United States Department of the Interior

BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT OFFICE
3040 Biddle Road
Medford, Oregon 97504
email address: or110mb@or.blm.gov

IN REPLY REFER TO: 1792(116)
Spencer Gulch Road Relocation EA
A6998(WHY:jl)

JAN 23 2003

Dear Interested Public:

The *Environmental Assessment* (EA) for the Spencer Gulch Road Relocation Project is being advertised in the Medford Mail Tribune for a 30-day public review period. This proposal relocates a portion of the Spencer Gulch Road (Rd. #39-3-3.0) out of the Spencer Gulch Riparian Reserve. The old road in Spencer Gulch would be decommissioned.

The primary purpose of a public review is to provide the public with an opportunity to comment on the Bureau of Land Management's determination that there are no significant impacts associated with the proposed action and, therefore, an environmental impact statement is not necessary.

This EA is published on the Medford District web site, www.or.blm.gov/Medford/, under "Planning Documents."

We welcome your comments on the content of the EA. We are particularly interested in comments that address one or more of the following: (1) new information that would affect the analysis, (2) information or evidence of flawed or incomplete analysis; and (3) alternatives to the Proposed Action that would respond to purpose and need. Specific comments are the most useful. Comments, including names and addresses, will be available for public review. Individual respondents may request confidentiality. If you wish to withhold your name and/or address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

All comments should be made in writing and mailed to Bill Yocum, Ashland Resource Area, 3040 Biddle Road, Medford, OR 97504. Any questions should be directed to Kristi Mastrofini or Bill Yocum at (541) 618-2384.

Sincerely,

Richard J. Drehobl
Field Manager
Ashland Resource Area

Enclosure (1)
- EA

ENVIRONMENTAL ASSESSMENT

for

Spencer Gulch Road Relocation

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
ASHLAND RESOURCE AREA

EA No. OR-110-03-001

This environmental assessment (EA) for the proposed Spencer Gulch Road Relocation was prepared utilizing a systematic interdisciplinary approach integrating the natural and social sciences and the environmental design arts with planning and decision making.

Public notice of the availability of this EA was provided through the BLM Medford District's central register and advertisement in the Medford Mail Tribune.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT

EA COVER SHEET

RESOURCE AREA: Ashland ACTION/TITLE: Spencer Gulch Road Relocation

LOCATION: T.38S.,R.3W., Section 1, T.39S.,R.2W., Sections 1 Willamette Meridian EA NUMBER: OR-110-02-001

List of Preparers	Title	Responsibility
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George Arnold	Wildlife Biologist	T&E Animals, Wildlife
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John Samuelson	Forest Engineer	Engineering and Roads
Ted Hass	Soil Scientist	Soils
Bill Yocum	Planning and Environmental Coordinator	NEPA

ASHLAND RESOURCE AREA
SPENCER GULCH ROAD RELOCATION ENVIRONMENTAL ASSESSMENT
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Chapter 1

A. Purpose and Need

The Squires Peak Fire Emergency Stabilization Rehabilitation Plan (Squires Peak ESR Plan) identified that if the upper portion of the Spencer Gulch Road (Rd. #39-3-3.0) on BLM land remains in it's present location, it would result in unacceptable disruption of ecological processes, unacceptable loss of riparian area soils and severe stream channel degradation, off-site damage to private property, possible threat to human life, and loss of access due to plugged culverts and a major road failure. The current riparian/channel condition is not able to withstand the additional flows and sediment load that may result from the effects of this fire. Emergency stabilization of this section of stream is necessary to minimize risk to human life and property downstream. Since the road provides legal access to private property, **BLM does not have the option of decommissioning this road without providing alternate access.** Decommissioning of this road and construction of an alternative road is recommended in the Squires Peak ESR Plan. However, the Squires Peak ESR Plan identified that the decommissioning cannot proceed until alternative access to private property is provided, and that this Environmental Assessment would be prepared to address this new road construction. Both the decommission and the new construction are discussed here since they are a connected action; however, this Environmental Assessment is focused on the new construction, as the associated road decommission is already included in the Squires Fire ESR Plan.

B. Conformance with Existing Land Use Plans

The proposed activities are in conformance with and tiered to the *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (USDI, USDA 2001) and the *Medford District Resource Management Plan (June, 1995) (*RMP). These Resource Management Plans incorporate the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (NWFP) (USDA and USDI 1994). These documents are available at the Medford BLM office.

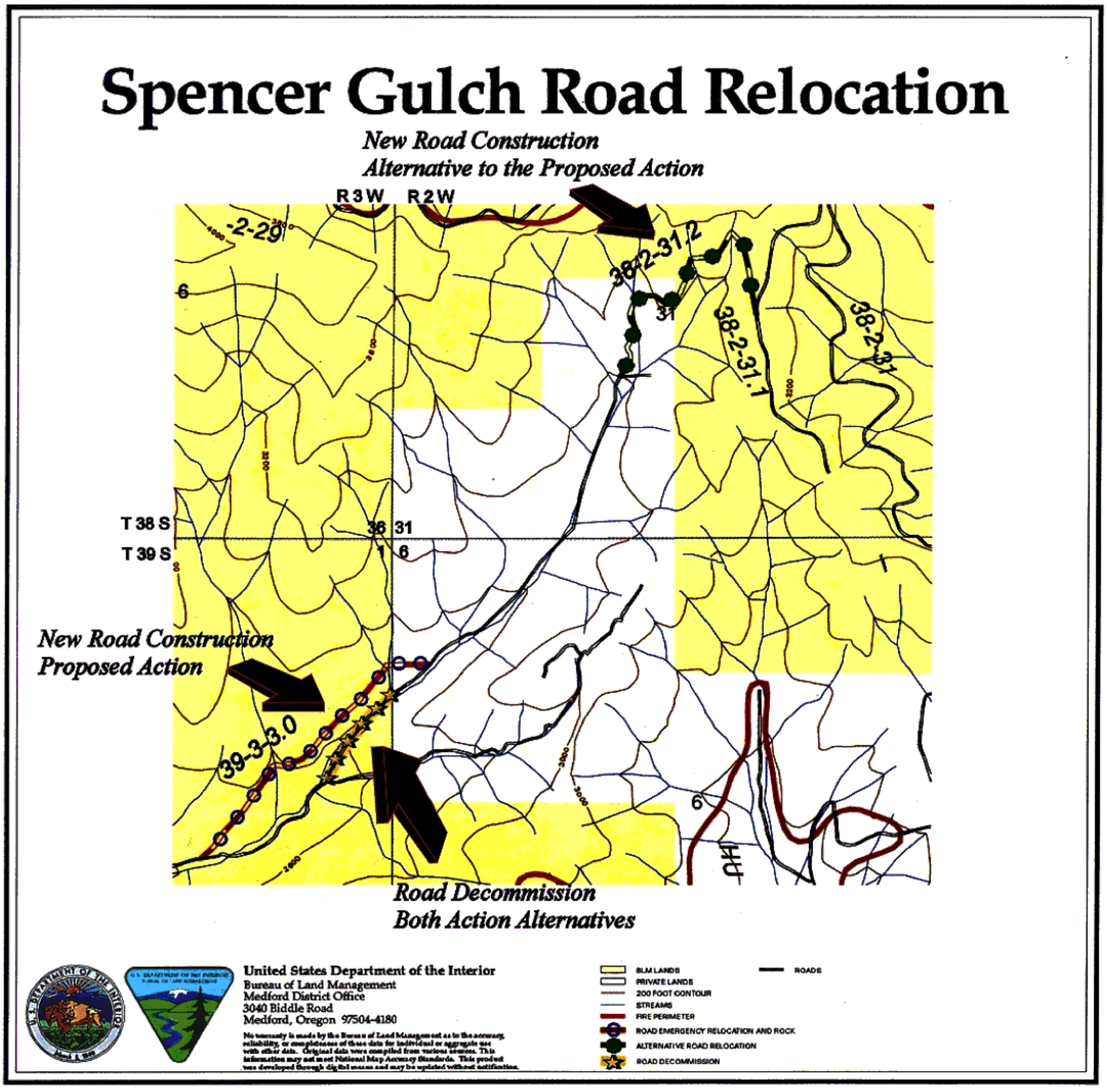
C. Relationship to Statutes, Regulations, and Other Plans

