of this alternative include high maintenance costs, an increase in maintenance frequency, sedimentation into Tenmile Creek, and no net increase in safety. Advantages include no increase in wildlife mortality due to collisions and fewer short-term and some potentially long-term wildlife impacts associated with a paved surface such as avoidance and fragmentation of habitat (especially by carnivores).

## Affected Environment_____

**Natural**

The Tenmile Creek Watershed is located in the Rocky Mountains outside of Helena. The topography has been highly influenced by glacial activity and has formed many of the cirque basins, moraine and colluvial deposits, and terraces and floodplains in the area. Winters tend to be cold and moist, whereas summers are warm and dry.

Most of the timber in the Tenmile Watershed was harvested in the late 19th and early 20th century. Mines, sawmills, settlements, roads, trails, and livestock herds dominated the area. Over the years, mature conifer forests returned to occupy nearly 85% of the landscape. There have been no major fires in the last 100 years, and most trees are nearly a century old. Douglas-fir intermixed with ponderosa pine occur at the lower elevations and lodgepole pine scattered with alpine fir and Engelmann spruce are common at the higher elevations.

Non-forested areas exist along Highway 12 and toward the ridgetops in the northern half of the drainage near Lazyman and Bear Gulch. Smaller grasslands also occur in the valley bottom below Rimini, and the headwaters of most streams support a considerable number of small, patchy, wet meadows. The only other natural non-forested areas are talus slopes, the largest of which covers the upper half of Red Mountain.

Because the area has become so heavily reforested and much of the old road system associated with mining has revegetated or is otherwise undrivable, the drainage provides a number of sanctuaries for many species, particularly those who are wary of humans. Wetlands near the headwaters provide valuable habitat for concentrations of wildlife. Ridgetops provide key summer habitat, security, and movement corridors. The area functions as a vital linkage zone between the Bob Marshall Wilderness complex and the Greater Yellowstone Ecosystem, especially for grizzlies, lynx, wolves, and wolverines.

**Plants:** There are no federally listed threatened or endangered plant species that occur within the boundaries of the Helena National Forest and none that occur within the project limits. There are Forest-sensitive plant species in some forest locations, but none within the project area due to the nature of the existing impacts (roadside spraying, vehicles, narrow canyon that allows little room for roadside vegetation).

**Wildlife:** There are a wide variety of wildlife species, including many listed carnivores, which use the project area. Black bear, mule deer, elk, moose, and small mammals are among the non-listed species present. In addition, there are lynx, wolves, grizzly bears and wolverines that are closely tied to habitats within the project vicinity. The headwaters of the Tenmile drainage and the top of the divide are ideal sites for animals to live in and use as travel corridors. Grizzly bears migrate from the Bob Marshall Wilderness Area over the divide, and have been sighted in numerous locations, particularly along the boundary between the Deerlodge and Helena National Forests. During a survey conducted in the winter of 2000, by the Montana Fish, Wildlife, and Parks, lynx tracks were discovered in the project area. Other species of concern that may be present include the fisher, black-backed woodpecker, Townsend's big-eared bat, and northern bog lemming. Species of known occurrence include the goshawk, boreal owl, and pileated woodpecker.

Populations of "indicator species" should be monitored to measure the effect of management activities. Indicator species have been identified for those species groups whose habitat is most likely to be changed by Forest management activities. The mature tree dependent group indicator species is the marten; the old growth dependent group is represented by the piliated woodpecker and the goshawks; the snag

dependent species group is represented by the hairy woodpecker; the threatened and endangered species include grizzly bear, gray wolf, bald eagle and peregrine falcon; and the commonly hunted indicator species are elk, mule deer and bighorn sheep. These indicator species and the groups that they represent ensure that viable populations of existing native and desireable non-native plant and animal species are maintained.

