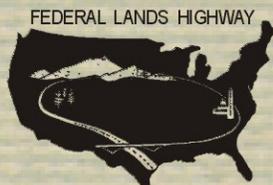


Project Checklist

May 2000

Fernan Lake Road Improvement Project

Idaho Forest Highway 80
Kootenai County
Mile Post 0.0 to Mile Post 10.7



"Commitment to Excellence"

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



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Abbreviations and Acronyms

AADT.....	Average annual daily traffic	IPNF.....	Idaho Panhandle National Forests
AASHTO	American Association of State Highway and Transportation Officials	ITD.....	Idaho Transportation Department
ADT	average daily traffic	KCAT.....	Kootenai County Area Transportation Plan
BA/BE	Biological Assessment/Biological Evaluation	km	kilometer(s)
BLM	Bureau of Land Management	km/h	kilometers per hour
C	Celsius	LOS.....	level of service
COE	US Army Corps of Engineers	m	meter(s)
DEA	David Evans and Associates, Inc.	mi	mile(s)
DEQ	Idaho Department of Environmental Quality	MIS.....	Management Indicator Species
DHV.....	design hour volume	MP(s).....	mile post(s)
DJA.....	Druyvestein, Johnson, & Anderson, P.C.	mph.....	miles per hour
EA	Environmental Assessment	NAAQS	National Ambient Air Quality Standards
ESHD.....	Kootenai County East Side Highway District	NEPA	National Environmental Policy Act
EPA	US Environmental Protection Agency	NF.....	National Forest
ESA	Endangered Species Act (federal)	NPDES	National Pollutant Discharge Elimination System
F	Fahrenheit	PUD.....	Public Utility District
FH	Forest Highway	ROW	right-of-way
FHWA	Federal Highway Administration	rvd.....	recreation visitor day
FS	Forest Service (USDA)	SEE	Social, Economic, and Environmental
ft	foot (feet)	USDA	US Department of Agriculture
FWS	Fish and Wildlife Service (USDI)	USDI	US Department of the Interior
IDFG.....	Idaho Department of Fish and Game	USDOT	US Department of Transportation
IDL.....	Idaho Department of Lands	vpd.....	vehicles per day
in	inch(es)	vph.....	vehicles per hour
		WFLHD	Western Federal Lands Highway Division

Executive Summary

A Project Checklist is used by the Western Federal Lands Highway Division (WFLHD) of the US Department of Transportation (USDOT), Federal Highway Administration (FHWA), as part of its early coordination and data-gathering process for a proposed action. The checklist provides an opportunity for public and governmental agencies that may be affected by the proposed action or have regulatory or administrative interest to become involved in the project development process at an early stage.

The checklist describes the project need, scope, alternatives being considered, an initial estimate of environmental resources, potential impacts, and related issues.

The information in the checklist helps to determine what type of environmental document is required for compliance with the National Environmental Policy Act (NEPA). The checklist also contains the results of the location studies, engineering investigations, and environmental studies completed to date.

Prior to construction, the project would need to be evaluated in accordance with the FHWA NEPA regulations. FHWA would also need to obtain a number of consistency reviews and permits from the appropriate local, state, and federal agencies.

The current access route follows the 17.2 kilometers (km) (10.7 miles [mi]) of Fernan Lake Road, which is in Kootenai County, Idaho, near the City of Coeur d'Alene. The route is adjacent to and within the Idaho Panhandle National Forest (IPNF), Coeur d'Alene River Ranger District. Fernan Lake Road begins at the north-eastern boundary of Fernan Lake Village (mile post [MP] 0.0), about 1.1 km (0.7 mi) north of the Sherman Road interchange of Interstate 90. The route parallels the northern edge of Fernan Lake, then goes northeast through private land, and then enters the IPNF at MP 5.3. The project ends at Fernan Saddle/Huckleberry Mountain within the IPNF (MP 10.7), climbing to an elevation of nearly 2,000 feet.

Fernan Lake Road is the primary recreational access to Fernan Lake. It also provides access to residences, an established shooting range, and approximately 500,000 acres of the IPNF, which includes campgrounds, picnic areas, and snowmobiling and hiking trails in Dry Gulch, Jungle Gulch, Kelly Mountain, Huckleberry Mountain, Canfield Butte and Treasure Mountain.

The purpose of the proposed project is to improve access to IPNF lands in the Fernan Saddle area and reduce safety hazards on Fernan Lake Road. Improvements would be made in the segment along Fernan Lake to address the substandard roadway width, inadequate shoulders and clear zone, narrow curves and inadequate sight distance ("blind" curves), lack of adequate off-road parking, and safety issues associated with the proximity to the lake (lack of guardrail, etc.). Specific improvements would include widening to achieve a uniform width, realignments to reduce

or remove substandard curves and improve sight distance at up to 14 locations, providing for turnouts, and installing guardrails, striping and signing to improve safety.

The middle segment, which parallels Fernan Creek below the IPNF, has a failing subgrade and deficiencies in pavement and drainage. The road varies in width and there are inadequate shoulders and clear zone. Improvements would include reconstructing the road to provide a stable subgrade and uniform surface and to reduce maintenance costs, widening to achieve a uniform width, striping and signing to improve safety, and improving drainage where needed.

The upper segment, which lies in the IPNF, requires higher than average maintenance because of pavement cracking or alligating and lack of safety features along steep slopes. The proposed project would include making spot improvements to the road surface and installing guard rails, striping and signing to improve safety.

A Social, Economic, and Environmental (SEE) Study Team, composed of representatives from FHWA, the USDA Forest Service (FS), the Kootenai County East Side Highway District (ESHD), and the Idaho Transportation Department (ITD), was established during the early project development phase of the project. The SEE Team's mission was to identify and assess the potential environmental effects of improving Fernan Lake Road and to recommend alternatives for evaluation.

FHWA conducted public scoping to identify potentially affected parties and their concerns about the proposed project. This included sending informational flyers to all interested parties, regulatory agencies, and two area newspapers, and holding two public open houses. FHWA also met with regulatory agencies to discuss the proposed project. Comments on the project were generally in agreement that improvements were needed, but adjacent property owners and other citizens were concerned about the side effects of improving the road. Specific concerns were related to visual effects of increased cuts into the hillside and the associated loss of trees, possible increased traffic speed when there is a perceived lack of enforcement, possible increased littering, vandalism to private property with increased use, and direct impacts to private property (e.g., driveways, wells, waterlines, buildings) caused by the improvements.

Several action alternatives are being considered for Fernan Lake Road: (1) improvement to a 32-ft paved width to MP 5.3, (2) improvement to a 28-ft paved width to MP 5.3, (3) improvement to either a 32-ft or a 28-ft paved width with curve modifications at the sharpest curves, and (4) widening to a uniform width combined with a re-route of the segment between MP 1.9 and MP 2.3. All these alternatives include rehabilitation of the segment between MP 5.3 and MP 10.7, keeping the current paved width (26 ft). In addition, several alternatives that would improve other routes, completely avoiding Fernan Lake Road, have been identified. Under the No-Build Alternative, the road would remain in its currently deficient condition and would continue to deteriorate.

The geology in the area has resulted in degrading cut slopes along the project corridor. During construction, there could be an increase in the amount of soil erosion and thus sedimentation in downstream drainages and particularly Fernan Lake. Temporary erosion control measures would need to be used to minimize siltation and deposition during the construction phase. In the long term, the degrading conditions along the roadway would be improved.

Wetlands are located along the road between the eastern end of Fernan Lake and MP 5.3. A wetlands reconnaissance study was completed by the FS in 1997. Replacing the culvert and road segment that cross the wetland area at MP 2.1 with a bridge or larger culvert would improve the water flow between Fernan Lake and the wetland. Other wetlands could be affected by construction. A wetlands delineation and US Army Corps of Engineers (COE) 404 Permit application will need to be completed for any improvements to the existing road.

The project corridor has suitable habitat for 29 FS-sensitive plant species (including one federally listed threatened plant), 12 FS-sensitive wildlife species, and five federally listed threatened wildlife species. Measures would need to be taken during preliminary and final design phases to minimize impacts to these species. A Biological Assessment/Biological Evaluation (BA/BE) must be conducted as part of future environmental documentation. Further consultation with the US Department of the Interior (USDI), Fish and Wildlife Service (FWS), and the FS would occur during preparation of the BA/BE.

Much of the project corridor is included within the designated Critical Aquifer Recharge Area of Fernan Lake, which drains directly into the Rathdrum Aquifer, a sole-source aquifer that provides drinking water to approximately 400,000 people in Coeur d'Alene and Spokane. Design measures to protect the water quality would be included in the project.

Part of the road alignment is within the floodplain designated by the Federal Emergency Management Area (FEMA) and would require design measures to raise the road above flood elevations.

The proposed project would include new cuts and fills that would be visible from sections of Fernan Lake and the National Forest. Where feasible, cut and fill slopes would be revegetated. Over time, adverse visual effects would diminish as the vegetation matures. Also, where feasible and prudent, utilities would be buried to improve views from the road and Fernan Lake. A visual assessment would be conducted as part of future environmental documentation to determine the level of impact the project would have on the scenic resources along the road and from Fernan Lake.

During construction, there would be short-term impacts to the accessibility of some of the residences and recreational uses along Fernan Lake Road. FHWA would pre-

pare a traffic control plan, and the contractor would work closely with the affected residents to minimize inconveniences and economic impacts created by the road construction. In the long term, the proposed project would improve road safety conditions and the accessibility of all the uses along the road.

Along much of the project, minor amounts of additional right-of-way (ROW) from private property or easements from IPNF property would be needed. The proposed project would require that, within construction areas, private and public utilities be moved or replaced. Utility poles would be placed outside of the roadway shoulder to improve safety. Where prudent and feasible, utilities would be buried.

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1 Introduction

1.1 Project Name

Idaho Forest Highway 80 — Fernan Lake Road

1.2 Lead Agency

Federal Highway Administration (FHWA)

Western Federal Lands Highway Division

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Vancouver, Washington 98661-3893

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1.3 Participating Agencies

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Idaho Panhandle National Forests

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Coeur d'Alene, Idaho 83814-8363

Contacts: Susan Jeheber-Matthews, (208) 769-3000

Dallas Thomson, (208) 769-3000

East Side Highway District (ESHD)

Kootenai County

2903 Ramsey Road

Coeur d'Alene, Idaho 83814-9043

Contact: Ken Renner, (208) 765-4714

Idaho Transportation Department (ITD)

600 West Prairie Avenue

Coeur d'Alene, Idaho 83815-8764

Contact: Jim Roletto, Project Development Engineer

(208) 772-1223, jroletto@itd.state.id.us

1.4 Purpose of Project Checklist

The Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA) uses the project checklist as part of its early coordination and data-gathering process. The checklist provides an opportunity for public and governmental agencies that may be affected by the proposed action or have regula-

tory or administrative interest to provide information about the road and the area it serves and to list their concerns. FHWA welcomes public and agency input to the project development process at an early stage.

The checklist describes the need for the project and the scope of improvements and improvement alternatives under consideration. It also contains an initial estimate of environmental resources, potential impacts, and related issues in the project study area. The intent is to identify the full range of potential impacts including those that are insignificant or have potentially beneficial environmental consequences.

The information in the checklist helps to determine what type of environmental document is required for compliance with the National Environmental Policy Act (NEPA), e.g., Environmental Impact Statement (EIS), Environmental Assessment (EA), or Categorical Exclusion (CE).

The checklist contains the results of the preliminary location studies, engineering investigations, and environmental studies completed to date. The engineering and environmental information will also be used in future NEPA clearance documents and highway design activities. Previous studies relevant to the checklist include:

- Fernan Lake Preliminary Floodplain Analysis, July 30, 1997
- Traffic Analysis Technical Memorandum, prepared by David Evans and Associates, Inc., January 11, 2000
- USDA – Forest Service Heritage Program Determination of Significance, August 1, 1997
- Phase 2 Detailed Hydrologic and Hydraulic Analyses of the Fernan Lake Outlet, Grant, Schreiber and Associates, April 16, 1991
- Idaho Lake Water Quality Assessment Report, Fernan Lake, Idaho Department of Environmental Quality, March 1993
- Project Initiation Report, FHWA, 1997

Based on the information contained in this checklist, FHWA and the US Forest Service (FS) have determined that an Environmental Assessment (EA) is required for this project. FHWA will be the lead agency, but the EA will also meet all FS requirements.

2 Purpose and Need

2.1 Location

The current access route follows the 17.2 kilometers (km) (10.7 miles [mi]) of Fernan Lake Road, which is in Kootenai County, Idaho, near the City of Coeur d'Alene. The route is adjacent to and within the Idaho Panhandle National Forests (IPNF), Coeur d'Alene River Ranger District. Fernan Lake Road begins at the north-eastern boundary of Fernan Lake Village (mile post [MP] 0.0), about 1.1 km (0.7 mi) north of the Sherman Road interchange of Interstate 90. The route parallels the northern edge of Fernan Lake, then goes northeast through private land, and then enters the IPNF at MP 5.3. The project ends at Fernan Saddle/Huckleberry Mountain within the IPNF (MP 10.7). **Fig. 1** is a map showing the project location.

Fernan Lake Road is the primary recreational access to Fernan Lake. It also provides access to residences, an established shooting range, and approximately 500,000 acres of the IPNF, which includes campgrounds, picnic areas, and snowmobiling and hiking trails in Dry Gulch, Jungle Gulch, Kelly Mountain, Huckleberry Mountain, Canfield Butte and Treasure Mountain.

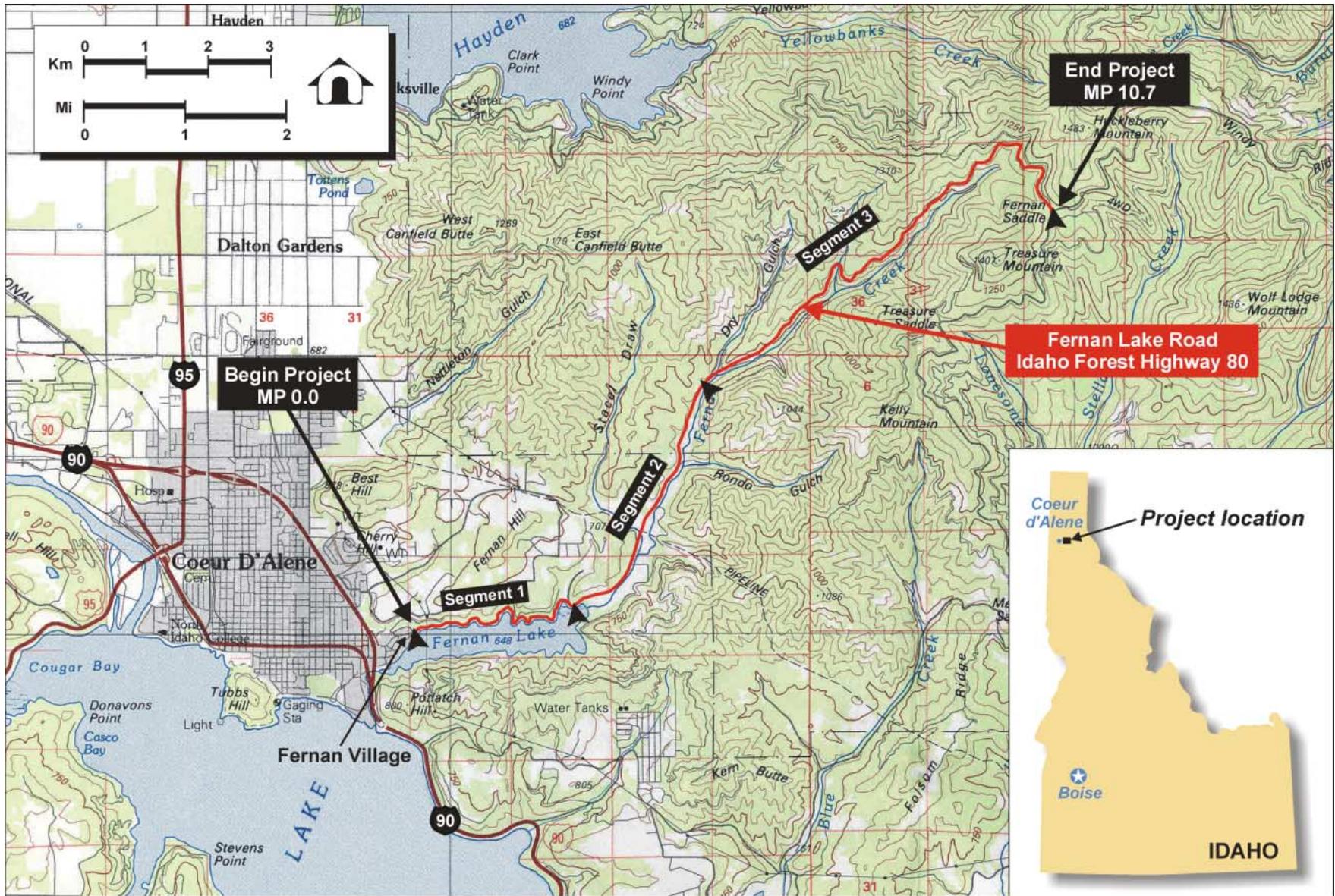
2.2 Purpose and Need

The recreational opportunities of Fernan Lake and IPNF and the residences along the road generate most of the traffic on Fernan Lake Road. The road is important for recreationists because it provides access to an established shooting range, snowmobiling, hiking, hunting, fishing, camping, and picnicking. The road is also used for commercial timber hauling from timber harvest areas in the IPNF. Fernan Lake Road provides the sole access to approximately 6,000 acres of the IPNF and is more heavily used than other access roads into the forest because of its connection to I-90 at the Sherman Road interchange.

The existing road is narrow, has numerous sharp curves, a failing subgrade, a deteriorating road surface, and substandard horizontal alignment that limits sight distance ("blind curves"). There are no developed recreational parking areas and very few turnouts along Fernan Lake, so users park along the road, creating a safety hazard.

The overall purpose of the project is to improve, reasonably and cost effectively, the safety of Fernan Lake Road. Project objectives include:

- improving safety for current and future travelers
- reducing road maintenance costs
- correcting drainage problems
- providing off-road parking for recreational users



Source: USGS, 1987

Fig. 1. Regional location of the project site.

Project alternatives must meet these objectives reasonably and cost effectively. In addition, alternatives must be sensitive to the environmental conditions in the project area and minimize adverse environmental impacts. All improvements must be consistent with the applicable guidelines from the IPNF Forest Plan and Kootenai County plans and ordinances.

2.3 Funding

The road improvements would be funded by the Public Lands Highway Program, which is financed by the Federal Highway Trust Fund. A “Public Lands Highway” is a public road wholly or partly within or adjacent to and serving a National Forest. The road is necessary for the protection, administration and utilization of the National Forest and use and development of its resources. In Idaho, the Public Lands Highway Program is administered jointly by the FHWA, the FS and the Idaho Transportation Department (ITD). The Kootenai County East Side Highway District (ESHD) represents ITD on the Social, Economic, and Environmental (SEE) team.

At this time, \$9.6 million has been programmed for construction beginning in 2004. An additional \$2.5 million has been programmed for construction beginning in 2005. The alternative that is selected must fit within this budget allocation. ESHD would be responsible for acquiring any additional right-of-way (ROW) needed from private property owners. Because of the need to maintain access to properties along the road, construction will be phased over two or more construction seasons. Completion of the project is not expected until 2006.

3 Existing Conditions

Fernan Lake Road was constructed in the 1930s to provide access to the lake and IPNF. Despite improvements over the years, the existing road is substandard in design and construction and inadequate for existing and projected traffic load.

Figs. 2a–2f illustrate the existing condition of the current roadway. For discussion purposes, the road has been divided into three segments:

- **Segment 1:** Along Fernan Lake from Fernan Lake Village to the upper end of the lake (MP 0.0 to MP 2.5)
- **Segment 2:** Along Fernan Creek from the upper end of Fernan Lake to the boundary of the IPNF (MP 2.5 to MP 5.3)
- **Segment 3:** Within the IPNF (MP 5.3 to MP 10.7)

A segment-by-segment description of the existing road conditions and deficiencies is presented below.

3.1 Road Segment Descriptions

3.1.1 Segment 1 (MP 0.0 to MP 2.5)

The project begins at the eastern end of Fernan Lake Village, a residential subdivision including single- and multi-family residences, some of which are on the lake edge (MP 0.0). The road follows the northern edge of Fernan Lake, with the lake to the south and the steep slopes of Fernan Hill to the north. The road has no shoulders and very few narrow turnouts for parking (Figs. 3 and 4). The lake is a popular location for fishing and boating during much of the year, but parking is very limited. Public safety is compromised when visitors park along the road, and in some cases, on the roadway itself.



Fig. 3. Looking west along the road at MP 0.4, illustrating the character of this segment of the road.

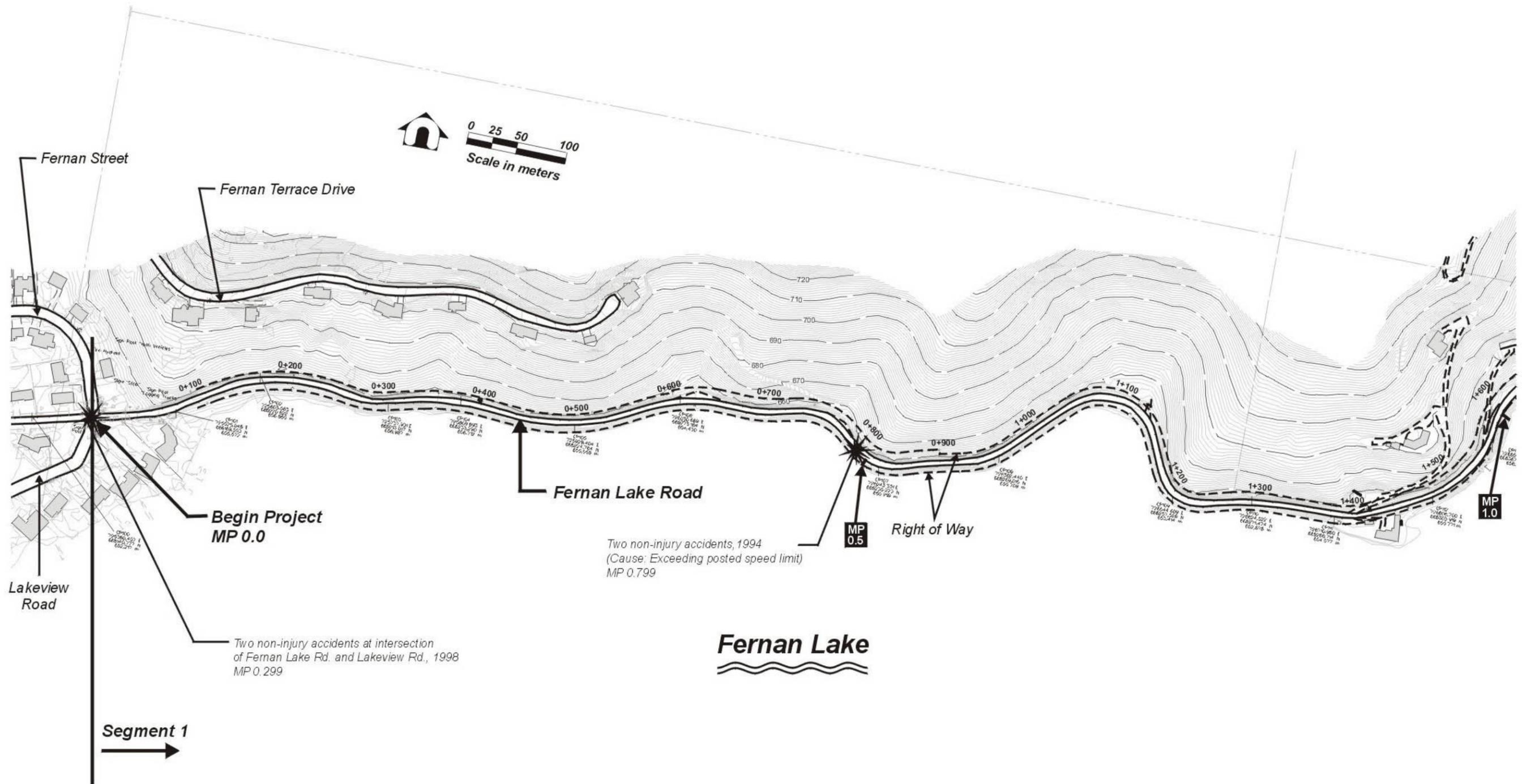


Fig. 2a. Existing conditions, MP 0.0 to MP 1.0.

