

VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN



VAIL MOUNTAIN COMMUNICATIONS SITE  
MANAGEMENT PLAN

WHITE RIVER NATIONAL FOREST  
EAGLE/HOLY CROSS RANGER DISTRICT  
EAGLE, COLORADO

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10/28/08  
Date

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## VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN

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**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN****I. DEFINITIONS**

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 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 Aspen Mountain Communications Site.

Customer. An individual, business, organization, or agency that is paying a facility owner or tenant for communications services and is not re-selling communications services to others. Private ("other communications use" category) and internal (private mobile radio service and non-commercial microwave categories) communications uses leasing space in a building and not re-selling communications services to others are considered customers for rental calculation purposes.

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 communication 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 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.

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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. A communications user who rents space in a communications facility and operates communications equipment for the purpose of re-selling communications services to others for profit. Tenants may hold separate authorizations, without sub-tenancy rights, at the full schedule rent based on the category of use.

## II. NARRATIVE

### A. Site Description

Vail Mountain Communications site is located on the Eagle/Holy Cross Ranger District of the White River National Forest, Eagle County, Colorado; and portions of Section 21 and 22, T. 5 S., R. 80 W., 6th Principal Meridian; The site is divided into two sub-sites. The main site at Vail Peak and at Northeast Bowl. Vail Mountain is at Latitude 39° 36' 18.82" North, Longitude 106° 21' 26.86" West and approximate elevation of 11,260 feet. Northeast Bowl is at Latitude 39° 36' 13.79" North, Longitude 106° 20' 09.62" West and approximate elevation of 11,198 feet. The site covers approximately 4 acres.

This site does not serve a Ranally Metro Area (RMA). The population of the largest community is less than 25,000. The population identified for this area 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. Zone #9 in the national communication fee schedule will be used for fee calculation purposes for this site.

Access to Vail Mountain Communications site is from Interstate 70 at Vail Mountain Ski Area and then via maintenance roads to the site. The site is approximately 6.86 miles from the base to the Vail Mountain site and an additional 1.57 miles to the Northeast Bowl.

Access to the mountain is controlled by a locked gate and the Ski Area. All users must check in with Vail Mountain Security prior to going to any communications facilities. The combination to the gate changes weekly and if the users are not familiar with the mountain, they will be escorted. During the winter users will use the lifts or trams and be escorted via snow taxi as needed. All users must comply with both summer and winter restricted access conditions to protect both resource and public safety concerns at the Ski Area.

### B. Existing Site Development

This Communications Site Management Plan has been developed to document and evaluate the existing communications facilities at the Vail Mountain Communications Site and to provide the outline for any future development of the site in an orderly manner and in accordance with the White River National Forest Land and Resource Management Plan and EIS which was approved in 2002.

This site was originally developed and a site map displaying three areas of development in 1972. Motorola developed the facility which is now owed by Pinnacle Towers in 1974 within the Low power area. In 1983, Eagle Communications, now Mountain Communications and Electronics

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constructed their facility at the low power site. Vail Associates was authorized to construct their facility at the low power site in 1989.

The facility at Northeast Bowl was constructed in 1984 by R&L Communications and is currently owned by Traer Creek.

Space in existing facilities is limited by building and/or tower capacity, but should be adequate for the foreseeable demand. Any new facilities must be submitted according to the direction in this plan and be evaluated according to this plan, be consistent with the White River National Forest Land and Resource Management Plan and EIS, the Vail Ski Area Master Plan, and appropriate NEPA. All future facilities must be coordinated and designed so as not to materially interfere with senior uses.

### C. Objectives

The primary objectives of the Vail Mountain Communications Site Management Plan are to:

1. Document current policies, procedures, and standards used to administer the Vail Mountain Communications Site.
2. The Vail Mountain sub-site is established for low-power including two-way radio, microwave, cellular, and broadcast translators. This site is to be used for low power communications uses only. The maximum power output expressed as ERP for this Communications site is based on the maximum output allowed for two-way radio under the Federal Communications Commission's rules at Title 47, Code of Federal Regulations, Part 90. As of the 2003 regulation, that is 500 watts ERP. Each use must operate at or below the power level authorized by their respective FCC license as long as it does not exceed the site limitation. This power limitation does not preclude existing and new uses from being designed, operated and maintained to meet other interference, noise floor, receive sensitivity, or RFR standards included in this plan. All uses must be designed, operated and maintained so as not to physically or electronically interfere with the senior uses.
3. The Northeast Bowl is designated as high power broadcast. Currently no high power uses occupy this site. High power uses are limited by their licensed power output and levels which will meet the public level of the RFR standards at the base of the tower and surrounding areas accessible to the public.
4. Accommodate the optimum/maximum use of the site by compatible communications uses consistent with Forest Land and Resource Management Plans, contiguous National Forest uses, natural resource management and objectives, good communications management practices, and public needs.
5. Keep all activities consistent with the management direction, including standards and guidelines outlined in the White River National Forest Land and Resource Management Plan, dated 2002. In order to minimize the visual impact to adjacent landowners and travel corridor user; plans and applications for building and tower modifications/reconstruction or new construction must include assurances that scenery resource guidelines and considerations have been thoroughly analyzed. Wherever

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possible, negative visual impacts should be avoided or at least minimized and potential opportunities for visual enhancement incorporated into the design. Careful consideration must be given to building and tower siting, use of land form and existing vegetation for visual screening, configuration, line, exterior color, and texture of facilities, and the overall concept of efficient land use through building consolidation and shared use of towers. Any future proposed expansion of facilities into presently undeveloped areas must be planned in a like manner.

Careful site planning along with adherence to the requirements found in the "Buildings" and "Antenna Support Structures" sections of this plan will contribute to the long-term protection of the scenery resource and assure minimal visual detracting at the site.

6. The overall appearance of the site and the integrity of the natural environment shall be improved through stringent maintenance requirements, consolidation of ancillary structures, and selection of authorized paint colors.
7. On site activities, facilities and access especially during the winter must be coordinated with the Vail Mountain Ski Area Master Plan and annual ski area operations, maintenance, and safety considerations
8. All facilities shall be managed to reduce the impacts on other resources as specifically identified in the Forest Land and Resource Management Plan or other applicable NEPA analysis and resulting decisions.