The project proposes to pave the existing gravel surface of Rimini Road in three of the four alternatives. Only the No Action and No Paving Alternatives leave the surface in a gravel condition. Since the road would be improved within the existing right-of-way in all alternatives (except for minor deviations to correct sharp curvature), wildlife would not be affected by impacts from construction on brand new alignment (i.e., animals already know where the road is and are somewhat habituated to its level of traffic and use). However, since the Tenmile Creek corridor is heavily utilized by wildlife and the road and the creek parallel one another closely up the drainage, changes in the character of the road will greatly influence wildlife activity.

Paving the road will encourage people to drive faster and would likely increase the number of animal/vehicle collisions that occur. Paving the road would also funnel more people into remote areas (like the divide and the headwaters of Tenmile Creek) that are havens for many species, especially some of the listed carnivores. Opportunities to develop private property in the area will increase with improved road access. Currently, the road beyond the proposed project that leads to Chessman Reservoir is quite primitive and discourages use and/or forces drivers to use caution. Paving the Rimini Road may encourage future improvements to this road and may create a need for year-round access to roads that are seasonally closed. It also may encourage opening or improving roads that are currently gated or used as foot trails. Increasing road density in the area and encouraging human encroachment will impact the quality of habitat in the area and may discourage use by many species of wildlife, especially carnivores. The Helena National Forest is already experiencing problems with ATVs in restricted and sensitive areas.

**Fisheries:** There are no listed or sensitive fish species in Tenmile Creek. However, the creek supports several unlisted species such as the rainbow trout (most common) and the brook and brown trout. The indicator species for Forest management activities in the Helena National Forest is the cutthroat trout. If the existing gravel surface is paved, a reduction in sediments into the creek will improve water quality and enhance living conditions for the fish. However, this benefit may be offset by the drawbacks from paving, such as increased access and angling pressure and an increase in development along the road.

The creek closely parallels the road as it winds through the middle of a valley that is physically limited and constrained. Proposed widening that infringes further into the creek will straighten the channel and restrict flows. Straightening the creek bed reduces spawning substrates, removes pool habitats, and limits flow capacity. However, if the road is widened away from the creek and the existing encroachments are removed, the meanders and riparian border can be restored at great benefit to the overall system and its inhabitants. Although not within the realm of control for this project, the City of Helena draws a considerable amount of water from the creek for municipal use, which reduces the surface flow. The project must consider the already-strained nature of the creek due to this use.

Five bridge crossings occur within the project limits and several of the alternatives propose to replace three of these bridges. To ensure adequate stream flows and provide an “underpass” for animal movement, bridges should be designed to overspan the creek. Each crossing should be analyzed, and elimination of one or more crossings considered.

Historic and present mining sites in the area leech contaminants into the creek. The Environmental Protection Agency has proposed to clean up abandoned mine wastes in the area. During clean-up actions, heavy truck traffic may frequent the road. Paving will facilitate the clean-up efforts and is one of the reasons cited to improve the road. While the removal of contaminant sources will benefit the health of the creek, the pressures associated with a paved road surface as described above may offset the benefits.

Best Management Practices (BMPs), such as straw bales and silt fences, will become important mitigation measures for this project to help eliminate or minimize short-term erosion into the creek. In concert with the BMPs, a seasonal restriction will likely be required during May and June. These early summer months experience the most rainfall and are also a critical time for rainbow fry emerging from the gravel. A long-term mitigation to minimize sediment into the creek if the No Paving option is selected, may be to design vegetation buffers between the road and the creek to catch runoff before it enters the water. The road can also be sloped to help runoff find its way more easily to this natural filtration system.

