

SQUAW VALLEY|ALPINE MEADOWS BASE-TO-BASE GONDOLA PROJECT

PROPOSED ACTION

1. BACKGROUND

In September 2015, the Tahoe National Forest (TNF) accepted an application from Squaw Valley Ski Holdings, LLC which proposes to install, operate, and maintain an aerial ropeway system connecting the Squaw Valley and Alpine Meadows ski areas. This proposal also included an alteration to current avalanche mitigation techniques including the installation of Gazex[®] exploders. Implementation of the proposal would require an amendment to an existing Special Use Permit (SUP) issued for the operation and maintenance of Alpine Meadows Ski Area (Alpine Meadows). The proposal is consistent with Alpine Meadows' current Master Development Plan (MDP) and passed the screening criteria for consideration to use National Forest System (NFS) lands and amend the existing permit consistent with Forest Service land use regulations.

Alpine Meadows conducts its operations—including the lift and trail network, guest service facilities, infrastructure, and other assets—on private, state, and NFS lands administered by the TNF in Placer County, California. Located in the Lake Tahoe Region, Alpine Meadows is approximately 3.3 miles west of Route 89, about 7 miles northeast of Tahoe City, California, and about 13 miles south of Truckee, California.

Squaw Valley Ski Area (Squaw Valley) conducts its operations—including the lift and trail network, guest service facilities, infrastructure, and other assets—almost entirely on private lands in Placer County, California. Approximately 195 acres of Squaw Valley's operation are under Forest Service SUP on NFS lands. No portions of the proposed infrastructure and improvements would be located on permitted lands at Squaw Valley. Squaw Valley is approximately 2.5 miles west of Route 89, about 9 miles northeast of Tahoe City, California, and about 11 miles south of Truckee, California. At the closest point, Squaw Valley is approximately 1.2 miles from Alpine Meadows.

Squaw Valley Ski Holdings, LLC is the project proponent; they own and operate both Squaw Valley and Alpine Meadows, and they hold the SUP for the NFS lands which would be encumbered by the proposed project infrastructure. A single lift ticket currently provides access to both Squaw Valley and Alpine Meadows.

The Forest Service will prepare an Environmental Impact Statement (EIS) to analyze environmental impacts of the proposal pursuant to the requirements of the National Environmental Policy Act (NEPA);

Placer County will prepare an Environmental Impact Report (EIR) to analyze environmental impacts of the proposal pursuant to the California Environmental Quality Act (CEQA). The Forest Service and Placer County will coordinate the NEPA and CEQA analyses for consistency.

2. PURPOSE AND NEED FOR ACTION

The TNF's purpose for the project is to improve developed winter recreation opportunities in the Scott Management Area, consistent with the 1990 Tahoe National Forest Land and Resource Management Plan (Forest Plan). SUPs, and amendments to SUPs, are issued by the Forest Service and are required by law to be consistent with the Forest Plan. Desired future conditions for recreation management in the Forest Plan relevant to the project direct the Forest to "provide a variety of opportunities for developed and dispersed recreation experiences" (Forest Plan, p. V-5). The Alpine Meadows SUP is located in the Scott Management Area which allows for development of additional winter sports facilities and support services as part of the desired future condition of the management area (Forest Plan, p. V-446-449).

The TNF needs to respond to Squaw Valley Ski Holdings, LLC's land use application which proposes amendment of their SUP to improve connectivity between Alpine Meadows and Squaw Valley ski areas. The need for improved connectivity between the ski areas is based on a number of factors. The developed trail network at Squaw Valley has limited terrain suitable for beginners and teaching; Alpine Meadows has additional intermediate and beginner terrain. Squaw Valley has the majority of resort amenities (e.g. accommodations, restaurants, shopping, entertainment, etc.); Alpine Meadows, in contrast, has limited amenities. While guests can currently access both ski areas on the same lift ticket, they must drive or shuttle between the two areas in order to access all the different terrain variety and/or amenities offered at both locations.

3. PROPOSED ACTION

The Proposed Action is located at Section 31, Township 16N, Range 16E, Section 5, Township 15N, Range 16E, and Section 8, Township 15N, Range 16E. The Proposed Action includes amendment of the Alpine Meadows Special Use Permit (SUP) to authorize construction, operation and maintenance of the following proposed infrastructure and improvements:

- Construction of a gondola connecting the ski and base areas of Alpine Meadows and Squaw Valley.
- Installation of eight Gazex[®] avalanche mitigation exploders (seven on National Forest System [NFS] lands, one on private lands).