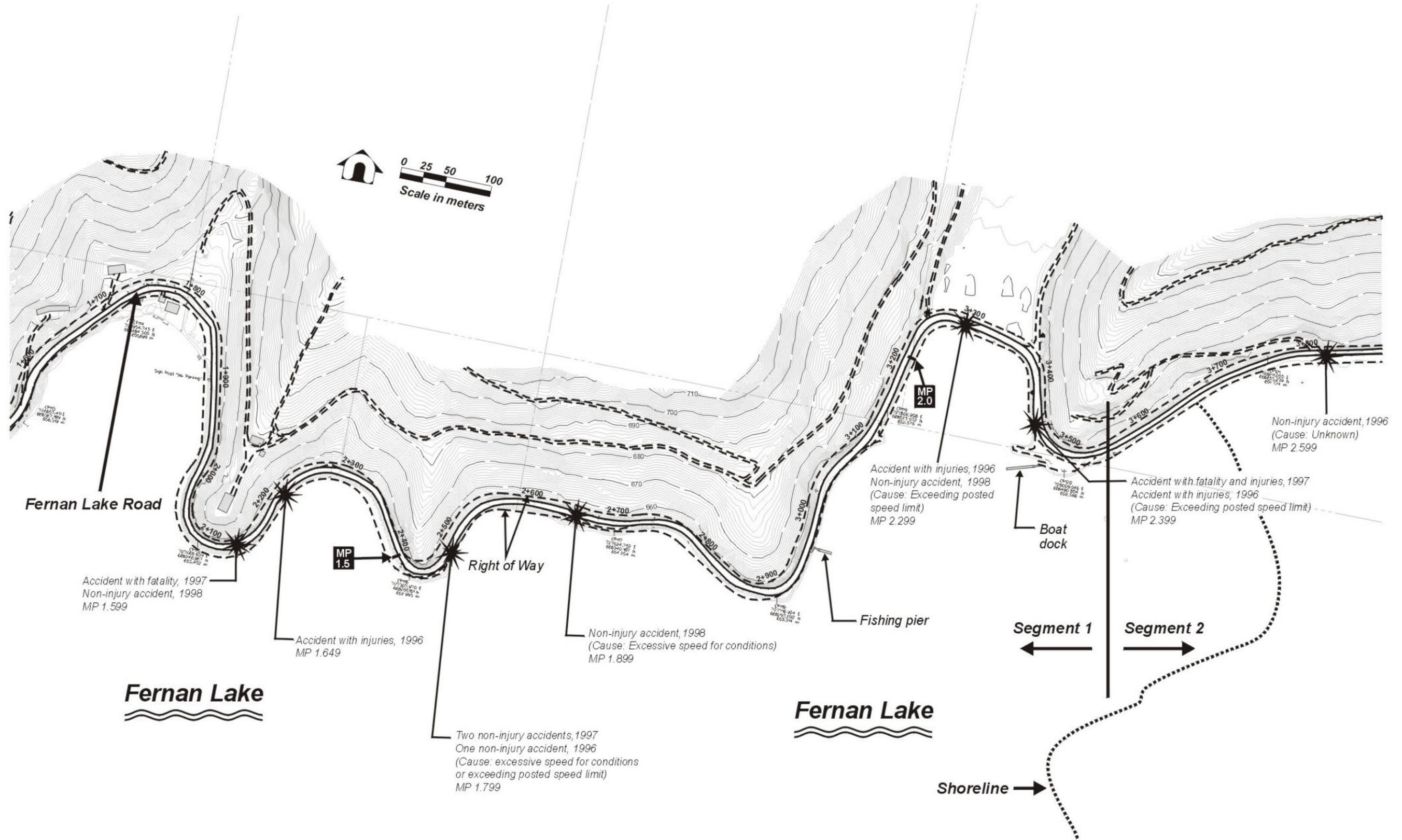


Fig. 2b. Existing conditions, MP 1.0 to MP 2.4.

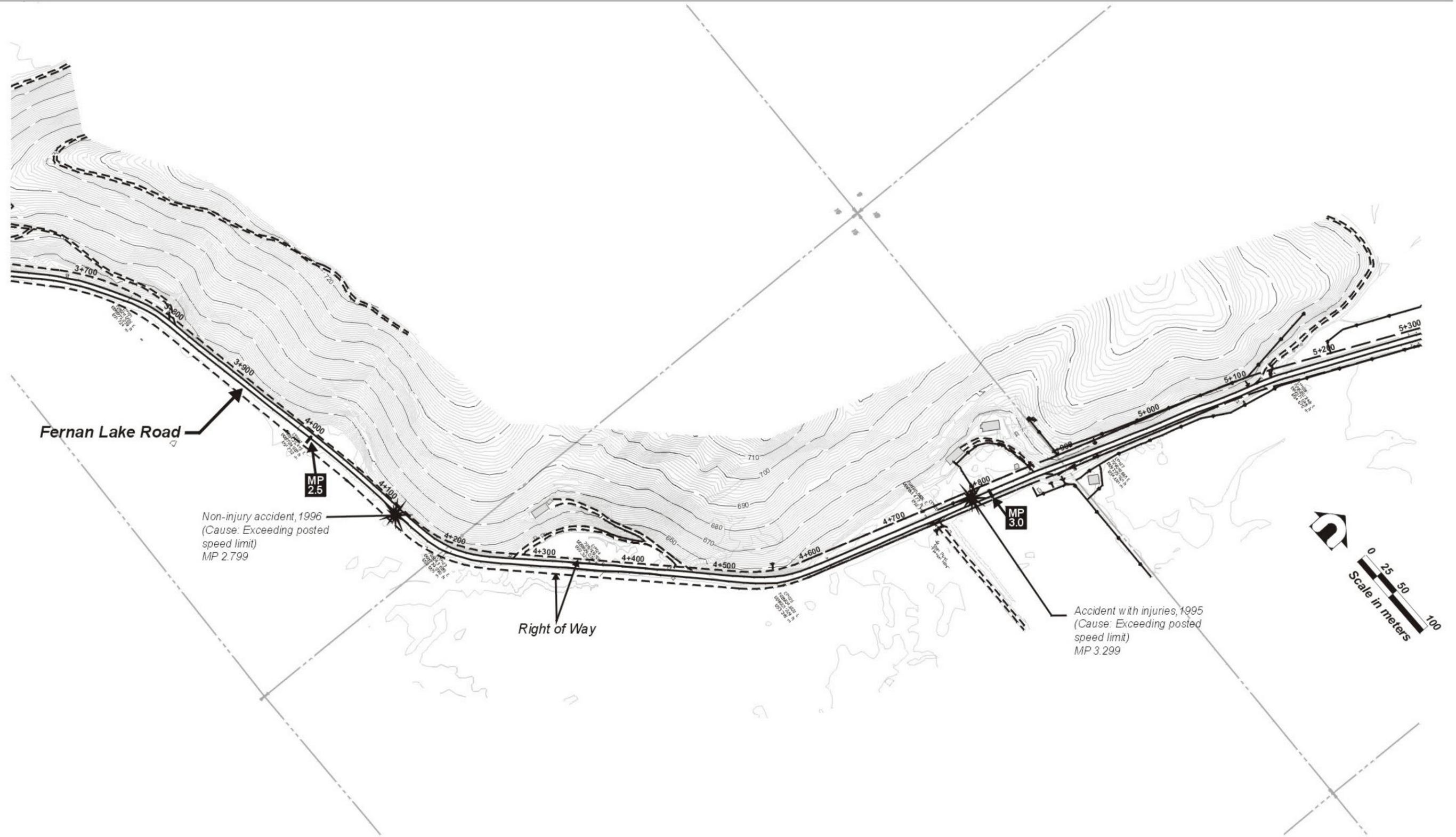


Fig. 2c. Existing conditions, MP 2.3 to MP 3.3.

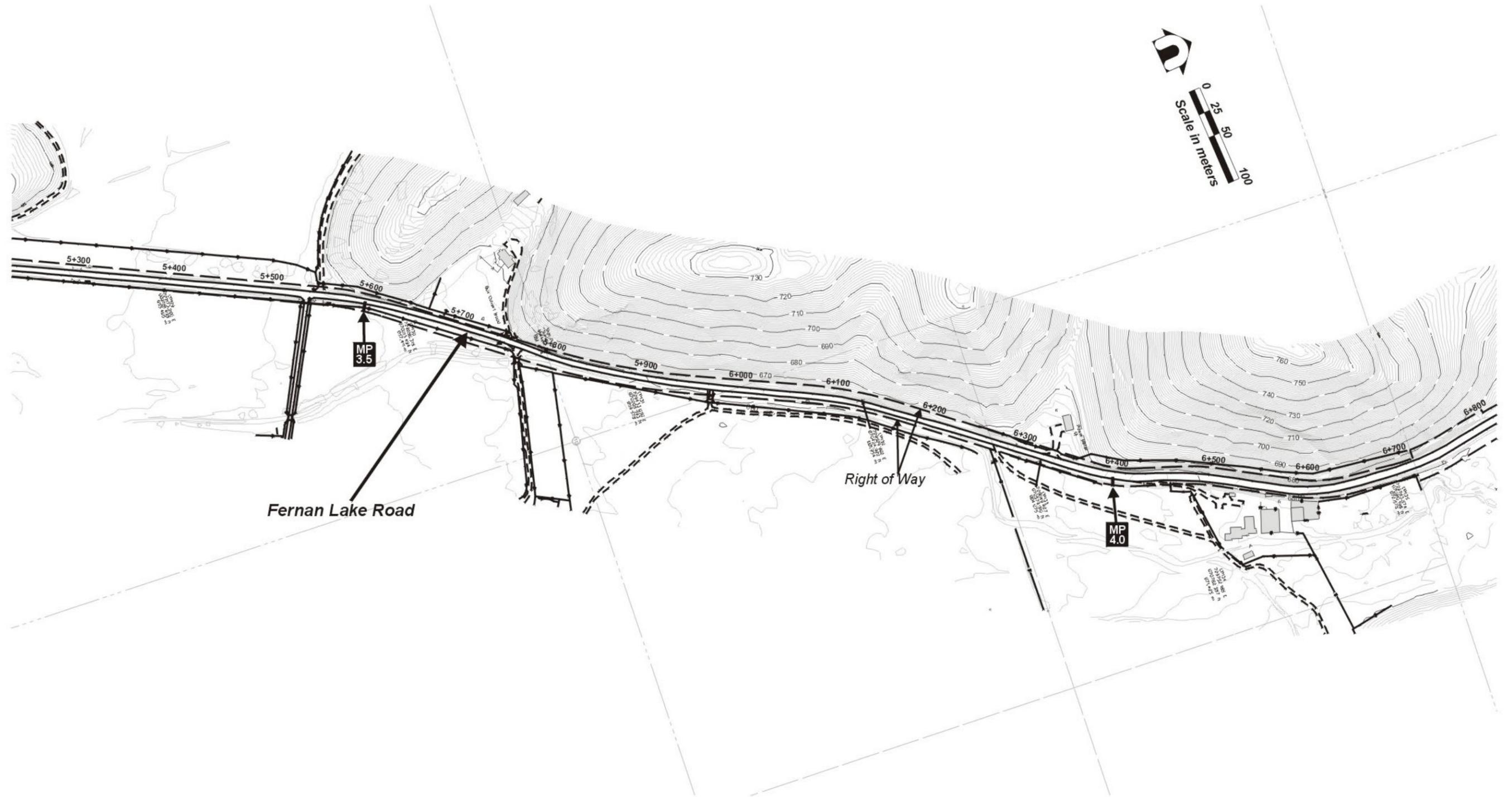


Fig. 2d. Existing conditions, MP 3.3 to MP 4.2.

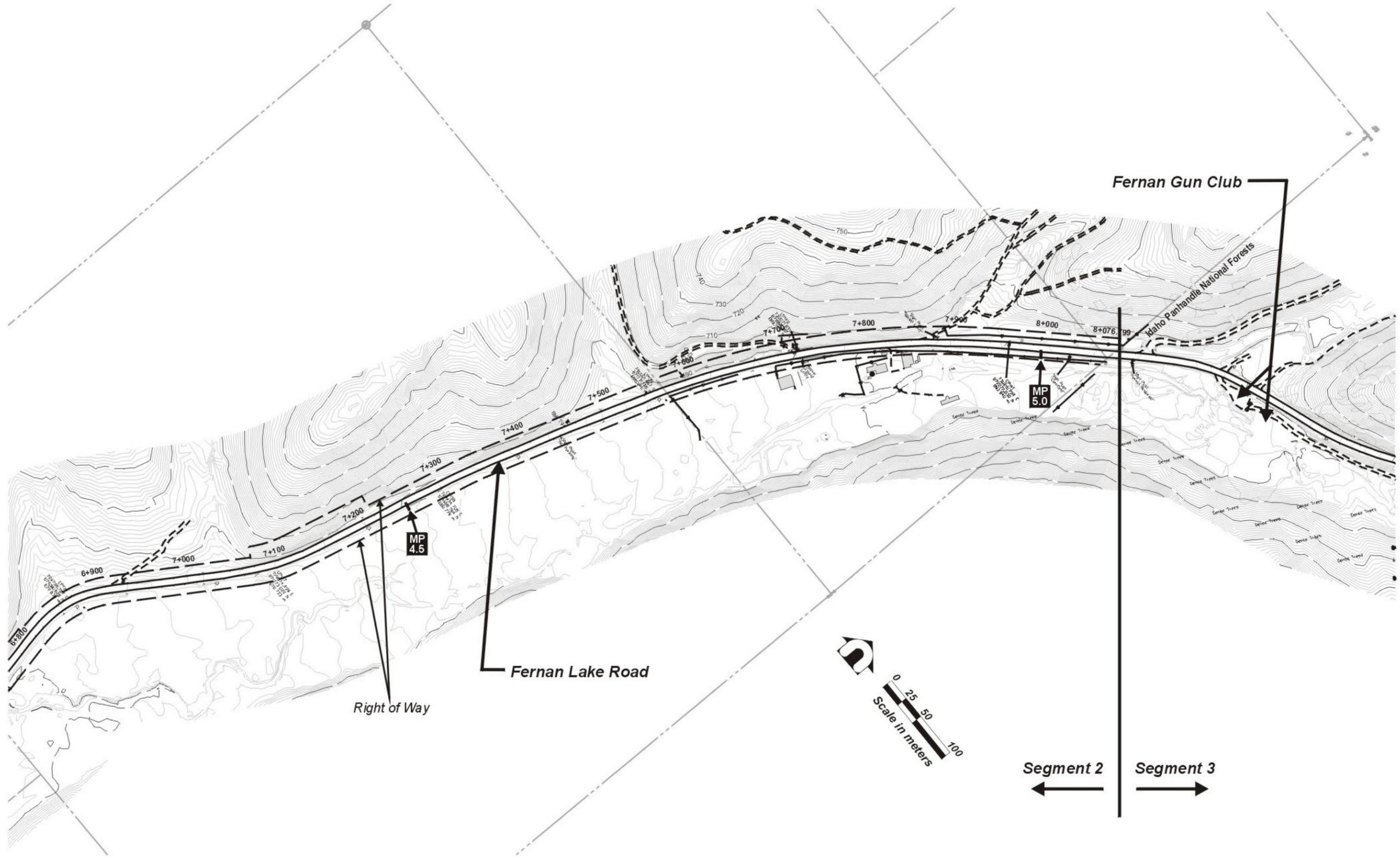


Fig. 2e. Existing conditions, MP 4.2 to MP 5.3.

***Mapping of Segment 3
is not complete
at this time***



Fig. 4. Looking west along the road at MP 0.7. Note the multiple repairs on the road surface, non-existent shoulders and very narrow parking turnout.

In some areas, original construction of the road required cutting into argillite rock outcrops (**Fig. 5**). These outcrops are degrading, and there are occasionally significant debris deposits within the roadway, requiring removal.

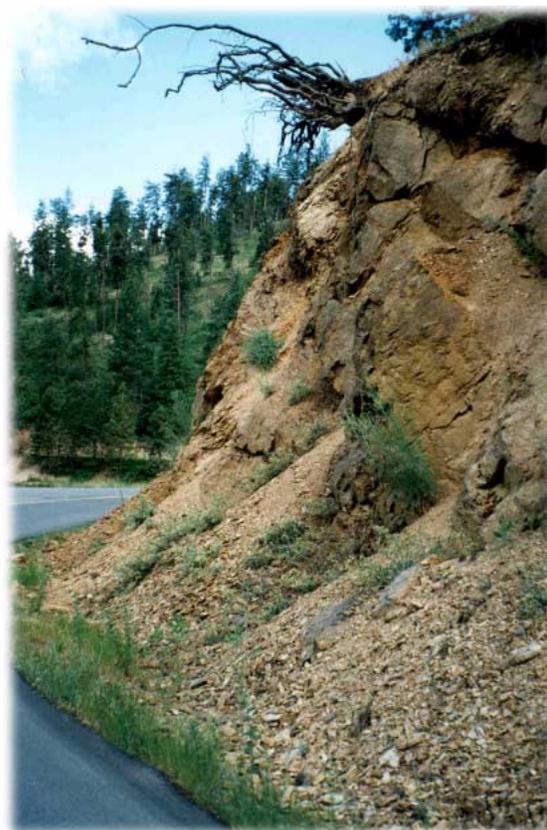


Fig. 5. Looking west along the road at MP 0.8. The argillite cut is degrading.

Poor drainage conditions and inadequate subgrade have resulted in subgrade failure in several locations along the lake. This is exhibited by the repeated need for repair and continued cracking of the road surface (**Fig. 6**). The close proximity of the road to the lake edge may have exacerbated this problem. Load restrictions apply to this segment in spring and fall during freeze/thaw periods.



Fig. 6. Looking east along the road at MP 0.8. Note the multiple repairs due to subgrade failure. The lake is to the right within 6 ft of the pavement.

Poor horizontal alignment does not allow sufficient sight distance for travelers and residents whose driveways access the road. **Fig. 7** illustrates extremely limited sight distance for a residence. Curve radii are as narrow as 30 m (98 ft) in some locations.



Fig. 7. Looking west along the road at MP 1.1. The structure is between the road and Fernan Lake. Note the extremely limited sight distance.

Much of the road in Segment 1 is immediately adjacent to the lake at an elevation of only a few feet above the water surface. **Fig. 8** shows the proximity of the road to the water, as well as the character of the natural topography. Construction of the road required cutting into the terrain in some locations.



Fig. 8. Looking west along the road at MP 1.5. The vehicle is parked in a turnout between the road and the lake.

At the eastern end of Fernan Lake, the road crosses wetlands associated with an unnamed creek coming down from Fernan Hill (**Fig. 9**). The culverts beneath the road that were intended to provide drainage between the lake and the creek have silted in and no longer provide drainage flow. The road has subsided along the lake edge in this location and even with subsequent repairs, still retains a noticeable dip.



Fig. 9. Looking west at MP 2. The road divides the wetlands and interferes with the free flow of water from the creek into the lake.

3.1.2 Segment 2 (MP 2.5 to MP 5.3)

At about MP 2.5, Fernan Lake Road leaves the lake and parallels Fernan Creek. Throughout this 2.9-km (1.8-mi) segment, the road follows the creek channel closely. In two places, the creek meanders across the valley floor, but in general the road and the creek are close together, separated by a strip of wetlands that varies in width (**Fig. 10**). There are no shoulders and few turnouts.



Fig. 10. Looking west at MP 2.6. Logging trucks use the road because it provides direct access to the Sherman Road interchange at I-90.

Portions of the roadway in Segment 2 are below the 100-year flood elevation. Segment 2 is also subject to frost heaving and has an inadequate subgrade, which has resulted in cracking and other damage to the asphalt surface. **Fig. 11** shows recent repairs made by the ESHD.



Fig. 11. Looking east at MP 3.2. Damage to the road from frost heaving requires repairs. There are wetlands on both sides of the roadway.

Fernan Lake Road is currently subject to load restrictions in spring and fall during freeze/thaw periods. During these breakup periods, which can last as long as two months, logging trucks and other heavy trucks are prohibited. Load restrictions are based on the need to limit damage to the road and pavement during breakup periods and are determined by the ESHD.

There are many degrading cut slopes in Segment 2, as in Segments 1 and 3, that are sloughing debris into the roadway (**Fig. 12**). Frequent maintenance is required to keep the rocks off the pavement.



Fig. 12. Looking east at MP 4.2. A degrading cut slope sloughs rocks and debris onto the roadway.

Pavement is cracked or alligatored due to frost heaving and subgrade failure. Continual repairs and patching are needed in some locations (**Fig. 13**).



Fig. 13. Looking east at MP 4.4. Pavement damage from frost and subgrade conditions.

3.1.3 Segment 3 (MP 5.3 to MP 10.7)

The third segment is contained within the boundaries of the IPNF. Elevation increases sharply between MP 5.3 and the summit at MP 10.7. The road was built with steeply sloping cut and fill slopes, and there is no guard rail or shoulder and few turnouts. **Fig. 14** shows the lack of shoulder and guardrail above a steep fill slope at MP 7.9.



Fig. 14. Looking east at MP 7.9, showing lack of guardrail at a steep slope.

Drainage along Fernan Road generally comes off the steep slopes (both natural and cut slopes) on the west side of the road. Flow must either cross the road or be captured by storm drains and channeled under the road. In some cases, existing drainage facilities are inadequate or have been damaged. **Fig. 15** shows a rusting drainage inlet pipe that was intended to collect runoff and snow melt on the west side of the road. It has been damaged by falling rocks from the degrading cut slope above it.



Fig. 15. West side of road at MP 7.9, illustrating inadequate drainage inlet.

Segment 3 also has many cut slopes in rock formations that are now degrading (Fig. 16). In addition to creating safety hazards from rocks sloughing onto the pavement, debris fills up drainage ditches on the west side of the road and reduces drainage capacity in the ditches.



Fig. 16. West side of road at MP 8.7. This argillite cut slope is exfoliating and results in rock debris on the pavement and within the drainage ditch.

3.2 Road Uses

Fernan Lake Road is classified as a Rural Major Collector under the functional classifications defined in the AASHTO Policy Manual. Rural collector routes carry traffic that is primarily of intracounty rather than statewide importance. Major Collector Roads serve traffic generators of intracounty importance (e.g., schools, county parks and important mining or agricultural areas), link these places with nearby larger towns or cities, and serve to connect the rural area to more important intracounty travel corridors.

According to the Kootenai County Area Transportation Plan (KCAT), a collector is intended to assemble and concentrate residential and rural traffic and direct it to the arterial system. Direct access to adjoining property is common and often essential. Operating speeds are in the 40 to 48 km/h (25 to 30 mph) range. Parking along the roadway is acceptable but may be limited. Major collectors tend to connect important regional facilities directly to the arterial system (KCAT, 1998).

According to Dallas Thomson of the IPNF, Fernan Lake Road provides access to approximately 500,000 acres of the Coeur d'Alene River Ranger District in the IPNF, as well as to residences and farms, a shooting range, a boat ramp and public

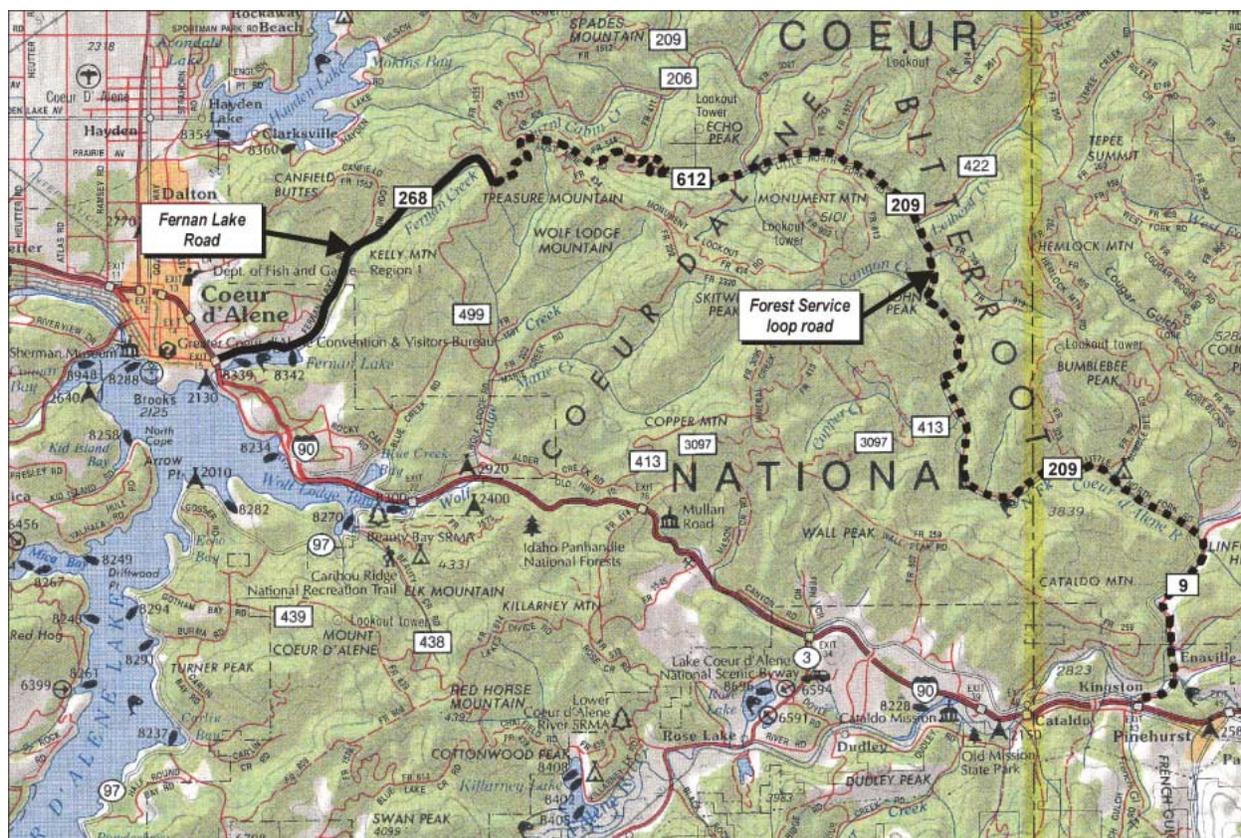


Fig. 17. Forest Service loop road.

recreation areas on Fernan Lake. The road is the primary access to 6,000 acres of the IPNF on the west side of Fernan Saddle and allows the management, protection and utilization of this portion of the district, primarily for recreation and timber harvest uses (Thomson, 2000).

Access to IPNF is via a loop road, part of which is Fernan Lake Road (Fig. 17). The loop road, consisting of Fernan Lake Road, Forest Road 612, Forest Road 209 and Forest Highway 9, has the highest road-use density in the Coeur d'Alene River Ranger District. The FS plans to improve the portions of the loop route by widening existing single-lane segments to two lanes, upgrading culverts, making bridge repairs, laying asphalt, striping, and installing increased signing. Future plans are to pave the entire length with asphalt. When the improvements are complete, IPNF-related traffic on Fernan Lake Road is expected to increase.

Based on actual traffic counts made by the FS just above the shooting range, Fernan Lake Road recorded about 100,000 Recreation Visitor Days¹ (RVD) in 1998. In 1999,

1. A Recreation Visitor Day (RVD) is a unit for measuring recreation activities. One unit equals 12 visitor hours and may consist of one person for 12 hours, or 12 persons for one hour, or any equivalent combination (USDA Forest Service, 1989).

this number increased to 107,000 RVDs. There has been a steady increase in the number of visitors over the past 12 years, roughly doubling between 1989 and 1999. Because these numbers are based on IPNF use only and do not include recreational users of the road below MP 5.3, the actual number of recreationists using this road is probably considerably higher.