### Cultural

Many small, hard-rock mining operations sprang up in 1864, when gold was discovered in Helena. Mining continued through the 1930's, although intermittent activities continued during and after World War II. The last active commercial mine closed in 1953. Homesteading occurred along the road itself as settlers looked for places to live while they extracted lead, gold, zinc, and copper from at least 150 mining sites. Storage areas, such as root cellars and mining remnants, may exist in the project area, although the presence of cultural resources is much less likely within the disturbed road prism than in the town of Rimini. All known mine sites are currently inactive, but exposed waste piles and mine spoils remain. These wastes contain trace metals that are toxic to human health and water quality. Portions of the road that pass through the town of Rimini were constructed years ago with mining wastes. The wastes are not currently exposed, but could become so if the roadbed were disturbed.

The Forest Service will conduct a cultural resource survey for the length of the project (including staging areas) in the summer of 2002. If deemed necessary, coordination with the State Historic Preservation Officer and local tribes should be completed by late summer.

## Interrelationships with Other Uses and Jurisdictions

Land adjacent to the project is both privately and publicly owned. Public land is managed by the Helena National Forest under the Forest Plan, the Regional Guide for the Northern Region, and the Rangeland Renewable Resources Planning Act (RPA) Program. The Forest Plan is a guideline for all natural resource management activities and establishes management standards for the Helena National Forest. It describes resource management practices, levels of resource production and management, and availability and suitability of lands for resource management.

The Divide Landscape Analysis also provides guidelines for the natural resource management activities and standards for the Helena National Forest, by providing a historic perspective on land use and an understanding of how an individual resource impacts created by modern features and conditions fit into the "bigger picture".

Lewis and Clark County currently maintains the section of road proposed for improvements. The County would continue to have jurisdiction over the road upon completion of the project.

The Upper Tenmile Watershed provides the main source of drinking water for the City of Helena. As a result, the Forest Service has done little in the way of timber harvest, prescribed burning, road or trail building, and other activities commonly carried out on other parts of the Forest. From about 20 years ago to the present, small-scale harvest has occurred periodically in and around the project area. Future management activities will focus on mine waste clean-up, stream and riparian restoration, and road management. Select timber harvest and prescribed burning will be used to reduce fuel loading, encourage aspen growth, and enhance habitats for lynx, elk, and moose.

## Environmental Legislation and Requirements_____

The proposed construction of Forest Highway 98 was reviewed for consistency with the following relevant environmental legislation. The following listings indicate whether the proposed project would affect these regulations.

| | | Yes | Maybe | No |
|---|---|---|---|---|
| 1. | Coastal Zone Management Act | ___ | ___ | X |
| 2. | Executive Order 11988 (Floodplains) | X | ___ | ___ |
| 3. | Executive Order 11990 (Wetlands) | X | ___ | ___ |
| 4. | National Historic Preservation Act (Section 106) | ___ | X | ___ |
| 5. | Farmland Protection Policy Act (Prime and Unique Farmlands) | ___ | ___ | X |
| 6. | Land Use Requirements | ___ | X | ___ |
| 7. | Section 4(f) | ___ | X | ___ |
| 8. | Endangered Species Act | X | ___ | ___ |
| 9. | In Vicinity of Airports | ___ | ___ | X |
| 10. | Fish & Wildlife Coordination Act | X | ___ | ___ |
| 11. | Clean Water Act/Safe Drinking Water Act | ___ | X | ___ |
| 12. | Wild & Scenic Rivers Act | ___ | ___ | X |
| 13. | Clean Air Act | ___ | ___ | X |
| 14. | Hazardous Waste Acts | ___ | X | ___ |
| 15. | Noise Requirements | ___ | ___ | X |

**Comments:**
The project is within a floodplain and wetland/riparian areas exist along the river. A cultural resource study will be conducted, but it's unlikely sites or artifacts will be found. Many listed species, especially carnivores, are found within the project vicinity. Clean water and hazardous materials are both issues because of the presence of mine wastes in the area and because of Helena's municipal use of the creek water.