These actions are described in detail below. Maps illustrating the Proposed Action are included in Figure 1 through Figure 4 attached to this document.

The Proposed Action also includes project Resource Protection Measures to decrease, eliminate or mitigate resource impacts and protect NFS resources.

A. BASE-TO-BASE GONDOLA

Squaw Valley Ski Holdings, LLC would install, operate and maintain a gondola connecting the Squaw Valley and Alpine Meadows base areas. As described in the Alpine Meadows Master Development Plan (MDP), the proposed lift would be configured as an eight-passenger gondola and have a design capacity of approximately 1,400 persons per hour in each direction. Both base terminals would be primary drive stations for the lift. In total, the lift would be roughly 13,000 feet in length (based on plan length), of which approximately 3,300 feet (25 percent) would be sited on NFS lands including one mid-station and the Alpine Meadows base terminal.

The proposed gondola would transport guests at full capacity in both directions providing a ready transportation connection between the two ski areas. During the winter season, guests would embark or disembark at both base terminals and/or either of the mid-stations.

The gondola would not be operated during the summer months; during the summer months cabins would be removed from the line and stored. Design criteria for construction will be incorporated into the project to minimize impacts to resources on NFS lands as well as segments located on private land.

Alpine Meadows Base Terminal

The Alpine Meadows base terminal would be located on NFS lands and situated to the southeast of the Alpine Meadows base lodge between the Roundhouse Express and the Hot Wheels Chair (see Figures 1, 2 and 3). This site would be accessed via existing base area roads and parking areas. Construction equipment (including tracked excavators and a crane) would be staged in the existing Alpine Meadows parking area which is adjacent to the proposed base terminal (approximately 500 feet away).

This facility would resemble a typical base terminal of a detachable lift. The terminal would have a footprint of approximately 24 feet by 84 feet and would be approximately 30 feet tall. It would be designed to blend with the natural environment to the maximum extent possible.

This terminal would also include a cabin storage facility. The terminal would be on an elevated foundation and no material would be excavated or removed from the facility footprint. Minimal ground disturbance would be required where the foundation footers are anchored.

Additionally, a grading project is proposed at the Alpine Meadows base area to improve the connectivity between the base lodge and the Summit and Roundhouse lifts. This project would add fill material to reduce the slope between the lodge and the lifts, resulting in approximately 1.6 acres of disturbance. This project would require the importation of fill material.

Alpine Meadows Mid-Station

One mid-station would be located about 650 feet north-northwest of *The Buttriss* in the northern portion of the Alpine Meadows SUP area (on NFS lands) as shown on Figure 4. This mid-station would be located a minimum of 80 feet from the Granite Chief Wilderness ([GCW] – see discussion below). This mid-station would be elevated above a granite outcropping and thus there would be minimal excavation and material removed for the terminal and foundations. The mid-station could be anchored directly to the rock or to concrete caps poured directly on the rock. Some rock blasting may be required, and this material would be scattered on site. The overall disturbance area would be approximately 22,000 square feet (0.5 acre).

The Alpine Meadows mid-station would resemble a typical base terminal of a detachable lift. The facility would include two stations arranged to form an angle. Each station would have a footprint of approximately 24 feet by 84 feet and would be approximately 30 feet tall. It would be designed to blend with the natural environment to the maximum extent possible.

Materials for this station would be transported to the site primarily via helicopter. Additionally, construction equipment (including a tracked excavator and spider excavator) and materials (lift equipment, generator, and tools) would be transported to the site via a temporary construction access route primarily on private lands (approximate route is depicted on Figures 1, 2 and 4). This route would be utilized by machinery over-the-snow or in snow-free conditions. All-terrain vehicles (ATVs) would also use the identified route to access the site (primarily for construction crew transport) once the area is clear of snow. The helicopter and materials would be staged in the Alpine Meadows parking lot. A permanent access road to the mid-station is not proposed. The temporary access route would be restored to its previously existing condition after construction is complete.

Installation of an electric power line to the Alpine Meadows mid-station is not proposed. Instead, necessary operating current would be supplied via a “line generator” which uses the moving lift to generate the power necessary for operation. During non-operational periods, a small generator would supply power to the mid-station electrical equipment.

Squaw Valley Mid-Station

A second mid-station would be located on private lands along the ridgeline at Squaw Valley, approximately 1,100 feet southwest of the KT-22 lift top terminal (on private lands) as shown on Figures 1 and 2. This mid-station would be located a minimum of 175 feet from the GCW. Overall ground disturbance for the Squaw Valley mid-station would be approximately 22,000 square feet (0.5 acre). The site is accessible via existing mountain work roads. Power to this mid-station would be supplied via line-generator.

