

Chapter 2: Alternatives

This chapter describes the No Action Alternative along with three action alternatives associated with The Ahwahnee Comprehensive Rehabilitation Plan, 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

Overview

The National Park Service has developed a no-action and three action alternatives that address the project purpose and need as described in Chapter 1, using the results of internal and public scoping and agency consultation, and the findings and recommendations of studies conducted in support of this project, including:

- Critical items identified in the *Operational Program for The Ahwahnee Comprehensive Rehabilitation Plan* (Hornberger+Worstell 2010c)
- *The Ahwahnee Hotel Seismic Evaluation and Rehabilitation Alternatives* (Degenkolb Engineers 2010)
- *The Ahwahnee Historic Rehabilitation Program* (Hornberger+Worstell 2011)
- *The Ahwahnee Historic Structures Report* (Architectural Resources Group [ARG]2011)
- *The Ahwahnee Cultural Landscape Report* (AECOM and ARG 2011)
- *The Ahwahnee Comprehensive Rehabilitation Plan 50% and 100% Conceptual Design Alternatives* (Hornberger+Worstell 2009, 2010a)
- *The Ahwahnee Comprehensive Rehabilitation Plan 50% Schematic Design Alternatives* (Hornberger+Worstell 2010b)

In addition, please see Chapter 1, ‘Applicable Codes and Standards’ (pages 1-8 and 1-9), for a list of codes and standards that were used to develop the needed actions included with each alternative.

To facilitate description of the no-action and action alternatives, the purpose and need objectives in Chapter 1 have been refined into seven (7) program categories, as follows:

- Fire /Life-Safety Compliance
- Seismic Safety Recommended Practice and Structural Strengthening
- Accessibility Compliance
- Historic Rehabilitation
- Operational Efficiency
- Visitor Experience and Visitor Services
- Energy/Water-Use Efficiency and Sustainability

Each of the action alternatives addresses the seven program categories above with actions that respond to building and site code deficiencies and rehabilitates character-defining features and spaces of the historic structures. The action alternatives also improve operational and energy and

water-use efficiencies in order to provide a sustainable level of service into the future for both overnight and daytime visitors. Actions that are common to all of the action alternatives are presented in an ‘Actions Common to All Action Alternatives’ section, following the description of the No Action Alternative.

An overview of the comprehensive rehabilitation plan project area is provided as Figure 2-1. Reference drawings for each floor of The Ahwahnee hotel are provided as Figures 2-2 to 2-6.

The Ahwahnee Comprehensive Rehabilitation Plan Project Area

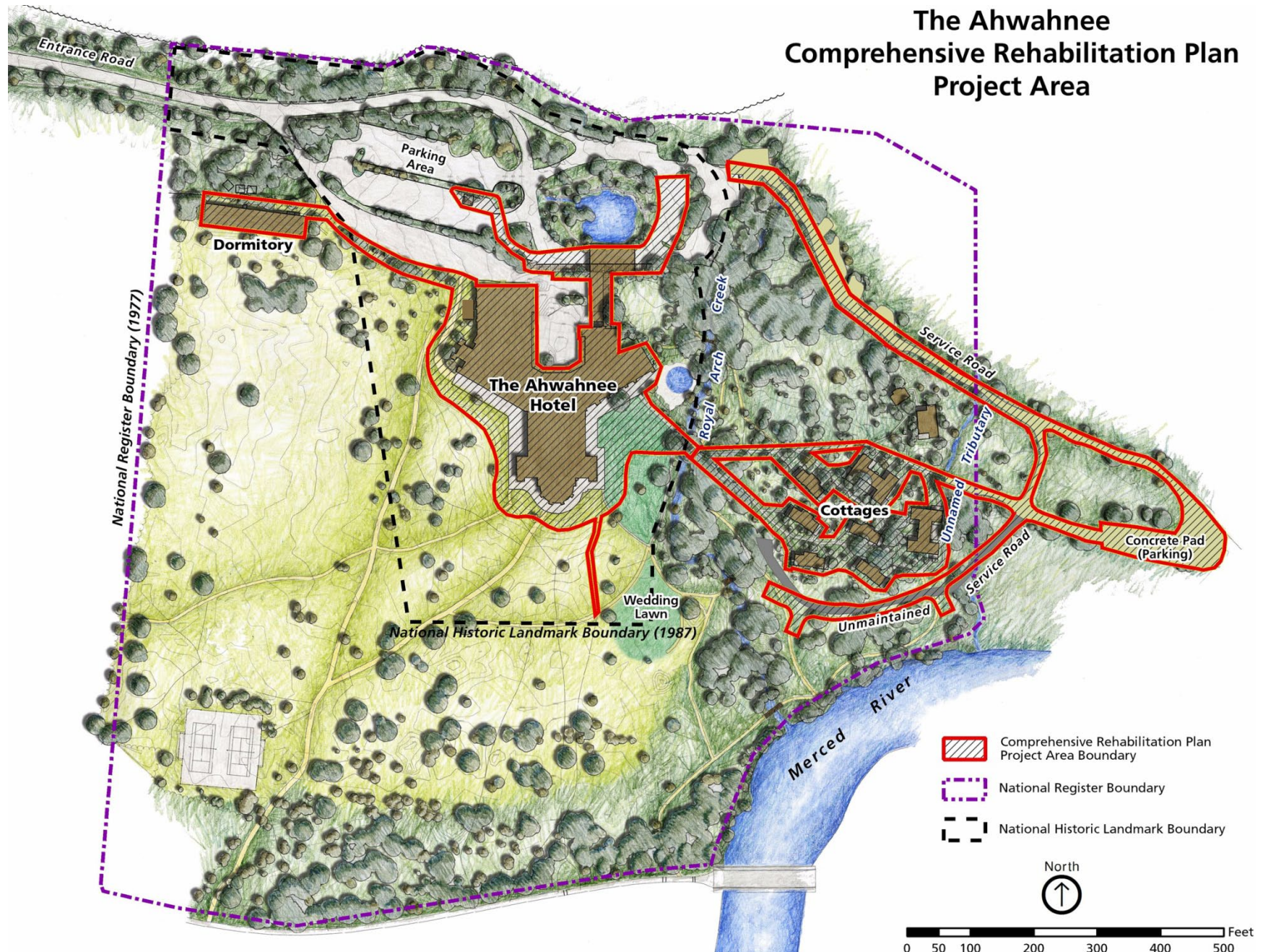


Figure 2-1 The Ahwahnee Comprehensive Rehabilitation Plan project area

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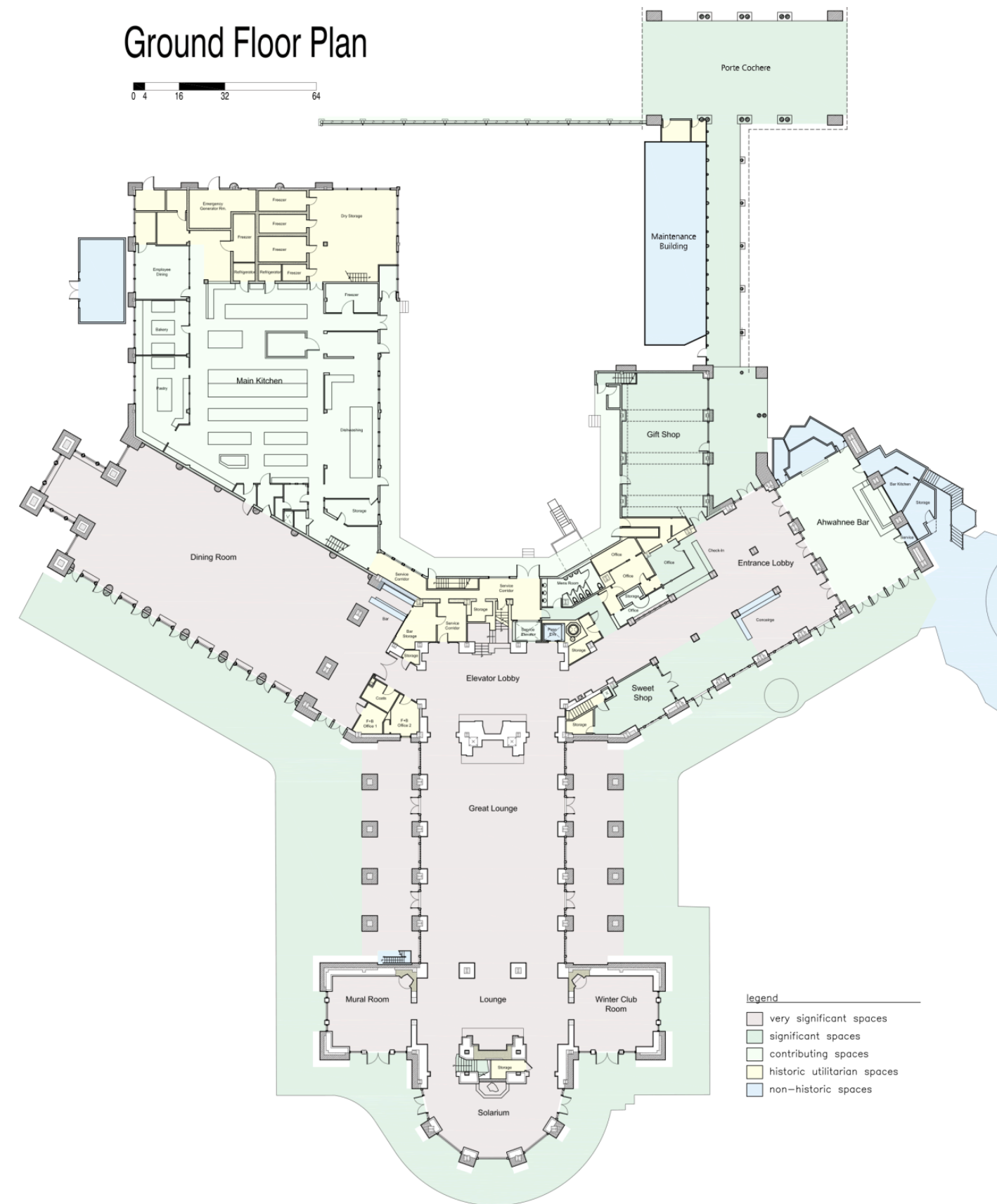


Figure 2-2 The Ahwahnee hotel ground floor plan

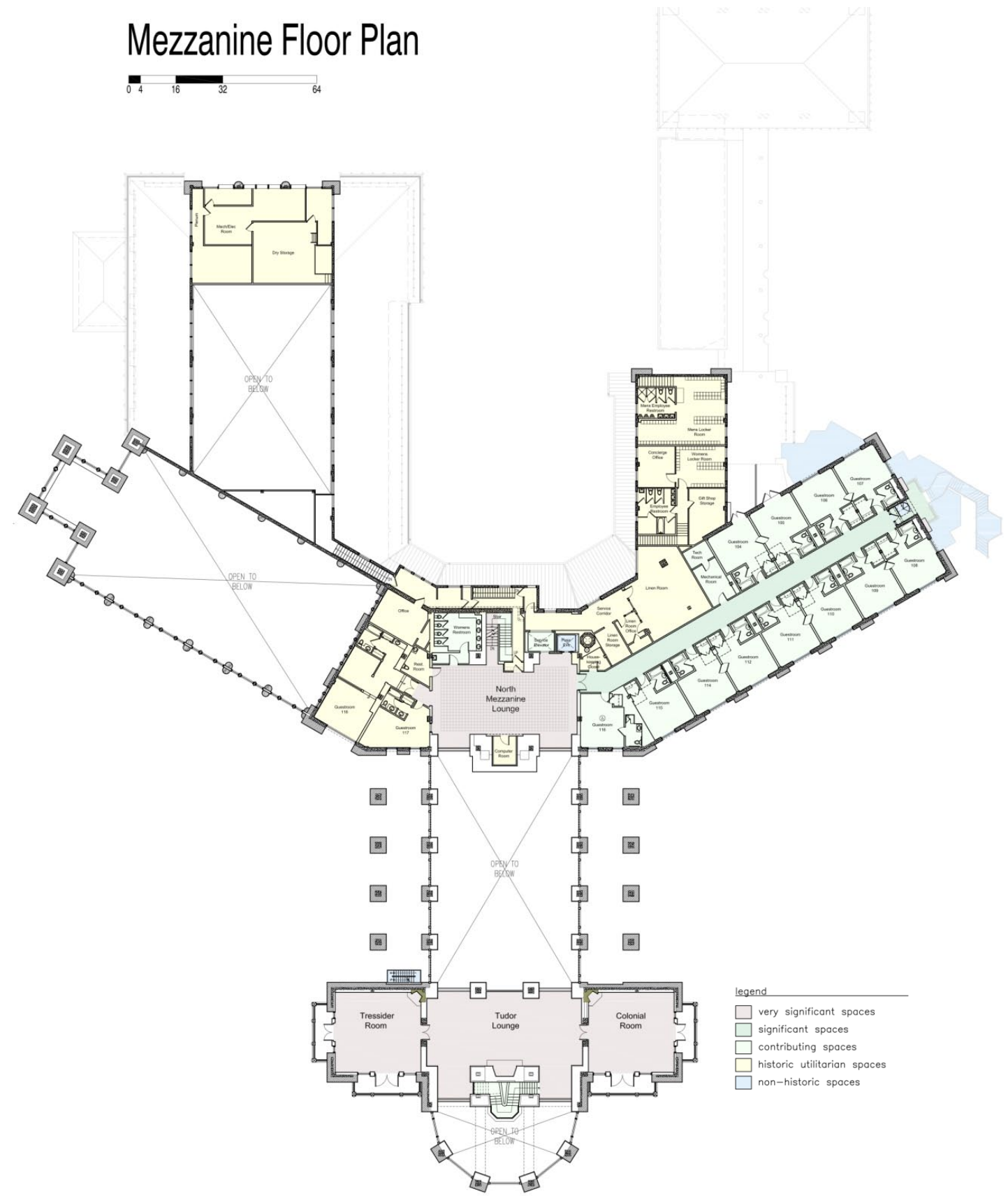


Figure 2-3 The Ahwahnee hotel first floor (mezzanine) plan

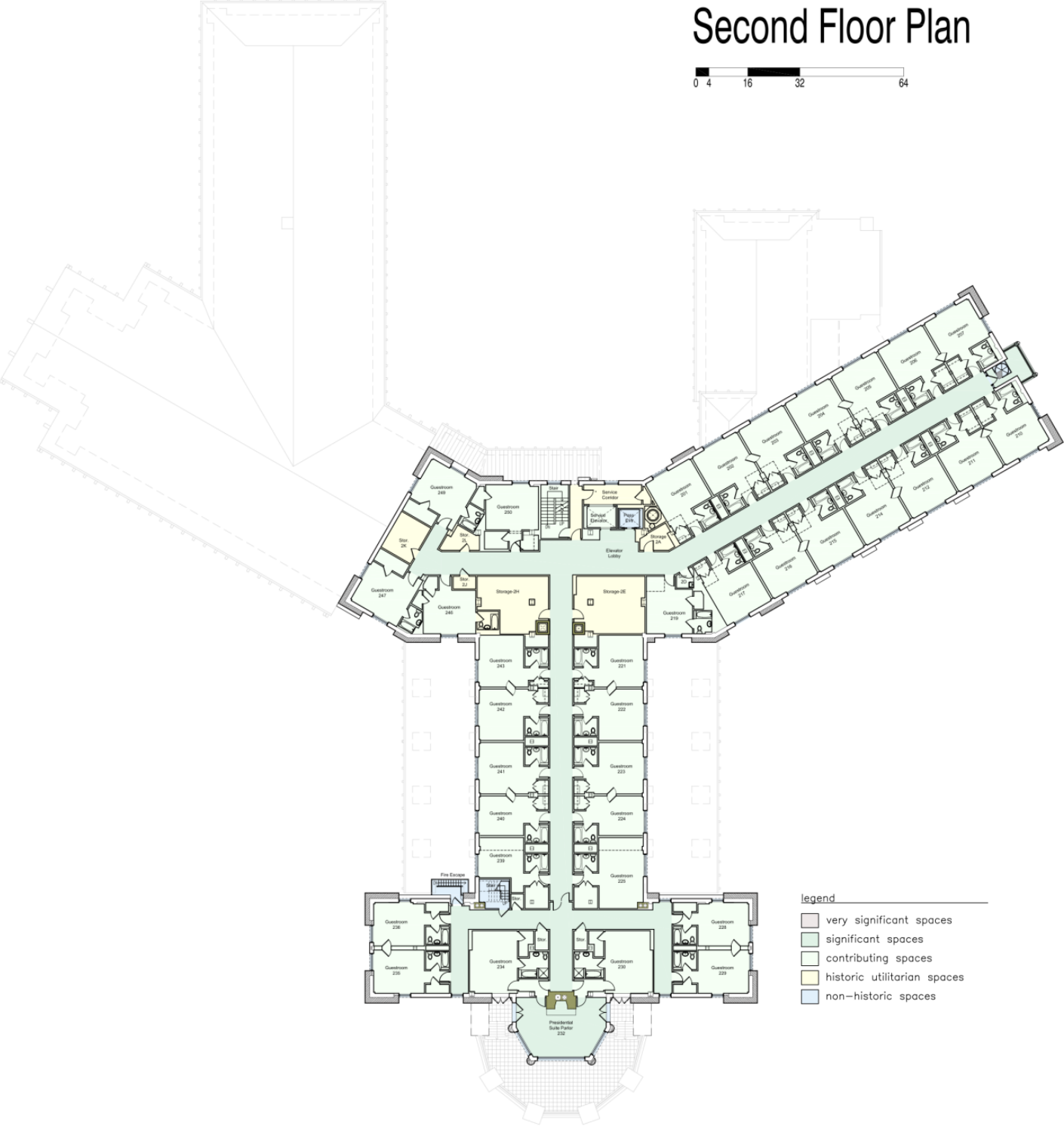


Figure 2-4 The Ahwahnee hotel second floor plan

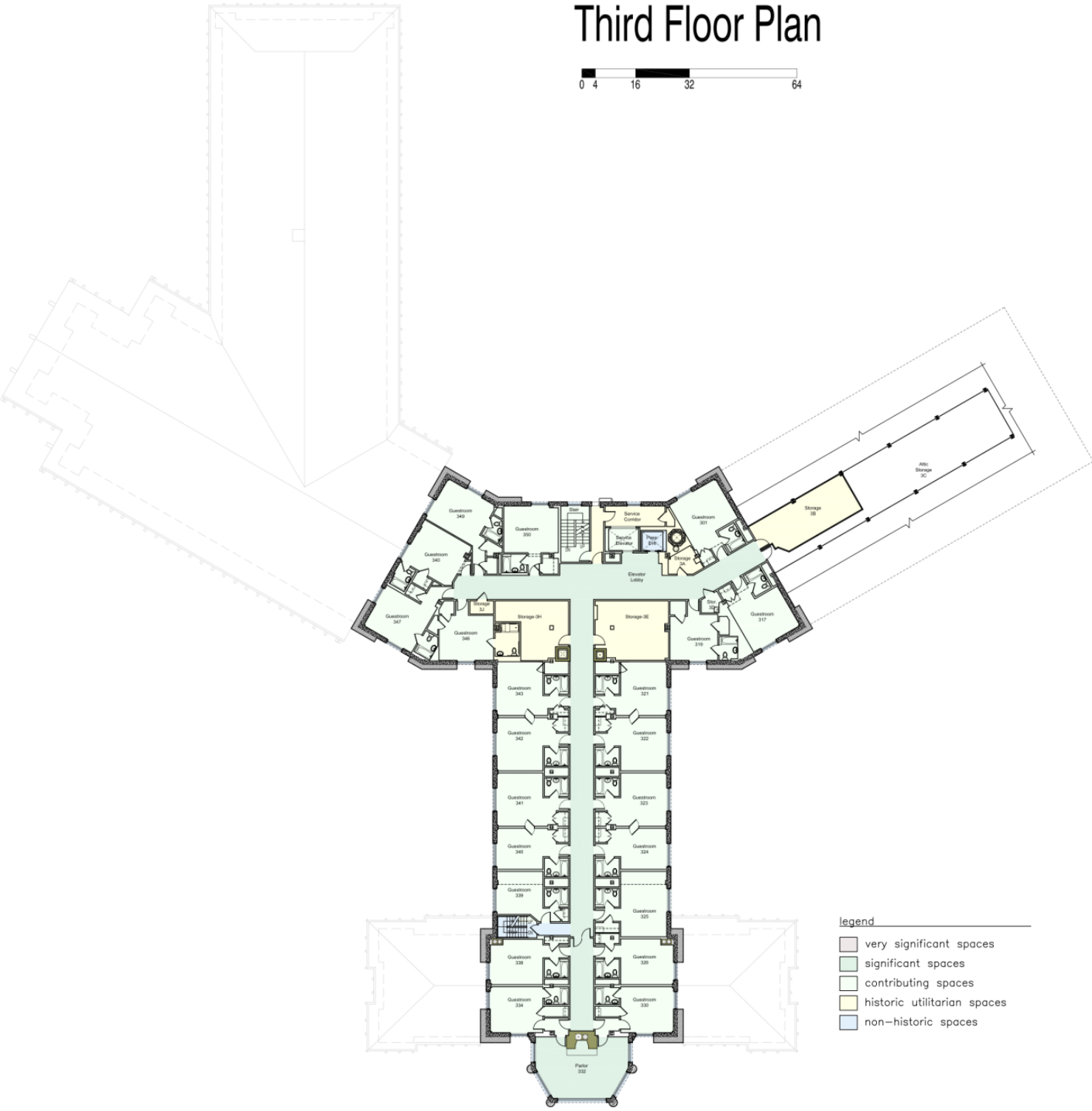
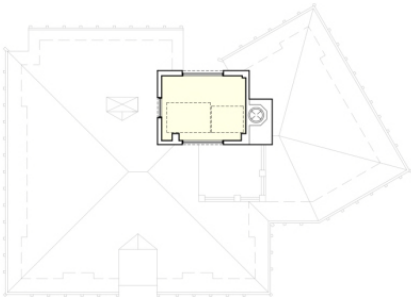


Figure 2-5 The Ahwahnee hotel third floor plan

Upper Floor Plans



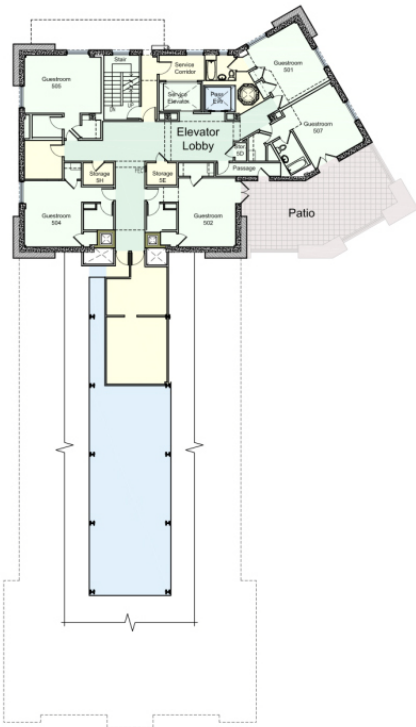
Sixth Floor Plan



Penthouse Plan



Fourth Floor Plan



Fifth Floor Plan

Figure 2-6 The Ahwahnee hotel upper floor plans

The No Action Alternative

Overview

The No Action Alternative is required by the National Environmental Policy Act and NPS Director's Order 12 to provide the baseline against which to compare the other alternatives. This alternative assumes that existing conditions at The Ahwahnee would continue, including routine maintenance and repairs. Any additional management to address code compliance, protect resources, or enhance operations and visitor experience is addressed as part of the action alternatives, but is not considered part of the No Action Alternative for the purposes of this assessment.

