Draft Environmental Assessment

United States
Department of
Agriculture

Forest
Service

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Photo: Gray Butte from Terrebone, Oregon

Crooked River National Grassland
administered by the
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Jefferson County, Oregon

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Table of Contents _____

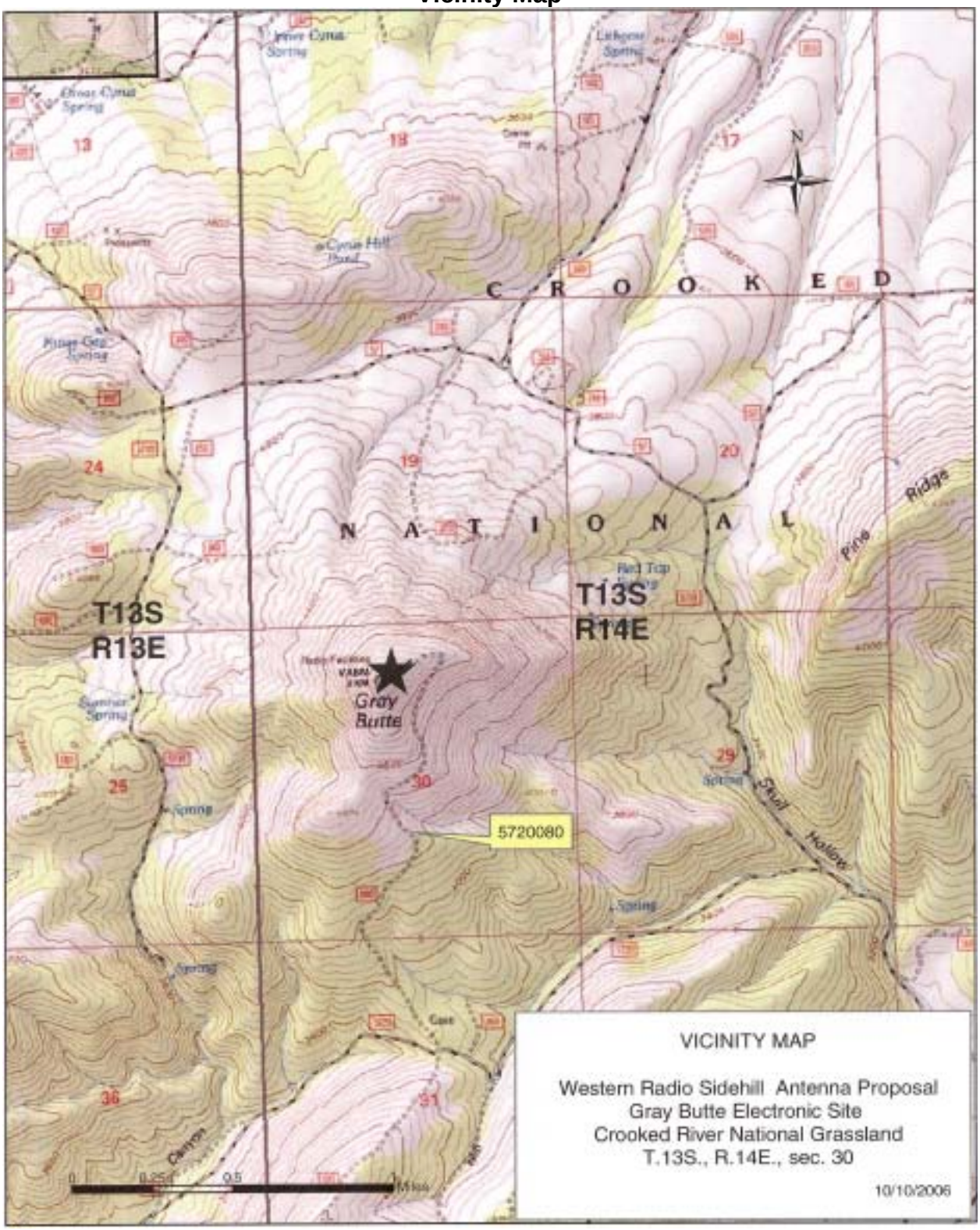
Chapter 1 – Introduction

Chapter 2 – Alternatives

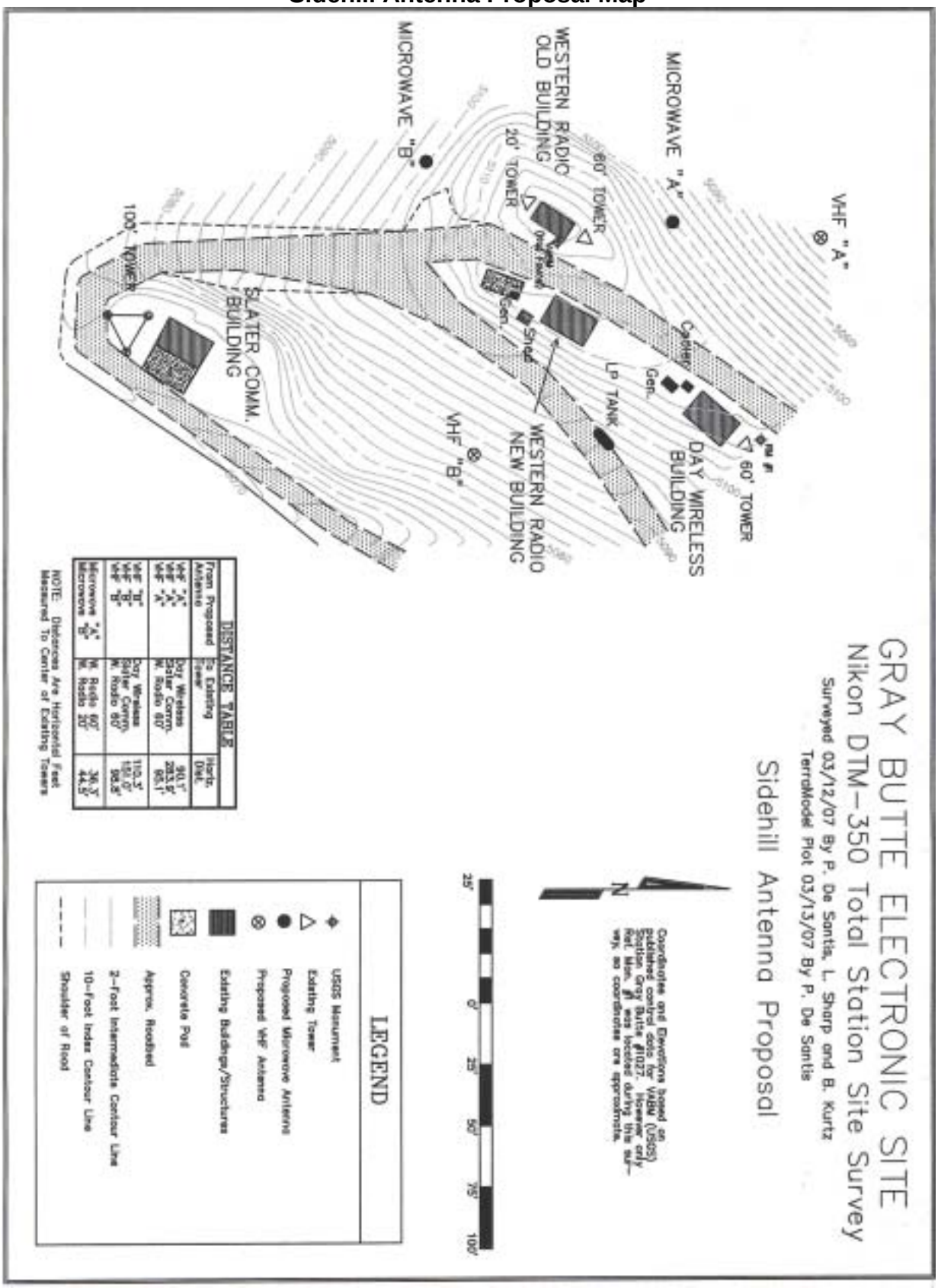
CHAPTER 1 - INTRODUCTION

The Ochoco National Forest has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

Vicinity Map



Sidehill Antenna Proposal Map



TECHNICAL TERMS

Monopole towers -are structures consisting of a single tubular pole that supports antennas.

