Chapter 2: Alternatives

This chapter describes the No Action Alternative along with three action alternatives associated with the Badger Pass Ski Lodge Rehabilitation Project, a list of actions common to all action alternatives, alternatives considered but dismissed, a summarized comparison of the environmental consequences of each alternative, and identification of the environmentally preferable alternative.

Description of the Alternatives

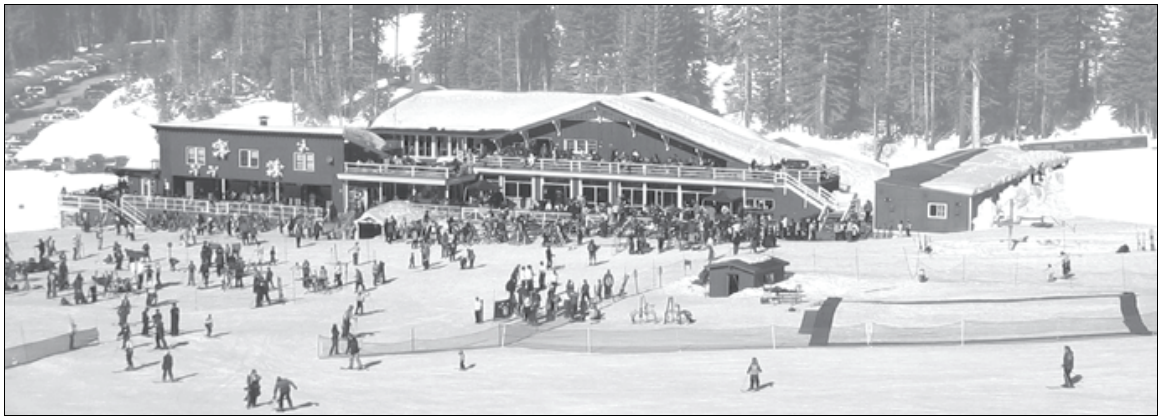
Alternative 1: The No Action Alternative

Overview

Under Alternative 1, rehabilitation of Badger Pass Ski Lodge would not occur.

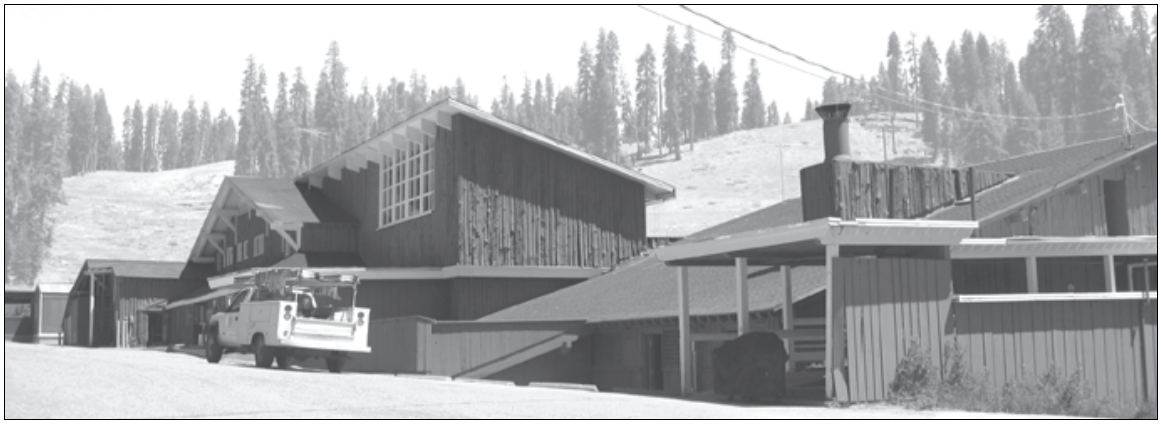
Objective

Under this alternative, emergency repairs and routine maintenance would continue to take place as needed, but no comprehensive, long-term rehabilitation, restoration, or renovation would occur. This alternative would result in the continuation of current conditions, which are described in detail below. Figures 2-1 and 2-2 show views of the current facility.



Source: Page & Turnbull (2009a)

Figure 2-1 Existing Vantage from Slope.



Source: Page & Turnbull (2009a)

Figure 2-2 Existing Arrival Vantage.

Historic Rehabilitation

Under the No Action Alternative, the character of the original ski lodge structure would continue to be masked by later additions. Underlying causes of structural damage to the Badger Pass Ski Lodge due to water intrusion, exposure to the elements, and aging infrastructure would not be addressed. Under this alternative, the structure would not be treated as recommended and, without stabilization measures, would likely further lose integrity (Page & Turnbull, 2009f).

The historic elements of the Badger Pass Ski Lodge that are still intact would be retained. However, some elements of the structure's historic character have disappeared or have lost integrity over the years. For example, the oversized flagstone hearth fireplace, a distinctive characteristic of the NPS Rustic style, was removed from the lounge in 1954. This feature would not be restored or replaced under this alternative.

The current conditions of program elements and buildings described in detail below would continue under the No Action Alternative. Figure 2-3 illustrates the current layout of the facility within Badger Pass Ski Area. Figures 2-4, 2-5, and 2-6 provide floor plans of the ski lodge and the location of specific program elements.

Existing Conditions

Visitor Arrival and Circulation

Ticketing points of sale are located at: a station at the north end of breezeway, a station at the south end of breezeway, the Activities desk inside the ski lodge on the first floor, and the cashier station in the Alpine rental building (east building). Lift tickets, ski rental, ski school, and tubing tickets are available for purchase at all the ticketing stations. The dispersed location of the ticketing stations contributes to long waiting lines on peak days. Queue space for ticketing conflicts both with queue space for the Pups program and daycare next to the Activities desk and with circulation space in the breezeway. Ticketing for Nordic skiing only is available in the Nordic rental building. NPS wilderness permits and ranger interpretation services, such as ranger-led snowshoe walks, are available at the Ranger Station (A-frame), located southwest of the ski lodge.

There is no clear path of travel between the various visitor services in the ski lodge, and circulation is crowded and inconvenient at peak times. Bottlenecks occur at the main lodge entryway, at the Activities desk, at ticketing in the breezeway, and at the ground floor exit to the slopes. Restrooms located in the basement are isolated and inconvenient. Ground floor access from the lounge to the deck and second floor access between seating areas to the deck is limited. Many parts of the building are not ADA-accessible due to floor level changes, and a lack of either an elevator or a stair lift.

Visitor Service and Programmatic Requirements

Main Lodge and West Building: The main ski lodge provides food and beverage service, dining and lounge area, interior and exterior seating, ticketing, locker facilities, restrooms, ski rental facilities, a children's ('Pups') ski program and daycare, an Activities/Information desk, and a retail store, as well as administrative and operational space. Dining, seating, and restroom facilities are of adequate capacity at non-peak times and are insufficient during peak times. Interior seating is insufficient at times of unfavorable weather.

The main dining facilities are located on the first floor, with secondary service in the Snowflake Room on the second floor. The secondary food service is open only on weekends and peak days.

The main food service facilities include: a cashier station with three points of sale, queue space, a food pick-up area, and kitchen facilities (see Operational and Employee Facilities, below, for details). The secondary food service facility includes: a food service area with one point of sale, a bar service station with one point of sale, and queue space. Queuing at the dining areas on both the first and second floors takes up seating space.

Retail space is located on the first floor of the west building, and includes a retail display area, a sales counter with two cashier stations, a prepackaged food area with refrigerators, office space, storage space, and a changing room. No restroom is provided in this space.

Three types of lockers are provided for ski and equipment storage: full-size, small day-use, and cubbies. Full-size lockers are located in locker rooms A, B, and C on the ground floor. Locker rooms A and C are for public use and include season pass holder lockers and overnight lockers for multi-day pass holders. Locker room B is primarily used by the Yosemite Ski Team and Ski School instructors. Small day-use lockers are located on the first floor, adjacent to the retail shop, and directly inside the main entrance. Small open storage cubbies are provided in the main lounge area on the first floor.

The Pups program and the daycare facility are located together on the first floor of the main lodge building. The Pups program area includes a sign-in desk for both programs and a ski equipment area. Storage space for Pups program ski rentals is currently inadequate to meet the demand for equipment on peak days. Queuing at the Pups program counter extends into the space in front of the Activities desk, which often causes congestion in this area. The daycare program area includes a play area, TV area, counter with sink and cabinets, and two children's restrooms.

Alpine and Nordic Rental Buildings: Alpine (including downhill ski and snowboard) and Nordic (including cross-country ski, snowshoe, and inner tube) rental facilities are provided in temporary buildings detached from the main lodge. On peak use days, these facilities are of inadequate size for visitor demand, and there is insufficient inventory due to lack of storage space. No restroom facilities are available in these structures. On busy days, queuing at the Alpine rental building spills into the vehicular drive, and the boot fitting counter creates a bottleneck. The temporary buildings detract from the character of the historic site, and as they are not permanent buildings, they would eventually require replacement.

The temporary Alpine rental building is located on the east side of the main lodge building. Facilities include: a cashier station with two points of sale, queue space at the cashier station, a boot rental area, a ski/snowboard/pole rental area, seating areas for fitting, a "tech desk" for ski repair and maintenance, an administrative office, and circulation space. Flow of activity begins at the queue for the cashier, moves from the point of sale to boots, to skis and poles or snowboards, and terminates at the exit on the southwest side of the building, towards the slopes.

Nordic rental is also available in a separate, temporary building, detached from the main lodge building to the northeast across the roadway. Facilities include: a cashier station with one point of sale, queue space at the cashier station, a small retail space behind the cashier station, a boot rental area, a ski/snowshoe/pole rental area, a seating area for fitting, a repair work table, an administrative office, and circulation space. Snow tube rentals are also available in the Nordic building. Storage space for rental equipment is provided in a separate storage container west of the building. Flow of activity begins at the queue for the cashier, moves from the point of sale to boots,

to skis and poles or snowshoes, and terminates at the exit on the southeast side of the building, towards the cross-country trailheads.

Operational and Employee Facilities: Offices are located on the second floor of the retail building, including an auditor's office, a bank drop/safe, two workstations, a restroom, and storage. Overnight grooming and snow removal staff stay in a bunk room above the kitchen, which includes a sleeping area for four staff, two storage closets, and a full bathroom. Staff restrooms are located only in these two areas. Additionally, two administrative offices and a work room are located in an addition at the southwest corner of the original lodge building, adjacent to the Activities desk. Ski patrol facilities located in the ski lodge consist of a staff room at the ground floor, which provides staff locker space. There is no employee breakroom in the ski lodge. Lift operations are housed in a room below the breezeway on the ground floor.

An office located on the first floor of the west building is used for ski school administrative services and lesson scheduling. The ski area operator's offices and front desk administrative space are located in an addition to the original lodge on the ground floor. A room in the basement north of locker room A is used as a locker room for ski school instructors. The Rusty Rust Room, adjacent to locker room B, is used for ski school storage and race equipment for the Yosemite Winter Club.

Kitchen facilities on the first floor include: kitchen space, a hot prep area, a finishing area, two walk-in freezers (one accessed from outside the building, which is problematic when the door freezes over), storage space, and a dishwashing area. Additionally, a barbeque is set up on the exterior deck on peak days. Food, waste, and recycling storage facilities are insufficient, and kitchen layout is inefficient. Increased frequency of deliveries from Yosemite Valley is sometimes required due to a lack of cold storage. Deliveries are unloaded on the north side of the lodge adjacent to the bus loading, pedestrian entry, and ADA-accessible parking areas.

During summer months (June - August), the ski lodge is used as a base camp for Yosemite National Park's Youth Conservation Corps (YCC) program, which employs approximately 40 corps members and 25 NPS staff. During this time, the ski lodge is not open to the general public. A portable shower unit is placed to the west of the ski lodge in the parking lot for summer YCC use.

Sense of Place

The ski lodge retains its presence and purpose as an intimate public ski facility within a protected mountain meadow. The building's architectural character and use of natural timber cladding, which is compatible with the surrounding landscape, are intact and contribute to the sense of place of the facility. Non-historic additions and temporary structures, however, detract from the sense of place, and some vantages have been changed. Orientation and wayfinding though the facility is not optimal and can be confusing to visitors.

Sustainability

The existing mechanical and plumbing systems and building insulation at the ski lodge are older and not as efficient as newer water- and energy- conserving systems would be.

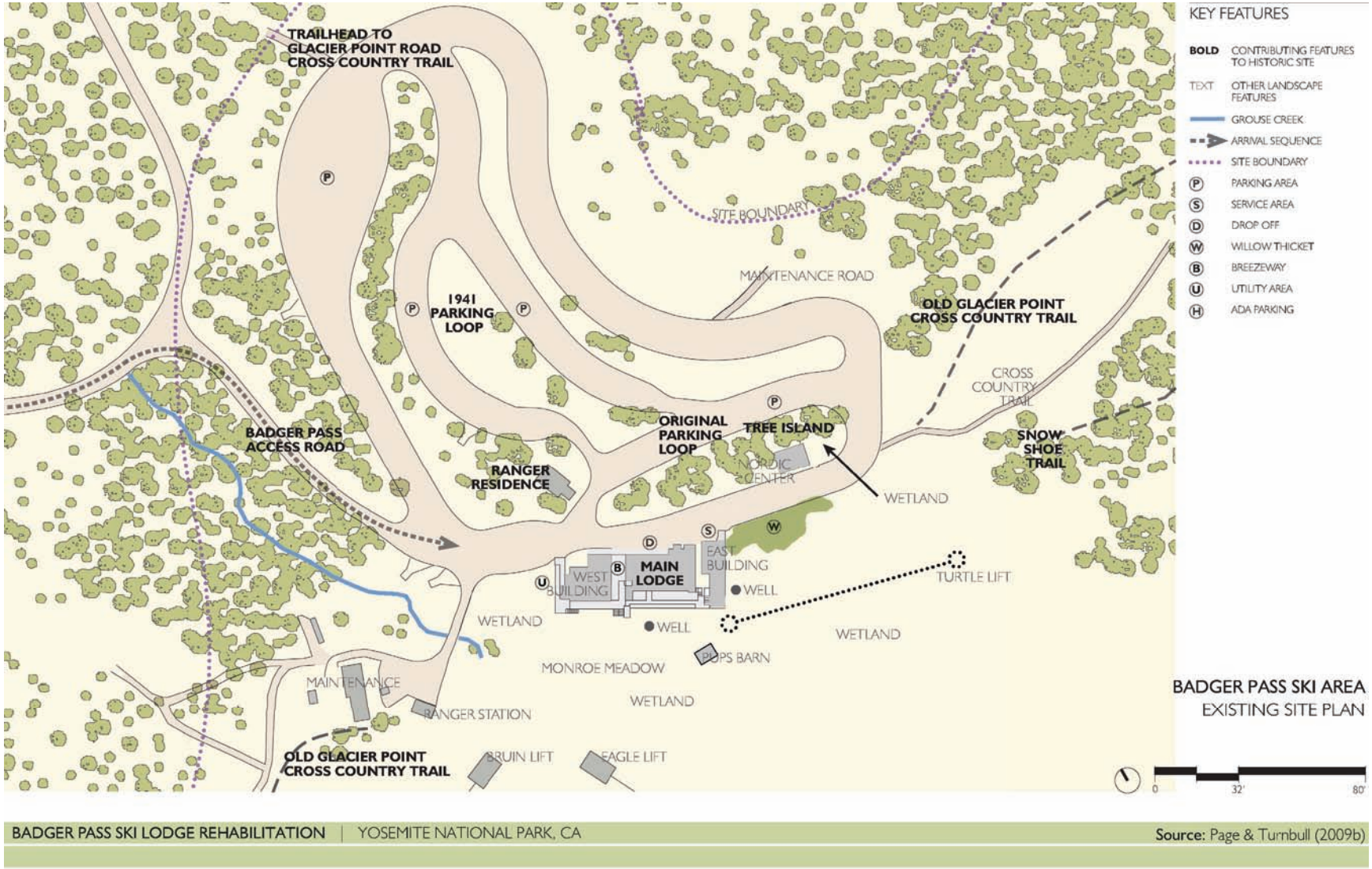
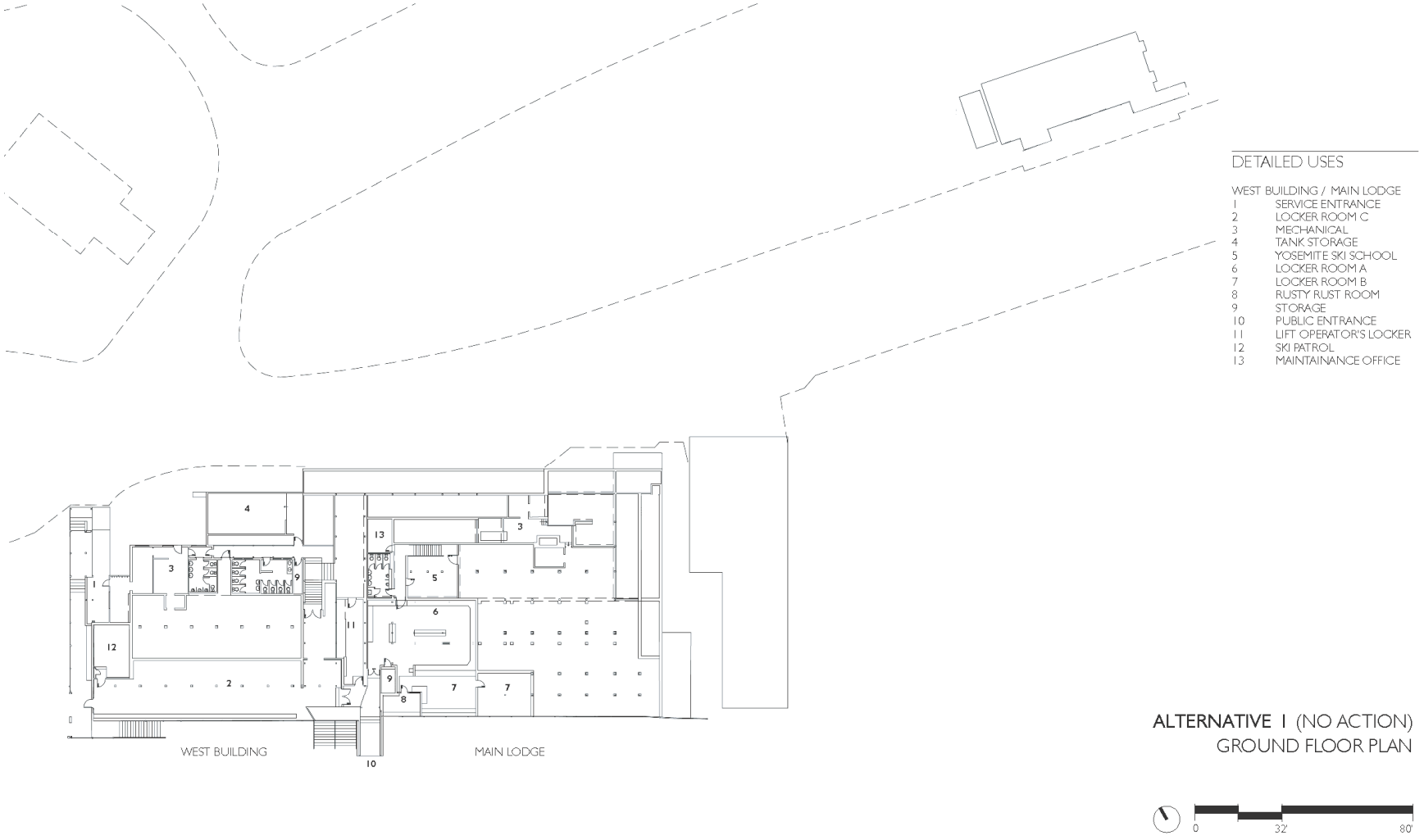


Figure 2-3 Badger Pass Ski Area Facility Layout.