The proposed action and alternatives are in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act), Federal Land Policy and Management Act of 1976 (FLPMA), the Endangered Species Act (ESA), and the Clean Water Act.

Chapter 2 - Alternatives

Three alternatives were formed for this project of which two are action alternatives and one is the no action alternative. The two action alternatives include the proposed action and the alternative to the proposed action. Both action alternatives decommission the same road segment but have different locations for the proposed road construction. The following map identifies the location for the proposed road decommission and construction.

Map



A. Proposed Action Alternative

The Squires Peak Fire ESR Plan identified the need to decommission the upper 1000' section of the Spencer Gulch Road (39-3-3) in a Riparian Reserve on BLM-administered land (see map). The ESR plan also identified that this road could not be decommissioned without first providing alternate access to upstream private property. To accomplish this, an approximately 3200' section of road would be constructed upslope from the road to be decommissioned (see previous map). Both the decommission and the new construction are discussed here since they are a connected action.

The proposed location would move the existing road out of the bank-full channel and Riparian Reserve. The new section of road would be located in Riparian Reserve for a short distance as it moves away from the Spencer Gulch Riparian Reserve, and again for a short distance as it crosses perpendicular to two intermittent streams. The road would be as close in size as possible to the single lane road it is replacing, while meeting design and safety standards. Trees and root wads removed as part of the road relocation would be used to provide structure to the existing road section/stream channel being decommissioned and stabilized, or to adjacent stream reaches.

The relocated road would be rocked and drainage structures (dips or culverts) installed to minimize the chance that runoff and sediment would be delivered directly to the stream. The new road would branch off of the existing road well below the area to be decommissioned. In addition to eliminating a section of road that is having a major impact on the stream, relocating this road will also eliminate one undersized culvert / stream crossing on the mainstem of Spencer Gulch. The new road would cross two much smaller intermittent tributaries to Spencer Gulch. These crossings would be designed to accommodate the flow, bedload and debris expected in a 100-year flood event.

As part of the associated decommissioning, the Squires Peak Fire ESR Plan identified that large amounts of structure in the form of large wood, root wads, and boulders (if available) would be added to the channel to allow for the capture of sediment, dissipation of stream energy, and to eliminate the chronic degradation and failure of the road that will result if it remains where it is. As part of the decommission, deep waterbars would be cut into the road surface to prevent channelization and gullying from occurring in the process of reclamation by the stream, and wood originating from the new constuction would be used to improve habitat and stream function along the decommissioned section of road. Where possible, wood originating from the new road construction would have the root wads attached, as lengths of wood with root wads are much less likely to be transported downstream during flood flows than those without root wads attached. The following spring, several hundred riparian hardwoods would be planted throughout the stream/decommission road area, especially in locations where sediment has accumulated.

The decommissioning work would require a waiver from the Oregon Department of Fish and Wildlife if work was to be completed outside of the instream work period of July 1-September 15. The decommissioning work could only proceed after the new road is constructed.

Project Design Features for the Proposed Action Alternative

The PDFs followed by an asterisk (*) are Best Management Practices (BMPs) to reduce nonpoint source pollution to the maximum extent practicable. BMPs are considered the primary mechanisms to achieve Oregon Water Quality standards. Implementation of PDFs in addition to establishment of Riparian Reserves would equal or exceed Oregon State Forest Practice Rules. BMP effectiveness monitoring would be conducted and where necessary, BMPs modified to ensure compliance with Oregon Water Quality Standards.

Roads

Road Construction

Slash from road construction would be windrowed at the base of the fill slope to catch sediment during the first wet season*. Where feasible, the road surface would be outsloped, with rolling water dips; these design features would be used to reduce concentration of flows and minimize accumulation of water from road drainage.* The fill slopes and fill shoulders on the relocated road would be seeded with native or approved seed mix (including sterile wheatgrass) and mulched*. To reduce the potential for erosion, the relocated road would be surfaced with a minimum six inches of rock*.

Road construction would not occur during the winter months when the potential for soil erosion and degradation of water quality may take place.* Road construction would occur during dry conditions in order to reduce the potential for soil erosion and degradation of water quality.* All construction activities would be stopped during a rain event of 0.2 inches or more within a 24-hour period.* If on-site information is inadequate, measurements from the nearest Remote Automated Weather Station (Star Ranger Station) would be used. Construction activities would not occur for at least 48 hours after rainfall has stopped or on approval by the Contract Administrator.* A seasonal restriction of October 15 to May 15 would be placed in the contract which could be waived under dry conditions and a specific erosion control plan (eg. rocking, waterbarring, seeding, mulching, barricading).*

Road Decommissioning

Stream crossings would be reestablished to the natural stream gradient and valley form.* This would be accomplished by removing the culvert and the road fill within the stream crossing areas. Stream side slopes would be reestablished to natural contours.* Excavated fill material would be removed from stream crossing areas and placed at stable locations.*

Ground-disturbed areas on all decommissioned roads would be seeded with native or approved seed, and mulched.*

The road would be decommissioned mechanically. This usually includes ripping, removing drainage structures, seeding and/or planting, mulching, constructing water bars and barricades.*

A minimum of 10 deep waterbars would be cut into the road surface to prevent channelization and gullying.*

Trees and root wads over 8" in diameter that are removed during the road construction would be used for the decommission / stream rehabilitation project, or for other stream rehabilitation in Spencer Gulch. Where possible, root wads would remain attached to removed trees.* No timber will be sold as part of this project.

A minimum of 100 pieces of large wood would be placed in the section of stream/decommissioned road. This wood would be a minimum of 10 feet in length and 15" in diameter, with larger diameters preferable. Several larger key pieces (>20' in length and largest diameter available) would to be placed throughout the reach to help promote stability. Long logs could be bucked up to create the necessary number of pieces, as long as the length requirements are met. The wood would originate from the new road construction, or if insufficient wood was available from that work, trees would be used immediately adjacent to the reach. BLM fisheries biologist and/or hydrologist would identify locations for placement of the wood at the time of the road decommissioning project.*

Rock Surfacing. A minimum of 6" of rock on roads with seasonal closures and 8-10" of rock on roads with extended season use would be used to stabilize and minimize erosion on selected roads and landings.*

Road Use Agreements. Existing road agreements for access are between private companies and BLM. An amendment to the M-660 road use agreement would need to be completed to add Road 39-3-3 from the south boundary to the east boundary of the SE 1/4 SE 1/4 NE 1/4 NE 1/4, Section 1, and from the north boundary of the NE 1/4 SE 1/4 to the west boundary of the NW 1/4 SE 1/4, Section 1, and from the east boundary to the west boundary of NW 1/4 NE 1/4, Section 3, all within T39S R3W. A Right-of-Way of 15' each side of the centerline would be given.

