PINE MOUNTAIN (OBSERVATORY) COMMUNICATIONS SITE MANAGEMENT PLAN

DESCHUTES NATIONAL FOREST
BEND-FT. ROCK RANGER DISTRICT
BEND, OREGON

Submitted By: _____ _____
District Ranger Date

Approved By: _____ _____
Forest Supervisor Date

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I. DEFINITIONS

Authorization Holder. An individual, business, organization, or an agency that has been issued a Communications Use Lease or Special Use Permit which allows occupancy, use, rights, or privileges of National Forest System (NFS) land.

Authorized Officer. The Forest Service employee with the delegated authority to issue and manage communications uses. The authorized officer is usually the District Ranger or Forest Supervisor of the unit on which the communications site is located.

Co-location. Installation of telecommunications equipment in or on an existing communications facility or other structure.

Communications Site. An area of National Forest System (NFS) lands designated as an electronic site through the Forest Land and Resource Management planning process for telecommunications uses. A communications site may be limited to a single communications facility, but most often encompasses more than one. Each site is identified by name, usually denoting a local prominent landmark, such as Bald Mountain Communications Site.

Customer. An individual, business, organization, or an agency that operates telecommunication equipment within a facility, but does not broadcast or resell communications services to others.

Facility. A building, tower, or other physical improvement (buildings and towers do not have to be combined to be considered a facility) that is built or installed to house and support authorized communications equipment.

Facility Manager. The holder of a Forest Service communications use authorization who (1) owns a communications facility on NFS lands, (2) rents space in or on their facility to other communications users, but (3) does not own or operate their own communications equipment and they do not directly provide communications services to third parties. Persons or entities that manage or administer a communications facility on NFS lands for a facility owner or a facility manager are not facility managers for purposes of this Communications Site Management Plan.

Facility Owner. The holder of a Forest Service communications use authorization who (1) owns a communications facility on NFS lands, (2) may or may not be renting space or equipment to other communications users in or on their facility, and (3) owns and operates their own communications equipment in their facility.

Multiple-Use Facility. A communications site facility that has multiple communications uses operated directly by the facility owner or has customers or tenants in or on that facility.

Ranally Metro Area. Geographic areas in the United States identified by Rand McNally in its Commercial Atlas and Marketing Guide that define population centers of 50,000 or more. There are approximately 450 Ranally Metro Areas (RMAs) in the United States.

Senior Use. A communications use that predates another communications use. The most senior use or uses form the basis for the communications site designation.

Single-Use Facility. A communications site facility that contains only the single communications use of the facility owner and no tenants or customers in or on the facility.

Tenant. An individual, business, organization, or an agency that operates telecommunication equipment within a facility, for the purpose of broadcasting or reselling communications services to others.

II. NARRATIVE

A. Site Description

Pine Mountain (Observatory) Communications Site is located on the Bend-Ft. Rock Ranger District, Deschutes National Forest, Deschutes County, State of Oregon, in Section 33, T. 20S., R. 15E., Willamette Meridian, at approximately Latitude 43° 47' 29" North, Longitude 120° 56' 52" West. The elevation at Pine Mountain (Observatory) Communications Site is approximately 6335 feet above mean sea level (msl). The area for development is approximately 1.0 acres in size. Pine Mountain (Observatory) Communications Site is road accessible.

This site does not serve a Ranally Metro Area (RMA). The population is currently between 50,000 to 99,999 and is therefore Zone 7. The population identified for this Zone is updated annually by the Forest Service, Washington Office, Director of Lands, and is used to determine the annual rental fee due the Forest Service.

The most senior use at this site is microwave and the site is designated as broadcast not to exceed 1000 watts Effective Radiated Power (ERP) and low power uses. The maximum power output expressed as Effective Radiated Power (ERP) is based on height above average terrain (HAAT).

This plan supersedes the Pine Mountain (Observatory) Electronic Site Plan approved June 14, 1985.

B. Existing Site Development

Pine Mountain (Observatory) Communications Site was allocated as an electronic site in 1983 by the Regional Forester. Two communications sites are located in the Pine Mountain area. The other site is identified as Pine Mountain (Antelope) Communications Site and is located approximately 1.9 miles northeast of the Observatory Site.

The facility currently authorized to Quest Communications was originally issued to Pacific Northwest Bell on January 9, 1979 and reissued on June 26, 1985. The authorization was reissued to US West Communications on August 29, 1994. In 2000, US West Communication and Quest Communication merged and now operate under the name of Quest Communications.

Day Wireless operates a facility that was originally issued to MCI Telecommunications on June 11, 1986 and reissued on July 6, 1994. The authorization was assigned to Day Wireless on February 27, 2002.

See Appendix B for a current list of currently authorized facilities.

C. Objectives

The primary objectives of the Pine Mountain (Observatory) Communications Site Management Plan are to:

1. Document site management policy, procedures and standards, which are not already specified in the standard communications use authorization.

2. Manage for broadcast uses not to exceed 1000 watts ERP and low power uses. Any proposed broadcast use shall have prior approval by the Authorized Officer. All uses must be designed, operated and maintained so as not to physically or electronically interfere with the senior uses or the University of Oregon's Pine Mountain Observatory.

3. If new uses deteriorate the receiving/transmitting operation of existing uses, the new uses may be required to institute at their expense; additional studies, equipment upgrades, frequency isolation, or physically separate themselves from the existing uses.

4. Present a program for operation within the site.

5. Help fulfill the public need for adequate communications sites.

6. Protect the interests of authorization holders and site users by preserving a safe and an electronically "clean" environment.

7. Encourage the efficient development and use of space and facilities within the designated site, subject to the USFS goal to provide the best possible public service at a reasonable cost.

8. Authorize new Tenant and/or Customer uses that can physically and electronically be accommodated within existing buildings and/or towers.

9. Maintain visual resource objectives by requiring design standards that are unobtrusive and by utilizing earth tone colors and non-reflective surface material

consistent with the standards in the Land and Resource Management Plan.