### 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.

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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, only for the areas actually occupied by the authorized improvements. The issuance of a FCC license (authorization), or frequency assignment, does not authorize occupancy of public land. Granting occupancy and use of public land rests exclusively with the Forest Service. This includes:

1. Approving any new facility(ies) at the site.
2. Approving amendments to existing facilities (i.e. additions to tower, antenna, equipment or building), and approving assignments of leases and permits to qualified buyers of facilities on the site.
3. Approving any modifications to existing facilities including the tower, antenna, equipment or building. Also, approving changes to the existing FCC licenses that would result in structural or technical modifications contrary to the lease or this plan, prior to the submission of an application to the FCC.
4. Frequency Management. The Forest Service is not normally responsible for the resolution of conflicts when the licensees or agencies are operating within the limits of the FCC and NTIA/IRAC authorizations.

#### B. Facility Owners and Facility Managers:

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 White River National Forests Land and Resource Management Plan, environmental documentation and decisions affecting the use of this site, and the provisions of this site plan.

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3. May rent building and tower space to tenants and customers without prior written approval from the Forest Service as long as that tenant or customer use is an approved communications use in this site plan and does not interfere with other existing uses at the site.
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 authorize any customer or tenant to construct any equipment shelter or tower without specific authorization for the Forest Service.
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 equipment in their facility is properly installed, operated, and maintained in accordance with ANSI, OSHA, FCC, and Forest Service regulations, guidelines and standards concerning radiation limitations, including monitoring radiation levels at their facility and immediately correcting any radiation levels that are, or could be a hazard to human health.
9. Providing 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 communication 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 Service Office.

**C. Tenants and Customers:**

1. May co-locate in an existing facility when their communications use is an approved use in the site plan. 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.
2. Tenants and/or customers may not construct their own equipment shelter (building, shelter or cabinet) or antenna support structure (tower or mast). The facility owner

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must own all communication shelters and towers under their lease or grant. If that is not possible, a separate SF-299 application, cost-recovery fees, analysis, and authorization are required. This may also result in the use being a tenant/customer of the original lease/permit in addition to being a separate facility for billing purposes.

**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 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.
5. Potential interference is not resolvable.

**VI. RENTAL FEES**

Unless specified differently in the communications use lease, 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.

Fees that Facility Owners and Facility Managers may charge their tenants and customers are to be reasonable (consistent with, and not in excess of, other fees for similar facilities) and commensurate with the uses and occupancy of the facilities and services provided to tenants and customers.

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN****VII. CONDITIONS FOR NEW CONSTRUCTION AND MODIFICATION OR EXPANSION OF A FACILITY****A. New Construction, Modification, and Expansion Responsibilities**

In addition to the responsibilities listed in Section IV, proponents, 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 microwave beam 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 existing uses, including fixed point-to-point antennas, omni-directional broadcast antennas, or microwave beam 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. This would be for new frequencies for themselves and their tenants.

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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 any 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 posed 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.

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN****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.
2. Any construction inspections required by other agencies are the responsibility of the holder. Copies of completed inspections shall be provided to the District Ranger, 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. Buildings shall be one-story and have a low pitched roof. The roof shall be metal or covered with metal to be shed snow. Building height will be restricted to between 9 and 16 feet. 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.
  - b. Walls: Natural appearing materials including wood siding, concrete block, or pre-fabricated aggregate.
  - c. Roofs: Metal (painted or treated to reduce reflectivity), or other fireproof material approved by the Forest Service.

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- 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 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 of 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 shall be free standing (non-guyed) and 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 antennas) shall not exceed the current height of 150 feet at the Northeast Bowl and 120' at the Vail Mtn Site or 20' above the adjacent tree canopy whichever is less without specific approval resulting from the NEPA process. The average tree canopy height at the time of this plan was 50-60 feet. The analysis will require the applicant to demonstrate an alternative which achieves the telecommunication goals with the minimum tower height.
5. All towers shall be left unpainted if they are made of dull galvanized steel or Cor-Ten steel. Paint is required only if the tower has a shiny or reflective surface. Non-reflective, Forest Service approved dark gray, dark green, or black colors meeting the Munsell reflectivity of 4.5 or less will be approved unless the FAA requires aviation orange and white tower striping.

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6. No lights, beacons, or strobes shall be allowed on new towers unless specifically required by the FCC/FAA.
7. To avoid impacts to birds or bats, follow the most current version of the U.S. Fish and Wildlife Service's Interim Guidelines on the Siting, Construction, Operation and Decommissioning of Communications Towers. (Available at <http://migratorybirds.fws.gov/issues/towers/comtow.html>).

**VIII. GENERAL OPERATION AND MAINTENANCE****A. Special Environmental and/or Biological Considerations**

Scenic resource quality objectives as seen from Ski Area and Interstate 70 are of special concern. Standards in this plan are designed to help reduce or minimize the visual impacts. There are no other currently identified special resource coordination considerations with on-site or adjacent resource values. Should additional special conditions arise through the revision process of the land use plan or other situations, this site plan will be amended accordingly. Compliance with colors of buildings or antenna and tower heights shall be achieved when maintenance or replacement is necessary, when modifications are proposed by the lease holder, or prior to a new authorization when the current term has expired.

**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 electrical wiring and grounding shall meet the National Electrical Code and applicable State codes. All permanent wiring shall be installed in metallic conduit. Surge protection shall be installed on all power distribution panels.
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. Gas gap and MOV protectors should be used on all control, audio, and power lines.
4. Each building shall have its own separate grounding system for all users in that structure. Wherever practical, interconnection of individual grids and/or the simultaneous placement of large sized Vail 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 Motorola specification R-56 and the NEC. Grounding using bentonitic clays 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.

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN****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 licensing requirements.

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, and/or harmonic filters (wide band and narrow band broadcast transmitters).

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.

## 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. Towers

Generally only one tower is authorized for each facility owner. Facility owners and facility managers may obtain permission to construct a second tower after

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demonstrating that their existing tower is completely filled and full use has been made of combining systems.