Drainage Structure Installation/Replacement/Removal
Instream work period would be from July 1 - September 15 on actively flowing streams. A waiver would be obtained from Oregon Department of Fish and Wildlife prior to any instream work outside of the instream work period.*

At all stream crossings the approach would be as near a right angle to the stream as possible to minimize disturbance to streambanks and riparian habitat.* Stream crossing structures would be sized to accommodate 100-year flood events.* This includes the installation of two structures in the small intermittent draws in the proposed new road construction.

Fill material over stream crossing structures would be stabilized as soon as possible after construction has been completed. Exposed soils would be seeded and mulched. Work would be temporarily suspended if rain saturates soils to the extent that there would be environmental damage, including movement of sediment from the road to the stream.*

Location of waste stockpile and borrow sites would not be located within Riparian Reserves.*

The operator would be notified that he is responsible for meeting all state and federal requirements for maintaining water quality. Standard contract stipulations would include the following:

- Heavy equipment would be inspected and cleaned before moving onto the project site in order to remove oil and grease, invasive, non-native species (for example, noxious weeds) and excessive soil.*
- Hydraulic fluid and fuel lines on heavy mechanized equipment must be in proper working condition in order to prevent leakage into streams.*
- Waste diesel, oil, hydraulic fluid and other hazardous materials and contaminated soil near the stream would be removed from the site and disposed of in accordance with Oregon Department of Environmental Quality (ODEQ) regulations.* Areas that have been saturated with toxic materials would be excavated to a depth of 12 inches beyond the contaminated material or as required by DEQ.*
- Equipment refueling would be conducted within a confined area outside Riparian Reserves.*
- Use spill containment booms or other equipment as required by DEQ.*
- At no time would mechanical equipment be stored in the Riparian Reserves.*

Special Status Plant Species, Species to be Protected Through Survey and Manage Guidelines, and Protection Buffer Species
Special Status Plant and Animal Species are species that are Federally listed, proposed, or candidates for listing by the U.S. Fish and Wildlife Service, including species the BLM considers Special Status Species (i.e. sensitive species, assessment species, tracking and watch species).

Bureau Sensitive species and their habitats would be managed, protected and conserved so that the proposed action would not contribute to the need to list these species.

Cultural Resources
This area was surveyed in 1997 and no sites were found. If any sites are located, these would be protected to retain their cultural value.

Invasive, Nonnative Species
To minimize the spread of noxious weeds:
- Mechanical equipment would be power sprayed and washed before entering the units.
- Seeding of native grasses and/or sterile wheatgrass on disturbed soil would occur.

Streams, Fish and Riparian Reserves
Water Quality Protection
The BLM, in cooperation with the Forest Service, ODEQ, and the Environmental Protection Agency (EPA), is implementing the *Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters* (USDA and USDI 1999) (Protocol). Under the Protocol, the BLM agrees to protect and maintain water quality where standards are met or surpassed, and restore water-quality-limited waterbodies within their jurisdiction to conditions that meet or surpass standards for designated beneficial uses. The Protocol serves as a framework for developing water quality restoration plans, specific to BLM-administered lands, which are used to guide and can be incorporated by reference into ODEQ's WQMPs. In areas where BLM management actions have either short- or long-term effects on BLM-administered lands and adjacent waters, the BLM will work toward water quality improvement.

The BLM will also adhere to the State Antidegradation Policy (ODEQ 1992; 340-041-0026). The BLM will continue supporting ODEQ's efforts to work with land managers and designated management agencies in total maximum daily load (TMDL) development and implementation plans [e.g., water quality management plans (WQMPs)]. Best Management Practices (BMPs) and effectiveness monitoring as described in the Medford District RMP (USDI 1995a) would ensure that TMDLs are being met on BLM-administered lands.

Necessary federal and state permits would be obtained for any instream work.

Riparian Reserve Determination
Riparian Reserves are located on federal lands throughout the project area. BLM conducted stream surveys of Spencer Gulch and surrounding areas. The crew determined whether stream channels were perennial, intermittent, or dry draws (Medford District RMP Appendix A Standards & Guidelines, pages C30-C31). Riparian Reserve widths were then determined site-specifically.

Non Federal Improvements
Authorizations of non federal improvements on Public Land would be protected.

B. Alternative to the Proposed Action

This alternative is the same as the Proposed Action Alternative, except that the new access road would be relocated as a 2750' section of road accessing the private property from road 38-2-31.2 on the ridge above. This location would involve no new road construction within any Riparian Reserve; therefore there would be no crossings of any streams. The road would be as close in size as possible to the single lane road it is replacing, while meeting design and safety standards. At locations where the new road crossed dry draws (draws with no defined channel or annual scour and deposition), armored drainage dips (rather than culverts) would be used to allow flow and associated debris to pass during major flood events.

Project Design Features for the Alternative to the Proposed Action

The PDFs followed by an asterisk (*) are Best Management Practices (BMPs) to reduce nonpoint source pollution to the maximum extent practicable. BMPs are considered the primary mechanisms to achieve Oregon Water Quality standards. Implementation of PDFs in addition to establishment of Riparian Reserves would equal or exceed Oregon State Forest Practice Rules. BMP effectiveness monitoring would be conducted and where necessary, BMPs modified to ensure compliance with Oregon Water Quality Standards.

Roads
<u>Road Construction</u>
Slash from road construction would be windrowed at the base of the fill slope to catch sediment during the first wet season*. Where feasible, the road surface would be outsloped, with rolling water dips; these design features would be used to reduce concentration of flows and minimize accumulation of water from road drainage.* The fill slopes and fill shoulders on the relocated road would be seeded with native or approved seed mix (including sterile wheatgrass) and mulched*. To reduce the potential for erosion, the relocated road would be surfaced with a minimum six inches of rock*.

Road construction would not occur during the winter months when the potential for soil erosion and degradation of water quality may take place.* Road construction would occur during dry conditions in order to reduce the potential for soil erosion and degradation of water quality.* All construction activities would be stopped during a rain event of 0.2 inches or more within a 24-hour period.* If on-site information is inadequate, measurements from the nearest Remote Automated Weather Station (Star Ranger Station) would be used. Construction activities would not occur for at least 48 hours after rainfall has stopped or on approval by the Contract Administrator.* A seasonal restriction of October 15 to May 15 would be placed in the contract which could be waived under dry conditions and a specific erosion control plan (eg. rocking, waterbarring, seeding, mulching, barricading).*

<u>Road Decommissioning</u>

Stream crossings would be reestablished to the natural stream gradient and valley form.* This would be accomplished by removing the culvert and the road fill within the stream crossing areas. Stream side slopes would be reestablished to natural contours.* Excavated fill material would be removed from stream crossing areas and placed at stable locations.*

Ground-disturbed areas on all decommissioned roads would be seeded with native or approved seed, and mulched.*

The road would be decommissioned mechanically. This usually includes ripping, removing drainage structures, seeding and/or planting, mulching, constructing water bars and barricades.*

A minimum of 10 deep waterbars would be cut into the road surface to prevent channelization and gullying.*

Trees and root wads over 8" in diameter that are removed during the road construction would be used for the decommission / stream rehabilitation project, or for other stream rehabilitation in Spencer Gulch. Where possible, root wads would remain attached to removed trees.* No timber will be sold as part of this project.