10. Amend this Communications Site Management Plan as necessary to be consistent with future Forest Land and Resource Management Plans. The Forest Service will provide authorization holders with proposed amendments to this plan and will allow a reasonable period of time for the holders to review and comment on the proposed changes.

III. AUTHORITY AND JURISDICTION

A. Authority

Forest Service authority to authorize and manage communications uses on National Forest System lands derives from the Federal Land Policy and Management Act of 1976 (43 U.S. C. 1761-1771); Title 36, Code of Federal Regulations, part 251, subpart B (36 CFR 251, subpart B); Forest Service Manual (FSM) 2700; and Forest Service Handbook (FSH) 2709.11, chapter 90.

B. Jurisdiction

The Forest Service has jurisdiction over the use and occupancy of National Forest System (NFS) lands for communications purposes under the National Forest Management Act (NFMA) of 1976 (16 U.S.C. 1600 et seq.); the Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. 1701 et seq.), and Title 36, Code of Federal Regulations, part 251, Subpart B (36 CFR part 251, subpart B).

The Federal Communications Commission (FCC) has jurisdiction over the use of non-Federal channels of radio and television transmission under licenses granted by the FCC. The National Telecommunications and Information Administration (NTIA) has jurisdiction over the use of Federal channels of radio transmission under authorizations granted by the NTIA.

The issuance of an FCC license or NTIA authorization does not authorize the use and occupancy of NFS lands. A Forest Service special use authorization is required for the use and occupancy of NFS lands for communications purposes.

The Forest Service has jurisdiction over resolution of conflicts associated with the use and occupancy of NFS lands, such as those involving location and re-radiation. The FCC and NTIA are not responsible for resolving occupancy conflicts associated with the use and occupancy of NFS lands or the resolution of other conflicts when entities are operating within the limits of their FCC license or NTIA authorization. However, the FCC or the NTIA may be useful in assisting in the resolution of interference problems or other frequency conflicts.

IV. RIGHTS AND RESPONSIBILITIES

A. The Forest Service

The Forest Service retains the responsibility for issuing and amending authorizing instruments to Facility Owners and Facility Managers for the authorized improvements. The issuance of a FCC license (authorization), or frequency assignment, does not authorize occupancy of NFS lands. Granting occupancy and use of NFS lands rest exclusively with the Forest Service. This includes:

1. Amend or modify this site plan as deemed appropriate.

2. Approve new facilities, including those constructed within an authorization holder's authorized area.

3. Approve assignment of a Communications Use Lease.

B. Facility Owners and Facility Managers Are Responsible for:

1. Complying with the terms and conditions of their communications site authorization and this site plan.

2. Ensuring that all new facilities, expansions, or improvements are consistent with the Deschutes National Forests Land and Resource Management Plan, environmental documentation and decisions affecting the use of this site, and the provisions of this site plan.

3. May rent facility space to tenants and/or customers with prior written approval from the Forest Service. Tenant or customer use must be an approved communications use as designated in this Communications Site Management Plan and shall not interfere with other existing uses at the site or the University of Oregon's Pine Mountain Observatory. Form FS-2700-10, Technical Data for Communication Type Land Use, or equivalent information from prospective tenants or customers seeking to co-locate in an existing communications facility may be required prior to co-location.

4. May not place any unreasonable restrictions on potential or existing tenants and customers.

5. Ensuring that facilities and equipment not complying with Federal, State, and local laws, regulations, and ordinances will be removed or modified within one year of approval of this site plan. Modifications require the pre-approval of the authorized officer.

6. Keeping all facilities within the established limits of their authorized area. The Facility owner or manager may not, for itself or for any customer or tenant, authorize construction of any equipment shelter or tower, or manipulation of the site or vegetation in any way, without specific authorization from the Forest Service (See sec. VII).

7. Providing the authorized officer the name, address, and telephone number of a local contact. The facility owner or the facility manager and the local contact person may be the same individual. The local contact shall be available for emergencies and shall have the authority to make decisions about construction issues, facility maintenance, and all equipment within the facility.

8. Ensuring that all communications facilities and equipment are installed, operated, and maintained according to the most recent Motorola R-56 Standards and Guidelines for Communications Sites. Repairs and modifications to existing facilities/equipment must also meet Motorola R-56 Standards. These standards may be waived by the Forest Service authorized officer when recommended by a site user association or similar technical committee upon request of a facility owner/manager when equivalent measures would achieve similar results.

9. Providing to the authorized officer by October 15th of each year, a certified statement listing their type or types of communications uses they provide and the business names of all occupants and their type of communications use in the facility on September 30th of that year.

10. Treat and control noxious weeds on and adjacent to their permitted area, access, and parking areas. Treatment requirements and standards must be according to applicable regulations. Standards and application procedures may be obtained from the Forest Office.

C. Tenants and Customers:

May co-locate in an existing facility when their communications use is approved by the Forest Service. Co-location in a non-Federal communications facility does not require a Forest Service authorization. Tenants and customers who co-locate in a Federal facility shall first be issued a special use permit from the authorized officer before locating in that Federal facility.

V. USE OF THE SITE

A. Multiple-Use Facilities

Co-location, when practical, shall be required. Site applicants shall take the lead in this area and shall design their proposals to accommodate multiple uses of facilities and improvements. This includes the multiple-use of buildings, towers, solar generating systems, back-up generators, grounding systems, fuel containers, access ways, and parking areas.

Due to the limited development space at the site, new facilities or major modifications to existing facilities shall be designed to accommodate additional users even if other users are, or could be, competitors.

Facility owners and facility managers are not required to lease facility space to others if they can demonstrate to the authorized officer that:

1. Space is not available;

2. The use is incompatible with the existing communications uses at the site. For example, the proposed use is not compatible with other uses as provided for in FSH 2709.11, section 97, exhibit 05;

3. Additional space is needed by the facility owner or the facility manager; or

4. Additional users would compromise security of the facility or communications systems located in that facility.

VI. RENTAL FEES

Unless specified differently in the communications use authorization, the Forest Service shall charge facility owners and facility managers of non-Federal facilities and tenants and customers in Federal facilities an annual rental fee based on the fee schedule for communications uses on National Forest System lands contained in FSH 2709.11, section 95. The rental rates shall be adjusted annually using the Consumer Price Index-Urban (CPI-U), and the population figures are adjusted annually based on the most recent Rand McNally Commercial Atlas and Marking Guide (for RMAs) and Rand McNally Road Atlas for non-RMA communities.