The following is a summary of existing conditions at The Ahwahnee hotel and its associated structures in regard to the seven purpose and need elements listed above.

Fire/Life-Safety Compliance

As noted under Chapter 1, fire and life-safety requirements are governed by the current version of the National Fire Protection Association (NFPA) codes and standards as recommended practices for fire prevention, protection, and life-safety.

There is a substantial ongoing maintenance and inspection program for fire and life-safety at The Ahwahnee. As part of this program, the National Park Service recently implemented the 2010-2011 Fire/Life-Safety Project and the 5th and 6th Floor Egress Project at The Ahwahnee hotel to address critical code compliance issues in the main hotel building. The improvements included the installation of a comprehensive fire and smoke detection and alarm system, smoke barriers, an expanded automatic fire suppression system throughout the building, and the addition of a secondary means of code-compliant egress from the 5th and 6th floors to the ground level.

With the fire/life-safety improvements described above, the following fire/life-safety deficiencies would still exist under the No Action Alternative:

Egress

Fire code requires that at least two means of egress be provided from any balcony, mezzanine, story or portion thereof. Currently, the South Mezzanine meeting rooms (Tresidder Lounge, Colonial Room, and Tudor Room) have only one means of egress. The Yosemite National Park Fire Marshal has advised that, effective March 2011, these meeting rooms no longer may be used for public assembly without an acceptable secondary means of egress.

In the East Wing, the existing exterior spiral stair fire escape from first and second floor guestrooms to the ground floor does not comply with width or capacity requirements in current fire code.

Fire/Smoke Separation

The Dining Room does not conform to fire code requirements for occupancy and construction type separation. The Dining Room is an assembly occupancy and Type 4 construction (heavy timber, combustible). The remainder of the hotel building, with the exception of the Porte Cochere and walkway, is a hotel occupancy and Type 1B construction (steel and concrete, non-

combustible). No fire separation between the two areas would be provided under the No Action Alternative.

Elevators

The existing service elevator, passenger elevator, and the elevator shaft separation present the following fire/life-safety hazards: the shafts are constructed of unreinforced gypsum block; the pocketed entrances compromise the shaft fire resistance; the wood service cab is not accessible or fire-resistant; and the controls do not conform to current fire safety code.

Structural Fire Protection in Attic Spaces

Areas of the existing fire proofing applied to the exposed steel in the attic spaces (primarily above guestrooms) have delaminated, been damaged, or are discontinuous. These conditions would persist under the No Action Alternative.



Deteriorated condition of fireproofing at column/beam in the hotel attic space.
Hornberger + Worstell Photo

Shafts and Linen Facilities

The existing building shafts are not compliant with current code pertaining to fire rating, floor penetrations, and duct penetrations.

The linen chute shaft currently terminates without any enclosure in the soiled linen room and does not include any fire separation from the public space. A two-hour rating system is required to comply with fire code.

The toilet exhaust systems for the guestrooms do not comply with fire code, as the associated shafts are not properly sealed at the top and bottom and are open to each guestroom.

Fire Department Access

Master Key System

The National Park Service recently re-keyed doors throughout The Ahwahnee hotel building as part of the 2010-2011 fire/life-safety project described above. Currently, emergency personnel need several master keys to access different portions of the hotel.

Fire Department Access Roads

The existing fire department access road at the south and east sides of the hotel and the existing fire department access road to the cottages do not comply with fire code. Specifically, fire code requires the following:

- Provide a fire department access road within 50 feet of at least one exterior door of each building that can be opened from the outside and that provides access to the interior of the building;
- Provide a fire department access road within 150 feet of any portion of a facility or any portion of an exterior wall of the first story of a building;
- Provide a minimum of 16 feet of road width, not including shoulders, walkways or drainage;
- Provide a road surface that can support a live load of 75,000 lbs but shall support no less than vehicles weighing 60,000 lbs, and that can be maintained year-round;

- Provide drainage crossings that are all-weather, where emergency vehicles are not subject to passing through water, ice, or soft roadbed;
- Provide and maintain at least 13.5-foot nominal vertical clearance over the full width of the access road;
- Provide a turnaround at the closed end of fire access roads with dead ends exceeding 300 feet.

The existing fire truck access to the hotel utilizes a combination of the parking area on the north side of the hotel, a hardened landscape area (covered with turf) surrounding the hotel to the west and south; and a reinforced section of the concrete terrace on the west side of the hotel (see Figure 2-7). This vehicle access on the west and south side of the hotel is not an approved route as it does not conform to required road widths or required distance from the structure for fire truck access. It also does not meet the load requirements for fire vehicle access throughout its full length. Lastly, there is no turnaround where the access terminates on the southeast side of the hotel.

The existing fire department access road from the parking area to the cottages varies in width from approximately 9 to 20 feet. Under the No Action Alternative, the majority of the cottages would remain more than 50 feet from a fire department access road, and several of the cottages would remain more than 150 feet from the existing fire department access road.

The existing fire access road terminates at the service entrance to the cottages (see Figure 2-7). From this point, an unmaintained service road is the only access provided on the southern side of the cottage area. This unmaintained service road is not compliant with fire code requirements for width, surfacing, drainage crossings, and turnarounds. Additionally, this unmaintained service road provides the only vehicle access to existing fire hydrants on the southern side of the cottages.



Unmaintained service road south of Ahwahnee cottages. Existing fire hydrant at left. DNC Photo

Fire Protection Systems

The National Park Service recently installed automatic fire sprinklers, fire/smoke detectors, and fire alarm systems throughout The Ahwahnee hotel building as part of the 2010-2011 fire/life-safety project described above. That project did not include similar measures for The Ahwahnee cottages or dormitory.

Ahwahnee Cottages

The current smoke alarms at the cottages are non-monitored, battery operated, single-station smoke alarms that do not comply with fire code. Under the No Action Alternative, these non-compliant alarms would remain.

Fire alarm systems are not specifically required by fire code for the cottages, as the guestrooms have ground-level exterior exits. However, based on issues encountered during code inspections, a fire alarm system is recommended by the Yosemite National Park fire marshal to provide a reliable means of notifying guests during a smoke condition. Under the No Action Alternative, no fire alarm system would be installed.

There is currently no automatic sprinkler protection for the cottages. An automated sprinkler system is not required by fire code at the cottages; however, sprinklering the cottages would allow for additional distance between the fire access road and the cottages beyond the required code distances for fire road access as described above. Sprinklering also would add a measure of protection for historic materials in the event of fire. Under the No Action Alternative, no sprinklering system would be installed.

Ahwahnee Employee Dormitory

The current smoke alarms at the dormitory are non-monitored, battery-operated, single-station smoke alarms that do not comply with fire code. Under the No Action Alternative, these non-compliant alarms would remain. There is no sprinkler system in the dormitory. Under the No Action Alternative, no sprinklering system would be installed.

Electrical Systems

A number of code-compliance issues have been identified with the existing electrical system at The Ahwahnee hotel. These issues, which would persist under the No Action Alternative, include:

Distribution Panels

The electrical distribution panels are located in two rooms within the hotel. The room containing the main switchgear and generator, located at the rear (north end) of the Kitchen area, is 18 inches below grade. The room containing hotel operations distributions is located in the basement, one floor below grade. Extensive water damage is visible in both of these rooms due to flooding during spring runoff or after heavy rains. This creates a hazardous working environment for maintenance staff.

Grounding and Short-Circuit Protection

The existing electrical system is neither properly grounded nor does it provide proper short-circuit protection.

Wiring, Conduits, and Raceways

Much of the electrical distribution system consists of the original, cloth-wrapped wiring. The insulation is damaged and worn in many places, and does not meet current electrical code. Conduit has corroded in many places and does not meet safety standards. Exposed wiring, and in particular the exposure of electrical systems to water or moisture, poses a hazard to maintenance staff and to electrical systems at the hotel.

Emergency Generator

The existing emergency generator is undersized and beyond its useful life. The generator does not have the code-required standby systems or transfer switches that would allow targeted use of the generator during emergencies.

Electrical Service

Electrical service to the hotel is currently split, with both 208-volt and a 480-volt service provided. This results in redundancies of equipment, and operational inefficiencies.



The Ahwahnee hotel basement, springtime flooding. Hornberger + Worstell Photo

Transformers

The existing electrical transformers are inefficient and approaching the end of their useful lives.

Ventilation and Exhaust Systems

A number of issues have been identified with the existing ventilation and exhaust systems at The Ahwahnee. These issues, which would persist under the No Action Alternative, include:

Guestrooms

There is no mechanical ventilation at the guestrooms, ventilation is achieved through operable windows in each room, the original ventilation system included operable transoms above the corridor doors to facilitate air movement, these transoms have been sealed due to fire code restrictions, and the system does not function as it was originally intended. This natural ventilation has limitations during extreme temperatures, and can contribute to energy inefficiencies when windows are opened while heating or air conditioning units are operating.

Guestroom Corridors

The exhaust system for guestroom corridors is not compliant with fire code, as there is no fire or smoke protection between floors at the exhaust shaft (see also ‘Shafts and Linen Facilities’, above). In addition, the make-up air pathway does not meet building code for ventilation.

Guest Bathrooms

The toilet exhaust systems for the guestrooms do not comply with fire code, as the associated shafts are not properly sealed at the top and bottom and are open to each guestroom (see also ‘Shafts and Linen Facilities’, above).

Electrical Room, Boiler Room, and Elevator Penthouse

The electrical rooms and the elevator penthouse do not have code-compliant cooling or ventilation systems.

Kitchen

The existing hot-water propane boiler for heating the Kitchen make-up air does not comply with manufacturer’s installation recommendations.

Public and Employee Spaces

The hotel’s exhaust systems at public restrooms and the linen rooms and at the dormitory are currently non-compliant.

Seismic Safety Recommended Practice and Structural Strengthening

As noted in Chapter 1, seismic evaluation and structural strengthening requirements are governed by ICSSC RP6, *Seismic Safety for Existing Federally Owned and Leased Buildings*. RP6 requires that existing buildings meet life-safety performance objectives and the Basic Safety Objective. The Basic Safety Objective considers the building's expected seismic performance in two different earthquake events:

- BSE-1 earthquake, which has a 500-year return period or an event with a 10% chance of being exceeded in 50 years. Buildings are required to meet the life-safety performance levels of a BSE-1 earthquake.
- BSE-2 earthquake, which has a 2,500-year return period or a 2% chance of being exceeded in 50 years. The building is only required to meet the collapse prevention performance level when the BSE-2 earthquake occurs.

Due to the continuous development of seismic design standards since the construction of The Ahwahnee hotel and cottages, there are some inherent qualities of the structures that may not meet the above objectives. Specific areas that may be affected by 500-year or 2,500-year earthquakes would include the following:

Dining Room

Due to the lack of a detailed lateral-force resisting system in the wood-framed Dining Room, considerable damage, both structural and nonstructural, may occur in this portion of the hotel when subjected to moderate ground shaking, resulting in a hazard to occupants from falling debris and potentially substantial damage to a Very Significant character-defining feature of the hotel.

The roof of the Dining Room could separate from the adjoining Kitchen and main hotel building core with a gap of approximately 1 to 3 inches, depending on the severity of the event. Granite veneer columns at the west end of the Dining Room could rock independently of one another and the roof, potentially dislodging stones from the top of columns. Stones from the granite veneer on columns at the east end of the dining room also could be dislodged, and pose a falling hazard to occupants. The south window wall could distort, shattering glass windows. In addition, the Dining Room roof lacks sufficient capacity to meet Mariposa County snow loading requirements.



The Ahwahnee hotel kitchen floor from below.
Hornberger + Worstell Photo

Kitchen Floor

The Kitchen floor slab is in poor condition. The concrete slab has deteriorated from water damage, and sections of the slab have spalled from heavily rusted steel reinforcing bars in the crawl space below.

Stone Chimneys

The stone chimneys on the hotel are discontinuous below the roof structure, and the stone chimneys on the cottages are not adequately braced at the roof level. Hazards to visitors and employees from falling stone may occur when subjected to a 500- or 2,500-year earthquake.

South Wing

Two-story gypsum-block walls flanking the Great Lounge fireplaces may fail during a 500- or 2,500-year earthquake due to building drift or accelerations, resulting in falling hazards or blocked egress. Lack of shear walls in the Great Lounge and Solarium may result in damage to floors, windows, and finishes at the intersection of the south wing, east wing, and gift shop, the historic storefront, and decorative stenciling. However, work is not required to meet current codes or standards.

The window walls in the Great Lounge and Solarium would likely be damaged, some glass including Very Significant stained glass windows may shatter, and door frames may become distorted.

Exterior Walls

The existing granite stone veneers may separate from their concrete backing during a 500- or 2,500-year earthquake, resulting in a hazard to occupants from stone falling into egress paths and around the building.

Porte Cochere

The entry walkway and the Porte Cochere are susceptible to damage during a 500- or 2,500-year earthquake, but neither would collapse. Work is not required to meet current seismic standards.

Mechanical, Electrical, and Plumbing Equipment

Unanchored or unbraced equipment, and rigid piping connections, may fail during both the 500- and 2,500-year earthquake, resulting in disrupted hotel operations and potential safety hazards. Work is not required to meet codes or standards.

Accessibility Compliance

As noted under Chapter 1, accessibility requirements are governed by the American with Disabilities Act of 1990 (ADA) and the Architectural Barriers Act of 1968 (ABA), as incorporated into the 2007 California Building Code and the 2007 California Historical Building Code. The ADA requires accessibility to places of public accommodation and commercial facilities by individuals with disabilities. The ABA requires access to facilities designed, built, altered, or leased with federal funds. Under the No Action Alternative, the following features would remain non-compliant with ADA-ABA standards:

Parking and Paths of Travel

There are currently six accessible parking spaces at the hotel. Seven spaces are needed to meet the required ratio of accessible parking spaces to guestrooms. In addition, the existing accessible parking is not in compliance with ADA-ABA requirements for configuration, signage, or markings.

The ADA-ABA also requires an accessible route within the site from accessible parking spaces and accessible passenger loading zones, as well as an accessible route through the building to all public spaces and accessible guestrooms. The pathways through public areas on the ground floor of the hotel are fully accessible, but the arrival path to the main building, the path to the wedding lawn, and the path to the accessible units in the cottages are not fully compliant. The passenger elevator in the core of the main building provides access to the upper floors of The Ahwahnee, with the exception of the meeting rooms at the South Mezzanine. These rooms are not currently

accessible, although similar meeting spaces are available on the fully accessible ground floor (see ‘Mezzanine Meeting Rooms’, below).

Mezzanine Meeting Rooms

The South Mezzanine is comprised of three Very Significant historic rooms (Tresidder Room, Tudor Lounge, and Colonial Room) accessible only by a single stairway. As of March 2011, the Tresidder Room is completely closed to public and business use and cannot be used for any events, due to exceedances of code-mandated travel distance to the sole egress stair. The Tudor Lounge and Colonial Room are closed to public use and limited to business use by park or concessioner staff, for up to 30 people.

Main Entry and Ground Floor Entrances

The main doors at the entrance to the hotel do not have an electronic assist option. In addition, the existing hardware and thresholds at all other ground floor entrances/exits do not comply with ADA-ABA requirements.

Registration Lobby

The existing registration counter and the concierge desk do not comply with current ADA-ABA standards.

Restrooms

The existing public restrooms are located on two levels – the ground floor (men’s restroom) and the North Mezzanine (women’s restroom). One accessible toilet compartment is provided in each of the men’s and women’s restrooms. The unisex (family) restroom adjacent to the women’s room on the North Mezzanine is not fully accessible due to inadequate clearances.

Guestrooms

ADA-ABA guidelines specify the number of accessible guestrooms that must be provided at the hotel. The number required is related to the number of total guestrooms available. For hotels with a total number of guestrooms between 101 and 150, seven accessible guestrooms are required. The Ahwahnee has 99 guestrooms in the main hotel and 24 guestrooms in the cottages, for a total of 123 guestrooms. The main hotel has three accessible guestrooms, and two accessible guestrooms are provided at the cottages.

ADA-ABA also calls for the dispersion of various classes and choices of guestrooms provided with accessibility features. The elements of primary consideration for dispersion include room rate, balcony access, connection to an adjoining room, number of beds per room, and number of rooms per unit (e.g., a suite). The Ahwahnee currently has five accessible guestrooms at varying amenity levels between the hotel and cottages. None of the accessible guestrooms has a balcony or is a suite.

Employee Facilities

Some existing employee facilities and service areas do not comply with ADA-ABA standards. Employee locker rooms provided at the hotel are not accessible, as they are located on the second floor above the gift shop with no elevator access. The route to the breakroom located off the Kitchen is not accessible by all employees. The serving area in the Ahwahnee Bar and the service bar at the main Dining Room are not accessible.

At the North Mezzanine exit stair (near the service elevator), the existing door configuration opens onto a stair, which creates a falling hazard and is not in compliance with ADA-ABA.

Historic Rehabilitation

The Ahwahnee Historic Structures Report (HSR) (ARG 2011), developed in support of this comprehensive rehabilitation plan, includes an extensive evaluation of the condition and significance of The Ahwahnee's exterior and interior spaces and features as related to the hotel's overall historic context and character, and an evaluation of the historic integrity and a condition assessment for each space and feature. The results of these evaluations are included as Appendix C to this environmental assessment.

Each feature and space was accordingly assigned a significance classification (defined in Appendix C): Very Significant, Significant, Contributing, Historic Utilitarian, or Non-Historic. Please see Figures 2-2 through 2-6 for an illustration of the significance classification on each floor of the hotel.

In addition, the historic integrity of spaces and features at The Ahwahnee was rated as follows:

- **High.** Most of the historic materials, function and design are extant and the area or feature portrays the same character and design as it did during the period of significance.
- **Medium.** Many of the character-defining features, historic function, and design are extant, but modifications have reduced the ability of the area or space to convey its historical significance.
- **Low.** Little of the historic materials, function, and design remain, but the area or feature still retains some ability to convey historic significance.
- **None.** The space or feature has been so altered that it no longer conveys historic significance.

The condition of spaces or materials was defined as:

- **Good.** The space or element requires only routine maintenance and cleaning.
- **Fair.** The space or element shows signs of wear and requires minor repairs in addition to routine maintenance and cleaning.
- **Poor.** The space or element is extensively worn and needs major repairs or restoration.

Under the No Action Alternative, the existing condition of spaces and features as detailed in Appendix C would persist with the exception of routine maintenance and cleaning. No preemptive historic rehabilitation work would be performed.

Operational Efficiency

Kitchen Facilities

The existing Kitchen is inadequate to meet current hotel and dining needs in terms of operational layout, efficiency and storage. Work performed to meet seismic safety recommended practice, structural standards, and fire/life-safety code would require reinstallation of kitchen equipment to current building codes, health codes, and federal accessibility standards.

'Back of House' Facilities

The existing 'back of house facilities' (e.g., employee locker rooms, employee break rooms, offices, storage areas, laundry facilities, etc.) are currently not fully compliant with fire and occupational safety code, health code, and ADA-ABA requirements.