A minimum of 100 pieces of large wood would be placed in the section of stream/decommissioned road. This wood would be a minimum of 10 feet in length and 15" in diameter, with larger diameters preferable. Several larger key pieces (>20' in length and largest diameter available) would to be placed throughout the reach to help promote stability. Long logs could be bucked up to create the necessary number of pieces, as long as the length requirements are met. The wood would originate from the new road construction, or if insufficient wood was available from that work, trees would be used immediately adjacent to the reach. BLM fisheries biologist and/or hydrologist would identify locations for placement of the wood at the time of the road decommissioning project.*

Rock Surfacing. A minimum of 6" of rock on roads with seasonal closures and 8-10" of rock on roads with extended season use would be used to stabilize and minimize erosion on selected roads and landings.*

Road Use Agreements. Existing road agreements for access are between private companies and BLM. An amendment to the M-660 road use agreement would need to be completed to add existing road 38-2-31.1 from the junction with road 38-2-31.0 in the SE 1/4 NE 1/4 Section 31, T38S R2W to the junction with proposed road 38-2-31.2 in the NW 1/4 SE 1/4 Section 31, T38S R2W. Also proposed road 38-2-31.2 from the junction with 38-2-31.1 in the NW 1/4 SE 1/4 Section 31, T38S R2W to where it enters Boise Corporation land on the west boundary of the NW 1/4 SE 1/4 Section 31. A Right-of-Way of 15 feet each side of the centerline would be given.

Drainage Structure Installation/Replacement/Removal
Instream work period would be from July 1 - September 15 on actively flowing streams. A waiver would be obtained from Oregon Department of Fish and Wildlife prior to any instream work outside of the instream work period.*

New road crossings on dry draws would have rock-armored drainage dips designed to accommodate 100-year flood events*

Fill material over stream crossing structures would be stabilized as soon as possible after construction has been completed. Exposed soils would be seeded and mulched. Work would be temporarily suspended if rain saturates soils to the extent that there is potential for environmental damage, including movement of sediment from the road to the stream.*

Location of waste stockpile and borrow sites would not be located within Riparian Reserves.*

The operator would be notified that he is responsible for meeting all state and federal requirements for maintaining water quality. Standard contract stipulations would include the following:

- Heavy equipment would be inspected and cleaned before moving onto the project site in order to remove oil and grease, invasive, non-native species (for example, noxious weeds) and excessive soil.*
- Hydraulic fluid and fuel lines on heavy mechanized equipment must be in proper working condition in order to prevent leakage into streams.*
- Waste diesel, oil, hydraulic fluid and other hazardous materials and contaminated soil near the stream would be removed from the site and disposed of in accordance with Oregon Department of Environmental Quality (ODEQ) regulations.* Areas that have been saturated with toxic materials would be excavated to a depth of 12 inches beyond the contaminated material or as required by DEQ.*
- Equipment refueling would be conducted within a confined area outside Riparian Reserves.*
- Use spill containment booms or other equipment as required by DEQ.*
- At no time would mechanical equipment be stored in the Riparian Reserves.*

Special Status Plant Species, Species to be Protected Through Survey and Manage Guidelines, and Protection Buffer Species

Special Status Plant and Animal Species are species that are Federally listed, proposed, or candidates for listing by the U.S. Fish and Wildlife Service, including species the BLM considers Special Status Species (i.e. sensitive species, assessment species, tracking and watch species).

Bureau Sensitive species and their habitats would be managed, protected and conserved so that the proposed action would not contribute to the need to list these species.

Cultural Resources

This area was surveyed in 1997 and no sites were found. If any sites are located, these would be protected to retain their cultural value.

Invasive, Nonnative Species

To minimize the spread of noxious weeds:

- Mechanical equipment would be power sprayed and washed before entering the units.
- Seeding of native grasses and/or sterile wheatgrass on disturbed soil would occur.

Streams, Fish and Riparian Reserves

Water Quality Protection

The BLM, in cooperation with the Forest Service, ODEQ, and the Environmental Protection Agency (EPA), is implementing the *Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters* (USDA and USDI 1999) (Protocol). Under the Protocol, the BLM agrees to protect and maintain water quality where standards are met or surpassed, and restore water-quality-limited waterbodies within their jurisdiction to conditions that meet or surpass standards for designated beneficial uses. The Protocol serves as a framework for developing water quality restoration plans, specific to BLM-administered lands, which are used to guide and can be incorporated by reference into ODEQ's WQMPs. In areas where BLM management actions have either short- or long-term effects on BLM-administered lands and adjacent waters, the BLM will work toward water quality improvement.

The BLM will also adhere to the State Antidegradation Policy (ODEQ 1992; 340-041-0026). The BLM will continue supporting ODEQ's efforts to work with land managers and designated management agencies in total maximum daily load (TMDL) development and implementation plans [e.g., water quality management plans (WQMPs)]. Best Management Practices (BMPs) and effectiveness monitoring as described in the Medford District RMP (USDI 1995a) would ensure that TMDLs are being met on BLM-administered lands.

Necessary federal and state permits would be obtained for any instream work.

Riparian Reserve Determination

Riparian Reserves are located on federal lands throughout the project area. BLM conducted stream surveys of Spencer Gulch and surrounding areas. The crew determined whether stream channels were perennial, intermittent, or dry draws (Medford District RMP Appendix A Standards & Guidelines, pages C30-C31). Riparian Reserve widths were then determined site-specifically.

Non Federal Improvements

Authorizations of non federal improvements on Public Land would be protected.

C. No Action Alternative

A new road providing alternate access to private lands would not be built. This would prevent the road decommissioning/stabilization project identified in the Squires Peak ESR Plan from being completed.

Chapter 3 - Affected Environment

A. Soils, Hydrology and Riparian

The Squires Peak Fire occurred within two fifth-level watersheds: The Middle Applegate River Watershed and the Little Applegate River Watershed. The proposed action is located within the Middle Applegate River Watershed.

In the Middle Applegate River Watershed, the fire was largely concentrated in Spencer Gulch. Spencer Gulch is a 7th-level drainage on the south side of Squires Peak/Woodrat Mountain flowing into the Applegate River just downstream of the mouth of the Little Applegate River. A smaller portion of the fire was on the north face of Squires Peak in the headwaters of Rock Gulch (aka Rocky Gulch), a Forest Creek tributary flowing through the town of Ruch. Small headwater areas in the Bishop Creek drainage (also a Forest Creek tributary) were affected by the fire.

The dominant soils on the landscape are Caris, Offenbacher, Manita, Abegg, Vannoy, and Voorhies. For the location of these soils on the landscape see soils map on file at the Medford District Office.