Rental fees that facility owners and facility managers may charge their tenants and customers shall be:

1. Reasonable and commensurate with the use and occupancy of the facilities and services provide to tenants and customers; and

2. Consistent with other fees charged for similar facilities.

VII. CONDITIONS FOR NEW CONSTRUCTION AND MODIFICATION OR EXPANSION OF A FACILITY

A. New Construction, Modification, and Expansion Responsibilities

Construction space at the site is available and future additional facilities may be authorized. If new facilities are proposed, or if existing facilities need modification, the following guidelines shall apply.

In addition to the responsibilities listed in Section IV, applicants, facility owners, and facility managers seeking to construct a new facility or modify or expand an existing facility are responsible for:

1. Submitting a complete application to the authorized officer prior to any new construction, modification, or expansion of a facility. The application shall include:

    a. A copy of the approved site plan base map showing all of the proposed new, modified, or expanded facilities, including structures, towers, and auxiliary equipment;

    b. Completed drawings or plans prepared by a professional engineer or architect;

    c. Identification of any proposed point-to-point microwave paths, a plot of their azimuth, and their proposed elevation on the tower; and

    d. Documentation showing that the proposed facilities will not obstruct or interfere with any exiting uses, including fixed point-to-point antennas, omni-directional broadcast antennas, or point-to-point microwave paths.

2. Demonstrating that the new facility will make the most efficient use of the limited amount of space at the site and will provide for future uses without additional construction.

3. Providing engineering and geotechnical investigations for development of specific foundation designs and grading plans.

4. Providing an erosion control plan prior to construction. At a minimum, the erosion control plan shall include sediment control; stipulations that cut and fill slopes will be graded and contoured to prevent erosion and excessive runoff, and recommendations for temporary erosion control measures, such as netting, silt fences, swales, sediment collection areas, and so forth.

5. Coordinating with other Federal and local governments and securing all pertinent permits and approvals from those agencies.

6. Providing 30-days notice to all facility owners and facility managers at the site, as well as the Forest Service, of all new frequencies, either for themselves or their tenants and customers, proposed for the site. A completed FS-2700-10 shall be sent with the 30-day notice to allow for comment of potential interference. If there is a reply to the request for comments that suggests that there may be physical interference, electronic incompatibility, or potential radio frequency interference to existing uses, the Facility Owner or Facility Manager must address those concerns with a sufficiently detailed response that the existing use will withdraw its objections to the new use or special terms and conditions must be created to address those concerns. Copies of any response under this paragraph, positive or negative, must be provided to the Forest Service.

B. Construction Methods and Resource Protection

Plans submitted by a proponent, facility owner, or a facility manager for construction, modification, or expansion of a facility shall provide for soil rehabilitation measures, including soil replacement and stabilization and proper handling of runoff from buildings, parking areas, access roads, and undeveloped common areas. The authorized officer must approve all cutting or trimming of vegetation.

During construction, modification, or expansion of facilities, facility owners and facility managers shall:

1. Identify, avoid, and protect sensitive resource areas identified by the Forest Service.

2. Comply with the erosion control plan.

3. Notify the Forest Service authorized officer prior to commencing any approved ground-disturbing activities.

4. During construction and/or maintenance, paintbrushes will not be cleaned off on rocks. No marks of any kind, including survey marks, will be permitted on rocks.

5. Minimize, to the greatest extent possible, ground disturbance and vegetation removal.

6. Re-vegetate extensive cut and fill slopes with native vegetation as soon as possible after construction. All re-vegetation must have prior written approval of the authorized officer.

7. Not cast off grading material. Excess soil can be used as fill material for roads, buildings and towers.

8. Obtain prior written approval of the authorized officer for temporary, on-site storage of construction materials.

9. Not leave hazardous materials, including fuels, oils, and lubricants unattended at the site at any time. Hazardous materials shall be removed from the site at the end of each workday or temporarily stored inside a locked and posted building until the following workday. Construction materials and supplies other than hazardous materials may be left unattended at the construction site at the end of each workday at the owner's risk.

10. Remove surplus construction materials and waste debris from the site no later than 30-days after construction has been completed.

11. To prevent the spread of noxious weeds into the area, power wash off any earth-moving or heavy equipment, such as dozers, graders, cranes, backhoes, and so forth before it is brought onto National Forest System lands.

C. Construction Inspection

1. All new construction, modification, and expansion of facilities shall conform to established technical standards and accepted engineering practices, such as the Uniform Building Code, Occupational Safety & Health Administration (OSHA), National Fire Protection Association (NFPA), National Electrical Code (NEC), Electronic Industries Alliance/Telecommunication Industries Association (EIA/TIA) codes and standards, and state regulations.

2. Any construction inspections required by other agencies are the responsibility of the holder. Copies of completed inspections shall be provided to the Authorized Officer, either as they occur or as part of the final as-built plan. Inspection information shall become a permanent part of the holder's special-use file.

3. Corrective work required as a result of Forest Service or other agency inspections shall be completed by the date specified in the inspection report to the satisfaction of the inspecting official.

4. A final set of as-built plans shall be submitted to the Authorized Officer within 90-days of acceptance of a structure (if the construction was contracted) or of its completion date (if the construction was not contracted).

D. New or Remodeled or Expanded Buildings

1. Any new buildings shall be designed to accommodate multiple users and shall be consistent with a site-specific environmental analysis conducted at the time of the proposal.

2. Building height will be restricted to a single story unless specifically authorized for two stories or with a snow vestibule. The roof shall be non-reflective metal or other non-reflective fire resistant material approved by the Forest Service. Roofs can be equipped with antenna support structures, such as poles and railings that can extend up to 25 feet above ground level.