PHOTO 1: Example of a monopole tower in center of photo.

Lattice towers -are structures to support antenna, consisting of crossed metal braces that usually form a 3-sided tower with a triangular base, or sometimes a 4 sided tower. Superior in supporting heavier loads, or when taller towers are needed.

PHOTO 2:
Western Radio's
20 ft. and 60 ft.
lattice towers

with 6 ft. solid,
"dish" microwave
antennas

Omnidirectional: Involving all directions; receiving or sending radio waves equally well in all directions. These types of antenna systems have a higher potential to create interference, because of this characteristic.

VHF: (Very High Frequency) This is the band of radio frequencies falling between 30-300 mhz. Typical communication uses in these frequencies are FM radio, television, and short distance terrestrial communication. In this EA, the VHF antennas are used for a two-way mobile radio system.

Microwave: Microwaves transmit at high frequencies, are unidirectional and do not usually cause interference problems. Microwave antennas can be solid dishes, such as commonly used in home satellite systems, or grid (open) style dishes. In this EA, the microwave antennas are being used for a cellular communications system.

Mhz (Megahertz): One million cycles/second. This is a radio frequency unit of measure.

Interference (radio frequency interference): is an unwanted disturbance caused in a radio receiver or other electrical circuit by electromagnetic radiation emitted from an external source. The disturbance may interrupt, obstruct, or otherwise degrade or limit the effective performance of the circuit. Signals emitting at similar frequencies have a higher potential to cause interference.

Background

Gray Butte is an existing electronic site designated in the Crooked River National Grassland Land and Resource Management Plan (LRMP). It is located within section 30, T.13S., R.14E., Willamette Meridian, approximately 15 air miles northwest of Prineville, Oregon, and is 5,118 ft. in elevation.

Although the site is designated at 80 acres, the electronic facilities are clustered in a small area near and at the top of the Butte.

The first special use permit was issued in 1967 for the site. Currently, there are 3 facility owners at the site, Western Radio Services (Western Radio), Slater Communications and Electronics (Slater Communications) and Day Wireless Systems (Day Wireless), each with their own building and tower (Western Radio has 2 towers). All 3 have communication site leases from the USDA Forest Service.

The 3 lessees provide facilities needed by radio and television stations to broadcast clear signals for local communications. They also provide facilities needed by businesses that provide wireless internet and cellular telephone services. Lastly, they provide facilities for businesses and government agencies, such as logging companies and law enforcement entities, to facilitate internal communications.

In 1991, Western Radio Services submitted an application to move their 158.7 megahertz (mhz) VHF antennas off their 60-foot lattice tower, and mount them to metal pipes anchored to rock at sidehill locations further below the top of the Butte. Processing of the application was delayed and postponed due to a number of reasons: some specific details of the proposal were unclear, changes to the application were submitted, comments by other site users and a Forest Service radio specialist indicated concerns with the proposal, belief that new facilities being constructed at the site could potentially change the necessity for the antenna relocation, ongoing appeals and litigation, and lack of funding to update the Site Management Plan to allow the new facilities.

In 1998, a decision to deny the application was made. However, the denial was withdrawn in early 1999. In 2003, processing was reinitiated.

In March of 2006, Western Radio submitted a revised application proposing to also relocate a microwave system and install a total of four new monopole type towers. Additional details and manufacturer specifications were provided. This EA analyzes this March 2006 application.

Purpose and Need for Action

This Environmental Assessment (EA) addresses the sidehill antenna application submitted by Western Radio Services (Western Radio) on March 17, 2006.

The purpose of this project is to respond to Western Radio's sidehill antenna application. Western Radio has both VHF transmit and receive antennas on the same 60- ft. tower that operate at similar frequencies. Western Radio would like to relocate the transmit antennas to sidehill locations in order to increase the physical separation between the transmit and receive antennas, thereby reducing or eliminating the interference Western Radio states is occurring.

Western Radio is proposing to install four larger microwave antennas ("dishes") on new towers because Western Radio states the existing towers cannot support the larger microwave dish sizes.