**5. Antennas**

- a. Microwave (dish) antennas and other than ground-mounted satellite dishes shall be the minimum size necessary to meet the RF needs.
- b. All antennas shall meet all OSHA safety standards. If an antenna is operating in excess of 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 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 have a non-reflective appearance.
- e. Low powered transmit and receive antennas may be located low on the tower.
- f. Microwave dishes must be located as low on the tower as technically possible to reduce their visual impact.

**6. 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 industry standards, to operate their systems in accordance with the terms of both the FCC license and NTIA/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. They shall cease operation of the suspect equipment until the problem is corrected. 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.

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 should be coordinated with the FCC or NTIA, as appropriate.

Interference with law enforcement and emergency communications shall be corrected immediately. Operation of equipment covered by this site plan shall not interfere with Federal Government radio or electronic operations. 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 days after receipt of notice from the Forest Service to do so, this use will be terminated.

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If electromagnetic noise becomes an issue, noise thresholds shall be established and incorporated as an amendment to this site plan.

**D. Cables and Transmission Lines**

All new cabling shall be jacketed and shielded and shall either be flexible or semi-rigid. Existing substandard cables shall be upgraded as repairs or replacement become necessary. 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 (wave guides) 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.

Double-shielded braided or solid-shielded cable shall be used. Un-shielded cable similar to RG-8 cable is not 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 when they service common areas and shall be buried where possible.

**E. Radiation**

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

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.

Onsite RFR measurements shall be taken using appropriate equipment that can adequately measure levels both on the tower and on the ground before mitigation measures related to RFR are implemented.

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 be in English and Spanish and comply with 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 problems that are, or could be, a human health hazard shall be corrected within 24 hours after measurement tests have been completed, or the equipment involved shall be removed from the site by the site user. Any ground disturbance associated with correction of RFR problems or removal of equipment causing the problem must have prior written approval of the authorized officer.

**F. Utilities**

Site users shall pay for the cost to install and maintain utilities, including any resource surveys and reports needed for environmental compliance.

## VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN

### 1. Commercial Electrical Power

Commercial electrical power is supplied by Holy Cross Energy. The power lines are buried to this site. Backup generators are natural gas powered and the Natural Gas pipeline is under permit to ExCel.

### 2. Telephone Service

Buried telephone and fiber cable service is provided to this site by Vail PBX.

### 3. Fuel Storage

Facility owners and facility managers are responsible for providing fuel storage (propane and diesel) and emergency power for their tenants and customers. No tenants or customers will be authorized to have separate fuel tanks and/or generators. Each facility owner will preferably consolidate fuel storage into a tank large enough in size to accommodate all tenants and customers within their facility. At a minimum, tanks will be grouped together in a consolidated area adjacent to their facilities. All fuel, storage tanks (e.g. LPG, propane and diesel) must meet current fire department, Federal, State and local government safety and hazardous materials requirements. Propane is the preferred fuel for future generators. Enclosures, vegetative screening, or berms may be required to reduce visual impacts.

## **G. Sanitary Facilities**

Plans for any sanitary facilities must be pre-approved by the Forest Service. If it is determined by the Forest Service that the users need such facilities, they will be provided by the lease/permit holder in a manner and location satisfactory to the Forest Service and within the requirements of the Eagle County Health Department.

## **H. Security and Law Enforcement**

The Eagle County Sheriff is the principle law enforcement agency for the area in which the Vail Mountain Communications Site is located. Generally, the county sheriff's department is 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. Additional fencing for security purposes must have prior written approval from the authorized officer.

### Fences

None of the facilities on Vail Mountain are currently fenced. Due to the proximity to the ski area, fencing is strongly discouraged. If fencing is ever deemed necessary for security purposes at these facilities, it must meet the following criteria:

1. All fences must meet health and safety requirements.

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN**

2. All fence locations and design require Forest Service pre-approval. The standard fencing type will be chain-link (i.e. cyclone).
3. The standard fence height will be eight (8) feet.
4. Fencing will be designed, maintained, and of a type to minimize interference issues.
5. Fences will be signed with RFR notices if RFR is above public levels.

**Buildings**

All buildings will be identified by a minimum six-inch (6") high number clearly visible from roads and/or driveways. This number along with a 24-hour contact phone number(s) will be posted on the main door(s) into the building and on fence gates where appropriate. The numbering scheme in APPENDIX X - B will be used.

**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. 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, the graffiti will be removed in a method approved by the authorized officer.

Holdings 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. Paint colors must be approved by the Forest Service.

**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 the 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

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN**

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**

Smoking is prohibited while walking in flammable vegetation. The roof structure shall be kept clear of leaves, twigs, and other debris at all times. No explosive shall be stored at the site. Flammable materials shall be stored in conformance with the requirements of local fire regulations. Flammables shall be placed in closed containers and stored away from sources of ignition and combustible materials. If flammables are stored within a building, the building shall be locked, properly signed, and ventilated.

Maintain approved spark arresters on all internal combustion engines. At least one (1) U.L. rated 40 B:C dry chemical fire extinguisher is required inside each building. Prior to each June, fire extinguisher(s) shall be inspected and refilled, if necessary. Any fire shall be reported immediately by phoning "911" or reported to the White River National Forest.

Periodic fire prevention inspections will be made by Forest Service officers. They will call to your 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. All fire protection requirements shall be met prior to June 1<sup>st</sup> of each year, unless otherwise agreed to, and maintained throughout the fire season.

Facility holders must work with the Forest Service fuels management staff for any vegetation/fuels management strategies. Fuel reduction projects will require the appropriate NEPA analysis and decision prior to removal or modification of the vegetation.

**L. Access****1. Roads**

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. 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.