3. Facility owners and facility managers are encouraged to construct the interior of their buildings in a modular fashion, so that they can:

    a. Sublease sections to others;

    b. Provide tenants and customers with internal separation and security;

    c. Reduce physical interference; and

d. Increase management effectiveness.

4. The following materials are approved for construction of new buildings:

a. Floors: Concrete slab with drainage or as part of a non-flammable pre-fabricated structure.

b. Walls: Concrete block, metal, or pre-fabricated concrete.

c. Roofs: Concrete, corrosion resistant metal (if painted to eliminate shiny surfaces), or other fireproof material approved by the Forest Service. Proposals for wooden roofs will not be approved.

d. Partitions: Fire resistant material, such as reinforced concrete or properly grounded expanded metal.

e. Color: Color used on all exterior building surfaces must have prior written approval of the authorized officer. The goal of color selection is to make buildings as inconspicuous as possible when viewed from a distance. The intent is to reduce or eliminate glare from reflective and/or illuminated surfaces such as windowpanes, sheeting and reflective paints. Non-reflective, Forest Service approved dark gray to green colors shall be used on equipment buildings.

Building entry lights must:

a. Only light the immediate area in the vicinity of the door;

b. Be motion-activated and have a limited time duration of 3 to 5 minutes; and

c. Have a shielded beam that is pointed at the building door.

Requests for all-night (dusk-to-dawn) lighting or entry lighting that would be visible from outside the site will not be approved.

E. New or Remodeled/Expanded Towers

1. All construction, modification, and expansion of towers shall have the prior written approval of the authorized officer.

2. It is the applicant and holder's responsibility to ensure that new, modified, or expanded towers will not unduly interfere electronically or physically with any existing equipment at the site. Towers shall be spaced so as to prevent ground level radiation and interference problems. Compliance with these requirements shall be demonstrated in writing to the authorized officer prior to issuance of a lease, permit, or amendment.

3. All new towers shall comply with current structural and safety specifications and design standards, including safety-climbing devices. Towers should be as narrow and "open" as safety and structural integrity allow. New towers should be designed using maximum wind, snow, and tower loading anticipated for the site.

4. All new towers (including appurtenances) shall not exceed 90 feet. All new towers shall be self-supporting unless specifically authorized.

5. To avoid possible impacts to birds or bats, structures under this section must comply with the most current version of the U.S. Fish & Wildlife Service's Interim Guidelines on the Siting, Construction, Operation and Decommissioning of Communication Towers (available at http://www.fws.gov/habitatconservation/communicationtowers.html).

6. All towers shall be left unpainted if they are made of dull, galvanized steel. Paint is required only if the tower has a shiny or reflective surface. Non-reflective, Forest Service approved dark gray to green colors will be approved unless the FAA requires red and white tower striping.

7. No lights, beacons, signs or strobes shall be allowed on new towers unless specifically required by the FCC/FAA.

VIII. GENERAL OPERATION AND MAINTENANCE

A. Special Environmental and/or Biological Considerations

There are no unique environmental or resource coordination requirements at this site. If issues arise in the future, this plan will be amended in accordance with the applicable decision or direction.

B. Wiring and Grounding

1. All equipment shall be installed in metal cabinets or open frame equipment racks that are grounded and shielded. Grounding is to be installed in accordance with manufacturer's recommendations and accepted industry standards.

2. All building electrical wiring and grounding shall meet the NEC and applicable state and local codes. All permanent wiring shall be installed in metallic conduit and shall include a separate safety ground conductor. Metallic electrical metallic tubing (EMT) raceway in and of itself shall not be used as a ground return. Exception: If galvanized rigid conduit (GRC) is employed, it shall be acceptable for use as a ground return.

3. Every effort shall be made to protect the equipment from lightning damage. Lightning protectors should be used on all coaxial cable connections to equipment enclosures. Inert gas gap or metal oxide varsitor (MOV), or silicon avalanche diode (SAD). Transient Voltage Surge Protectors (TVSS) should be used on all control, audio, and power lines. Failsafe modes shall be employed in the TVSS to protect wiring and shelter from fire damage. All TVSS equipment shall be UL1449 listed or approved.

4. All new building and/or tower structures shall have its own separate station ground mat system for all users in that site and solidly bonded (such as exothermic weld, not brazing) to the electrical service entrance grounding conductor or grounding electrode. Wherever practical, interconnection of individual station ground mats and/or the simultaneous placement of large sized copper ground wire with any new grounding systems that are buried on the site shall be encouraged.

5. Grounding shall be installed in accordance with accepted practices and standards, such as but not limited to, Motorola, Inc. "Standards and Guidelines for Communications Sites R-56 Issue B", and NEC Articles 250, 810, and 820. Ground enhancement materials using bentonite clay is currently the only approved method for chemical grounding. Other types of chemical grounding shall require completion of NEPA documentation by the applicant prior to consideration for approval by the authorized officer.

C . Communications Equipment

1. Equipment Ownership

   All equipment shall be labeled with:

   a. The owner's name;

   b. Applicable transmitter frequencies;

   c. The applicable FCC license or NTIA authorization;

   d. Transmitting power outputs; and

   e. A current 24-hour telephone contact number.

2. Transmitting Equipment

   All transmitters shall have protective devices built into them or externally installed to prevent interference with other uses. All transmitters shall meet FCC/NTIA requirements and be FCC type accepted for use in the licensed (or license exempt) application.

The re-radiation of intercepted signals from any unprotected transmitter and its associated antenna system shall be prevented by the use of appropriate filters, typically bandpass filters, circulators (isolators), and/or 2nd harmonic filters.

The direct radiation of out-of-band emissions (noise or spurious harmonics) shall be reduced to a level such that it may not be identified as a source of interference as defined in FCC Regulations (47 CFR 90.209(e)). If site noise (electromagnetic noise) becomes an issue, noise threshold limits shall be established, and amended into the Site Plan.

All transmitters not in immediate use and not specifically designated as standby equipment shall be removed. Loads connected to circulators shall be capable of dissipating the total power output of the transmitter.