BADGER PASS SKI LODGE REHABILITATION | YOSEMITE NATIONAL PARK, CA

Source: Page & Turnbull (2009a)

Figure 2-4 Badger Pass Ski Lodge – Existing First Floor Plan.



BADGER PASS SKI LODGE REHABILITATION | YOSEMITE NATIONAL PARK, CA **Source:** Page & Turnbull (2009a)

Figure 2-5 Badger Pass Ski Lodge – Existing Ground Floor Plan.

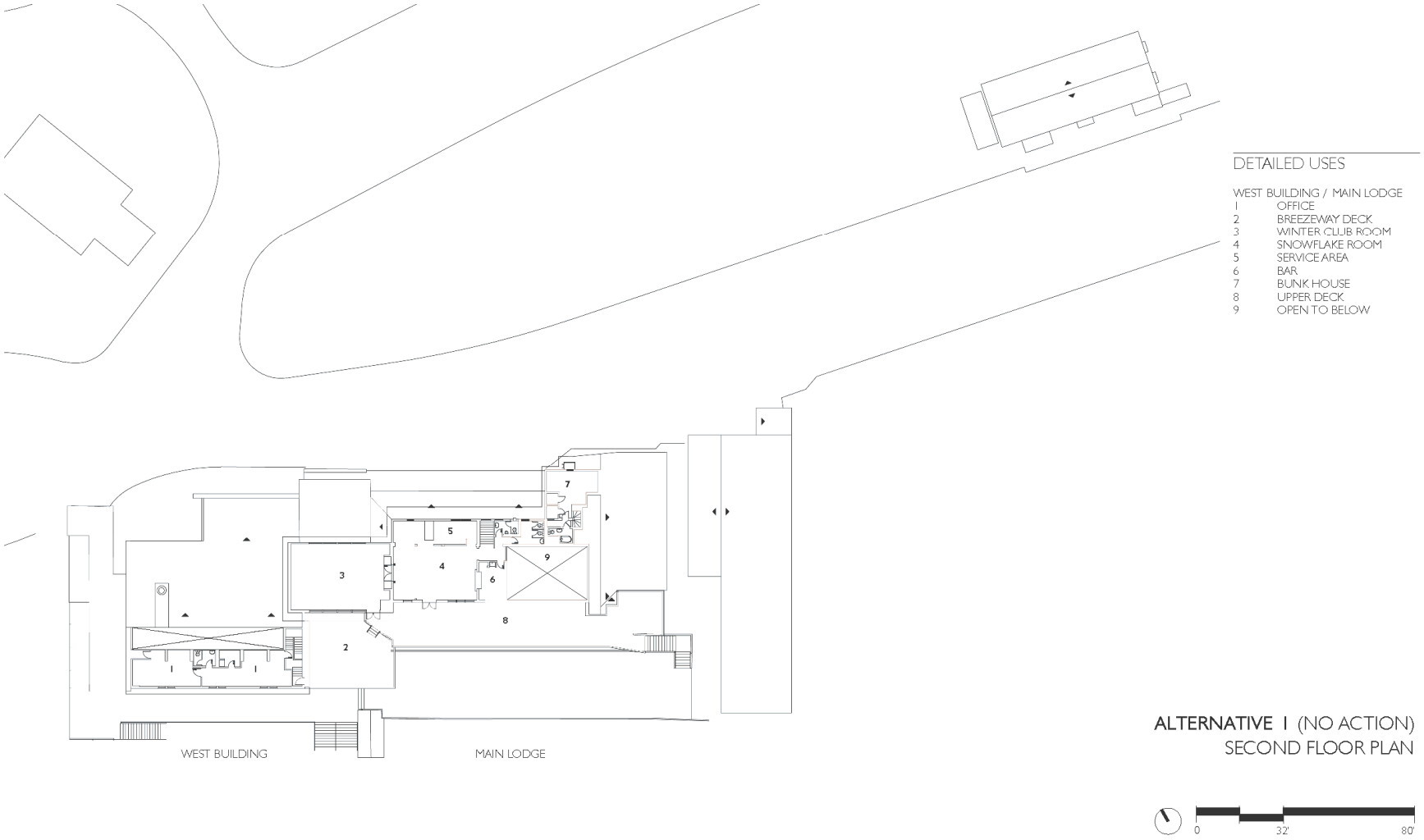


Figure 2-6 Badger Pass Ski Lodge – Existing Second Floor Plan.

Facility Layout

The main lodge building, including the retail (west) building, houses ticketing and visitor information, food service, lounge and dining, locker, retail, daycare, ski school, and restroom facilities. Lift operations and mechanical facilities, office space and a bunk room for overnight staff are also located in the main lodge building. Alpine and Nordic rental and repair facilities are located in temporary buildings near the main lodge building. The ski lodge facility, including the Alpine and Nordic buildings, encompasses approximately 22,900 square feet of interior space, plus another 9,900 feet of exterior deck space.

Architectural

The original ski lodge, built in 1935, has undergone many extensions, additions, and modifications since its construction. The main lodge building was expanded in 1936, 1941, 1946, 1956, and 1961. A stand-alone comfort station was built to the west of the main lodge in 1940, and in 1954 the retail addition (west building) was built on top of the comfort station, expanding the basement area around it. The breezeway was constructed in 1956, and the Winter Club Room was added above that in 1968. The building was stabilized in 1996, and emergency deck repairs were made in 2005 and 2007. The current ski lodge complex includes the 1935 lodge building in the center, the 1954 addition to the west and the temporary Alpine rental building (added in 2006) to the east, as well as a large deck to the south that creates a connected walkway between these separate buildings.

Although the appearance of the ski lodge reflects the many additions and alterations made to it over time and differs from its appearance during the period of significance of the Badger Pass Ski Area historic site (1934 – 1953), the ski lodge is an important contributing feature of the historic site. Original rustic features of the building that remain include: the wood frame structure, front gable roof with wide overhanging eaves, and natural bark half-log siding (which is partially obscured). Original rustic features of the building that have been removed include the original balconies with railings featuring decorative cut-outs; and the majority of the rectangular, multi-light casement windows. Elements of the ski lodge constructed after 1953, such as the decks, the south extension (window wall) of the lodge, the breezeway, the Winter Club Room, the retail addition, and the basement areas below them, do not contribute to the Badger Pass Ski Area historic site (Page & Turnbull 2009e).

Currently, ADA accessibility at the ski lodge is not fully compliant with current codes. Many parts of the building are inaccessible due to floor level changes and stairs, and accessible restrooms are inadequate.

Fire Protection

Buildings: Life safety of the ski lodge is not fully compliant with current codes. In particular, emergency egresses, separations, signage, and fire detection systems are insufficient, and the sprinkler system is in need of repair or replacement in order to adequately protect the facility. No sprinkler system is in place in the Nordic building.

Structural

Main Lodge, West Building, and Exterior Decks: The building's structural integrity is threatened by damaged roofing, poorly functioning interior and exterior drainage systems, and inadequate foundations and structural support. Basement-level locker rooms have no ventilation and suffer from flooding. These conditions have caused and will continue to cause damage, an ongoing and repeated need for emergency repairs to protect life and safety, and long-term degradation of the building. Examples of emergency stabilization measures that addressed life safety risks in the past year include:

- Stabilization of deteriorated floors
- Shoring of insufficiently supported floors and decks
- Replacement or repair of dangerously unstable exterior stairs and railings.

Additional description of these and other recent emergency measures can be found in Appendix A, Cumulative Projects.

Civil

Pedestrian and Vehicle Approaches: The original parking loop for Badger Pass Ski Area is located directly north of the ski lodge. This parking loop is oriented east to west and features an island with a stand of conifer trees. The parking area has been expanded to the north in several loops, however, the south part of the original loop still serves as the main drop-off point for personal vehicles and buses.

Pedestrians approach the ski lodge from the north via the parking area and roadways. There are several locations where the pedestrian route crosses or follows often icy vehicle drive lanes. There is a sidewalk along the north side of the lodge, but there are no benches or other amenities to facilitate drop-off and pick-up of passengers. The bus drop-off area, the pedestrian entry, and the loading area for deliveries are all located in the same area.

In fall 2009, the National Park Service completed several improvements to the ski area parking lot, as described under the *Glacier Point Road Rehabilitation Environmental Assessment* (2007). These improvements were undertaken in part to improve drainage by adding new storm drains, additional drop inlets and trench drains, new gutters and curbs, and alteration of the grade of the concrete pad in front of ski lodge to redirect surface runoff. The new paving at the north entrance to the lodge is now flush with the curb that separates the sidewalk and roadway. This improvement is ADA-compliant, however, from the sidewalk there is no ADA-accessible point of entry to the lodge or an ADA-accessible ramp to the stepped breezeway.

Domestic Water Distribution: Water for the ski area is provided by a primary production well located immediately east of the temporary Alpine rental building and a backup well located just south of the southern ski lodge deck. Water is treated via a chlorination unit in the basement of the ski lodge, and is pumped during overnight hours to a 96,000-gallon, aboveground storage tank upslope from the ski lodge to the east via a pipeline. During the day, flow is reversed and the same pipeline is used to distribute treated water to the ski lodge and other facilities at the ski area. The pumping system that fills the water tank operates on a timer, and the system lacks water-level controls at the storage tank. When the volume of water pumped to the tanks exceeds the tank capacity, treated water overtops the tank and is released onto the ground.

Sanitary Waste: Wastewater from the ski lodge enters a gravity-flow sewer line that drains to onsite septic tanks, located west of the ski lodge, for treatment. Kitchen wastewater is diverted through grease traps located adjacent to the north side of the main building before being discharged to the sewer main. Treated wastewater is pumped from the septic tanks to a leach field located west of the maintenance building for disposal. The sanitary sewer lines downstream from the ski lodge were recently replaced; however, the sewer lines beneath the main building and west building are old and in need of replacement. Analysis of water production, water consumption, and wastewater discharge data suggests that groundwater may infiltrate the sewer lines during seasonal high groundwater levels.

Snow Removal and Storm Drainage: The condition of curbs and culverts, a lack of gutters, inadequate drainage, and improper sloping allow snow and storm-water runoff to pond and run directly to the lodge building. An inadequate drainage system along the east and south sides of the ski lodge allows surface water to pond along the building foundations and to pond along the south side of the lodge. During periods of high groundwater levels, groundwater seeps into the ground floor areas of the main building.

Snow removal is particularly problematic on the lower outdoor deck at the south end of the breezeway, and on the steps from the slopes to the basement. Snow removal is also problematic on the upper decks due to snow load structural concerns, the difficulty in maneuvering snow removal equipment up stairs, and the lack of area to put the snow once it is removed.

Mechanical/Plumbing

Buildings: Heating for the ski lodge is provided by diesel-fired steam boilers and a steam distribution system. The boilers are nearly 30 years old and are due for replacement, but are in good condition for their age. The steam distribution components are at the end of their useful life. Steam unit heaters are in fair condition. Restroom and kitchen exhaust systems are functional; a fire suppression element to the existing kitchen exhaust hood was upgraded in 2009 with new code-compliant retardant. Dining area and locker room ventilation systems are inadequate.

Hot water is generated by steam-fired hot water generators. Steam-to-hot water heat exchangers are due for replacement. Hot and cold water distribution systems are in good condition. Some wastewater piping within the building has been replaced recently; remaining older piping is due for replacement.

The temporary Alpine rental building and the main lodge kitchen are served by two above-ground propane tanks located in the willow thicket next to the Alpine rental building. The generators and boilers are served by a fuel oil tank located below ground, northwest of the west building.

The snowmelt system at the entrance walkway is functional. The entrance gutter heating element is not working well. No other snow melt systems are in place.

Electrical

Buildings: The power distribution and electrical equipment at the site appear to be either original or very old. Most of the devices have reached or exceeded their life expectancy, and many do not meet current safety standards. The emergency generator is tested regularly, and is functional, but is undersized for the loads, and is located in the same room as the boilers.

Site: The main feeder from Pacific Gas & Electric (PG&E) is reportedly overloaded.

Actions Common to All Action Alternatives

The original 1935 ski lodge building would be retained and structural strengthening would take place throughout the facility. Proposed actions for all action alternatives will be compliant with The Secretary of the Interior's *Standards for the Treatment of Historic Properties* (U.S. Department of the Interior 1995) and the *Design Guidelines for Yosemite National Park* (NPS 2009a). Also under all action alternatives, historic materials will be retained or replaced in kind, but existing non-historic materials may be altered.

All current program functions at the ski lodge would be maintained (e.g., ski school, the Pups and daycare programs, food service, etc.), although some program elements would be relocated under various alternatives. The temporary buildings housing Nordic and Alpine rental and repair would be removed and replaced with permanent structures of similar size and location as the temporary buildings. The new structures would incorporate an architectural vocabulary compatible with the historic character of the site. Accessibility would be improved by the addition of an elevator, ramps, floor leveling for improved path of travel, new stairs, and new accessible restrooms on each floor. Fire, life safety, mechanical, electrical, plumbing, and drainage systems would be upgraded or replaced as necessary to meet code requirements and to support NPS sustainability goals by improving energy and water use efficiencies. Figure 2-7 illustrates the site utility and drainage improvements that are common to all action alternatives.

Specific actions proposed under all action alternatives are as follows.

Phase 1

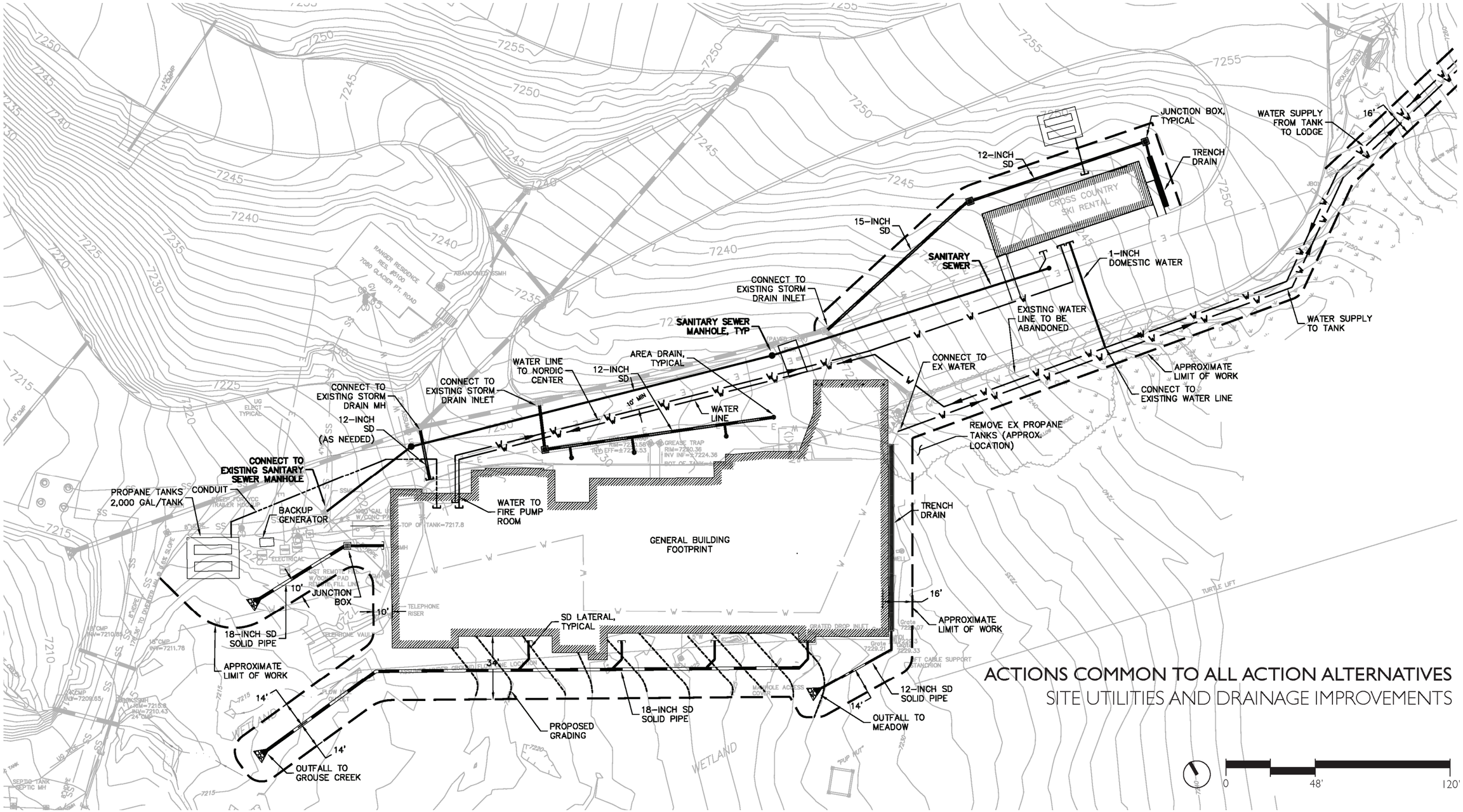
The first phase of work would be common to all action alternatives, and would consist of work to the main lodge, the west building, exterior decks, and site work in the immediate building vicinity outlined below in Table 2-1. All required code upgrades for life-safety, fire protection, accessibility, and building infrastructure including civil, structural, mechanical, plumbing, and electrical systems would be completed. Major repairs and replacement of systems at the main lodge and west building would include exterior decking, roofing, steel framing, and architectural window walls. Engineering systems would be upgraded or replaced, and made more energy efficient.