Caris gravelly loam

The Caris soil is moderately deep and well drained. It formed in colluvium derived dominantly from metamorphic rock. Typically, the surface is covered with a layer of needles and twigs about 1 inch thick. The surface layer is very dark grayish brown gravelly loam about 7 inches thick. The upper 13 inches of the subsoil is dark yellowish brown very gravelly clay loam. The lower 11 inches is dark yellowish brown extremely gravelly loam. Bedrock is at a depth of about 31 inches. The depth to bedrock ranges from 20 to 40 inches. Permeability of the Caris soil is moderate. In some areas the surface layer is very gravelly loam or is stony.

Offenbacher gravelly loam

The Offenbacher soil is moderately deep and well drained. It formed in colluvium derived dominantly from metamorphic rock. Typically, the surface is covered with a layer of needles, leaves, and twigs about 1 inch thick. The surface layer is dark grayish brown and dark brown gravelly loam about 9 inches thick. The subsoil is reddish brown and yellowish red loam about 25 inches thick. Bedrock is at a depth of about 34 inches. The depth to bedrock ranges from 20 to 40 inches. Permeability of this soil is moderate. In some areas the surface layer is very gravelly loam or is stony.

Manita loam

This deep, well drained soil is on alluvial fans. It formed in alluvium derived dominantly from metamorphic rock. Typically, the surface layer is dark brown loam about 8 inches thick. The upper 5 inches of the subsoil is dark reddish brown clay loam. The lower 45 inches is yellowish red clay loam. Weathered bedrock is at a depth of about 58 inches. The depth to bedrock ranges from 40 to 60 inches. Permeability of the Manita soil is slow. In some areas the surface layer is gravelly.

Vannoy silt loam

The Vannoy soil is moderately deep, well drained on hillslopes. It formed in colluvium derived

dominantly from metamorphic rock. Typically, the surface is covered with a layer of needles, leaves, and twigs about 3/4 inch thick. The surface layer is dark brown silt loam about 4 inches thick. The next layer is reddish brown silt loam about 7 inches thick. The subsoil is yellowish red clay loam about 27 inches thick. Weathered bedrock is at a depth of about 38 inches. Permeability of the Vannoy soil is moderately slow. The depth to bedrock ranges from 20 to 40 inches. In some areas the surface layer is gravelly or very gravelly loam.

Voorhies very gravelly loam
The Voorhies soil is moderately deep and well drained. It formed in colluvium derived dominantly from metamorphic rock. Typically, the surface is covered with a layer of needles and twigs about 1 inch thick. The surface layer is very dark grayish brown and dark brown very gravelly loam about 8 inches thick. The upper 10 inches of the subsoil is brown very gravelly clay loam. The lower 18 inches is brown very cobbly clay loam. Weathered bedrock is at a depth of about 36 inches. Permeability of the Voorhies soil is moderate. The depth to bedrock ranges from 20 to 40 inches.

As with all soils, the runnoff rate and the hazard of erosion due to water is dependant on the slope of the landscape. The Manita soil has a higher clay content and is very susceptible to compaction. The Caris and Offenbacher soils generally have gravelly surface textures that could result in raveling on steeper slopes. The Abegg soil has a high rock content.

Eighty-seven percent (87%) of soils within the fire perimeter have a high erosion potential.

In general, grasslands burned at a low fire severity, brushlands burned with a low-to-moderate fire severity and forested lands burned at low-to-high fire severity. Where forested lands had been thinned fire mostly burned at low-to-moderate fire severity.

Hydrophobic (water repellent) soils were found discontinuously in the areas that burned with a high severity. Thickness of the water repellant layer varied from less than an inch to as much as two inches, and was located directly below the ash layer. Rarely was hydrophobicity seen in areas that burned at moderate fire severity.

Streams on BLM administered land in the vicinity of the fire had been surveyed by an Ashland Resource Area stream survey crew prior to the fire. A review was made of the stream survey information to identify streams most likely to deliver sediment to the downstream aquatic system. Riparian areas on each of these streams were then assessed using a combination of on-the-ground visits and satellite and air photo interpretation (both pre- and post-fire imagery).

A review of Landsat satellite burn severity data combined with on-the-ground reconnaissance indicated that long duration intermittent (seasonal) and perennial stream riparian areas were generally unburned or had low severity burns. For these kinds of streams, severity was in the moderate or higher categories only in areas where extensive canopy removal and other clearing activities had removed much of the larger riparian area vegetation prior to the fire (primarily on non-BLM lands). Drier streams (with little or no riparian vegetation) had a much higher incidence of moderate or high severity burns. This is probably due to a combination of lower fuel moisture levels and the relatively higher position on the landscape

these draws occupy.

Areas of severe damage or at risk of degradation due to the fire and suppression activities were assessed in the field. Field review indicates that the severity of the fire on the vegetation community as interpreted from the Landsat imagery is consistent with what is on the ground.

On BLM lands, riparian areas affected by the fire will generally benefit from the burn that occurred. In many of the Riparian Reserves, more intense fire moving out of the uplands dropped down to the ground within the Reserves, resulting in cool underburns that removed some of the accumulated brush and tree litter, but left the canopy relatively intact. Other drier riparian areas had burns hot enough to kill the aboveground portion of many of the overstory trees, but not hot enough to burn leaves and twigs off the branches. This will provide a lot of material in the coming months to help cover the ground prior to fall rains. Many dry draws in woodland and brushfield areas experienced fairly intense burns. The majority of these are in steep, rocky areas with stable ground and large numbers of hardwoods, shrubs and grasses that still have live roots and will quickly resprout.

Spencer Gulch is the only major perennial stream located within the fire perimeter. Much of the Spencer Gulch riparian vegetation is intact, but the headwaters in Section 31 had a severe burn. Large increases in peakflow and sedimentation from this and other tributary areas on Spencer Gulch will occur. Downstream riparian areas are in non-functioning condition on much of Spencer Gulch, with a severe lack of instream structure, an encroaching natural-surface road, and entrenched channel conditions throughout. These conditions place human life and property of residents in Spencer Gulch at an increased level of risk, and roads and inadequate culverts at a high likelihood of failure.

Roads in adjacent drainages within the fire area had been improved as part of recent thinning and fuel hazard reduction projects. Roads had been reconstructed, rocked, properly-sized culverts installed, rolling water dips installed, and any other drainage problems fixed. These roads are in need of no additional work, as they are hydrologically prepared to absorb any changes due to fire effects.

One road on BLM-administered lands that was not previously improved is the Spencer Gulch Road (39-3-3). This road encroaches on the Spencer Gulch stream channel for most of its length, with the road only 10-20 feet from the channel in many areas. In the NE 1/4 of Section 1, an approximately 1000' section of the road on BLM-administered lands is confined in the bottom of a V-shaped valley and has been built in the stream bottom. The road is insloped with no drainage structures, with the stream channel confined to an eroding roadside ditch. This confined stream channel is a maximum 4 feet wide and 18" deep, capable of passing a maximum flow of 20 cubic feet per second (with severe bank erosion occurring at that flow level). A 100-year flood event would produce an expected flow in this stretch of 138 cubic feet per second. This road has failed in the past, as the

***Figure 1**: Road 39-3-3 and upper Spencer Gulch at summer low flow.*

stream has access to the road surface during high flows. The road has probably been reconstructed or regraded each time it is used, causing large quantities of sediment to be dumped into the active channel over and over. Due to its location, the road causes continuous input of sediment from stream channel, road surface erosion, and constant regrading/repair to keep it open. This section of stream is in non-functional condition, and has no chance of recovery in the current situation. The drainage above this point is the most severely burned area of the fire, with the majority of the vegetation having been subjected to a high severity burn. The private land immediately upstream of this location had been tractor logged in the recent past, with little large wood remaining; the remaining riparian vegetation sustained a moderate-to-high burn severity. Much of the BLM land above the private parcel experienced a stand-replacement fire with high burn severity. Peak flows and sediment load are expected to substantially increase in this section of stream due to fire effects, and the washing out of this road will add significantly to the on-site and downstream impact.