| **Permits Required** | | | **Yes** | **Maybe** | **No** |
|---|---|---|---|---|---|
| 1. | **Federal** | | | | |
| | a. | COE's Section 404 Permit, Clean Water Act of 1977 (P.L. 95-217, Section 404) | X | ___ | ___ |
| | b. | US Coast Guard Permit, Rivers & Harbors Act and the Surface Transportation Assistance Act | ___ | ___ | X |
| | c. | Special Use Permit (USDA Forest Service) | ___ | X | ___ |
| | d. | COE's Section 401 Permit Water Quality Certification | ___ | X | ___ |
| | e. | National Pollutant Discharge Elimination System (NPDES) | X | ___ | ___ |
| 2. | **State** | | | | |
| | a. | Stream Channel Alteration Permit (Department of Water Resources - MPDES) | X | ___ | ___ |
| | b. | Surface Mining Permit (Department of Public Lands) | ___ | X | ___ |
| | c. | Lake Encroachment Permit (Department of Public Lands) | ___ | ___ | X |
| | d. | Short-Term Water Quality Variance | ___ | X | ___ |
| 3. | **County** | | | | |
| | a. | Material Source | ___ | X | ___ |
| | b. | Burning permit | ___ | X | ___ |

**Comments:**
A special use permit may be required by the Forest Service for use of a materials source or to burn materials on National Forest lands. Erosion control devices will be required in areas of ground disturbance to minimize soil erosion and to protect adjacent wetlands and Ten Mile Creek. A Surface Mining Permit may be required to access aggregate at the materials source.

# Environmental Impacts_____

The following analysis evaluates the action alternative in terms of potential environmental impacts. H = high, M = medium, L = low, N/A = not applicable. These impacts apply to all construction alternatives unless footnoted accordingly.

| **Earth:** Will the proposal result in: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| 1. Unstable earth conditions or changes in geologic sub-structures? | ___ | ___ | X | ___ |
| 2. Disruptions, displacement, compaction, or overcovering of the soil? | ___ | ___ | X | ___ |
| 3. Change in topography or ground surface relief features? | ___ | ___ | X | ___ |
| 4. The destruction, covering, or modification of any unique geologic or physical features? | ___ | ___ | X | ___ |
| 5. Any increase in wind or water erosion of soils either on or off the site? | ___ | ___ | X | ___ |
| 6. Changes in deposition or erosion of beach sands which may modify the bed of the ocean, bay, or inlet? | ___ | ___ | ___ | X |
| 7. Changes in siltation, deposition, or erosion which may modify the channel of a river or stream or the bed of a lake? | ___ | X | ___ | ___ |

**Comments:**
Ground-disturbing activities will occur as part of normal construction within the existing area of disturbance. There will be a short-term increase in the release of sediments into Tenmile Creek should the BMPs fail during a storm event. Short-term changes in erosion potential will continue until vegetation is reestablished. In the long-term, if a paving alternative is selected, the level of sedimentation entering Tenmile Creek should be significantly reduced.

| **Air:** Will the proposal result in: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| 1. Air emissions or deterioration of ambient air quality? | ___ | ___ | X | ___ |
| 2. The creation of objectionable odors? | ___ | ___ | X | ___ |
| 3. Alteration of air movement, moisture or temperature, or any change in climate either locally or regionally? | ___ | ___ | ___ | X |

**Comments:**
Temporary odors and dust may result from paving activities and hauling or crushing rock if a paving alternative is selected.

| **Water:** Will the proposal result in: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| 1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters? | ___ | X | ___ | ___ |
| 2. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff? | ___ | X | ___ | ___ |
| 3. Alterations to the course or flow of flood waters? | ___ | X | ___ | ___ |
| 4. Change in the amount of surface water in any water body? | ___ | ___ | X | ___ |
| 5. Discharge into surface waters or any alteration of surface water quality including but not limited to temperature, dissolved oxygen, or turbidity? | ___ | X | ___ | ___ |
| 6. Alteration of the direction or rate of flow of groundwaters? | ___ | ___ | X | ___ |