Where duplexing is used, a notch-type filter device by itself shall be avoided. In situations where a notch-type device is used, a bandpass filter shall be used on both the receiver and transmitter. Transmitter multi-channel hybrid combining equipment should be avoided unless additional protection is provided to ensure hybrid balance and minimize the chance for intermodulation products being produced. A post combining bandpass or lowpass filter is required after the basic hybrid combiner to block undesired 2nd harmonics from being radiated.

3. Receiving Equipment

A bandpass device, such as a cavity or crystal filter, is recommended at the input of all receiving devices. Cavity filters or other protective devices may be used at receiver inputs to reduce interference.

Where duplexing is used, a notch-type device should be avoided. In situations where a notch-type device is used, a bandpass filter shall be used on both the receiver and transmitter.

4. Antennas

a. Microwave (dish) antennas and other than ground-mounted satellite dishes shall not exceed 10 feet in diameter, unless specifically authorized to meet path performance and reliability criteria.

b. All antennas shall meet all OSHA safety standards. If an antenna is operating in excess of the Federal Communications Commission (FCC) public or occupations standards, steps will be taken, such as fencing, posting of signs, relocation, lowering power levels, within 24 hours to bring it into compliance. Ground measurements of Radio Frequency Radiation (RFR) levels will be taken before mitigation measures are implemented.

c. Colors for dish antennas or covers shall be pre-approved by the authorized officer. White dish antennas and covers will not be approved. Existing white dishes and covers shall be repainted or replaced as repairs or replacement become necessary.

d. Antennas shall be treated to reduce or eliminate reflected glare.

e. Low-powered transmit and receive antennas may be located low on the tower or on the ground.

5. Interference

The responsibility for correcting interference problems lies with the holder of the communications site authorization for the facility, the user causing the interference, and the affected parties. Generally, the first users at a site have seniority with respect to resolution of interference complaints. Senior users have an obligation to maintain their equipment to current industry standards, to operate their systems in accordance with the terms of both the FCC license and the NTIA/Interdepartment Radio Advisory Committee (IRAC) frequency authorization, and to comply with the Forest Service communications site authorization. New users at a site shall correct, at their expense, interference problems that they create. If it can be demonstrated that the senior user's equipment is at fault because of poor technical performance (does not meet, for instance, current Association of Public-Safety Communications Officials (APCO) or EIA/TIA technical standards for receiver performance), it will be necessary for the senior user to bring the poor performing receiving equipment up to current standards. The new user, in any event, shall cease operation of the suspect equipment until the problem is corrected, or as in the case of a poorly performing senior user receiver, the senior user must formulate an action plan for correcting the deficiency as soon as possible and be acceptable to both parties. If interference problems cannot be resolved or corrected within a reasonable time, the new use that is causing the interference may be terminated and the equipment removed.

If a Site Users Association is formed, all users shall cooperate with the Forest Service in the identification and correction of any interference. The Forest Service does not have any responsibility for correcting interference problems, but can act as a mediator to help all affected parties. Interference problems, whether theoretical, calculated, or measured (before and after licenses are granted) should be coordinated and resolved with the FCC or NTIA, as appropriate.

Interference with Public Safety, Critical Infrastructure, and any other emergency communications facility shall be corrected immediately. Operation of equipment covered by this site plan shall not interfere with Federal Government radio or electronic operations already in existence on NFS lands within two miles of the Pine Mountain (Observatory)

Communications Site. The user causing this interference shall at their own expense take all actions necessary to prevent or eliminate the interference. If they do not eliminate the interference within ten (10) days after receipt of notice from the Forest Service to do so, their use will be terminated.

If electromagnetic noise becomes an issue, noise thresholds shall be established and incorporated as an amendment to this site plan. The cost of such analysis is the responsibility of the authorization holders.

D. Cables and Transmission Lines

All new outdoor cabling shall be jacketed and 100 percent shielded and shall either be flexible or semi-rigid. Cables shall be properly installed, strapped, and fastened down. Cable runs should be consistent with applicable engineering standards when attaching cables onto a tower.

All transmission lines (including wave guide) shall be supported in accordance with manufacturer's specifications. Unjacketed transmission lines or unjacketed cables of any type are prohibited. No transmission lines shall be left unterminated. Lightning protection ground down conductors on towers shall be insulated from the tower steel and considered no different than transmission lines. Bonding of this down conductor to tower steel shall be done with NEC approved connectors that are also galvanically compatible (bronzed or tin plated) with the structural galvanized steel of the tower.

Double-shielded braided (98 percent or better) or solid-shielded cable shall be used inside of buildings. No RG-8 or RG-58 type class of cable is permitted. No connector-type adapters shall be used on transmission lines. Only correct connectors that will mate to connected devices may be used.

Conduits shall be shared as allowed for under the NEC when they service common areas and shall be buried where possible.

Existing cables and transmission lines that do not meet the above requirements shall be upgraded as repairs or replacement become necessary.

E. Radiation

All communications uses shall meet FCC, NTIA, and OSHA regulations, policy, guidelines, and standards concerning radiation limitations.

All antenna radiation zones shall meet all OSHA safety standards. If an antenna radiation zone is operating in excess of FCC public or occupational standards, steps will be taken, such as fencing, posting of signs, relocation, lowering of power levels, etc. within 24 hours to bring the zone into compliance. Ground measurements of RFR levels will be taken before mitigation measures are implemented. It is recommended that each Facility Owner or Manager, in accordance with FCC regulations 47 CFR sections 1.1307(b),

1.1310, and 2.1093, properly monitor Maximum Permissible Exposure (MPE) to electromagnetic fields for their site.

Monitoring radiation levels at the site is the responsibility of all site users and shall occur at intervals to comply with FCC regulations and guidelines. A copy of the monitoring report shall be provided to the Forest Service within 30 days of its completion.

Security fences with RFR notice signs are required around areas that exceed public use levels. All fencing location and design shall be pre-approved by the Forest Service.

Warning signs shall comply with American National Standards Institute (ANSI) C95.2 color, symbol, and content conventions. Contact information, including name and telephone number will also be included on warning signs.