Squaw Valley Base Terminal

The Squaw Valley base terminal would be located on private lands between the bottom terminals of the KT-22 and Squaw One express lifts (on private lands) as shown on Figures 1 and 2. This terminal would include a cabin storage area, and would have an overall disturbance of approximately 0.5 acre.

General Ropeway and Towers

Access and construction methods for each tower would vary depending on site conditions and location. The exact locations and designs for each tower have not been determined at this time. Determination of exact tower placement will require consultation with the Forest Service hydrologist/soil scientist. Four “tower zones” (Zones A, B, C, and D) have been delineated on Figures 3 and 4 to highlight areas with similar site conditions for tower placement (tower zone D is located entirely on private lands at Squaw Valley and is thus not visible on the attached figures). Details about tower construction are discussed below.

There would be approximately 11 towers located on NFS lands. Tower height on NFS lands would average approximately 30 feet, but could reach approximately 60 feet near the Alpine Meadows base area in order to achieve sufficient clearance over the base lodge. Staging areas for tower construction equipment and materials would be located in the parking areas of both Squaw Valley and Alpine Meadows, as helicopters would be used to set most towers. Materials and equipment for portions of the project on NFS lands would be staged in the Alpine Meadows parking lot.

Approximately three towers would be constructed on NFS lands in Zone A (lower towers, located on the Alpine Meadows portion of the project area on NFS lands, see Figure 3). Towers in Zone A would be accessible via existing base area roads and would be constructed using a tracked excavator or a spider excavator. In Zone B, (see Figures 3 and 4) approximately two towers would be constructed on NFS lands with a spider excavator which would be walked up the proposed lift alignment from the Alpine Meadows base area. Towers in Zone C (located on both NFS and private lands, see Figure 4) would be accessed via a route through private lands (approximate alignment shown on Figures 1, 2 and 4) and constructed with a tracked excavator, spider excavator, or anchored directly to the rock, depending on site conditions. Geotechnical review indicates that several of the lift towers could be secured directly to the extensive rock along the line and would therefore not require foundations or excavations in these locations. Towers located in Zone D (on private lands, not visible on the attached figures) would be accessed from Squaw Valley.

Blasting may be required for the mid-stations and some of the tower foundations. Disturbance for each tower would vary based on its location; towers accessible to an excavator could result in a total disturbance of 600 square feet (including spoil storage) if site conditions allow for a hole to be dug. For towers with more limited construction access, spider excavators could be used to dig a hole for the foundation resulting in approximately 300 square feet of disturbance (including spoil storage). Some

towers could be constructed by flattening the surface and pouring a concrete footer above grade, which would not result in any spoils. Towers located on granite outcroppings could require some drilling/blasting, but would likely be secured directly to the rock, or anchored to concrete poured directly on the rock, and would not result in excavated ground disturbance. Material removed for tower footings would be stored adjacent to the tower location in an area of approximately 100 square feet, then scattered on-site, likely on top of the footer.

Vegetative clearing for installation of the gondola project components would be required, and up to approximately 500 trees total would need to be cleared in the project area. It is anticipated that approximately 150 trees could need to be cleared on NFS land. Necessary tree removal would be accomplished via helicopter, skidding, hauling off-site, chipping, burning, or lop-and-scatter, depending on specific site conditions and accessibility. It is anticipated that trees would need to be skidded (the act of moving trees from the site of felling to a loading area or landing) primarily in Tower Zones A and C, and within the Alpine Meadows mid-station disturbance area.

While only one quarter of the proposed lift would be located on NFS lands, a segment of the lift, located on private property, would cross through the congressionally designated boundary of the Granite Chief Wilderness (GCW). However, the Wilderness Act does not apply to private property and this private property is not managed, maintained, or considered part of the GCW.

Base-to-Base Gondola Operation and Long-term Maintenance

Future maintenance of the Base-to-Base Gondola would be authorized by the SUP through an annual Operating Plan. Unforeseen maintenance activities involving ground disturbance would require additional NEPA analysis. No temporary or permanent maintenance access roads will be authorized for use, or created, without additional NEPA analysis as well.