The project area is a designated electronic site in the Crooked River National Grassland's Land and Resource Management Plan 1989 (LRMP). Low-power electronic equipment, such as radio and television relay stations are emphasized. Forest Service objectives in management include authorizing communication uses that meet LRMP objectives, providing a safe and high quality communications environment, and contributing to the telecommunications needs of the American public. (Forest Service Handbook 2709.11, Chapter 90, 90.2.)

Proposed Action

The Forest Service proposed action (See Chapter 2, Alternative 2 for more detail) is to approve Western Radio's sidehill application submitted on March 17, 2006:

> The two 158.7 mhz VHF antennas mounted on Western Radio's existing 60- ft. lattice tower would be relocated to two sidehill locations further downhill, mounted on two new 15- ft. monopole towers.
>
> The existing three microwave antennas mounted on Western Radio's 20 ft. lattice tower would be replaced with three 6- ft. solid microwave antennas, mounted on two new 20- ft. monopole towers located at sidehill locations. A fourth microwave dish to serve Warm Springs, although already installed and operating on Western Radio's existing tower, would also be approved to be mounted on the new 20- ft. monopole towers. See the Sidehill Antenna Proposal Map on p. 5.

The application is not consistent with the LRMP or the Gray Butte Electronic Site Management Plan (Site Plan), because the LMRP and Site Plan only allow three towers. Because of this, the proposed action would also require a LRMP amendment and a subsequent Site Plan revision:

> The Forest Service would amend the LRMP MA-G15 to delete the limitation of the site to three buildings and three towers. Guidelines on the number and kind of facilities will be located in the Site Plan, not the LRMP. The Site Plan would need to be revised to allow the additional towers, and solid style microwave dishes.

Decision To Be Made

Based on the analysis documented in this environmental assessment, the Forest Supervisor will decide:

- Whether the sidehill application should be approved as submitted, modified, or denied?
- What project design criteria and monitoring, if any, should be required as part of approving a proposal?
- Whether the LRMP should be amended to allow the additional towers.

Management Direction

The Crooked River National Grassland Land and Resource Management Plan (LRMP), 1989, and the Gray Butte Electronic Site Management Plan (Site Plan), 1989, as amended in 1992 and 1996, direct management of this project area.

LRMP direction
The project area is located within MA (management area) G15-Gray Butte Electronic Site, which emphasizes management of the site for low-power-output electronic equipment and transmitters which do not exceed 150 watts.

Management direction for MA-G15 allows three buildings and three towers. Currently, there are four towers (one 20- ft., two 60- ft., and one 100- ft.), although the 20- ft. tower has also been referred to as a "microwave support stand" in the past, and has not been counted as a tower in the context of existing and past Site Plans.

Pertinent Standards and Guidelines*:*

-On-site cultural resource interpretation and enhancement will not be done at the Electronic Site. (LRMP p. 4-64)

-The visual quality objective for the Electronic Site is partial retention (LRMP p. 4-104)

-The access road will be closed to public use year-round; allow only administrative and permittee use. (LRMP p. 4-113)

Electronic Site Management Plan
The current Site Plan allows only 3 buildings and 3 towers. It allows "point to point (i.e. microwave) antennas mounted on the [existing] towers, or ground mounted above elevation 5080."

The existing Site Plan also requires that new or replacement microwave equipment shall be grid type. (p.11-Table 2 Minimum Standards for Structures and Equipment item # 7)

Public Involvement

The application was listed in the Forest Schedule of Proposed Actions in 2006 and 2007 editions. In October of 2006, scoping letters were sent to 191 individuals and groups, including the three facility owners at the site, and The Confederated Tribes of the Warm Springs Reservation, the Burns Paiute Tribe, Confederated Tribes of the Umatilla Reservation, and the Klamath Tribes. A short newspaper article describing the application proposal was published by the Madras Pioneer on November 1, 2006.

Based on the scoping comments, potential alternatives to the proposal were considered. As a result of these considerations, a December 2006 letter was sent to the three 3 facility owners asking them for additional input.