Currently, the employee break room is in the Kitchen, which presents a potential for food contamination. In addition, employee locker rooms and the break room are not fully accessible to the mobility impaired.

Porte Cochere

The existing vehicle clearance at the existing Porte Cochere is 11.5 feet. The standard vehicle clearance for charter buses is 13.0 feet. Currently, charter buses load and unload passengers in an unsheltered area in the parking area.

Telecommunication and Electrical Systems (see also 'Fire /Life-Safety - Electrical Systems', above)

The existing main point of entry (MPOE) for the telecommunications services at the hotel is located on the ground floor in a closet of an administrative office. The location of the MPOE is inefficient for service and maintenance, and the closet where it is housed is not of sufficient size.

Electrical systems at The Ahwahnee are obsolete and do not meet current building code. The hotel facilities are powered by a split service with 208-volt and 480-volt lines. Transformers are outdated, and the emergency generator is undersized and lacks required stand-by systems. The generator room's floor is below grade, and subject to flooding from run-off from the service yard. An electrical distribution panel is located in a basement room that frequently floods during spring months, creating a worker safety hazard. Much of the hotel electrical distribution systems consist of obsolete cloth-wrapped wiring, and electrical panels lack proper grounding. The dormitory electrical system also is outdated and would require upgrading to meet fire code and electrical code as part of any future redesign. Power is currently fed from the main switchboard that services the hotel, but metering is not provided for the dormitory.

Mechanical and Plumbing Systems (see also 'Fire /Life-Safety - Mechanical and Plumbing Systems', above)

The existing central mechanical/electrical/plumbing system has a pneumatic control system that does not provide sufficient feedback for troubleshooting or energy management control.

Distribution mains for the domestic hot and cold water piping at the hotel were upgraded in 1990 from galvanized steel to copper, but a large portion of the remaining piping is still galvanized steel and is in poor condition. Pressure-reducing valves are in very poor condition and pressure gauges indicate that existing valves are not functioning.

Heating, Ventilation, and Cooling (HVAC) Systems

HVAC systems throughout the hotel have reached or exceeded their design lifespans and are not energy efficient. HVAC units installed at the cottages are inefficient, temporary units. In addition access for equipment maintenance is inadequate. The system does not allow for discrete areas in the hotel to be shut down independently, which complicates maintenance and repairs and inconveniences guests.

Visitor Experience and Visitor Services

The National Park Service and the park concessioner provide a high level of visitor service and a unique visitor experience at The Ahwahnee hotel. There are, however, elements of visitor service and related visitor experience that have deteriorated due to the age of the structure, modern uses, and altered historic finishes, among other issues. The following conditions would continue to impact visitor services and visitor experience:

Registration Lobby and Arrival Experience

The stained concrete and rubber tile floors in the Registration Lobby are Very Significant character-defining features of the hotel that are in need of rehabilitation. In addition, as noted above under ‘Accessibility Compliance’, the existing check-in counter and the concierge desk and entry doors do not comply with current ADA-ABA standards. The northern façade of the Ahwahnee Bar, a non-historic addition that is incompatible with the Very Significant exterior of the hotel, fronts onto the flagpole lawn, and is visually intrusive from the Porte Cochere and entry gallery. This addition impinges on the visitor’s sense of arrival.

Sweet Shop

The original Sweet Shop at The Ahwahnee was an ice cream and candy shop occupying three bays on the south side of the Registration Lobby; the existing Sweet Shop functions as a convenience shop within a reduced (single-bay) footprint. In addition, the original stained concrete floor has been covered with vinyl composition tile, and the wall and ceiling finishes have been altered.

Ahwahnee Bar

The Ahwahnee Bar is located in what was originally designed to be the Porte Cochere. Much of the space has been altered through renovations and additions; many elements are not original to the room or hotel. The bar is not accessible for employees, does not comply with health code, and the area presents space and sanitation challenges for operations (e.g., lack of sinks, storage, and food preparation area).



The Ahwahnee Bar (non-historic feature on east wall).
Hornberger + Worstell Photo

Dining Room

The service bar at the Dining Room, which was added in 1959, is not accessible by visitors or employees. The addition of the service bar also obscured original wainscoting and added non-original detail.

Ground Floor Heating, Ventilation, and Air Conditioning (HVAC) Systems

Public spaces at the ground floor (Ahwahnee Bar, Gift Shop, Sweet Shop, and Dining Room) and ground floor administrative offices are currently air conditioned by dedicated window units. However these spaces have no mechanical ventilation. They are naturally vented (e.g., through window and door openings), which presents visitor experience issues during extreme temperatures due to lack of ventilation when windows and doors are closed, and difficulty maintaining a comfortable temperature. In addition, the HVAC systems for these spaces do not meet current efficiency standards, and maintenance access is difficult.

Energy Efficiency and Sustainability

Insulation

The existing building envelope, which is constructed primarily of steel, concrete, and stone, contains little to no thermal insulation, resulting in energy loss to the exterior.

Windows and Doors

Existing windows at the ground floor and windows at the sixth floor are in varying states of deterioration and their single-pane glazing is not energy efficient. Existing doors on the ground floor are also deteriorating, and air leakage at these locations further reduces the energy efficiency in public spaces.

Guestroom windows, which were replaced with single-pane, aluminum-framed windows in 1976, are neither compatible with historic character nor energy efficient.

Heating Systems

The heating system for the hotel consists of steam boilers, steam to hot water heat exchangers, and in some locations, steam distribution and radiators. Steam boilers also heat the domestic hot water system, provide heat for the pool, and provide heat for the dormitory. The hotel heating system was upgraded in 1990; however, the boilers have exceeded their design life and are deteriorating. In addition, steam piping lacks insulation and in some locations steam piping is leaking.

Currently, the mechanical boiler room is not code compliant because there is no separation from the pool heating system and chemical storage.

Domestic hot water equipment includes two 1,500-gallon storage tanks with integral steam heat exchangers. Only one of these is in usable condition. These tanks have corroded over time, and leakage from the remaining tank in service necessitates frequent service.

The existing heating condensate loop is an open loop system, which is inefficient due to the loss of treated, preheated water that could be recaptured and reused.

Cooling Systems

A chilled water system for air conditioning was added to the hotel in 1990 to provide cooling to guestrooms, the Dining Room, the Sweet Shop, and the Gift Shop. The cooling system uses a HCFC (hydrochlorofluorocarbon) refrigerant, the availability of which will be phased out by 2020. Remaining spaces at the hotel are not air conditioned.

The chilled water system was originally designed to cool the cottages in addition to the hotel. However, the cottage and hotel systems have never been connected, and the chiller has never operated at full capacity. During the original installation, make-up air louvers in the cooling tower were not adequately sized per the manufacturer's recommendations. Since the chiller has never operated at full capacity, the lack of louvers has not been presented any known problems. Cooling at cottages is provided via temporary exterior heat pumps with indoor fan coils.

The kitchen refrigerators currently use a once-through cooling system, which removes heat generated by the refrigerator. This system does not meet modern energy efficiency standards.

Electrical Systems

The electrical equipment in the hotel has reached its life limit. With the exception of the air conditioning distribution system and the rooftop snowmelt system, the electrical system is close to maximum capacity and is not particularly efficient due to numerous additions over the years. In addition, a number of code-compliance issues have been identified with the existing electrical system at the hotel; these are addressed under ‘Fire/Life-Safety Compliance’ above.

The majority of the building’s electrical load comes from a utility-owned transformer located in a room at the northwest corner of the Kitchen wing. This transformer feeds a main distribution board in the main electric room located adjacent to the transformer. The main distribution board feeds numerous other panelboard systems for building distribution. The room containing hotel operations distributions is located in the basement, one floor below grade. In addition, one utility-owned transformer is located in an in-ground vault adjacent to the northwest corner of the Kitchen wing. This service provides power to the Kitchen and the hotel’s mechanical air conditioning system.

In the event of an emergency power outage, a backup generator is connected to the main distribution panel through a distribution switch. The backup generator is undersized and can only partially service the hotel.

Lighting fixtures, both historic and non-historic, are nearing their life limits. Selected historic fixtures (e.g., the Dining Room chandeliers) have recently been refurbished, but others have unsafe wiring or inadequate anchoring. Light fixture bulbs/lamps have previously been upgraded, with some fixtures fitted with fluorescent lamps where applicable. The retrofit reduced energy use throughout the hotel, but limited additional energy use control options.

Plumbing Systems

In general the plumbing systems serving the main hotel consist of a number of systems and system types that have been maintained, modified and added to over the years. In addition to issues noted under the ‘Heating Systems’ and ‘Cooling Systems’ sections above, the following conditions continue to affect the sanitary and domestic water supply:

Sanitary Systems

The interior sanitary system was installed in 1927 during hotel construction. The sanitary piping system is well past its design life and is in very poor condition. The sanitary system currently handles a fraction of its intended design due to buildup in the piping. The sanitary piping above the Great Lounge has leaked and been repaired numerous times over the years; the leaks have contributed to substantial deterioration of the historic decorative stenciling on the ceiling beams of that Very Significant public space. Wastewater lines beneath the Kitchen were replaced in the early 1990s; however these pipes are in poor condition from corrosion and oxidation, and numerous leaks have been reported and repaired.

Fixtures

Some fixtures at the hotel, including most of the guestroom bathroom fixtures, have been upgraded during the last 15 years and are low-flow. These fixtures are in fair condition.

Actions Common to All Action Alternatives

Fire/Life-Safety Compliance

Fire/Smoke Separation

To comply with fire code, concealed overhead fire doors would be installed at the openings between the Dining Room and adjacent ground floor and mezzanine rooms, and at the opening between the Dining Room and the Kitchen (Appendix B, Figure B-2). The overhead fire doors would be linked to the hotel alarm system installed as part of the 2010-2011 fire/life-safety project (see Appendix D: Cumulative Plans and Projects).

Elevators

Modifications to the service elevator would be made to achieve fire and accessibility code conformance by retaining the existing cab, replacing the existing service side pocket door and cage, and maintaining the existing tilt-up gurney. The service side cab door would be replaced with an automatic door to meet accessibility standards, and penetrations into the shaft would be sealed. The existing guest side gate and hoistway door would remain manual. The non-historic interior of the passenger elevator would be rehabilitated with materials compatible with the historic character.

The elevator shaft walls would be inspected for penetrations and discontinuities, and sealed where needed. Obsolete hoistway components and equipment that cannot be refurbished would be replaced. Elevator controls in both the service and passenger elevators would be upgraded to allow fire department recall to specific floors during an emergency.

Structural Fire Protection in Attic Spaces

Damaged fire proofing on the exposed steel in the attic spaces (primarily above guestrooms) would be replaced as necessary.

Vertical Shafts and Linen Facilities

Existing linen chute doors at guestroom floors would be retrofitted to comply with fire code.

Fire Department Access

The Ahwahnee Hotel

The existing fire department access surrounding the hotel would be upgraded to meet fire code specifications. Specifically, the existing turf-covered hardened base to the west and south of the hotel would be widened where necessary and lengthened on the east side of the hotel's South Wing in order to meet fire code requirements listed under the No Action Alternative, and to avoid damaging the hotel's historic concrete terraces (see Figure 2-7). No trees would be removed as part of this action.

The Ahwahnee Cottages

The existing unpaved fire department access road between the hotel parking area and the cottages, which currently varies from approximately 9 to 20 feet in width, would be modified to the code requirements listed in the No Action Alternative. The modification would include the access road and drainage crossings as described below.

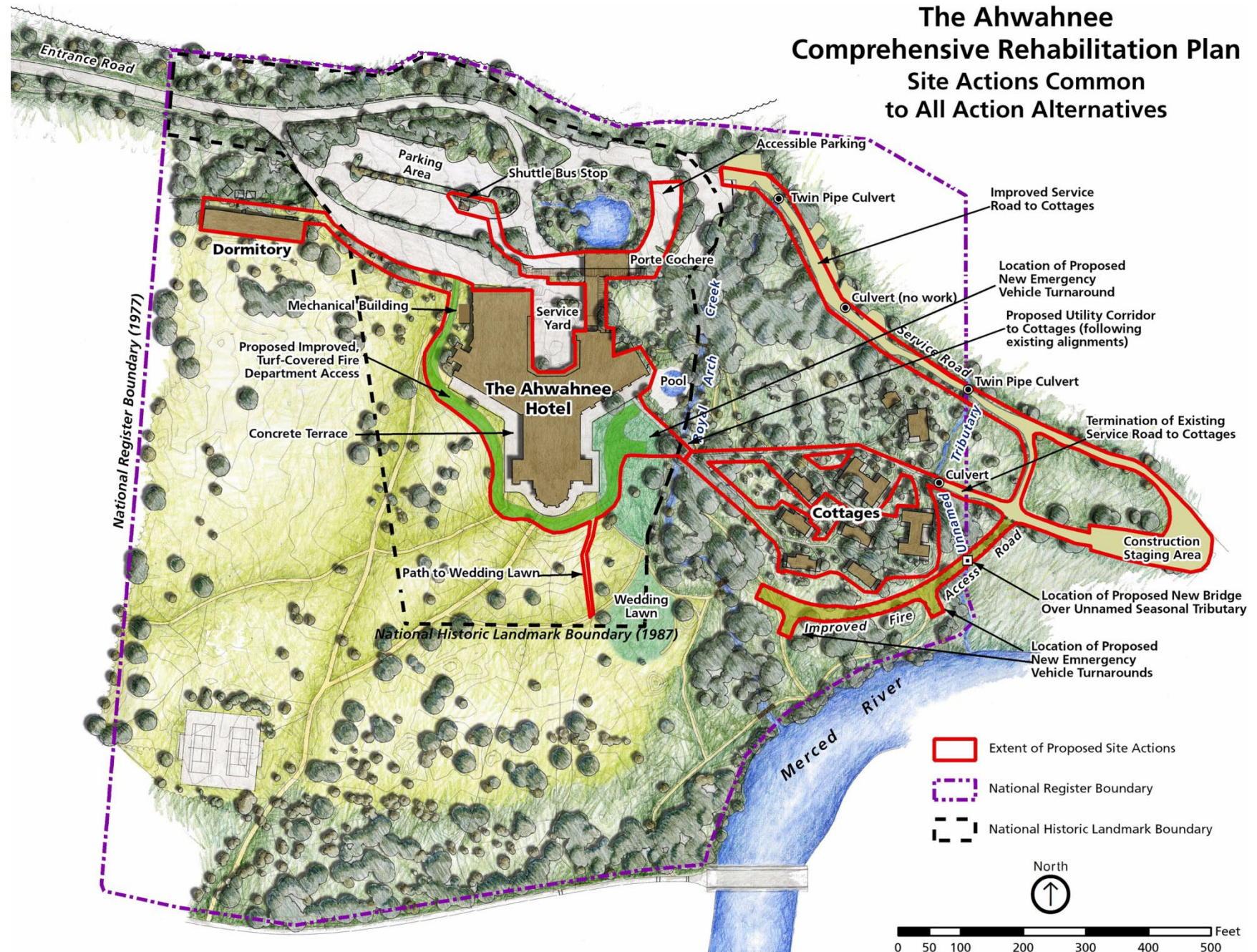


Figure 2-7 Site Actions Common to All Action Alternatives

Access Road

The existing fire access road (see Figure 2-7) would be graded, resurfaced with gravel, and widened where necessary to meet the code-required 16-foot road width. Several small cedars that abut the road may be removed to meet road width requirements. In addition, trees lining the road would be limbed to comply with vertical clearance requirements for fire truck access.

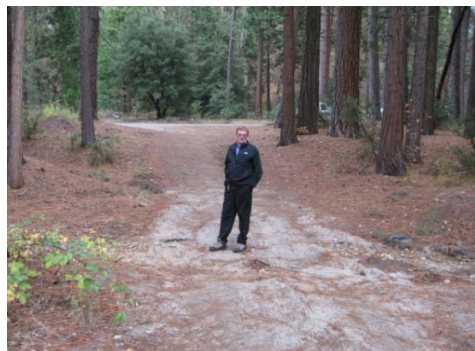
To comply with fire code regarding the maximum distance between structures and fire access roads, the existing access road would be extended south of the cottages along the alignment of an existing, unmaintained service road. The unmaintained dirt service road provides the only access to the southern and western side of the cottage area and it is the only means to access existing fire hydrants in that area. However, this unmaintained service road is not compliant with fire code requirements for width, surfacing, drainage crossings, and turnarounds. Therefore, the service road would be graded, graveled, and widened to a compliant 16-foot width where necessary.

With the extension of the fire access road, the distance between the road and the cottages would still exceed the standard allowable distance between the structures and fire truck access; however, a related action to install sprinklers at the cottages (see ‘fire protection systems’, below) would allow for a code variance permitting additional distance between the road and structures. Because this fire department access road extension would dead-end more than 300 feet from the nearest vehicle turnaround, a new, gravel-surfaced turnaround would be constructed in a previously disturbed area. No trees would be removed as a result of these actions; however, some trees may be limbed to comply with vertical clearance requirements for fire truck access.

Drainage Crossings

The existing access road utilizes five culverts at drainage crossings (see Figure 2-7); the National Park Service would investigate during design whether the existing culverts would need to be modified or replaced to meet fire code requirements for road width and load weight.

The extension of the formal fire department access road to the south of the cottages would require a new drainage crossing on an unnamed seasonal tributary. Currently, the unmaintained service road crosses a braided segment of the seasonal tributary to the Merced River via a hardened earth low water crossing. Low water crossings are not compliant with fire code, as drainage crossings must be all weather, and emergency vehicles and firefighters may not be subject to passing through water, ice, or soft roadbeds.



Low water crossing at the unnamed seasonal tributary near The Ahwahnee cottages. DNC Photo

The National Park Service has determined a bridge is required to allow emergency vehicles and personnel to access the cottages in a code-compliant manner. The bridge would meet the width and load requirements for fire department access noted above. The span and abutment placement would be determined by hydrologists and engineers during design development, with the span and profile minimized to the extent feasible. The bridge would be designed to accommodate the braided flow channel on this tributary in order to minimize impacts to hydrologic function and free-flowing condition. The bridge abutments would be constructed outside of the ordinary high water mark and in accordance with U.S. Army Corps of Engineers and California Regional Water Quality Control Board permit stipulations. Best Management Practices (Appendix E) would be used to ensure construction activities do not affect water turbidity, temperature, or nutrient

availability. The bridge would also be designed to be compatible with the character of the cultural landscape.

Fire Protection Systems

Ahwahnee Cottages

As noted in the No Action Alternative, fire alarm and sprinkler systems are not specifically required by fire code for the cottages, as the guestrooms have exterior exit access directly to the ground floor. However, based on issues encountered during inspections, a fire alarm system is required by the fire marshal to provide a reliable means of notifying guests during a smoke condition. In addition, the battery powered smoke detectors at the cottages would be replaced with hard-wired detectors and carbon monoxide detection units would be provided where gas flame appliances or burning of solid fuel (e.g., fireplaces, wood stoves) are present.

The requirement for installation of automatic sprinkler protection for the cottages is based on the inability to provide fire department access within the standard distances allowed. Sprinklering the cottages would allow for a code variance from the park fire marshal to allow additional distance between the fire department access road and the cottages. Therefore, fire sprinkler, detection and alarm systems would be provided at each cottage unit in accordance with fire marshal determinations.

Ahwahnee Dormitory

Fire sprinkler, detection, and alarm systems would be provided in accordance with fire code.

Electrical Systems

Code compliance issues with the existing electrical systems would be addressed by providing the following:

Grounding

The hotel electrical system would be grounded through installation of new electrical equipment in the switchgear and generator room. The new equipment would be bonded to grounding elements such as building steel, cold water piping, and grounding wires placed underground.

Short-circuit Protection

Protection would be achieved at the distribution board and panelboard level, by upgrading circuit breakers and the distribution system to isolate faults and avoid further damage to the entire electrical system.

Seismic Safety Recommended Practice and Structural Strengthening

Dining Room

The Dining Room would be braced to existing concrete walls and the stone columns in the Dining Room would be interconnected through a system of concrete caps and tie beams at the tops of the columns. Safety glazing that meets seismic life-safety requirements would be installed on windows over 16 square feet in the Dining Room and Solarium without altering the original window frame profile. The Dining Room roof trusses would be strengthened at the existing historic steel splice plate connections, and new snowmelt and retention capability would be provided at the roof.

Kitchen Floor

The existing kitchen equipment, kitchen floor finishes and drains, and deteriorated, structurally unsound sections of floor slab would be removed and a new raised reinforced slab installed. This action would be performed in conjunction with the seismic upgrades needed for the Dining Room. The existing floor would be replaced with waterproofing substrate, flooring, and a base that complies with health and safety codes.

The kitchen equipment and electrical equipment would be moved to temporary storage during construction, and a temporary kitchen would be provided on the hotel grounds if construction occurred while the hotel remained open.

Stone Chimneys (Cottages)

Blocking and strapping would be installed in attic spaces to brace the stone chimneys at the cottages.

South Wing Interior Walls

Two-story walls at the two Great Lounge fireplaces would be braced to the building structure with strong backing at selected locations.

Accessibility Compliance

To address ADA-ABA code deficiencies, the following would be provided:

Employee Facilities

Due to the proposed structural strengthening actions to brace the Dining Room, new space would be available for service support programs at the new Kitchen south mezzanine. This space would be used in part to provide fully accessible employee locker rooms and offices.