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN****3. Road Closures**

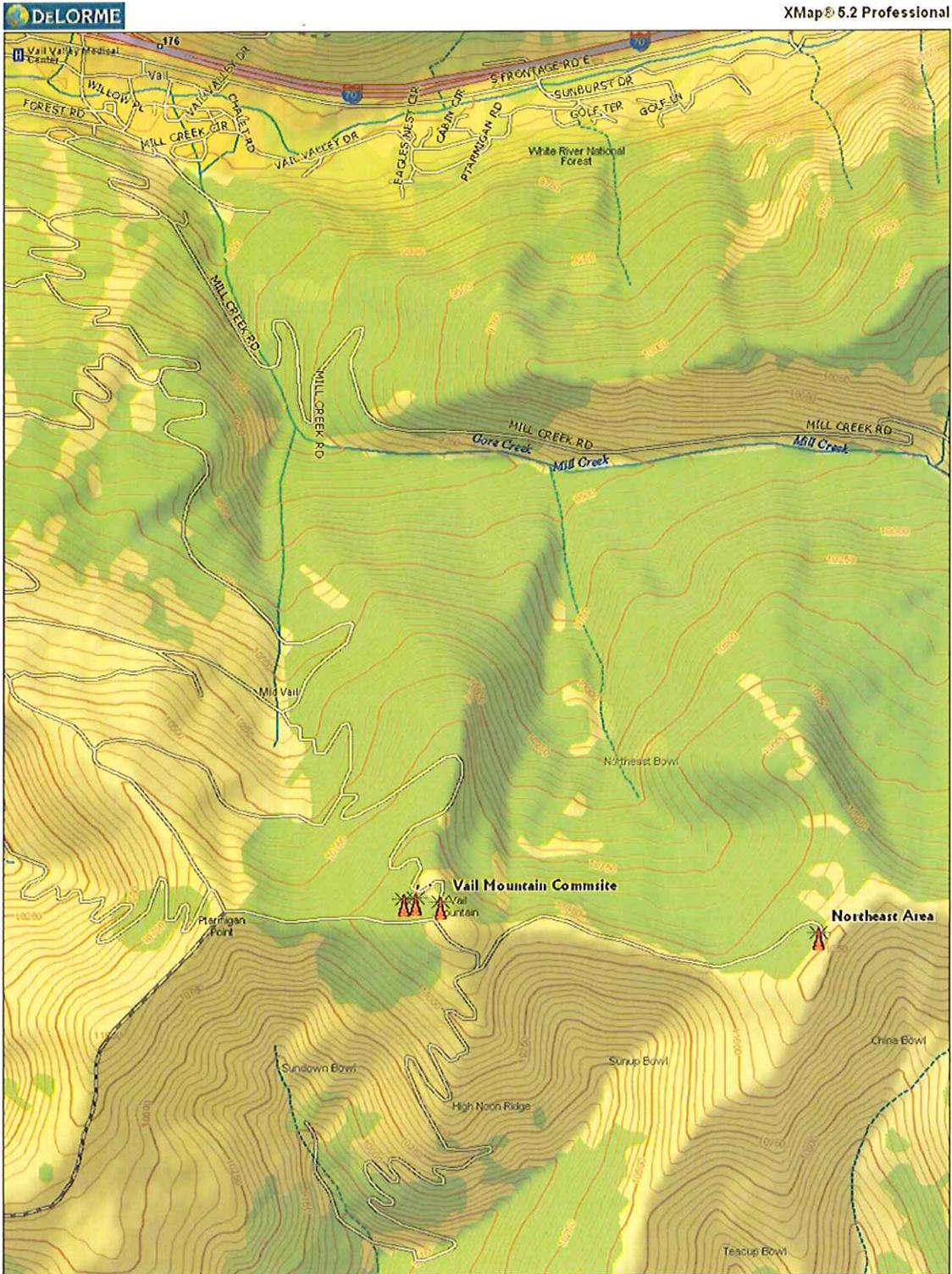
Forest Service roads are subject to periodic closures to entry during periods of extreme fire danger, inclement weather, or wetness. Site users may access the site during these closures if they have prior, written approval from the authorized officer.

**IX. SITE ASSOCIATION AND ADVISORY GROUP**

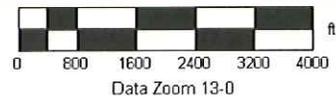
A Site Association is recommended for this site do to the number of users and potential for interference with two-way radio users from the high power use at Northeast Bowl and Paging uses at the Vail Mtn site. The goal of a Site Association is to maximize the effective use of the site. The objective of a sanctioned association is to represent all site users as a group when dealing with the White River National Forest on matters relating to site administration. The association will work in cooperation with the Forest Service to identify problems or opportunities and make recommendations to the Forest Service for any changes in operations or management at the site. The association will 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 input provided would be mutually beneficial.

# VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN

## X. APPENDICIES APPENDIX A – Location Map

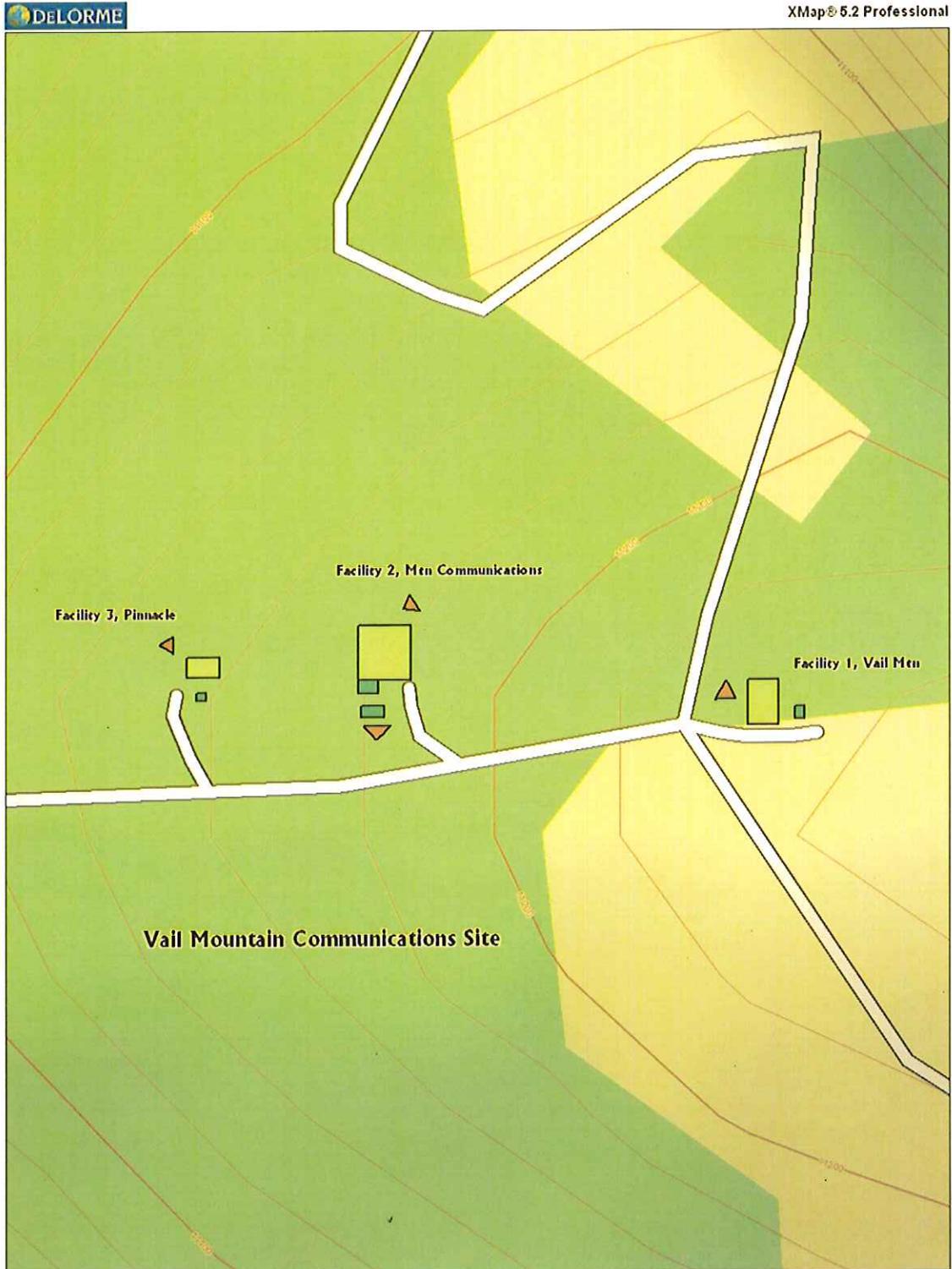


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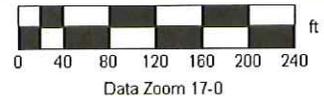


# VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN

## APPENDIX A – Site Map



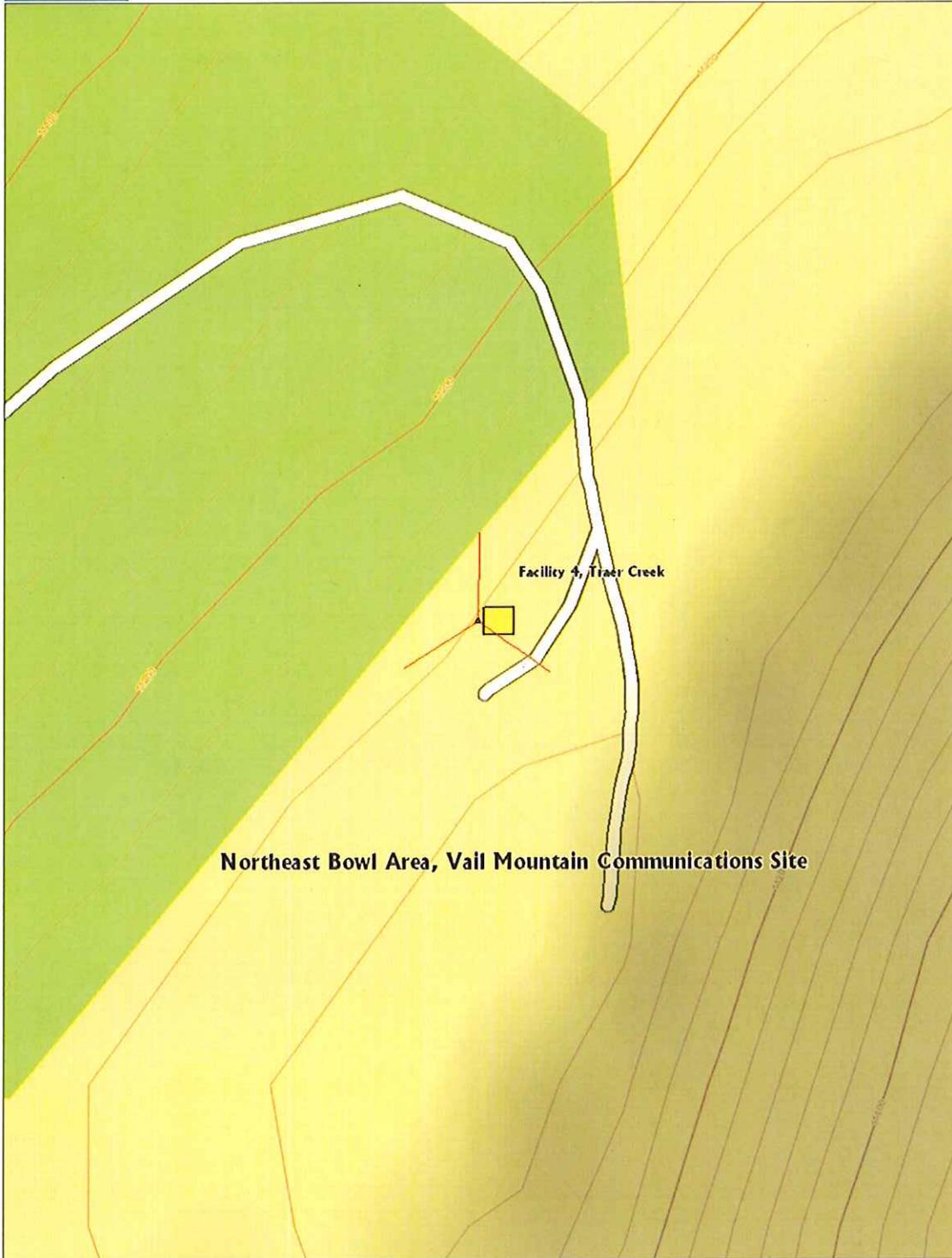
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# VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN



XMap® 5.2 Professional



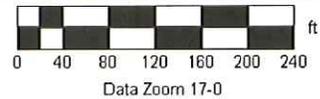
Northeast Bowl Area, Vail Mountain Communications Site

Facility 4, Tiner Creek

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**APPENDIX B – Authorized Facilities**

<b>Facility # Name</b>	<b>Auth #</b>	<b>Use</b>	<b>Building</b>	<b>Tower</b>	<b>Access/Parking</b>	<b>Other</b>
<b>Facility 1 Vail Associates</b>	<b>HOL49</b>	<b>PMRS</b>	<b>12'x 20' stone</b>	<b>120' lattice</b>	<b>Access and parking</b>	<b>Generator</b>
<b>Facility 2 Mtn Comm &amp; Electronics</b>	<b>HOL427502</b>	<b>CMRS</b>	<b>2-story w/basement  30'x 30' wood</b>	<b>2 – 80' lattice</b>	<b>Access and parking</b>	<b>2- generators</b>
<b>Facility 3 Pinnacle Towers</b>	<b>HOL18</b>	<b>FAM</b>	<b>10'x 12' fiberglass</b>	<b>80' lattice</b>	<b>Access and parking</b>	<b>Generator on raised platform</b>
<b>At Northeast Bowl Facility 4 Traer Creek</b>	<b>HOL7</b>	<b>FAM</b>	<b>15'x 18' wood</b>	<b>150' guyed</b>	<b>Access and parking</b>	

VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN

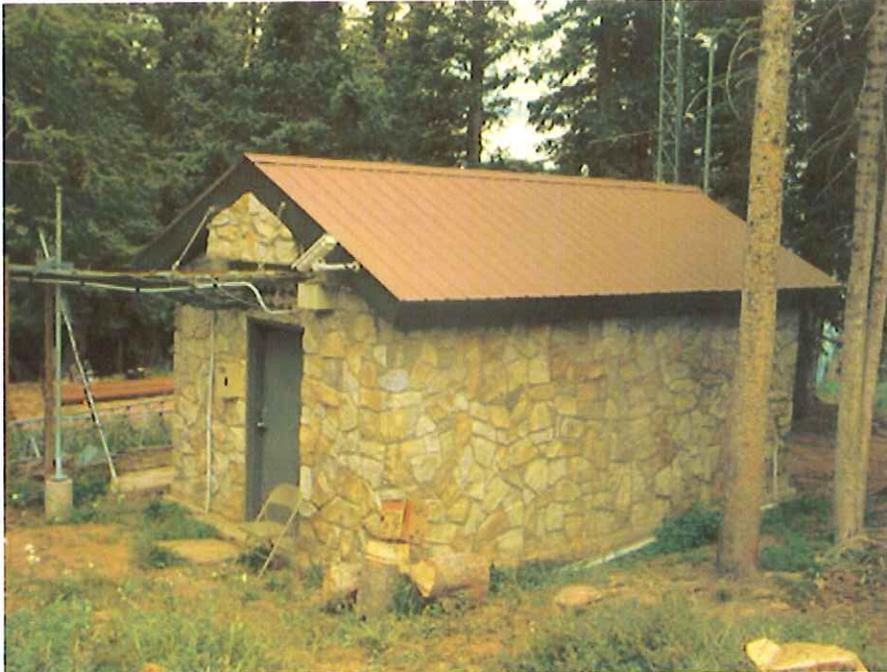
APPENDIX C – Facility Photographs

Facility 1, Vail Mtn, Inc

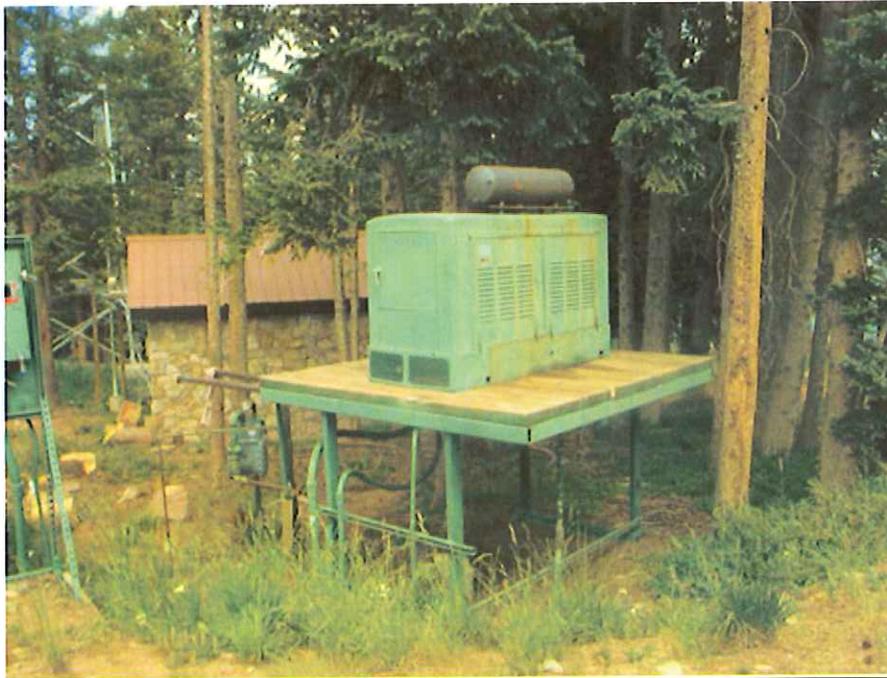


Facility 1, Vail Associates

VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN



**Facility 1, Building**

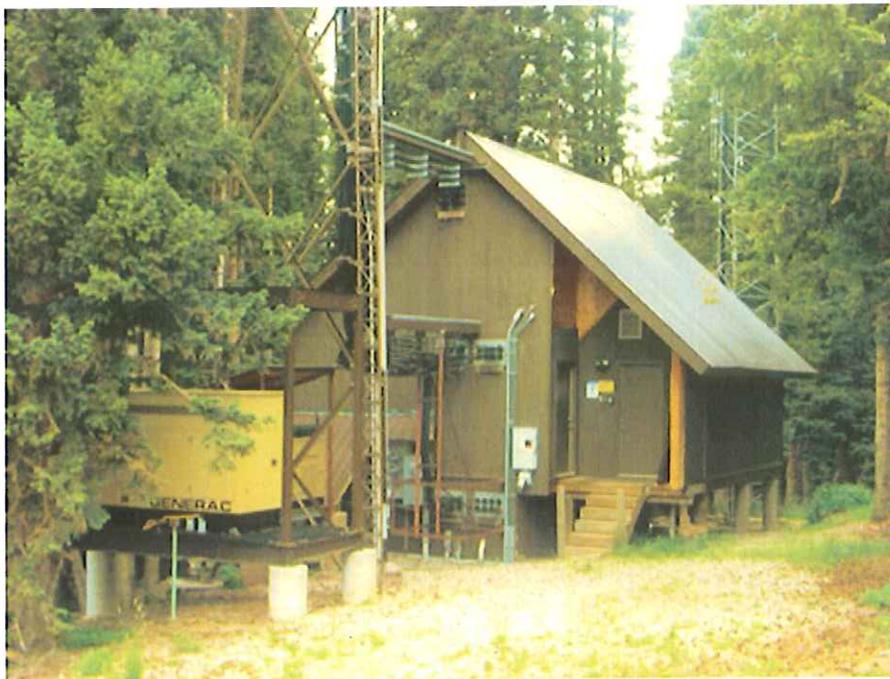


**Facility 1, Generator**

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN**

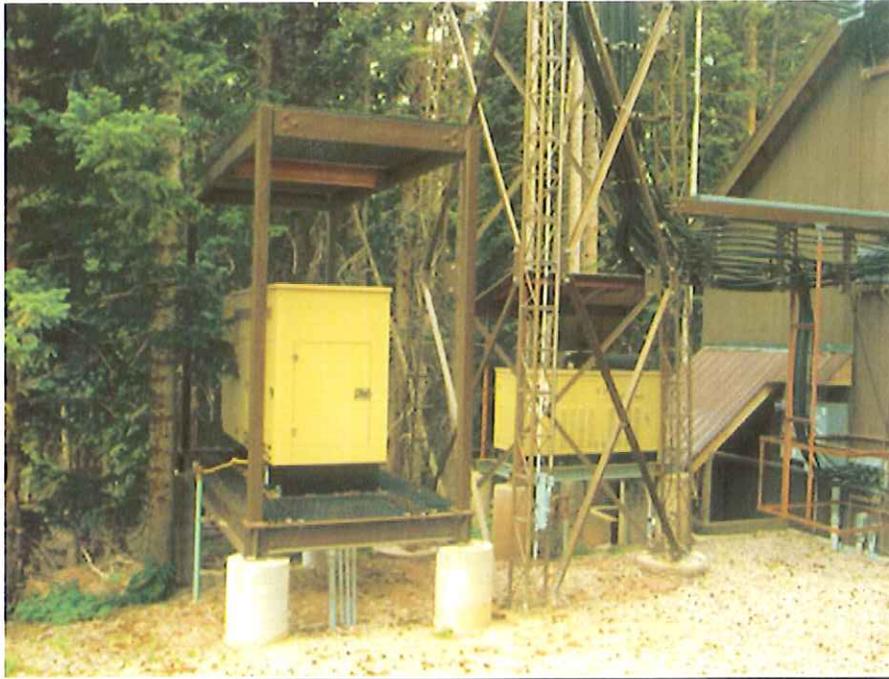


**Facility 2, Mtn Communications & Electronics**



**Facility 2, Building**

**VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN**

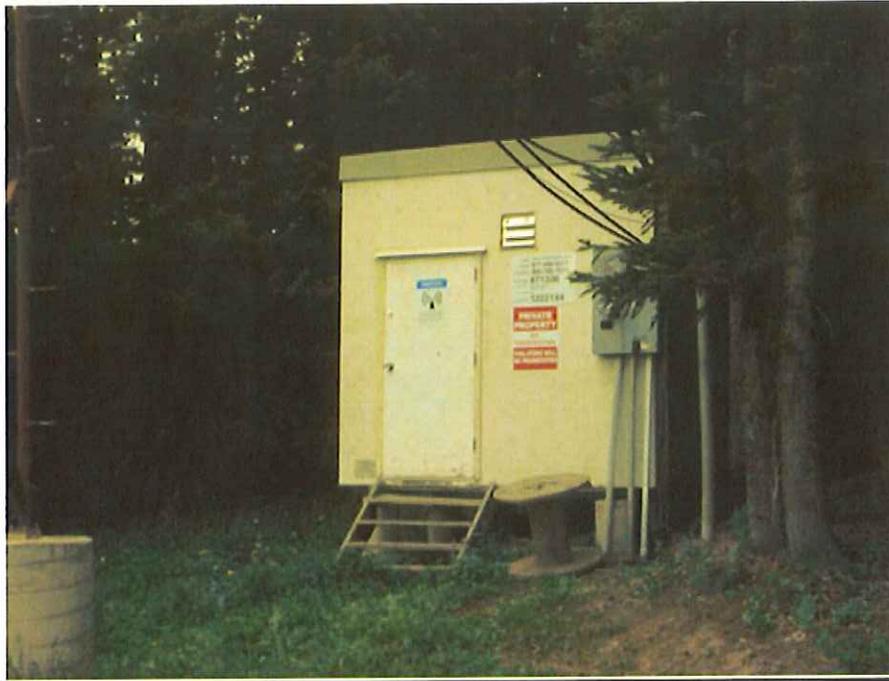