| **Water continued:** | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| 7. | Change in the quantity of groundwaters either through direct additions or withdrawals or through interception of an aquifer by cuts or excavations? | ___ | ___ | _X_ | ___ |
| 8. | Deterioration in groundwater quality either through direct injection or through the seepage of leachate, phosphates, detergents, waterborne virus or bacteria, or other substances into the groundwaters? | ___ | ___ | _X_ | ___ |
| 9. | Reduction in the amount of water otherwise available for public water supplies? | ___ | ___ | _X_ | ___ |
| 10. | Encroachment into a 100-year floodplain or regulated floodway? | ___ | ___ | _X_ | ___ |

**Comments:**
During construction, exposed soils may increase surface runoff during storm events. Groundwater will not be affected. The project lies within an existing floodplain and will create new, impervious surface in areas of realignment, although the old road template in these areas will be obliterated. If the stream bank is shifted away from the road in areas of encroachment, the course of the creek will revert to a more natural state. If a pave alternative is selected, the absorption rates and the quality of runoff will change considerably.

| **Wetlands: Will the proposal cause:** | | **H** | M | L | N/A |
|---|---|---|---|---|---|
| 1. | Removal of hydrophytic vegetation? | ___ | ___ | _X_ | ___ |
| 2. | Covering or replacing of hydric soil? | ___ | ___ | _X_ | ___ |
| 3. | Alteration of the hydrology? | ___ | ___ | _X_ | ___ |
| 4. | A change in function or value? | ___ | ___ | _X_ | ___ |

**Comments:**
Wetlands along the creek may be impacted during bridge reconstruction and realignment of the road away from the creek.

| **Flora:** Will the proposal result in: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1. | Change in the diversity of species or numbers of any species of flora (including trees, shrubs, grass, crops, microflora, and aquatic plants)? | ___ | ___ | X | ___ |
| 2. | Introduction of new species of flora into an area or a barrier to the normal replenishment of existing species? | ___ | ___ | X | ___ |
| 3. | An effect on any unique, rare or endangered species of flora? | ___ | ___ | ___ | X |

**Comments:**
Vegetation will be removed to realign portions of the road and to replace the bridge structures. Noxious weed introduction is possible via construction equipment. Disturbed areas will be reseeded with native plants that are certified as weed-free. There are no threatened or endangered plant species in the project vicinity.

| **Fauna:** Will the proposal result in: | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| 1. | Changes in the diversity of species or numbers of any species of fauna (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, or microfauna)? | ___ | X | ___ | ___ |
| 2. | An effect on any threatened or endangered species of fauna? | ___ | X | ___ | ___ |
| 3. | Introduction of new species of fauna into an area or result in a barrier to the migration or movement of fauna? | ___ | X | ___ | ___ |

**Comments:**
There are numerous federally listed species of wildlife in the project area, including carnivores such as the grizzly bear, gray wolf, and Canada lynx as well as a candidate species, the wolverine. Paving the road may have impacts to habitats and animals in and beyond the project area, as road improvements will increase human use, leading to additional private development, human intrusion, and increased wildlife mortality along the roadside. Surveys will be conducted to determine presence and level of use by these species.

| **Noise:** Will the proposal cause: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Increase in existing noise levels? | ___ | ___ | _X_ | ___ |

**Comments:**
There would be a temporary increase in noise during construction.

| **Land Use:** Will the proposal cause: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| 1. The alteration of the present or planned land use of an area? | ___ | ___ | ___ | _X_ |
| 2. Reduction in acreage of any agricultural products? | ___ | ___ | ___ | _X_ |
| 3. Reduction in acreage of any prime and unique farm land? | ___ | ___ | ___ | _X_ |

**Comments:**
If a paving alternative is selected, land uses will likely increase and/or change.

| **Natural Resources:** Will the proposal cause: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| 1. Increase in the rate of use of any natural resources? | ___ | ___ | _X_ | ___ |
| 2. Reduction of any nonrenewable natural resources? | ___ | ___ | _X_ | ___ |