The mix of traffic using the route includes cars, trucks, buses, logging trucks, recreational vehicles, motorcycles and bicycles. Fernan Lake Road is a major access road to snowmobiling areas as well as fishing, hunting, camping, hiking, picnicking, woodcutting, and huckleberry picking. Although the largest single traffic generator on Fernan Lake Road is opening day of hunting season, use of the road and the IPNF is year round. The road serves the Honeysuckle and Bumblebee campgrounds with a total of 38 camp sites, three campgrounds farther into the IPNF (each with more than 35 camp sites), the Shoshone Dump Station and Magee Historic Site (each with picnic facilities), and more than 250 km (156 mi) of snowmobile trails. In addition, there is unlimited, undeveloped camping and picnicking throughout this portion of the IPNF. The FS is planning to construct a warming hut and comfort station near Fernan Saddle within the next two years to serve snowmobilers. This facility will also be accessed by Fernan Lake Road.

The Fernan Gun Club operates a shooting range under a special-use permit from the FS adjacent to Fernan Lake Road at approximately MP 5.5. Approximately 3,000 to 4,000 visitors are estimated to use this facility annually. Use increases in the late summer and fall around hunting season.

Other than recreation, users of the IPNF are involved with timber management (tree planting, some burning in spring and fall, and pre-commercial thinning), plant surveys, mushrooming, and collecting moss, bear grass, yew clippings and huckleberries.

During the past ten years, approximately 7 million board feet of timber have been hauled out on Fernan Lake Road in trucks carrying approximately 80,000 pounds per trip. Logging trucks are estimated to account for approximately 4% of the traffic on the road. Over the next five years, the number of logging trucks is expected to decrease as timber sales are completed and new, smaller areas are opened. The FS is anticipating approximately 5 million board feet of timber on this road in 2000, 4 million in 2001, and 3 million in 2002, 2003, and 2004. After 2004, timber will continue to be hauled out over this road, but the quantity is expected to be less than 3 million board feet per year.

3.3 Traffic Volumes

3.3.1 Existing Traffic Volumes

Average daily traffic (ADT) in the study area was collected from September through November 1999. Volumes represent the average total two-way traffic during a 24-hour period (**Table 1**).

Table 1. Existing and forecasted ADT volumes.

Location	Existing 2000*	Forecasted		Forecasted growth for 2000-2021 (%)
		2001*	2021*	
Segment 1	900	920	1,510	68
Segment 2	690	710	1,160	68
Segment 3	290	310	600	107

*Volumes rounded to nearest five (5) vehicles per day (vpd)

Sources: Segments 1 and 2 (population growth rate estimates from KCAT);
Segment 3 (historic traffic growth rates from Coeur d'Alene River Ranger
District office of the FS)

Phone conversations with Kenneth Renner of the ESHD and Dallas Thomson of the Coeur d'Alene River Ranger District office of the FS reveal that ADT volumes along Fernan Lake Road are fairly uniform throughout the year. They further indicate that no real seasonality appears to exist in traffic flow throughout the year although traffic levels may jump for short periods associated with events such as opening day of hunting season or the weekend after the first major snowfall. Therefore, the ADT volumes in **Table 1** should be considered peak season ADTs as well.

3.3.2 Forecasted Traffic Growth Rate and Volumes

Kootenai County generated future year 2017 ADT volumes for much of the county using forecasted future population, employment, and land-use estimates as part of the KCAT development process. However, no ADT projections were reported along Fernan Lake Road. Forecasted traffic volume growth estimates were therefore based on historical traffic growth trends, where they exist, and/or forecasted population growth estimates from KCAT.

Historic traffic growth rates generally serve as the best source for forecasting future traffic growth rates. Traffic growth rates are closely tied to population growth. In areas where population is expected to increase, traffic would typically increase as well. If historic traffic and population growth in an area have been positive, but forecasted population growth indicates a decline, very little if any traffic growth may be expected.

Historic ADT traffic data was available along Fernan Hill Road to the north of Fernan Lake Road. Often times, nearby roads with similar functions are a good indicator of how future traffic volumes may grow along the subject roadway.

Fernan Hill Road traffic volumes have varied over the period for which records are available (1982 to 1996). No discernible trend is exhibited by the data. Looking only at the first and last years, traffic on Fernan Hill Road has undergone approximately 32% growth over the period. However, percentage increases should be regarded with caution when dealing with ADT volumes of less than 300 as seen along Fernan Hill Road. In these cases, very small traffic volume growth can result in large percentage changes.

3.3.3 Forecasted Traffic Growth by Segment

This section discusses forecasted traffic growth rate for each roadway segment and the basis for selection of the growth rate.

- **Segment 1:** ADT volumes from 1999 (900 vehicles per day [vpd]) compared to 1997 ADT volumes (700 vpd) reported in the KCAT indicate recent two-year traffic growth of nearly 30%. This apparent high level of growth is not consistent with the predicted county population average annual growth rate of 2.5% reported in the KCAT. The reasons for the disparity in growth values are unclear. It is possible that the volumes reported were actually collected at two different locations. The area forecasted population growth rate for this roadway section is considered a more reasonable indicator of forecasted traffic growth. Therefore, a forecasted average annual traffic growth rate of 2.5% per year was used for this roadway segment.
- **Segment 2:** The only traffic data for this roadway segment is the 1999 ADT volume collected last fall. Without historical traffic volume data to review, the forecasted area population average annual growth rate of 2.5% is considered a reasonable indicator of forecasted traffic volume growth.
- **Segment 3:** The Coeur d'Alene River Ranger District office of the FS has maintained historic ADT counts at random locations along the easternmost five miles of Fernan Lake Road since 1989. Review of the data reveals that ADT volumes have grown at a linear rate of approximately 10% per year. The increase seems high but is based on very small ADT volumes. The 1989 and 1999 ADT levels along this roadway segment were recorded as 148 vpd and 293 vpd, respectively. With a healthy area population growth rate of 2.5% per year, which will likely generate additional recreational traffic, it is reasonable to expect traffic growth along this segment of Fernan Lake Road to continue to follow a linear growth trend of 10% per year over the 20-year period.

Estimates for 2001 and 2021 ADT in **Table 1** are based on these growth rates.

3.3.4 Design Hour Volume (DHV) Estimates

Rural highways are typically designed to carry a total two-way design hourly volume (DHV) at an established level of service. Calculation of a true DHV requires knowledge of the average annual daily traffic (AADT), the 30th hour volume, and a design hour factor (K) for the roadway in question. The AADT is the average of the total annual traffic on a roadway divided by 365 days. The 30th hour volume is the 30th highest volume hour experienced during the year along a roadway. The ratio of the 30th hour volume to the AADT (often 10 to 15% for two-lane rural highways) provides an indication of how much daily traffic is captured in the design (or peak) hour.

Historical traffic data is not available to generate AADT or 30th hour volumes along Fernan Lake Road. Therefore, a conservative analysis based on the available data has been utilized.

3.3.5 Available Data

Kenneth Renner of the ESHD indicated that daily peak-hour operations during the year are fairly uniform along Fernan Lake Road.

To further support a two-lane rural highway level of service (LOS) analysis, a directionality factor is needed. This factor indicates the directional traffic split during the peak hour. Based on traffic volume data reported in the KCAT, Fernan Lake Road experiences a 50/50 directional traffic split during the day with slightly more people leaving the area in the evening. A 43/57 east/west split during the PM peak hour was used for forecasting, and the vehicle type was assumed to include 4% trucks. The KCAT also reports that in 1997, approximately 8.5% of the ADT was carried in the PM peak hour. The traffic study used a conservative estimate of 10% as a design hour factor.

3.3.6 Assumptions

- (1) Existing and estimated future ADT volumes represent estimated AADT.
- (2) A design hour factor (K) of 10% was used to provide a conservative (worst case) analysis.
- (3) Existing directional split of 43/57 east/west will remain in effect in the future.
- (4) Existing truck percentage of 4% will remain in effect in the future.
- (5) No passing is allowed along the roadway.
- (6) Existing recreational vehicle percentage (2%) will remain in effect in the future.

Applying these assumptions results in the estimated DHV volumes presented in **Table 2**. With the lack of real seasonality or daily variations in traffic flow along

Fernan Lake Road (discussed previously), the DHV volumes also represent peak-season DHVs.

Table 2. *Estimated existing and forecasted design hour volumes (DHV).*

Location	Existing	Forecasted	
	2000*	2001¹	2021¹
Segment 1	90 vph ²	90 vph	150 vph
Segment 2	70 vph	70 vph	120 vph
Segment 3	30 vph	30 vph	60 vph

¹ Volumes are 10% of ADT and rounded to nearest five (5) vph

² Vehicles per hour

Sources: Segments 1 and 2 (East Side Highway District);

Segment 3 (Coeur d'Alene River District, USFS)

3.3.7 Level of Service (LOS) Estimates

Transportation engineers have established various standards for measuring traffic capacity of rural, two-lane roads such as Fernan Lake Road. Each standard is associated with a particular level of service (LOS). The LOS concept takes into account the magnitude, type, and directional distribution of traffic as well as roadway features such as the percentage of no-passing zones, general terrain, and lane and shoulder widths.

LOS was analyzed along Fernan Lake Road using the *1997 Highway Capacity Manual*, Special Report 209, published by the Transportation Research Board. Results are presented in **Table 3**. Based on the traffic volume and other operational data presented in this memorandum, and travel lane and shoulder width of the new facility, all the three roadway segments of Fernan Lake Road are estimated to operate at LOS B under estimated 2021 design hour volumes.

Table 3. *Level of service (LOS) analysis.*

Location	Year 2021 LOS
Segment 1	B
Segment 2	B
Segment 3	B

Source: 1997 Highway Capacity Manual

3.4 Safety Concerns and Accidents

Fernan Lake Road is considered to have a dangerous mix of users. Safety hazards are created by a narrow road with sharp curves and a surface that is in poor condition (Idaho DEQ, 1993).

Accident data from the ITD database was obtained to evaluate accident rates and to determine whether accidents occur more frequently in specific locations. Data was available from ITD for only a portion of the road, a 5.4-km (3.35-mi) segment of Fernan Lake Road from Lakeview Drive to the place where the high-pressure petroleum transmission line crosses the road.

The accident database listed 18 accidents during the five-year period from January 1, 1994, through December 31, 1998. Only two accidents were listed in the database for the previous five-year period. An analysis of the available data is summarized in **Table 4**. Accident locations are shown on **Fig. 2**.

Table 4. Five-year accident summary (January 1, 1994, through December 31, 1998).

Year	No. accidents	Estimated ADT vol.	Accidents per million vehicle miles	No. vehicles involved (single/multiple)	Light conditions (day/dark/unknown)	Surface conditions (dry/wet)	Accident severity (fatality/injury)
1994	2	650	2.52	0/2	1/1/0	2/0	0/0
1995	1	700	1.17	0/1	1/0/0	1/0	0/1
1996	6	750	6.54	1/5	4/1/1	6/0	0/3
1997	4	800	4.09	1/3	2/1/1	2/2	2/1
1998	5	850	4.81	1/4	1/4/0	3/2	0/0
Totals	18			3/15	9/7/2	14/4	2/5

Source: Idaho Transportation Department, 2000

The number of reported accidents per year ranged from one (1995) to six (1996). There may have been other, unreported accidents. Accident rates have been higher in more recent years (two to three times higher than typical for this type of highway).

Over 80% of the accidents were single-vehicle and were caused by the driver's losing control and running off the road. The three multi-vehicle accidents all involved one vehicle sideswiping another vehicle traveling in the opposite direction.

The severity of the accidents varied. Over 66% of the accidents were non-injury accidents resulting in possible property damage. Of the 18 accidents, there were five injuries and two fatalities. Both fatalities were caused by the driver losing control and/or running off the road.

Most of the time, climatic conditions were not a contributing factor to the accidents. In over 75% of the accidents, the roadway surface was dry, and in 55% of those with known times, the accidents occurred during daylight hours.

Most of the accidents on Fernan Lake Road occurred near where the road curves sharply, as shown in **Table 5** and on **Fig. 2**. Most of the accidents were caused by the

driver's exceeding the speed limit and/or traveling too fast for road conditions. In the accidents near sharp curves, it appears that drivers were unable to negotiate the curves at their speed.

Six locations had two or more accidents. Circumstances for each accident at these locations were similar. All of the multiple accident locations occurred where there were sharp curves in the roadway or where there was an intersection.

Table 5 lists accident location and roadway geometry.

Table 5. Accident summary by milepost (January 1, 1994, through December 31, 1998).

<i>Milepost</i>	<i>Metric equivalent</i>	<i>No. accidents</i>	<i>Multi-vehicle accidents</i>	<i>Roadway geometry</i>
0.3	0.48	2	1	intersection
0.8	1.29	2	0	curve
0.9	1.45	1	0	curve
1.6	2.57	2	0	curve
1.65	2.65	1	0	curve
1.8	2.90	3	2	curve
1.9	3.06	1	0	curve
2.3	3.70	2	0	curve
2.4	3.86	2	0	curve
2.6	4.18	1	0	straight
2.8	4.51	1	0	curve
3.2	5.15	1	0	unknown

Source: Idaho Transportation Department, 2000

4 Alternatives Considered

If at all possible, FHWA designs Forest Highway (FH) road improvement projects to meet or exceed the minimum standards of the American Association of State Highway and Transportation Officials (AASHTO) or locally adopted standards. AASHTO standards are contained in the AASHTO publication, *A Policy on Geometric Design of Highways and Streets* (1994). The amount of funding available is sufficient for improvements to only one alignment. The design speed for development of alternatives was established at 60 km/h (35 mph). The design speed is not the same as the posted speed limit. Typically, the posted speed limit is lower than the design speed to allow a margin for safety.

FHWA has identified six alternatives that would follow other alignments away from Fernan Lake and four alternative approaches to improving Fernan Lake Road to better serve existing users and accommodate expected growth. In addition, the FS and Kootenai County could decide to do nothing to address existing problems. All alternatives are described below.

4.1 No-Build Alternative

FHWA, the FS, and ESHD could elect to make no improvements to Fernan Lake Road. Under this alternative, the roadway would continue to deteriorate. Safety would continue to be compromised and extensive maintenance would be required from MP 0.0 to 5.3 to maintain the road surface. Deficiencies in the road that cannot be corrected through maintenance (such as deteriorating drainage conditions) would gradually get worse. Eventually additional expenditures would be needed to maintain the roadway.

The road would continue to be substandard in terms of width, turnouts and guard-rail. Traffic safety conditions would worsen over time, and the potential for accidents could increase as traffic volumes increase. Load limitations would continue during spring and fall freeze/break-up conditions.

Environmental effects from the failing road cuts would continue. The inadequate drainage features would continue to cause maintenance and hillside stability problems. Erosion from unstable road embankments would continue to allow debris to fall onto the roadway and into the lake.

This alternative would not meet the transportation objectives of the FHWA, FS and ESHD to provide a safe and economical transportation system. It would not improve the safety of the road or reduce the cost of maintenance.

4.2 Realignment Alternatives

Several alternatives that would bypass all of Fernan Lake Road, or at least the portion of the road along the lake, were considered in order to mitigate potentially adverse impacts of safety improvements to the homes located there as well as to the lake. However, any re-routing alternatives must allow for easy access to I-90 because logging trucks, other commercial vehicles, and recreationists use the freeway. All of the following alternatives provide freeway access in various forms. However, each has impacts at least as severe as the proposed improvements, and none would meet the project objectives of providing safe access to Fernan Lake and reducing maintenance costs for ESHD. In addition, the costs of these new construction alternatives would be more than the reconstruction alternatives described below, and more than the amount programmed for the project.

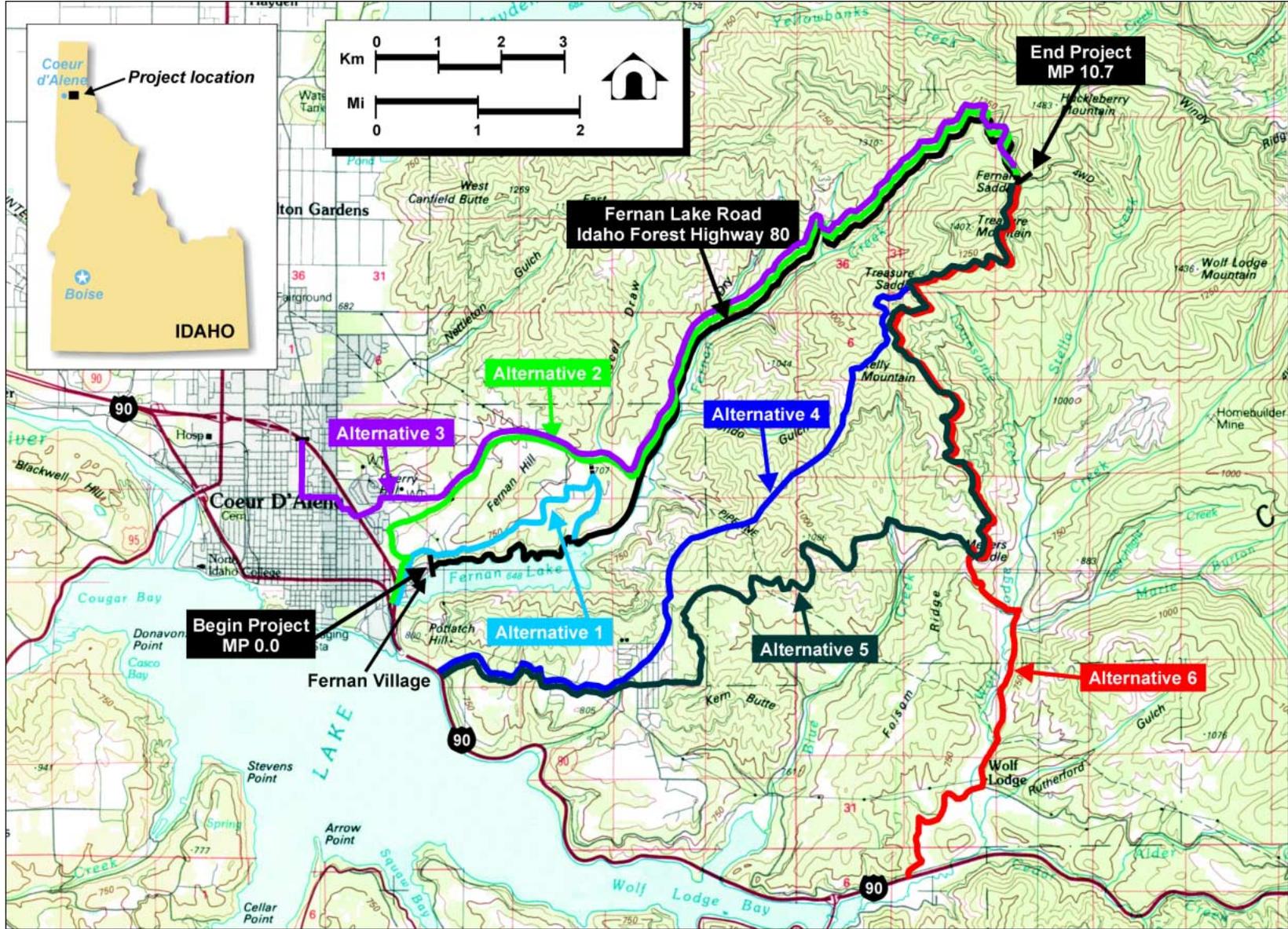
4.2.1 Relocation Alternative 1: Fernan Hill Road Alternative Alignment

Relocation Alternative 1 (**Fig. 18**) would use the existing Lilac Lane and Fernan Hill Road and would involve construction of a new link between the existing terminus of Fernan Hill Road and Fernan Lake Road at the eastern end of the lake. This alternative would utilize the existing freeway interchange at Sherman Road, but would require travel through residential neighborhoods between Sherman Road and Lilac Lane. Lilac Lane and Fernan Hill Road (a total of about 4.8 km [3 mi]) would need to be improved to meet design standards for the rural major collector, and a new segment of road (approximately 1,524 m [5,000 ft]) between the eastern terminus of Fernan Hill Road and the eastern end of Fernan Lake would need to be constructed.

If the new road were constructed, Segment 1 of Fernan Lake Road would remain since it provides sole access to residential properties and recreational facilities on Fernan Lake. Therefore, maintenance issues and safety problems on this segment of the road would continue due to the narrow road width, lack of shoulders and parking turnouts, and degrading road cuts. Traffic volumes might be reduced somewhat along this segment of the road if through vehicles used the alternate route rather than continuing to use the shorter route following Fernan Lake Road. However, problems along Fernan Lake Road would still require resolution in order to provide safe access for residents and recreational users of the lake.

This alternative is not considered acceptable because:

- higher cost per mile to construct the longer, new roadway and acquire new ROW
- longer road would be more expensive to maintain
- longer travel times to reach IPNF recreation areas would discourage use of the new road



Source: USGS, 1987

Fig. 18. Location of relocation alternatives.

- unresolved safety problems on Segment 1 of Fernan Lake Road, which would still be used by residents as well as people wanting to see or use Fernan Lake
- increased safety problems (particularly to adjacent residents on Fernan Hill Road and Lilac Lane) resulting from the use of these roads by commercial vehicles and logging trucks
- adverse environmental impacts of the new construction connecting existing roads to Segment 2 of Fernan Lake Road

4.2.2 Relocation Alternative 2: French Gulch Road Alternative Alignment

Relocation Alternative 2 (Fig. 18) would involve the use of existing French Gulch Road. Freeway access would be provided from the Sherman Avenue interchange through neighborhood streets to the western end of French Gulch Road north of Lilac Lane. These local streets and French Gulch Road would need to be improved to Rural Major Collector standards, and approximately 6,000 ft of new road construction would be needed between the end of French Gulch Road and Fernan Lake Road. This alternative would tie into Fernan Lake Road at about MP 4.0, close to the pipeline crossing.

As with Relocation Alternative 1, this alternative does not meet project objectives because:

- increased construction costs associated with more than one mile of new roadway and improvements to approximately three miles of existing French Gulch Road to bring it up to rural collector standards
- unresolved safety problems on Segments 1 and 2 of Fernan Lake Road, which would still be used by residents as well as recreational visitors to Fernan Lake
- increased safety problems for residents along French Gulch Road from heavy commercial vehicles (logging trucks) using the alignment
- adverse environmental effects of the new connecting road and improvements to the French Gulch Road
- increased cost of maintaining both the new and existing road

4.2.3 Relocation Alternative 3: French Gulch Road from 15th Street Interchange

Relocation Alternative 3 (Fig. 18) would be similar to Alternative 2 in that French Gulch Road would be used to replace Segments 1 and 2 of Fernan Lake Road. However, instead of using Sherman Road for freeway access, this alternative would use the 15th Street interchange. Traffic would exit I-90 at 15th Street, then travel south on 15th Street to Pennsylvania Avenue to cross underneath the freeway. Vehicles would then travel north on 23rd Street to French Gulch Road. Another option would be to have traffic move north on 23rd Street to Harrison Avenue, then eastward on

Harrison to French Gulch Road. Either of these options would involve nearly three miles of travel through residential neighborhoods before reaching Harrison Avenue or French Gulch Road.

This alternative does not meet the purpose and need for the project because:

- increased traffic and safety hazards associated with increased traffic on three miles of local residential streets
- substantially increased construction costs as a result of more than one mile of new roadway and improvements to approximately three miles of existing French Gulch Road to bring it up to major collector standards
- continued need for substantial improvements to Segments 1 and 2 of existing Fernan Lake Road to ameliorate existing safety problems for residents and for recreational visitors to Fernan Lake
- adverse environmental effects from new roadway and improvements to residential streets and French Gulch Road
- increased cost of maintaining both the new and existing road

4.2.4 Relocation Alternative 4: Direct Route from Mullan Trail Road and I-90

This alternative (**Fig. 18**) would start from the Mullan Trail Road exit on I-90 and follow the same route for approximately the first 2.4 km (1.5 mi). Then this alternative would continue along the ridgeline before joining FS Road #499 approximately 2.4 km (1.5 mi) below the saddle. Although this would be a shorter route (11.9 km or 7.4 mi), most of the length would be new construction through steep terrain and therefore much more expensive to design and construct than an alignment following an existing road. (Construction costs are estimated at \$1.2 to \$1.5 million per mile.) In addition, this alternative would not reduce maintenance costs on Fernan Lake Road or improve safety for visitors to Fernan Lake.

4.2.5 Relocation Alternative 5: From Mullan Trail Road and I-90 to FS Road #499

This alternative (**Fig. 18**) would also run along the ridge line south of Fernan Lake from the Mullan Trail Road exit off I-90. The road would blaze new ground before joining FS Road #499 to reach Fernan Saddle. The total length of the road would be 23.3 km (14.5 mi) including extensive new construction. There are very few or no wetlands or riparian areas along this route, and FS ROW would be less expensive to acquire as well as less disruptive to existing land-use patterns. While this alternative would permit design of the alignment to AASHTO standard, new construction is more expensive than reconstruction, particularly on steep slopes such as this. (Construction costs per mile are estimated to run between \$1.2 and \$1.5 million per mile.) The new alignment might improve access to IPNF but would not meet the

project objective of improving the safety on Fernan Lake Road, nor would it reduce maintenance costs.

4.2.6 Relocation Alternative 6: From Wolf Lodge Bay Road along FS Road #499

An attempt was made to locate an alignment south of Fernan Lake that could connect I-90 with Fernan Lake Road north of MP 5 (**Fig. 18**). This is a rural area and there are only a few existing roads that could be used as the basis for this alternative. There is an unpaved, narrow, winding FS road (FS Road #499), which could be reached from Wolf Lodge Bay Road exit on I-90. This alternative is longer, 19.6 km (12.2 mi) as opposed to 17.2 km (10.7 mi), and unpaved. Significant improvements would be needed to upgrade the existing unpaved road to rural collector standard. Construction costs are estimated to be \$1.1 million per mile or more. This alternative would not meet the objective of providing safe access to Fernan Lake; it would take substantially longer and be more expensive to construct than any of the alternatives that would upgrade the existing road, and would also affect wetlands, riparian areas and sensitive wildlife habitat.

4.3 Fernan Lake Road Reconstruction Alternatives

FHWA, working with the FS and ESHD, has explored a range of alternatives to meet the project purpose and need described in **Chapter 3**. The following alternatives would reconstruct the road largely along the existing alignment. Alternatives that would realign the road to avoid Fernan Lake are described in **Section 5**.