The following comments were received:

Slater Communications has no issues with the microwave antenna component of the proposal, but is concerned that the relocation of the VHF antennas closer to their own tower will result in interference problems, since they also have equipment close to the 158.7 mhz frequency. They do not support amending the

LRMP to allow more buildings or higher output powers. They commented that the 60- ft. vertical separation already provided on Western Radio's existing tower is more effective in providing isolation than the increased horizontal separation that is being proposed. Slater Communications question whether such similar frequencies closely located at Gray Butte can successfully operate, and suggests that Western Radio change their transmitter frequency.

Day Wireless has no issues with the microwave antenna component of the proposal, but is also concerned about the VHF antennas being moved closer to their facility.

Western Radio replied to our December letter requesting additional input on potential alternatives, stating that increasing the height of the existing 60- ft. tower would not provide the additional VHF separation required, nor would it add the extra capacity to support the microwave antennas. They believe that the height of the 60- ft. tower can be increased to 100 ft. by adding sections, without having to replace the tower. The existing cement base foundation would support the taller tower.

The *Blue Mountain Biodiversity Project* is concerned about the effects of electromagnetic radiation on birds and their migration.

The *Sierra Club* is concerned about the effects of towers and signals on avian species, and the additional areas of disturbance.

The *Confederated Tribes of the Warm Springs Reservation* supports documenting the archaeological site history and submitting the site as Not Eligible to the State Historic Preservation Office. They would like to see the archaeological site protected by retaining the cement slab that lies over it.

They suggested completing a traditional oral history of Gray Butte by working with the tribal elders, and adding it to the documentation of the site. The oral history was completed in April of 2007.

Issues

Interdisciplinary team (IDT) meetings, one on one discussions with specialists, field visits, and comments provided by the public helped identify three significant issues:

Tower Separation/Isolation The relocation of the two VHF antennas closer to the other two owner's towers has the potential to create interference to their radio communications, some of which also use similar frequencies.

Analysis factor: The VHF monopole tower distances to the other two owner's facilities will be measured for each alternative, and an estimate of the change in attenuation, otherwise known as isolation, will be made. The amount of isolation

has a direct correlation to potential interference. Everything else being equal, the longer the distance, and the greater the attenuation, there is less potential for creating interference.

Visual Quality: Gray Butte is a prominent peak from a number of viewpoints, including Highways 97 and 26, Smith Rocks State Park, and the Gray Butte trail. New facilities may not blend well with the existing landscape, degrading the visual quality.

Analysis factors: The alternatives will be evaluated for how well they blend into the landscape, from the perspective of casual visitors and activity-based recreationists.

Full Utilization of Existing Facilities: Only the top of Gray Butte allows omni-directional antenna systems. The existing facilities are concentrated at or near the top of the butte, which has limited physical space for additional towers or other facilities. Existing facilities should be fully utilized before new development is authorized. Additional facilities can create more physically crowded conditions for all users, and increase interference at the site. In addition, one of the 1989 Site Plan objectives is to maximize utilization of the site, (p.3- II # 3) and one Forest Service policy goal of site planning is to maximize the efficient use of each site (FSH 2709.11, 92)

Analysis Factors: The size and physical impact of new facilities will be evaluated for each alternative.

CHAPTER 2 - ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the project, and includes a comparison chart.

Alternatives Considered in Detail

Alternative 1 (No Action)

This is the no action alternative, and is required by law.

The application would be denied. The two new VHF sidehill located towers would be denied, as would the two new microwave towers.

Western Radio could continue to operate the VHF and microwave system under the terms of their existing lease. They would have the option, without needing Forest Service approval, to use additional equipment such as filters, isolators, and combiners,

to reduce interference problems, or they could apply to the Federal Communications Commission for a frequency change.

Alternative 2 (Proposed Action)

The proposed action would approve Western Radio Services March 17, 2006 application, which includes:

> The existing two 158.7 mhz VHF transmit antennas mounted on Western Radio's existing 60- ft. lattice tower would be relocated to two sidehill locations further downhill, mounted on two new 15- ft. monopole towers. One new tower would be approximately 95 ft. north of the existing 60- ft. tower, and the new other tower would be 99 ft. southeast.
>
> The existing 3 microwave dish antennas mounted on Western Radio's 20 ft. lattice tower would be replaced with four 6- ft. solid microwave antennas, mounted on 2 two new 20- ft. monopole towers located at sidehill locations. One new tower is an estimated 60 ft. north of the existing 20 ft. lattice tower, and the other new tower would be about 45 ft. south. **Note:** Western Radio has already temporarily modified its microwave system, so there are now four 6- ft. solid microwave dish antennas located on his existing towers. Selection of this alternative would allow these 6- ft. microwave dish antennas to be installed on new monopole towers. While the applicant described these towers at about 20 ft. from his existing towers, survey of the staked locations indicates a distance of 45 – 60 ft. The existing 20-foot tower would also remain[1].
>
> *Installation description*: Both the 15 ft. and 20 ft. towers would be anchored to buried cement base foundations that are approximately 4 ft. x 4 ft. x 4 ft. in size. Excavation to a depth of 4 ft., less in rock, would be completed for these bases.
>
> Transmission lines that carry radio signals from the antennas to Western Radio's new building, where the associated radio equipment is located, will be buried to a depth of 6 inches. The cables associated with the three new towers located west of the access road (labeled VHF A, Microwave A and B on the map) will be routed to the closest Western Radio existing tower, and then join the existing buried conduit line which crosses the access road to Western Radio's new building. The cables associated with the most easterly new tower (labeled VHF B on the map) will be routed directly to Western Radio's new building.
>
> An electric jack hammer and hand tools will be utilized to install the new towers and bury the transmission lines.

[1]Historically, the Forest Service has viewed this structure as only to be used to support microwave dish antennas, not VHF antennas. However, Western Radio has used the structure to support both. Under Alternatives 2, 3, and 4, this structure would be considered part of Western Radio's permitted uses, and no restrictions regarding its' use (microwave or VHF), would be applied.

The application is not consistent with the LRMP or the Gray Butte Electronic Site Management Plan (Site Plan). Because of this, the proposed action would also require a LRMP amendment and a subsequent Site Plan revision. The LRMP would be amended to remove references to the number of buildings and towers. The Site Plan would be amended to reflect the changes in the number of towers, to allow solid microwave dishes, and to acknowledge the existence and use of the existing 20-foot tower.

Alternative 3

The VHF antenna component of the application would be denied.

The microwave component of the application would be approved, as described in Alternative 2.

The existing 20-foot tower would be approved, as described in Alternative 2.

The LRMP and Site Plan would be amended as in Alternative 2.

Alternative 4

The VHF antenna component of the application would be denied. The height of the existing 60 ft. lattice tower would be allowed to be increased to 100 ft., to allow for additional antenna separation. The increased height would be obtained by adding tower segments, and no replacement tower would be allowed.

The microwave component of the application would be denied. The applicant would not be allowed to construct two 20-ft. monopole towers.

The existing 20-foot tower would be approved, as described in Alternative 2.

Western Radio would continue to operate its existing microwave system of three 6- ft. antennas, and a new fourth 6-ft. dish, all mounted on the existing two towers. The LRMP would be amended to remove references to the number of buildings and towers. The Site Plan would be amended to reflect the increased tower height, to allow solid microwave dishes, and to acknowledge the existence and use of the existing 20-foot tower.

Alternatives Eliminated From Detailed Study

A primary reason for proposing the two new microwave monopole towers is that the applicant has stated the existing 20- ft. tower cannot support the four larger dishes being proposed.

An alternative was discussed to replace the existing 20- ft. tower with a structurally stronger tower of the same height, using the same location. This option was not further analyzed because it would require that the cell site, which serves as a hub networking communications for a number of local towns, would either be out of service while the replacement project occurred (which could be weeks if a deeper and larger cement base foundation was needed), or a temporary tower would be necessary, which would entail additional excavation, and eventual removal of the temporary structure. In addition, the existing concrete pad may partially cover an archeological site. The Confederated Tribes of Warm Springs has asked that we minimize disturbance at the site and to leave the concrete slabs in place.

Project Design Criteria for Alternatives 2 through 4

Alternatives 2 and 3 would result in two to four new towers. There will be ground disturbance from installation of the new towers, and burying the associated transmission lines. Equipment will be brought to the site. Alternative 4 would add sections to an existing tower, and specialized equipment will be brought to the site.

The following project design criteria should be included in any authorization to proceed with the installations. In addition, new electronic equipment should be chosen that minimizes impacts on visual quality.