As a result of this new service use at the Kitchen mezzanine level, an accessible path of travel to the service elevator would be required. Accordingly, the existing non-compliant door configuration at the North Mezzanine exit stair would be altered for ADA-ABA compliance.

Improvements to The Ahwahnee back bar and prep kitchen would include improved ADA accessibility to the workstation.

Parking and Paths of Travel

The number of existing accessible parking spaces at the hotel would be increased to seven within the existing paved area in order to meet ADA-ABA requirements. In addition, the path of travel between the parking area and the hotel would be improved and better delineated per ADA-ABA requirements.

The path of travel between the hotel and wedding lawn would be improved. The existing dirt path would be leveled and hardened with a permeable, resin surface to meet accessibility requirements. In addition, the existing paved path of travel to all of the cottages would be rehabilitated and improved to meet ADA-ABA requirements (this action would be coordinated with the installation of utilities beneath the pathway; see 'Operations' below).

Historic Rehabilitation

Please see Appendix C for a description of significance, historic integrity, and condition classifications of features and spaces at The Ahwahnee. Based on the results of the evaluation presented in Appendix C, rehabilitation actions under all action alternatives would include the following:

- Rehabilitate or stabilize historic features with a ‘poor’ condition rating. This would include boiler and mechanical rooms in the hotel basement, concrete paving at the east and west terraces of the hotel, some hotel balconies, patios at the guest cottages, and maintenance building interiors;
- Preserve or rehabilitate Very Significant and Significant spaces in fair condition, including hotel windows, balconies, stained concrete walls and other exterior features; the hotel Registration Lobby finishes and registration desks; public use areas on the ground floor (e.g., Elevator Lobby, Solarium, Mural Room, Winter Club Room, Under Lounge, Great Lounge) and mezzanine level (i.e., Colonial Room, Tudor Lounge, Tresidder Room, Women’s Lounge); several hotel balconies; the sixth floor library and sun porch; and several interior and exterior features at the cottages;
- Perform rehabilitation work associated directly with actions that would affect the historic fabric or features in the hotel and cottages, such as restoring stenciling or restoring the original stained concrete floors.

Operational Efficiency

‘Back of House’ Facilities

As a result of the structural strengthening proposed to brace the Dining Room and the associated work in the Kitchen, there will be new square footage available for ‘back of house’ facilities at the new Kitchen mezzanine. New, accessible men’s and women’s locker rooms and an employee break room that meet ADA-ABA requirements would be provided on the new south mezzanine in the Kitchen.

As noted under ‘Accessibility’ above, an accessible path of travel to the service elevator is required at the mezzanine level to accommodate new employee facilities. Accordingly, the existing non-compliant door configuration at the North Mezzanine exit stair would be altered for ADA-ABA compliance.

Administrative Offices

To address accessibility and visitor experience issues with the public restrooms on the ground floor, administrative offices would be relocated to the Gift Shop mezzanine level to maintain adjacency to the front desk. New facilities at the new Kitchen mezzanine level would be four feet lower than the adjacent Gift Shop mezzanine level; the new employee facilities in this area would require a new wheelchair lift in order to comply with ADA-ABA accessibility requirements.

Utilities

A consolidated utility corridor from the hotel to the cottages would be installed following existing circulation paths to the extent possible (Figure 2-7), branching into separate conveyances in the cottage vicinity, with a separate utility corridor running to each cottage. Further design will dictate the exact route and distribution points. The route would require crossing Royal Arch Creek, a Merced River tributary. It is anticipated that utilities would be suspended from underneath the existing footbridge.

Dining Room

The service bar and its non-historic detailing at the Dining Room would be removed and the historic wainscoting restored. The bar would be replaced with an accessible portable bar and an accessible back bar.

Visitor Experience and Visitor Services

Sweet Shop

The vinyl composition tiles would be removed to expose and restore the original stained concrete floors. In addition, the wall and ceiling finishes would be restored. The existing Sweet Shop configuration would be retained.

Hotel Heating, Ventilation, and Air Conditioning (HVAC) Systems

In addition to HVAC items addressed under fire/life-safety compliance, above, HVAC systems at the hotel would be upgraded and/or modified as follows:

Ahwahnee Bar

The existing steam heating air handling unit would be replaced with a new hot water heating and chilled water cooling air handling unit. Ductwork, insulation, and grills would be replaced.

Gift Shop

The existing air handling unit would be replaced.

Sweet Shop

The existing fan coil unit would be replaced with a new fan coil unit in the basement; ductwork would be routed through an existing storage closet.

Registration Lobby

New fan coil units for air conditioning would be installed.

Kitchen

The existing in-window air conditioners would be replaced with new fan coil units for air conditioning.

Dining Room

The air handling unit serving the Dining Room would be replaced, and a new mechanical room with adequate space for access and maintenance would be provided.

Cottage HVAC Systems

The temporary HVAC systems at the cottages including concrete pads would be removed. A concealed split system of heat pumps and condensers would be provided for heating and cooling. Chilled water and hot water from the hotel central plant would be provided at concealed four-pipe fan coil units. Electrical bathroom heaters in guest bathrooms would be replaced with more efficient units, and toilet exhaust fans at the cottages would be replaced.

Energy Efficiency and Sustainability

Insulation

Rigid (foam) insulation would be attached to the underside of the roof assembly in attic spaces, where feasible. Waterproof insulation would be attached or adhered to the underside of the concrete slab in crawl spaces, where feasible. Additional insulation would be provided at refrigerator doors in the Kitchen.

The domestic hot water piping system would be insulated in locations where it is currently accessible or where it would be accessible during implementation of other proposed actions. Additionally, weather stripping would be provided at existing wall accessories and penetrations (e.g., outlets, fixtures) and around doors where it is currently deteriorated or missing.

Windows and Doors

The energy efficiency of windows and doors at the hotel would be improved as follows:

- Non-historic aluminum guestroom windows at the hotel would be replaced with historically compatible wood-framed casement windows with double-paned insulated, low-emissivity (low-e) glass.
- The condition of ground floor windows, frames, and doors would be surveyed, evaluated, and assessed. Caulking would be evaluated, and if necessary, carefully replaced at windows and trims.
- Where necessary, doors or door elements would be replaced in-kind.

Cooling Systems

The existing chiller and cooling tower at the hotel would be replaced with high efficiency equipment that uses a non-HCFC refrigerant. A new chiller room would be provided in a reconfigured area of the Kitchen. Guestrooms at the hotel would be provided with new fan coil units to replace older, less efficient units. The new unit would be sized to provide cooling to the hotel, cottages, and dormitory.

Electrical Systems

In addition to proposed actions under ‘Fire/Life-Safety Compliance – Electrical Systems,’ the electrical equipment at the hotel would be upgraded as follows:

- Existing transformers would be replaced with new high-efficiency transformers in their existing locations.
- The backup generator, main switchgear, and related automatic transfer switches would be replaced.
- Per electric code, new transfer switches would be provided in a reconfigured the emergency generator room (the location of which may vary by alternative); the switch will supply, distribute, and control power and illumination essential for safety to human life (e.g., egress pathways and exit signs).
- Existing obsolete equipment (e.g., kitchen appliances) would be replaced with Energy Star/EPA Watersense equipment.

Plumbing Systems

New low-flow plumbing fixtures would be provided in all new installations, including the new employee locker rooms and new public restrooms. Guestroom fixtures would be replaced at the

hotel and cottages. Fixtures at the Kitchen, guest bathrooms, and dormitory bathrooms would be replaced with water conserving fixtures. Specifically:

- Guestroom showerheads would be replaced with low-flow showerheads.
- Guestroom and public faucet aerators would be replaced with low-flow aerators.
- Employee showerheads and faucets would be replaced with low-flow fixtures.
- Kitchen dishwashing equipment would be replaced with a combination of water efficient sprayers and a higher efficiency dishwasher.

In addition, the aged sanitary system piping would be removed and replaced with new PVC piping throughout the hotel. The condition of vent piping would be evaluated and replaced as needed.

Alternative 1

Overview

Alternative 1 comprises actions provided in the Actions Common to All Action Alternatives plus additional actions to meet the purpose and need objectives identified in Chapter 1 with minimally invasive measures. This alternative would rely on code waivers and operational management wherever possible to meet project goals. Alternative 1 would maintain current program spaces to the extent practicable, for both operational efficiency and to improve visitor experience, while meeting minimum safety code requirements.

Alternative 1 also proposes historic rehabilitation of historic fabric and features throughout the hotel and cottages that are rated in *The Ahwahnee Historic Structures Report* (ARG 2011) as being in “poor” condition, and historic fabric and features rated as being in “fair” condition in the Significant and Very Significant spaces. The energy efficiency elements of this alternative would implement measures that affect the building and historic fabric only where other work is occurring or where there otherwise would be no impact on the historic resource.

For a summary of the work proposed under Alternative 1, please see Table 2-1. For the locations of actions within the hotel, please see Figures 2-1 through 2-6. A detailed depiction of proposed major work items is included as Appendix B.

Fire/Life-Safety Compliance

In addition to the Actions Common to All Action Alternatives, Alternative 1 would implement the following to address fire/life-safety deficiencies:

Egress

The existing single means of egress would remain at the South Mezzanine. The South Mezzanine meeting rooms (Tresidder Lounge, Colonial Room, and Tudor Room) would remain closed to public use. The Colonial Room and Tudor Lounge could be used for employee meetings with up to 30 park or concessioner staff. Due to travel distance exceedances, the Tresidder Room would remain closed to all uses.

The non-compliant spiral stairway egress from the second floor at the East Wing would be removed and a new interior stairway constructed from the second floor to the mezzanine level. A new code-compliant interior exterior stairway would be constructed from the mezzanine level to the ground floor (Appendix B, Figure B-1). Additional actions associated with this stairway would include reconfiguration of the Ahwahnee Bar, on the ground floor of the East Wing (see ‘Visitor Experience’, below), and the addition of two accessible guest suites, one of which would have an accessible balcony (see ‘Accessibility Compliance’, below).

Vertical Shafts and Linen Facilities

Compliance with fire code at guestroom mechanical shafts would be addressed by properly sealing the bottom of shafts, providing a fire damper or ducted boot at each toilet exhaust grille at the main exhaust shaft, and repairing ductwork in the attic spaces.

A two-hour wall assembly surrounding the Linen Room and a new rated door to the Linen Room would be installed to meet fire separation requirements.

Fire Department Access

Hotel locks would be re-keyed to a new master key system in order to provide more efficient access for emergency personnel.

Electrical Systems

Code compliance issues with the existing electrical systems would be addressed by providing the following:

- **Distribution panels:** The floor of the existing main switchboard and generator room would be raised above grade to avoid flooding damage during heavy spring runoff or during heavy rains. Waterproofing at the basement distribution room would be upgraded, and a new sump pump would be installed to prevent water from entering the room.
- **Conduit Raceways:** Corroded conduit feeders under the Kitchen would be replaced with material suitable for wet conditions.

Ventilation and Exhaust Systems

Code compliance issues with the existing ventilation and exhaust systems at The Ahwahnee would be addressed by providing the following:

- **Guestrooms:** Natural ventilation, through operable windows, would remain.
- **Guestroom Corridors:** The existing ventilation system (fans, ductwork, etc.) would be refurbished. Code-compliant make-up air with fire smoke dampers would be provided at each level.
- **Guest Bathrooms:** Code-compliance issues with ventilation would be addressed by providing fire dampers or sub ducts at each toilet exhaust grille and repairing or refurbishing existing toilet exhaust fans.
- **Electrical Room and Elevator Penthouse:** Ventilation and cooling systems would be provided to the existing electrical rooms. A chilled-water fan coil unit would be provided for the elevator machine room.

Seismic Safety Recommended Practice and Structural Strengthening

In addition to the Actions Common to All Action Alternatives, Alternative 1 would provide the following to address seismic safety and/or structural strengthening issues:

Dining Room

The Dining Room would be braced in the north-south direction to a new minimally-sized mezzanine on the south side of the Kitchen. The mezzanine would include a deck that would meet cleanable ceiling code requirement over cooking areas, minimize the reconfiguration of the North Mezzanine area, and accommodate employee accessibility needs. This action would require new foundations in the Kitchen crawl space, a new partial floor slab, and an elevated slab above the Kitchen (Appendix B, Figure B-3).

Stone Chimneys

Stone chimneys at the hotel would be reinforced with an exterior collar strap and guy wires anchored to the roof structure.

South Wing Interior Walls

Because it is not required for life-safety under recommended industry practice, no work would be performed to address the potential seismic damage from lack of shear walls at the Great Lounge.

Exterior Walls

Stainless steel pins would be inserted at the mortar joints to anchor the historic exterior granite veneer above egress paths.

Porte Cochere

No work would be done to stiffen the entry walkway and Porte Cochere to reduce the potential for damage during a ground shaking event.

Mechanical, Electrical, and Plumbing Equipment

No work would be done to anchor or brace existing mechanical, electrical, or plumbing equipment.

Accessibility Compliance

In addition to the Actions Common to All Action Alternatives, Alternative 1 would provide the following to address ADA-ABA code deficiencies:

Main Entry and Ground Floor Entrances

Per a previously approved code variance, the main entry to the hotel would not be provided with an electronic assist option. The existing hardware and thresholds at selected ground floor entrances/exits would be provided with reversible ramps and compliant hardware.

South Mezzanine Meeting Rooms

A limited use-limited access elevator would be installed in an existing storage closet area at the Solarium in order to provide access to the South Mezzanine meeting rooms to comply with federal ADA-ABA standards. The beam and slab at the ground floor would be modified below the elevator to install a suspended pit structure, and the elevator would be concealed within the walls of the existing floor plan. The existing stair to the South Mezzanine would be re-configured, retaining the water feature at the Solarium (Appendix B, Figure B-4).

Registration Lobby

The existing hotel registration area would be modified to meet current ADA-ABA standards. Specifically, the existing drop-down counter at the historic registration desk would be modified to allow for accessible check-in. In addition, the non-historic concierge counter would be removed and replaced with furnishings and a desk for concierge service.

Restrooms

The public men's restroom on the ground floor would remain as-is, and an accessible unisex restroom would be added on the ground floor. The women's public restroom on the mezzanine level would be expanded to increase fixture count and maintain the current level of accessibility.

Guestrooms

Alternative 1 would add two accessible guestrooms to the hotel as required per ADA-ABA code. In conjunction with replacing the East Wing spiral stair, East Wing guestrooms #106 and #107 would be combined into one accessible suite with a new accessible terrace constructed over the new Ahwahnee Bar kitchen (Appendix B, Figure B-5).

Similarly, East Wing guestrooms #206 and #207 also would be combined into one accessible suite on the second floor (Appendix B, Figure B-5).

Employee Facilities

Improvements to the service areas in the new Ahwahnee Bar kitchen would meet accessibility requirements.

Historic Rehabilitation

Historic rehabilitation actions under Alternative 1 would be the same as those in the ‘Actions Common to All Action Alternatives’ section.

Operational Efficiency

In addition to the Actions Common to All Action Alternatives, Alternative 1 would provide the following to address operational efficiency:

Kitchen Facilities

The existing equipment at the Kitchen would be removed to implement the work proposed in the Kitchen area for compliance with fire/life-safety codes, seismic and structural standards, and accessibility requirements. The reinstallation of kitchen equipment would need to meet current mechanical, electric, and plumbing codes, health codes, and ADA-ABA accessibility standards. Under Alternative 1, a new more efficient layout with code-compliant features (e.g., health code-required sanitary wall, floor and ceiling finishes) would be provided. Existing equipment in the north Kitchen area would be retained and reused when possible.

The electrical systems that support the Kitchen would be upgraded to a 480-volt system using electrical panels located in a dedicated room within the Kitchen wing.

The existing exhaust fans and the make-up, heating, and ventilation air handling units would be refurbished, modified, and reused as much as possible in the new Kitchen layout. The hot water propane boiler would be reused.

‘Back of House’ Facilities

In addition to the new ‘back of house’ facilities in the new Kitchen mezzanine in Actions Common to All Action Alternatives, new banquet/chef offices would be located in the new Kitchen mezzanine in approximately the same square footage as the existing facility. Laundry facilities would be reorganized in their current location, and mechanical rooms would remain in their existing locations.

Porte Cochere and Maintenance Shed

Under Alternative 1, no work would be done to the existing maintenance shed adjacent to the Porte Cochere and entry walkway. Vertical clearance at the Porte Cochere would remain 11.5 feet.

Electrical Systems

The existing main point of entry (MPOE) for the telecommunications services at the hotel would be retained at its existing location.

New electrical equipment (e.g., outlets and lighting) at The Ahwahnee dormitory would be updated where rehabilitation work is proposed.

Mechanical and Plumbing Systems

The existing central mechanical/electrical/plumbing pneumatic control system would be replaced with an electronic (direct digital control, or DDC) system to monitor, control, and optimize operation of major heating, ventilation, and air conditioning systems, as well as critical operation of electrical and plumbing systems.

Deteriorated pressure-reducing valves would be replaced where feasible. An upgraded, re-circulating domestic hot water system would be provided at guestrooms.

Visitor Experience and Visitor Services

In addition to what is provided under the Actions Common to All Action Alternatives, under Alternative 1 the following elements of visitor service and related visitor experience would be improved:

Registration Lobby and Arrival Experience

As noted under ‘Accessibility Compliance’ above, Alternative 1 would remove the non-historic concierge desk and a new, accessible and portable concierge desk would be provided at the Registration Lobby. An accessible check-in would be provided at the existing manager’s office across the hall from the concierge desk and lounge area.

The lounge area would be refurnished with furnishings compatible with the historic character of the hotel. In addition, the Very Significant stained concrete and rubber tile floors at the Registration Lobby would be rehabilitated.

Ahwahnee Bar

The non-historic addition at the east wall of the Ahwahnee Bar would be removed in conjunction with addressing egress from the East Wing (i.e., where the non-compliant spiral stairway egress from the second floor would be removed and a new interior stairway constructed from the second floor to the mezzanine level). The non-historic bar and food prep areas would be relocated and replaced with accessible facilities on the north end of the room. Glazing would be added at the east wall to bring in light.

Energy Efficiency and Sustainability

In addition to the Actions Common to All Action Alternatives, Alternative 1 would provide the following energy efficiency and/or sustainability measures:

Heating Systems

The hotel heating system would be improved as follows:

- The existing steam boilers at the hotel would be replaced with new high-efficiency steam boilers at their current location.

- All steam piping in the hotel would be replaced.
- Domestic hot water piping would be insulated.
- Existing steam radiators at the hotel would be reused, repaired, or refurbished as needed.
- The existing heat exchangers for domestic hot water and pool heating hot water would be retained.
- An area would be provided for above grade pool chemical storage, separate from the boiler room. The number of outdoor air louvers at the boiler room would be increased for code compliance.
- The existing domestic hot water storage tanks would be replaced with new insulated hot water storage tanks.
- The existing heat condensate loop would be closed.

Cooling Systems

The once-through cooling at the kitchen refrigerators would be eliminated and replaced with more energy-efficient cooling (i.e., air cooling).

Electrical Systems

In addition to proposed actions under ‘Fire/Life-Safety Compliance – Electrical Systems,’ the electrical equipment at the hotel would be upgraded as follows:

- The 208-volt and 480-volt systems would remain separate. Electrical equipment would be located in a modified electrical room on the north side of the Kitchen.
- The basement electrical room would remain in its current location. New ventilation systems would be provided to the existing basement electrical room and the ground floor emergency generator room.
- Per electric code, a new transfer switch would be provided in the new generator room for legally required standby systems. The switch would supply, distribute, and control power and illumination to required facilities (e.g., elevators, air conditioning and hot water circulation pumps) for both illumination and power.

Lighting

Historic lighting fixtures in public ground floor spaces would be refurbished. Exterior lighting fixtures would be modified to incorporate LED technology in conjunction with guidance provided in *Yosemite National Park Lighting Guidelines*. Interior lighting would incorporate LED technology to minimize electric loads.

Plumbing Systems

New low-flow plumbing fixtures would be provided in all new installations, including the new employee locker rooms and new public restrooms. Guestroom fixtures would be replaced at the hotel and cottages. Fixtures at the Kitchen, guest bathrooms, and dormitory bathrooms would be replaced with water conserving fixtures. Specifically:

- Guestroom toilets flush valves would be replaced with a low-flush model.
- Public restroom toilet flush valves would be replaced with a low-flush model. Urinals would be replaced with a low-flush model.

In addition, the aged sanitary system piping would be removed and replaced with new PVC piping throughout the hotel. The condition of vent piping would be evaluated and replaced as needed.

Estimated Cost and Construction Schedule

The net construction cost of Alternative 1, based on 50% schematic design (Hornberger+Worstell 2010b), is approximately \$45 million. However, actual costs of implementing projects within this plan would depend on funding availability. Prioritization criteria have been developed to inform the construction phasing strategy for long-term implementation of the Comprehensive Rehabilitation Plan based on correcting urgent deficiencies, critical deficiencies, and necessary corrections and taking into consideration the interdependency of actions based on proximity, operational logistics, or related structural or functional actions.

The cost estimate is based on the assumption that The Ahwahnee would be closed for approximately 24 months to implement the proposed work. However, this assumption was made for costing purposes only. Ultimately, the time needed to implement this alternative may be up to 20 years, depending on the availability of funding.