Later Phases

The timing of the following proposed actions in Table 2-2 would vary by alternative, but they would occur under each action alternative after Phase 1 work is complete.

Construction Equipment

The construction equipment used for the Badger Pass Ski Lodge Rehabilitation Project would be similar for all action alternatives, and would likely include the following: air compressors, backhoes, compactors, concrete mixers, concrete pumps, derrick cranes, mobile cranes, dozers, generators, graders, impact wrenches, jack hammers, loaders, pavers, pneumatic tools, pumps, rock drills, rollers, saws, scrapers, and trucks.



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Source: Page & Turnbull (2009a)

Figure 2-7 Actions Common to All Action Alternatives – Site Utility and Drainage Improvements.

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Table 2-1
Work Common to All Action Alternatives – Phase 1

Architectural

Main Lodge

- Remove and replace south decks, deck at the east and west end, railings, and stair access to ski slopes
- Provide a new hydronic snow melt system for exterior decks
- Provide ADA ticket kiosk and platform at breezeway
- Replace roofing material, underlayment and flashings, and repair roof sheathing
- Provide new roof ice melt system at specific locations
- Install three-stop elevator with corridor and elevator machine room at ground level
- Add accessible restrooms at ground, first, and second floors
- Replace floor slab at ground level to provide continuous accessible level; capture new ground floor area from former crawlspace at the main lodge
- Replace ramp to slopes and covered roof structure
- Replace second floor deck, railings, and exterior stair
- Replace south lounge extension (window wall), connections, and flashings
- Remove and salvage exterior half-log cladding, treat, and reinstall over new wall membrane and repaired sheathing
- Replace interior flooring in first floor dining area
- Reconfigure office and Pups program/daycare area on first floor
- Alter kitchen layout and finishes for code compliance
- Remove interior stair to bunk room and replace with exterior stair
- Provide restrooms, and reconfigure locker rooms on ground floor
- Replace interior stair to mechanical room on ground floor
- Provide 1-hour fire rating at mechanical and electrical rooms
- Provide chlorination, mechanical, fire pump, and storage rooms on ground floor
- Install ADA compliant door and window hardware, fixtures, and accessories where necessary
- Install ADA compliant ticket window and information counters

West Building

- Replace roofing material, underlayment and flashings, and repair roof sheathing
- Replace Winter Club Room floor level and south window wall
- Reconfigure egress stair to serve Winter Club Room, second floor deck, and second floor office space

Site

- Provide designated ADA parking spaces and striping east of the lodge

Fire Protection

Buildings

- Provide fire pump and new automatic sprinkler system in main lodge and west building
- Repair and stabilize existing sprinkler system in temporary Alpine rental building
- Maintain current condition (no sprinkler system) in temporary Nordic rental building
- Provide fire detection system and alarm system (Notifier system) within main lodge and west building

Site

- Provide dedicated fill and supply lines and flow control from existing water tank to supply sprinkler systems in main lodge, west building, and temporary Alpine rental building

Structural

- Provide drilled pier and grade beam foundations under new structural elements
- Retain compaction grouting under existing foundations

Main Lodge

- North deck ground floor: replace perimeter foundation wall with concrete foundation and stem wall
- Main lodge ground floor: add anchor bolting and plywood sheathing crawlspace cripple walls; add concrete shear wall, steel columns, and concrete footings to support new east deck structure
- Main lodge first floor: provide new shear wall sheathing and connections for select existing walls to remain; provide decay repair to existing framing and sheathing
- East deck first floor: provide new decking with additional steel beams as required to frame ramp and stairs; remove existing lacing at double steel columns and replace with steel plate web on each face of the columns
- Main lodge second floor: provide new shear wall sheathing and connections for existing walls to remain
- North deck roof: check/improve roof framing capacity
- Main lodge roof: check/improve roof framing capacity at east dishwashing area

Table 2-1
Work Common to All Action Alternatives – Phase 1 (continued)

Structural (continued)

West Building and Breezeway

- West building ground floor: provide anchor bolting and plywood sheathing for crawlspace cripple walls, and combination of steel moment frame and concrete stem walls
- Breezeway ground floor: add steel moment frame columns at breezeway from ground floor to underside second floor, new foundation grade beams at column locations, and provide new wood framed shear walls between existing steel columns
- West building first floor: add steel columns and concrete footings to support covered walk at north west corner; remove and replace existing west deck from south face to front of enclosed retail store; repair decay to existing floor framing and sheathing
- Breezeway first floor: continue columns from ground floor; remove existing wood framed floor and replace with new deck; provide new wood framed shear walls between existing steel columns
- West building second floor: provide new steel beams at underside office floor between new steel columns; provide plywood soffit on underside of second floor
- Breezeway second floor: provide decay repair to existing nail laminated decking at breezeway ceiling
- Winter Club second floor: verify or add shear wall sheathing from underside of Winter Club room floor to supporting steel structure below
- West building roof: check/improve roof framing capacity in areas other than the retail space and second floor offices; renail or replace existing roof plywood sheathing; improve shear transfer connections to walls below roof

Civil

- Remove and replace heated entry concrete walkway and provide ADA compliant curb cut and steps
- Replace curb along entry drive to direct surface drainage
- Replace paving and curbs at locations of civil/fire-protection improvements (as applicable)
- Provide plaza and deck area drainage system consisting of area drains to new hard pipe system paralleling the south edge of lodge, with a new outfall to Grouse Creek
- Provide a trench drain system along the east side of the Alpine rental building, with a new outfall to Monroe Meadow
- Provide minor regrading along east, south, and west perimeter of building to direct surface run-off away from the building and toward Grouse Creek
- Conduct additional study to finalize site-specific site drainage improvements

Geotechnical/Abatement

- Provide soil compaction grouting under existing foundations
- Remove abandoned chlorination tank under deck near kitchen
- Remove contaminated soil in vicinity of former fuel storage tank (west building) as needed, where known contamination is disturbed during project construction

Mechanical/Plumbing

- Replace propane tanks serving temporary Alpine rental building and main lodge with two 2,000 gallon tanks at western side of west building; provide a vaporizer
- Replace propane tank serving temporary Nordic building with two 1,500 gallon tanks at a code-compliant distance
- Maintain existing diesel fuel storage tanks – provide new distribution lines to serve standby generator and deck heating system

Electrical

Buildings

- Replace main service panel and distribution panels
- Provide one-hour fire rating for electrical room
- Replace electrical wiring where accessible and where affected by construction – in walls to be opened
- Provide grounding systems throughout
- Provide distribution to roof ice-melt system

Site

- Remove existing standby generator and provide new standby generator on exterior pad with weather enclosure west of the west building
- Upsize feeder lines from the utility-owned transformer to the new main switchboard

Table 2-2
Work Common to All Action Alternatives – Later Phases

Architectural

Nordic Center

- Remove existing temporary Nordic rental building
- Construct new Nordic Center housing Nordic ski rentals and restrooms; the new Nordic Center would be approximately 725 square feet larger than the existing temporary structure
- Replace exterior porch, stair and ramp at Nordic Center

Alpine Rental Building

- Remove existing temporary Alpine rental building
- Construct new Alpine rental building housing Alpine ski rentals, restrooms, and offices; the size of the new structure would vary by alternative

Fire Protection

- Provide fire pump and new automatic sprinkler system in Alpine rental building and Nordic Center
- Extend fire detection system and alarm system (Notifier system) to Alpine rental building and Nordic Center

Structural

- Provide concrete foundation, interior foundation and stem wall to underside of first floor at perimeter of Alpine rental building and Nordic Center
- Provide plywood shear walls at building perimeter and interior of Alpine rental building and Nordic Center

Civil

Site

- Replace concrete sidewalk and curb at Alpine rental building and Nordic Center
- Provide ADA compliant path between Nordic Center and main lodge
- Replace paving and curbs at locations of civil/fire-protection improvements (as applicable)
- Provide a trench drain system along the north and east side of the Nordic Center
- Provide water and sewer service connection to Alpine rental building and Nordic Center

Geotechnical/Abatement

Site

- Provide soil compaction grouting under existing foundations
- Remove abandoned chlorination tank under deck near kitchen
- Remove contaminated soil in vicinity of former fuel storage tank (west building) as needed, where known contamination is disturbed during project construction

Mechanical/Plumbing

- Replace two existing diesel-fired boilers with two new energy-efficient boilers in rated mechanical room
- Provide mechanical heating and ventilation system to serve Alpine rental building and Nordic Center
- Provide plumbing to new restrooms
- Provide new steam or duct distribution system for heating
- Provide new mechanical ventilation system to serve ski lodge
- Provide rated enclosure or shaft for kitchen exhaust duct
- Replace waste piping where feasible – in walls to be opened
- Modify kitchen infrastructure for new equipment and layout

Electrical

- Replace electrical wiring where accessible and where affected by new construction – in walls to be opened
- Provide electrical systems to serve Alpine rental building and Nordic Center

Alternative 2: Essential Repairs and Upgrades

Overview

Alternative 2 includes the rehabilitation of Badger Pass Ski Lodge within the current building envelope, involving minimal action to fulfill the basic project needs for repair and code upgrades.

Objective

The central objective of Alternative 2 is to repair and upgrade the Badger Pass Ski Lodge to meet essential project requirements as outlined in Chapter 1, Purpose and Need. The existing buildings would be maintained with minor physical alteration, while comprehensively addressing critical life-safety, code, accessibility, drainage and systems improvements. The upgrades would be intended to bring the facility to an acceptable level of safety and code compliance. Building systems with deficiencies that compromise the ski lodge structure or visitor services would be addressed. Failing systems would be repaired or replaced with new systems meeting industry building standards as appropriate, without compromising the historic character of the site. The ski lodge operations would be maintained in their current configuration, with minor improvements where code-compliance and building repairs are necessary. Figures 2-10 and 2-11, which follow the description of this alternative, show projected views of the facility after the implementation of all phases of Alternative 2. Figures 2-12, 2-13, and 2-14 display program functions by location under Alternative 2.

Historic Rehabilitation

The aim of treatments to historic features in Alternative 2 is to halt continued deterioration and establish basic protective measures where repair or upgrade work is conducted. Stabilization, strengthening, and protection of building systems are the primary preservation objectives. Features that contribute to the historic character of the site and existing spatial relationships would be maintained and protected. Ski lodge construction that does not contribute to the historic character of the site would also remain, as improvements outlined in Alternative 2 are aimed to fulfill requirements with minimal disruption and alteration to the building.

Primary Rehabilitation Objectives

- Retention of historic material and spatial relationships
- Emphasis on repair rather than replacement of historic fabric, where feasible
- Improvements to protection of materials from water-intrusion and material deterioration, however long-term preservation, performance, and maintenance of historic features will not necessarily be achieved
- Structural strengthening and repairs to framing systems
- Replacement of failing, non-contributing envelope systems critical to safety and weather protection of occupants and building systems
- Improvements to environmental control within the building
- New construction to replace deficient systems incorporating design character compatible with the original ski lodge
- Maintenance of existing building footprints and minimal alteration to site features

Visitor Arrival and Circulation

Alternative 2 would retain the current visitor arrival and circulation organization through the ski lodge. Orientation and wayfinding mechanisms would not be included. Improvements would be made to provide accessible paths of travel to program uses at three floors in the west building and main lodge. Accessibility would be improved with the addition of an elevator, ramps, floor leveling for improved path of travel, new stairs, and new accessible restrooms on each floor. As under all action alternatives, an accessible path of travel would be provided between the new Nordic Center and the ski lodge.

Visitor Service and Programmatic Requirements

Alternative 2 would improve visitor service at the ski lodge by addressing user safety, comfort and accessibility. In the implementation of necessary upgrades, benefits to the visitor experience and the operation of the facility would be made as feasible and appropriate. Where new construction would occur, the work is designed to provide optimal functionality and service. Specific program locations are illustrated in Figures 2-12, 2-13, and 2-14 at the end of this alternative description.

Sense of Place

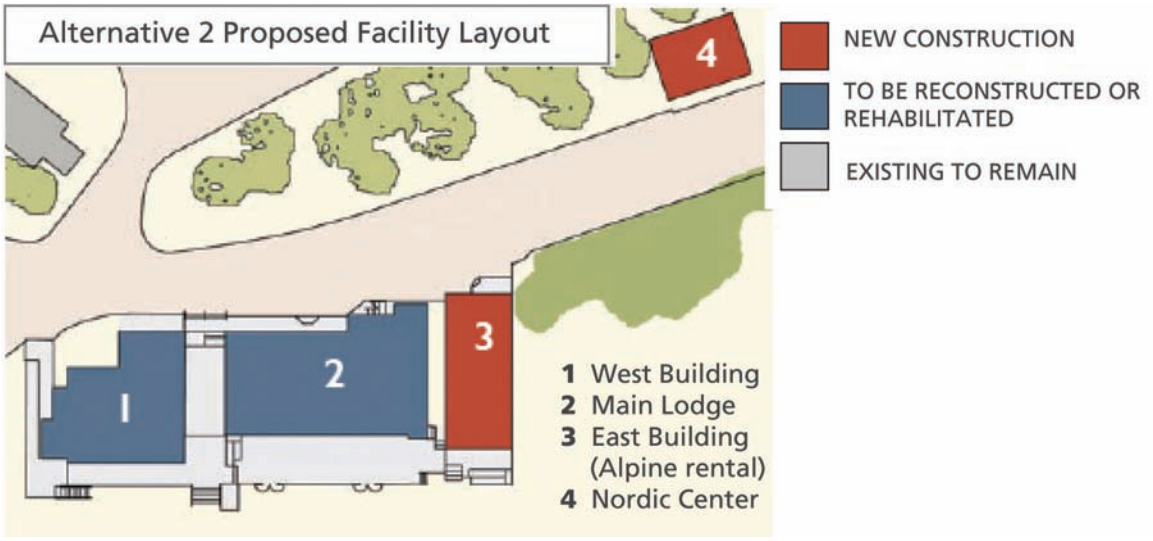
Alternative 2 would maintain the ski lodge's presence and purpose as a public ski facility within a protected mountain meadow. The building's architectural character and use of natural timber cladding, which are compatible with the surrounding landscape, would be retained. Vantages where the sense of place has been lost would not be addressed by Alternative 2. It is also not the objective of this alternative to address historic identity or a sense of place.

Sustainability

Advances in energy efficiency would be implemented in Alternative 2 where new systems and equipment are installed for life-safety and code compliance. At locations of roofing, envelope, or foundation replacement, added insulation would assist with reduced energy demands and consumption. Improved mechanical ventilation systems and window wall systems would allow the promotion of natural ventilation during periods of temperate weather. In addition, reduction in water use is anticipated with the use of low-flow fixtures and water efficient equipment. Where possible, the selection of new finish materials would consider recycled content, local sources, low emission of VOCs and reuse of existing materials among other factors that would reduce the waste stream and improve the indoor air quality of the facility.

Facility Layout

If Alternative 2 is implemented, there would be only minimal changes to the overall size and layout of any Badger Pass Ski Area facilities. The ski lodge would continue to house the same program and operational functions, in essentially the same locations, as under the No Action Alternative. Alpine and Nordic rental and repair facilities would be reconstructed in single-story, detached buildings in the same location as the current temporary buildings housing these functions. The ski lodge facility, including the Alpine and Nordic buildings, would encompass approximately 23,800 square feet of interior space, plus another 9,400 feet of exterior deck space. The proposed facility layout is shown in Figure 2-8.



Source: Page & Turnbull (2009a)

Figure 2-8 Alternative 2 Facility Layout.

Specific Actions Proposed

Alternative 2 would implement the work described in the Actions Common to All Action Alternatives section above. All work would be new construction unless noted as existing. Work following the first phase would be focused on replacing the temporary Alpine and Nordic rental buildings with permanent construction. In addition, Alternative 2 would include the following engineering and related site improvements:

Architectural

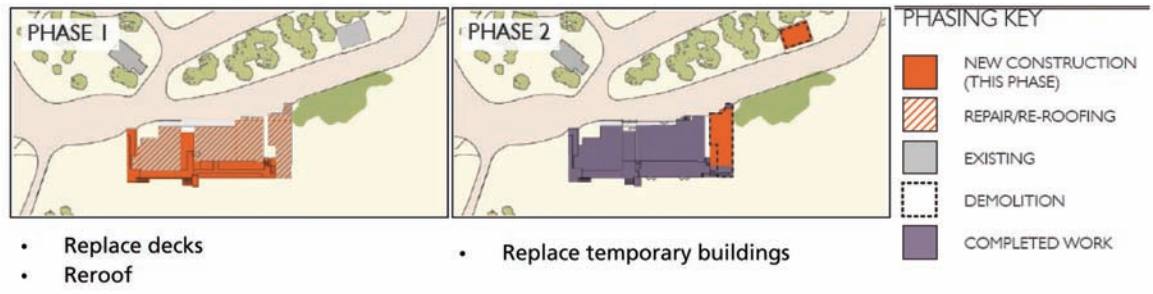
Main Lodge: Add accessible ramp at breezeway.

Exterior Decks: Replace all exterior decks in kind, and replace stair and ramp connections at south deck.

Estimated Cost and Schedule

The overall cost of implementing Alternative 2 would be approximately $23,811,400.

Construction would primarily take place during the summer season, so as not to disrupt ski facility operations. Construction would be implemented in phases, with each phase being one season's worth of work. Full service operation of the ski facility will be possible at the completion of each phase. This alternative could be implemented in two phases, so would be expected to be complete in two years, assuming funding is available. A diagram illustrating the organization of phasing is in Figure 2-9.



Source: Page & Turnbull (2009a)

Figure 2-9 Alternative 2 Phasing.