4.3.1 Alternative A: Reconstruct Segments 1 and 2 to 32-ft Width; Rehabilitate Segment 3

Under this alternative, the road between MP 0.0 and MP 5.3 would be reconstructed to a uniform 9.6 m (32 ft) using approximately the same alignment as the existing road. This alternative would fully meet AASHTO standards for width and curve design. From MP 5.3 to 10.7, the road would remain at its existing width of 7.8 m (26 ft). **Fig. 19** shows a typical cross section for this width roadway. New cut and fill slopes and retaining walls would be constructed where needed, new base and pavement installed, shoulders graveled, utilities relocated, and guardrails, culverts and signs placed as needed. The deficiencies with the horizontal and vertical alignments would be reduced or eliminated, and sight distance would be improved to allow a 60-km/h (35-mph) design speed. Drainage problems would be corrected, and a frost-free pavement structure would be provided. Signing and miscellaneous safety items, including guardrails, would be included as appropriate. Due to the narrow width and topographic constraints, a full-length bicycle or pedestrian trail would not be provided. However, paths would be provided in certain areas where the developable width permits.

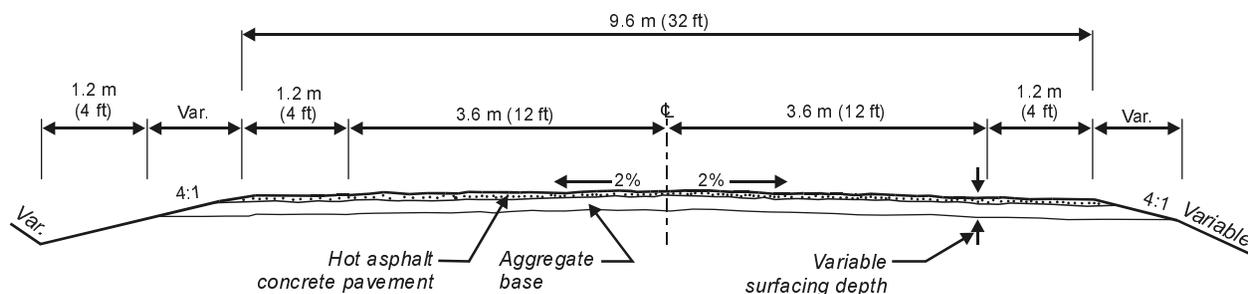


Fig. 19. Typical cross section, 32-ft width alternative, MP 0.0 to MP 5.3.

From MP 5.3 to MP 10.7, the roadway would be rehabilitated, leaving its existing width of 7.8 m (26 ft) and design speed of 60 km/h (35 mph). Rehabilitation would include safety improvements such as guardrails and possible resurfacing of a portion of the roadway. A typical cross section for the rehabilitation is shown in Fig. 20.

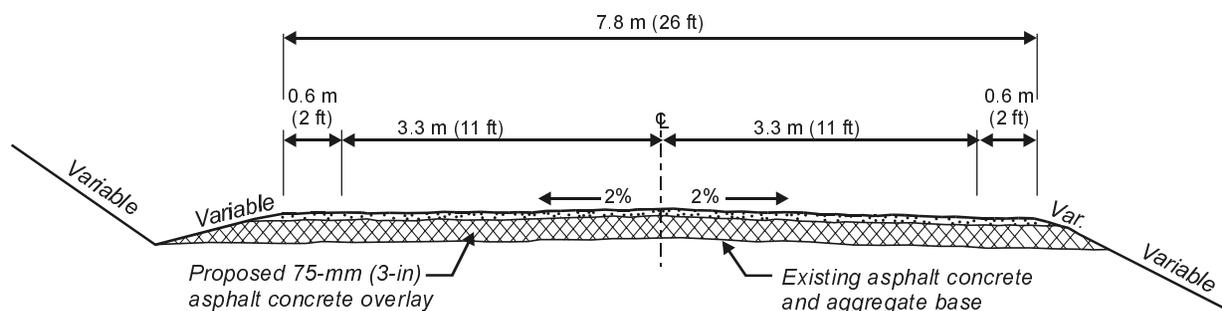


Fig. 20. Typical cross section, rehabilitation of MP 5.3 to MP 10.7.

This alternative would require substantial work along the lakeshore, including cutting of hillsides and placement of fill into Fernan Lake to provide a sufficient width for road pavement and shoulders. Hillside cuts to allow flattened curve radii would leave former roadway area available for parking. Between MP 1.7 and MP 2.1, a bridge would be constructed to span a short portion of the lake, and the existing road would be removed. This would restore flows and remove some fill from the wetlands along the lake edge.

The estimated construction cost for this alternative is \$1 million per mile for Segment 1, approximately \$750,000 per mile for Segment 2, and \$160,000 per mile for Segment 3.

This alternative would greatly increase safety by removing the existing problems associated with tight curves, narrow pavement, inadequate sight distance, and deteriorating pavement conditions. Maintenance operations would be reduced. However, this alternative would require acquisition of more ROW through private property than Alternative B or C. Depending on the design, residences along the lake

would be affected. The substantial hillside cuts would be costly and would alter the appearance of the north side of the lake until vegetation is re-established. Placement of fill in Fernan Lake would be required with potentially adverse effects on fish and ESA-listed plants.

4.3.2 Alternative B: Reconstruct Segments 1 and 2 to 28-ft Width; Rehabilitate Segment 3

In order to reduce impacts, FHWA identified this alternative, which would reduce the roadway width but correct all curve deficiencies. It would require an AASHTO exception for roadway width. Under this alternative, the road would be reconstructed between MP 0.0 and MP 5.3 to a uniform 8.4 m (28-ft) paved width and rehabilitated at its current width of 7.8 m (26 ft) between MP 5.3 and MP 10.7. Reconstruction would include excavation, placement of fill material, wall construction, new base and new pavement, placement of gravel on the shoulders, culvert installation, relocation of utilities, installation of guardrails, new signs, and revegetation of disturbed areas. Sight distance would be improved. New off-road parking areas would be provided in some locations. The horizontal and vertical alignment would be designed for a speed of 60 km/h (35 mph). For the most part, there would be only minor alterations to the road's current alignment, as needed to smooth out curves and grades. Due to the narrow width and topographic constraints, a full-length bicycle or pedestrian trail would not be provided. However, paths would be provided in certain areas where the developable width permits. A typical cross section is shown in Fig. 21.

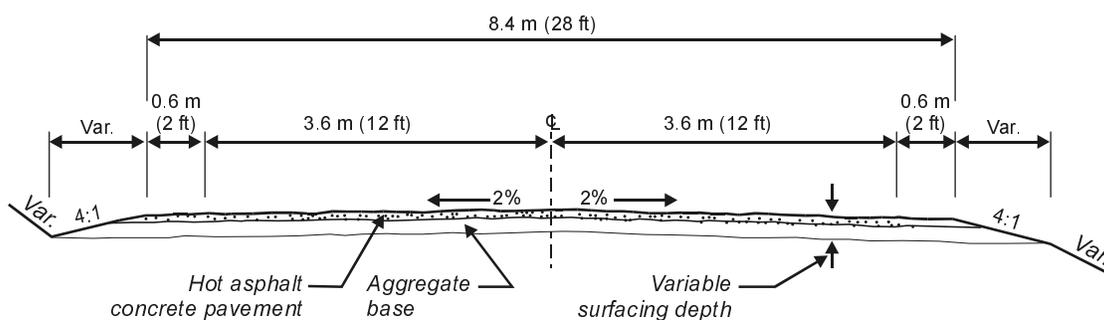


Fig. 21. Typical cross section, MP 0.0 to MP 5.3.

Segment 1 (MP 0.0 to MP 2.5) would be improved to a width of 8.4 m (28 ft) with a design speed of 60 km/h (35 mph). Cutting into hillsides in the areas of the tightest curves would improve sight distance and allow increased width and design speed. Off-road parking areas would be created in the former curve pockets. A portion of the existing fill would be removed and a short bridge (maximum 80 ft) would be constructed at MP 2.0 (where the existing road divides the wetland) to span the lake finger and wetlands and to improve drainage flow between the unnamed creek and the lake.

Segment 2 (MP 2.5 to MP 5.3) would be reconstructed to a width of 8.4 m (28 ft) with a design speed of 60 km/h (35 mph). The reconstruction would replace the sub-standard base and add drainage facilities as needed.

There are two stream crossings in this segment. The first crossing at State Creek (MP 3.5) has a 1.5-meter (m) (5-ft) diameter metal pipe. The pipe invert is corroded badly and the pipe should be replaced. The second stream crossing at Dry Gulch (MP 5.1) has a 1.2-m (4-ft) diameter metal pipe. The pipe invert at this location is also corroded badly and should be replaced.

Segment 3 (MP 5.3 to MP 10.7) would be rehabilitated, leaving its existing width of 7.8 m (26 ft) and design speed of 60 km/h (35 mph). Rehabilitation would include safety improvements such as adding a guardrail and possibly resurfacing a portion of the roadway. A typical cross section for the rehabilitation is shown in **Fig. 20**.

A third stream crossing is at Stacel Draw (MP 7.2). This crossing has two 0.9-m (3-ft) diameter metal pipes that have corroded and need replacing.

The estimated cost for reconstructing Segment 1 is \$800,000 per mile and for Segment 2, \$500,000 per mile. Estimated cost of rehabilitating Segment 3 is \$160,000 per mile.

This alternative would increase safety by improving the existing problems associated with tight curves, narrow pavement, inadequate sight distance, and deteriorating pavement conditions. Maintenance operations would be reduced. However, this alternative would also require acquisition of ROW through private property, although less than with Alternative A. Depending on the design, several residences along the lake would be affected. The substantial hillside cuts would be costly and would alter the appearance of the north side of the lake until vegetation is re-established. Placement of fill in Fernan Lake would be required with potentially adverse effects on fish and ESA-listed plants, although these impacts would be less than under Alternative A.

4.3.3 Alternative C: Reconstruct Segments 1 and 2 to 28-ft Width and Correct Curves; Rehabilitate Segment 3

This alternative is similar to Alternative B. However, in order to further reduce impacts, this alternative would reduce the roadway width to 8.4 m (28 ft) and include minimal curve correction. AASHTO exceptions would be required for the roadway width and curves.

This alternative would widen and reconstruct the existing roadway between MP 0.0 and MP 5.3 to 8.4 m (28 ft). At specific locations, narrow curves would be engineered to improve safety although curves would not be eliminated (**Figs. 22a** and **22b**). Corroded drainage facilities would be replaced and limited off-road parking

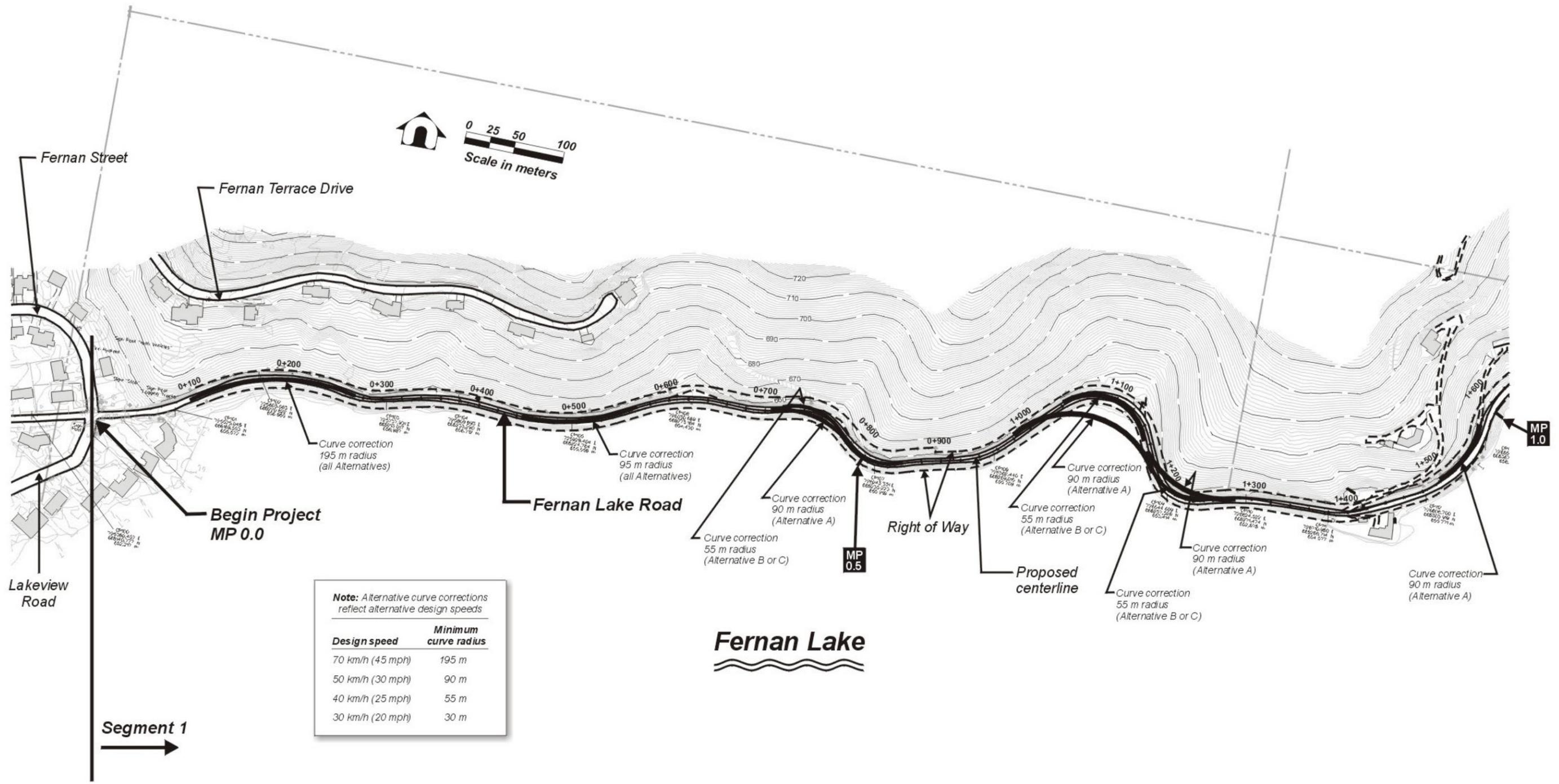


Fig. 22a. Alternative C: Road widening with curve corrections, MP 0.0 to MP 1.0.

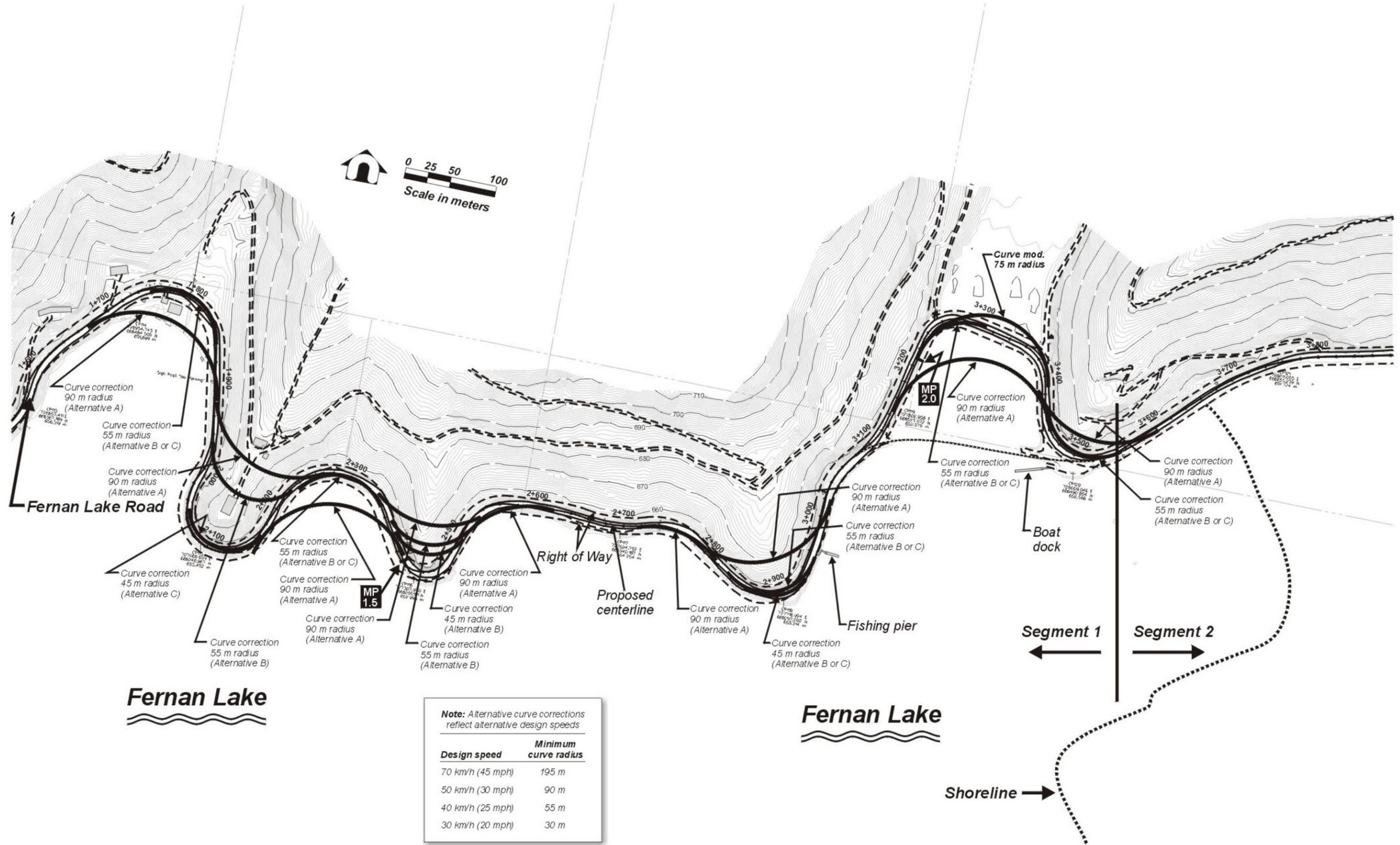


Fig. 22b. Alternative C: Road widening with curve modifications, MP 1.0 to MP 2.4.

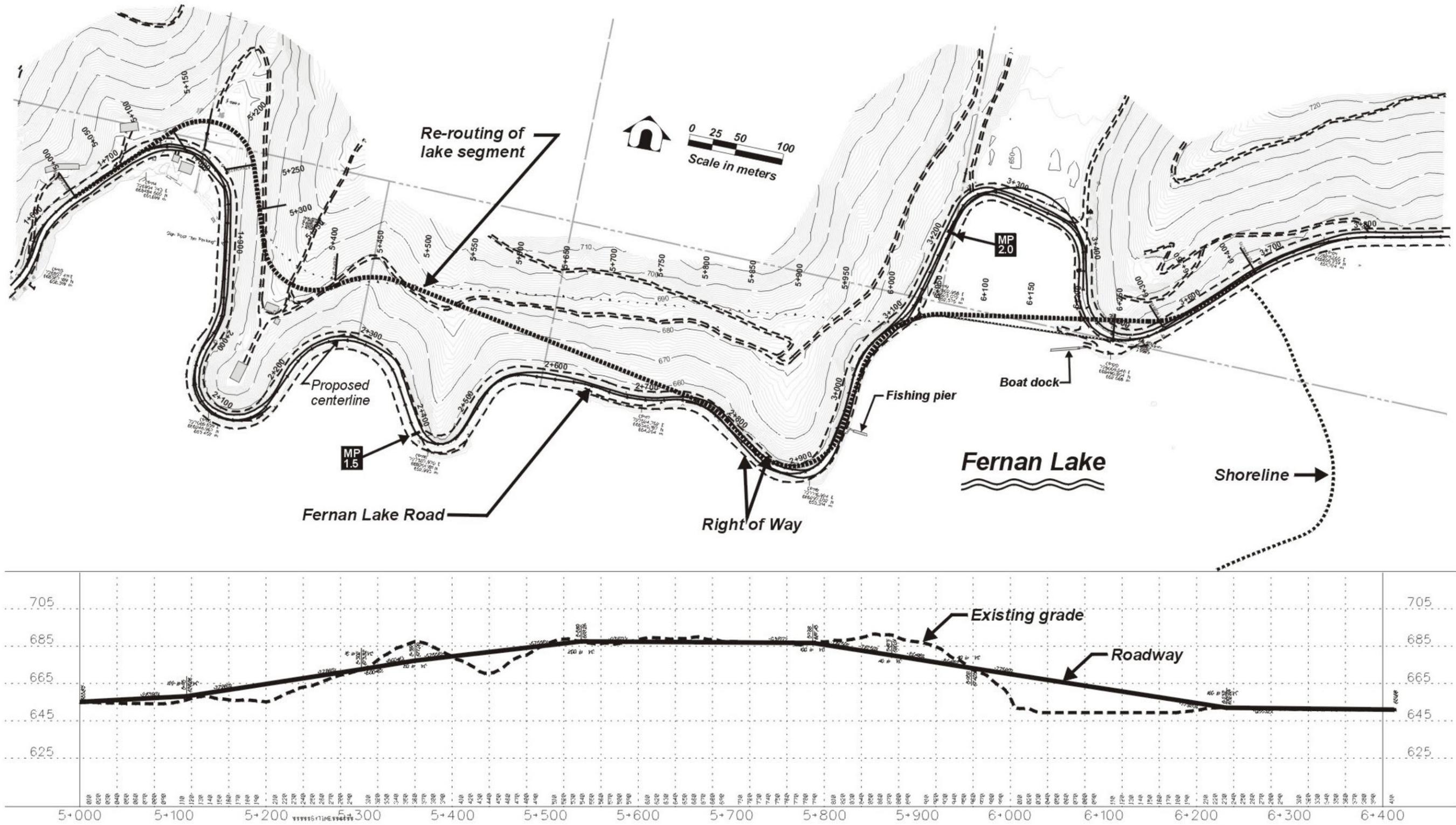


Fig. 23. Alternative D: Re-routing of lake segment, MP 1.0 to MP 2.4.

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would be provided. Between MP 5.3 and Fernan Saddle (MP 10.7), the road surface would be rehabilitated at its current width of 7.8 m (26 ft).

Alternative C would provide certain safety benefits by resolving some of the existing safety problems associated with tight curves, narrow pavement, inadequate sight distance, and deteriorating pavement conditions. Maintenance operations would be reduced. This alternative would require acquisition of some ROW through private property, though not as much as Alternatives A or B, because the correction of sub-standard horizontal and vertical alignment would be limited. The hillside cuts would be costly and would alter the appearance of the north side of the lake until vegetation is re-established. Placement of fill in Fernan Lake would be required with potentially adverse effects on fish and ESA-listed plants.

The estimated construction cost for this alternative is the same as for Alternative B.

4.3.4 Alternative D: Reconstruct Segments 1 and 2 to 28-ft Width; Realign Segment 1; Rehabilitate Segment 3

This alternative is a realignment option that could be adopted with either a 32-ft or 28-ft wide road. In keeping with the objective of minimizing environmental impacts, a 28-ft width was chosen. The road would be re-aligned between MP 1.0 and MP 1.8 and set farther back from the lake's edge to avoid three very narrow curves at approximately MP 1.2, MP 1.4, and MP 1.7. As with Alternatives B and C, a short bridge span would replace the existing failed culverts between MP 1.7 and MP 2.1. The existing fill, roadway, and culverts would be removed (Fig. 23).

From MP 2.1 to the IPNF boundary (MP 5.3), the road would be reconstructed to a uniform 8.4 m (28 ft). Reconstruction would be the same as described in Alternative B. Within the IPNF (MP 5.3 to MP 10.7), the road would be rehabilitated (as described in Alternative B) at its current width of 7.8 m (26 ft).

This alternative would improve safety in the realignment area but would require acquisition of more ROW through private property since the entire realignment route is outside the existing ROW. This alternative would avoid impacts to residences in the realignment area. Substantial grading would be needed and would alter the appearance of the north side of the lake until vegetation is re-established. Placement of fill in Fernan Lake would most likely not be required for the realigned segment, thereby reducing adverse environmental impacts.

The estimated cost of the reconstruction improvements to Segment 1 is \$1.1 million per mile and to Segment 2, \$500,000 per mile. Estimated cost of rehabilitating Segment 3 (MP 5.3 to MP 10.7) is \$160,000 per mile.

5 *Affected Environment*

5.1 *Natural Environment*

5.1.1 *Geology, Soils, and Subsurface Conditions*

The Coeur d'Alene Basin area, of which the Fernan Lake area is a part, has been shaped by a long history of natural events including fires, floods, and other geologic processes. The streams and rivers of the Coeur d'Alene Basin have developed in response to these naturally occurring disturbance patterns. They were stable and resilient for several reasons. Geologically, quartzitic Belt rocks dominate most of the basin. Hillside soils developed from these rock types are less prone to erosion and mass movement than granitic sands found elsewhere in Idaho (USFS, 1999). Gradients in the project area range from 10 to 40% on ridges and up to 60% along draws in some areas. The average land slope along Fernan Creek is approximately 6.6% (Grant, Shreiber and Associates, 1991).

5.1.2 *Cut Side Retaining Walls*

The predominant rock found in cut slopes along this road is argillite. Although the rock is fairly hard, the road crosses the bedding planes in some sections at an angle that inclines directly toward the road. In order to ensure stability in those sections, special construction techniques are required to avoid degradation of the slope and higher maintenance costs.

5.1.3 *Fill Side Walls*

The predominant material underneath the embankment along Fernan Lake is gravelly sand. The existing roadway appears to have been constructed with fills using the argillite that was excavated from the cuts into adjacent hillsides. These fills appear to be performing well, and there is no visible indication that there are soft soils beneath the fills. However, special foundation treatments may be required to protect the roadway from seasonal high water and wave action.

5.1.4 *Soils*

In Segment 1, Fernan Lake Road parallels Fernan Lake for the entire length of the lake. At the eastern end of the lake, the road encroaches upon a contiguous lentic wetland complex that continues upstream into a series of wet meadows, bogs, seeps, and other wetland communities. The soils in this area consist mainly of Pywell muck, which is a very deep, very poorly drained soil, formed from organic materials mainly from herbaceous plants (USDA, 1981). Slopes in this area are typically 0 to 2% and elevation ranges from 648 to 686 m (+2,125 to 2,250 ft) (**Fig. 24**).