Other sections of the Spencer Gulch road capture flow from intermittent streams in roadside ditches, and route sediment and flow from the road directly into stream channels. Approximately a dozen culverts are undersized, shotgun, damaged, buried, or too short. These problems are being corrected with the implementation of the Squires Peak ESR Plan.

Spencer Gulch fish habitat

Spencer Gulch is a perennial non-fish bearing stream with interrupted summer flow (portions subsurface) located in the Middle Applegate River basin. It lacks structure or channel complexity and is characterized by low to moderate stream gradient. Flow from Spencer Gulch is intercepted by an irrigation canal before it reaches the Applegate River, rendering it inaccessible to anadromous fish species. No stream channel exists below the canal, suggesting that even during high-flow events, water from Spencer Gulch does not directly reach the Applegate. Much of Spencer Gulch is constrained by Spencer Gulch road. Spencer Gulch flows through a mixed conifer/hardwood forest and suburban and agricultural lands.

The Squires Peak fire burned through most of the Spencer Gulch watershed, with the upper half of the watershed experiencing the most intense burn. Some areas are completely denuded of any riparian vegetation. The lower four miles of stream corridor were not as impacted by the burn, and the lower mile was not burned at all.

The section of Spencer Gulch adjacent to the road proposed to be decommissioned is currently in a non-functioning state. The stream has been channelized, lacks any pools or structure, and the habitat can best be described as a road-side ditch.

B. Critical and Essential Fish Habitat

The Middle Applegate River is designated critical coho habitat for the threatened Southern Oregon/Northern California (SONC) coho salmon (*Onchorynchus kisutch)*, listed under the Endangered Species Act. On May 5, 1999, the National Marine Fisheries Service (NMFS) designated "critical habitat" for SONC coho. Spencer Gulch is not considered critical coho habitat, as it is inaccessible to migrating fish.

Essential Fish Habitat (EFH) has been defined by NMFS as "those waters and substrate necessary to fish

for spawning, breeding, feeding, or growth to maturity." This definition includes all waters historically used by salmonids. Therefore, Spencer Gulch is considered EFH as before construction of the irrigation ditch, anadromous fish may have had access and used Spencer Gulch as a spawning stream. Historical use of Spencer Gulch by any fish species has not been documented.

Spencer Gulch fish

Spencer Gulch does not currently support any fish populations. Presence/absence surveys were conducted in May of 1997 and March of 2002, and no fish were observed. The middle Applegate River supports populations of coho and chinook salmon *(O. tshawytsha)*, steelhead (*O. mykiss mykiss)*, rainbow (*O. mykiss iridium)*, and cutthroat (*O. clarki)* trout, pacific lamprey (*Lampreta tridentata)*, sculpin (*Cottus spp.)*, Klamath small scale sucker (*Catostomus rimiculus*), speckled dace, and red-side shiners.

C. Terrestrial Wildlife

The proposed action road construction is in an area of the Squire Fire that burned with low intensity. Much of the understory vegetation burned, but most of the large overstory trees remain. The area was surveyed for Survey and Manage species in 1998 and 1999 and none were found. There are no known threatened, endangered, or BLM sensitive wildlife species in the proposed project area, but the area provides habitat for a variety of terrestrial wildlife species including small mammals and passerine bird species.

The alternative to the proposed action road construction is in an area of the Squire Fire that burned with high intensity and very little live vegetation remains. Snags and down woody material that wasn't consumed in the fire provide the primary habitat components. The area was surveyed for Survey and Manage species in 1998 and 1999 and none were found. There are no known threatened, endangered or BLM sensitive wildlife species known to be present in the proposed project area.

D. Botany

Vascular Plant Species

The proposed activity area was surveyed for Bureau Special Status and Survey and Manage vascular plants as well as the federally listed Fritillaria gentneri. Surveys were conducted by qualified botany contractors in 1995 and again in 1997. No Bureau Special Status or Survey and Manage Vascular plant species were located within the confines of the proposed project area.

Nonvascular Plant Species

The proposed activity area was surveyed for Bureau Special Status and Survey and Manage nonvascular plants in 1999 and again in 2001. No Bureau Special Status or Survey and Manage Vascular plant species were located within the confines of the proposed project area.

Chapter 4 - Environmental Consequences

A. Proposed Action Alternative: Environmental Consequences

Botany Direct, Indirect, and Cumulative Effects (*Proposed Action*)
The action alternative would have no direct, indirect or cumulative effects on the continued persistence of the federally listed *Fritillaria gentneri* or any Bureau Special Status or Survey and Manage vascular or nonvascular plants.

Fisheries Direct, Indirect, and Cumulative Effects (*Proposed Action*)
This alternative would not directly affect coho salmon populations in the Applegate River, or their critical habitat. New road construction would contribute to short term (less than five years) increases in sediment to the stream system. However, these increases would not be noticeable above background levels of sedimentation.

Actions to minimize the amount of sediment moving downstream will include: placement of large wood complete with root wads in the stream and along the section of decommissioned road, water bars, improved road and stream drainage structures, and planting of native hardwood species. Adherence to the project design features (PDFs) and best management practices (BMPs) as outlined in the proposed action alternative of this EA will help ensure that water quality of Spencer Gulch is not compromised. Furthermore, by decommissioning the section of road in poor condition and allowing the stream to revert back to a more natural channel, future sediment inputs from this point would be greatly reduced over time. The chances of sediment moving downstream and into coho critical habitat of the middle Applegate River would also decline

The placement of large wood with attached root wads into the stream and on the section of road to be decommissioned would greatly aid in the capture and retention of sediment, dissipation of water velocities, and reduction of erosion.

The cumulative effect of this proposed action is a short-term increase in sediment, undetectable above background levels, followed by a long-term improvement in riparian habitat conditions and a decline in sediment inputs from the proposed decommissioned road. Access to Spencer Gulch by fish species and other aquatic organisms would continue to be restricted by the irrigation canal. This alternative would have **no effect** on SONC coho salmon, SONC critical habitat, or EFH.

Hydrology, Soils, and Riparian Direct, Indirect, and Cumulative Effects (*Proposed Action*)
With implementation of this alternative, the road would no longer encroach on this section of stream. The stream would no longer be confined to the eroding roadside ditch, allowing restoration of ecological processes. The stream would be able to accommodate the increased peakflow and sediment load resulting from the fire, and there would be a reduction in the downstream risk to human life and property from fire-induced effects.

This non-functional section of stream would quickly move into the "functioning at risk, trend upward" category, probably within a year or two, with continuing improvement over time. As vegetation

recovered along the stream, sediment begin to be stored behind the instream large wood and streambanks began to rebuild, overall conditions contributing to water quality and summer low flows would improve through and below this stretch of stream.