Alternative 2

Overview

Alternative 2 would address fire and life-safety, seismic, structural, and accessibility code and standard deficiencies using more substantive code compliance, and would exceed the basic seismic safety requirements for federal buildings while providing a higher degree of historic rehabilitation and operational improvements than Alternative 1. Alternative 2 would also reorganize the space program in areas already affected by proposed actions to facilitate best operational practices. The visitor experience would be substantially improved as well with designs that are compatible with the historic character of the spaces affected.

Like Alternative 1, Alternative 2 proposes historic rehabilitation of features throughout the hotel and cottages that are rated in *The Ahwahnee Historic Structures Report* (ARG 2011) as being in “poor” condition and rehabilitation of historic fabric and features in “fair” condition in historically Very Significant and Significant spaces. In addition, Alternative 2 includes implementation of non-maintenance treatment recommendations from *The Ahwahnee Historic Structures Report* (ARG 2011) in “contributing” and “historic utilitarian” spaces.

An additional goal of Alternative 2 is to improve energy and water-use efficiency by using measures that would have minimal impact on the building and site.

For a summary of the work proposed under Alternative 2, please see Table 2-1. For the locations of actions, please see Figures 2-1 through 2-6. A detailed depiction of proposed major work items is included as Appendix B.

Fire/Life-Safety Compliance

In addition to the Actions Common to All Action Alternatives, Alternative 2 would implement the following to address fire/life-safety deficiencies:

Egress

A new exterior exit would be constructed at the South Mezzanine in the Tresidder Room in order to meet fire code egress requirements. The path of egress would require constructing a new exterior door at the north side of the Tresidder Room to access an existing exterior stairway from the second floor to the ground floor on the south side of the hotel (Appendix B, Figure B-6).

At the East Wing, the non-compliant spiral stairway egress from the second floor would be modified to join a new landing on the mezzanine level. The non-compliant fire escape below the mezzanine level would be removed, and a new compliant exterior stairway constructed from the mezzanine landing to the ground floor (Appendix B, Figure B-7). Additional actions associated with this stairway include reconfiguration of the Ahwahnee Bar (see ‘Visitor Experience’, below) and the addition of one accessible guest suite with an accessible balcony (see ‘Accessibility Compliance’, below).

Vertical Shafts and Linen Facilities

Compliance with fire code at the guestroom shafts would be addressed by providing a new metal fully ducted system, properly sealing the bottom of shafts, and installing wood-blocking or fire-safing at all floor penetrations.

The linen room would be expanded and its fire rating would be improved to code; the vertical chutes would have new intakes doors and improved fire resistance between floors and public areas.

Fire Department Access

Under Alternative 2, new electronic key card devices would be provided in existing doors to simplify access for emergency personnel. The key card devices would be compatible with historic character.

Electrical Systems

Code compliance issues with the existing electrical system at the hotel would be addressed by providing the following:

- **Distribution panels:** The floor of the existing main switchboard and generator room would be raised above grade to avoid flooding damage during heavy spring runoff or during heavy rains. The basement distribution room would be relocated to a more central location on the first floor, on the north side of the reconfigured Kitchen (see 'Kitchen' under 'Seismic Safety', below). Waterproofing at the basement room would be upgraded and a new generator installed.
- **Conduits/ Raceways:** Corroded conduit feeders under the Kitchen would be replaced with material suitable for wet conditions. In addition, where it is accessible or in conjunction with other work performed under this plan, old cloth-wrapped wiring would be abandoned and replaced with code-compliant metal-clad cable.

Ventilation and Exhaust Systems

Code compliance issues with the existing ventilation and exhaust systems at The Ahwahnee would be addressed by providing the following:

- **Guestrooms:** A new mechanical ventilation system, including shafts, ductwork, dampers, and outside air grille would be provided.
- **Guestroom Corridors:** A new corridor ventilation system would be provided.
- **Guest Bathrooms:** Fire dampers or sub ducts at each toilet exhaust grille and new toilet exhaust fans would be provided.
- **Electrical Room and Elevator Penthouse:** Ventilation and cooling systems would be provided to the existing and new electrical rooms. A permanent cooling system would be provided at the elevator penthouse with an exterior vent through an existing window opening.
- **Public and Employee Spaces:** New exhaust and make-up air systems would be provided at public restrooms, Ahwahnee dormitory restrooms, and linen rooms.

Seismic Safety Recommended Practice and Structural Strengthening

In addition to the Actions Common to All Action Alternatives, Alternative 2 would provide the following to address seismic safety and/or structural strengthening issues:

Dining Room

The Dining Room would be braced in the north-south direction to a brace frame in the Kitchen. The brace frame would have a diaphragm that would comprise a new partial mezzanine on the south side of the Kitchen with a deck that would meet cleanable ceiling code requirement over cooking areas and accommodate employee accessibility needs. This action would require new

foundations in the Kitchen crawl space, a new partial floor slab, and an elevated slab above the Kitchen (Appendix B, Figure B-8) (see ‘Kitchen Floor’ below).

Stone Chimneys

Stone chimneys at the hotel would be reinforced with interior core steel bracing and a concrete collar in the attic, at the base of the stone veneer.

South Wing Interior Walls

Four concrete shear walls would be installed in the interstitial space of existing walls at the Elevator Lobby and Solarium to help mitigate damage to Very Significant historic features in the Great Lounge, Solarium, and Elevator Lobby in the event of a 2,500-year earthquake.

Exterior Walls

Stainless steel pins would be inserted through the mortar joints to anchor the exterior granite veneer throughout the building. This work would exceed code requirements.

Porte Cochere

The entry walkway and the Porte Cochere would be stiffened by tying them to an adjacent, reconstructed maintenance shed (see “Operational Efficiency, Maintenance Shed”, below).

Mechanical, Electrical, and Plumbing Equipment

Mechanical, electrical, and plumbing equipment would be anchored, braced, or strengthened, including: elevator equipment, boilers, electrical transformers, fire sprinkler piping, kitchen and food service equipment, emergency lighting and power systems, HVAC equipment, fuel tanks, and laundry equipment. This work would exceed seismic standard requirements.

Accessibility Compliance

In addition to the Actions Common to All Action Alternatives, Alternative 2 would provide the following to address ADA-ABA code deficiencies:

Main Entry and Ground Floor Entrances

The main entry to the hotel would be provided with automatic door openers and compliant thresholds. The existing hardware and thresholds at other selected ground floor entrances/exits would be provided with reversible ramps and compliant door hardware.

South Mezzanine Meeting Rooms

A limited use-limited access elevator would be installed between the Solarium and the Under Lounge to provide access to the South Mezzanine meeting rooms in order to comply with federal ADA-ABA standards. The beam and slab at the ground floor would be modified below the elevator to install a suspended pit structure. Portions of the existing walls and structure would be removed and the structure altered to accommodate the new elevator and elevator enclosure. This action would coincide with shear wall installation in the Elevator Lobby and Solarium (Appendix B, Figure B-9).

Registration Lobby

The existing hotel registration area would be modified to meet current ADA-ABA standards. Specifically, the non-historic concierge counter would be removed and replaced with furnishings and a desk for accessible concierge service and accessible check-in.

Restrooms

The public men's restroom on the ground floor would be provided with extra fixtures. The women's public restroom on the mezzanine level would be retained, and a new accessible women's public restroom would be provided on the ground floor.

Guestrooms

Alternative 2 would add two accessible guestrooms to the hotel as required per ADA-ABA code. In conjunction with replacing the East Wing spiral stair, East Wing guestrooms #106 and #107 would be combined into one accessible suite with a new accessible terrace constructed over the new Ahwahnee Bar kitchen (Appendix B, Figure B-5).

In addition, a standard guestroom on the fourth floor (#450) would be converted into an accessible standard guestroom.

Historic Rehabilitation

Please see Appendix C for a description of significance, historic integrity, and condition classifications of features and spaces at The Ahwahnee. Based on the results of the evaluation presented in Appendix C, in addition to Actions Common to All Action Alternatives, Alternative 2 would implement non-maintenance treatment recommendations at the hotel and cottages as detailed in *The Ahwahnee Historic Structures Report* (ARG 2011) for features and/or fabric in Contributing and Historic Utilitarian spaces.

Operational Efficiency

In addition to the Actions Common to All Action Alternatives, Alternative 2 would provide the following to address operational efficiency:

Kitchen Facilities

The existing equipment at the Kitchen would be removed to implement the work proposed in the Kitchen area for compliance with fire/life-safety codes, seismic and structural standards, and accessibility requirements. The reinstallation of kitchen equipment would meet current mechanical, electric, and plumbing codes, health codes, and ADA-ABA accessibility standards. Under Alternative 2, a new more efficient layout with code-compliant features (e.g., health-code-required sanitary wall, floor and ceiling finishes) would be provided. Existing equipment would be replaced with Energy Star/EPA Watersense equipment. The existing north mezzanine would be removed and a new north mezzanine constructed. The existing historic cooler doors would be salvaged for installation on the new refrigerators.

The electrical systems that support the Kitchen would be upgraded to a 480-volt system using electrical panels located in a dedicated room within the Kitchen.

The existing kitchen exhaust fans and the make up, heating, and ventilation air handling units would be reused and relocated in the new Kitchen layout, if feasible. New ductwork and fans would be provided as necessary. In addition, new propane boilers would be provided.

‘Back of House’ Facilities

As a result of the structural strengthening proposed to brace the Dining Room (see ‘Seismic Safety Recommended Practice and Structural Strengthening’, above) and the associated work in the Kitchen, there will be new square footage available for ‘back of house’ facilities at the new Kitchen mezzanine. New, accessible men’s and women’s locker rooms and an employee break room would be provided that meet current ADA-ABA requirements and health code.

In addition, expanded banquet/chef offices would be located in the new Kitchen mezzanine. Laundry facilities would be reorganized in their current location, and mechanical rooms would be relocated to improve access for maintenance staff.

Porte Cochere and Maintenance Shed

Under Alternative 2, the existing non-historic maintenance shed would be removed and a new maintenance shed structure would be constructed that ties into and stiffens the Porte Cochere and entry walkway (see ‘Seismic Safety Recommended Practice and Structural Strengthening’, above). The historic entry walkway would be retained and preserved.

The new interior of the maintenance shed would include additional storage for the Gift Shop, a work area, enclosed garbage and recycling spaces, and an enlarged luggage and valet/bell desk. In addition, a unisex bathroom would be provided for public use off of the entry walkway.

The Porte Cochere would be raised to provide the 13.0-foot standard vehicle clearance needed for modern charter buses. In order to raise the vertical clearance, the Porte Cochere would be detached from the entry walkway and jacked from beneath the existing stone and wood columns to the new height, and new concrete bases would be installed under the existing columns. Accessible curb cuts would be provided as part of this action.

Electrical Systems

The existing main point of entry (MPOE) for the telecommunications services at the hotel would be relocated near the electrical service point within the footprint of the hotel in a location of sufficient size, consistent with the location of other utilities entering the building.

The electrical systems at The Ahwahnee dormitory would be fully upgraded to support the current load of the dormitory. Electrical equipment would remain in its existing locations. New or retrofitted equipment, including outlets, receptacles, and light switching would comply with current electric code and ADA-ABA requirements. In addition, new service from the hotel distribution system would be metered for maintenance and documentation purposes.

Mechanical and Plumbing Systems

The existing central mechanical/electrical/plumbing pneumatic control system would be replaced with an electronic direct digital control (DDC) system to monitor, control, and optimize operation of all heating, ventilation, and air conditioning (HVAC) systems, and critical operation of electrical and plumbing systems. This would allow the shutdown of HVAC and lighting systems at sections of the building that are unoccupied.

Deteriorated pressure-reducing valves would be replaced where feasible, recirculating hot water would be provided at guestrooms, and all remaining galvanized steel piping would be replaced with Aquapex®.

Visitor Experience and Visitor Services

In addition to what is provided under the Actions Common to All Action Alternatives, under Alternative 2 the following elements of visitor service and related visitor experience would be improved:

Registration Lobby and Arrival Experience

As noted under ‘Accessibility Compliance’ above, Alternative 2 would remove the non-historic concierge desk and a new, accessible and portable concierge desk and check-in would be provided at the Registration Lobby.

The lounge area would be refurnished with furnishings compatible with the historic character of the hotel. In addition, the Very Significant stained concrete and rubber tile floor at the Registration Lobby would be rehabilitated.

Ahwahnee Bar

Non-historic additions at the Ahwahnee Bar would be removed. In conjunction with addressing egress from the East Wing (i.e., where the non-compliant spiral stairway egress from the second floor would be removed and a new exterior stairway constructed), the non-historic bar and kitchen prep areas would be relocated and replaced with accessible facilities on the east end of the room. On the north wall, wood-framed glass consistent with the historic character of the hotel would be installed to restore views, improve the sense of arrival at the Porte Cochere and entry gallery, and introduce more natural light into this space.

Hotel Heating, Ventilation, and Air Conditioning (HVAC) Systems

In addition to HVAC items addressed under fire/life-safety compliance, above, HVAC systems at the hotel would be upgraded and/or modified as follows:

- **South Mezzanine.** Overhead fan coil units for air conditioning and heating would be provided at the Tudor Lounge, Tresidder Room, and the Colonial Room. Natural ventilation would continue to be provided via operable doors.
- **South Wing.** Existing steam radiators would be replaced with a radiant floor for heating at the Great Lounge, Under Lounge, Solarium, Mural Room, and Winter Club Room. The radiant heating system would be installed below the existing structural concrete slab in crawlspace below; where wood floors are installed the system would be installed between the concrete slab and wood floors.

Energy Efficiency and Sustainability

In addition to the Actions Common to All Action Alternatives, Alternative 2 would provide the following energy efficiency and/or sustainability measures:

Windows and Doors

The energy efficiency of windows and doors at the hotel would be improved as follows:

- The condition of ground floor windows, frames, and doors would be surveyed, evaluated, and assessed. Caulking would be evaluated, and if necessary, carefully replaced at windows and trims. In addition, glazing would be replaced with laminated glass with a low-e film ‘sandwich’ to fit in the original window frame/trim.

Heating Systems

The hotel heating system would be improved as follows:

- The existing steam boilers at the hotel would be replaced with new high efficiency hydronic propane boilers at their current location with adequate ventilation.
- The Kitchen boiler would be eliminated and the hotel boiler capacity would be increased to service the Kitchen.
- All steam piping in the hotel would be replaced with hot water piping.
- Domestic hot water piping would be insulated.
- The existing steam to hot water exchangers and the existing domestic hot water storage tanks would be removed and replaced with two new propane domestic water heaters and three new storage tanks.
- A cogeneration electric and heat system would be provided to service the base building load and store energy for peak use.
- With the exception of the South Wing, where radiant heat would be installed, existing steam radiators at the hotel would be recommissioned for hot water heating.
- A solar hot water system would be installed to supply energy for pool heating or to supplement the hotel domestic hot water system. Solar panels would be installed on the roof of the maintenance shed, and related equipment (water tank, pipes, pumps, etc.) would be provided. [note that this system would not be installed if a photovoltaic array is installed at the maintenance shed to supply power to the hotel electrical system; see ‘Electrical Systems- Photovoltaics’ below.]
- An area would be provided for above-grade pool chemical storage, separate from the boiler room.
- A heat recovery system would be installed to recover heat from the dishwasher and potwater discharge pipes, with a recovery line tying back to the domestic hot water system.

Under Alternative 2, a geothermal system would be provided to supplement heating and cooling systems. This action would incorporate either 1) shallow geothermal tubes for preheating or cooling below the asphalt paths to the cottages or beneath the wooden entry walkway, or 2) geothermal directional bore holes in the ground.

Cooling Systems

The new chiller and cooling tower would be sized to accommodate cooling for all spaces at the hotel, as well as the cottages and dormitory. In order to provide cooling to the dormitory, the chilled water from the hotel chiller plant would be extended to a new air handling unit in the dormitory attic. In order to provide cooling to the cottages new pipes with chilled water would be extended to the cottages within a new utility corridor underneath the paved path to the cottages.

Additional work on cooling systems in public and administrative spaces would be as described above under ‘Visitor Experience and Visitor Services – HVAC Systems.’ Existing systems at the hotel and cottages would be replaced, and additional air conditioning would be provided in priority common areas at the hotel. Radiant heating would be provided in the South Wing (Great Lounge, Under Lounge, Solarium, Mural Room, and Winter Club Room).

The once-through cooling at the kitchen refrigerators would be eliminated and replaced with more energy-efficient cooling (e.g., air cooling).

Electrical Systems

In addition to proposed actions under ‘Fire/Life-Safety Compliance – Electrical Systems’, the electrical equipment at the hotel would be upgraded as follows:

- The 208-volt and 480-volt systems would be consolidated into one 480-volt service. Electrical equipment in the basement would be relocated to a modified electrical room on the north side of the Kitchen.
- The electrical distribution equipment would be replaced and moved to a new code-compliant electrical room at the new north Kitchen mezzanine.
- Per electric code, a new transfer switch would be provided in the new generator room for legally required standby systems. The switch would supply, distribute, and control power and illumination to required facilities (e.g., elevators, air conditioning and hot water circulation pumps) for both illumination and power. Under Alternative 2, the new transfer switch would also supply power from emergency generator to optional standby loads not required by code, such as domestic hot water.
- Two synchronous generators, generator switchgear, and metering would be provided as part of the proposed cogeneration system (see ‘Heating Systems’ above).

Lighting

Historic fixtures in public ground floor spaces would be refurbished to receive more efficient lamps. Light fixtures throughout the hotel would be retrofitted with additional dimming and automatic controls through a base building system to further reduce energy usage.

Exterior lighting fixtures would be modified to incorporate LED technology in conjunction with guidance provided in *Yosemite National Park Lighting Guidelines*. Interior lighting would incorporate LED technology to minimize electric loads. Historic lighting fixtures would be refurbished at ground floor public spaces.

Photovoltaics

Photovoltaic arrays would be installed on the maintenance shed, located adjacent to the hotel entry walkway, to supplement electric loads. The system would be expected to generate approximately 1500 watts of power. [note that this system would not be installed if a solar hot water system is installed on the maintenance shed roof to supplement the heating system; see ‘Heating Systems’ above.]

Plumbing Systems

New low-flow plumbing fixtures would be provided in all new installations, including the new employee locker rooms and new public restrooms. Guestroom water closets, lavatories, shower heads, and faucet aerators would be replaced at the hotel and cottages. Fixtures at the Kitchen, guest bathrooms, and dormitory bathrooms would be replaced with water conserving fixtures. Specifically:

- Guestroom toilets would be replaced with a low-flush model.
- Public restroom toilet would be replaced with a low-flush model. Urinals would be replaced with waterless urinals.

In addition, the aged sanitary system piping would be removed and replaced with new PVC piping throughout the hotel. The condition of vent piping would be evaluated and replaced as needed.

Estimated Cost and Construction Schedule

The net construction cost of Alternative 2, based on 50% schematic design (Hornberger+Worstell 2010b) is approximately \$68 million. However, actual costs of implementing projects within this plan would depend on funding availability. Prioritization criteria have been developed to inform the construction phasing strategy for long-term implementation of the Comprehensive Rehabilitation Plan based on correcting urgent deficiencies, critical deficiencies, and necessary corrections and taking into consideration the interdependency of actions based on proximity, operational logistics, or related structural or functional actions.

The cost estimate is based on the assumption that The Ahwahnee would be closed for approximately 30 months to implement the proposed work. However, this assumption was made for costing purposes only. Ultimately, the time needed to implement this alternative may be up to 20 years, depending on the availability of funding.

Alternative 3 (Preferred)

Overview

Alternative 3, the NPS preferred alternative, comprises actions in the Actions Common to All Action Alternatives, actions selected from either or both of Alternative 1 and Alternative 2, or actions developed separately. The overall goals of this alternative are to provide the most cost-efficient means of addressing fire, seismic, life-safety, health, and accessibility code and standard deficiencies; improving obsolete building systems and operational efficiency; and improving visitor experience while minimizing impacts on historic fabric and features to the maximum extent practicable. Alternative 3 proposes the same scope of historic rehabilitation as described for Alternative 1.

For a summary of the work proposed under Alternative 3, please see Table 2-1. For the locations of actions, please see Figures 2-1 through 2-6. A detailed depiction of proposed major work items is included as Appendix B.

Fire/Life-Safety Compliance

In addition to the Actions Common to All Action Alternatives, Alternative 3 would implement the following to address fire/life-safety deficiencies:

Egress

As in Alternative 2, a new exterior exit would be constructed at the South Mezzanine in the Tresidder Room to meet fire code egress requirements. The path of egress would require constructing a new exterior door at the north side of the Tresidder Room to access an exterior stairway from the second floor to the ground floor (Appendix B, Figure B-6).

As in Alternative 1, the non-compliant spiral stairway egress from the second floor at the East Wing would be modified to join a new landing on the mezzanine level, and a new compliant interior stairway would be constructed from the mezzanine landing to the ground floor (Appendix B, Figure B-1). Additional actions associated with this stairway include reconfiguration of the Ahwahnee Bar (see ‘Visitor Experience’, below) and the addition of two accessible guestroom suites, one of which would have an accessible balcony (see ‘Accessibility Compliance’, below).

Vertical Shafts and Linen Facilities

As in Alternative 1, compliance with fire code at guestroom shafts would be addressed by properly sealing the bottom of shafts, providing a fire damper or ducted boot at each toilet exhaust grille at the main exhaust shaft, and repairing ductwork in the attic spaces.

As in Alternative 1, a two-hour wall assembly surrounding the Linen Room and a new rated door to the Linen Room would be installed to meet fire separation requirements.