**Comments:**
Some aggregate, asphalt, and fossil fuels would be used to construct the new roadway.

| **Energy:** Will this proposal cause: | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| 1. Use of substantial amounts of fuel or energy? | ___ | ___ | _X_ | ___ |
| 2. Savings of substantial amounts of fuel or energy? | ___ | ___ | _X_ | ___ |

**Comments:**
Some fossil fuels would be used to construct the new surface. However, increased quality of the road surface may increase the efficiency of the vehicles using the road.

| **Aesthetics:** Will the proposal cause: | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| 1. | A change in a scenic vista as seen from the road? | ___ | ___ | ___ | X |
| 2. | A change in a scenic vista or view for viewers of the road? | ___ | ___ | X | ___ |
| 3. | A conflict with the scenic management plans of other agencies? | ___ | ___ | ___ | X |
| 4. | New light or glare? | ___ | ___ | ___ | X |

**Comments:**
Rock cuts or fills may be necessary to accommodate curve realignment. The proposed 30-foot surface will push back the existing level of vegetation and open up the roadside view.

| **Recreation:** | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| Will this proposal cause an impact upon the quality or quantity of existing recreational opportunities? | ___ | X | ___ | ___ |

**Comments:**
In the short term, there may be temporary delays of up to 30 minutes during construction. In the long term, the smoother road surface may enhance travel to recreational resources in the area and may promote new or increased levels of recreation.

| **Archaeological/Historical:** | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|
| Will this proposal result in an alteration of an important archaeological or historical site, structure, object, or building? | ___ | ___ | X | ___ |

**Comments:**
A cultural resource survey will be conducted by the Forest Service for the entire route (including staging areas). Should any sites or artifacts of significance be detected during the survey, coordination with the SHPO and the local tribes will be performed and appropriate mitigation measures will be incorporated into the project.

| **Hazardous Waste:** Will the proposal: | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| 1. | Affect a known hazardous waste | ___ | ___ | X | ___ |

| | | | | | |
|---|---|---|---|---|---|
| | site on the EPA's National Priority List (NPL) or a statewide inventory? | | | | |
| 2. | Affect a site with the potential for hazardous waste [e.g., sanitary landfills, gasoline stations, industrial sites]? | ___ | ___ | X | ___ |
| 3. | Affect human health by creating a health hazard or a potentially unhealthy situation? | ___ | ___ | X | ___ |
| 4. | Increase the likelihood of an explosion or release of hazardous substances [including but not limited to oil, pesticides, chemicals or radiation] in the event of an accident? | ___ | ___ | X | ___ |

**Comments:**
The creek is impacted heavily when water is drawn for Helena's municipal use. Because of past and current mining practices and the importance of the water to the citizens of Helena, the EPA has proposed a cleanup of mine wastes in the area. Road improvements may aid in clean up efforts.

| **Socio-Economic:** Will this proposal: | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| 1. | Alter the location, distribution density, or growth rate of the human population of an area? | ___ | X | ___ | ___ |
| 2. | Affect racial, ethnic, religious, minority, elderly, or low income groups? | ___ | ___ | ___ | X |
| 3. | Affect existing housing [including but not limited to rural or urban residences and business or commercial buildings]? | ___ | ___ | ___ | X |
| 4. | Create a demand for additional housing? | ___ | X | ___ | ___ |
| 5. | Affect local employment, taxes, property values, etc.? | ___ | ___ | X | ___ |

**Comments:**
This project may increase local employment in the short term. The project is consistent with Executive Order 12898 regarding environmental justice in minority and low-income groups. Short-

term population growth and demand for housing would be low, but over the long-term, growth and demand may rise due to improved access.