Visual Quality

1. Rehabilitate impacted areas after completion of construction, to help reduce textural, soil or color contrast.

2. Keep new antenna mass to 6 ft. in diameter or smaller (grid or solid style dishes are acceptable).

3. Reduce reflection of sunlight onto new electronic facilities through the use of light absorbing paint and non-reflective materials. Utilization of flat paint in dark colors such as black, green or gray, or non-reflective cloth covers is recommended.

Fisheries

4. The access road to the project area, (5720080) is a native surface road. Conduct installation activities when this road is dry, and not wet or muddy, to minimize sediment transport and erosion towards streams.

Weed Prevention

5. A copy of the map showing known existing noxious weed infestations along associated travel routes will be provided to the lessee.

6. Areas of high disturbance including construction sites and road right-of-ways will be monitored for noxious weed infestation periodically through the life of the project.

7. All equipment to be operated within the project area will be cleaned in a manner sufficient to prevent noxious weed propagules from being carried onto the project area. This requirement does not apply to passenger vehicles or other equipment operated exclusively on roads. Cleaning will occur off of National Grassland administered lands. Cleaning will be inspected and approved by the administrator of the lease.

8. If road maintenance activities are required within infested portions of existing roads, the road maintenance equipment will be cleaned prior to moving out of the infested area.

9. Road rock source pits/quarries will be inspected for noxious weed infestations prior to use. Rock source material contaminated with high priority weed propagules will not be utilized, or pit use will be managed to ensure contaminated materials are not transported and deposited in other locations.

10.Areas of bare/disturbed soil (including but not limited to: construction sites, and equipment staging areas) will be seeded. The seed mix to be used will include at least one grass species which: grows readily in the absence of the A soil horizon, and is moderately to strongly rhizomatous. In addition, the seed mix will include one fast germinating annual grass species to provide immediate (relatively) ground cover. Seed application rates will be high (20-30 lbs/acre pure live seed basis) to compensate for the broadcast method of application, and to generate vegetative densities adequate to provide deterrence to noxious weed invasion.

The Forest Service will provide a specific seed mix recommendation to the lessee.

11. Seed will be certified weed free (all states noxious weed certification).

12. The lessee will be provided with weed identification material so that they can be better able to recognize the presence of noxious and invasive plants.

13.If new noxious weed infestations do occur within the project areas, a noxious weed site inventory will be completed, and an early treatment strategy will be employed under the Forest's anticipated early detection, rapid response protocol.

14.Soil disturbing activities will be avoided during periods of heavy rain or wet soils to minimize soil disturbance.

15. Personnel will be responsible to ensure that all hand tools, clothing and personal protective equipment are free of noxious weed propagules prior to entering the project area.

Cultural Resources

Complete a traditional oral history of Gray Butte by working with the tribal elders, and adding it to the documentation of the site

Protect the archaeological site by retaining the cement slab that lies over it.

Alternative Comparison

The following table displays the features of each alternative.

Table 1. Comparison of Alternatives Features

Alt. components	Alt. 1	Alt. 2 (proposed action)	Alt. 3	Alt. 4
VHF antennas on two new 15 ft. towers	Deny	Approve	Deny	Deny; approve increasing existing 60 ft. tower to 100 ft.
Microwave antennas on two new 20 ft. towers	Deny	Approve	Approve	Deny
Amend LRMP to delete restriction of 3 towers and 3 buildings	No	Yes	Yes	Yes
VHF antennas allowed on existing 20-foot tower	No	Yes	Yes	Yes
Project design criteria	None	All listed in EA	All listed in EA	All listed in EA except Weed # 10,11