Fire Department Access

Hotel locks would be re-keyed to a new master key system in order to provide more efficient access for emergency personnel.

Electrical Systems

Code compliance issues with the existing electrical system at the hotel would be addressed by providing the following:

- **Distribution panels:** As in Alternative 1, the floor of the existing main switchboard and generator room would be raised above grade to avoid flooding damage during heavy spring runoff or during heavy rains. Waterproofing at the basement distribution room would be upgraded, and a new sump pump would be installed to prevent water from entering the room.
- **Conduits/Raceways:** As in Alternative 2, corroded conduit feeders under the Kitchen would be replaced with material suitable for wet conditions. In addition, where it is accessible or in conjunction with other work performed under this plan, old cloth-wrapped wiring would be abandoned and replaced with code-compliant metal-clad cable.

Ventilation and Exhaust Systems

Code compliance issues with the existing ventilation and exhaust systems at The Ahwahnee would be addressed by providing the following:

- **Guestrooms:** As in Alternative 1, natural ventilation, through operable windows, would remain.
- **Guestroom Corridors:** As in Alternative 2, a new corridor ventilation system would be provided.
- **Guest Bathrooms:** As in Alternative 2, fire dampers or sub ducts at each toilet exhaust grille and new toilet exhaust fans would be provided.
- **Electrical Room and Elevator Penthouse:** As in Alternative 2, ventilation and cooling systems would be provided to the existing and new electrical rooms. A permanent cooling system would be provided with an exterior vent through an existing opening.
- **Public and Employee Spaces:** As in Alternative 2, new exhaust and make-up air systems would be provided at public restrooms, Ahwahnee dormitory restrooms, and linen rooms.

Seismic Safety Recommended Practice and Structural Strengthening

In addition to the Actions Common to All Action Alternatives, Alternative 3 would provide the following to address seismic safety and/or structural strengthening issues:

Dining Room

As in Alternative 1, the Dining Room would be braced in the north-south direction to a new minimally-sized mezzanine on the south side of the Kitchen. The mezzanine would include a deck that would meet cleanable ceiling code requirement over cooking areas, minimize the reconfiguration of the north mezzanine Kitchen areas, and accommodate employee accessibility needs. This action would require new foundations in the Kitchen crawl space, a new partial floor slab, and an elevated slab above the Kitchen (Appendix B, Figure B-3).

Stone Chimneys

As in Alternative 2, stone chimneys at the hotel would be reinforced with interior core steel bracing and a concrete collar in the attic, at the base of the stone veneer.

South Wing Interior Walls

As in Alternative 1, because it is not required for life-safety under recommended industry practice, no work would be performed to address the potential seismic damage from lack of shear walls at the Great Lounge and Solarium.

Exterior Walls

As in Alternative 1, stainless steel pins would be inserted through mortar joints to anchor the historic exterior granite veneers above hotel egress paths.

Porte Cochere

As in Alternative 2, the entry walkway and the Porte Cochere would be stiffened by tying them to an adjacent, reconstructed maintenance shed (see ‘Operational Efficiency - Maintenance Shed’ below).

Mechanical, Electrical, and Plumbing Equipment

As in Alternative 2, mechanical, electrical, and plumbing equipment would be anchored, braced, or strengthened, including: elevator equipment, boilers, electrical transformers, fire sprinkler piping, kitchen and food service equipment, emergency lighting and power systems, HVAC equipment, fuel tanks, laundry equipment.

Accessibility Compliance

In addition to the Actions Common to All Action Alternatives, Alternative 3 would provide the following to address ADA-ABA code deficiencies:

Main Entry and Ground Floor Entrances

As in Alternative 2, the main entry to the hotel would be provided with automatic door openers and compliant thresholds. As in Alternative 1, the existing hardware and thresholds at other selected ground floor entrances/exits would be provided with reversible ramps and compliant door hardware.

South Mezzanine Meeting Rooms

As in Alternative 1, a limited use-limited access elevator would be installed at the Solarium to provide access to the South Mezzanine meeting rooms in order to comply with federal ADA-ABA standards. The beam and slab at the ground floor would be modified below the elevator to install a suspended pit structure. Portions of the existing walls and structure would be removed and the structure altered to accommodate the new elevator and elevator enclosure. This action would coincide with shear wall installation in the Elevator Lobby and Solarium (Appendix B, Figure B-9).

Registration Lobby

As in Alternative 2, the existing hotel registration area would be modified to meet current ADA-ABA standards. Specifically, the non-historic concierge counter would be removed and replaced with furnishings and a desk for accessible concierge service and accessible check-in.

Restrooms

Under Alternative 3, the men’s public restroom on the ground floor would be expanded into the existing location of administrative offices. The women’s public restroom on the mezzanine level would be expanded to increase the fixture count and provide accessibility. A unisex restroom would be provided on the ground floor adjacent to the men’s public restroom. An additional, escorted-access-only accessible unisex restroom would be provided for public use within the

footprint of the maintenance building (see ‘Operational Efficiency – Porte Cochere and Maintenance Shed,’ below).

Guestrooms

Alternative 3 would add two accessible guestrooms to the hotel as required per ADA-ABA code. As in Alternatives 1 and 2, in conjunction with replacing the East Wing spiral stair, East Wing guestrooms #106 and #107 would be combined into one accessible suite with a new accessible terrace constructed over the new Ahwahnee Bar kitchen (Appendix B, Figure B-5).

As in Alternative 1, East Wing guestrooms #206 and #207 also would be combined into one accessible suite on the second floor.

Historic Rehabilitation

Historic rehabilitation actions under Alternative 3 would be the same as those in the ‘Actions Common to All Action Alternatives’ section.

Operational Efficiency

In addition to the Actions Common to All Action Alternatives, Alternative 3 would provide the following to address operational efficiency:

Kitchen Facilities

The existing equipment at the Kitchen would be removed to implement the work proposed in the Kitchen area for compliance with fire/life-safety codes, seismic and structural standards, and accessibility requirements. The reinstallation of kitchen equipment would meet current mechanical, electric, and plumbing codes, health codes, and ADA-ABA accessibility standards. As in Alternative 1, a new more efficient layout with code-compliant features (e.g., code-required sanitary wall, floor and ceiling finishes) would be provided. Existing equipment under the north mezzanine (refrigerators and coolers) would be retained and reused when possible.

The electrical systems that support the Kitchen would be upgraded to a 480-volt system using electrical panels located in a dedicated room within the Kitchen.

The existing exhaust fans and the make up heating and ventilation air handling units would be refurbished, modified, and reused as much as possible in the new Kitchen layout. The hot water propane boiler would be reused.

‘Back of House’ Facilities

As in Alternative 1, new banquet/chef offices would be located in the new Kitchen mezzanine in approximately the same square footage as the existing facility. Laundry facilities would be reorganized in their current location, and mechanical rooms would remain in their existing locations.

Porte Cochere and Maintenance Shed

As in Alternative 2, the existing non-historic maintenance shed would be removed and a new maintenance shed structure would be constructed that ties into and stiffens the Porte Cochere and entry walkway (see ‘Seismic Safety Recommended Practice and Structural Strengthening’, above). The historic entry walkway would be retained and preserved. Service parking would be retained on the east side of the building.

The new interior of the maintenance shed would include additional storage for the Gift Shop, a work area, enclosed garbage and recycling spaces, and an enlarged luggage and valet/bell area. An additional, escorted-access-only unisex bathroom would be provided for public use within the footprint of the maintenance building.

As in Alternative 1, vertical clearance at the Porte Cochere would remain at 11.5 feet.

Electrical Systems

As in Alternative 2, the existing main point of entry (MPOE) for the telecommunications services at the hotel would be relocated near the electrical service point within the footprint of the hotel. The area would be on the ground floor in the Kitchen.

As in Alternative 2, the electrical systems at The Ahwahnee dormitory would be fully upgraded to match the load of the dormitory. Electrical equipment would remain in their existing locations. New or retrofitted equipment, including outlets, receptacles, and light switching would comply with current electric code and ADA-ABA requirements. All dormitory lighting would be removed and upgraded. In addition, new dormitory electrical service from the hotel distribution system would be metered for maintenance and documentation purposes.

Mechanical and Plumbing Systems

As in Alternative 2, the existing central mechanical/electrical/plumbing pneumatic control system would be replaced with an electronic direct digital control (DDC) system to monitor, control, and optimize operation of all heating, ventilation, and air conditioning (HVAC) systems, and critical operation of electrical and plumbing systems. This would allow the shutdown of HVAC and lighting systems at sections of the building that are unoccupied.

As in Alternative 2, deteriorated pressure reducing valves would be replaced where feasible, recirculating hot water would be provided at guestrooms, and all remaining galvanized steel piping would be replaced with Aquapex®.

Visitor Experience and Visitor Services

In addition to what is provided under the Actions Common to All Action Alternatives, under Alternative 3 the following elements of visitor service and related visitor experience would be improved:

Registration Lobby and Arrival Experience

As in Alternative 2 and as noted under ‘Accessibility Compliance’ above, the non-historic concierge desk would be removed and a new, accessible and portable concierge desk and check-in would be provided at the Registration Lobby.

The lounge area would be refurnished with furnishings compatible with the historic character of the hotel. In addition, the Very Significant stained concrete and rubber tile floor at the Registration Lobby would be rehabilitated.

Ahwahnee Bar

Under Alternative 3, non-historic additions at the north and east walls of the Ahwahnee Bar would be removed. The non-historic bar and service areas would be relocated and remodeled with accessible facilities on the east side of the room. The remodel of service facilities would be coordinated with the action to provide a code-compliant exit stair from the second floor (see

‘Fire/Life-Safety Compliance’, above) and two additional accessible guestrooms on the first and second floors (see ‘Accessibility Compliance’, above). On the north wall, wood framed glass consistent with the historic character of the hotel would be installed to restore views, improve the sense of arrival, and introduce more natural light into the space.

Energy Efficiency and Sustainability

In addition to the Actions Common to All Action Alternatives, Alternative 3 would provide the following energy efficiency and/or sustainability measures:

Windows and Doors

As in Alternative 1, the condition of ground floor windows, frames, and doors would be surveyed, evaluated, and assessed. Caulking would be evaluated, and if necessary, carefully replaced at windows and trims.

Heating Systems

As in Alternative 1, the hotel heating system would be improved as follows:

- The existing steam boilers at the hotel would be replaced with new high-efficiency steam boilers at their current location.
- All steam piping in the hotel would be replaced.
- Domestic hot water piping would be insulated.
- Existing steam radiators at the hotel would be reused, repaired, or refurbished as needed.
- The existing heat exchangers for domestic hot water and pool heating hot water would be retained.
- The number of outdoor air louvers at the boiler room would be increased for code compliance.
- The existing domestic hot water storage tanks would be replaced with new insulated hot water storage tanks.
- The existing heat condensate loop would be closed.

As in Alternative 2, a heat recovery system would be installed to recover heat from the dishwasher and potwater discharge pipes, with a recovery line tying back to the domestic hot water system.

Cooling Systems

The once-through cooling at the kitchen refrigerators would be eliminated and replaced with more energy-efficient cooling (e.g., air cooling).

Electrical Systems

In addition to proposed actions under ‘Fire/Life-Safety Compliance – Electrical Systems,’ above, the electrical equipment at the hotel would be upgraded as follows:

- As in Alternative 2, the 208-volt and 480-volt systems would be consolidated into one 480-volt service. Electrical equipment in the basement would be relocated to a modified electrical room on the north side of the Kitchen.
- As in Alternative 2, the electrical distribution equipment would be replaced and moved to a new code-compliant electrical room at the new north Kitchen mezzanine.

- As in Alternative 1, per electric code, new transfer switches would be provided in a reconfigured emergency generator room; the switch will supply, distribute, and control power and illumination essential for safety to human life (e.g., egress pathways and exit signs).
- As in Alternative 1, per electric code, a new transfer switch would be provided in the new generator room for legally required standby systems. The switch would supply, distribute, and control power and illumination to required facilities (e.g., elevators, air conditioning and hot water circulation pumps) for both illumination and power.

Lighting

As in Alternative 1, exterior lighting fixtures would be modified to incorporate LED technology in conjunction with guidance provided in *Yosemite National Park Lighting Guidelines*. Interior lighting would incorporate LED technology to minimize electric loads. Historic lighting fixtures would be refurbished at ground floor public spaces.

Plumbing Systems

New low-flow plumbing fixtures would be provided in all new installations, including the new employee locker rooms and new public restrooms. Guestroom water closets, lavatories, shower heads, and faucet aerators would be replaced at the hotel and cottages. Fixtures at the Kitchen, guest bathrooms, and dormitory bathrooms would be replaced with water conserving fixtures. Specifically:

- As in Alternative 1, guestroom toilet valves would be replaced with a low flush model where possible, and toilets that are not low-flow would be replaced.
- As in Alternative 1, public restroom toilet flush valves would be replaced with a low-flush model. Urinals would be replaced with a low-flush model.

Estimated Cost and Construction Schedule

The net construction cost of Alternative 3, based on 50% schematic design (Hornberger+Worstell 2010b) is approximately \$52 million. However, actual costs of implementing projects within this plan would depend on funding availability. Prioritization criteria have been developed to inform the construction phasing strategy for long-term implementation of the Comprehensive Rehabilitation Plan based on correcting urgent deficiencies, critical deficiencies, and necessary corrections and taking into consideration the interdependency of actions based on proximity, operational logistics, or related structural or functional actions.

The cost estimate is based on the assumption that The Ahwahnee would be closed for approximately 24-30 months to implement the proposed work. However, this assumption was made for costing purposes only. Ultimately, the time needed to implement this alternative may be up to 20 years, depending on the availability of funding.

Table 2-1
Summary Description of the No Action and Action Alternatives

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
FIRE/LIFE-SAFETY COMPLIANCE				
Second means of egress from South Mezzanine meeting rooms	No secondary egress; no allowed public use; employee use only in Colonial & Tudor Rooms, with maximum total of 30 or less.	No secondary egress; no allowed public use; employee use only in Colonial & Tudor Rooms, with maximum total of 30 or less.	Secondary egress constructed with new exterior exit from Tresidder Room to new south stair.	Same as Alternative 2.
Code compliant egress at east spiral stair (second floor to ground floor)	Retain non-compliant spiral stair fire escape.	Remove existing spiral stair. Construct new interior stair from second to first floor; reduces guestrooms by 2 rooms. Provide new exterior exit stair from first floor to ground floor.	Remove existing spiral stair. Construct new exterior stair from second and first floors to ground; requires reconfiguration of 2 guestrooms.	Same as Alternative 1, however configuration of the egress would be combined with Alternative 2 action to reconfigure Ahwahnee Bar (see Visitor Experience, below).
Fire separation between Dining Room and hotel	No fire separation provided.	Provide concealed overhead fire doors at openings at Dining Room entry, Kitchen door, and Diggins Suite. Confirm rating of existing walls.	Same as Alternative 1.	Same as Alternative 1.
Code condition of service elevator for fire separation, controls, gurney and accessibility	Existing non-compliant service elevator and shaft to remain as-is.	Retain existing elevator cab and replace existing service side pocket door and cage. Maintain tilt-up gurney on site to address gurney requirements in existing cab retrofit.	Same as Alternative 1.	Same as Alternative 1.
Fire protection of steel members in attic spaces	Retain current level of fire protection.	Remove damaged material as necessary and reapply new fire protection at attics.	Same as Alternative 1.	Same as Alternative 1.
Non-rated vertical chase shafts; improve code compliance	Retain non-compliant, non-rated shafts.	Seal shafts at bottom and provide ducted boot at each toilet exhaust.	Provide fully metal ducted system through shaft. Install wood blocking or fire-safing at all floor penetrations.	Same as Alternative 1.
Linen chute and linen room	Retain non-compliant linen room and laundry chute.	Improve fire resistance of shaft per vertical shaft protection and improve first floor linen room.	Improve fire resistance of shaft per vertical shaft protection; expand and improve first floor linen room.	Same as Alternative 1.
Fire department access to hotel	Retain non-compliant access to cottages.	Prevent vehicle access on historic concrete terraces and improve base of adjacent green areas to support truck load, code-compliant width, and code-required turnaround.	Same as Alternative 1.	Same as Alternative 1.
Fire department access to cottages	Retain non-compliant access to cottages.	Remove select trees, regrade existing road and improve surface (gravel/pervious paving).	Same as Alternative 1.	Same as Alternative 1.

**Table 2-1
Summary Description of the No Action and Action Alternatives (continued)**

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
FIRE/LIFE-SAFETY COMPLIANCE (CONTINUED)				
Master key system for emergency access to all hotel spaces	Retain multi-key system.	Re-key hotel locks on new master key system.	Provide new electronic key card devices in existing door compatible with historic character.	Same as Alternative 1.
Electrical: water intrusion at distribution panels in basement	Maintain status quo conditions.	Retain existing main electrical distribution room in current location; provide full waterproofing and new secondary sump pump.	Relocate main electrical distribution room to new waterproof location. Provide new waterproofing at basement.	Same as Alternative 1.
Electrical: water intrusion at emergency generator room from lowered 18" slab	Maintain status quo conditions.	Raise floor slab inside generator room to be above grade.	Same as Alternative 1.	Same as Alternative 1.
Electrical: improper grounding for electrical system	Maintain non-grounded electrical system.	Ground main electrical panels.	Ground main electrical panels and provide new grounded systems and short-circuit protection with upgrade of electrical system where accessible.	Same as Alternative 2.
Electrical: deteriorating cloth wiring and conduit	Maintain current wiring.	Replace corroded conduit runs in Kitchen w/ material suitable for wet conditions.	Replace accessible cloth wiring with code compliant MC Cable. Replace corroded conduit runs in Kitchen with material suitable for the wet conditions.	Same as Alternative 2.
Ventilation and Exhaust: guestroom corridor ventilation	Retain inoperable corridor ventilation system.	Refurbish existing ventilation system and provide proper make-up air with fire smoke damper at each level.	Provide new corridor ventilation system.	Same as Alternative 1.
Ventilation and Exhaust: electrical room ventilation	Retain non-compliant ventilation.	Provide ventilation and cooling to existing and new electrical rooms.	Same as Alternative 1	Same as Alternative 1.
Ventilation and Exhaust: elevator machine room ventilation	Retain non-compliant ventilation.	Provide chiller water fan coil for AC the elevator machine room.	Provide permanent AC unit with exterior vent through existing window opening.	Same as Alternative 2.
Ventilation and Exhaust: Mechanical: hotel guest bathroom exhaust fans	Retain existing exhaust fans.	Refurbish existing toilet exhaust fans and discharge locations. Provide fire dampers or sub-ducts for every toilet room.	Provide new toilet exhaust fans. Provide fire dampers or sub-ducts for every toilet room.	Same as Alternative 2.
Ventilation and Exhaust: hotel public and 'back of house' exhaust fans	Retain existing exhaust fans.	Upgrade exhaust venting to public restrooms.	Provide new exhaust and make-up air to public restrooms, dormitory restrooms, and laundry linen rooms.	Same as Alternative 2.

Table 2-1
Summary Description of the No Action and Action Alternatives (continued)

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
FIRE/LIFE-SAFETY COMPLIANCE (CONTINUED)				
Mechanical: natural air ventilation	Retain existing natural ventilation.	(No Work)	Provide new mechanical ventilation AHU including shafts, ductwork, dampers, outside air grills.	Same as Alternative 1.
Fire detection, alarms, and suppression systems at cottages and dormitory	Retain non-compliant fire detection, alarms, and suppression systems.	Extend new fire sprinkler, detection, and fire alarm systems to cottages and dormitory.	Same as Alternative 1.	Same as Alternative 1.
SEISMIC SAFETY RECOMMENDED PRACTICE AND STRUCTURAL STRENGTHENING				
Brace Dining Room from Kitchen Side	Do not stabilize Dining Room.	Provide brace frame with minimally sized south Kitchen mezzanine with a deck that: meets cleanable ceiling code requirement over cooking areas, minimizes reconfiguration of north mezzanine Kitchen areas and accommodates employee accessibility needs.	Provide brace frame with partial south Kitchen mezzanine and deck in Kitchen that meets cleanable ceiling code requirement over cooking areas and accommodates employee accessibility needs.	Same as Alternative 1.
Dining Room columns and granite veneer	Do not stabilize columns or veneer.	Cap columns at west side, brace Dining Room in east-west direction and pin stone veneer on columns at east side.	Same as Alternative 1.	Same as Alternative 1.
Dining Room / Solarium glazing	Do not alter glazing.	Install glazing that meets seismic life-safety requirements without altering the original window frame profile.	Same as Alternative 1.	Same as Alternative 1.
Dining Room roof static load	Retain existing truss.	Replace splice plate connections at truss and incorporate new snowmelt/retention at roof.	Same as Alternative 1.	Same as Alternative 1.
Kitchen Floor Slab	Retain deteriorating floor slab.	Replace deteriorated sections of slab subject to failure and as needed for seismic upgrade; replace all flooring tiles.	Same as Alternative 1.	Same as Alternative 1.
Stone chimneys (hotel)	Do not stabilize chimneys.	Provide exterior collar strap with guy wires	Provide internal core steel bracing with concrete ring in attic.	Same as Alternative 2.
Stone chimneys (cottages)	Do not stabilize chimneys.	Provide 2x blocking, clips and straps in existing attic space.	Same as Alternative 1.	Same as Alternative 1.
Tall gypsum block walls in Great Lounge	Do not brace gypsum block walls.	Tie gypsum block wall at floor lines with internal steel frame.	Same as Alternative 1.	Same as Alternative 1.
South Wing Shear Walls	Do not add shear walls.	(No Work)	Provide four shear walls at Solarium and Elevator Lobby.	Same as Alternative 1.