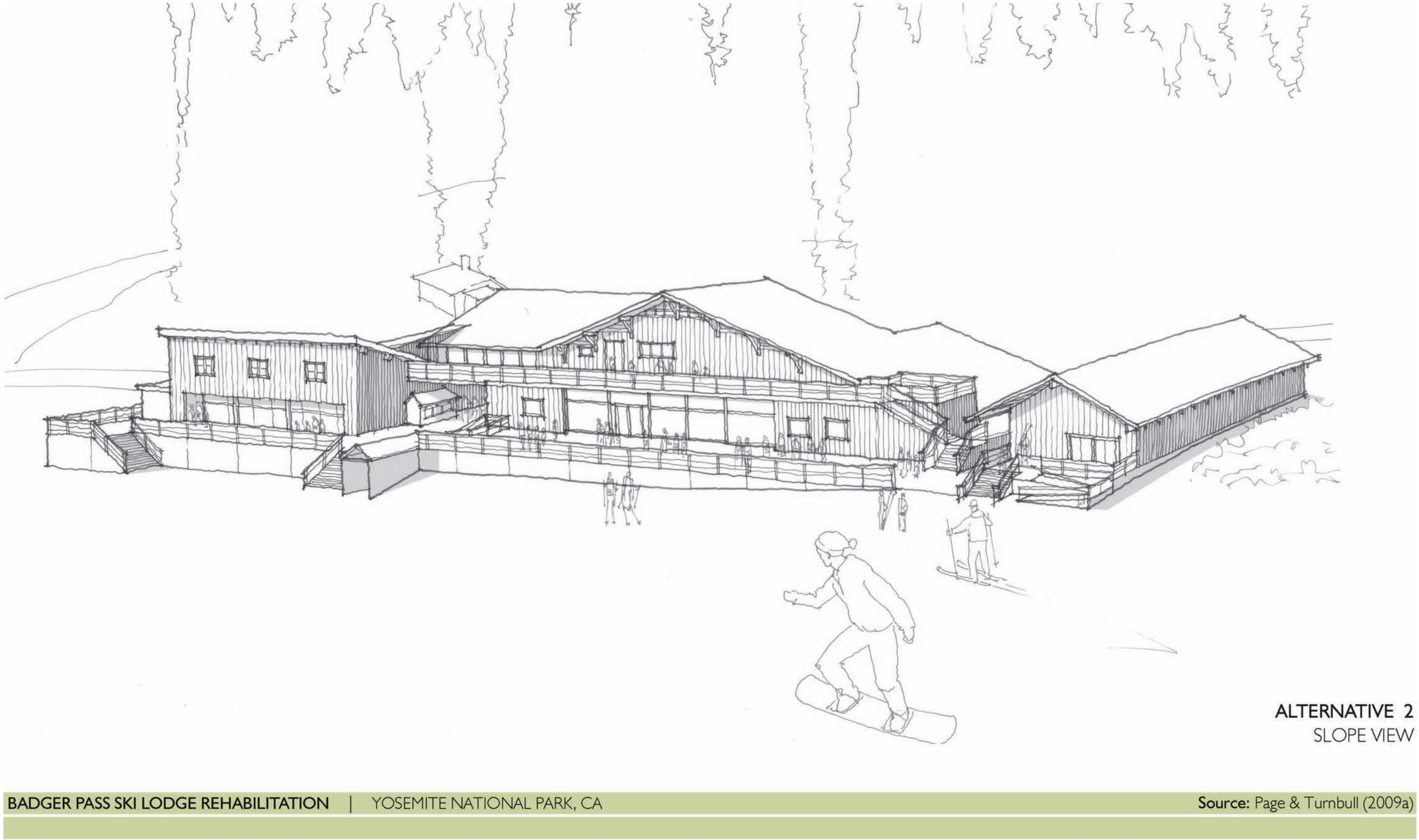


Figure 2-10 Vantage from Slope, Alternative 2.

Figure 2-11 Arrival Vantage, Alternative 2.

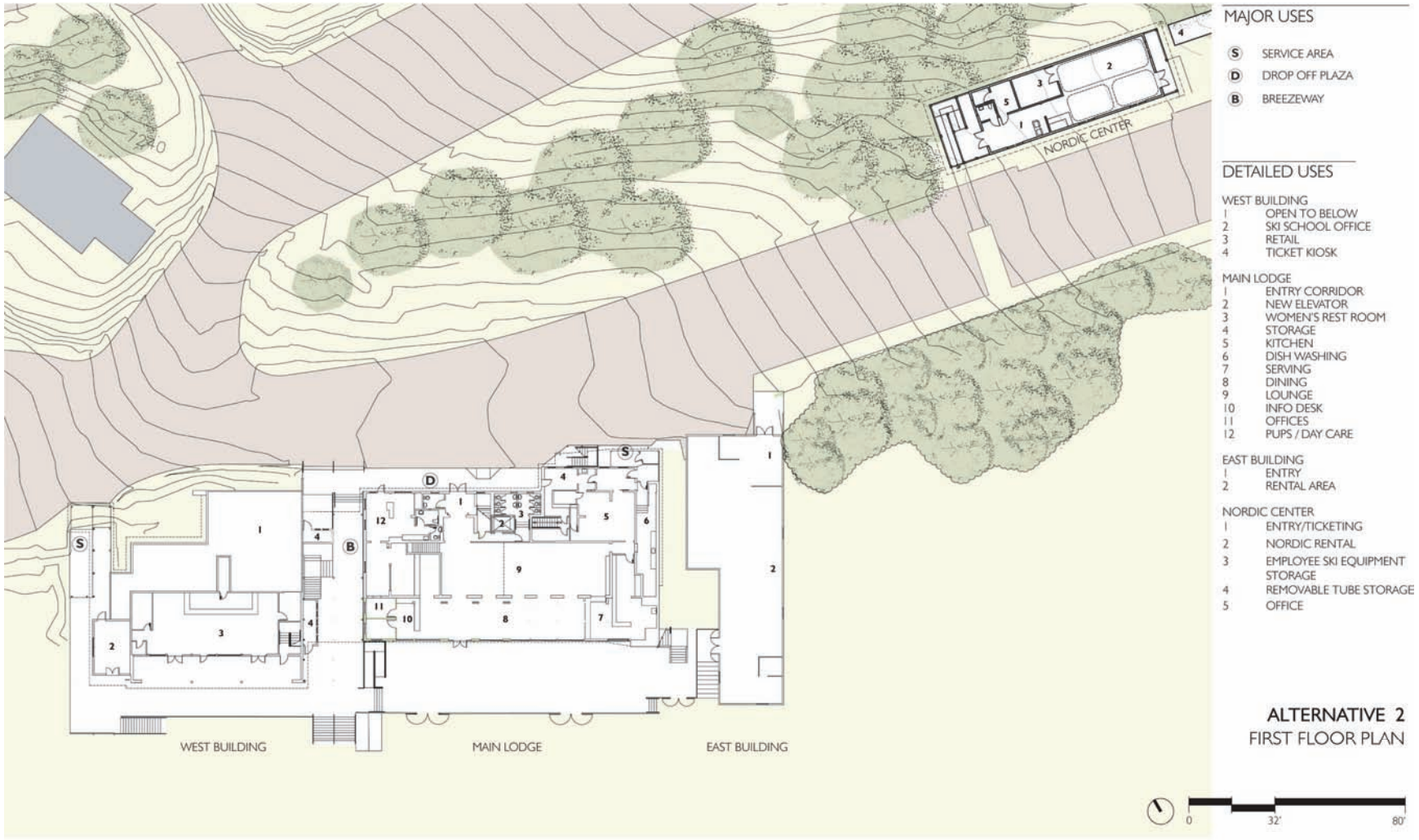


Figure 2-12 Badger Pass Ski Lodge – Alternative 2 First Floor Plan.

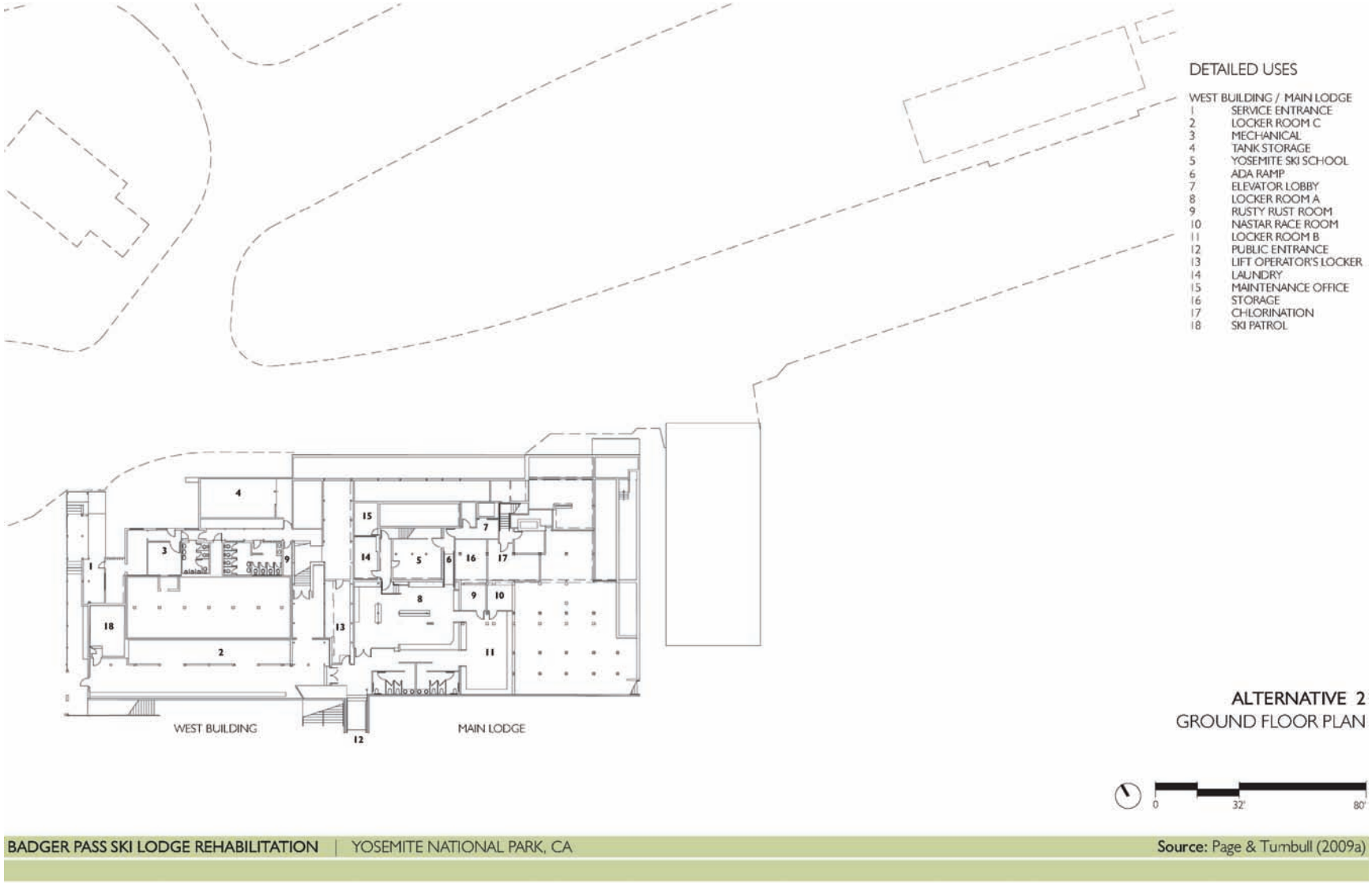


Figure 2-13 Badger Pass Ski Lodge – Alternative 2 Ground Floor Plan.

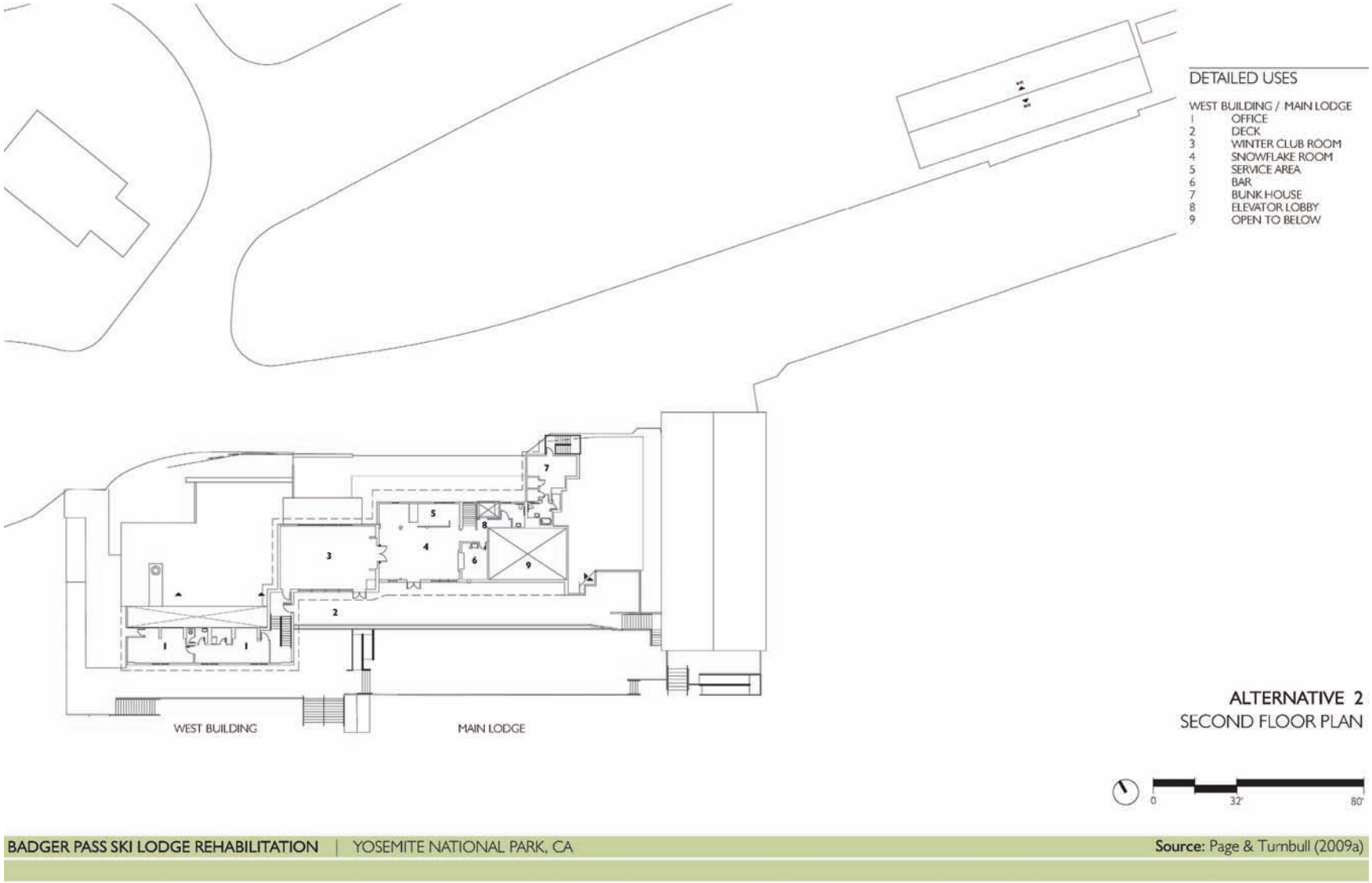


Figure 2-14 Badger Pass Ski Lodge – Alternative 2 Second Floor Plan.

Alternative 3 (Preferred): Rehabilitation and Improvements

Overview

Alternative 3 includes the rehabilitation of the ski lodge facility, maintaining historic and some non-historic building volumes. This alternative addresses needs for repair, code upgrades, and operational and visitor service improvements while maintaining the existing historic integrity of the original building.

Objective

The aim of Alternative 3 is to address project requirements while making improvements to the historic character of the lodge, enhancing building performance, and optimizing facility operations and levels of visitor service. The existing building footprint would be maintained with some physical alteration. Historic features and relationships in the main lodge would be preserved. A portion of construction dating from after the historic period of significance of the site would be removed, and some additions would be added to existing buildings. As in Alternative 2, building systems with deficiencies would be addressed and failing systems would be repaired or replaced with new systems. In addition, Alternative 3 would remove a portion of later additions that do not contribute to the historic character of the site and reorganize program uses to better accommodate functional needs. Figures 2-17 and 2-18, which follow the description of this alternative, show projected views of the facility after the implementation of all phases of Alternative 3. Figures 2-19, 2-20, and 2-21 display program functions by location under Alternative 3.

Historic Rehabilitation

Treatments to historic features in Alternative 3 would both protect and improve the historic character of the original main lodge. Existing features that contribute to the historic character of the site would be maintained, strengthened, and made a focus of the scheme. Later additions that obscured the original west roof slope of the main lodge would be removed. The fireplace would be restored at the main lodge and circulation redirected to allow gathering and dining within the historic central lounge. Significant spatial relationships and site view corridors would be enhanced by removing building construction that obstructed views to and from the main lodge.

Primary Rehabilitation Objectives:

- Retention of historic material and spatial relationships
- Measures outlined in Actions Common to All Action Alternatives; material repair, structural strengthening, and improvements to protection of materials from water-intrusion and material deterioration(including features identified as needing immediate attention, such as decks and roof)
- Removal of adjoining non-contributing construction west of the main lodge and reestablishment of the main lodge roof line and west façade
- Replacement of non-contributing maintenance elements at the front entry of the main lodge with public functions
- Containment and screening of the non-contributing kitchen loading area at the front entry of the main lodge
- Reconstruction of the lounge fireplace and other improvements to the historic lounge
- Improvements to environmental control within the building

- New construction with a design character compatible with the original ski lodge and the Badger Pass Ski Area historic site
- Clarified spatial relationships and enhanced site view corridors
- Minimized alterations to the existing building footprint and adjoining site

Visitor Arrival and Circulation

Alternative 3 would provide key improvements to visitor circulation and queue space at the ski lodge. Upon arrival to the ski lodge facility, visitors would approach a plaza with prominent ticket/information windows and public restrooms. The primary entrance to the main lodge would be centered on the plaza. An exterior passage between the main lodge and west building would connect to the south deck, and at the eastern end a secondary pass would lead directly to the ski slopes. To the west, visitors would be guided to a walkway leading to the Nordic Center, the Alpine rental building, or an exterior passage to the south deck. The south deck would provide a continuous slope-side linkage across all buildings and circulation passageways, maintaining its important relationship to the ski slopes, and would serve as the primary public gathering zone. Orientation and wayfinding mechanisms would be incorporated into the final design solution.

Visitor Service and Programmatic Requirements

Visitor accommodation in Alternative 3 would be enhanced with reconfiguration and relocation of some program elements within the ski lodge. Improvements to food and beverage points of service, extended indoor dining (the Winter Club Room), and new restrooms would be located on the first floor of the main lodge. The second floor dining would be open to overlook the lounge area on the first floor and the second floor exterior deck would be maintained. The Pups program, daycare, and office areas would be relocated to the west building with a separate entry from the public plaza. At the west building, a café food service facility would be provided within the retail space adjoining the south deck. Specific program locations are illustrated in Figures 2-19, 2-20, and 2-21 at the end of this alternative description.