The new road would cross two small intermittent streams. The structures at these crossings would be sized to accommodate a 100-year flood event, so the risk of crossing failure would be low. Construction of the crossings would cause a short-term (less than 5 year) increase in fine sediments in these draws, but this would be minor in comparison to increases resulting from fire effects, and dramatically less than what would occur if the streamside road was not being decommissioned.

The project would meet Aquatic Conservation Strategy objectives to "...restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations," "...restore the sediment regime under which aquatic ecosystems evolved," and "restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependant species." Objectives would further be met by "...obliterating and stabilizing roads based on ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs." (Medford District RMP Appendix A; NWFP Standards and Guidelines C-33)

The relocated road would have a much higher probability of maintaining good access to the private property in the event of major flood events, as the current road has virtually no chance of surviving a major flow given current conditions. The project would meet planning direction to "adjust existing...rights-of-way and easements to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives." (Medford District RMP Appendix A; NWFP Standards and Guidelines C-37).

The net effect of the road relocation / decommission will be immediate improvement in stream functioning, reduction in road mileage within Riparian Reserves, improved riparian habitat, reduction in road-related water quality degradation, and a much less impacting road.

Approximately 2 acres of BLM-administered land would be permanently taken out of production during the construction of about 0.6 mile of new road in the Spencer Creek drainage. The decommissioning of approximately 0.2 miles of road would put approximately 0.5 acres of land back into producing vegetation. Overall, the direct and indirect impact to the soil resource as a result of the alternative would be slight.

Road-related impacts are a concern throughout the Middle Applegate Watershed. Recent BLM projects in the vicinity of the proposed action included actions to reduce sediment and flow impacts from roads; however, improvements had not been made on this portion of the Spencer Gulch Road. Almost all of the existing roads in the Spencer Gulch drainage are located within Riparian Reserves, and there are numerous drainage problems associated with the roads. Many of these problems are being corrected as part of the Squires Peak Fire Emergency Stabilization Rehabilitation Plan, including replacement of undersized culverts, rocking some natural surface roads, and installing drainage dips. The proposed action would cause a slight increase in overall road density in the Middle Applegate Watershed. However, road density within Riparian Reserves would decrease slightly. Although temporary increases in fine sediment input would occur at the road decommissioning site, fine sediment input to the

downstream aquatic system would be reduced. The overall impact to riparian / aquatic resources would be positive, but these minor changes would have no discernable impact at the watershed scale.

Terrestrial Wildlife Direct, Indirect, and Cumulative Effects (*Proposed Action*)
The proposed action would remove approximately 2 acres of conifer habitat through road construction, and approximately 0.5 acre of riparian habitat would be improved through road decommissioning. This small amount of habitat loss would have a negligible impact to terrestrial wildlife species.

Aquatic Conservation Strategy:
The Aquatic Conservation Strategy (ACS) was developed to restore and maintain ecological health of watersheds and aquatic ecosystems on public lands. It consists of 9 objectives to be managed for. They and the affects of the proposed action alternative are as follows:

Objective 1: Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations, and communities are uniquely adapted.

Site level: Decommissioning the failing road and placing large wood and root wads into Spencer Gulch would be beneficial to the Spencer Gulch watershed. It would change a degraded, channelized, non-functioning section of stream into a more complex and diverse channel, functioning at risk with an upward trend.
HUC 7 level: No effects at this spatial scale.
HUC 5 level: No effects at this spatial scale.

Objective 2: Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas , headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.

Site level: Decommissioning of the failing road, and building of the new road would involve the replacement of failing culverts, and the addition of two new culverts, designed for 100 year flood events. These new culverts will ensure that connectivity of this site will improve.
HUC 7 level: No effects at this spatial scale.
HUC 5 level: No effects at this spatial scale.

Objective 3: Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

Site level: Decommissioning of the road will enable the stream to meander in a natural way, will allow banks to stabilize, and appropriate substrate to accumulate in this section of Spencer Gulch.
HUC 7 level: No effects at this spatial scale.
HUC 5 level: No effects at this spatial scale.

Objective 4: Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical,

and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.

Site level: Decommissioning the failing road will reduce the amount of sediment being loaded into the system. Construction of a new road uplsope may result in a short-term increase in sediment input, unnoticeable above background levels. Placement of log-structures will help capture sediment migrating downstream. Over time, this project will result in an improvement of water quality and a long-term decrease in sedimentation as this section of creek will revert back to a natural sediment regime.

HUC 7 level: Spencer Gulch water quality downstream of this project will improve over time, as less sediment will be contributed to the system from the failing road.

HUC 5 level; It is unknown if sediment from Spencer Gulch ever reaches the Middle Applegate River, as flow from Spencer are captured by an irrigation canal. If flow does ever reach the Applegate, then the net effect of decommissioning the old road and construction of a new one would be a decrease in sediment reaching the Applegate from Spencer Gulch.

Objective 5: Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.

Site level: Same effects as Objective 4.

HUC 7 level: Same effects as Objective 4.

HUC 5 level: Same effects as Objective 4.

Objective 6: Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.

Site level: This project would not affect the timing, duration, or spatial distribution of flows. Decommissioning of the old road and placement of large wood would allow for sediment, nutrient, and wood deposition in this section of Spencer Gulch.

HUC 7 level: No effects at this spatial scale.

HUC 5 level: No effects at this spatial scale.

Objective 7: Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

Site level: No effects at this spatial scale.

HUC 7 level: No effects at this spatial scale.

HUC 5 level: No effects at this spatial scale.

Objective 8: Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.

Site level: Decommissioning of the old road and planting of native species on the road bed would benefit the riparian community on this section of Spencer Gulch. Spencer Gulch would no longer be constrained by the road, and would migrate over time from its current channel, creating greater channel complexity.

HUC 7 level: No effects at this spatial scale.
HUC 5 level: No effects at this spatial scale.

Objective 9: Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

Site level: This project would allow for the change of the currently poor habitat in this non-functioning section of Spencer Gulch to a more natural environment. Over time, this section would be restored to a functioning riparian corridor, allowing native plant, invertebrate, and vertebrate species to prosper.
HUC 7 level: No effects at this spatial scale.
HUC 5 level: No effects at this spatial scale.

B. Alternative to the Proposed Action Alternative: Environmental Consequences

Botany Direct, Indirect, and Cumulative Effects (*Alternative to the Proposed Action*)
The alternative to the proposed action would have no direct, indirect or cumulative effects on the continued persistence of the federally listed *Fritillaria gentneri* or any Bureau Special Status or Survey and Manage vascular or nonvascular plants.

Fisheries Direct, Indirect, and Cumulative Effects (*Alternative to the Proposed Action*)
This project would have no direct effects on coho salmon populations in the Applegate River, or their critical habitat. The construction of the new road in an area of severe burn, complete with ford crossings on three dry swales/dry draws would contribute short term (less than five year) increases in sediment to the stream system. These increases would be less than background levels of sedimentation.

All other direct, indirect, and cumulative effects are identical to those identified under the proposed action. This alternative would have **no effect** on SONC coho salmon, SONC critical habitat, or EFH.