**Table 2-1
Summary Description of the No Action and Action Alternatives (continued)**

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
SEISMIC SAFETY RECOMMENDED PRACTICE AND STRUCTURAL STRENGTHENING (CONTINUED)				
Exterior Granite Veneer	Do not pin exterior granite.	Provide stainless steel pins for exterior granite veneer above egress paths only.	Provide stainless steel pins at all exterior granite veneer.	Same as Alternative 1.
Seismic joint between Porte Cochere and entry canopy interface	Do not alter Porte Cochere.	(No Work)	Tie entry canopy and Porte Cochere together and stiffen using new connections to a new maintenance shed. Or create seismic slip joint / separation at Porte Cochere and entry walkway; do not raise Porte Cochere height.	Same as Alternative 2.
Anchoring of Major Equipment	Do not anchor equipment.	(No Work)	Brace MEP equipment and provide joints at utility lines.	Same as Alternative 2.
ACCESSIBILITY COMPLIANCE				
Accessibility to hotel main front doors	Maintain current front entrance doors.	(No Work)	Provide automatic door operators and thresholds in a historically acceptable manner.	Same as Alternative 2.
Accessibility to other public ground floor exterior entrances	Retain existing ground floor egress thresholds and doors.	Provide reversible ramps and hardware at selected entrances.	Repair / reconstruct door assemblies with compliant hardware and permanent thresholds/ramps at selected entrances.	Same as Alternative 1.
Access to South Mezzanine meeting rooms	Do not provide ADA-compliant access to South Mezzanine.	Provide limited use-limited access (LULA) elevator in existing storage closet space and re-route Mezzanine stair.	Provide LULA elevator in footprint at Under Lounge across from existing storage closet.	Same as Alternative 1.
Number of accessible guestrooms	Do not provide equal facilitation for ADA-compliant guestroom with balcony; do not replace former ADA-compliant suite at Room 607 (reconfigured to non-ADA room during 2011 6th floor egress stair construction)	Provide two additional accessible guestroom suites in the East Wing, one with an accessible balcony over Ahwahnee Bar kitchen.	Provide two additional accessible guestrooms – a standard room on the fourth floor and a suite with accessible balcony.	Same as Alternative 1.
Accessibility / equal facilitation to public restrooms	Maintain current restrooms.	Maintain men's restroom as-is. Expand women's restroom on mezzanine to increase fixture count and maintain accessibility. Provide unisex restroom on ground floor.	Maintain existing women's room and provide supplemental accessible women's room on the ground floor. Reconfigure men's room to increase fixture count.	Expand men's restroom into administrative offices (no Gift Shop Storage). Expand women's restroom on mezzanine to increase fixture count and maintain accessibility. Provide unisex restroom on the ground floor adjacent to the men's restroom.

Table 2-1
Summary Description of the No Action and Action Alternatives (continued)

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
ACCESSIBILITY COMPLIANCE (CONTINUED)				
Accessibility at Front Desk / Concierge / Lobby	Retain current lobby configuration and furnishings.	Confirm/retrofit existing drop down counter at front desk reception to allow for accessible check-in. Replace non-historic concierge counter w/ furnishings/desk for concierge service.	Replace non-compatible concierge counter with furnishing desk for accessible check-in and concierge. Provide accessible check-in at concierge.	Same as Alternative 2.
Accessible parking and path of travel and wayfinding	Retain current ADA parking spaces; existing signage to remain.	Increase number of ADA spaces to 7 and improve drainage/path of travel from parking to hotel entrance; Provide new signage throughout designated path of travel.	Same as Alternative 1.	Same as Alternative 1.
Accessibility of employee facilities: egress, lockers, changing, breakroom, etc.	Maintain current employee facilities.	South Kitchen mezzanine would allow for new employee facilities above Kitchen.	Same as Alternative 1.	Same as Alternative 1.
Improve path of travel to major site features	Maintain current path of travel.	Provide new accessible, historically compatible hardscape path over new utility corridor. Extend new accessible hardscape path to Wedding Lawn from Solarium Terrace.	Same as Alternative 1.	Same as Alternative 1.
OPERATIONAL EFFICIENCY				
Kitchen layout and efficiency	Retain current Kitchen layout.	Reuse as much existing equipment as feasible in new efficient main Kitchen layout; maintain existing north Kitchen (refrigerators and mezzanine) as much as possible.	Provide new efficient Kitchen layout with new Energy-Star equipment. Remove existing refrigerators and mezzanine to build new north Kitchen mezzanine. Salvage existing historic cooler doors and reinstall on new refrigerators.	Same as Alternative 1.
'Back of house' facilities	Retain current locker rooms.	Provide locker room / employee breakroom on new partial south Kitchen mezzanine.	Provide locker rooms, offices, breakroom, service elevator and mechanical/electrical room on new partial south and new partial north mezzanine	Same as Alternative 1.
Banquet/chef offices	Retain current offices.	Provide limited sized offices.	Provide new offices.	Same as Alternative 1.
Laundry facilities	Retain current laundry facilities.	Reorganize laundry facilities in their existing location.	Same as Alternative 1.	Same as Alternative 1.
Mechanical rooms	Retain current mechanical rooms.	Retain mechanical rooms at their existing location.	Provide a new mechanical room on the ground floor.	Same as Alternative 1.

**Table 2-1
Summary Description of the No Action and Action Alternatives (continued)**

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
OPERATIONAL EFFICIENCY (CONTINUED)				
Kitchen mezzanine elevator and stairs	Retain current north Kitchen mezzanine stair.	Provide new egress stair to the ground floor.	Provide new egress stair and elevator for accessibility.	Same as Alternative 1.
General Manager, managers, and business office locations	Retain current office locations.	Relocate hotel management office spaces to reconstructed Gift Shop mezzanine.	Same as Alternative 1.	Same as Alternative 1.
Maintenance shed, bag storage / valet service station / bell station and maintenance storage and shops	Retain existing maintenance shed, maintain current bell facilities, maintain current storage and work spaces.	(No Work)	Replace maintenance shed with new enclosure and expanded program; retain and preserve historic Entry Walkway façade; provide new bag storage and valet/bell stations; provide new storage/shop for current functions.	Replace maintenance shed with new enclosure and expanded program; retain and preserve historic Entry Walkway façade. Maintain service vehicle parking; provide new bag storage & valet/bell stations; provide new storage/shop for current functions plus service parking.
Gift Shop / retail storage	Gift Shop and retail storage remain on dock and mezzanine.	(No Work)	Provide new permanent storage for current Gift Shop needs.	Same as Alternative 2.
Public toilets	No additional public restroom.	(No Work)	Provide unisex restroom.	Provide escorted-access-only unisex restroom.
Porte Cochere access for buses	Tour buses would continue to drop off visitors in the parking lot.	(No Work)	Raise Porte Cochere to provide 13'-0" clear bus access.	Same as Alternative 1.
Electrical: electrical systems at dormitory	Maintain existing.	Upgrade only areas where rehabilitation work is proposed.	Provide full upgrade of dormitory electrical systems.	Same as Alternative 2.
Electrical: Main Point of Entry (MPOE) room for telecommunications	Maintain current MPOE.	(No Work)	Provide new MPOE room and connections in dedicated room.	Same as Alternative 2.
Mechanical: Mechanical, Electrical, and Plumbing (MEP) equipment in Kitchen	Retain existing MEP equipment in Kitchen.	Re-use and relocate existing MEP equipment as much as possible. Upgrade as necessary in existing layout.	Reuse and relocate Kitchen ductwork, fans as feasible per new Kitchen layout; provide new propane boiler.	Same as Alternative 1.
Mechanical: central MEP control system (DDC System)	Retain manual controls.	Provide a microprocessor-based DDC system to monitor, control and optimize operation of major HVAC systems and critical operation of electrical and plumbing systems.	Provide a microprocessor-based DDC system to monitor, control and optimize operation to all HVAC, electrical and plumbing systems	Same as Alternative 2.
Plumbing: domestic hot water piping grade	Maintain current hot water piping.	Replace deteriorated pressure valves where feasible. Provide recirculating hot water at guestrooms.	Replace valves, where feasible provide recirculating hot water at guestrooms, and replace all galvanized piping w/ Aquapex.	Same as Alternative 2.
Basement waterproofing	No upgrades to waterproofing.	Provide new waterproofing throughout basement.	Same as Alternative 1.	Same as Alternative 1.

Table 2-1
Summary Description of the No Action and Action Alternatives (continued)

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
HISTORIC REHABILITATION				
Hotel and cottage preservation and rehabilitation	Maintain current condition of historic fabric and features.	Rehabilitate / stabilize features of hotel in 'poor' condition. Preserve and rehabilitate features in Very Significant and Significant spaces in 'fair' condition. Rehabilitation work associated directly with other actions affecting historic fabric or features in the hotel and cottages.	Same as Alternative 1, plus implement non-maintenance HSR treatment recommendations for the hotel and cottages for features /fabric in Contributing and Historic Utilitarian spaces.	Same as Alternative 1.
VISITOR EXPERIENCE AND VISITOR SERVICES				
Sweet Shop	Retain current Sweet Shop.	Maintain existing Sweet Shop and repair finishes in place.	Same as Alternative 1.	Same as Alternative 1.
Ahwahnee Bar	Retain current Ahwahnee Bar.	Move bar and bar kitchen to north end; restore finishes and add glazing at east wall.	Remove non-historic additions / finishes; replace with new wood framed glass wall and remodel service areas.	Remove non-historic additions / finishes; replace with new wood framed glass at north wall and remodel service areas with coordinated exit stair from second floor east wing. Provide compatible multi-use storage addition along east wall.
Dining Room: east end	Maintain as is.	Maintain spaces as-is; rehab historic finishes (i.e., wainscot and wall surfaces at wine bar / service bar).	Remove non-historic service bar / reconstruct wine bar and space divider with free standing furniture pieces.	Same as Alternative 2.
Reception area	Maintain as is.	(No Work)	Optimize configuration.	Same as Alternative 2.
Service spaces / coat room	Maintain as is.	(No Work)	Reconfigure for extra capacity.	Same as Alternative 1.
Wine bar area / wine storage	Maintain as is.	Remove non-historic grill above service bar, rehab wainscot and wall surfaces, restore/replace two ceiling lights.	Same as Alternative 1.	Same as Alternative 1.
Lobby and guest arrival experience	Maintain as is.	Remove built-in counter and provide moveable desk for concierge.	Remove built-in concierge desk; provide removable accessible furniture for check-in and concierge near Sweet Shop.	Same as Alternative 2.
Mechanical: HVAC capacity and ventilation to ground floor public spaces	Retain current HVAC system for public spaces.	Replace existing fan coil units. Maintain existing capacity.	Replace existing fan coil units. Increase capacity to service main public ground floor areas where other actions provide the opportunity.	Same as Alternative 1.
Mechanical: hotel guestroom air conditioning systems	Retain current AC system for guestrooms.	Replace AC system with new 4-pipe fan coil units.	Same as Alternative 1	Same as Alternative 1.
Mechanical: cottage guestroom: air conditioning systems	Retain current AC system for cottages.	Replace w/ new 4-pipe fan coil units tied to the main building.	Same as Alternative 1.	Same as Alternative 1.

**Table 2-1
Summary Description of the No Action and Action Alternatives (continued)**

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
VISITOR EXPERIENCE AND VISITOR SERVICES (CONTINUED)				
Passenger elevator	Retain passenger elevator as is.	Rehabilitate non-historic cab interior and replace with design finishes and fixtures compatible with historic character.	Same as Alternative 1, plus: replace hoistway components and equipment that cannot be refurbished.	Same as Alternative 2.
ENERGY EFFICIENCY AND SUSTAINABILITY				
Existing steam system	Continue current maintenance practices.	Perform a thorough inspection of the fuel oil/steam system and eliminate leaks.	Same as Alternative 1.	Same as Alternative 1.
Insulation at building envelope, systems and equipment: attic and roof spaces, exterior walls	No new insulation.	Install rigid Insulation under roof and attach/adhere (waterproof) insulation to underside of slab at crawl space.	Same as Alternative 1, plus inject foam into perimeter guestroom walls.	Same as Alternative 1.
Insulation at refrigerator boxes	No new insulation.	Add additional insulation at refrigerator boxes. Preserve historic freezer doors.	Same as Alternative 1.	Same as Alternative 1.
Provide new insulation at piping (domestic hot water/steam pipes)	No new insulation.	Add pipe insulation at pipes in easy to access locations (i.e. crawlspace, riser shafts) and wherever piping is replaced.	Same as Alternative 1.	Same as Alternative 1.
Provide weather-stripping at existing wall accessories/ penetrations	No new insulation.	Provide foam/sealant behind outlets, fixtures, pipe voids, etc.	Same as Alternative 1.	Same as Alternative 1.
Guestroom windows	Retain existing windows.	Remove existing aluminum guestroom windows and replace with historically compatible wood-framed, double paned insulated, low-e casement windows.	Same as Alternative 1.	Same as Alternative 1.
Ground floor windows	Maintain existing windows.	Survey and carefully evaluate and replace caulking at windows and trims.	Survey and carefully evaluate and replace caulking and existing glazing with laminated glass with low-e film "sandwich" to fit in same profile of existing frame/trim.	Same as Alternative 1.
Ground floor doors	Maintain existing doors.	Rehabilitate doors where possible to close leaks. Replace with historically compatible door when necessary.	Same as Alternative 1.	Same as Alternative 1.

Table 2-1
Summary Description of the No Action and Action Alternatives (continued)

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
ENERGY EFFICIENCY AND SUSTAINABILITY (CONTINUED)				
Mechanical: domestic hot water and space heating are tied into same boiler system	Retain current domestic hot water and space heating systems.	Replace heat exchanger tanks with new hot water storage tanks in same location.	Maintain separate heating sources for building space heating and domestic hot water. Use Co-Gen Electricity and heat system to service the base building load and store energy for peak use.	Same as Alternative 1.
Mechanical: space heating	Retain inefficient steam boilers.	Replace steam boilers with high-efficiency condensate steam boilers and close condensate loop.	Replace steam boilers with high-efficiency clean propane boilers. Replace steam pipe with hot water pipe.	Same as Alternative 1.
Mechanical: chiller / cooling Tower equipment is inefficient and not installed per mfg's recommendations	Retain inefficient and incorrectly installed chiller and cooling tower.	Replace existing chiller and cooling tower with high efficiency equipment and non-HCFC refrigerant. Operate new chiller and cooling tower at higher water efficiency cycles.	Same as Alternative 1.	Same as Alternative 1.
Mechanical: guestroom A/C Units	Maintain inefficient guestroom AC units.	Replace with new more efficient AC units.	Replace with new smaller more efficient 4-pipe fan coil units.	Same as Alternative 2.
Mechanical: public areas without cooling	Maintain current public AC system.	Replace existing system. Do not provide additional air conditioning.	Provide additional AC in priority common areas (fan coils). Add radiant heating at ground floor South Wing rooms.	Same as Alternative 1.
Mechanical: Geothermal Technology	Do not supplement heating systems.	(No Work)	Incorporate shallow geothermal tubes for preheating/cooling either below asphalt paths to cottages or below wooden walkway at entry gallery and Porte Cochere (doubles as snowmelt) or use geothermal directional bore holes in ground.	Same as Alternative 1.
Mechanical: Radiant cooling	Maintain current chiller operations.	(No Work)	Operate the cooling tower at night and store cold water. Install pipes under asphalt in parking lot or under cottage paths.	Same as Alternative 1.
Electrical: transformers	Retain inefficient transformers.	Replace with new efficient transformers.	Same as Alternative 1.	Same as Alternative 1.
Electrical: 120/208-volt Service equipment	Retain electrical equipment.	Replace switchgear, distribution panels and related transfer switches.	Same as Alternative 1.	Same as Alternative 1.
Electrical: separate 208V and 480V Services	Retain split electrical service.	(No Work)	Consolidate electrical services into once service at 480V.	Same as Alternative 2.
Electrical: emergency	Retain current generator.	Replace emergency generator in adjusted room layout and location.	Same as Alternative 1.	Same as Alternative 1.

**Table 2-1
Summary Description of the No Action and Action Alternatives (continued)**

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
ENERGY EFFICIENCY AND SUSTAINABILITY (CONTINUED)				
Electrical: power backup system	Retain current transfer switches.	Provide a transfer switch for emergency and legally required standby systems.	Provide transfer switch to other optional standby loads.	Same as Alternative 1.
Electrical: light fixtures	Retain existing light fixtures.	Refurbish historic fixtures in ground floor public areas.	Provide additional dimming/switching and refurbish historic fixtures in ground floor public areas to receive new effective and efficient lamps.	Rehabilitate selected historic lighting fixtures that are seismically safe (seismically unsafe fixtures would be rehabilitated under separate project).
Electrical: lighting control system	Retain current lighting and controls.	Use LED technology for interior lighting to minimize electrical load and support light quality effort; Provide LED site lighting.	Same as Alternative 1, plus: provide central lighting control dimming and switching system for public spaces. Provide central lighting control system for the building exterior (outside).	Same as Alternative 1.
Electrical: off-site photovoltaic	Maintain current service.	(No Work)	Purchase PV electricity produced in Yosemite National Park as part of the project (DNC Warehouse or El Portal NPS Warehouse).	Same as Alternative 1.
Electrical: on-site photovoltaic (PV) system on building	No PV provisions.	(No Work)	Provide a PV system on the roof of the new maintenance building.	Same as Alternative 1.
Electrical: existing appliances and equipment	Retain current concessioner equipment.	Replace existing obsolete equipment with Energy Star/EPA Watersense equipment.	Same as Alternative 1.	Same as Alternative 1.
Electrical: operational plug-load management	Continue current management practices.	Establish a management practice to unplug/turn down guestroom mini-fridges when rooms are unoccupied.	Same as Alternative 1.	Same as Alternative 1.
Plumbing: domestic solar hot water system	No solar hot water heating.	(No Work)	Provide a domestic solar hot water system on the roof of the maintenance shed.	Same as Alternative 1.
Plumbing: public, guestroom, and employee toilets	Retain current fixtures.	Replace flush valves with low-flush model. Replace employee urinals with 0.125 gpm urinals.	Replace toilet with low-flush model; provide waterless urinals at employee toilets.	Same as Alternative 1, except guestroom toilets: replace valves where toilets can accommodate; replace toilets where current fixture is not already low-flow, as needed.
Plumbing: public, guestroom, and employee faucets	Retain current fixtures.	Provide low flow (0.5 gpm) aerators at existing faucets.	Same as Alternative 1.	Same as Alternative 1.
Plumbing: guestroom and employee showerheads	Retain current fixtures.	Replace showerheads with low-flow fixtures (1.5-2 gpm).	Same as Alternative 1.	Same as Alternative 1.

Table 2-1
Summary Description of the No Action and Action Alternatives (continued)

Action Evaluated	No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
ENERGY EFFICIENCY AND SUSTAINABILITY (CONTINUED)				
Plumbing: kitchen fixtures	Retain current fixtures.	Provide water efficient sprayers. Replace existing dishwasher with high water-efficiency dishwasher.	Same as Alternative 1.	Same as Alternative 1.
Plumbing: heat recovery for domestic hot water system	No heat recovery.	(No Work)	Recover heat from dishwasher discharge pipes to supplement domestic hot water.	Same as Alternative 2.
Plumbing: water conservation at heating systems	Retain current plumbing systems.	Close heating condensate loop. Eliminate once-through cooling in refrigerators.	Eliminate once-through cooling in refrigerators.	Same as Alternative 1.
Plumbing: sanitary system	Retain current sanitary sewer plumbing.	Replace existing piping with new PVC piping throughout.	Same as Alternative 1.	Same as Alternative 1.

Actions Considered but Dismissed

The National Park Service considered a range of actions when developing possible alternatives for The Ahwahnee Hotel Comprehensive Rehabilitation Plan. 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*.

Install Micro Piles and Grade Beams or Provide Base Isolation of the Hotel Structure

The proposed actions would involve the installation of a new foundation system that would offer greater protection to the structure in a 2,500 year seismic event. However, these seismic protection benefits would result in prohibitive project costs and undesirable impacts to historic fabric and archeological resources.

Install a Full Mezzanine Structure in the Kitchen

During the alternatives development process, alternatives calling for a full mezzanine or a mezzanine with only a small side-oriented well open to the space below were rejected because they largely obscured the perception of the historic, character-defining two-story Kitchen volume. The National Park Service conferred with structural engineers developing the seismic stabilization actions to ensure that an alternative representing the smallest possible brace-frame and diaphragm (mezzanine) structure needed to stabilize the adjacent Dining Room was considered. As a result, the design alternative represented by Alternative 1 and chosen as the preferred alternative (Alternative 3) preserves an open area of two-story volume between the existing north mezzanine and the new brace-frame mezzanine to be constructed on the south side of the Kitchen.