Table 2. Comparison of Effects

Resource	Alt. 1	Alt. 2 (proposed action)	Alt. 3	Alt. 4
Tower Separation/Isolation (VHF) to other Lessees	No change Existing Distance from Western Radio 60 ft. tower to: Slater:190 ft. Day: 107 ft.	Reduction of separation: Resulting Distance from VHF towers to: Slater: 151-284 ft. Day: 90 – 110 ft.	No change	No change
Predicted Isolation to other Lesees	No change	Slater: VHF A-would result in added isolation VHF B-would result in decreased isolation Day: VHF A-would result in decreased isolation VHF B-would result in increased isolation	No change	No change
Meets VHF Purpose and Need	No change	Increased horizontal distance/likely reduced isolation because vertical separation is more effective than horizontal separation	No change	Increased vertical distance/ likely improvement in isolation
Visual Quality: **--- casual visitors, such as campers and travelers/Scenic views**	No change to existing scenic condition; 2 towers do not dominate or are highly visible. 100-foot tower, visible and distinguishable	Slight alteration (improvement) to scenic condition; new towers would not dominate or be highly visible, microwave dishes off the skyline	Slight alteration (improvement), new towers would not dominate or be highly visible, microwave dishes off the skyline	The 100 ft. tower would be more dominant due to height above other towers at skyline.
--- activity-based recreationists, such as bicyclists	No change; existing towers. do not dominate nor are highly visible	No effect; new towers would not be evident	No effect: new towers would not be evident	The increased tower height is not expected to be highly evident

Resource	Alt. 1	Alt. 2 (proposed action)	Alt. 3	Alt. 4
Full Utilization of Existing Facilities	No change	Maximum new facilities on site -4	Fewer new facilities -2	No new facilities while increasing capacity
Wildlife				
--Migratory birds: tower collisions	No increase risk Minimal Risk – * meets FWS guidelines	Minimal Risk – * meets FWS guidelines	Minimal Risk – * meets FWS guidelines	Minimal Risk- * meets FWS guidelines
--Raptors	No change No effect-no raptor nests w/in 2 miles	No effect-no raptor nests w/in 2 miles	No effect-no raptor nests w/in 2 miles	No effect-no raptor nest w/in 2 miles
PETS**				
--Canada Lynx	No Effect	No Effect	No Effect	No Effect
--N. Bald Eagle	No Effect	No Effect	No Effect	No Effect
--Peregrine Falcon	No Impact	No Impact	No Impact	No Impact
--Bufflehead	No Impact	MIIH***	MIIH***	MIIH***
--California Wolverine	No Impact	No Impact	No Impact	No Impact
--Gray Flycatcher	No Impact	MIIH	MIIH	MIIH
--Great. Sage Grouse	No Impact	No Impact	No Impact	No Impact
--Pygmy Rabbit	No Impact	No Impact	No Impact	No Impact
--Tricolored Blackbird	No Impact	No Impact	No Impact	No Impact
--Upland Sandpiper	No Impact	No Impact	No Impact	No Impact
Weed Prevention				
--risk of weed spread potential, based on # of towers, length of cable lines to bury	No change – existing vehicle use causes the most risk	Moderate increase in risk due to 4 new towers	Some increase in risk due to two new towers	No change –
Fisheries				
PETS Aquatic Species**				
--Bull Trout critical habitat	NAA+	NAA+	NAA+	NAA+
--Mid-Columbia R. steelhead trout critical habitat	NAA+	NAA+	NAA+	NAA+
--Mid-Columbia R. spring-run Chinook salmon EFH++	NAA+	NAA+	NAA+	NAA+

--Columbia spotted frog	MIIH***	MIIH***	MIIH***	MIIH***
--Redband trout, Bull trout, Mid-Columbia R. steelhead trout, Malheur mottled sculpin, Mid-Columbia R. spring-run chinook salmon, Westslope cutthroat trout	No Impact or No Effect	No Impact or No Effect	No Impact or No Effect	No Impact or No Effect
Botany **No proposed, threatened, or endangered species** **--effects to sensitive species:**	No Impact	No Impact	No Impact	No Impact

* U.S. Fish and Wildlife Service (FWS) tower guidelines to minimize collisions between birds and towers: a) towers should be less than 200 ft. above ground level, b) towers should be unlit, and c) towers should avoid guy wires. These guidelines are met with all alternatives.

**** PETS: Proposed, Threatened, Endangered, and Sensitive Species:**

Determination for Sensitive Species:
***MIIH May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species

Determination for designated critical habitat and EFH:
+ NAA No adverse affect

++ Essential Fish Habitat

More information regarding the effects presented in table two can be found in the draft specialist reports. These reports are available for review upon request.