Hydrology, Soils, and Riparian Direct, Indirect and Cumulative Effects (*Alternative to the Proposed Action*)
The direct and indirect effects for hydrology would be the same as under the Proposed Action Alternative, except for the following. The new road would cross no streams or Riparian Reserves. The rock-armored crossings on the dry draws (draws with no defined channel or annual scour and deposition) along the new road would accommodate any flows in a 100-year flood event, and there would be no culverts to maintain, so the risk of crossing failure would be low. Construction of the crossings would cause no increase in fine sediments to tributaries downstream of these draws beyond those that may occur as a result of the fire. Because the new road proposed under this alternative would cross no active stream channels, the risk to riparian resources and water quality would be even less than under the Proposed Action Alternative. Approximately 1.5 acres of BLM-administered land and 1.3 acres of non-BLM land would be permanently taken out of production during the construction of about 0.5 miles of new road in the Spencer Creek drainage.

The cumulative effects for hydrology would be the same as under the Proposed Action Alternative,

except that there would be an even greater decrease in Riparian Reserve road mileage. However, at the watershed scale, these changes would have no discernable impact.

Terrestrial Wildlife Direct, Indirect, and Cumulative Effects (*Alternative to the Proposed Action*)
The alternative to the proposed action would remove snags and down woody material on approximately 1.5 acres through road construction, and approximately 0.5 acre of riparian habitat would be improved through road decommissioning. As with the proposed action alternative, the small amount of habitat loss would have a negligible impact to terrestrial wildlife species.

C. No Action Alternative: Environmental Consequences

Botany Direct, Indirect, and Cumulative Effects (*No Action*)
The no action alternative would have no direct, indirect, or cumulative effects on the continued persistence of the federally listed *Fritillaria gentneri* or any Bureau Special Status or Survey and Manage vascular or nonvascular plant.

Fisheries Direct, Indirect, and Cumulative Effects (*No Action*)
The no action alternative would have no direct effect on federally listed threatened coho salmon populations in the middle Applegate River. No new road would be constructed, no new culverts installed, and no in-stream structures added to Spencer Gulch. The existing road would continue to be eroded by Spencer Gulch, contributing sediment to the stream system. The section of Spencer Gulch road proposed for decommissioning is located 3.8 river miles from the Applegate River, and because its flow is captured by an irrigation ditch, it is unlikely that any sediment contributed to the system by the road would adversely affect coho salmon in the Applegate River.

The cumulative effect of not building a new road and decommissioning the old section of road would be that sediment from the eroding road would continue to move downstream, Spencer Gulch would continue to be constrained, riparian habitat would continue to decline, and access to Spencer Gulch by fish and other aquatic organisms will continue to be restricted by the irrigation canal. This alternative would have **no effect** on SONC coho salmon, SONC critical habitat, or EFH.

Hydrology, Soils, and Riparian Direct, Indirect, and Cumulative Effects (*No Action*)
No action would result in unacceptable disruption of ecological processes, unacceptable loss of riparian area soils and severe stream channel degradation, off-site damage to private property, possible threat to human life, and loss of access due to plugged culverts and a major road failure. The road would continue to be a chronic source of sediment input to the downstream aquatic system.

An example of the type of degradation likely to occur at this site can be found only 5 miles from this location, on Boaz Gulch in T39S R3W. A similar road (pit-run) in a similar landscape setting (encroaching on the active channel), with a similar sized drainage area, resulted in major degradation when high flows gained access to the road. The road surface itself was stable, but the road's confined location in the bottom of a valley, with portions of the road at the same elevation as the stream, allowed the full force of flood flows to be channeled down the road. The flows eroded the softer hillslope

material on the road's cutbank (on the opposite side of the road from the stream), causing rapid downcutting and erosion of the hillslope, resulting in a roadside gully cut to bedrock up to 8 feet deep and 15 feet wide that runs for more than a thousand feet down the valley bottom.

Degradation similar to what occurred in Boaz Gulch is likely on this portion of the Spencer Gulch Road because portions of the road are lower elevation than the bankfull level of the adjacent stream. Because the road is insloped, once the stream flowed onto the road, water would be channeled down the road along the base of the cut slope, leading to severe erosion. This scenario is very likely to occur due to the increases in peakflow and sedimentation as a result of the fire.

This would result in no change in road density in the Middle Applegate Watershed. Road density within Riparian Reserves would likewise remain the same. The existing road would continue to be a chronic source of fine sediment input to the downstream aquatic system. Although the overall impact to riparian / aquatic resources would be negative, these probably minor changes would have little discernable impact at the watershed scale; the segment of road would continue to be just one more small piece negatively contributing to overall cumulative effects in the Middle Applegate Watershed. A major failure of this section of road does have the potential of contributing a large quantity of sediment to the Applegate River, which would be detrimental to water quality and aquatic habitat.

Terrestrial Wildlife Direct, Indirect, and Cumulative Effects (*No Action*)
Under the No Action Alternative upland habitat would not be lost through road construction (1.5-2.0 acres) and 0.5 acres of riparian habitat would not be improved. The impact to wildlife would be negligible.

D. Critical Elements

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order and must be considered in all EAs.

Critical Element	Affected Yes	Affected No	Critical Element	Affected Yes	Affected No
Air Quality		✔	T & E Species		✔
ACECs		✔	Wastes, Hazardous/Solid		✔
Cultural Resources		✔	Water Quality		✔*
Farmlands, Prime/Unique		✔	Wetlands/Riparian Zones		✔*
Floodplains		✔	Wild & Scenic Rivers		✔
Nat. Amer. Rel. Concerns		✔	Wilderness		✔
Invasive, Nonnative Species		✔	Energy Resources (EO 13212)		✔
			Environmental Justice		✔

*These affected critical elements would be impacted by implementing the Proposed Action. The impacts are being reduced by designing the Proposed Action with project design, Best Management Practices, Management Action/Direction, Standard and Guidelines as outlined in the Environmental Impact Statements (EIS)/Record of

Decisions *(RMP) (USDI BLM 1995)(USDA FS; USDI BLM 2001*) tiered to in Chapter 1. The impacts are not affected beyond those already analyzed by the above-mentioned documents.

E. Consultation with Others

An interdisciplinary team of resource specialists reviewed the proposal and all pertinent information, and identified relevant issues to be addressed during the environmental analysis.

EA Availability and Distribution List

Upon completion of this EA, a legal notification was placed in the Medford Mail Tribune offering a public review and comment period. For additional information, please contact Bill Yocum at (541) 618-2384.

This EA was distributed to the following agencies, organizations, lease holders, and tribes:

Organizations and Agencies

Association of O&C Counties
Audubon Society
Applegate Partnership; Applegate River Watershed Council
Headwaters
Jackson County Commissioners
Klamath Siskiyou Wildlands Center
Northwest Environmental Defense Center
Oregon Department Forestry
Oregon Natural Resources Council
Oregon Department of Fish and Wildlife
Rogue River National Forest (RRNF)
The Pacific Rivers Council
Southern Oregon University

Federally Recognized Tribes

Cow Creek Band of Umpqua Indians
Confederated Tribes of Grand Ronde
Confederated Tribes of Siletz
Klamath Tribe
Quartz Valley Indian Reservation (Shasta Tribe)
Shasta Nation

Other Tribes

Confederated Bands [Shasta], Shasta Upper Klamath Indians
Confederated Tribes of the Rogue-table Rock and Associated Tribes