Any identified RFR radiation problems that are, or could be, a public health hazard must be corrected within 24 hours after measurement tests have been completed or be removed from the site by the site user(s). If the proposed corrective action involves any new ground disturbance, it must be pre-approved by the Forest Service.

F. Utilities

Site users shall pay for the cost to install and maintain utilities, including any resource surveys and reports needed for environmental compliance. For visual reasons, new overhead utility poles are not authorized.

1. Commercial Electrical Power

   Commercial power is provided by Central Electric Cooperative.

2. Telephone Service

   Commercial telephone lines do not service this site.

3. Fuel Storage

   Fuel storage facilities on this site must be designed, installed and maintained according to applicable NFPA standards, federal, State and local laws and ordinances. All fuel storage tanks shall be grounded to the station ground mat.

If additional service is ever deemed necessary, a separate authorization will be issued to the owner of the service following the appropriate NEPA analysis and decision. The applicant must pay the cost of necessary resource surveys, and reports and construction costs including appropriate mitigation. For visual reason, overhead utility lines may not be authorized.

G. Sanitary Facilities

No sanitation facilities exist at this site. If needed, any new sanitary facilities shall be pre-approved by the Forest Service. If it is determined by the authorized officer that the user needs such facilities, they will be provided by the applicant/holder in a manner and location satisfactory to the authorized officer and requirements of the local health department.

H. Security and Law Enforcement

The Oregon State Police and Deschutes County Sheriff's Department are the principal law enforcement agencies for the area in which the Pine Mountain (Observatory) Communications Site is located. Generally, the State Police and County Sheriff's are responsible for civil and criminal law enforcement. Generally, the Forest Service is responsible for enforcing Federal laws applicable to NFS lands, such as resource protection. Patrol and policing for security purposes is the holder's responsibility.

All of the facilities at Pine Mountain (Observatory) Communication Site are fenced. If additional fencing is ever deemed necessary for security purposes at other facilities on the site, it must meet the following criteria:

1. All fences must meet health and safety requirements.
2. All fence locations and design require Forest Service pre-approval.
3. The standard fencing type will be chain-link (i.e. cyclone).
4. The standard fence height will be eight (8) feet.
5. Fencing will be designed, maintained, and of a type to minimize interference issues. All fencing materials shall be hot-dip galvanized coated to minimize corrosion and dissimilar metal contacts.
6. Fencing shall be grounded at regular intervals not to exceed 20 feet to the station ground mat. The purpose of this requirement is to lower its conductivity to RF signals and shunt those RF signals to ground and prevent re-radiation.
7. Fences will be signed with RFR notices if RFR is above public levels.

Buildings shall be posted with a 24-hour contact phone number(s) on the main door(s) into the building where appropriate.

I. Site Maintenance

The objectives of site maintenance are to present a clean, neat, and orderly appearance at the site and to have all the authorized improvements at the site be safe for workers and the public. All users are responsible for maintaining the overall appearance of the site.

Miscellaneous debris remaining after any construction or installation, removal or modification of equipment is not only a hazard but can cause interference or intermodulation problems. All loose debris must be removed from the site within 30 days after completing construction, reconstruction, or other activities. In particular, all loose wire or metal objects shall be removed from the site. The users of the site shall remove graffiti within ten working days of finding it. If graffiti is on natural features, such as rocks and trees, site users will remove graffiti using a method approved by the authorized officer.

Holders may not leave or dispose of trash, garbage, or cut brush on NFS lands. No outside trash or litter containers are allowed. Site users shall remove all trash and litter from the site as it is produced. Policing of litter in common areas, such as the areas between buildings and developed sites, is the shared responsibility of those holders bordering these areas.

Peeling paint on buildings and towers shall be re-painted within thirty days of discovery or as soon as possible as allowed by weather conditions.

J. Inspections

Unless waived in writing by the authorized officer, the holder shall have conducted annually a certified inspection of the facilities and equipment covered by the authorization. The inspection shall include a technical review that should ensure that all authorized equipment is operating in accordance with requirement of this site plan, the applicable FCC license or NTIA authorization, ANSI standards, and the manufacturer's specifications. In addition, the inspection should ensure that the authorized equipment is secure, free of rust, properly grounded, and otherwise properly operated and maintained. A copy of the inspection report, certified by a telecommunication specialist, shall be provided to the authorized officer within 30 days of completion of the inspection. The Forest Service may also conduct periodic reviews to monitor for authorization compliance.

K. Fire Prevention and Hazard Reduction Requirements

Facility owners and facility managers will be required to control vegetation within the fenced or immediate area around their facilities. Gravel/mineral soil (i.e. bare ground or mowed vegetation) must be maintained to a minimum of ten (10) feet clearance around buildings and a minimum of ten (10) feet clearance around any propane tank. Identified threatened, endangered, or sensitive plant species must remain within the minimum clearance areas.

Smoking is prohibited in flammable vegetation areas.

Roof structures shall be kept reasonably clear of debris at all times.

No explosives will be stored at this site. Flammable materials shall be stored in conformance with the requirements of local fire regulations. Flammables will be placed in closed containers and stored away from sources of ignition and combustible materials. If flammables are stored within a building, the building will be locked, properly signed and well ventilated.

Approved spark arresters will be required and maintained on all internal combustion engines.

At least one (1) U.L. rated 20 lb. A:B:C dry chemical fire extinguisher is required inside each building. Prior to each June, fire extinguisher(s) shall be inspected by holders and refilled, if necessary.

Any fire will be immediately reported to "911", the nearest Forest Service office and/or Deschutes County Sheriff's Office.

Forest Service Officers will make periodic fire prevention inspections. They will call to the holder's attention any lack of compliance with the above regulations, plus any other existing hazards. Compliance with these inspections is required within the time limits specified in the inspection report.

All fire protection standards must be accomplished by the beginning of fire season unless otherwise agreed to, and then maintained throughout the fire season.

For new construction, the Forest Service will provide the Holder with a separate Construction Fire Plan which will be prepared at that time as applicable. State and local laws/regulations must be followed for the diesel tank installation.