Sense of Place

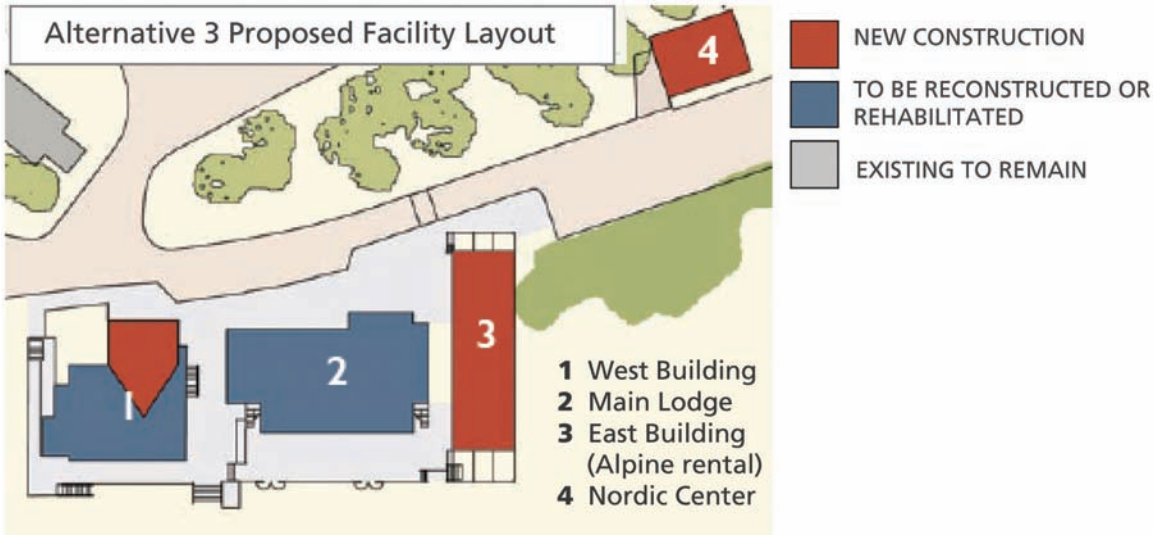
A sense of arrival to the ski lodge would be a primary improvement in Alternative 3. The buildings would have frontage to the street, providing points of service and direct flow. There would also be greater visual presence of the original main lodge upon entry. The main lodge roof lines and overhangs would be distinctly visible and prominent from both the north and south perspectives.

Sustainability

Similar to Alternative 2, energy efficiency would be improved where new systems and equipment are installed. Added insulation, new mechanical ventilation systems, new low-flow fixtures, and other measures implemented with the work would reduce demand for energy and water. As in Alternative 2, there would be an effort in Alternative 3 to incorporate as many materials as possible that minimize the waste stream and improve the indoor air quality.

Facility Layout

If Alternative 3 is implemented, the breezeway and current Winter Club Room above it would be removed, and the breezeway area would become open deck space. The addition on the west side of the original lodge building would be remodeled and extended, and would house ticketing, retail, prepackaged food service, the Pups and daycare programs, offices, and the bunk room for overnight employees. Alpine and Nordic rental and repair facilities would be reconstructed in single-story, detached buildings in the same location as the current temporary buildings housing these functions. The Alpine rental building would also provide office space. The ski lodge facility, including the Alpine and Nordic buildings, would encompass approximately 23,700 square feet of interior space, plus another 8,800 feet of exterior deck space. The proposed facility layout is shown in Figure 2-15.



Source: Page & Turnbull (2009a)

Figure 2-15 Alternative 3 Facility Layout.

Specific Actions Proposed

In addition to the first phase of work described in the Actions Common to All Action Alternatives section above, Alternative 3 would consist of the actions outlined below in Table 2-3. All work would be new construction unless noted as existing. Work following the first phase would include removal of the Winter Club room and breezeway connection, modifications and additions to the west building and main lodge, and replacement of the temporary Alpine and Nordic rental buildings with permanent construction. Engineering and related site improvements would be implemented.

Table 2-3
Work Proposed under Alternative 3 – Later Phases

Architectural

Main Lodge

- Install fireplace and hearth; restore fireplace surround panels
- Remodel kitchen, preparation, loading, and storage areas
- Relocate food serving area
- Remove exterior stair and provide new interior stair to new employee break room
- Provide new stairs from second floor deck
- Provide new restrooms on first floor
- Remove and replace second floor bar and food service
- Remove Breezeway and Winter Club Room; patch exterior facades and rooflines

West Building

- Add north building volume housing ticketing and Pups/ daycare program
- Reconfigure retail and food service areas
- Reconfigure mechanical rooms and provide 1-hour rated enclosure
- Provide new ground floor restrooms
- Replace stairway to second floor
- Provide new employee bunkhouse, upper level storage, and offices
- Remodel second floor restroom

Alpine Rental Building

- Construct a new Alpine rental facility within the existing footprint
- Provide expanded office space
- Reconfigure connection to entry plaza and south deck

Site and Exterior Decks

- Reconfigure plaza areas at entry and connection to decks
- Reconfigure exterior mechanical pit and install new access stairs
- Remove exterior stairway to ground floor
- Reconfigure service loading area and provide bollards/screening

Structural

West Building

- Ground floor and first floor: provide plywood shear walls at the south side of new restrooms
- Ground, first, and second floors: provide plywood shear walls over existing wall framing where exists and over new wall framing where required
- Remove and replace roof framing over entire roof
- Provide new roof sheathing and nailing over entire roof

Civil

Site and Exterior Decks

- Reconfigure drive lane, drop-off area, and parking spaces in front of the ski lodge and east of the Alpine rental building
- Reconfigure sidewalk connection between main lodge and Alpine rental building/west building and provide ADA compliant slopes
- Provide area drains at plaza areas

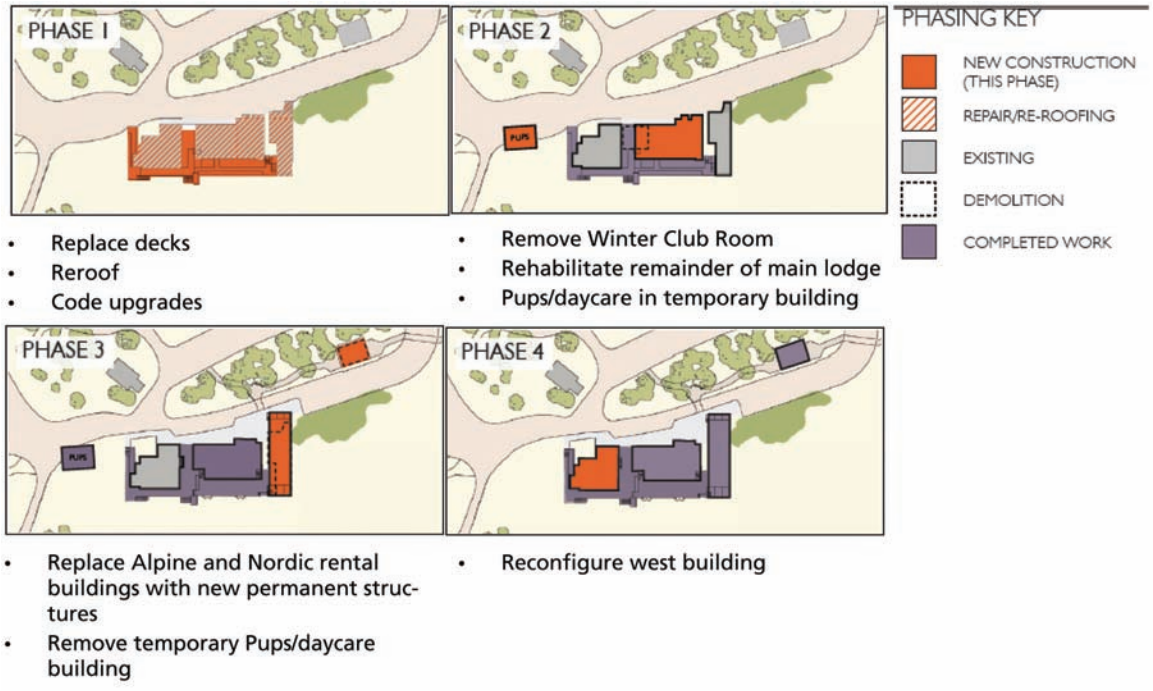
Mechanical/Plumbing

- Provide mechanical heating and ventilation system to serve west building

Estimated Cost and Schedule

The overall cost of implementing Alternative 3 would be approximately $25, 873, 500.

Construction would primarily take place during the summer season, so as not to disrupt ski facility operations. Construction would be implemented in phases, with each phase being one season's worth of work. Full service operation of the ski facility will be possible at the completion of each phase. This alternative could be implemented in four phases, so would be expected to be complete in four years, assuming funding is available. A diagram illustrating the organization of phasing is in Figure 2-16.



Source: Page & Turnbull (2009a)

Figure 2-16 Alternative 3 Phasing.

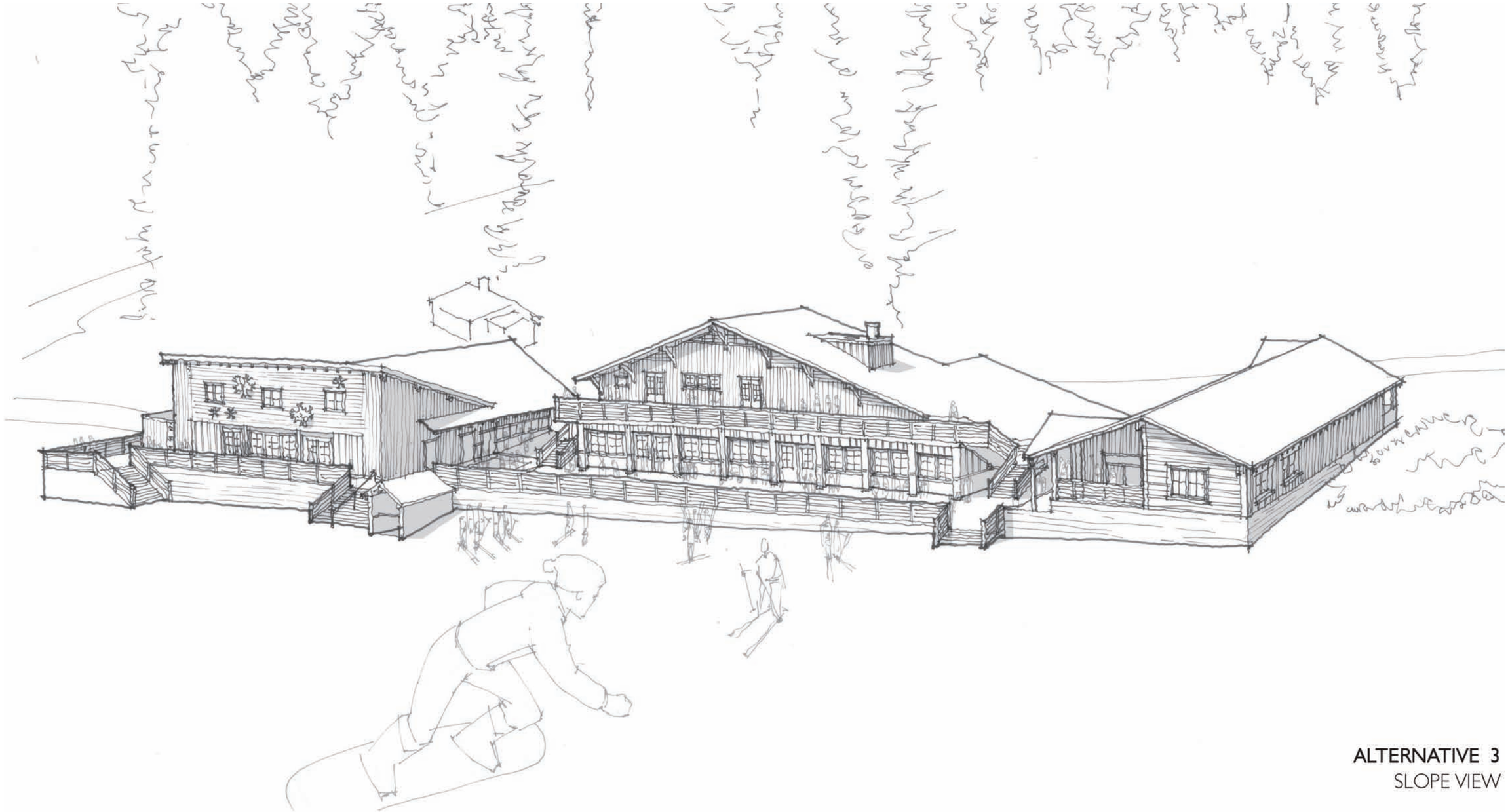


Figure 2-17 Vantage from Slope, Alternative 3.

Figure 2-18 Arrival Vantage, Alternative 3.

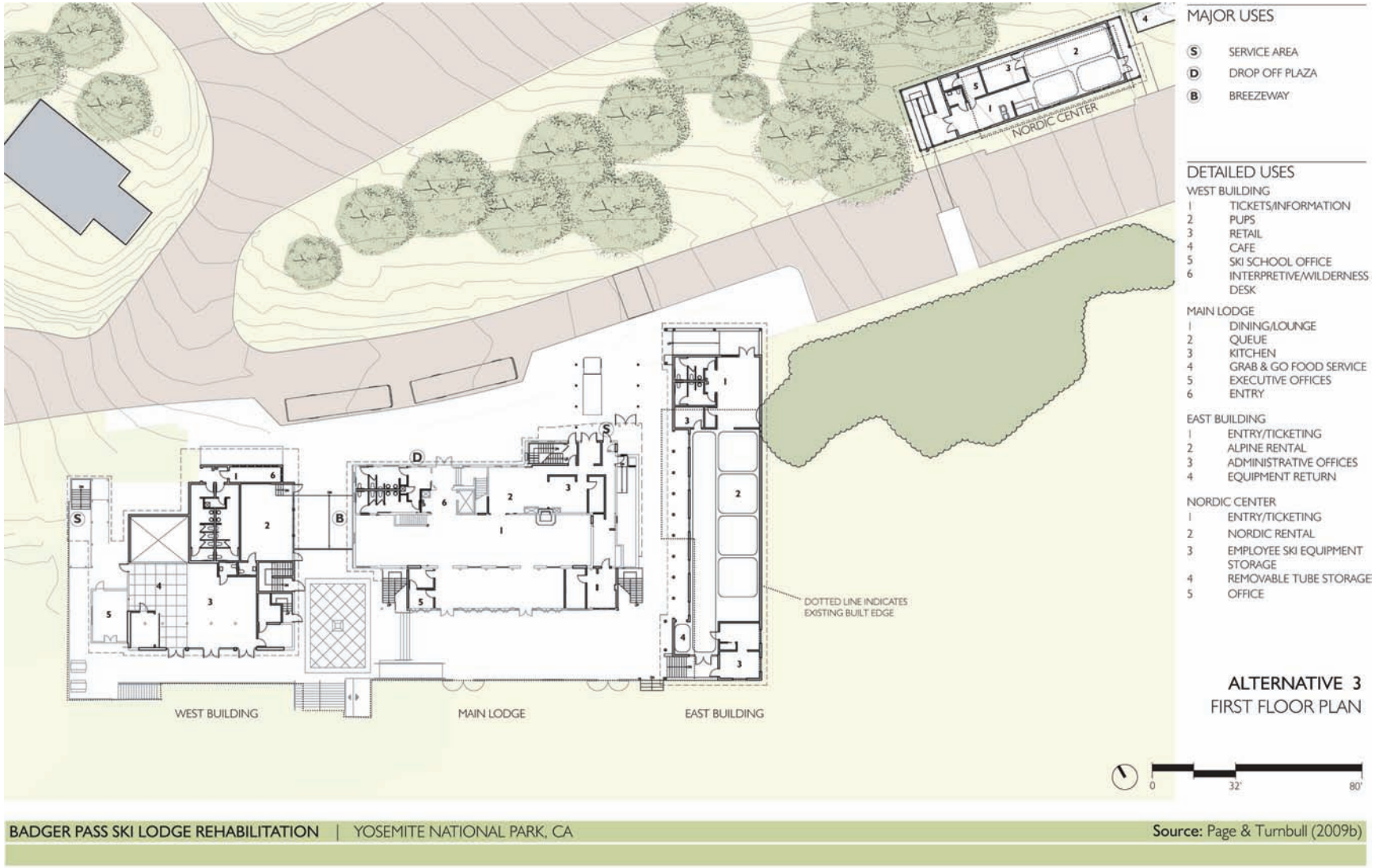


Figure 2-19 Badger Pass Ski Lodge – Alternative 3 First Floor Plan.

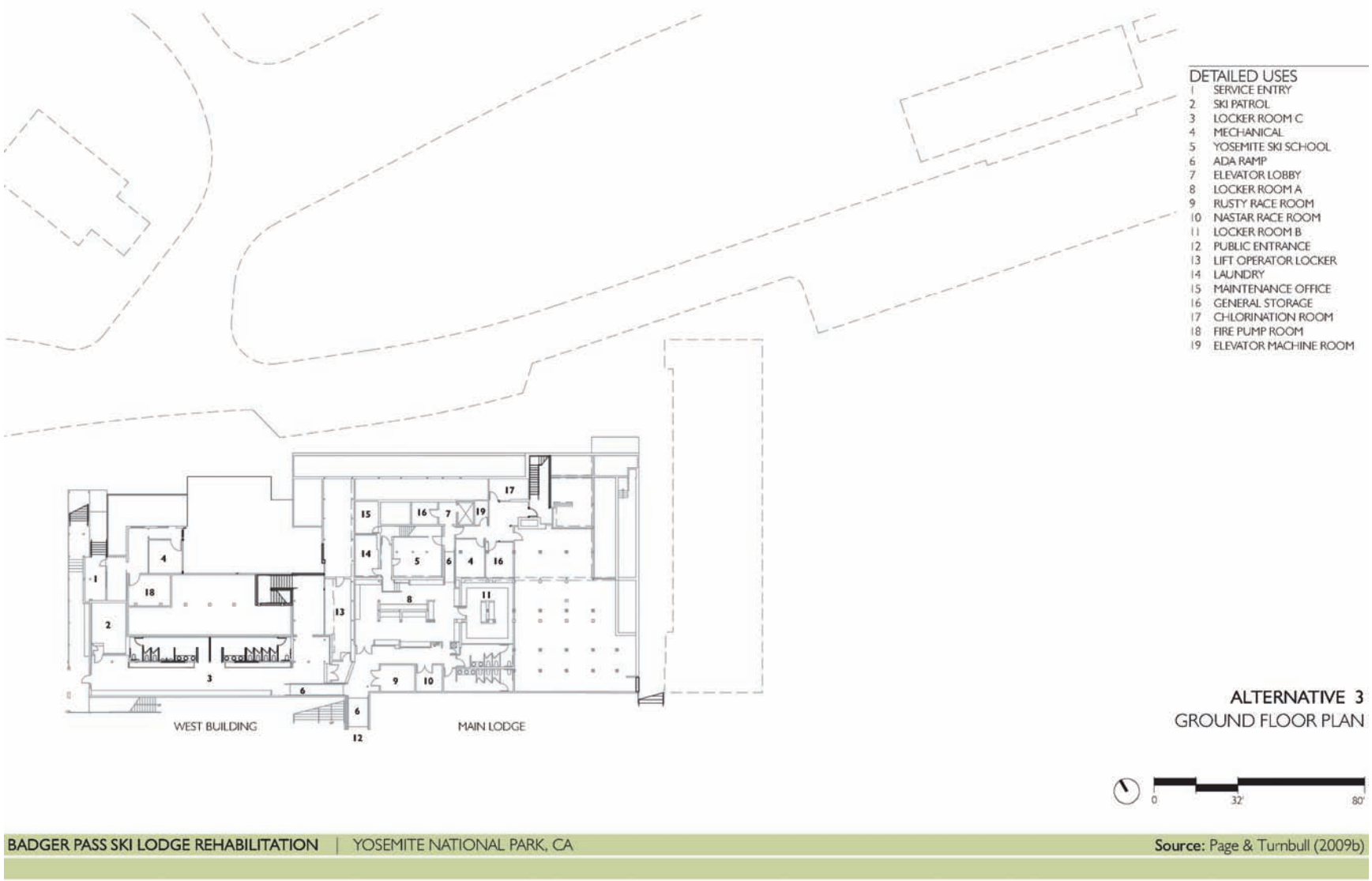


Figure 2-20 Badger Pass Ski Lodge – Alternative 3 Ground Floor Plan.