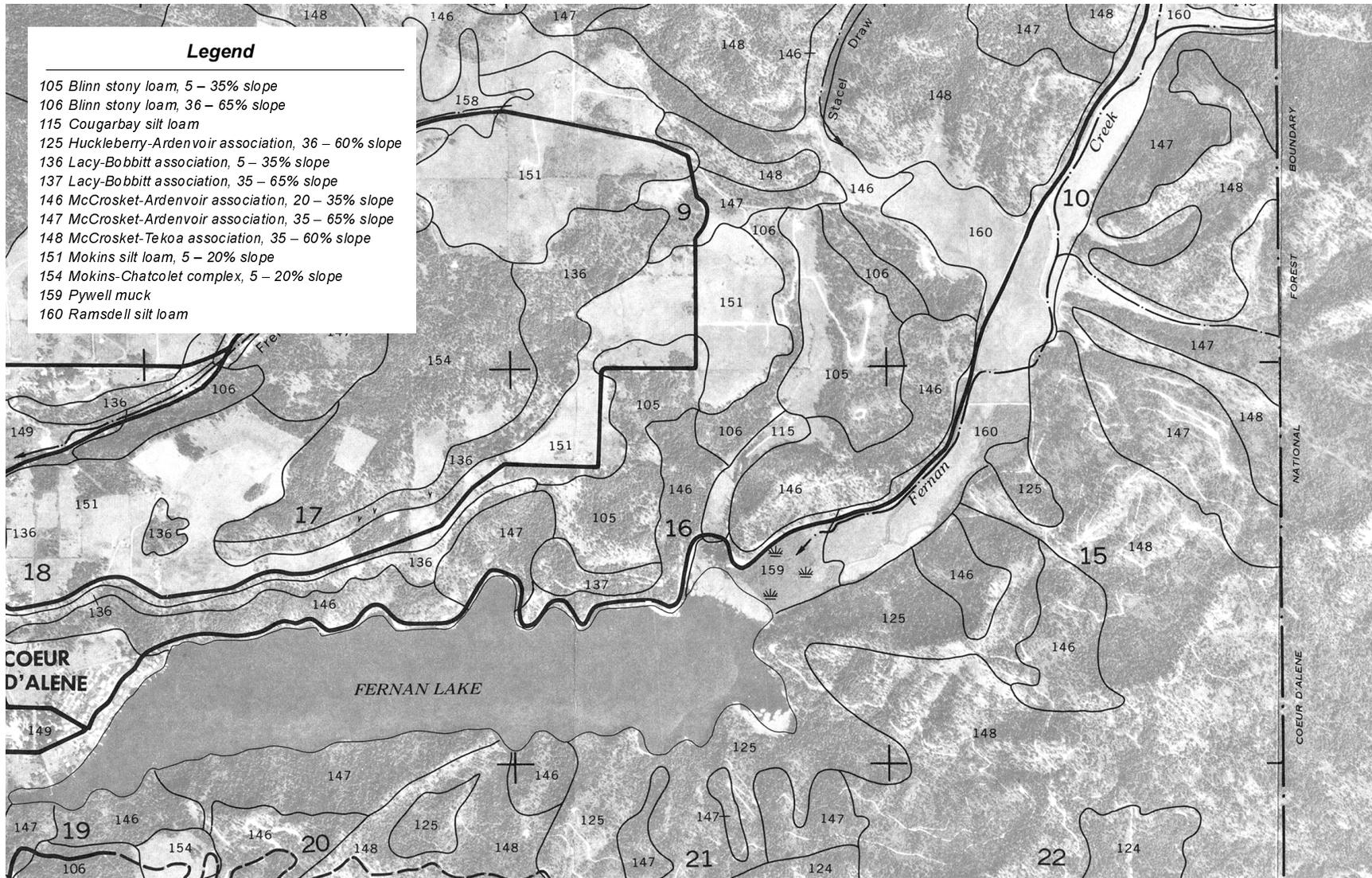


Fig. 24. Soils of Segments 1 and 2 (MP 0.0 to MP 5.3).

East of the wetland area, in Segment 2, the road begins to gradually climb north and is located adjacent to or within a few hundred feet of wetlands, Fernan Creek, or other riparian features. The soils in this area consist of Ramsdell silt loam on the eastern, creek side of the road and McCrosket-Ardenvoir association on the western side of the road. Ramsdell silt loam is a very deep, very poorly drained soil formed in alluvium deposited by rivers and streams. Slopes in this area are typically 0 to 2% and elevation ranges from 652 to 671 m (2,140 to 2,200 ft). McCrosket-Ardenvoir soils found on the western side of the road are made up of steep, well-drained soils over metasedimentary rock and loess on mountain sides. Slopes in this area are typically 20 to 35%, and elevation ranges from 671 to 1219 m (2,200 to 4,000 ft) (USDA, 1981).

In Segment 3, Fernan Lake Road continues to climb northward adjacent to Fernan Creek for 8.4 km (5.2 mi) to Fernan Saddle. This portion of the project area is primarily Ramsdell silt loam described above. The road crosses a few small areas of potential wetlands associated with intermittent and ephemeral streams.

5.1.5 Climate

The climate in this rugged, steep terrain is characterized as relatively cold and wet in the winter and relatively dry in the summer. The mean minimum January temperature in this region is -0.6° Celsius (C) (31° Fahrenheit [F]), while the mean maximum July temperature is 18° C (65° F). The average annual precipitation is 75 cm (29 in), while the average annual air temperature is 7° C (44° F). The average seasonal snowfall is 1.51 m (59.3 in), and the average frost-free period is 120 days (USDA, 1981).

Elevation is a major influence on climate. The higher elevations (between 914 and 1,372 m [3,000 and 4,500 ft]) of the study corridor are associated with relatively high frequency of “rain on snow” events. These occur when a large, relatively warm moisture-laden air mass (usually accompanied by rain) moves in over an extensive snowpack. The warm air and rain can cause rapid snow melt, which results in very high runoff and flooding. This area has the potential for frequent high water events (USDA Forest Service, 1998).

5.1.6 Vegetation

Fernan Lake Road passes through or along a wide variety of habitats as it climbs from the shores of Fernan Lake at an elevation of approximately 655 m (2,150 ft) to Fernan Saddle at 1,237 m (4,061 ft). Much of the project corridor passes through a second growth Douglas fir (*Pseudotsuga menziesii*) forest. Slopes are generally steep, often leading directly to Fernan Creek. Steep fill slopes above the creek are sparsely vegetated with scattered Douglas fir (*Pseudotsuga menziesii*), western white pine (*Pinus monticola*), western larch (*Larix occidentalis*), ponderosa pine (*Pinus ponderosa*).

rosa), grand fir (*Abies grandis*), western red cedar (*Thuja plicata*), and mountain maple (*Acer glabrum*) being the most common trees.

Four distinct plant communities occur along the project corridor:

- white alder (*Alnus incana*) / Douglas spirea (*Spiraea douglasii*) wetland
- Douglas fir forest
- mountain maple riparian forests
- herb-dominated community on rock outcrops and cliffs

5.1.7 Threatened, Endangered and FS-Sensitive Plant Species

One federally listed threatened plant species and 29 FS-sensitive plant species could occur within the project corridor (Tables 6 and 7). Suitable habitat exists along the project corridor for the threatened species and 18 of the FS-sensitive species. Sensitive plant species can be assigned to one or more rare plant guilds based on similar habitat requirements. These guilds are artificial assemblages based on similar habitat requirements. For the IPNE, the rare plant guilds include subalpine, wet forest, moist forest, dry forest, deciduous riparian, aquatic, and peatlands. (Rock seeps and springs are another habitat that can support certain sensitive plants, although these can occur across all guilds and are not identifiable at a coarse scale.) The guilds most often found in the Fernan Lake project corridor are the moist forest, wet forest, and deciduous riparian guilds.

Habitat with high potential for wet forest species could possibly exist in the wetland at the eastern end of Fernan Lake and pockets of moist forest in the intermittent drainages and microsites along Fernan Lake Road. Habitat for moist forest and deciduous riparian guilds could possibly be found farther north along the project corridor. Habitat for peatland species may also be present in the wetland area at the eastern end of Fernan Lake along the project corridor.

Table 6. Threatened plant species.

Species	Common name	Habitat guild	Presence in the analysis area
<i>Spiranthes diluvialis</i>	Ute Ladies'-tresses	Deciduous riparian	Likely

Table 7. FS-sensitive plant species.

Species	Common name	Plant guild	Presence in the analysis area
<i>Asplenium trichomanes</i>	Maidenhair spleenwort	Rock seeps in moist and wet forest	Likely
<i>Blechnum spicant</i>	Deerfern	Moist, wet forest	Likely, have been documented on all districts of the IPNF
<i>Botrychium ascendens</i>	Upswept moonwort	Wet forest	Likely, have been documented on the IPNF
<i>Botrychium crenulatum</i>	Dainty moonwort	Wet forest	Likely, have been documented on the IPNF
<i>Botrychium lanceolatum</i>	Triangle moonwort	Moist, wet forest	Likely, have been documented on the IPNF
<i>Botrychium minganense</i>	Mingan moonwort	Moist, wet forest	Likely, have been documented on the IPNF
<i>Botrychium montanum</i>	Western goblin	Wet forest	Likely, have been documented on the IPNF
<i>Botrychium paradoxum</i>	Paradox moonwort	Moist, wet forest	Likely, have been documented on the IPNF
<i>Botrychium pendunculatum</i>	Stalked moonwort	Wet forest	Likely, have been documented on the IPNF
<i>Botrychium pinnatum</i>	Northwestern moonwort	Moist, wet forest	Likely, have been documented on the IPNF
<i>Botrychium simplex</i>	Least moonwort	Moist, wet forest	Likely, have been documented on the IPNF
<i>Buxbaumia aphylla</i>	Leafless bug-on-a-stick moss	Subalpine	Unlikely
<i>Buxbaumia viridis</i>	Green bug-on-a-stick moss	Wet forest	Likely
<i>Cardamine constancei</i>	Constance's bittercress	Deciduous riparian, moist, wet forest	Likely
<i>Carex chordorrhiza</i>	String-root sedge	Peatland	Possible
<i>Carex hendersonii</i>	Henderson's sedge	Moist, wet forest	Likely, populations known in Coeur d'Alene River drainages
<i>Carex livida</i>	Pale sedge	Peatland	Possible
<i>Carex xerantica</i>	Dryland sedge	Peatland	Possible
<i>Cetraria subalpina</i>	Iceland-moss lichen	Subalpine	Unlikely
<i>Collema curtisporum</i>	Short-spored jelly lichen	Deciduous riparian	Likely
<i>Cypripedium fasciculatum</i>	Clustered lady's slipper	Dry, moist, wet forest microsites	Likely, documented in Fernan Saddle area
<i>Hookeria lucens</i>	Clear moss	Wet forest	Likely
<i>Hypericum majus</i>	Large Canadian St. John's wort	Peatland	Possible
<i>Mimulus alsinoides</i>	Chickweed monkeyflower	Rock cliffs/seeps in wet/moist/dry forests	Likely, have been documented on the IPNF
<i>Rhynchospora alba</i>	White beakrush	Peatlands	Possible
<i>Scheuchzeria palustris</i>	Pod grass	Peatlands	Possible
<i>Scirpus subterminalis</i>	Water clubrush	Peatlands	Possible
<i>Thelypteris nevadensis</i>	Sierra woodfern	Wet forest	Likely
<i>Waldsteinia idahoensis</i>	Idaho barren strawberry	Moist, wet forest	Likely

Source: US Fish and Wildlife Service, March 21, 2000

5.1.8 Wetlands

Wetlands are present along Fernan Lake Road. A large, contiguous wetland area is located at the eastern end of Fernan Lake that continues adjacent to the eastern side of Fernan Lake Road for approximately 5.2 km (3.2 mi). This wetland area consists of eight primary community types:

- (1) palustrine, emergent, persistent, and seasonally-flooded (PEM1C)
- (2) palustrine, scrub-shrub, broad-leaved deciduous, and seasonally-flooded (PSS1C)
- (3) palustrine, emergent, persistent, and semi-permanently flooded (PEM1F)
- (4) palustrine, scrub-shrub, broad-leaved deciduous, semi-permanently flooded (PSS1F)
- (5) lacustrine, littoral, aquatic bed, floating vascular, permanently flooded (L2AB4H)
- (6) palustrine, emergent, persistent, temporarily flooded (PEM1A)
- (7) palustrine, open water, permanently flooded, impounded (POWH)
- (8) palustrine, scrub-shrub, board-leaved deciduous, temporarily flooded (PSS1A)

Several other wetland areas in the surrounding area and farther north along the Fernan Lake Road project corridor are associated with perennial or ephemeral streams and draws. Wetlands are shown on **Fig. 25**.

5.1.9 Fish and Wildlife

The project area supports a variety of wildlife. Large mammals, such as deer, elk, caribou, black bear, cougar, bobcat, mountain goat and fox, can be found in the vicinity of the project corridor. Other animals characteristic to the area are beaver, muskrat, ground squirrel, rabbit, porcupine, badger, skunk, and other mammals. Idaho Fish and Game has transplanted elk, woodland caribou and mountain goats to augment low populations and increase distribution. Unlike carnivores, big-game species such as deer, elk, and moose are more abundant now than historically.

Fish species that could possibly inhabit Fernan Lake and Fernan Creek include native populations of torrent sculpin (*Cottus rhotheus*) and westslope cutthroat (*Oncorhynchus clarki*). Fish that are the product of hybridization between native cutthroat trout and exotic rainbow trout may also be present. Introduced fish species include populations of rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*) (USDA, 1999). Wild cutthroat trout and brook trout can also be found in Fernan Lake. Bull trout (*Salvelinus confluentus*) were historically documented in Fernan Lake but are not known to be present currently.

5.1.10 Threatened and Endangered Species

In March 2000, FWS indicated that the threatened and endangered fish and wildlife species identified as potentially occurring in the central zone of the IPNF and the project area were the gray wolf and bald eagle (**Table 8**).

Species data provided by state agencies indicates that there is one documented bald eagle nest site near the most southern portion of the project area, adjacent to Fernan Lake (USDA, 1999). The nest site is approximately 0.4 km (0.25 mi) south of the southern portion of Fernan Lake Road. The project area also contains potential summer roost and perching sites. Because the lake freezes in the winter, the project area does not provide suitable wintering habitat. Fernan Lake is adjacent to a fairly well-traveled road and near private homes. Lake disturbance from motor boats, fishing boats, and jet skis is quite heavy and frequent.

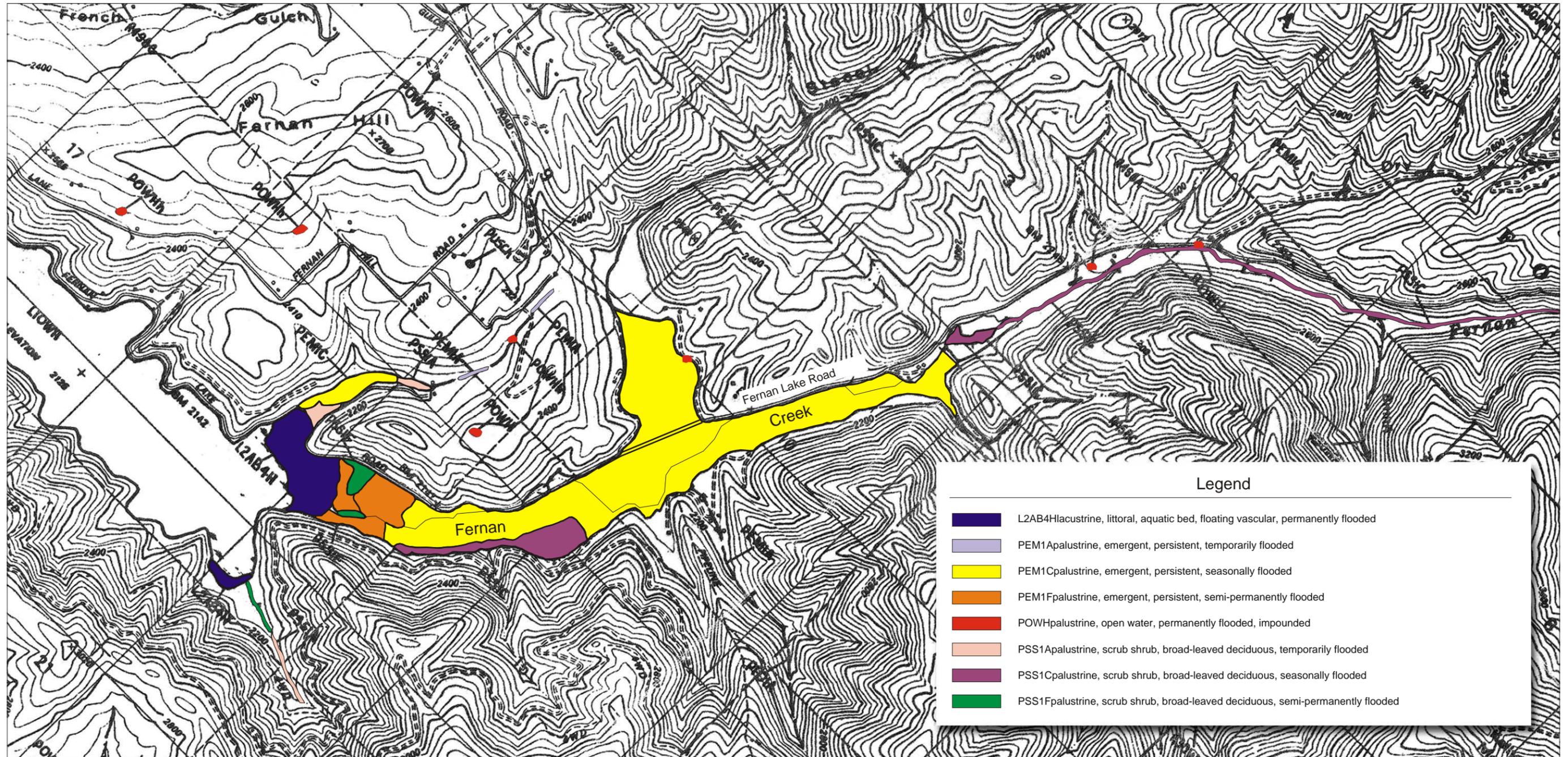
Table 8. Threatened and endangered wildlife species.

Species	Habitat requirements	Presence within project area	Rationale
<i>Bald eagle</i>	<i>Large bodies of water with ample prey (fish, waterfowl), large trees for nesting.</i>	<i>Documented</i>	<i>Nest documented on the south side of Fernan Lake, but no known nest sites. Wintering eagles unlikely.</i>
<i>Gray wolf</i>	<i>Remote areas for denning, ample prey (ungulate) population.</i>	<i>Potential</i>	<i>Suitable habitat present, but wide ranging species. Not within a recovery zone.</i>
<i>Grizzly bear</i>	<i>Remote areas with ample food supply, at often higher elevations.</i>	<i>Low potential</i>	<i>Marginally suitable habitat in analysis area. Thought to be extirpated from Coeur d'Alene River Ranger District.</i>
<i>Lynx</i>	<i>Mature/old-growth forests for denning. Early successional forest for feeding.</i>	<i>Potential</i>	<i>Wide ranging species, suitable habitat present, but rarely documented on forest.</i>
<i>Woodland caribou</i>	<i>Lichen-producing forests, typically mature/old-growth.</i>	<i>Not present</i>	<i>The analysis area occurs beyond the southern extent of their present range.</i>

Source: US Fish and Wildlife Service, March 21, 2000

5.1.11 FS-Sensitive Species

Table 9 lists FS-sensitive fish species and **Table 10** lists FS-sensitive wildlife that could occur in or near the proposed project, according to the FS and US Fish and Wildlife Service (FWS). There are 12 FS-sensitive wildlife species. The three major native fish species in the project area include torrent sculpin, westslope cutthroat trout and bull trout. Torrent sculpin were added to the Idaho Panhandle's FS-sensitive species list on March 12, 1999. Westslope cutthroat trout are listed as "sensitive" by FS Region 1 and as a "species of special concern" by the State of Idaho.



Source: USDI Fish and Wildlife Service National Wetlands Inventory, 1987

Fig. 25. National Wetlands Inventory Map for the Fernan Lake Road corridor.

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Table 9. FS-sensitive fish species.

Species	Habitat requirements	Presence within project area	Habitat presence within project area	Rationale
<i>Bull trout</i>	<i>Preferred habitat includes plenty of cover, such as undercut banks, large woody debris, boulders and pools, which are used as rearing, foraging and resting habitat, and protection from predators. Cold water temperatures are required for successful bull trout spawning. Preferred spawning habitat includes low gradient streams with loose, clean gravels.</i>	<i>Low potential</i>		<i>It is assumed that a small number of migratory bull trout stray into the mainstream Coeur d'Alene River and occasionally may use smaller stream habitat, however there have been no reports of bull trout within the Fernan Lake basin recently.</i>
<i>Torrent sculpin</i>	<i>Prefers riffle habitat in medium to wide streams and rivers. Large adults are found in pools. Torrent sculpin primarily inhabit large streams, but may be found in smaller tributaries.</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area.</i>
<i>Westslope cutthroat trout</i>	<i>Preferred habitat is cold, clear streams that contain rocky, silt-free riffles for spawning and slow, deep pools for feeding, resting and over-wintering. Pools are a particularly important habitat component as cutthroat trout occupy pool habitat more than 70% of the time.</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>

Source: US Forest Service, March 31, 1999

Table 10. FS-sensitive wildlife species.

Species	Habitat requirements	Presence within project area	Habitat presence within project area	Rationale
<i>Black-backed woodpecker</i>	<i>Conifer forests with dead/dying trees (especially burned areas)</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area in Ponderosa pine forest</i>
<i>Common loon</i>	<i>Lakes over 8 acres, below 5,000 ft elevation</i>	<i>Low potential</i>	<i>Unlikely</i>	<i>No loons have been sighted on Fernan Lake due to disturbance of the lake and alteration of the shores</i>
<i>Flammulated owl</i>	<i>Mature/old-growth Douglas fir and Ponderosa pine forests</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area in Ponderosa pine forest</i>
<i>Harlequin duck</i>	<i>Swift mountain streams away from human disturbance</i>	<i>Low potential</i>	<i>Unlikely</i>	<i>No fast-moving streams with loafing sites within project area</i>
<i>Northern goshawk</i>	<i>Nest in mature/old growth coniferous forest, but can be found in pole-sized timber stands</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>White-headed woodpecker</i>	<i>Dependent on mature pine forest habitat</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Boreal toad</i>	<i>Breed near marshes and small lakes but are away from ponds in terrestrial forest and non-forest habitats much of the year</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Coeur d'Alene salamander</i>	<i>Fractured rock, seeps, waterfall spray zones and streamside below 5,000 ft</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Northern leopard frog</i>	<i>Occupy marshes, wet meadows, riparian areas and moist, open woods. Hibernate on the bottom of ponds and sluggish streams</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Townsend's big-eared bat</i>	<i>Undisturbed caves, tunnels, and sometimes abandoned buildings for roosting and hibernating</i>	<i>Low potential</i>	<i>Unlikely</i>	<i>Project area does not contain any mines or caves</i>
<i>Fisher</i>	<i>Mature/old-growth forests, riparian linkages</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Wolverine</i>	<i>Remote areas with adequate food supply</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>

Source: US Forest Service, March 31, 1999

5.1.12 Survey and Management Indicator Species

Management Indicator Species (MIS) are species selected to estimate the effects of management activities on wildlife populations. The Forest Plan identifies MIS for the IPNF. Several categories of species including threatened and endangered (discussed earlier), commonly hunted or trapped, and species whose population changes are believed to indicate effects of management on other species or biological communities are identified as MIS under the Forest Plan. Species associated with second growth or mature forests and big game species are the primary MIS that occur in the project area (**Table 11**).

Table 11. Management Indicator Species.

Species	Habitat requirements	Presence within project area	Habitat presence within project area	Rationale
<i>Northern goshawk</i>	<i>Favor open country such as shrub-steppe habitat for wintering, but may reside in heavily forested areas throughout the year. While associated with mature to old growth habitat, they utilize other successional stages</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Pileated woodpecker</i>	<i>Generally inhabit mature, old growth, and second growth forests with significant numbers of large snags and fallen trees.</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>
<i>Pine marten</i>	<i>Inhabit primarily mid- to high-elevation, mature coniferous forests with greater than 30% canopy coverage.</i>	<i>Potential</i>	<i>Likely</i>	<i>Potentially suitable habitat present in analysis area</i>

Source: US Forest Service, March 31, 1999

Humans artificially control some populations of MIS. The Idaho Department of Fish and Game (IDFG) has transplanted elk, woodland caribou and mountain goats to augment low populations and increase distribution. Unlike carnivores, big-game species such as deer, elk and moose are more abundant now than historically, due in large part to continued creation of early succession foraging habitats through timber harvests, and IDFG's population management objectives.

MIS associated with old-growth forests include the northern goshawk (*Accipiter gentilis*), pileated woodpecker (*Dryocopus pileatus*), and pine marten (*Martes americana*). The project does not contain old growth and there is no designated old growth within five miles of the project site. The Fernan Lake Road project area contains minimal habitat for old-growth MIS due to the disturbance of the existing road. However, mature timber stands are present in the project area that may support MIS.

5.1.13 Hydrology

The Fernan Creek watershed encompasses a drainage area of about 48.59 sq km (18.76 sq mi). Fernan Creek is the primary drainage path and is approximately 11.9 km (7.4 mi) long.

Fernan Lake has 143.7 hectares (355 acres) of surface water and 10.5 km (6.5 mi) of shoreline with a maximum water depth of 7 m (23 ft). The watershed is mountainous and forested. The lake is mesotrophic to late-mesotrophic. Fernan Lake is an extremely important recreational fishing, boating and aesthetic lake in close proximity to the City of Coeur d'Alene.

According to the Idaho Lake Water Quality Assessment Study (1993), the designated beneficial uses of Fernan Lake are domestic water supply, agricultural water supply, cold water biota, salmonid spawning, primary contact recreation and secondary contact recreation. Significant populations of warm water fish and biota are found in the lake. Data from the Idaho Lake Water Quality Assessment Study indicates that in 1993, all designated beneficial uses of Fernan Lake are supported with the exception of domestic water supply. At that time, there was a high potential for further eutrophication from domestic, agricultural, and forestry management activities in the watershed. Consequently, domestic water supply as a beneficial use was considered threatened.