L. Access

1. Road

   Holders who damage the access road, or any of its associated improvements, such as ditches, culverts, roadside vegetation, signs, and underground utilities and facilities, shall be required to repair the road to conditions equal to or superior to those prior to any damage or disturbance.

2. Access to Pine Mountain (Observatory) Communications Site is from Bend, Oregon, at the junction of Highway 20 and Highway 97. From Bend, drive east on Highway 20 for approximately 25 miles; turn right (south) onto county road #2017 (Pine Mountain Road) and go 3.3 miles; continue straight on CR

2017 and go 4.7 miles; turn right through campground on FS #500 and go 0.2 miles to Pine Mountain (Observatory) Communications Site located on left.

The Pine Mountain (Observatory) Communications Site is located approximately 26 air miles southeast of Bend and driving time is approximately 45 minutes.

3. Internal Roads and Parking Areas

Internal roads and parking areas within the communications site are the responsibility of the site users. Interior roads and parking areas shall be planned and approved by the authorized officer in conjunction with establishment of new facilities. Interior roads shall be maintained so as to allow only one entrance to the site. The intent is to discourage off-road vehicle use in and around the site.

3. Road Closures

Forest Service roads are subject to periodic closures to entry during periods of extreme fire danger, inclement weather, or wetness. Site users may access the site during these closures if they have prior, written approval from the authorized officer.

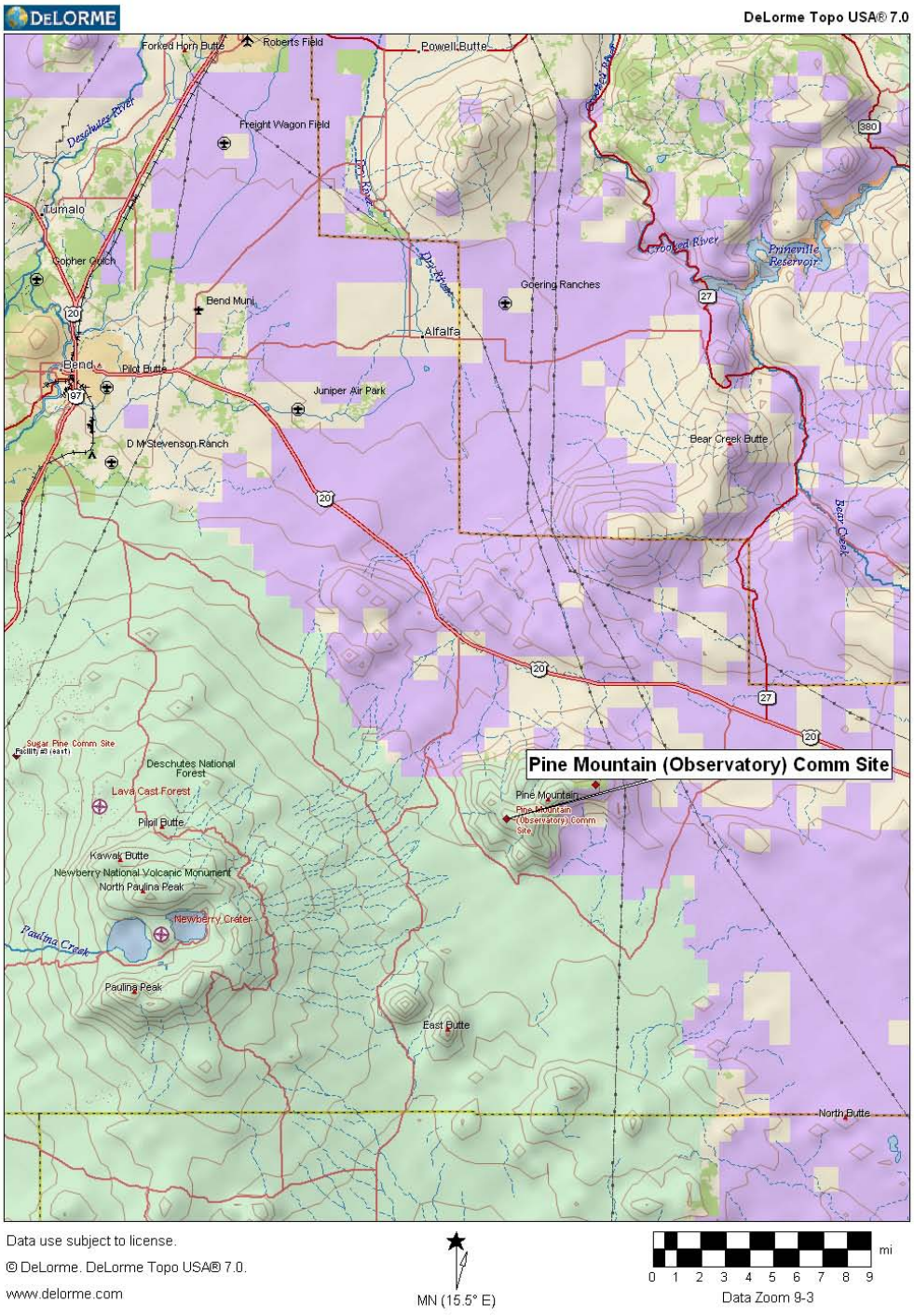
IX. SITE ASSOCIATION AND ADVISORY GROUP

A site association is probably not needed at this time. If development were to increase, a users association may become desirable. Leadership would need to come from one of the users. As needed in the future, the site association would be responsible for obtaining and maintenance of an administrative access and upkeep of internal roads and parking areas. The site association would also be responsible for ensuring cooperation between users for on-tower access. A site safety officer would be identified within the site association. The site association would be expected to develop a Radio Frequency Radiation Plan/Agreement and recommend measures to reduce interference issues (e.g., through use of filters).