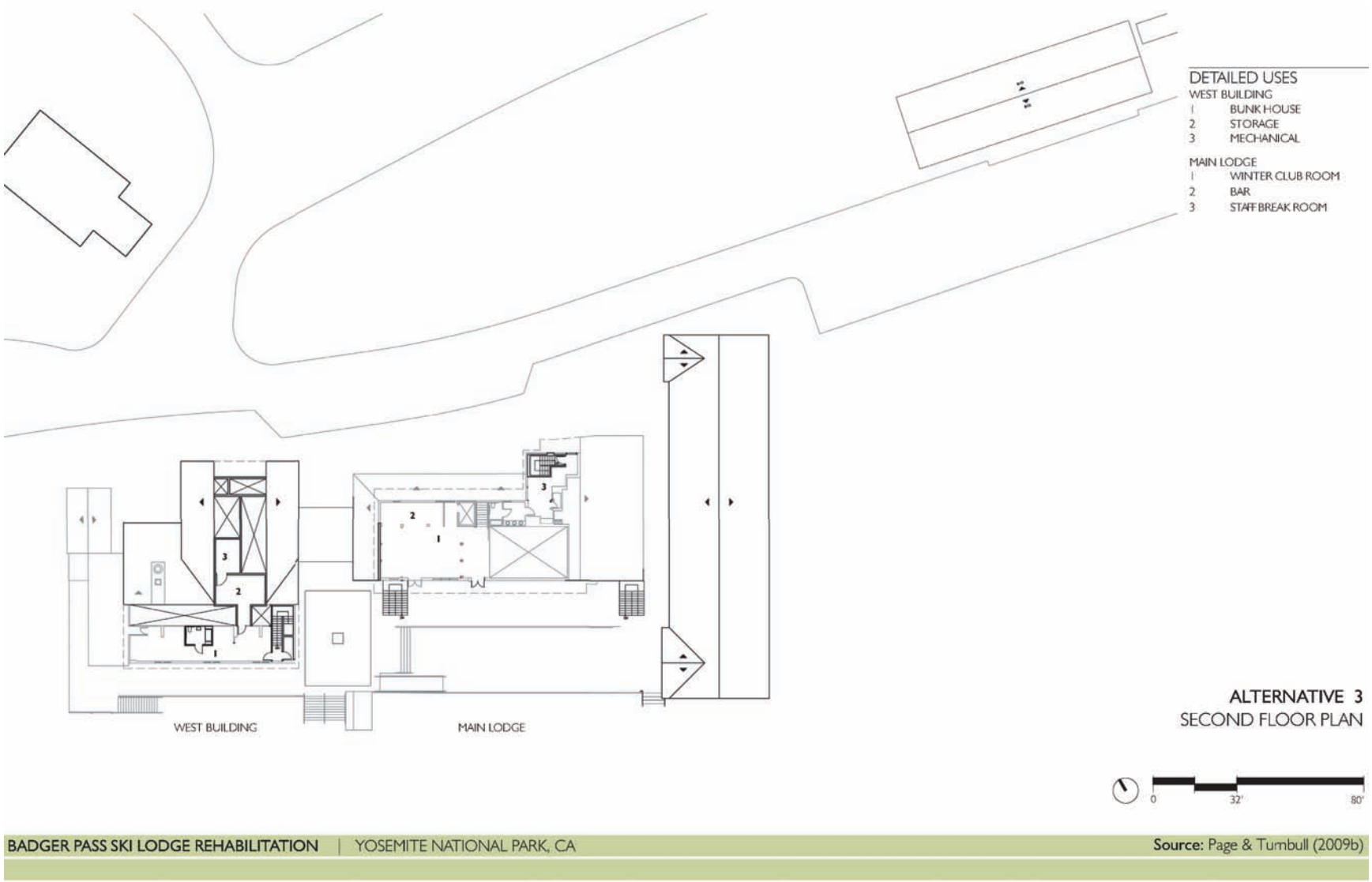


Figure 2-21 Badger Pass Ski Lodge – Alternative 3 Second Floor Plan.

Alternative 4: Emphasize Historic Character

Overview

Alternative 4 illustrates a rehabilitation approach in which the original 1935 ski lodge building would be restored to prominence and the non-historic buildings would be replaced with new, more efficient facilities with maximum benefit to operational and visitor service.

Objective

The aim in Alternative 4 is to solve project requirements, restore primary features of the main lodge that contribute to the historic character of the site, and provide the optimal level of visitor service within the overall confines of the project site. Physical alterations would be made to all portions of the facility. Construction dating from after the historic period of significance of the site would be removed, including the second floor deck and south dining room extension (window wall) at the main lodge. The south façade of the main lodge would be restored, as would be the interior lounge and its direct relationship to the deck. New construction would be added both east and west of the main lodge, incorporating ski operations and visitor services in an efficient manner responsive to the site parameters. Figures 2-24 and 2-25, which follow the description of this alternative, show projected views of the facility after the implementation of Alternative 4. Figures 2-26, 2-27, and 2-28 display program functions by location under Alternative 4.

Historic Rehabilitation

Alternative 4 illustrates an optimal approach to historic rehabilitation of the ski lodge and would best address the integrity of the historic site. Existing features that contribute to the historic character of the site would be preserved and given prominence. The main lodge would be freed from adjoining construction and all façades would be restored to close to their original appearance during the period of significance of the historic site. The fireplace and lounge character would be restored at the main lodge, reintroducing a unique historic feel and charm to the ski lodge. Important spatial relationships and site view corridors would be enhanced by removing all building construction obstructing views to and from the main lodge. The new construction would be designed in a compatible yet distinct architectural style that would be secondary to the main lodge.

Primary Rehabilitation Objectives:

- Measures outlined in Actions Common to All Action Alternatives; repair, structural strengthening, and improvements to protection of materials from water-intrusion and material deterioration(including features identified as needing immediate attention such as decks and roof)
- Removal of adjoining non-contributing construction west and south of the main lodge and reestablishment of the main lodge roof line and all façades
- Removal of non-contributing maintenance elements and the service drop off function at front entry to the main lodge
- Reconstruction of lounge fireplace and reestablishment of lounge historic character and use
- Restored facades at main lodge
- Restored connection between lounge and deck and views to ski slopes
- Improvements to environmental control within the building

- New construction of design character compatible with and subservient to the original ski lodge
- Clarified spatial relationships and enhanced site view corridors
- Building footprint kept to existing footprint with the exception of the new Alpine rental building

Visitor Arrival and Circulation

Alternative 4 would configure program and visitor services at their most optimal location, given the overall site constraints of the project. At the point of arrival, visitors would be brought to an entry plaza with entrances to the main lodge, ticket/information window and the main plaza, or the Alpine rental and Nordic rental buildings. The main plaza would connect to other visitor services and south facing dining decks, and serve to orient visitors and organize public circulation at the ski lodge. Orientation and wayfinding mechanisms would be incorporated into the final design solution. A new west building would house related visitor services including interior dining, kitchen, retail, and access to restrooms and locker rooms.

Visitor Service and Programmatic Requirements

Visitor program areas would be grouped into zones that enable clear wayfinding through the site, as well as entrances and exits that would define a controlled and logical circulation path. The programs themselves would be reconfigured to provide the most efficient and effective arrangement for their specific role at the Badger Pass Ski Lodge. In addition, it would be possible for the rehabilitated and newly constructed areas to present a revitalized interior design appropriate to the historic setting. The main lodge, in particular, may regain an attractive design quality containing supplemental lounge, bar, and dining spaces that are able to assume a different character and style from the cafeteria-style dining in the new building. Specific program locations are described in more detail in Figures 2-26, 2-27, and 2-28.

Sense of Place

The sense of place would be a defining strength of Alternative 4. The facility would be clearly organized around the free-standing restored main lodge building, which would preside over the assembly of buildings and decks. The main lodge architectural character and scale, in particular roof lines, brackets, and overhangs, would be increasingly important in establishing an architectural typology for the surrounding buildings. Furthermore, there would be an organizational relationship between the individual building elements and between the structures and their larger environmental setting.

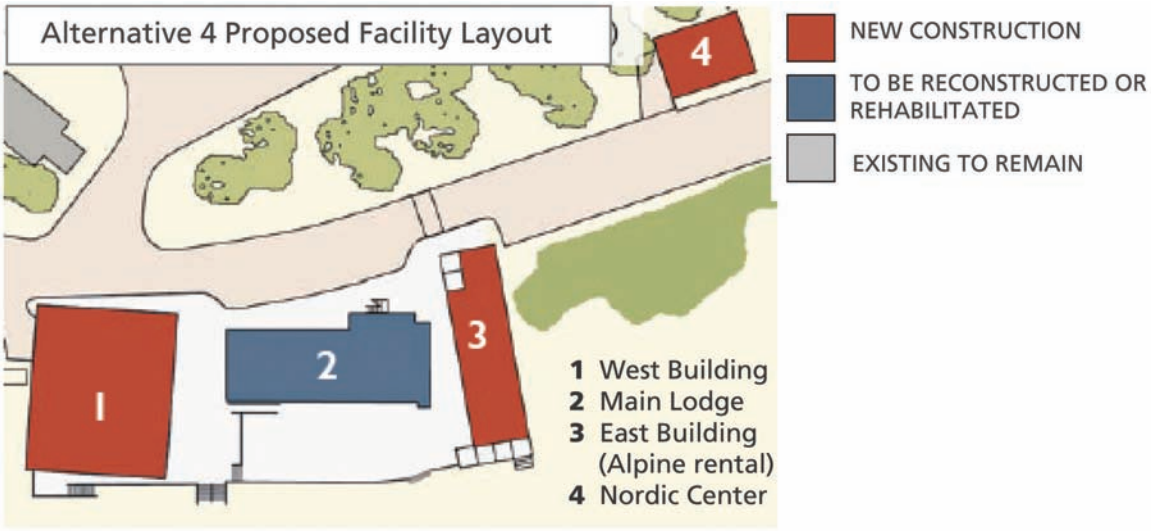
Sustainability

Similar to Alternative 2, energy efficiency would be improved where new systems and equipment are installed. Added insulation, new mechanical ventilation systems, new low-flow fixtures, and other measures implemented with the work would reduce demand for energy and water. In Alternative 4 there would be a greater extent of new construction and opportunity to utilize materials with recycled content. New window systems can be designed to reduce energy demands and to promote natural ventilation. In addition, the feasibility of reusing materials would be investigated, such as wood decking and concrete waste material, in the new construction. As in Alternative 2 and 3, there would be an effort in Alternative 4 to incorporate as many materials as possible that minimize the waste stream and improve the indoor air quality.

Facility Layout

Under Alternative 4, the breezeway and current Winter Club Room above it would be removed. The addition on the west side of the lodge would be replaced with a new detached building in approximately the same location, which would house ticketing, visitor information, retail, kitchen and dining facilities, the Pups and daycare programs, and offices. The open area between the west building and the original lodge building would become an entry plaza shaped to direct traffic and views to the ski slopes. The south lodge extension (window wall) would replaced by expanded exterior deck space. The new west building and new Alpine rental building would also be angled to improve views both to and from the ski slopes by helping to visually distinguish the new construction from the original lodge building.

The temporary building currently housing Alpine ski rental would be replaced by a permanent building in approximately the same location. Nordic rental and repair facilities would be located in a single-story, detached building in the same location as the current temporary building housing this function. The ski lodge facility, including the Alpine and Nordic buildings, would encompass approximately 24,600 square feet of interior space, plus another 9,900 feet of exterior deck space. The proposed facility layout is shown in Figure 2-22.



Source: Page & Turnbull (2009a)

Figure 2-22 Alternative 4 Facility Layout.

Specific Actions Proposed

In addition to the first phase of work described in the Actions Common to All Action Alternatives section above, Alternative 4 would consist of the actions outlined below in Table 2-4. All work would be new construction unless noted as existing. Work following the first phase would include removal of the west building, the Winter Club Room, and breezeway connection, modifications to the main lodge, and replacement of the temporary Alpine and Nordic rental buildings with permanent construction. Exterior plazas and decks would be modified, as well as road side plazas and paving. Engineering and related site improvements would also be implemented.

Table 2-4
Work Proposed under Alternative 4 – Later Phases

Architectural

Main Lodge

- Install fireplace and hearth; restore fireplace surround panels
- Remove south lounge extension (window wall), interior space and second floor deck
- Restore south façade with second floor balcony
- Remove kitchen and service area and reconfigure for office area
- Provide new first floor bar service
- Provide new information counter
- Remove exterior stair and provide new interior stair to second floor office
- Remove and replace second floor bar and food service
- Relocate Winter Club Room
- Relocate Pups program/daycare

West Building

- New building construction housing ticketing, Pups program/daycare, kitchen, serving, dining, restrooms, and lobby area
- Reconfigure ground floor restrooms and locker area
- Reconfigure ground floor connections to ski slopes and locker rooms under main lodge
- Provide elevator
- Provide upper level office suite

Alpine Rental Building

- Provide new building addition and covered entry
- Construct a new Alpine rental facility –approximately 224 square feet larger than the existing temporary structure
- Provide expanded office space

Site and Exterior Decks

- Reconfigure drop off zones and plaza at entry
- Replace and re-grade plaza connecting to ski slopes
- Modify stair and ramp connections at south deck
- Add new dining terrace/deck to south of west building
- Relocate service loading area, provide service drive, and provide landscape screening

Fire Protection

West Building

- Provide fire pump and new automatic sprinkler system in new west building
- Extend fire detection system and alarm system (Notifier system) to new west building

Structural

West Building

- Provide concrete foundation system, plywood shear walls, and plywood sheathed diaphragm at roof and ceiling at west building
- Provide steel moment frames to roof at dining room/terrace edge of west building; steel beams at gable end walls

Civil

Site

- Reconfigure drive lane, drop-off area, and parking spaces in front of the ski lodge and east of the Alpine rental building
- Reconfigure sidewalk connection between main lodge and Alpine rental building/west building and provide ADA complaint slopes and ramps
- Provide area drains at plaza areas

Mechanical/Plumbing

- Provide mechanical heating and ventilation system to serve west building
- Provide new kitchen infrastructure for relocated kitchen and serving area

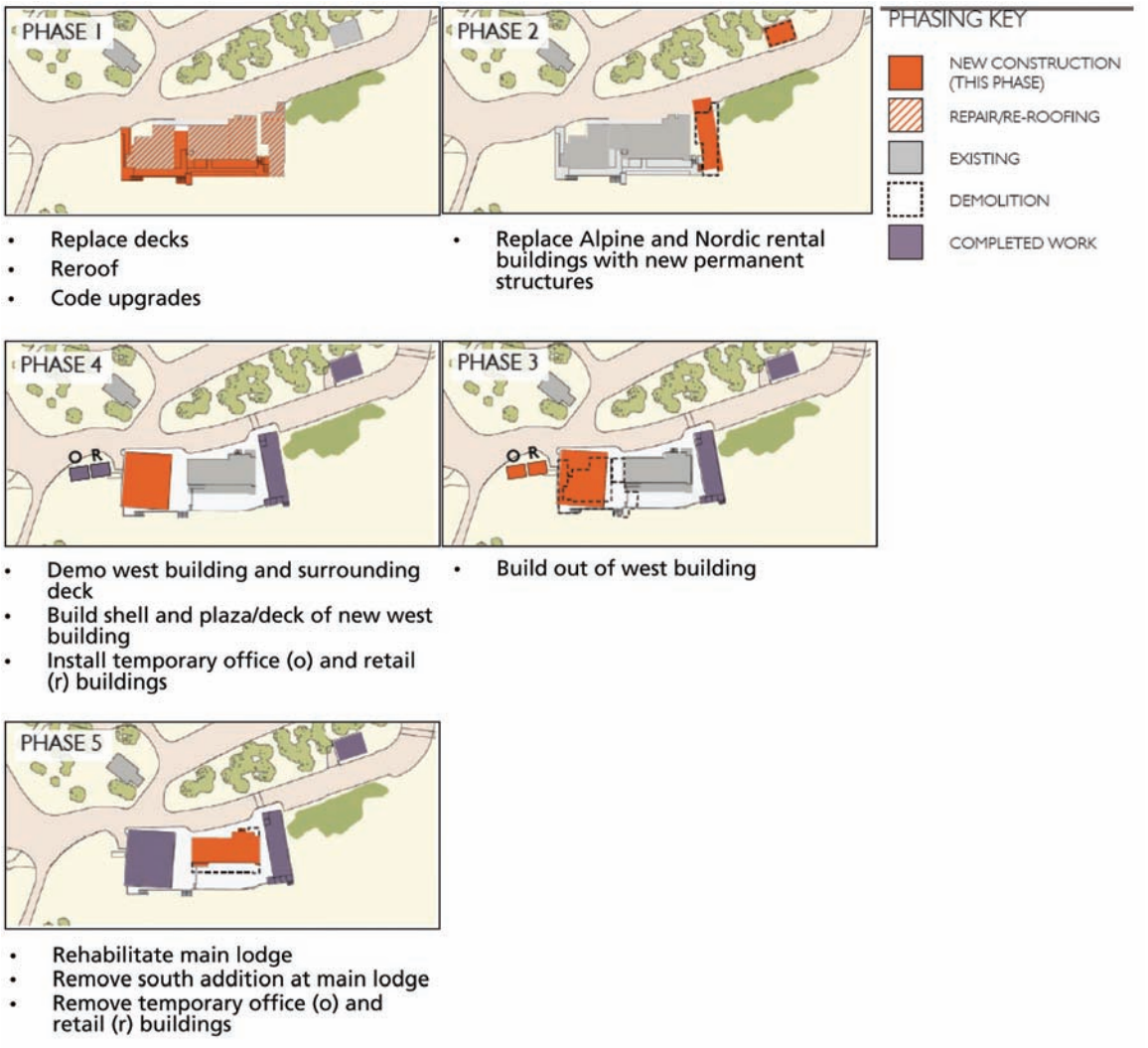
Electrical

- Provide electrical systems to serve west building

Estimated Cost and Schedule

The overall cost of implementing Alternative 4 would be approximately $41,332,500.