**Facility 2, Generators**

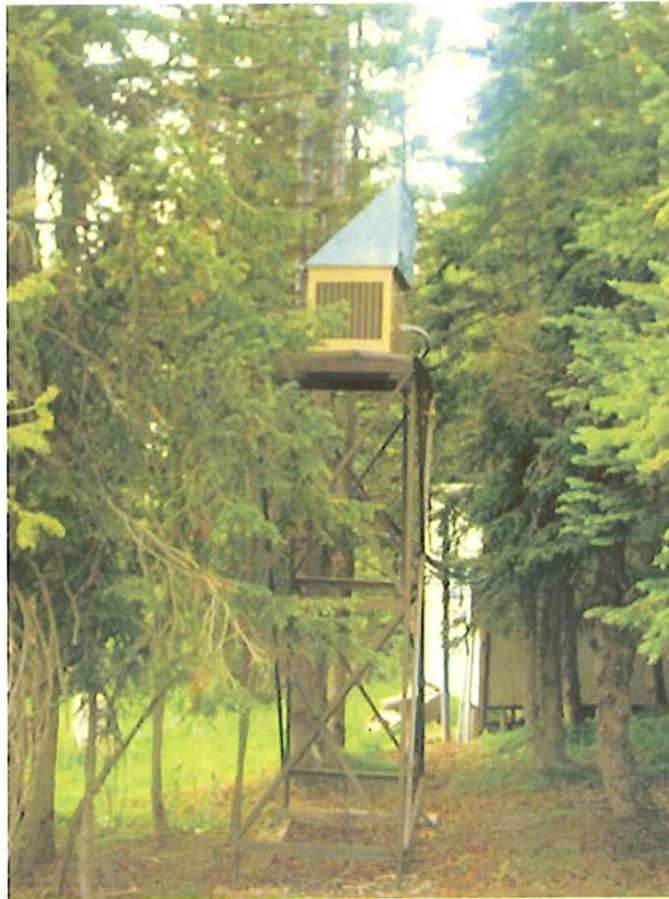


**Facility 3, Pinnacle Towers**

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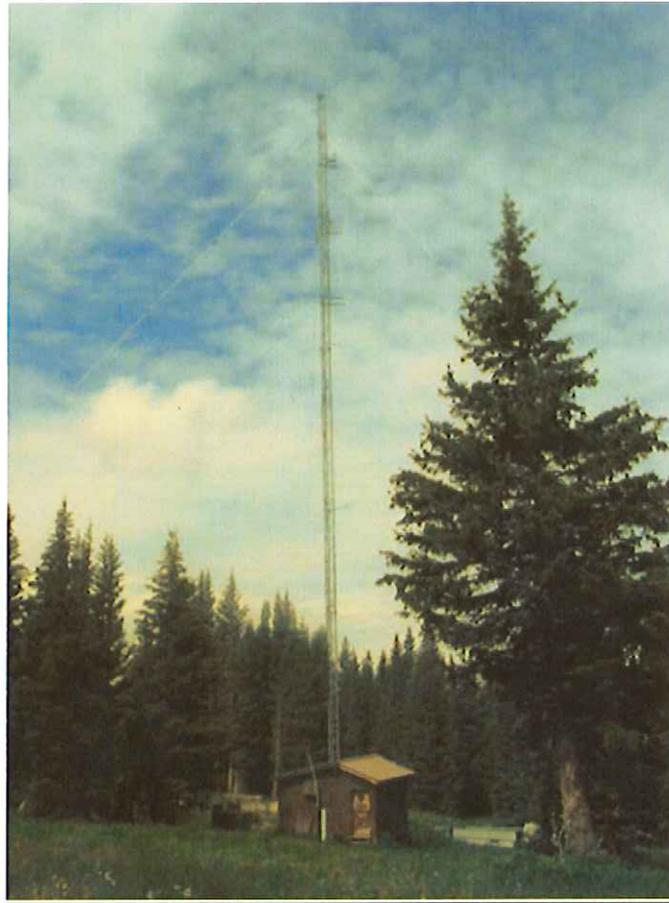


**Facility 3, Building**

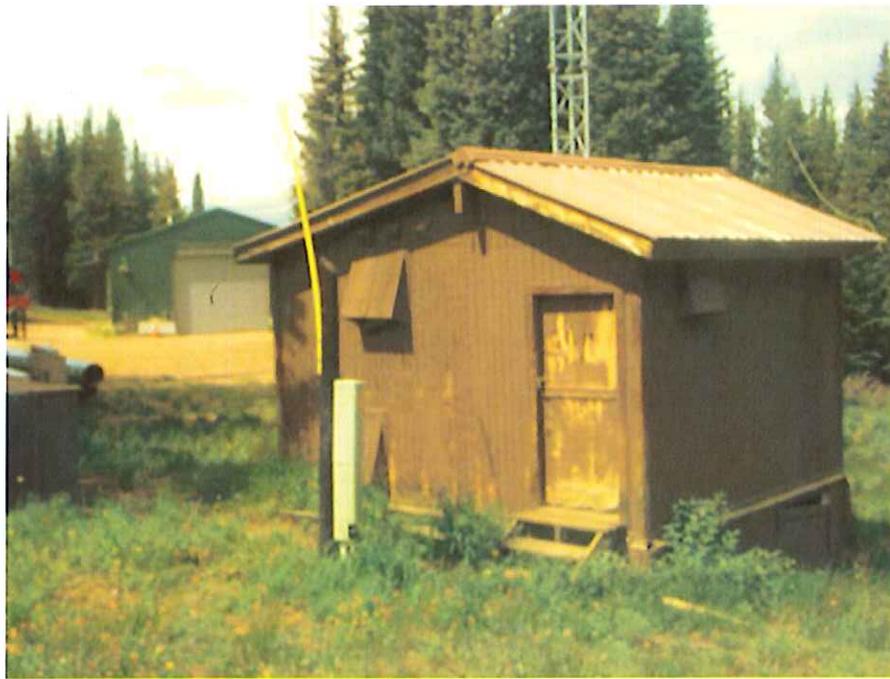


**Facility 3, Generator**

VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN



**Facility 4, Traer Creek**



**Facility 4, Building**

VAIL MOUNTAIN COMMUNICATIONS SITE MANAGEMENT PLAN

APPENDIX D – Inspection Checklist

“Vail Mountain Communications site 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.