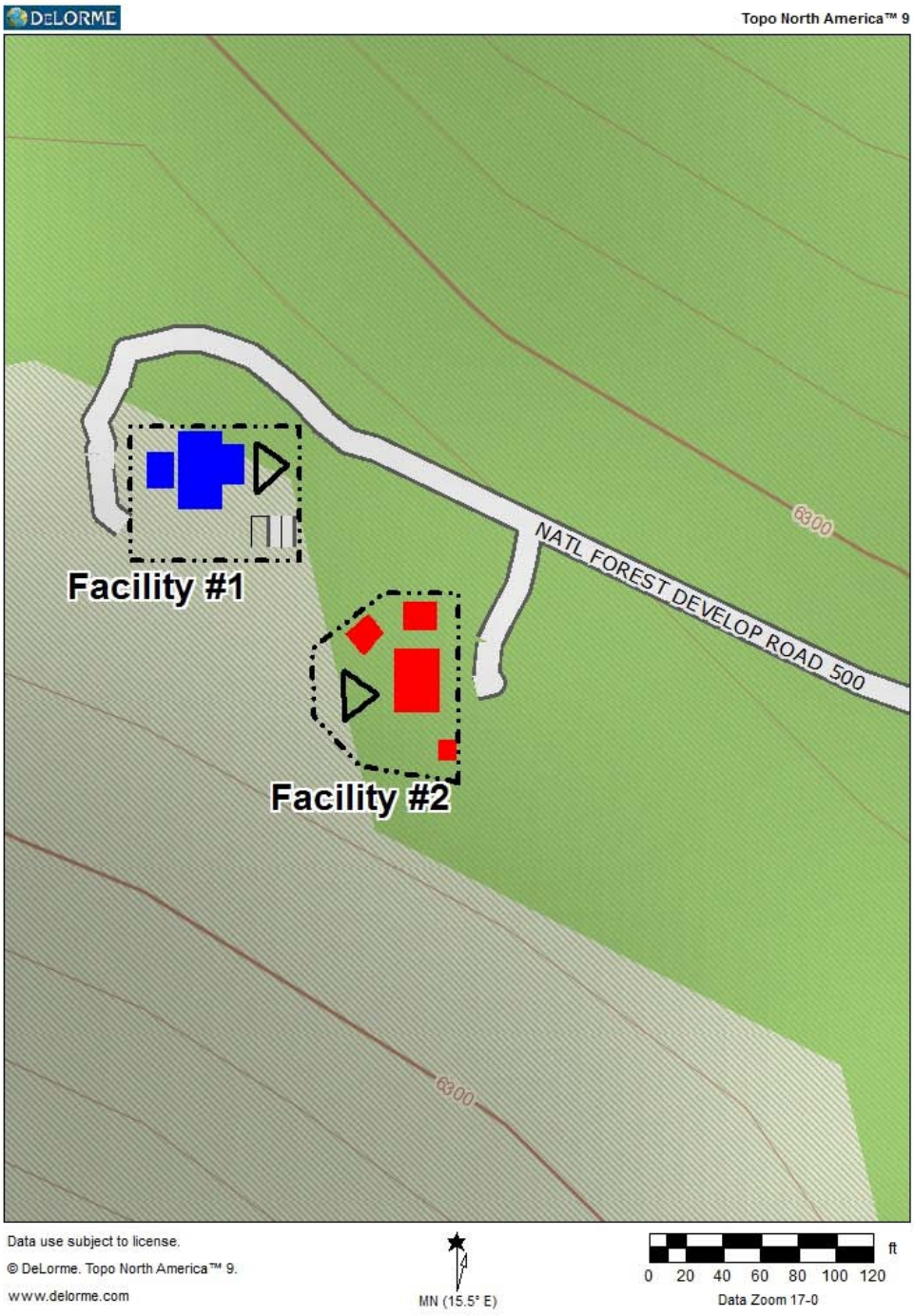
The goal of the site association would also be to maximize the effective use of the site. The objective of a sanctioned association will be to represent all site users as a group when dealing with the Forest Service on matters relating to the site administration. The association would be able to work in cooperation with the Forest Service to identify problems or opportunities and make recommendations to the Forest Service for any changes in management strategies at the site. The association could also provide input to the Forest Service regarding the future addition of equipment and facilities at the site. While the advice and recommendations of the association would not be binding on the Forest Service, the Forest Service could use the input for administration of the site. The Forest Service would be a member of such a group and would help jointly develop the charter (i.e., the ground rules).

X. APPENDICIES

APPENDIX A – Location Map



Site Map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APPENDIX B – Authorized Facilities

Facility	Auth #	Use	Building	Tower	Other
Facility #1 Day Wireless	**BEN411601**	**FAM**	**20’ x 20’ Metal (on skids); 8’ x 10’ Metal (Generator building)**	**80’ Lattice**	**Fence (55’ x 75’); 4 - 500 gal. propane tanks**
Facility #2 Quest Communication	**BEN401901**	**MIC**	**14’ x 18’ Metal**	**90’ Lattice**	**Fence (50’ x 60’); Generator on stand**

APPENDIX C – Facility Photographs

Facility #1 –Day Wireless

Facility #2 – Quest Communication

APPENDIX D – Inspection Checklist

"Pine Mountain (Observatory) Annual Technical Inspection"

Date Inspected: _____ Time Inspection: _____

Permit Holder: _____ Authorization # _____

Site Technician: _____ Phone # _____

Number of Transmitters _____ License Posted _____

Please mark the following Items as Acceptable (A) or Unacceptable (U).

Electrical Wiring ---------- (A) (U) Grounding ---------- (A) (U)

Equipment Installation ---------- (A) (U) Housekeeping ---------- (A) (U)

Building Repair ---------- (A) (U) Tower Repair ---------- (A) (U)

Please mark the following Items as Yes (Y) or NO (N) or (NA)

Isolators ---------- (Y) (N) (NA) Circulators ---------- (Y) (N) (NA)

Cavities ---------- (Y) (N) (NA) Terminators ---------- (Y) (N) (NA)

Filters ---------- (Y) (N) (NA) Lightning Protection ---------- (Y) (N) (NA)

Comments:

_____

_____

Recommended Corrective Action:

_____

_____

_____

Required Corrective Action To Be Taken:

_____

_____

_____

Committee Representatives:

_____

Forest Service Representatives:

_____

Please make the required corrective action within the next 120 days.
Please make a written report of corrective action taken and submit to the FS. If you should have any questions, please call the Forest Service office.