B. GAZEX® AVALANCHE MITIGATION SYSTEM

Installation of the proposed gondola would necessitate changes to the Alpine Meadows current snow safety and avalanche hazard mitigation program. Currently, the area of Alpine Meadows where the lift connection is proposed is managed via remote artillery and hand shot (explosive) placements. There would be risk of direct artillery, indirect shrapnel, and impact to the gondola and lift towers if current management techniques continued. Alpine Meadows would thus install, operate and maintain up to eight Gazex exploders (seven on NFS lands) to perform avalanche mitigation in the area known as *The Buttress* in lieu of artillery use in this area (see Figures 1, 2 and 4).

Gazex avalanche mitigation devices have been deployed successfully across the state of California, the United States, Canada, and Europe for several decades.

Exploders

Seven Gazex exploders would be constructed on NFS lands at Alpine Meadows. Gazex exploders utilize cached propane and oxygen gas to ignite a controlled volume explosion within the Gazex tube creating a concussive blast above the snow surface in key avalanche trigger locations. The ignition is controlled remotely. Installation of the Gazex exploders requires two concrete footers for anchoring (see Illustration 1 depicting a typical Gazex exploder below). The upper concrete footing would be approximately 3.5 feet by 8 feet, with a total disturbance area of approximately 15 feet by 15 feet. The lower concrete footing would be approximately 5 by 5 feet, with a total disturbance area of approximately 7 feet by 7 feet. The disturbance required for each exploder would vary depending on its location. Any material disturbed for the footers would be replaced or scattered on site. The exploder tubes would be roughly 15 to 16 feet in length to ensure the opening remains above the snow surface. Construction would be principally by hand crews working in steep locations. Drilling for footers would be completed with a wagon drill, jack leg drill, or slid drill. No temporary or permanent access roads would be required. Concrete and infrastructure would be flown in place by helicopters. The helicopter and materials would be staged in the existing parking area at Alpine Meadows.



Illustration 1: Typical Gazex Exploder

Shelters

Operation of the Gazex exploders would require four shelters to house propane and oxygen tanks. Each shelter would be approximately 7 feet high by 7 feet wide/long and would be set on a small aboveground platform which would be anchored for stability. The shelters would be constructed of wood and steel covered in fiberglass and include an antenna approximately 22 feet tall. The shelters are typically white, and would be designed to blend visually with the surrounding environment to the maximum extent possible. See Illustration 2 depicting a typical Gazex shelter below. Each shelter would require construction of a platform approximately 10 feet by 12 feet. No other disturbance would be required for the shelters. Any material disturbed for construction would be scattered on site. From the shelter, a 1-2 inch diameter high-density polyethylene (HDPE) pipe would transmit the combustible gases (pressure fed) to the exploder. Construction would be principally by hand crews working in steep locations. Concrete and infrastructure would be flown in place by helicopters. The helicopter and materials would be staged in the existing parking area at Alpine Meadows.



**Illustration 2: Typical
Gazex Shelter**

HDPE Pipe

In total, approximately 3,000 feet of 1-2 inch HDPE pipe would be installed aboveground to connect the four shelters with the eight exploders. This pipe would not require any ground disturbance. The pipe would be of a dark color (either black or dark galvanized) and may be sheathed in a dark colored material to protect it from rodents, rock fall and snow creep. Construction would be principally by hand crews working in steep locations. Materials would be flown in place by helicopters. The helicopter and materials would be staged in the existing parking area at Alpine Meadows.

Gazex Operation and Long-term Maintenance

Alpine Meadows would ensure that all combustible gasses are depleted or removed from each shelter at the end of the ski season by over-the-snow vehicles such as snowmobile or snow cat. Resupply would be conducted over-the-snow or via helicopter immediately prior to the ski season. These facilities would require the storage of propane and oxygen, therefore appropriate spill and fire prevention measures would

be developed and incorporated into the project to ensure compliance with EPA, state, and local regulations. Routine operation and maintenance of the Gazex exploders, shelters, and HDPE pipe would be authorized by the SUP through an annual Operating Plan. Unforeseen maintenance activities involving ground disturbance would require additional NEPA analysis. No temporary or permanent maintenance access roads will be authorized for use, or created, without additional NEPA analysis as well.

C. SUMMARY OF DISTURBANCE ON NFS LANDS

**Table 1:
Approximate Ground Disturbance on NFS Lands**

Project Element	Approximate Disturbance
<i>Base-to-Base Gondola</i>	<i>2.2 acres</i>
Alpine Meadows Base Terminal	1.6 acres
Alpine Meadows Mid-Station	0.5 acre
Towers ^a	0.1 acre
Tree Removal	~150 trees
<i>Gazex</i>	<i>2,500 square feet (0.06 acre)</i>
Shelters	500 square feet
Exploders	2,000 square feet

^aExact tower locations and required disturbance are not yet known. These details will be developed through the ongoing planning process prior to construction.