Stormwater runoff and riparian disturbance of Fernan Creek appear to be the major sources of nutrient and sediment input to Fernan Lake. The lake is relatively shallow (average depth, 4 m) and has a strong susceptibility toward man-made eutrophication. Nutrients and sediment entering the lake from Fernan Creek are most likely deteriorating the water quality of Fernan Lake. Protection of runoff from roads and stabilization of riparian stream habitat will continue to be critical in maintaining good water quality and fishing/recreational opportunities in Fernan Lake (Water Quality Assessment Study, IDEQ, 1993).

Much of the project corridor is included within the designated Critical Aquifer Recharge Area of Fernan Lake. This is the watershed area that drains into Fernan Lake, which, according to the Kootenai County Comprehensive Plan (1995), drains directly into the Rathdrum Aquifer. The Rathdrum Aquifer is a sole-source aquifer that provides drinking water to approximately 400,000 people in Coeur d'Alene and Spokane.

Parts of Fernan Lake Road between MP 1.9 and MP 5.3 are subject to flooding under 100-year storm events. These areas could be closed during flood conditions. **Fig. 26** shows these areas as defined by the Federal Emergency Management Agency (FEMA).



Source: Federal Emergency Management Agency, 1984

Fig. 26. 100-year flood plain (FEMA), Zones A, A-2, and B.

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5.2 Built Environment

5.2.1 Socioeconomics

Fernan Lake Road is owned and maintained by the ESHD of Kootenai County from MP 0.0 to MP 5.3. Between MP 5.3 and MP 10.7, the road is maintained by the IPNF.

Kootenai County is classified as a “recreational county,” meaning the county possesses a combination of amenities and services that attract new residents and businesses, including retirees or entrepreneurs who seek environments and lifestyles that are cleaner and less stressful than those found in typical urban centers. “Recreational” counties averaged the fastest population growth when compared to other counties in the Columbia River Basin (US Forest Service, 1998).

According to the Kootenai County Comprehensive Plan, the population in Kootenai County has increased substantially over the past few decades. As shown in **Table 12**, this growth trend is expected to continue. As a result of population growth in the project area, traffic may be anticipated to increase on area roads, including Fernan Lake Road.

Table 12. Existing and projected population of the Fernan Lake Road vicinity.

<i>Year</i>	<i>City of Fernan</i>	<i>City of Coeur d’Alene</i>	<i>Kootenai County</i>
1960	134	14,291	29,556
1970	179	16,228	35,332
1980	178	20,054	59,770
1990	170	24,563	69,795
2000*	192	27,480	84,933
2020*	202	30,966	99,469

*Projected

Source: Kootenai County Comprehensive Plan, 1995

Existing and future land uses and population growth were also evaluated during the preparation of the KCAT (1998). The number of residences on lands directly served by Fernan Lake Road is expected to increase by approximately 4 to 6% by 2003. By 2017, the number of residences on the lower elevation up to about MP 2.5 is anticipated to grow by 20%, whereas the FS lands above MP 5.3 will most likely remain at the current level of development.

The interior Columbia River Basin Ecosystem Management Plan EIS estimated that the basin supports 1.5 million jobs and that jobs are growing at a rate faster than the national average. This trend is expected to continue. Approximately 220,000 jobs in the Columbia River Basin are tied to current levels of range, recreation, and timber harvest on National Forest and Bureau of Land Management lands. Of these, approx-

imately 1% are tied to range, 87% to recreation and 12% to timber harvest (FS, 1998). According to the Interior Columbia Basin Ecosystem Management Project (FS/BLM, 1998), employment in the Fernan Lake community is highly connected to agricultural services and wood products manufacturing.

5.2.2 Historic and Cultural

The FS conducted a survey of cultural resources in the road corridor in July 1997. No cultural resources were discovered either in previous records or during a field reconnaissance of the project area. The State Historic Preservation Office agreed with the FS's findings (August 1997).

5.2.3 Visual

The aesthetics and visual quality of Fernan Lake and the surrounding forested mountains are outstanding (**Fig. 27**). Fernan Lake Road from MP 5.3 to Fernan Saddle (MP 10.7) and Fernan Lake are considered by the FS to have the highest visual sensitivity level. Sensitivity levels are a measure of how the FS should manage the forest to protect scenic quality for the user of the IPNF.



Fig. 27. Outstanding aesthetic and visual quality of Fernan Lake and the surrounding forested mountains.

5.2.4 Air and Noise

The project area currently meets all federal and state air quality standards.

The project area is rural in nature. The quiet, rural nature of the area is part of its attraction to residents and recreational visitors. Human-generated noise is generally from vehicles or recreational activities. In the FS area above MP 5.3, logging operations and the shooting range can occasionally generate noise.

5.2.5 Recreation

Recreational opportunities along Fernan Lake Road are located primarily in two areas: (1) Fernan Lake water-related activities and (2) activities in the IPNF above MP 5.3. The National Forest system land above MP 5.3 is considered by the FS to be an area of “concentrated recreation use,” which includes campgrounds, picnic grounds, and developed trailheads. Recreational uses of the forest lands include hiking, snow-shoeing, cross-country skiing, and snowmobiling. Hunting is permitted in certain locations within IPNF, and a shooting range is operated on FS land at MP 5.4.

Fishing is one of the primary recreational uses of Fernan Lake, along with boating, swimming, skiing and sunbathing. There are two boat landings on Fernan Lake. The ramp at the east end of the lake (at about MP 2.1) is leased from a private landowner by Kootenai County Parks and Waterways. The county put in the ramp and pays for maintenance. The ramp at the west end of the lake by Fernan Village is also maintained by Kootenai County Parks and Waterways, although the parking lot was constructed by IDFG.

6 Interrelationship with Other Uses and Jurisdictions

6.1 Land Ownership

Approximately 50% of the project is located within the Coeur d'Alene River Ranger District of the IPNF. The remaining 50% is in private ownership. Ownership information is given in **Appendix A**.

6.2 Planning by Others

Land-use management in the vicinity of the project corridor is the responsibility of several agencies. Agencies and their applicable land-use plans and programs are listed below and described in the following sections. During the preparation of future environmental documentation, the project will need to be reviewed for consistency with their land-management guidelines.

- Federal Agencies
 - USDA Forest Service: The IPNF Land and Resource Management Plan
- Kootenai County
 - Comprehensive Plan
 - Zoning Ordinance
 - Site Disturbance Ordinance

6.2.1 Idaho Panhandle National Forests Land and Resources Management Plan

The IPNF Land and Resource Management Plan (Forest Plan) provides forest-wide standards for road construction and reconstruction. The Forest Plan policies relevant to Fernan Lake Road mandate that the IPNF will provide and maintain public road and trail access to National Forest lands. Roads will be managed for public use consistent with management area goals and needs for protection of facilities. Road construction and reconstruction will be the minimum necessary to efficiently meet safety, user, and resource needs. Design speed selection will reflect cost efficiency, cost effectiveness, user needs, safety and environmental concerns. Generally, single-lane roads will be constructed; however Main Travel Routes can be constructed with two lanes. The IPNF will coordinate transportation planning, road management, and other permitted uses with state and local agencies and intermingled landowners (Forest Plan, 1987).

The IPNF also implements a Road Management Plan, which designates Fernan Lake Road as a Main Travel Route. As such, this road is generally open all year without restriction (Forest Plan, Appendix R). The ESHD generally plows Fernan Lake Road during the winter, at least as far as the shooting range.

The sections of the road corridor within the IPNF cross four management areas, as designated by the Forest Plan (1987). These areas are shown on **Fig. 28**.

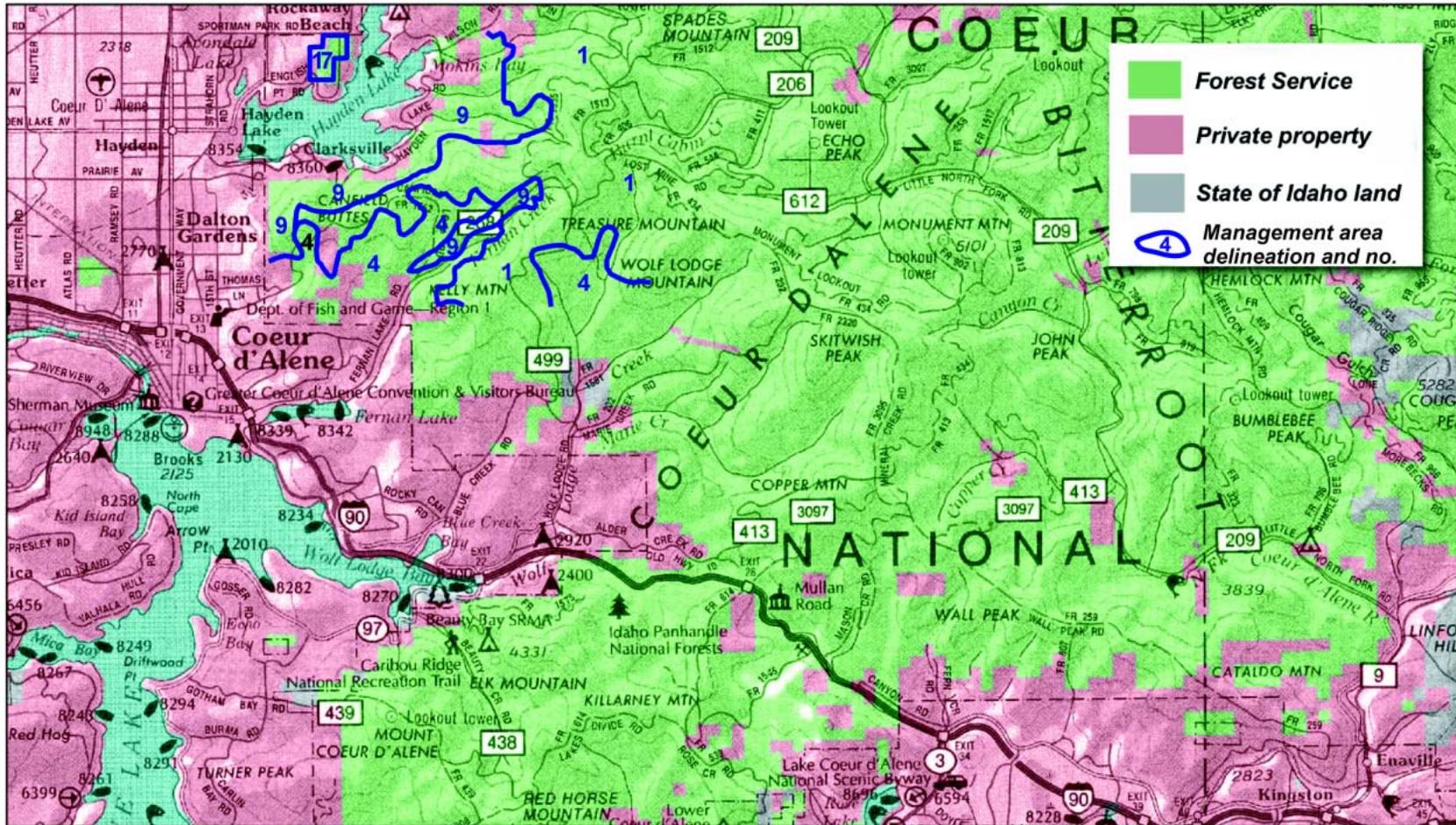


Fig. 28. Forest Service Management Areas in the project vicinity.

Management Area 1 – Lands Designated for Timber Production. These lands are managed for timber production and for long-term growth and production of commercially valuable wood products. Management goals are to provide cost-effective timber production, protect soil productivity, meet or exceed state water quality standards, provide wildlife habitat, provide opportunities for dispersed recreation, and meet visual quality objectives.

Within this management area, visual quality objectives include areas of retention (the activity is not visible to the casual observer), partial retention, modification and maximum modification (the activity may substantially affect the natural appearance of the landscape). Road use is based on needs identified in project-level planning. Road use may be restricted to enhance wildlife habitat except as needed for timber management activities. The plan also calls for the smallest size road that will meet transportation objectives and protect resources and area management goals.

Management Area 4. Management Area 4 combines timber production with big game winter range. The FS manages these lands to provide sufficient forage to support project big game habitat needs through scheduled timber harvest and permanent forage areas. Management goals include providing long-term growth and production of commercially valuable wood products, providing cost effective timber production, protecting soil productivity, meeting or exceeding state water quality standards, providing opportunities for dispersed recreation consistent with wildlife habitat needs, and meeting visual quality objectives.

Visual quality management allows a diversity of visual classes, ranging from retention (the viewer can generally not see the activity) to maximum modification. Road construction should utilize the smallest size road that meets transportation objectives, protects resources, and meets area management goals.

Management Area 9. These lands are managed to maintain and protect existing improvements and resource production potential and to meet visual quality objectives. Management Area 9 consists of areas of non-forest lands, lands not capable of producing industrial products, lands physically unsuited for timber production, and lands capable of timber production but isolated by other lands or by nonpublic ownership.

Visual quality objectives allow a range of visual classes, from retention (the viewer can generally not see the activity) to maximum modification. No local road construction is planned in this area. Construction of arterials and collectors are permitted as needed to access adjacent areas. Existing local roads are generally closed to vehicles over 40 inches wide. Arterials and collectors can be opened intermittently or full time as needed to meet other resource needs and management goals of adjacent areas.

Management Area 16. Fernan Creek is designated as a primary riparian area. These are areas with distinctive resource values and characteristics that are comprised of an aquatic ecosystem and adjacent upland areas that have direct relationships with the aquatic system. This includes floodplains, wetlands, and all areas within a horizontal distance of approximately 30.5 m (100 ft) from the normal high water line of a stream channel. This management category includes the most important fisheries streams on the IPNF. The primary riparian areas will be managed to feature riparian dependent resources (fish, water quality, maintenance of natural channels, and certain vegetation and wildlife communities) while producing other resource outputs at levels compatible with the objectives for dependent resources. Activities in primary riparian areas will meet or exceed state water quality standards, protect soil productivity, provide cost-effective timber production, provide for big game and non-game wildlife habitat, provide opportunities for dispersed recreation consistent with riparian protection requirements, and meet visual quality objectives.

New road construction is limited to cases where no reasonable environmentally sound alternative exists, as determined by an environmental assessment. Existing stream crossings should be replaced with structures allowing fish passage where continued blockage will interfere with the attainment of FS fishery goals.

Fisheries habitat should be maintained or improved to meet or exceed the FS fish population goals. Habitat improvements may include such items as rearing ponds, rearing pens, and spawning channels.

Visual quality objectives allow a range of visual classes including retention, partial retention, modification, and maximum modification. Areas that do not currently meet VQO will be brought up to standard as it is cost-effective to do so.

6.2.2 Kootenai County Comprehensive Plan

The current Kootenai County Comprehensive Plan was adopted by resolution January 11, 1995. This document is intended to “serve as a guide to the public officials and citizens who will shape the community’s physical and social form.” Lands along Fernan Lake Road are designated as Rural Residential (approximately MP 1.0 to MP 2.3) and Rural (MP 2.3 to MP 5.3). Rural areas are intended to provide a county-like setting for residences without agricultural, timber, or open-space environments. Rural areas are typically sparsely settled areas that are not close to population centers and where services and infrastructure are not expected to be provided or improved in the near future. The Rural Residential designation applies to areas outside a city’s boundaries, where the primary land use is residential. Rural Residential is distinguished from Rural by the size of the parcels and the level of police and fire protection that can be provided.

A portion of the project (approximately MP 1.0 to MP 3.0) is within the adopted area of city impact for the City of Coeur d’Alene. In addition, the westernmost part

(approximately MP 0.0 to MP 3.5) is included within a Surface Water Resource Area (surface water runoff drains into Fernan Lake).

The Comprehensive Plan is divided into elements, each addressing a specific area of future development. The elements provide policies to implement goals and objectives for future development of the county. Those that apply to the proposed project are listed in **Table 13**.

6.2.3 Kootenai County Zoning Ordinance

The Kootenai County Zoning Ordinance, adopted in November 1998, shows that Fernan Lake Road crosses two zoning districts. Along the north side of Fernan Lake, between approximately MP 1.0 and MP 3.0, land is zoned Agricultural Suburban. This zone allows residential and agricultural uses. Where lots are less than 766 sq m (8,250 sq ft), one single-family residence is permitted. Where lots are greater than 766 sq m (8,250 sq ft), general farming, one single-family residence, certain home occupations, bed and breakfast, and specific temporary uses are permitted.

Between approximately MP 3.0 and MP 5.3, Kootenai County has applied the Rural district. This allows rural residential uses and agricultural pursuits including farming and forestry on a minimum lot size of 5 acres.

Above MP 5.3, land is within the IPNF and is not subject to the zoning code of Kootenai County.

Table 13. Elements of the Kootenai County Comprehensive Plan that are relevant to the proposed project.

Element	Goal	Policy
Land and Air Characteristics	Goal 1: Maintain and improve air quality.	Policy 4: Assist transportation agencies to prioritize high-use roads for paving to help reduce particulate matter.
Water Resources	Goal 2: Maintain the existing high quality of groundwater in Kootenai County.	Policy 1: Prevention of water quality degradation should be the highest priority in assuring water quality goals.
		Policy 4: Manage each aquifer and recharge area in a manner that will achieve or exceed results obtained by using the best available management practices for that area.
	Goal 4: Preserve, protect and enhance the water quality and quantity of lakes, streams, rivers and wetlands in Kootenai County.	Policy 2: Continue to enforce erosion control and onsite stormwater treatment during and after construction.
		Policy 3: Update and revise as necessary erosion/stormwater control BMPs for the public to use which will abide by the Stormwater Management Ordinance and the Goals and Objectives of this Plan.
		Policy 5: Direct land development in such a way as to minimize the negative impacts that increased stormwater runoff can have on groundwater, surface water and public and private property.
		Policy 6: Prevent collection and conveyance of untreated stormwater into groundwater sources or into surface bodies of water.
		Policy 8: Utilize the appropriate management strategies set forth in studies and management plans prepared by lake associations, state and local agencies and the Clean Lakes Coordinating Council.
		Policy 11: Encourage the preservation, protection, and enhancement of habitat for aquatic and other water-dependent wildlife.
		Policy 12: Designate lake, river, stream and wetland riparian zones as "environmentally sensitive," and require additional safeguards for these areas.
		Policy 13: Restrict development in areas that naturally enhance surface water quality and regulate flows/levels of surface waters (e.g., wetlands).
Policy 19: Require that all development adjacent to wetlands show potential impacts to the function and value of the affected wetlands as part of the platting process.		

Table 13 continues on page 52

Table 13 (cont.). Elements of the Kootenai County Comprehensive Plan that are relevant to the proposed project

Element	Goal	Policy
Vegetation and Wildlife	Goal 5: Encourage the preservation, protection and enhancement of native vegetation.	Policy 3: Identify unique vegetation communities such as wetlands, riparian areas, native grasslands and old growth timber. Seek opportunities to preserve and protect these areas.
	Goal 6: Encourage the preservation, protection and enhancement of fish and wildlife habitats.	Policy 4: Provide effective setbacks from wetlands, lakeshores and riparian areas to protect fish and wildlife habitats.
Hazardous Areas	Goal 7: Prevent or limit development activity in hazardous areas.	Policy 1: Allow no construction in floodways and only allow development in flood plains above base flood elevation if not in conflict with other policies of this plan.
		Policy 2: Identify and restrict development on unstable slopes and have the ability to require site-specific geotechnical reports where justified before any ground-disturbing activity is allowed on site.
		Policy 3: Continue to require development to adequately control erosion and stormwater.
Land Use	Goal 9: Develop land use regulations that protect property rights, maintain quality of life, provide adequate land for development, buffer non-compatible land uses and protect the environment.	Policy 14: Discourage infrastructure development that would promote residential, industrial and commercial land use in agricultural and timbered areas.
Transportation	Goal 14: Provide for the efficient, safe and cost-effective movement of people and goods.	Policy 1: Coordinate with public highway agencies to develop a comprehensive transportation plan to address inadequacies in the existing network.
		Policy 2: Encourage alternative transportation forms such as public buses, carpooling, bicycling and light rail systems.
		Policy 3: Require the construction of roads to public road standards, where feasible, in conjunction with all new developments.
		Policy 5: Encourage the multiple uses of transportation rights-of-way.
Parks and Recreation	Goal 23: Develop quality County parks, greenbelts and recreation facilities to meet the diverse needs of a growing population.	Policy 7: Encourage bike paths into new road construction and reconstruction.
Community Design	Goal 26: Foster growth in a manner which does not compromise the visual qualities of Kootenai County.	Policy 1: Ensure that development on hillsides and along waterways is carefully managed so as to be visually unobtrusive while addressing the importance of protecting these public resources.
		Policy 4: Protect scenic and visual corridors.
	Goal 27: Preserve, protect and enhance natural landmarks and areas of scenic beauty such as waterways and unique landscapes.	Policy 3: Develop shoreline management guidelines with the participation of pertinent agencies, the general public, and waterfront property owners.

7 Environmental Legislation and Requirements

7.1 Proposal Effects

<i>Will this environmental legislation or requirement be affected by the proposal?</i>	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) &/or Section 6(f)		X	
8. Endangered Species Act		X	
9. Highway Improvements in the 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 Act			X
15. Noise Requirements		X	
16. National Forest Management Act		X	

7.2 Required Permits

<i>Will this permit be required?</i>	Yes	Maybe	No
1. US Army Corps of Engineer's (COE) Section 404 Permit, Clean Water Act of 1977 (P.L. 95-217, Section 404)	X		
2. US Coast Guard Permit, Rivers & Harbors Act and the Surface Transportation Assistance Act			X
3. Special Use Permit (USDA Forest Service)	X		
4. National Pollutant Discharge Elimination System (NPDES)	X		
5. Other: Forest Service Road Use, Mineral Use, Staging/ Camping, and Fire Permits		X	

Comment. Section 404 Permits from the COE would be required for impacts to wetlands or if other dredging or filling activities occur within waters of the US. A FS Special-Use Permit would be required for use of a materials source or to burn materials on IPNF lands. A NPDES Permit is required if more than 5 acres of land is disturbed by construction activities. In

Idaho, the NPDES Permit program is implemented by the Idaho Department of Environmental Quality (see state permits below).

Habitat suitable for threatened, endangered or sensitive (TES) species occurs along Fernan Lake Road. Surveys to determine the presence of TES species are required. Consultation with FWS may be required if TES species are found and the proposed improvements will affect them or their habitat.

7.3 Required State and County Permits

<i>Will this state or county permit be required?</i>	Yes	Maybe	No
1. <i>Stream Channel Alteration Agreement (Department of Water Resources)</i>	X		
2. <i>Surface Mining Permit (Department of Public Lands)</i>		X	
3. <i>Lake Encroachment Permit (Department of Public Lands)</i>	X		
4. <i>Other: State Scenic Waterways, NPDES, Section 401 Certification (Department of Environmental Quality)</i>	X		
5. <i>Kootenai County Site Disturbance Permit</i>		X	

Comment. The Department of Water Resources jointly administers the Section 404 permit process with the COE through the Stream Channel Alteration Agreement. A NPDES permit (Section 401 Certification) from DEQ will be required if more than 5 acres of land is disturbed by construction activity. A Surface Mining Permit may be required to access aggregate at the materials source, if a source is identified for the project. A Lake Encroachment Permit will be needed for work below the ordinary high water mark of Fernan Lake.

8 Environmental Impacts

This section contains a preliminary assessment of potential impacts of proposed improvements. For each question, the impact is shown as high, medium, low, or not applicable (N/A). If the impact is high or medium, the comments section contains a discussion of the impact, mitigation being considered, and differences that may exist among alternatives. In some cases, comments have been provided for low impacts for clarification.

8.1 Earth

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
<i>1. Unstable earth conditions or changes in geologic substructures</i>		X		
<i>2. Disruptions, displacement, compaction, or overcovering of the soil</i>	X			
<i>3. Topography or ground surface relief features</i>		X		
<i>4. The destruction, covering, or modification of any unique geologic or physical features</i>			X	
<i>5. Any increase in wind or water erosion of soils either on or off the site</i>		X		
<i>6. Changes in deposition or erosion of beach sands which may modify the bed of the ocean, bay, or inlet</i>				X
<i>7. Changes in siltation, deposition, or erosion which may modify the channel of a river or stream or the bed of a lake</i>	X			

Comment. The soils and geologic formations in the project area are erodible and there are several degrading cut slopes along the existing roadway. Road improvements should be designed to stabilize these cut slopes. Temporary erosion control measures will be addressed in construction plans and used to minimize siltation and deposition during the construction phase. Erosion control will be addressed through the NPDES permit. In the long-term, the erosion conditions along the roadway and road stability would be improved by either of the action alternatives.

In places, the hillsides on the north side of the road would be cut back and fill would be placed into Fernan Lake to eliminate sharp, blind curves and to achieve the desired road width. Soil disturbance during construction will increase the potential for erosion and sedimentation in Fernan Lake and Fernan Creek. If Alternative A is selected, the impacts would have a significantly greater magnitude than Alternative B or C.

Because of the unstable geology and soil conditions along the project corridor, rain events that may occur during grading of the hillside cuts and road embankments could temporarily exacerbate the unstable conditions, at least until road stabilization measures are completed. Limiting road construction to drier seasons and using erosion control measures to limit soil movement would mitigate this. If previously unidentified geologic hazards are uncovered during construction, further geotechnical work would be conducted to determine what slope stabilization measures would be appropriate.

Under all action alternatives, realignment of the road at MP 2.0 would affect topography and drainage flow between the lake and the unnamed creek. Either a bridge or a new culvert would be placed here to support the new roadbed segment.

All action alternatives would generate excess waste materials that would have to be hauled away from the site for proper disposal, although Alternative A would generate more waste material than Alternative B or C. A disposal site for this material has not yet been identified. Disposal of materials removed during construction will be further analyzed and discussed in the EA.

8.2 Air

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. Air emissions or deterioration of ambient air quality			X	
2. Creation of objectionable odors				X
3. Inconsistency with regional air quality requirements				X

Comment. Construction of any of the action alternatives will result in short-term emissions of dust (PM-10) and air pollutants from construction vehicles. The contractor will be required to follow procedures and use vehicles and equipment to minimize these effects.