Construction would primarily take place during the summer season, so as not to disrupt ski facility operations. Construction would be implemented in phases, with each phase being one season's worth of work. Full service operation of the ski facility will be possible at the completion of each phase. This alternative could be implemented in five phases, so would be expected to be complete in five years, assuming funding is available. A diagram illustrating the organization of phasing is in Figure 2-23.



Source: Page & Turnbull (2009a)

Figure 2-23 Alternative 4 Phasing.

Figure 2-24 Vantage from Slope, Alternative 4.

Figure 2-25 Arrival Vantage, Alternative 4.

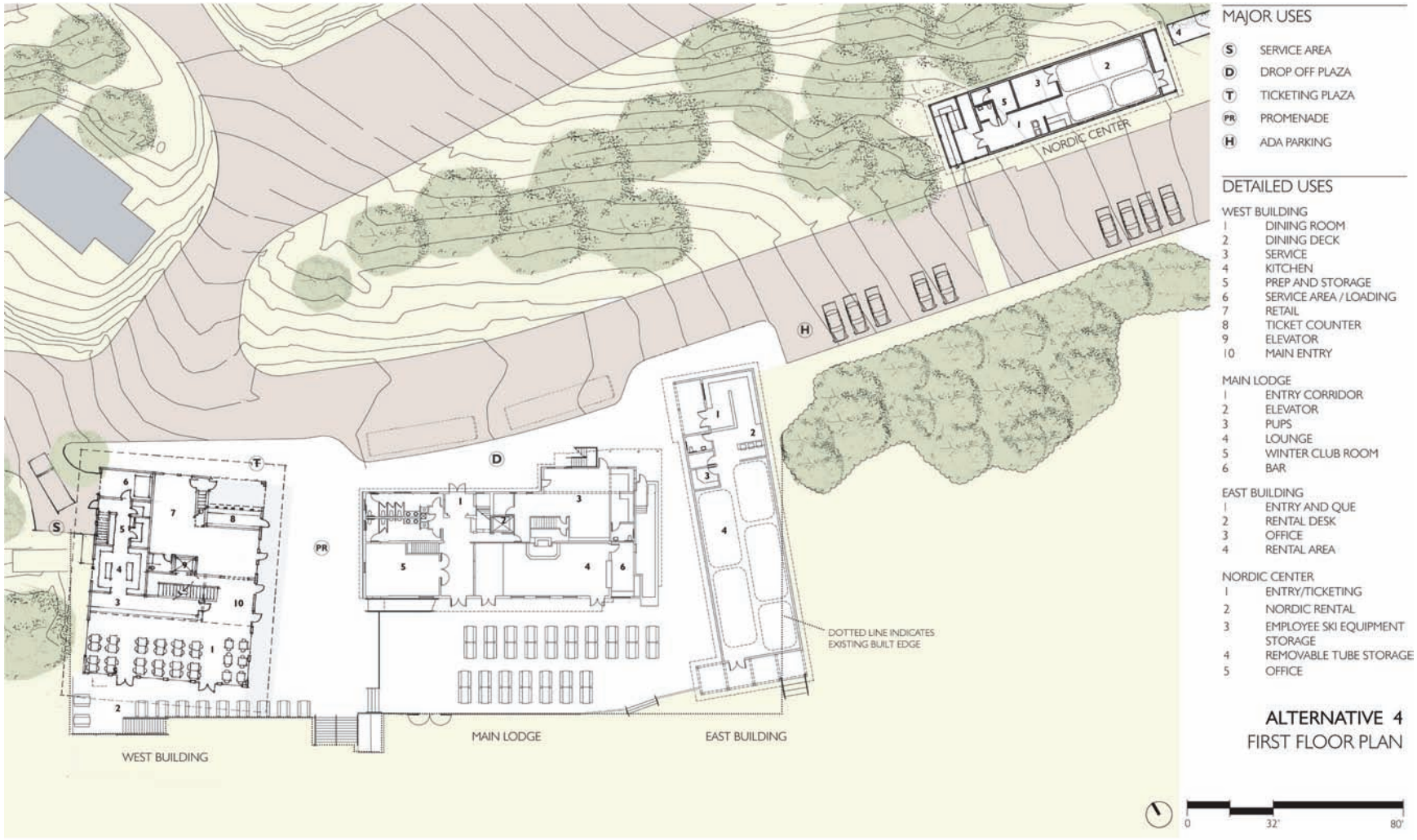


Figure 2-26 Badger Pass Ski Lodge – Alternative 4 First Floor Plan.

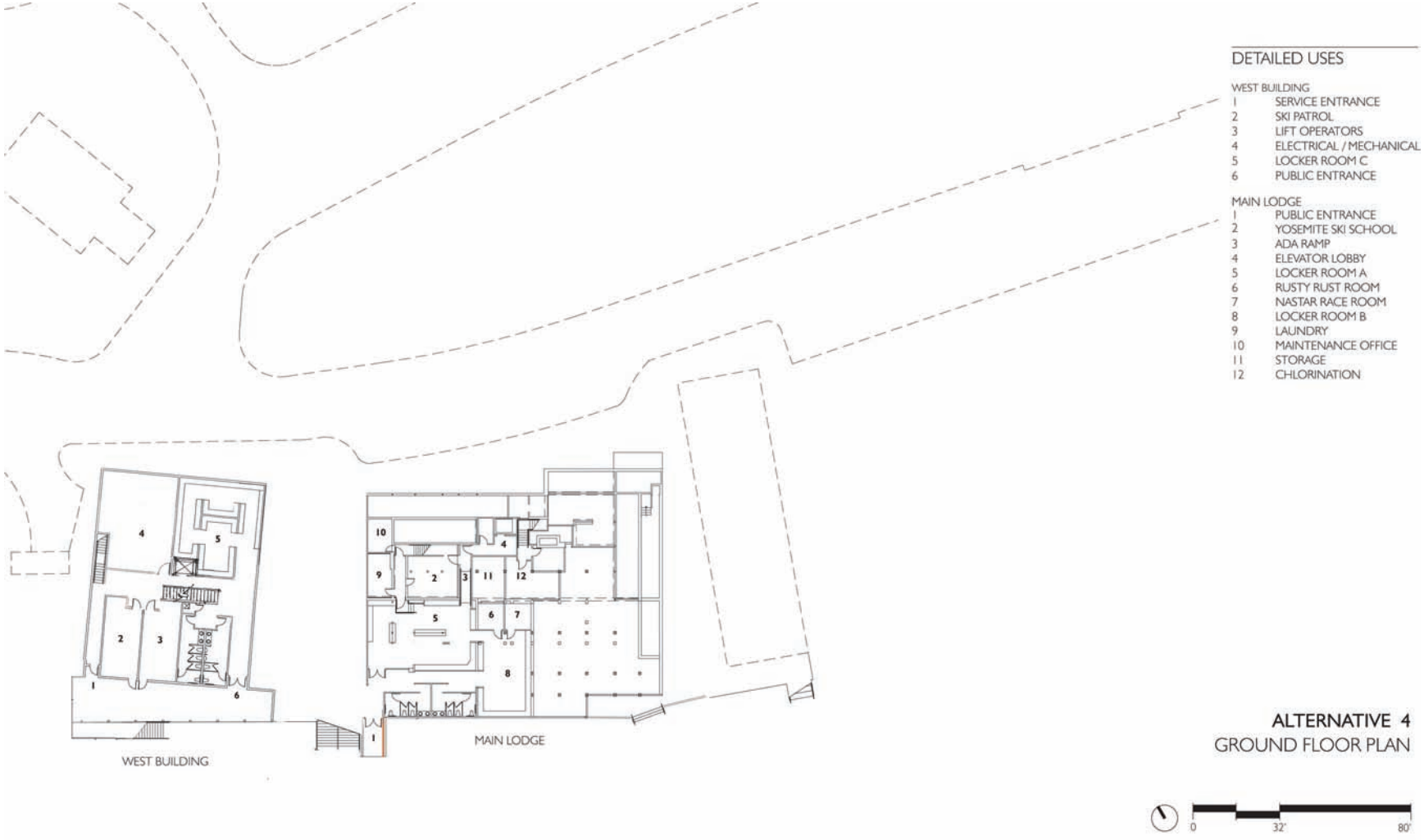


Figure 2-27 Badger Pass Ski Lodge – Alternative 4 Ground Floor Plan.

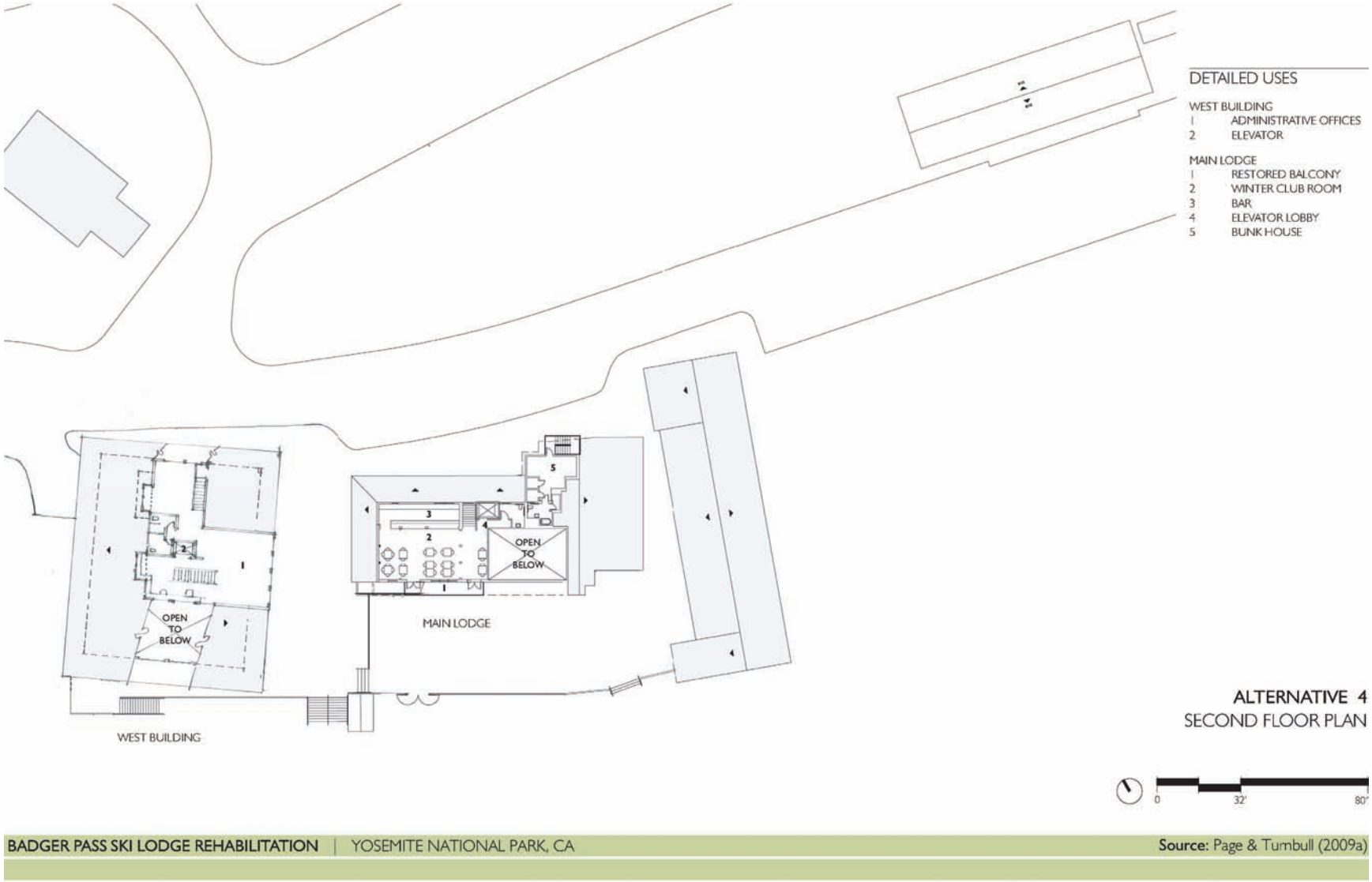


Figure 2-28 Badger Pass Ski Lodge – Alternative 4 Second Floor Plan.

Actions Considered but Dismissed

The National Park Service considered a range of actions when developing possible alternatives for the Badger Pass Ski Lodge Rehabilitation Project. The following actions were analyzed, considered and dismissed because they did not fully satisfy the objectives of this planning effort. These actions were dismissed for one of the following reasons:

- The action would not satisfy the project's purpose and need.
- Less environmentally damaging options were available.
- The action would cause unacceptable environmental, cultural, or social impacts.
- The action would present unacceptable engineering risks or constraints with an associated increase in costs.
- The action would conflict with the guidance and direction provided in the *General Management Plan*.

"Pedestrian Square" and "Town Square" Design

This action included removing part of the parking loop at the north side of the lodge, utilizing that space for new construction, creating an internal plaza area.

This would make circulation flow more difficult and put more stress on other parking and circulation features in the area. An internal plaza surrounded by buildings would be problematic for several reasons. A reduction in parking spaces below 600 would not be compliant with the 1980 *General Management Plan*. Snow removal would be extremely difficult in this central area. Access to the original lodge building for fire suppression purposes would be compromised under this layout. This type of plaza would not be consistent with the historic character of Badger Pass, and would remove the sense of arrival at the lodge by not having the lodge the first view. It would also eliminate a contributing transportation feature of the Badger Pass Ski Area historic site within the Glacier Point Road Historic District.

Narrowing the road in front of the lodge to create a plaza area

Making the road in front of the lodge so narrow that it would not accommodate two buses, car drop-off, and handicapped parking spaces, would not be acceptable. Fire access would be insufficient with bus drop-off ongoing, circulation would be worse, and vehicle-pedestrian conflicts would not be resolved.

Combining the ski rental functions

This action would combine the ski rental shops into one rental building on the first floor of a west wing/structure.

Nordic ski rental and downhill ski rental better serve the visitors in separate locations. The Nordic rental shop is better sited on the northeast part of the complex since this is the closest access to cross-country ski trails. Downhill ski rental, on the other hand, is better sited between the roadway and the downhill slopes, so there can be traffic flow in one door and out the other. Keeping them separate would also make the Nordic rental area quieter and reduce crowding in the Alpine rental area, providing better service to visitors in both cases.

Adding bunk rooms to the second floor of Nordic building

Adding a second floor of the Nordic building to accommodate employee bunk rooms would enlarge the building footprint, altering the character of this portion of the project site. The resulting increase in the structure's vertical profile and massing would detract from the lodge-centered theme of the rehabilitation plan. The second story would also push the building footprint to the south and/or to the east, which would alter the view of the ski lodge from the slopes and potentially encroach into an adjoining wetland.

Comparison of the Alternatives

The four alternatives presented in this document represent a reasonable range of options for the rehabilitation of Badger Pass Ski Lodge. Table 2-5 provides a summary comparison of the potential impacts associated with each of the alternatives, based on the environmental analysis provided in Chapter 3.

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
SOILS			
Under Alternative 1, there would be no ground disturbing activities and as a result, no impacts to soil resources.	Approximately 0.6 acres of surface and near-surface soils would potentially be disturbed as part of construction activities under all action alternatives. This would result in localized short-term, minor, adverse impacts to surface and sub-surface soils over two, four, and five summers respectively, as subsequent phases associated with these alternatives are implemented. In conjunction with construction activities, soil contamination from localized, low-mobility diesel-range petroleum hydrocarbons found in soils near the site of a former fuel storage tank may be remediated. All remediation activities occurring in conjunction with this rehabilitation project would be undertaken with oversight from the RWQCB. This would result in a long-term, minor to moderate, beneficial impact on soil resources. Structural upgrades under all action alternatives would include measures to mitigate the presence of soils subject to liquefaction found under the lodge complex. These structural treatments would be expected to have a long-term, minor, adverse impact on soils. Under Alternatives 2 and 3, no additional long-term impacts to soils are anticipated once construction and subsequent restoration activities have been completed. Under Alternative 4 there would be a localized, long-term, minor adverse impact on soils due to the approximately 224 square foot expansion of the new Alpine rental building to the southeast of the existing building footprint.		
HYDROLOGY AND WATER QUALITY			
Under Alternative 1, there would be no long-term solution implemented to mitigate the adverse effects to the ski lodge from local hydrologic conditions, or the adverse effects of the ski lodge on local hydrologic processes. Alternative 1 would continue to impact local hydrology through the apparent diversion of Grouse Creek, alterations of natural surface runoff to the meadow, and potential localized deflections of the water table, resulting in a localized, long-term, minor to moderate, adverse effect on hydrologic processes. Local hydrologic conditions that create repeated maintenance and repair requirements in portions of the ski lodge directly affected by high ground water levels and ponding surface waters directly adjacent to the facility would continue to occur. In addition, the potential for groundwater to infiltrate old sewer lines beneath the lodge would not be remedied. These represent localized long-term, moderate, adverse effects to the facility caused by local hydrologic conditions.	Under all action alternatives, the ski lodge would continue to adversely impact local hydrology through the diversion of Grouse Creek, potential deflection of the water table, and some restriction of surface flow. However, proposed site drainage improvements would be expected to have a localized, minor to moderate, beneficial effect on local hydrology by redirecting surface flow away from structures and toward adjacent wetlands and Grouse Creek. Final design of site drainage improvements should be conducted in coordination with the park's Resources Management and Science Division. The site drainage improvements would also substantially reduce or eliminate potential water damage to structures by redirecting water away from foundations, resulting a in a long-term, moderate, beneficial effect on the ski lodge facility. Replacement of the well pump timer would ensure that overtopping on the existing storage tank is eliminated or reduced from current levels, resulting in a long-term, negligible to minor, beneficial impact on local groundwater resources. During construction activities, mitigation measures (see Appendix B) should be implemented to ensure that dewatering activities do not increase sediment loading in Grouse Creek, or otherwise adversely impact adjacent meadow wetlands. If properly implemented, construction-related impacts would be localized short-term, adverse, and negligible to minor on local hydrology and water quality.		