| **Public Services:** | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| Will this proposal have an effect upon or result in a need for new or altered services in any of the following areas? | | | | | |
| 1. | Fire protection? | ___ | ___ | ___ | X |
| 2. | Police protection? | ___ | ___ | ___ | X |
| 3. | Schools? | ___ | ___ | ___ | X |
| 4. | Maintenance of public facilities including roads? | ___ | X | ___ | ___ |
| 5. | Airports? | ___ | ___ | ___ | X |
| 6. | Religious institutions or facilities? | ___ | ___ | ___ | X |
| 7. | Health services? | ___ | ___ | ___ | X |
| 8. | Mail delivery? | ___ | ___ | ___ | X |
| 9. | Parks and recreational facilities? | ___ | ___ | ___ | X |
| 10. | Other services? | ___ | ___ | ___ | X |

**Comments:**
Should a paving option be selected, the project would reduce the level of maintenance currently required on this road by the County.

| **Transportation/Circulation: Will this proposal cause:** | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| 1. | An increase in motor vehicle movement? | ___ | X | ___ | ___ |
| 2. | An increase in movement of bicycles, pedestrians, or equestrians? | ___ | ___ | X | ___ |
| 3. | Increased traffic hazards to | ___ | ___ | ___ | X |

| | | | | | |
|---|---|---|---|---|---|
| | cyclists, pedestrians, or equestrians? | | | | |
| 4. | Existing parking facilities to be affected or create a demand for new parking? | ___ | ___ | X | ___ |
| 5. | Changes in access? | ___ | X | ___ | ___ |
| 6. | An impact upon existing transportation systems? | ___ | X | ___ | ___ |
| 7. | An impact upon waterborne, rail, or air traffic? | ___ | ___ | ___ | X |
| 8. | Impacts associated with construction activities (e.g., detours, temporary delays)? | ___ | ___ | X | ___ |

**Comments:**
The paving alternatives would result in a smoother, more consistent driving surface and prolong the life of the road, reduce maintenance costs to the County, and increase safety. There would be maximum delays of 30 minutes during some phases of construction. Paving the road may encourage the paving of surrounding roads, some of which are now seasonally closed. Foot trails and primitive roads that are currently gated may become more heavily traveled and eventually improved. More human traffic may increase the need for additional parking at trailheads for hiking and snowmobiling.

| **Utilities:** | | **H** | **M** | **L** | **N/A** |
|---|---|---|---|---|---|
| Will this proposal cause a need for new systems or alterations of the following utilities: | | | | | |
| 1. | Power or natural gas? | ___ | ___ | X | ___ |
| 2. | Communications systems? | ___ | ___ | ___ | X |
| 3. | Water? | X | ___ | ___ | ___ |
| 4. | Sanitary systems or septic tanks? | ___ | ___ | ___ | X |
| 5. | Storm water drainage? | ___ | ___ | X | ___ |
| 6. | Irrigation system? | ___ | ___ | ___ | X |
| 7. | Solid waste disposal? | ___ | ___ | ___ | X |
| 8. | Pipelines? | ___ | ___ | ___ | X |

9. Cable TV? ___ ___ ___ _X_

**Comments:**
Powerlines or other utilities adjacent to the road may need to be relocated during road widening or realignment. Portions of the waterline supplying Helena's domestic water supply will need to be relocated and replaced. Provisions will have to be made to ensure continuous service for the waterline during construction. The flow and quality of storm water may change considerably if the water is routed into vegetative buffers before entering the creek and/or other measures are incorporated into the road design.

## Coordination and Consultation_____

A field review was held on September 27, 2000 at the project site and a follow-up office meeting convened in Helena the next day. Representatives from the WFLHD, FS, and Lewis and Clark County attended the office meeting.

Representatives from the MDT, FS, and WFLHD have been designated as members of the Social, Environmental, and Economic (SEE) Team for this project. The representative for MDOT will represent the county's interests. Public meetings will be held to flush out interested parties and provide a forum for them to voice their concerns.