8.3 Water

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
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. Change in the amount of surface water in any water body		X		
4. Discharge into surface waters or any alteration of surface water quality including but not limited to temperature, dissolved oxygen, or turbidity			X	
5. Alteration of the direction or rate of flow of ground waters			X	
6. Change in the quantity of ground waters either through direct additions or withdrawals or through interception of an aquifer by cuts or excavations				X
7. Deterioration in ground water quality either through direct injection or through the seepage of leachate, phosphates, detergents, waterborne virus or bacteria, or other substances into the ground waters				X
8. Alterations to the course or flow of flood waters			X	
9. Fill placement below the ordinary high water mark of rivers and streams	X			
10. Encroachment into a 100-year floodplain or regulated floodway	X			

Comment. During construction there could be an increase in the amount of soil erosion and subsequent sedimentation in downstream areas of Fernan Creek and Fernan Lake. Temporary erosion control measures would be included in construction specifications, to minimize erosion and sedimentation during construction. Erosion control would also be addressed through the NPDES permit.

Under all action alternatives, fill would be placed into Fernan Lake to create the desired road width. Fill would also be placed within the 100-year floodplain of Fernan Creek. If Alternative A were selected, fill in the lake and creek would be greater than Alternative B, C, or D. Under all action alternatives, realignment of the road at MP 2.0 would affect drainage flow between the lake and the unnamed creek. Either a bridge or a new culvert would be placed here to support the new roadbed segment. In any case, fill would be removed from the lake, creek and wetland at this location. If a bridge is not constructed, and a culvert is installed, fill would be placed in the water or wetlands as part of the construction. However, under either alternative, water flow, currently prevented by the existing road and blocked culvert, would be improved between the lake and the creek.

All action alternatives would raise the roadway above 100-year flood elevations. Potential impacts to floodplains will be addressed through the Section 404 and Stream Alteration permit process, and Executive Order (EO) 11988. Compliance with these laws and guidelines will be analyzed and discussed in the EA.

8.4 Wetlands

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
<i>1. Removal of hydrophytic vegetation</i>	X			
<i>2. Covering or replacing of any hydric soil</i>	X			
<i>3. Alteration of the hydrology</i>		X		
<i>4. A change in function or value</i>			X	

Comment. FS wetland research indicates that there are areas of wetlands within the roadway corridor. All action alternatives would affect wetlands located at about MP 2.0. Wetlands associated with Fernan Creek between MP 2.3 and 5.3 may be affected as the road is widened and reconstructed. Due to the wider paved area of Alternative A, this alternative would have a greater effect than Alternative B, C, or D. A wetland delineation for the project will be performed prior to construction. Potential impacts to wetlands will be addressed in future environmental documentation and through the Section 404 and Stream Alteration Permit process.

8.5 Flora

What kind of effect will this proposal have on:	High	Med	Low	N/A
1. <i>Diversity of species or numbers of any species of flora [including trees, shrubs, grass, crops, microflora, and aquatic plants]</i>			X	
2. <i>Unique, rare, or endangered species of flora</i>			X	
3. <i>Introduction of new species of flora into an area or a barrier to the normal replenishment of existing species</i>			X	

Comment. There is suitable habitat within the project corridor for twenty FS-sensitive plant species, which includes one federally listed threatened plant species: Ute ladies'-tresses. The majority of these species are found in the aquatic, deciduous riparian, wet forest, and moist forest habitat guilds. It is possible that these species could be adversely affected by the road improvement project if they occur in the area of disturbance and appropriate mitigation measures are not implemented. Additional surveys for these plants would be conducted as part of the Biological Assessment (BA)/Biological Evaluation (BE). Further consultation with the FWS and FS would occur during preparation of the BA/BE for plant species. Potential habitat for peatland species could also be present, however adequate survey information is not available to quantify the presence of these species within the project area. Because the highest elevation along the project corridor is at 4,061 ft, it is unlikely that habitat for plant species in the subalpine guild could be present in the project area.

8.6 Fauna

What kind of effect will this proposal have on:	High	Med	Low	N/A
1. <i>Diversity of species or numbers of any species of fauna [birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, or microfauna]</i>			X	
2. <i>Threatened or endangered species of fauna</i>		X		
3. <i>Introduction of new species of fauna into an area or result in a barrier to the migration or movement of fauna</i>			X	
4. <i>Deterioration of, or interference with, fish or wildlife critical habitat</i>			X	

Comment. Within the project corridor, there is habitat for 10 FS-sensitive wildlife species, including black-backed woodpecker, flammulated owl, Northern goshawk, white-headed woodpecker, boreal toad, Coeur d'Alene salamander, Northern leopard frog, Townsend's big-eared bat, fisher, and wolverine; and five federally listed threatened wildlife species, including bald eagle, gray wolf, lynx, grizzly bear, and woodland caribou. In addition, there could be suitable habitat for three MIS in the project corridor including northern goshawk (previously mentioned), pileated woodpecker, and pine marten. There is a bald eagle nest on the southeastern shore of Fernan Lake across from the road.

Fernan Lake basin maintains a small population of westslope cutthroat trout. Bull trout have been noted in the main Coeur d'Alene River and are known to occur within Lake Coeur d'Alene, but have not been documented in Fernan Lake. Torrent sculpin were added to the Idaho Panhandle's FS-sensitive species list March 12, 1999. This species has been found

within the mainstem Coeur d'Alene River and larger tributary streams. There may be suitable habitat in the Fernan Creek drainage.

Fernan Lake Road improvement project could have an adverse effect on sensitive, threatened, or endangered species if they occur in or near the area disturbed by the proposed project and if appropriate mitigation measures are not implemented. A BA/BE will be prepared to assess the potential project effects to federally listed, FS-sensitive and MIS. The BA/BE will have recommendations to avoid or minimize effects to TES species. These recommendations will be followed to the maximum extent possible. Mitigation measures and the effects to species and critical habitat will be determined through consultation with the FWS and FS. Measures would need to be taken during preliminary and final design phases to minimize impacts to habitats used by these species.

8.7 Noise

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. <i>Increased noise levels</i>		X		

Comment. A temporary increase in noise levels would occur with construction activities. In addition, there may be an increase in traffic noise after construction due to the removal of load restrictions.

8.8 Land Use

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. <i>Present or planned land use of an area</i>		X		
2. <i>Reduction in acreage of any agricultural products</i>			X	
3. <i>Reduction in acreage of any prime and unique farm land</i>			X	

Comment. Implementation of any action alternative would require additional ROW in the residential area between MP 0.0 and MP 5.3. The impacts would be greater for Alternative A, since it would require a wider ROW for the wider paved width and for Alternative D since it would require acquisition of new ROW for the realigned segment.

Between MP 2.3 and MP 5.3, agricultural uses may be affected, since greater ROW may be needed to accommodate the wider roadway. Future environmental documentation would identify the amount of additional ROW needed for the selected alternative.

8.9 Natural Resources

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. An increase in the use of any natural resources			X	
2. A reduction of any nonrenewable natural resources			X	

Comment. Aggregate, asphalt and fossil fuel would be used to construct the new roadway. Although Fernan Lake Road accesses timber harvest areas within the IPNE, the improvement of the road would not result in an increase in the amount of timber harvested. Harvest is strictly regulated by the FS and no new sales would result because of the road improvement.

8.10 Energy

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. Use of substantial amounts of fuel or energy			X	
2. Savings of substantial amounts of fuel or energy			X	

Comment. Fossil fuels will be irretrievably committed to the construction of the project.

8.11 Aesthetics

<i>What kind of effect will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. Scenic vista or view as seen from the road		X		
2. 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	

Comment. The project would include new cuts and fills, as well as the possible construction of retaining walls that could be visible from the road, Fernan Lake and the area south of the lake. Where feasible, cut and fill slopes would be revegetated immediately. However, given the geologic resources along the roadway, revegetation over cut slopes will not be possible in some areas (rocks) and will be slow to establish in steep slope areas. The reconstruction of the roadway along Fernan Lake is likely to significantly change the appearance of the north shore of Fernan Lake. Visual impacts would be evaluated more completely in future environmental documentation.

If a bridge were constructed at MP 2.0 to cross the wetland area, it would be visible from residences in the surrounding area, travelers on Fernan Lake Road itself, and from Fernan Lake. This could be a significant adverse effect and will also be evaluated further in future environmental documentation.

Rehabilitation of the road from MP 2.3 to MP 10.7 is not expected to have aesthetic impacts to adjacent viewers because the road is not visible due to the steep topography and winding

character of Fernan Creek drainage. Rehabilitation of the road above MP 5.3 is in conformance with the FS's management guidelines for visual quality, which permits modification of existing views.

8.12 Recreation

<i>What kind of impact will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. <i>Quality or quantity of existing recreational opportunities</i>		X		

Comment. Recreation in the IPNF (between MP 5.3 and MP 10.7) would not be directly affected by implementation of any of the action alternatives. Access to the recreational opportunities would be improved and safety hazards reduced through installation of guardrail, but no new roads would be constructed and no additional turnouts or parking areas are planned in this segment.

Because of the narrowness of the road and steepness of adjacent hillsides, road closures will be unavoidable at times during construction. Traffic delays may range from 30 minutes to several hours. This is a short-term impact that would not exist after construction is completed.

Recreational facilities between MP 0.0 and MP 2.3 are associated with Fernan Lake. Improvement to the road would benefit recreational use of the lake by providing additional safe parking areas, and possibly by improving the parking area and boat ramp at MP 2.2. All of the action alternatives would affect Fernan Lake through placement of fill in the lake along some parts of the roadway; this is not expected to significantly affect recreational use of the lake. In addition, all of the reconstruction alternatives would expand the ROW, increase areas of cut and fill and would have an adverse effect on the views from the lake until vegetation matured. This would not directly affect recreational use but could indirectly affect the quality of the recreational experience. These issues would be evaluated further in future environmental documentation for the project.

8.13 Archaeological/Historical

<i>Will this proposal result in:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. <i>An alteration of an important archaeological or historical site, structure, object, or building?</i>				X

Comment. An archaeological and historic survey conducted by the FS and approved by the Idaho State Historic Preservation Office indicated that no resources exist in the area of potential impact. If one of the realignment alternatives is carried forward, further analysis may be necessary.

8.14 Hazardous Waste

<i>What kind of impact will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. <i>Known hazardous waste site on the EPA's National Priority List (NPL) or a statewide inventory</i>				X
2. <i>Site with the potential for hazardous waste [e.g., sanitary landfills, gasoline stations, industrial sites]</i>				X
3. <i>Human health by creating a health hazard or a potentially unhealthy situation</i>				X
4. <i>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</i>				X

Comment. No hazardous materials are known to occur or are expected in the project vicinity.

8.15 Socioeconomics

<i>What kind of impact will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. <i>Location, distribution, density, or growth rate of the human population of an area</i>				X
2. <i>Racial, ethnic, religious, minority, elderly, or low income groups</i>				X
3. <i>Existing housing [including but not limited to rural or urban residences and business or commercial buildings]</i>		X		
4. <i>Creation of a demand for additional housing</i>				X
5. <i>Local employment, taxes, property values, etc.</i>			X	

Comment. The action alternatives would provide a short-term increase in construction employment opportunities. Improvements to the road may increase values of property adjacent to the project area. However, most action alternatives would involve the acquisition of ROW from residential property between MP 0.0 and MP 5.3. In some cases (where property is located between the road and Fernan Lake), it is possible that the need for ROW may result in parcels that are too small for legal lots. The impacts would be greater for Alternative A or D than for Alternative B or C and will be investigated further in future environmental documentation.

8.16 Public Services

<i>Will this proposal have an effect upon or result in a need for new or altered services in any of these areas:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
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

Comment. In the long term, improved access would reduce response times and improve the ability to provide emergency services to properties in the project vicinity. Temporary traffic delays during construction could affect the accessibility of residences along the road and could affect response time from emergency vehicles. These effects would be the same for all action alternatives.

The project would enhance access to recreational opportunities associated with Fernan Lake and with the IPNF. Increased use of recreational facilities may result in an increase in the need for fire and police protection. This will be examined in future environmental documentation.

All action alternatives are expected to reduce the level of maintenance required from the ESHD.

8.17 Transportation/Circulation

<i>What kind of impact will this proposal have on:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
1. An increase in motor vehicle movement		X		
2. An increase in the movement of bicycles, pedestrians, or equestrians		X		
3. Increased traffic hazards to cyclists, pedestrians, or equestrians				X
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		

Comment. In the long term, all action alternatives would improve road safety conditions and therefore benefit the accessibility to property and recreational opportunities in the roadway corridor. During construction, there would be temporary delays along the length of the road, which could have short-term impacts to emergency services, and create annoyance and inconvenience to residents and other users of the road.

The improved road may result in an increase in traffic volumes, as drivers who now utilize alternate routes into the IPNF may choose to use the wider, safer Fernan Lake Road. The reconstruction and rehabilitation plans for Alternatives B, C, and D do not call for bicycle lanes or off-road pedestrian paths or trails, so pedestrian and bicycle facilities would not be improved and existing safety hazards due to conflicts with vehicles and cyclists and pedestrians would remain. Alternative A would include these facilities.

The increased off-road parking areas to be provided with most action alternatives would enhance the ability to park along the road. All action alternatives would affect access to private residences along the route. Expanded ROW would shorten some driveways and may require alternate access to be constructed. These issues would be examined more closely in future environmental documentation.

8.18 Utilities

<i>What kind of impact will this proposal have on the need for new systems for or alterations to:</i>	<i>High</i>	<i>Med</i>	<i>Low</i>	<i>N/A</i>
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

Comment. Several private homes take their water supply from Fernan Lake via pipelines that pass underneath the road. These lines could be disrupted during construction, and there may be a period after construction is complete when extra filtration may be required because of increased turbidity caused by the project. Idaho Department of State Lands manages water rights and water users of the lake.

New recreational parking areas along Fernan Lake will require provision of additional public toilets — either portables or permanent facilities with a septic system. Either has the potential to affect lake water quality in the event of an accident or malfunction.

Bonneville Power Administration (BPA) and Kootenai County Public Utility District overhead power lines, and General Telephone and Electric (GTE) telephone lines pass through the project area. All action alternatives would require that within construction areas, the private and public utilities would have to be relocated. Coordination with private property owners and public utility providers will be conducted to avoid impacts. Where prudent and feasible, utilities would be buried to improve views along the road and from Fernan Lake.

Yellowstone Pipeline (petroleum products) and a natural gas line cross the road corridor at about MP 3.0. For all action alternatives, close coordination with the owners of these lines during project design would be required to avoid impacts.

Storm water drainage would be improved along the corridor through placement of properly sized culverts at stream crossings and drainages.

9 *Coordination and Consultation*

9.1 *Engineering and Environmental Studies*

A Social, Economic and Environmental (SEE) Study Team was established during the scoping phase of the project to identify and assess the environmental effects of the proposal and recommend alternatives for evaluation. The SEE Team acts as a steering committee for project development activities during the conceptual and design phases. The team is also charged with the formulation and implementation of a comprehensive public involvement process. This team is composed of representatives from the FHWA, the ESHD and the FS. Team members call on available disciplines within their agencies for technical assistance as needed.

The SEE Team members for this project are:

- **Victoria Peters, Design Operations Engineer**
Christy Darden, Project Manager
Federal Highway Administration
Western Federal Lands Highway Division
610 East Fifth Street
Vancouver, Washington 98661
(360) 696-7754

- **Kenneth Renner**
East Side Highway District (ESHD)
Kootenai County
(208) 765-4714

- **Dallas Thomson**
US Forest Service
Idaho Panhandle National Forests
Coeur d'Alene River Ranger District
2502 East Sherman Avenue
Coeur d'Alene, Idaho 83814
(208) 664-2318

- **Jim Brady**
Idaho Department of Lands
3780 Industrial Avenue South
Suite One
Coeur d'Alene, Idaho 83815
(208) 666-8603

9.2 Public and Interested Agency Involvement

A reconnaissance review held on October 18, 1995, was attended by representatives from the FS, Kootenai County, ESHD, COE, Idaho Department of Lands, and FHWA.

A coordination and field review meeting was held on July 15, 1996, at Coeur d'Alene, Idaho. Representatives from FHWA, the FS, the US COE, and ESHD attended the meeting.

A Public Notice as part of the early coordination process, was mailed on September 20, 1996 to the Spokesman-Review and Coeur d'Alene Press in Idaho.

Another Public Notice announcing the proposed project and an upcoming public meeting was mailed on July 17, 1997, for publication in the Spokesman-Review and Coeur d'Alene Press in Idaho. In addition, public notices were mailed to property owners along the route on the same date.

A public open house was held on July 31, 1997 at the Lake City High School in Coeur d'Alene. Various exhibits were posted for viewing, including aerial photos, strip maps and proposed typical sections. Approximately 44 people attended. In general, there was agreement that improvements are needed, but citizens and adjacent property owners were concerned about the effects. Specific concerns related to visual effects of increased cuts and loss of trees, potential effects of road improvements on traffic speed and lack of traffic enforcement, the possibility of increased littering and vandalism to private property, and direct impacts to private property (e.g., driveways, wells, waterlines and buildings) as a result of the proposed project.

FHWA received six letters from the public and cooperating agencies about the project (**Appendix B**). The FS and FHWA have continued to consult with neighboring property owners, residents, and agencies to address their concerns.

A reconnaissance meeting was held November 3, 1999, at the Coeur d'Alene River Ranger Station in Coeur d'Alene. Representatives from FHWA, FS, ESHD, Idaho Department of Lands, COE, IDFG, and the ITD attended this meeting.

9.3 Coordinating Agencies and Interested Parties

The following public agencies, private organizations, and individuals were provided project information through direct mailings.

9.3.1 Agencies and Organizations

- USDA Forest Service, Idaho Panhandle National Forests, Coeur d'Alene River Ranger District
- US Army Corps of Engineers
- USDI Fish and Wildlife Service
- Coeur d'Alene Tribe
- Idaho Transportation Department
- Idaho Department of Environmental Quality
- Idaho Department of Lands
- Idaho Department of Water Resources
- Idaho Department of Parks and Recreation
- Idaho Department of Fish and Game
- Kootenai County Building and Zoning Department
- Kootenai County Waterways
- East Side Highway District
- City of Fernan Lake Village
- City of Coeur d'Alene

9.3.2 Individuals

Comments and concerns were received from the individuals listed below. Copies of their comments are included in **Appendix B**.

- David J. Carpenter, E. 4445 Fernan Hill Rd., Coeur d'Alene, Idaho
- W. Porter, Jr., Fernan Lake and Valley Association, 206 Fernan Lake Road, Coeur d'Alene, Idaho 83814
- Levern Welton, 3800 W. Lone Mountain Trail, Rathdrum, Idaho 83858

10 References

- American Association of State Highway and Transportation Officials (AASHTO), 1994. A Policy on Geometric Design of Highways and Streets. Published by AASHTO, Washington, DC. Copyright, 1995.
- David Evans and Associates, 2000. Fernan Lake Road Traffic Analysis. Technical Memorandum. Prepared by Make Baker and Jennifer Danziger. January 11.
- Grant, Schreiber and Associates, 1991. Phase 2 Detailed Hydrologic and Hydraulic Analyses of the Fernan Lake Outlet. Prepared for the City of Fernan. April 16.
- Idaho, Department of Health and Welfare, Division of Environmental Quality, North Idaho Regional Office. 1993. Idaho Lake Water Quality Assessment Report. Water Quality Status Report No. 105. March.
- Idaho, Department of Environmental Quality, 1998. 1998 Idaho Water Quality Status Report. Water Quality and Remediation Division.
- Idaho, Department of Environmental Quality, 1998. 303(d) List.
- Kootenai County, 1995. Comprehensive Plan, Part One and Part Two. Adopted by Resolution No. 95-03 by the Board of County Commissioners. January 11.
- Kootenai County, 1997. A Guide to the Site Disturbance Ordinance. Planning Department.
- Kootenai County, 1998. Kootenai County Area Transportation Plan (KCAT) 1997-2017. Prepared by JUB Engineers, Inc., Coeur d'Alene, Idaho, August 25.
- Kootenai County, 1998. Zoning Ordinance, adopted August 1990, as amended through December, 1998.
- Thomson, Dallas, 2000. USDA Forest Service, Idaho Panhandle National Forests. Telephone conversation with Martha Wiley, David Evans and Associates, February 18.
- Transportation Research Board, 1997. *Highway Capacity Manual*, Special Report 209.
- USDA, 1981. Soil Survey of Kootenai County, Idaho. Soil Conservation Service. April.
- USDA Forest Service, 1987. Northern Region. Forest Plan, Idaho Panhandle National Forests.
- USDA Forest Service, 1989. Pacific Northwest Region. Land and Resource Management Plan, Siskiyou National Forest.
- USDA Forest Service, 1998. Toward an Ecosystem Approach: An Assessment of the Coeur d'Alene River Basin. Idaho Panhandle National Forests. Ecosystem Paper #4. February.
- USDA Forest Service and the USDI Bureau of Land Management, 1998. Economic and Social Conditions of Communities. Interior Columbia Basin Ecosystem Management Project. February.
- USDA Forest Service, 1997. Heritage Program. Determination of Significance and Effect for the Bunco Road and Fernan Road Reconstruction Projects.
- USDA Forest Service, 1999. Forest Service Douglas Fir Beetle Project. Final Environmental Impact Statement for the Idaho Panhandle National Forests and Colville Nation Forest. Coeur d'Alene River Ranger District.
- USDA Forest Service, 1999. Coeur d'Alene National Forest Threatened and Sensitive Plant List and Habitat. March.

Appendix A

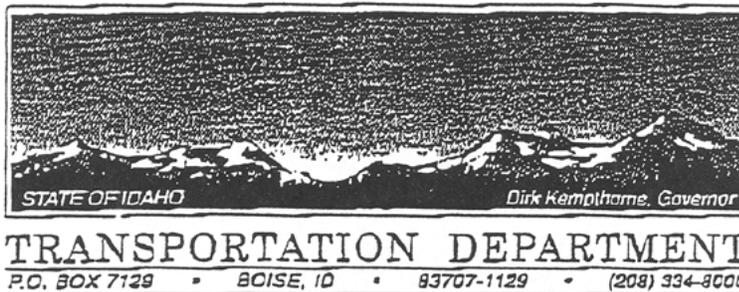
Parcel Ownership

Lot number	Name	Road frontage
Section 3, T50N, R3W		
03-7600	Flammia	3,000 ft
03-1100	Strode	1,800 ft
Section 10, T50N, R3W		
6400	Gooksletter	4,400 ft
0950	Berghom	1,400 ft
0350	Cullum	1,400 ft
2000/7600	Rahves	2,356 ft
9200	Lunceford	2,099 ft
Section 17, T50N, R3W		
C-8090	Kreeman	200 ft
C-5950		
000-003-0	Naei	400 ft
004-004-0	Flamad	800 ft
0350	Carpenter	400 ft
7550	Gray	400 ft
7450	Harger	200 ft
7400	Copenhagen	100 ft
7300	Sturts	400 ft
7260	Thomas	400 ft
7560	Miller	800 ft
Section 15, T50N, R3W		
Lot 1 (includes 3436 and 3650)	Idaho Forest Indust.	2,400 ft
3350/3250	Kroll	1,200 ft
3200	Andrews	100 ft
3100	Nichols	600 ft
2600	Webb	500 ft

Lot number	Name	Road frontage
Section 16, T50N, F3W		
5600	McKahn	1,400 ft
3800	McKahn	3,200 ft
1550	Wilkins	500 ft
1900/2000	Andrews	2,600 ft
2300	Schini	2,200 ft
Section 17, T50N, R3W		
003-012-0	Hagadon	157.29
003-013-0	Reynold	115 ft
003-014-0	Alexander	85 ft
003-015-0	Kahler	91.6 ft
003-016-0	Petry Trust	100 ft
003-017-0	Petry Trust	140.9 ft
003-018-0	Hosford	137.3 ft
003-019-0	Scanlon	102.75 ft
003-020-0	Kim	106.44 ft
003-021-0	Shephard	129.62 ft
003-022-0	Heide	229.41 ft
003-024-0	Foley	70 ft
003-023-0	Miller	207.37 ft
000-001-0	Dedecker	150.39 ft
000-002-0	Porter	171.84 ft
000-003-0	Wheeler	165 ft
001-001-0	Shaw	171.84 ft
001-002-0	Conley	171.84 ft

Appendix B

Public Involvement Materials



February 10, 1999

The Honorable Clyde A. Boatright
Idaho State Senate
Statehouse Mail
Boise, ID 83721

RE: Fernan Lake Road

Dear Senator Boatright:

Thank you for your letter on the Fernan Lake Road project. There is a great deal of interest in the Forest Highway Program and certainly more projects than available funding. The Fernan Lake Road project is currently programmed for construction in FY 2004 of the Forest Highway Program.

Idaho's Forest Highway Program is administered by the U.S. Department of Transportation through the Western Federal Lands Highway Division and the funding is used on roads designated as a forest road that are public roads in the current forest system or public roads that pass through federal lands. In Idaho, a Tri-Agency memorandum of agreement exists between the Idaho Transportation Department, the U.S. Department of Transportation, Federal Highway Administration (primarily the Western Federal Lands Division) and the United States Forest Service to administer this program and determine projects that will be added to the program. The transportation department can encourage the Tri-Agency to move forward on this project, but ultimately it does not control this program. Projects are chosen by the Tri-Agency and programmed and administered through Western Federal Lands Highway Division.

By policy, Forest Highway funds are not used to purchase right of way. In the case of the Fernan Lake Road, the Forest Service has an existing easement across private property where the road runs parallel to the lake. However, the easement is not sufficient to build an improved road. The Forest Service has no intention of charging the Eastside Highway District for any current easement, but the highway district will need to acquire the additional easement needed to build an improved road.

Normally the right of way costs on a forest highway route are minimal. In the case of Fernan Lake Road right of way acquisition could be substantial and may be greater than the resources of the Eastside Highway District. Last week the Eastside Highway District met with Region 1 Forest Service to explore how the right of way could be acquired. I would encourage the Highway District to follow through on the suggestions made at that meeting.

Senator Boatright
February 10, 1999
Page 2

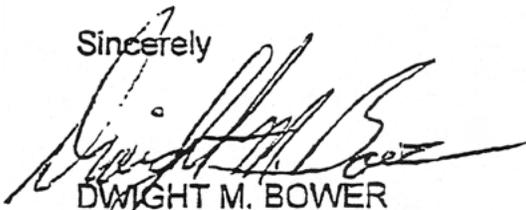
At this time the Highway District and the Forest Service are also exploring how much right of way will be required. There is the possibility that some of the easement for the road may be

able to come from the use of clean fills into the lake. This would require the Corps of Engineer approval. It is a challenge to know how to proceed with the design when the project could need as much as \$2 million in purchased right of way, or if fill is allowed, additional construction costs to cover the fill.