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
WETLANDS			
Alternative 1 would not further degrade the size, integrity, or connectivity of wetlands. There would be no new impacts to wetlands under Alternative 1.	Construction activities under all action alternatives would have the potential to affect approximately 0.38 acre of palustrine emergent wetlands to the east, south, and west of the ski lodge and approximately 0.07 acre of palustrine scrub shrub wetland to the east of the ski lodge. Construction activities at the Nordic Center would also have the potential to affect a small palustrine emergent wetland on the vegetation island north of the lodge. Adherence to proposed mitigation measures and avoidance of wetlands where possible would reduce potential construction related effects of Alternatives 2 and 3 on wetlands to localized, short-term, minor, adverse impacts. There would be greater potential for construction-related effects under Alternative 3 due to the longer construction timeframe. Implementation of Alternatives 2 and 3 would not further disrupt the long-term continuity or integrity of the native plant communities. Under all action alternatives, proposed site drainage improvements would have the long-term, minor, beneficial effect of redirecting water away from buildings and toward wetland areas and Grouse Creek.		The potential short-term, adverse effects of construction activities in Alternative 4 would be the same as under Alternatives 2 and 3, although there would be greater potential for construction-related effects under Alternative 4, due to the longer construction timeframe. As under all action alternatives, proposed site drainage improvements would have the long-term, minor, beneficial effect of redirecting water away from buildings and toward wetland areas and Grouse Creek. Under Alternative 4, the permanent Alpine rental building would be slightly larger than under Alternatives 2 and 3, and would extend approximately 224 square feet beyond the existing facility footprint into palustrine emergent wetlands on the southeast side of the lodge, resulting in a long-term, minor to moderate, adverse impact on wetlands in the project area.
VEGETATION			
Alternative 1 would not reduce the size or disrupt the continuity, and/or integrity of native plant communities. There would be no new impacts to vegetation under Alternative 1.	The short-term impacts to wetland vegetation are noted in the 'Wetlands' section, above. The adherence to mitigation measures and avoidance of vegetation where possible would reduce potential construction related effects on upland vegetation to localized, short-term, negligible to minor, adverse impacts. There would be greater potential for construction-related effects under Alternative 3 due to the longer construction timeframe. In the long-term, with adherence to standard mitigation measures, implementation of Alternatives 2 and 3 would not further disrupt the continuity or integrity of native plant communities.		The short-term impact of Alternative 4 would be the same as under Alternatives 2 and 3, although there would be greater potential for construction-related effects due to the longer construction timeframe. In the long-term, the permanent expansion of the Alpine rental building into wetlands southeast of the lodge would have a local, minor, adverse effect on vegetation resources in the project area.
WILDLIFE			
There would be no new impacts wildlife species under Alternative 1. Thus, Alternative 1 would result in no effect on wildlife or habitat utilized by these species.	Construction under Alternatives 3 and 4 would have the potential to disrupt seasonal wildlife use of the area to a greater degree than under Alternative 2 due to the longer construction timeframe. However, with the implementation of mitigation measures (especially during breeding seasons), noise and visual disturbances to wildlife would be minimized or avoided. Therefore, Alternatives 2, 3, and 4 would result in localized, short-term, negligible to minor, adverse impacts to wildlife.		
SPECIAL STATUS SPECIES			
There would be no new impacts to special status species under Alternative 1. Thus, Alternative 1 will result in no effect to special status species or habitat utilized by these species.	Under all action alternatives, project construction would occur in suitable habitat for a number of special status species, but implementation of mitigation measures with a focus upon avoidance, limiting construction activities during breeding seasons, and limiting areas of impacts would reduce potential adverse effects. Construction activities under Alternatives 3 and 4 would have the potential to disrupt special status species to a greater degree than under Alternative 2 due to the longer construction timeframe. Overall, Alternatives 2, 3, and 4 would result in localized, short-term, negligible to minor, adverse impacts to special status species. Therefore, Alternatives 2, 3, and 4 may affect, but are not likely to adversely affect special status species.		

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
AIR QUALITY			
Under Alternative 1, emissions from existing diesel- and propane-fired systems at the ski lodge would continue to have a long-term, negligible, adverse impact on local and regional air quality.	Implementation of Alternative 2 would result in a short-term, negligible, adverse impact on local air quality during two summer seasons, due to construction-related dust and equipment and vehicle emissions. Under all action alternatives, diesel-fired boilers and an emergency generator would be replaced with more efficient models, mechanical ventilation would be provided throughout the complex, and low-emission finish materials would be used where possible. This would result in a long-term, negligible to minor, beneficial impact on indoor, local, and regional air quality.	Implementation of Alternative 3 or 4 would result in a short-term, negligible, adverse impact on local air quality during four or five summer seasons, respectively, due to construction-related dust and equipment and vehicle emissions. Under all action alternatives, diesel-fired boilers and an emergency generator would be replaced with more efficient models, mechanical ventilation would be provided throughout the complex, and low-emission finish materials would be used where possible. Under Alternatives 3 and 4, a wood-burning or propane fireplace would be added in the ski lodge; emissions would be dependent upon the type of fuel used, the size of the hearth, weather, and operational policy. Overall, these actions would result in a long-term, negligible to minor, beneficial impact on indoor, local and regional air quality.	
SOUNDSCAPES			
Under Alternative 1, noise associated with continued ski area operations in the winter, and limited use of the ski area during the summer, would have a local, long-term, negligible to minor, adverse impact on soundscapes.	Implementation of Alternatives 2, 3, or 4 would result in elevated levels of noise in the vicinity of Badger Pass Ski Area due to construction-related activities during the summer season. All of the action alternatives would potentially affect wildlife, onsite staff, and nearby recreational users, although the number of recreational users is generally low in the summer season. Overall, these alternatives would cause a local, short-term, minor, adverse impact on soundscapes. Alternatives 3 and 4 would have the potential to disrupt natural soundscapes to a greater degree than Alternative 2 due to their longer construction timeframes.		

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
VISITOR EXPERIENCE AND RECREATION			
Under Alternative 1, continued poor circulation and wayfinding, crowding at several locations, insufficient facilities, inadequate accessibility for disabled persons, and lack of rental inventory/space would have a local, long-term, minor to moderate, adverse impact on the visitor winter experience within the project area.	All of the action alternatives would result in improved accessibility and visitor safety at the ski lodge, the uninterrupted of use the facility by ski area visitors (as construction would occur during the summer season), and the replacement of temporary Alpine and Nordic rental facilities with new and more efficient buildings. Under Alternative 2, there would also be minor improvements to crowding and circulation issues, resulting in a local, long-term, minor, beneficial impact on the visitor experience at Badger Pass Ski Area.	All of the action alternatives would result in improved accessibility and visitor safety at the ski lodge, the uninterrupted of use the facility by ski area visitors (as construction would occur during the summer season), and the replacement of temporary Alpine and Nordic rental facilities with new and more efficient buildings. Under Alternative 3, there would be substantial improvements to circulation, a reduction in crowding at key locations, restoration of the historic lounge character, and improvements to food and dining services, resulting in a local, long-term, minor to moderate, beneficial impact on the visitor experience at Badger Pass Ski Area.	All of the action alternatives would result in improved accessibility and visitor safety at the ski lodge, the uninterrupted of use the facility by ski area visitors (as construction would occur during the summer season), and the replacement of temporary Alpine and Nordic rental facilities with new and more efficient buildings. Under Alternative 4, the configuration of program and visitor services would be at their most optimal location, given overall site constraints of the project. There would be substantial improvements to circulation, and to food and dining services, and restoration of the historic lounge character, resulting in a local, long-term, moderate, beneficial impact on the visitor experience at Badger Pass Ski Area.
VISITOR SERVICES			
Under Alternative 1, the lack of a clear path of travel between various visitor services in the lodge, the inefficient layout of rental areas, inadequate storage space, and limited kitchen work areas and associated facilities would continue to have a local, long-term, minor, adverse impact on visitor services.	Implementation of Alternative 2 would result in essential repairs and code upgrades, minor improvements to circulation between visitor services, more adequate storage space, more efficiently designed equipment rental facilities, new restrooms, and upgrades to the kitchen work area. Elements to improve overall visitor safety would also be implemented. However, some facilities such as the kitchen would continue to be inadequate, resulting in a local, long-term, negligible, beneficial impact on visitor services, when compared with Alternative 1.	In addition to the improvements implemented under Alternative 2, Alternative 3 would result in key improvements to the location and efficiency of visitor services at the ski lodge, improved storage space areas, new employee break areas and expanded facilities for overnight staff, and upgrades to kitchen work areas and related facilities. This alternative would result in a local, long-term, minor, beneficial impact on visitor services.	Implementation of Alternative 4 would result in the most improvements to the location and efficiency of visitor services, storage space, employee facilities, and upgrades to all kitchen work areas. Elements to improve overall visitor safety would also be implemented. Implementation of this alternative would result in a local, long-term, minor to moderate, beneficial impact on visitor services.

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
FACILITIES OPERATIONS AND MANAGEMENT			
Under Alternative 1, ongoing maintenance performed by the concessioner, including snow management requirements, would continue and be extensive. The layout of staff accommodations and work areas would continue to be inefficient and insufficient to support visitor services. The overall condition of the building would continue to slowly deteriorate, resulting in further maintenance and component repairs requirements. Alternative 1 would result in a local, long-term, moderate, adverse impact on operations.	Implementation of Alternative 2 would result in long-term, minor to moderate beneficial effects to concessioner operations from a reduction in annual maintenance due to extensive repairs/rehabilitation to critical elements of the lodge. There would be long-term, minor, beneficial effect on NPS operations from the relocation of interpretive functions to the west building; however, there would also be short-term and long-term negligible to minor adverse effects to NPS operations due to increased cost associated with construction oversight and maintenance of new utility and site drainage infrastructure.	Similar to Alternative 2, implementation of Alternatives 3 or 4 would result in long-term, minor to moderate, beneficial effects to concessioner operations from a reduction in annual maintenance required by the concessioner due to extensive repairs/rehabilitation to critical elements of the lodge. There would be long-term, minor beneficial effects to NPS operations from the proposed relocation of interpretive functions to the west building; however, there would also be short-term and long-term negligible to minor adverse effects to NPS operations due to increased cost associated with construction oversight and maintenance of new utility and site drainage infrastructure. Under Alternatives 3 and 4, further modifications to the facility to enhance functionality of visitor services and administrative areas would result in a local, long-term, moderate, beneficial impact on concessioner operations.	
TRANSPORTATION			
Under Alternative 1, pedestrian safety and handicap-accessible parking and drop-off areas in front of the ski lodge would continue to be inadequate, resulting in a continued local, long-term, minor, adverse impact on transportation.	Implementation of Alternative 2 would result in construction-related traffic congestion and use of parking lots as staging areas during two summer seasons. Pedestrian safety and handicap-accessible parking and drop-off areas in front of the ski lodge would continue to be inadequate. This alternative would result in local, short-term, minor, adverse, impacts on transportation.	Implementation of Alternative 3 would result in local, short-term, minor, adverse impacts to transportation, due to construction-related traffic congestion and use of parking lots as staging areas during four summer seasons. However, once construction was complete, traffic flow in front of the ski lodge, pedestrian safety and handicap-accessible parking would be improved, resulting in local, long-term, minor, beneficial impacts to transportation.	Implementation of Alternative 4 would result in local, short-term, minor, adverse impacts to transportation, due to construction-related traffic congestion and use of parking lots as staging areas during five summer seasons. However, once construction was complete, traffic flow in front of the ski lodge, pedestrian safety, and handicap-accessible parking would be improved, resulting in local, long-term, moderate, beneficial impacts to transportation.

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
ENERGY CONSUMPTION AND GLOBAL CLIMATE CHANGE			
Under Alternative 1, energy consumption would continue to be inefficient, resulting in a local, long-term, minor adverse impact on energy consumption.	Implementation of Alternative 2 would cause a short-term increase in gasoline and diesel fuel consumption during two seasons of construction. Upgrades to mechanical and ventilation systems would reduce energy requirements and the installation of a new boiler system would improve efficiency. There would be a small increase in power demand due to the installation of a hydronic snow melt system. Overall this alternative would be expected to reduce energy consumption, compared to Alternative 1, and would be expected to reduce energy consumption, better help the National Park Service reach its overall energy conservation objectives, and reduce overall contribution to global greenhouse gas emissions. Alternative 2 would result in local, long-term, negligible, beneficial impacts on energy consumption.	Implementation of Alternative 3 would cause a short-term increase in gasoline and diesel fuel consumption during four seasons of construction. As under Alternative 2, upgrades to mechanical and ventilation systems and installation of a new boiler system would reduce future diesel requirements. There would be a small increase in power demand due to the installation of a hydronic snow melt system. Under Alternative 3, the installation of a fireplace is expected to increase propane or wood energy use. Overall, this alternative would be expected to reduce energy consumption, better help the National Park Service reach its overall energy conservation objectives, and reduce overall contribution to global greenhouse gas emissions, when compared with Alternative 1. Alternative 3 would result in a local, long-term, negligible, beneficial impact on energy consumption.	Implementation of Alternative 4 would result in a short-term increase in gasoline and diesel fuel consumption during five seasons of construction. As under Alternatives 2 and 3, upgrades to mechanical and ventilation systems and installation of a new boiler system would reduce future diesel requirements. There would be a small increase in power demand due to the installation of a hydronic snow melt system. The installation of a fireplace is expected to increase propane or wood energy use. Overall, Alternative 4 would best help achieve the National Park Service objectives of energy conservation and efficiency when compared to Alternatives 2 and 3 due to the extent of new construction for this alternative. However overall, this alternative would result in a local, long-term, negligible to minor, beneficial impact on energy consumption compared to Alternative 1.
AMERICAN INDIAN TRADITIONAL CULTURAL PRACTICES			
Under Alternative 1, there could be small adverse impacts to plants traditionally used in the area, due to normal ski area operations. This alternative would result in a long-term, local, negligible adverse impact on traditional cultural practices.	Under Alternatives 2 and 3, ground disturbance and limited access associated with construction activities could impact some traditional cultural resources, with an increased potential for effects under Alternative 3 due to the longer construction timeframe. This would result in a short-term, local, minor, adverse impact on traditional cultural practices.		Under Alternative 4, ground disturbance and limited access associated with construction activities could impact some traditional cultural resources due to the longer construction timeframe, and permanent extension of the Alpine rental building further into the meadow area. This alternative would result in a short-term, local, minor, adverse impact on traditional cultural practices.

Table 2-5
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

Alternative 1: No Action Alternative	Alternative 2: Essential Repairs and Upgrades	Alternative 3: Rehabilitation and Improvements	Alternative 4: Emphasize Historic Character
HISTORIC SITES, BUILDINGS, AND CULTURAL LANDSCAPES			
Under Alternative 1, regular maintenance and upkeep of the historic site would continue to occur. As the No Action Alternative would not alter, directly or indirectly, any of the characteristics of the historic site that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association, Alternative 1 would have no adverse effect.	Alternative 2 proposes a *Standards*-compliant rehabilitation program for the ski lodge that includes new construction, abatement of structural, weather envelope, life-safety, and mechanical systems upgrades, as well as improved ADA accessibility and use of the ski lodge and its spaces. The proposed activities would not alter, directly or indirectly, any of the characteristics of the historic site that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Therefore, Alternative 2 would have no adverse effect.	Alternative 3 presents a higher attainment of the overall rehabilitation of the ski lodge than what is proposed in Alternative 2, allowing for *Standards*-compliant rehabilitation and protection of contributing features within the historic site. Beyond the proposed abatement of structural, weather envelope, life-safety, and mechanical systems issues, as well as improved ADA accessibility, this alternative further considers the need to distinguish the ski lodge as a significant and primary contributing feature of the NRHP-eligible historic site The proposed activities would not alter, directly or indirectly, any of the characteristics of the historic site that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Therefore, Alternative 3 would have no adverse effect.	Alternative 4 achieves the highest level of the overall rehabilitation goals for the ski lodge, allowing for *Standards*-compliant rehabilitation and protection of contributing features within the historic site. Beyond the proposed abatement of structural, weather envelope, life-safety, and mechanical systems, as well as improved ADA accessibility, this alternative goes further than Alternatives 2 and 3 to distinguish the ski lodge as a significant and primary contributing feature of the NRHP-eligible historic site. The proposed activities would not alter, directly or indirectly, any of the characteristics of the historic site that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Therefore, Alternative 4 would have no adverse effect.

Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ) regulations implementing NEPA and the National Park Service NEPA guidelines require that "the alternative or alternatives which were considered to be environmentally preferable" be identified (CEQ Regulations, Section 1505.2). Environmentally preferable is defined as "the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981).

Section 101 of NEPA states that:

> *It is the continuing responsibility of the Federal Government to . . . (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.*

Conformance: Alternative 3 would best fulfill the responsibilities of the National Park Service to select the alternative that has the least amount of impacts to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources.

Under Alternatives 2, 3, and 4, critical code upgrades and repairs for life-safety, fire protection, accessibility and building infrastructure including civil, structural, mechanical, plumbing, and electrical systems would be completed. Temporary structures would be replaced with permanent buildings with an architectural character that is compatible with the historic site. Alternative 1 (No Action) would not provide for these critical project requirements, nor would it protect or enhance the character of the historic site, improve operations, or improve visitor experience. Implementation of Alternative 2 would include all critical repairs and upgrades, but offers the least amount of improvements for historic character, universal design, the flow and functionality of interior spaces, vehicle and pedestrian circulation, and concessioner and NPS operations.

Alternatives 3 and 4 would both include substantial improvements for all key elements listed above. However, while Alternative 4 would restore many features of the main lodge that contribute to the historic character of the site, it is focused on optimizing visitor experience and slightly enlarges the facility footprint, potentially affecting cultural and natural resources. Alternative 3 addresses all of the critical code and structural upgrades, provides some improvements to the historic character of the site, and provides many improvements to visitor experience and operations while remaining within the existing footprint. Therefore, Alternative 3 best balances the protection of environmental resources with essential project requirements.

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