D. SPECIAL USE PERMIT AMENDMENT

Implementation of the proposal would require an amendment to existing Alpine Meadows Special Use Permit #TRU014 issued for the operation and maintenance of Alpine Meadows Ski Area. This amendment would not alter the permit boundary, but would authorize, if approved, the construction, operation, and maintenance of the proposed infrastructure and improvements.

E. RESOURCE PROTECTION MEASURES

Resource Protection Measures (RPMs) are Best Management Practices (BMPs), mitigations, Standard Management Requirements (SMRs), standard contract provisions, and special operating provisions designed to minimize or negate any potential adverse effects associated with all planned activities and to assure consistency with potential permits and approvals required. The complete list of RPMs will be developed based on the analyses of effects completed by specialists and presented in the Environmental Impact Statement. General practices, types, or categories of RPMs are listed below. This general list is intended to provide an overview of the RPMs, and it is not all-inclusive.

Aquatic Resources

Consistent with Forest Plan direction, a Riparian Conservation Objective (RCO) analysis will occur as part of the project design. The analysis identifies Riparian Conservation Areas (RCAs) and restrictions for RCAs. The RCO analysis is typically tied to Best Management Practices that are required to minimize or prevent effects to aquatic resources. Compliance with Section 7 of the federal Endangered Species Act (ESA) will be required if necessary. Construction actions at the Alpine Meadows mid-station will require site-specific engineering plans and associated Forest Service aquatic resource staff consultation.

Cultural Resources

The proposed project will comply with Section 106 of the National Historic Preservation Act (NHPA). Coordination with the California State Historic Preservation Office will be conducted, if potentially eligible cultural or historic resources may be affected.

Hydrology and Soils

Protection measures will include requirements regarding the maintenance of beneficial uses of water as detailed in the Truckee River Hydrologic Unit Basin Plan for the Lahontan Regional Water Quality Control Board (LRWQCB) and consistency with Section 404 of the Clean Water Act. LRWQCB requirements may include the need to obtain permits such as the National Pollutant Discharge Elimination System Permit for construction permits or other disturbances. Other provisions include responsibility for monitoring, reporting and costs associated with un-planned sediment transport or effects to water quality and beneficial uses of water including aquatic habitat. Construction actions in the Alpine Meadows ski area, at the Alpine Meadows mid-station, and for exact tower placement will require site-specific engineering plans and associated Forest Service staff review and consideration during the EIS process

As with Aquatic Resources, the RCO analysis will assess protection measures needed to meet the Riparian Conservation Objectives. Regional and national BMPs for the soil and hydrology resources require equipment avoidance areas, erosion control measures, limits on operations based on slope, springs, drainages etc., stream crossing details, rehabilitation of temporary disturbance areas such as staging areas and temporary routes, and timing of operations based on soil moisture, sediment transport, and transportation routes.

Non-Native Invasive Plants

Standard non-native invasive plant (noxious weed) management requirements involve requirements for equipment cleaning when coming from or moving between known weed sites, and the use of weed-free erosion control or road materials. Both general and site-specific protection measures that follow guidance from the California Invasive Plant Council (Cal-IPC) and the Forest Service will be presented with the EIS.

Terrestrial Wildlife and Sensitive Plants

Biologists will consider requirements for the retention of habitat features such as trees, snags and coarse woody debris, as well as limitations on operating seasons/locations, and species-specific protection measures. For sensitive plants, a “flag and avoid” strategy may be required to prevent ground disturbance at known occurrences of sensitive plants.

Visual Quality and Landscape Architecture

The EIS will require measures as guided by the Forest Plan Visual Quality Objectives (VQOs), the Built Environment Image Guide (BEIG) and the Recreation Opportunity Spectrum (ROS).

4. RESPONSIBLE OFFICIAL AND DECISION TO BE MADE

Responsible Official

The Squaw Valley to Alpine Meadows Base-to-Base Gondola Project is partially located on National Forest lands managed by the Truckee Ranger District, Tahoe National Forest. The Tahoe National Forest Supervisor is the Decision Maker or Responsible Official for the portions of this project located on lands managed by the Truckee Ranger District, Tahoe National Forest.

Decision To Be Made

The decision to be made is whether to Permit the Proposed Action as described above, to modify the project to meet the purpose and need while addressing issues raised in public scoping, or to take no action at this time. A decision on this project could be made by the summer of 2017. Implementation could begin in the fall of 2017.