Given the scope and complexity of issues to be resolved on this project, its placement in FY 2004 is appropriate. The Forest Highway Program has approximately \$12 million available annually for the development and construction of projects. Feman Lake Road is one of the more costly projects in the Program and will require the close cooperation of all parties to keep it on track and within budget.

It is hoped that the information you've been provided has been able to shed some light on this project and some of the problems it must overcome if it is to be constructed. If you have further comments or questions, please do not hesitate to contact Pat Raino in the Highway Programming Section at 334-8263 or me.

Sincerely



DWIGHT M. BOWER
Director

DMB:PR:lh:c:\lib\sa\N99-043

cc: Senator Riggs
Representative Kellogg
Representative Pischner

Table 8. (Continued)

Roadway	Closest Cross Street	ADT	Peak Hour	MPH	Functional Class	LOS
East Side Highway District						
Blue Lake Road	E of Highway 97	132	17	35	Minor Collector	A
River Road	E of Highway 3	141	22	35	Collector	A
Burma Road	E of Highway 97	133	13	35	Major Collector	A
Burma Road	S of Highway 97	375	33	35	Major Collector	A
Canyon Drive	N of I-90	672	74	50	Collector	A
Fernan Lake Drive	E of Sherman Avenue	703	59	25	Major Collector	A
Medimont Road	E of Highway 3	103	13	25	Collector	A
Mullan Trail Road	N of I-90	1053	81	35	Major Collector	A
O'Gara Road	W of Highway 97	117	11	40	Minor Collector	A
Latour Creek Road	S of I-90	393	32	30	Collector	A
Sunnyside	N of Cd'A Lake Drive	427	36	35	Minor Collector	A
Worley Highway District						
2nd Street	S of Highway 95	185	20	25	Collector	A
Bitter Road	E of Highway 95	121	15	35	Major Collector	A
Conkling Road	E of Highway 95	609	49	50	Major Collector	A
Cougar Gulch Road	W of Highway 95	1306	142	45	Minor Collector	A
Elder Road	W of Highway 95	1032	83	45	Major Collector	A
Kidd Island Bay Road	E of Highway 95	1449	143	35	Major Collector	A
Rockford Bay Road	E of Highway 95	975	124	35	Major Collector	A
Sun Up Bay Road	E of Highway 95	471	60	35	Minor Collector	A
Tall Pines Road	E of Highway 95	115	13	45	Collector	A
Post Falls Highway District						
Chase Road	N of Prairie Avenue	1039	96	40	Major Collector	A
East Riverview	E of W Riverview	2741	255	35	Major Collector	A
East Riverview	W of Kelly	1517	146	25	Minor Collector	A
Greenferry Road	S of E. Riverview	451	34	25	Major Collector	A
Hauser Lake Road	N of Highway 53	1751	158	35	Minor Collector	A
Hayden Avenue	E of Highway 41	3981	300	50	Minor Collector	A
Hayden Avenue	E of Chase Road	488	54	35	Minor Collector	A
Howell Road	N of Highway 53	649	54	35	Minor Arterial	A
Huetter Road	S of Seltice Way	991	87	35	Minor Arterial	A
Huetter Road	S of Prairie Avenue	1458	61	45	Minor Arterial	A
McGuire Road	S of Highway 53	2136	184	50	Minor Collector	A
Pleasant View	S of Highway 53	849	83	35	Major Collector	A
Prairie Avenue	W of Pleasant View	1764	154	35	Major Collector	A
Prairie Avenue	W of Highway 41	2905	230	50	Minor Arterial	A
Prairie Avenue	E of Highway 41	5307	404	50	Minor Arterial	A
East Riverview	W of US 95	1585	147	25	Minor Collector	A
West Riverview	S of E Riverview	1376	128	35	Major Collector	A
West Riverview	E of Holland	926	23	35	Major Collector	A
<div style="background-color: #cccccc; width: 100px; height: 15px; display: inline-block;"></div> Indicates intersections with LOS D, E or F.						

COMMENT FORM

Idaho Forest Highway 80 - Fernan Lake Road

July 31, 1997

The Western Federal Lands Highway Division of the Federal Highway Administration, in cooperation with the USDA Forest Service, Idaho Transportation Department, and East Side Highway District, is proposing to improve Fernan Lake Road between Mileposts 0.4 and 10.7.

We appreciate your attendance at this public meeting. You are invited to comment on the project in the space provided. Comment forms may be left with agency representatives at the public meeting or mailed to Kristi Swisher at the letterhead address below.

Name: DAVID J. CARPENTER
Address: E. 4445 FERNAN HILL ROAD, CD'A IDAHO
Telephone: 1-208-664-2066

COMMENTS: THE FERNAN LAKE ROAD IS A MENACE
IN THE WINTER. ANYTHING THAT CAN BE DONE
TO IMPROVE DRIVING SAFETY ON THAT ROAD WILL
BE A BLESSING.

FRED MUELLER AND MYSELF HAVE 1 1/2" GALVANIZED
STEEL WATER LINES WHICH CROSS UNDER THE
ROAD TO TERMINATE IN SUBMERSIBLE PUMPS
IN THE LAKE.

WHenever the project progresses to the
point of involving the area including
these water lines (2 each) I would be
happy to come down and locate these
lines for you.

Federal Highway Administration
Western Federal Lands Highway Division
610 East Fifth Street
Vancouver, WA 98661-3893

FERNAN LAKE AND VALLEY ASSOCIATION

P.O. Box 1323
Coeur d'Alene, ID
83816

Response letter &
PIR sent 2/26/98
labeled as "h: Fernan
letter 2.pub"

Regarding the Fernan Lake Road Project, Kootenai County, Idaho:

The majority of property owners adjacent to the Fernan Lake Road share the concerns over the condition of Fernan Lake Road. We agree the road needs significant repairs and upgrading. Improved safety, public access and planning for future development need consideration in the planning of these improvements. In addition, we feel any plan should give strong consideration for the environmental impact, respect for property and homes adjacent to the road and adequate ongoing monitoring and upkeep of the road. We have received minimal information regarding specifics for this project that has been in development for at least the last 4 years. We attended an open meeting where the road survey was exhibited the end of July and have reviewed one copy of a federal publication reviewing and costing out several plans for the Fernan Lake Road Project published in February 1996. We have asked for more copies of this publication but have yet to receive them. It appears much work has already been done.

We feel the following general consideration should be integrated into any further planning:

1. The speed limit should not, under any circumstances, be increased above 25 mph. By far the majority of accidents that have occurred on this road were primarily related to speeding and/or intoxication. Doing anything to increase the perception that this road can be driven faster will do nothing but increase the number of accidents. The need for enforcement of this speed limit is paramount. This enforcement should begin immediately to minimize any further accidents.

2. Appropriate signs directing people where to park, where they can and cannot camp or make fires, in addition adequate refuse containers and restroom facilities need to be provided and their use enforced. This would enhance the safety of the road and make Fernan Lake Road more user friendly to those people who enjoy recreating in the area. Most importantly, it will go a long way to improve the environmental condition of Fernan Lake and Creek. The poor track record of whoever is supposed to care for the area, give us concern about creating more public facilities. Again this is something that could and should be pursued immediately to enhance the use and safety of Fernan Lake Road.

3. Improved roadside safety features, where appropriate, including guard rails, warning signs indicating safe speed limits, impending turns, pullouts, lake side parking, driveways, etc. should be installed along the road. Much of this could be done prior to any definitive construction and again, immediately have an impact on safety in the area.



EXECUTIVE COMMITTEE

Mark Andrews
664-5702

Jim McKahan
664-2452

Bill Miller
667-0738

Bob Schini
664-5437

Keith Sturts
664-5318

4. Obviously, the road needs to be resurfaced and appropriate drainage developed. Sections of Fernan Lake Road need to be improved to facilitate the increased use of the road. We adamantly do not agree the road needs to be 30 or 32 feet wide in order to achieve the goals of improved safety and access. If the speed limit is enforced, roadside safety features and warning signs are implemented, Fernan Lake Road will be able to handle the variety of activities and uses required with minimal widening of the road the first 5 miles of the road along the lake. This also would avoid the significant cost and the negative environmental impact to the hillsides or the lake adjacent to the road associated with the proposed widening of the road.

5. It is imperative any construction of the road or development of roadside parking affecting private property be negotiated with the individual landowner. Some of the property and homes along Fernan Lake Road can be severely impacted by road construction, these properties and concerns of the owners need to be respected.

6. We feel it is very short sighted to look at Fernan Lake Road as the "main" access to the National Forest. The lake, steep mountain sides and private property along Fernan Lake Road make high volume use less appropriate and feasible. Other options for "main" access to the forest need to be considered at this time. These should include Blue Creek area from I-90, which was considered an option prior to some unknown political pressure. French Gulch Road, Nettleton Gulch Road and Hayden Lake area could provide access using mainly National Forest land. Clearly, it would best if there were multiple improved accesses to the National Forest for the public, including the logging industry and snowmobilers. This would minimize the impact on any one area.

Much of what we have discussed could be implemented very quickly and immediately improve the safety and access along Fernan Lake Road. We strongly encourage the powers to be to decide who is in charge of monitoring and enforcing the laws along this abused road and begin to improve the situation along Fernan Lake Road now. Any future improvements will need to be maintained and enforced. Someone clearly needs to take charge of these duties or clearly state what is National Forest, Kootenai County, Eastside Highway District, Fish and Game or Federal Highways responsibility.

We hope our collective thoughts will be considered and more input from us will be pursued.

Additional Comments:

Sincerely,

Name:

Address:

Telephone:

W. J. Porter Jr
306 Fernan Lake Rd
765-4527

W. Porter, JR.
206 Fernan Lake Road
Coeur d'Alene, ID 83814



IDAHO FISH & GAME

PANHANDLE REGION
2750 Kathleen Avenue
Coeur d'Alene, Idaho 83814

Philip E. Batt / Governor
Stephen P. Mealey / Director

August 4, 1997


Mr. Walter Langlitz
Federal Highway Administration
Western Federal Lands Highway Division
610 East Fifth Street
Vancouver, WA 98661-3893

RE: Comments on Fernan Lake Highway Project

Dear Walt:

I appreciate the opportunity to review the material presented at the open house and discuss project design considerations with you and Joel Petersen. I will be the Idaho Department of Fish and Game contact and "C Team" member. I have listed some ideas for you to consider when developing alternatives. There may be additional things that become apparent once specific designs are proposed.

1. Establish good shoreline profile, bottom contour and substrate composition information in any areas where encroachment into the lake may occur. We would like the project to avoid fill slope failures and replace or enhance fish habitat along the shoreline that is impacted.
2. I would prefer to see more natural substrates like large angular rock used to face lake fills, rather than smooth concrete retaining walls. Fills faced with clean angular rock provide spawning substrate for certain warmwater fish species and good habitat for invertebrate production, as well as erosion control and wave dissipation. Concrete retaining walls provide no fish or invertebrate habitat and tend to reflect wave action.
3. Create safe parking areas for anglers. I like the idea of utilizing the points as access areas for shoreline anglers. I would also like to see other parking areas dispersed along the shoreline, even if they are only suitable for as few as two vehicles. Parking areas behind guard rails may help to delineate those areas open to parking and safely separate anglers from traffic. Placement of fishing docks or piers off the points, with a safe trail to the waters edge, would also help focus anglers into safe parking areas. I would like to see up to 50 parking spots dispersed along the shoreline in groups of two to 10 per site. Making room for a portable toilet at the larger sites would help with sanitary problems.
4. Consider building the road across the shallow bay in the far eastern end of the lake. If done properly, this could be of major benefit to both fish and wildlife as well as anglers. Removing the existing fill across this bay would reconnect the marsh and reduce stagnation. Selective, site specific dredging could also reduce stagnation and create open water areas for anglers to fish. This area currently gets extremely heavy use by anglers, especially during the spring before weed growth is excessive. Dead end access

roads with turn arounds on each side of the bay would enhance shoreline angler access and separate anglers from traffic. It would be beneficial to place most of the road on pilings to ensure adequate water circulation in the bay. One span 10 feet wide by six feet tall somewhere under the bridge (during ordinary high water) would provide boat access for the vast majority of fishing boats that use Fernan Lake.

5. Retain as many trees along the shoreline as possible for visual beauty, osprey nesting and eagle roost trees during their winter migration (we are not aware of any nesting eagles in the project area). If a osprey nest tree has to be removed, replace it by creating a new snag or placing a pole with a nest box in the marshy area on the east end of the lake. Utilize other trees from right of way clearing to create fish habitat structures. Whole trees with root wads attached should be cabled to the shoreline to maximize longevity and use by fish.
6. The marshy area in the eastern end of the lake on the south side of the road is the primary area for waterfowl and shorebird production. Avoid any disturbance to this area. Grouse and wild turkeys are also found throughout the project area, but we do not anticipate habitat related impacts from construction activities.
7. There are deer, elk, bear and many species of non game wildlife throughout the project area. Existing development along the lake and continued subdividing of rural properties has already forced animals to other less populated areas. As traffic increases, we anticipate increased road kill losses with or without road improvements.
8. Enhancement of the Fernan Creek channel above the lake would be desirable. Channelized sections could be meandered and riparian vegetation reestablished. Channel disturbing activities on private land upstream have destabilized both the channel bed and banks, resulting in both intermittent stream sections and highly erosive gravels. This condition needs to be considered if stream channel mitigation is proposed.
9. Avoid major construction and ground disturbing activities during the winter rain-on-snow period that generally runs from November through March. Erosion control measures are generally ineffective when these high intensity storms hit with little notice.

If you have any questions about these comments, please don't hesitate to call.

Sincerely,

Ned Horner
Regional Fisheries Manager

njh:
c: Hayden, Corsi, Tourtlotte

Fisheries Overview of Possible Conflicts/Issues --Fernan Road Project

-Completed by Brett Roper, Ph.D.

7/15/97



Introduction

Fernan Lake is located near the city of Coeur d'Alene, ID. The lake provides a variety of recreational opportunities for people within Northern Idaho and Eastern Washington. These opportunities include but are not limited to fishing, boating, swimming, and aesthetics (lake side home owners). This lake provides recreational opportunities throughout the year.

In discussion with the Idaho Fish and Game it is evident that Fernan Lake provides as many fishing opportunities for people living or visiting Northern Idaho as any other lake in the area (based on fishing effort per acre) . The lake provides both bank and boat fisherman opportunities to catch for trout, bass, crappie, bluegill, Northern pike, yellow perch, and other species.

Historically this lake and it's major tributary likely provided habitat for both bull trout (proposed for listing and threatened under the Endangered Species Act) and westslope cutthroat trout (United States Forest Service sensitive species). Currently this basin maintains a small population of westslope cutthroat. There have been no recent reports of bull trout within the basin.

Access around this lake is constrained and limited due to the few number of turn-outs on the narrow road on the north side of this lake. During the summer season there are few places for anglers to park, especially on weekends. The single developed boat access can be full during most summer weekends. The second boat launch at the east side of the lake is also full during the

summer with most of the parking occurring on the current road shoulder. Also, the current alignment of the road results in some probability that vehicle accidents will result in a hazardous material spill entering the waterway.

Possible Effects of Proposed Road Realignment and Widening

Depending on the alternative chosen, road work could increase or decrease access to the lake by fisherman. Any chosen alternative should seriously consider increasing fishing access. In contrast to the desires of the recreating public, the west side of the lake has undergone considerable urban development. It is likely that owners of these houses would not favor increased traffic through there neighborhood.

Also, road construction could alter fish habitat within the lake. The use of large rocks to armor the roadside could increase habitat complexity and there by increase the number of some species (smallmouth bass for example). The numbers of other species may decline. Because widening the road bed would likely reduce the amount of standing large wood proximate to the lake, future habitat complexity due to large tree introduction would be reduced. During construction fine sediment could be introduced into the lake and stream.

In cases where the road bed is moved out of the riparian zone and away from streams, salmonid habitat would likely benefit. Any construction that constricts the stream flow should be avoided.

Recommendations and/or mitigation (concerns that need to be addressed)

- 1) Increase fishing access to lake.
- 2) Move, where possible, the road out of the active riparian area.
- 3) Introduce large woody debris into the lake to mitigate the removal of this material from the

lake banks.

- 4) Rehabilitate the stream channel if opportunities exist.
- 5) Minimize introduction of fine sediment into the lake or stream channel.
- 6) Place guard rails to limit the possibilities of vehicle accidents ending up in the lake.
- 7) Complete a Biological Evaluation assessing the effects of the activity on bull trout and westslope cutthroat trout.

EAST SIDE HIGHWAY DISTRICT

5449 E. Mullan Trail Road • Coeur d'Alene, Idaho 83814
Phone (208) 765-4714 • Fax (208) 667-6752
eshidist@ior.com

February 23, 2000

Ms. Victoria Peters
Western Federal Lands Highway Division
610 East Fifth Street
Vancouver, WA 98661-3893

Dear Ms. Peters:

RE: FERNAN LAKE ROAD PROJECT

As per our conversation at the Tri-Agency meeting regarding the bike trail along Fernan Lake Road; I am only in favor of the small access trails that we talked about on our walk through from the parking area to the lake.

To put a bike trail along the Fernan Lake Road you would have to destroy a large amount of trees on the lake side of the road or go further into the hillside. I do not think that either option would be acceptable to the people that live in the area.

Also, to design a trail in this project now would only slow the process down and I do not think that any of us want to see that.

Sincerely,


Kenneth Renner
District Supervisor

rm

RECEIVED
MAY 08 2000
DEN



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Snake River Basin Office, Columbia River Basin Ecoregion
1387 South Vinnell Way, Room 368
Boise, Idaho 83709

RECEIVED

MAR 27 2000 MAR 21 2000

DEA-SFK

Sue Caniff
Biologist
David Evans and Associates, Inc.
West 110 Cataldo
Spokane, Washington 99201

Subject: Proposed Road Widening and Realignment of Fernan Lake Road, East of the City of Coeur d'Alene, Kootenai County, Idaho Species List
SP #1-4-00-SP-369 File #912.0200

Dear Ms. Caniff:

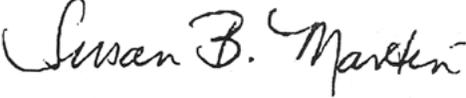
The U. S. Fish and Wildlife Service (Service) is providing you with a list of endangered, threatened, proposed, and/or candidate species which may be present in the area of the proposed road widening and realignment of Fernan Lake Road, east of the city of Coeur d'Alene, Kootenai County, Idaho. You requested this list in a letter dated February 11, 2000, received by this office on February 14, 2000. The list fulfills requirements for a species list under Section 7(c) of the Endangered Species Act of 1973 (Act), as amended. If the project decision has not been made within 180 days of this letter, regulations require that you request an updated list. Please refer to the number shown on the list (Enclosure) in all correspondence and reports.

Section 7 of the Act requires Federal agencies to assure that their actions are not likely to jeopardize the continued existence of endangered or threatened species. Federal funding, permitting, or land use management decisions are considered to be Federal actions subject to Section 7. If the proposed action may affect a listed species, consultation with the Service is required. Formal consultation must be initiated for any project that is likely to adversely affect a threatened or endangered species. If a project involves a major construction activity and may affect listed species, Federal agencies are required to prepare a Biological Assessment. If a proposed species is likely to be jeopardized by a Federal action, regulations require a conference between the Federal agency and the Service. A Federal agency may designate, in writing, you or another non-Federal entity to represent them in consultation.

Post-It® Fax Note	7671	Date	3-27	# of pages	4
To	Laura Hudson	From	MBW		
Co./Dept.	PDX	Co.	SFK		
Phone #	re: DJAX0008	Phone #			
Fax #		Fax #			

If you need any further information, please contact Kaz Thea of this office at (208) 378-5256.
Thank you for your continued interest in endangered species conservation.

Sincerely,


Acting Supervisor, Snake River Basin Office

Enclosure

cc: ITD, HQ, Boise (Clark)
FHWA, Boise (Gray)

ENCLOSURE

LISTED AND PROPOSED ENDANGERED AND THREATENED
SPECIES, AND CANDIDATE SPECIES THAT MAY OCCUR
WITHIN THE AREA OF THE PROPOSED ROAD WIDENING AND REALIGNMENT OF
FERNAN LAKE ROAD, EAST OF THE CITY OF COEUR D'ALENE, KOOTENAI
COUNTY, IDAHO PROJECT
SP #1-4-00-SP-369

LISTED SPECIES

COMMENTS

Gray wolf (LE)
(*Canis lupus*)

Bald eagle (LT)
(*Haliaeetus leucocephalus*)

Wintering area

Ute ladies' - tresses (LT)
(*Spiranthes diluvialis*)

PROPOSED SPECIES

None

CANDIDATE SPECIES

None

The Fish and Wildlife Service is interested in the following plants and/or animals, and we are providing this list for your information. We are concerned about their population status and threats to their long-term viability. These species have no legal status under the Endangered Species Act, therefore you are not obliged to account for them. However, in context with ecosystem-level management, we suggest that you consider these species and their habitats in project planning and review.

Fish

Westslope cutthroat trout
(*Oncorhynchus clarki lewisi*)

March 2000

GENERAL COMMENTS

- LE - Listed endangered
- LT - Listed threatened
- XN - Experimental/non-essential population
- PT - Proposed threatened
- C - Candidate

GRAY WOLF (*Canis lupus*) -- The gray wolf is listed as endangered in the coterminous United States, except where it is listed (1) as threatened (Minnesota) or (2) as a nonessential experimental population including Wyoming, and portions of Idaho and Montana. Within the central Idaho area, the nonessential experimental population areas are those portions of Idaho that are south of Interstate Highway 90 and west of Interstate Highway 15, and those portions of Montana south of Interstate Highway 90, Highway 93 and 12 from Missoula, Montana west of Interstate Highway 15. Portions of the Yellowstone Management Area (YMA) in Idaho and Montana are designated as the nonessential experimental population area. The boundaries of the YMA include that portion of Idaho that is east of Interstate Highway 15; that portion of Montana that is east of Interstate Highway 15 and south of the Missouri River from Great Falls, Montana, to the eastern Montana border; and all of Wyoming.

Federal action agencies are required to confer with the Service if their actions are likely to jeopardize the continued existence of gray wolves; or you have the option of conferring with the Service regardless of the determination.

UTE LADIES'-TRESSES (*Spiranthes diluvialis*) has the potential to occur in wetland and riparian areas including springs, wet meadows, and river meanders. The plant is known to occur at sites ranging from 1,500 to 7,000 feet in elevation. This species generally flowers from mid-July through September, and can be identified definitively only at that time. The orchid can remain dormant for several years; therefore, we suggest surveys for the orchid be scheduled for sequential years. The species may be adversely affected by modification of riparian and wetland habitats associated with livestock grazing, vegetation removal, excavation, construction for residential or commercial purposes, stream channelization, hydroelectric development and operation, and actions that alter hydrology.

**CONCERNS OF CITIZENS FROM FERNAN LAKE ROAD
JANUARY 8, 1998**

DRIVE WAYS

SPEED

DESIGNATED PARKING AREA SHOULD BE PAVED AND MARKED

DEVASTATION OF HILL SIDE

ENVIRONMENTAL ISSUES

WIDTH OF ROAD

LOOK FOR ALTERNATE ROUTE

March, 8, 1999

Western Federal Lands Highway Division
610 East 5th Street
Vancouver, WA. 98661

To Whom It May Concern:

It is my understanding that the Federal Highway Administration is working with the State of Idaho and the United States Forest Service on plans to improve the road from Fernan to Fernan Saddle known as Primary Forest Route 268.

This road is a major access to the forest from Coeur d'Alene. It is heavily traveled all year long. I am a snowmobiler and use it in the winter months the most. This road is very narrow and has lots of curves on the lower portion as it winds around Fernan Lake. The upper portion is wider but lacks for parking of vehicles with trailers. Due to the lack of parking people park on the roadway. This results in traffic problems for everybody and becomes a serious problem when an ambulance or search and rescue personnel are needed.

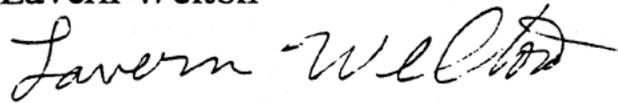
This road should be designed wider along the first one-half mile at a minimum and have pull offs so two lanes of traffic can be maintained below the parking lot. The Sheriffs Department, Forest Service, Coeur d'Alene Snowmobile Club, and the Kootenai County Groomer Board have discussed this. I am a member of the Coeur d'Alene Snowmobile Club and I am sure any of these people would be happy to work with you on plans for this project.

I know the costs of a project of this size are tremendous and I would suggest doing this in several phases if necessary. This would hopefully help to make the project more complete and not have to cut corners on the pullouts and parking areas.

Please advise me if you are going to have any public meetings on this proposal and where they will be held.

Thank You,

Lavern Welton

A handwritten signature in cursive script that reads "Lavern Welton". The signature is written in black ink and is positioned below the printed name.

3800 W. Lone Mountain Trail
Rathdrum, Idaho 83858



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Snake River Basin Office, Columbia River Basin Ecoregion
1387 South Vinnell Way, Room 368
Boise, Idaho 83702

RECEIVED

MAR 27 2000 MAR 21 2000

DEA-SPK

Sue Caniff
Biologist
David Evans and Associates, Inc.
West 110 Cataldo
Spokane, Washington 99201

Subject: Proposed Road Widening and Realignment of Fernan Lake Road, East of the City of Coeur d'Alene, Kootenai County, Idaho Species List
SP #1-4-00-SP-369 File #912.0200

Dear Ms. Caniff:

The U. S. Fish and Wildlife Service (Service) is providing you with a list of endangered, threatened, proposed, and/or candidate species which may be present in the area of the proposed road widening and realignment of Fernan Lake Road, east of the city of Coeur d'Alene, Kootenai County, Idaho. You requested this list in a letter dated February 11, 2000, received by this office on February 14, 2000. The list fulfills requirements for a species list under Section 7(c) of the Endangered Species Act of 1973 (Act), as amended. If the project decision has not been made within 180 days of this letter, regulations require that you request an updated list. Please refer to the number shown on the list (Enclosure) in all correspondence and reports.

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