Maintaining Public Use of the South Mezzanine Meeting Rooms without Adding Additional Means of Egress

The National Park Service considered meeting fire code at the South Mezzanine without adding an additional means of egress by limiting public total occupancy of the meeting rooms. However, the result of rigorous code analysis by the park Fire Marshal/AHJ in conjunction with the Value Analysis process determined that limiting public use does not represent a code-compliant alternative. The results of this analysis indicated that the South Mezzanine does not meet the code definition of a full mezzanine, and egress distances to the foot of the existing interior stair from all points in the meeting rooms do not allow for continued use of the space for public assembly use unless a second, code-compliant means of egress is provided. To assure continued visitor access to and enjoyment of the South Mezzanine spaces and balconies, the Yosemite National Park

Leadership Team approved the preferred alternative to provide code compliant egress by means of a new door through the north wall of the Tresidder Room to the exterior fire escape. The proposed location of the point of egress was carefully considered, and the selected location represents the best overall solution to assure continued public access to these spaces while minimizing further visual effects on the building exterior in the vicinity of the non-historic fire escape.

Address Fire Separation between Dining Room and Hotel by Installing Sprinklers

Through a code review and design process, the National Park Service found that the option to sprinkler the Dining Room in lieu of providing fire separation would not meet fire code requirements, and that the only option to comply with fire code would be to install fire separation doors, as proposed. The overhead fire separation doors proposed would be completely concealed in non-original ceilings at the Diggins Suite and Dining Room.

Install Lightning Protection

The physical location of The Ahwahnee limits the risk associated with lightning. Installation of lightning protection would also result in unnecessary visible impacts on the Very Significant exterior of the National Historic Landmark.

Preserve, Rehabilitate, or Remove Landscape Features

Actions that would affect landscape features including the reflecting pond, parking lot, and tennis court have been deferred, pending the guidance of the upcoming Merced Wild and Scenic River Comprehensive Management Plan on the amounts and types of visitor use that would be appropriate in the wild and scenic river corridor.

Reuse of Existing Hotel Utility Systems

Reuse of existing hotel utility systems was carefully evaluated and elements were proposed for re-use in the action alternatives when feasible. However, some systems are or will soon be beyond their operational/design life. The existing steam boilers and distribution system are very old and inefficient; many air handling units are in need of replacement; fan coil units in guestrooms are too old to find replacement parts; the existing chiller and cooling tower use outdated refrigerants; and the existing HVAC systems in the cottages are temporary. These utility systems could not be re-used and new replacement systems are proposed in the rehabilitation plan.

Alternative Options Considered but Dismissed

In addition to the Actions Considered but Dismissed listed above, the options listed in Table 2-2 were also considered during the planning process for actions that remain in the comprehensive rehabilitation plan.

Table 2-2
Alternative Options Considered but Dismissed for the Comprehensive Rehabilitation Plan

Option Considered	Reason Dismissed
SEISMIC SAFETY RECOMMENDED PRACTICE AND STRUCTURAL STRENGTHENING	
Add shear walls and frames in the Dining Room	The visual impact on this Very Significant area of the hotel would be unacceptable.
Provide a brace frame in the Kitchen	The structure would not function as intended in a seismic event.
FIRE LIFE-SAFETY	
Various emergency egress routes (e.g., interior vs. exterior, width, separation distance between routes)	Impacts on historic fabric and features were considered for each egress option. Fire code requirements drove actions; however those proposals that caused unacceptable impacts on historic fabric or did not meet code requirements were removed from consideration.
Provide localized waterproofing solutions to address water intrusion in the basement and below grade utility rooms (e.g., small repairs and patching to existing waterproofing)	Minimal repairs would not be sufficient to resolve the infiltration of water and code compliance concerns.
Replace of all the cloth wiring throughout the building	Current conditions are acceptable with the California Historic Building Code; replacement of all wire was not a reasonable option due to impacts to historic fabric
ACCESSIBILITY COMPLIANCE	
Reconfiguring the existing Front Desk/Concierge to meet accessibility requirements	The existing area is not large enough to accommodate a redesigned accessible desk.
OPERATIONAL EFFICIENCY	
Maintain existing pneumatic system for control of HVAC and manually controlled lighting	Upgrades to MEP systems in Yosemite Valley are connected to a central system for improved tracking and maintenance.
Reconfigure the Sweet Shop	Reconfiguration was not a reasonable option given impacts to historic fabric/configuration of a Significant space of the hotel.
ENERGY EFFICIENCY AND SUSTAINABILITY	
Install trickle vents to replicate original ventilation in the guestrooms	Current fire code restrictions do not allow the use of these systems, and they would be incompatible with the historic character of the guestrooms.
Replace the large paned glass in the Dining Room and Solarium with double-glazed windows	The impact to historic fabric was too great with the number of proposed window retrofits.
Alternative energy sources (e.g., CNG or propane fuel cell, photovoltaic power, using Royal Arches Creek as an alternative energy source)	Seasonal climate changes, scenic viewshed and wild and scenic river considerations, and the remote location of the park make these choices infeasible.

Comparison of the Alternatives

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

Table 2-3
Summary Comparison of Impacts for the No Action and Action Alternatives

No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
GEOHAZARDS			
Under the No Action Alternative, the ongoing threats to life and property from geohazards would continue. While the hotel and cottages generally conform to RP6 seismic standards, some areas of the hotel and cottages (Dining Room, stone chimneys, exterior granite veneers, and two-story gypsum-block walls in the Great Lounge) would not conform to the minimum life-safety standards of the BSE-1 (500-year) earthquake, resulting in a local, long-term, moderate, adverse impact.	Seismic safety improvements proposed under Alternative 1 would meet the minimum RP6 life-safety performance standard for the 500-year (BSE-1) earthquake and 2,500-year (BSE-2) earthquake. This would substantially decrease the threat to life and property at The Ahwahnee from seismic events, resulting in a local, long-term, moderate, beneficial impact.	Seismic safety improvements proposed under Alternative 2 would meet the minimum RP6 life-safety performance standard for the 500-year (BSE-1) earthquake and the 2,500-year (BSE-2) earthquake. In addition, recommended (but not required) measures for seismic stability and structural strengthening would be implemented. These actions would substantially decrease the threat to life and property at The Ahwahnee from seismic events, resulting in a local, long-term, moderate, beneficial impact.	Seismic safety improvements proposed under Alternative 3 would meet the minimum RP6 life-safety performance standard for the 500-year (BSE-1) earthquake and 2500-year (BSE-2) earthquake. These actions would substantially decrease the threat to life and property at The Ahwahnee from seismic events, resulting in a local, long-term, moderate, beneficial impact.
SOILS			
Impacts on soils under the No Action Alternative would occur in areas previously disturbed by the construction of the hotel complex and ongoing operations. Repeated disturbance to soils from maintenance of underground utilities would result in local, short-term, minor, adverse impacts and a local, long-term, minor, adverse impact on soils in the project area. Use of Best Management Practices (Appendix E) to minimize spills, soil compaction, and erosion during construction activities would continue. Continued use of the hardened earth low water crossing for fire department access south of the cottages, and continued use of the inadequately sized fire department access at the hotel, would result in minor to moderate impacts on soils from potential soil erosion and compaction. In addition, there would continue to be local, long-term, minor, adverse, indirect effects on soils from ongoing disruptions of natural groundwater flows and resultant effects on soil characteristics over time.	Impacts on soils under Alternatives 1, 2, and 3 would occur in areas previously disturbed by the construction of the hotel complex and ongoing operations, though some excavations could exceed the vertical extent of previous disturbances. The proposed actions to meet fire and life-safety, seismic, and accessibility codes and standards would impact approximately 0.75 acre of 'resilient' soils and 0.67 acre of 'other' soils. Construction impacts on soils would be mitigated by ongoing implementation of Best Management Practices to minimize spills, soil compaction, and erosion. This would result in a local, short-term and long-term, minor, adverse impact on soils in the project area. In addition, there would continue to be local, long-term, minor, adverse, indirect effects on soils from ongoing disruptions of natural groundwater flows and resultant effects on soil characteristics over time. There would be a local, long-term, minor, beneficial impact on soils from the consolidation of underground utilities and the removal of a hardened earth low water crossing at the unnamed seasonal tributary east of the cottages.		

Table 2-3
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
HYDROLOGY			
Under the No Action Alternative, there would be no new impacts on local natural hydrologic processes at The Ahwahnee. Seasonally high groundwater would continue to create hazardous conditions in the hotel basement and seasonal runoff would continue to enter the generator room. The presence of the hotel and related facilities, as well as associated landscaping activities, would continue to have a local, long-term, minor to moderate, adverse impact on local hydrologic conditions.	Excavation and construction activities to replace culverts and install a bridge at seasonal tributaries could result in adverse impacts associated with the temporary disruption of the surface flow and the increased potential for soil erosion and sediment transport. In addition, the use of heavy equipment in these areas could result in accidental releases of hazardous substances that would impact water quality. Mitigation measures (Appendix E) would include scheduling construction activity during seasonal periods of low or no water, minimizing disturbance areas, salvaging excavated materials, restoring contours of stream banks, and implementing construction best management practices. These measures would be expected to reduce short-term, adverse impacts on hydrology to a minor to moderate level. Excavation beneath the hotel and the installation of a utility corridor would likely require dewatering activities, which would potentially result in short-term, adverse impacts on the adjacent meadow and Royal Arch Creek. Mitigation measures (Appendix E) would be implemented during construction activities to ensure that dewatering would not increase sediment loading at drainages or otherwise adversely affect the adjacent meadow. Implementation of these measures would reduce excavation impacts to local, short-term, minor, and adverse. In the long-term, there would be a minor to moderate beneficial impact on the unnamed seasonal tributary east of the cottages from removal of a low water vehicle crossing. In addition, installation of site drainage at the hotel basement and back dock would have a local, long-term, moderate, beneficial impact on hydrology by redirecting drainage toward Ahwahnee Meadow.		
VEGETATION			
Under the No Action Alternative, there would be no change in vegetation or vegetation management activities. The No Action Alternative would not further reduce the size or disrupt the continuity and/or integrity of native plant communities in the project area. There would be no new impacts on vegetation resources.	Native vegetation in the project area is already disturbed from previous construction, ornamental landscaping, and pedestrian and vehicular traffic. Under Alternatives 1, 2, and 3, construction activities would result in local, short-term, minor, adverse impacts on the size and continuity of native plant communities. Implementation of Best Management Practices during construction would minimize impacts on surrounding vegetation communities. The removal of select trees to meet fire code requirements along fire access roads and the hardening of select pathways to meet accessibility requirements would result in local, long-term, minor, adverse impacts on the size and continuity of native plant communities.		
WILDLIFE			
Under the No Action Alternative, there would be no new impacts on wildlife habitat or populations.	Habitat in the project area is already disturbed from previous alterations to native vegetation, construction of facilities, and normal hotel operations. With the implementation of mitigation measures for wildlife species (Appendix E), temporary habitat disturbance from construction activities would result in local, short-term, minor, adverse impacts. There would be a local, long-term, minor, adverse impact on upland habitat from removal of select trees and some road widening for fire access road improvements. Implementation of mitigation measures with a focus upon avoidance, limiting construction activities during breeding seasons, and conducting surveys immediately before construction, would minimize impacts on wildlife habitat and populations.		
SPECIAL STATUS SPECIES			
Under the No Action Alternative, there would be no effect on special status wildlife habitat or populations.	The project would occur in suitable habitat for special status bird and bat species. The implementation of mitigation measures in Appendix E with a focus upon avoidance, limiting tree removal, limiting construction activities to outside of breeding seasons, limiting construction activities to daytime hours, conducting detailed surveys immediately before construction, and limiting areas of disturbance, would minimize impacts on these species. Therefore, Alternatives 1, 2, and 3 may affect, but are not likely to adversely affect special status species.		
AIR QUALITY			
Under the No Action Alternative, there would be no new short-term or long-term impacts on air quality. Existing equipment would remain in place and regular maintenance activities would continue.	Implementation of Alternatives 1, 2, or 3 would result in short-term, minor, adverse impacts on local air quality due to construction-related dust, equipment and vehicle emissions. Efficiency upgrades throughout the hotel and cottages for equipment and materials would result in a long-term, minor, beneficial impact on indoor, local, and regional air quality.		

Table 2-3
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
SOUNDSCAPES			
Under the No Action Alternative, the project area would continue to be impacted by noise generated by regular operations and visitor use at The Ahwahnee. The No Action Alternative would result in no new impacts on soundscapes.	Alternatives 1, 2, and 3 would result in short-term elevated levels of noise in the project area due to construction activities. This would potentially affect guests, onsite staff, and nearby recreational users; however, the number of people impacted would be lower if construction was scheduled during periods of low occupancy, low visitation, or during a hotel closure. In addition, wildlife may be impacted by noise generated during construction. Impacts on wildlife would be mitigated by scheduling construction activities outside of breeding seasons. Overall, Alternatives 1, 2, and 3 would result in a local, short-term, moderate, adverse impact on soundscapes.		
VISITOR EXPERIENCE AND SERVICES			
Visitor experience, services, and safety would generally remain in their current condition. Emergency egress at the hotel would remain noncompliant with fire/life-safety codes and standards. The meeting rooms at the South Mezzanine would remain closed to public use. The potential for injury to building occupants during a seismic event from falling hazards would remain. Accessibility would remain difficult in some areas of the hotel, and some public areas of the hotel would remain inaccessible. The number of ADA-ABA-compliant guestrooms and parking spaces would remain inadequate. Bathroom fixture counts would remain insufficient for the facility. Guestroom air conditioning and ventilation would remain ineffective and uncomfortable during the summer. Historically incompatible aluminum windows would remain in guestrooms. Historic finishes and fabric would continue to deteriorate with no comprehensive plan for their rehabilitation. Overall, the No Action Alternative would result in a local, long-term, moderate, adverse effect on visitor experience resulting from safety hazards, limited accessibility, insufficient ventilation, and deterioration of historic finishes.	Proposed fire/life-safety and seismic stability improvements under Alternative 1 would result in long-term beneficial impacts on visitor safety at The Ahwahnee. The loss of two standard guestrooms would slightly affect room availability. Accessibility improvements, rehabilitation of historic features, increased restroom fixture counts, and improved heating and cooling systems would enhance the visitor experience at the facility. Reconfiguration of the Ahwahnee Bar would improve visitor services through operational upgrades, and the addition of glazing to the bar's east wall would enhance the sense of arrival at the main entrance to the hotel. Upgrades to building systems would maintain the level of service for day visitors and overnight guests. Overall, improvements proposed with Alternative 1 would result in a local, long-term, minor to moderate, beneficial impact on visitor experience, services, and safety.	Proposed fire/life-safety and seismic improvements under Alternative 2 would result in long-term, beneficial impacts on visitor safety at The Ahwahnee. The loss of one standard guestroom would have a negligible impact on room availability. Re-established public access to the South Mezzanine, accessibility improvements, rehabilitation of historic features, increased fixture counts in the restrooms, and improved and expanded heating and cooling systems would enhance the visitor experience throughout the facility. The remodeled Ahwahnee Bar would improve visitor services through operational upgrades behind the bar. The addition of wood-framed glass to the bar's north wall would enhance the sense of arrival at the main entrance to the hotel. Overall, improvements proposed under Alternative 2 would result in a local, long-term, moderate, beneficial impact on visitor experience, services, and safety.	Proposed fire life-safety and seismic improvements under Alternative 3 would result in long-term beneficial impacts on visitor safety at The Ahwahnee. The loss of two standard guestrooms would slightly affect room availability. Restored public access to the South Mezzanine, accessibility improvements, rehabilitation of historic features, increased restroom fixture counts, and improved heating and cooling systems would enhance the visitor experience at the facility. The remodeled Ahwahnee Bar would improve visitor service through operational upgrades behind the bar. The addition of wood-framed glass to the bar's north wall would enhance the sense of arrival at the main entrance to the hotel. Overall, improvements proposed in Alternative 3 would result in a long-term, moderate, beneficial impact on visitor experience, services and safety.

Table 2-3
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
FACILITY OPERATIONS AND INFRASTRUCTURE			
The No Action Alternative would continue noncompliance with fire/life-safety, accessibility, and health codes. Deterioration of portions of the facility, increasingly greater maintenance needs, and noncompliant employee work areas would persist. Therefore, the No Action Alternative would result in a local, long-term, moderate, adverse impact on operations, maintenance requirements, and facility infrastructure at The Ahwahnee.	Implementation of Alternative 1 would address fire/life-safety code issues throughout the building; upgrade critical mechanical, electrical, and plumbing systems; provide a code-compliant Kitchen and Ahwahnee Bar; provide a limited use/limited access elevator to the South Mezzanine, and provide accessible work and break areas for employees. Overall, implementation of Alternative 1 would result in a long-term, moderate, beneficial impact on operations, maintenance, requirements, and facility infrastructure at The Ahwahnee.	Implementation of Alternative 2 would include the same beneficial impacts on operations and facilities outlined in Alternative 1. In addition, Alternative 2 would provide secondary emergency egress from the South Mezzanine; provide additional upgrades or replacement of mechanical, electrical, and plumbing systems; provide a new point of entry for telecommunications; maximize the use of a Kitchen mezzanine for employee facilities; provide an enlarged maintenance shed with an additional public restroom; and raise the Porte Cochere to accommodate buses. Overall, implementation of Alternative 2 would result in a local, long term, moderate to major, beneficial impact on operations, maintenance requirements, and facility infrastructure at The Ahwahnee.	Implementation of Alternative 3 would include the same beneficial impacts on operations and facilities outlined in Alternative 1. In addition, Alternative 3 would provide secondary egress from the South Mezzanine; additional upgrades or replacement of mechanical, electrical, and plumbing systems; a new point of entry for telecommunication systems; and an enlarged maintenance shed that would improve bellhop storage, provide an additional restroom, and increase maintenance storage capacity. Overall implementation of Alternative 3 would result in a local, long-term, moderate, beneficial impact on operations, maintenance requirements, and facility infrastructure.

Table 2-3
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
SOCIOECONOMICS			
The No Action Alternative would not impact local or regional employment or wages. There would be no impact on Mariposa County tax revenues.	Under Alternative 1, visitor populations are not likely to be impacted and visitor spending displaced from lodging or other services at The Ahwahnee is likely to be captured at other establishments in the region. Therefore, the impact on visitor spending in both the local and regional economy would be negligible. Concessioner and park revenues would be reduced to some extent during the closure of various facilities and services. The impacts on concessioner and park revenues could be negligible to moderate, depending on construction phasing. Short-term decreases in concessioner employment and/or wages would likely be more than offset by the short-term increases in construction employment and wages, resulting in a short-term, beneficial impact on the local and regional economies. Impacts on Mariposa County could be minor to major and adverse in the short term, depending on the extent of guestroom closures (number of guestrooms and duration) over the 20-year implementation period. Long-term impacts on Mariposa County Transient Occupancy Taxes revenues would be negligible and adverse with the permanent loss of two standard guestrooms (the lost revenue would be offset by the conversion of four standard rooms to two accessible guestroom suites).	Alternative 2 would have the same impact on visitor populations, visitor spending, and concessioner and park revenue, would be the same as Alternative 1. Short-term decreases in concessioner employment and/or wages would likely be more than offset by the short-term increases in construction employment and wages, resulting in a short-term, beneficial impact on the local and regional economies. Impacts on Mariposa County could be minor to moderate and adverse in the short term, depending on the extent of guestroom closures (number of guestrooms and duration) over the 20-year implementation period. Long-term impacts on Mariposa County Transient Occupancy Taxes revenues are anticipated to be negligible with the permanent loss of one standard guestroom (the lost revenue would be offset by the conversion of two standard rooms into one accessible guestroom suite).	Alternative 2 would have the same impact on visitor populations, visitor spending, and concessioner and park revenue, would be the same as Alternative 1. Short-term decreases in concessioner employment and/or wages would likely be more than offset by the short-term increases in construction employment and wages, resulting in a short-term, beneficial impact on the local and regional economies. Impacts on Mariposa County could be minor to major and adverse in the short term, depending on the extent of guestroom closures (number of guestrooms and duration) over the 20-year implementation period. Long-term impacts on Mariposa County Transient Occupancy Taxes revenues would be negligible and adverse with the permanent loss of two standard guestrooms (the lost revenue would be offset by the conversion of four standard rooms to two accessible guestroom suites).
ENERGY CONSUMPTION AND GLOBAL CLIMATE CHANGE			
Under the No Action Alternative, there would be little or no change to energy use and emissions, resulting in a local, long-term, negligible, adverse impact on energy consumption.	Under Alternatives 1, 2, or 3, improved efficiency and reduced energy use would result in a local, long-term, minor to moderate, beneficial impact on overall energy consumption and resulting emissions at The Ahwahnee hotel and a regional, long-term, negligible, beneficial impact on energy consumption and climate change.		

Table 2-3
Summary Comparison of Impacts for the No Action and Action Alternatives (continued)

No Action Alternative	Alternative 1	Alternative 2	Alternative 3 (Preferred)
HISTORIC SITES, BUILDINGS, AND LANDSCAPES			
The No Action Alternative would have the potential to alter, directly or indirectly, characteristics of the historic site that qualified the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Therefore, the No Action Alternative would have an adverse effect on the historic property and on the Yosemite Valley Historic District.	Although the majority of proposed actions would not impact the characteristics that make The Ahwahnee eligible for inclusion on the NRHP, or diminish its integrity, as a whole Alternative 1 would result in an adverse effect to the historic property. The 2011 Programmatic Agreement (Appendix A) would be implemented to resolve the adverse effect. In addition, NPS historical architects and the park historic preservation officer will continue to work with the project design team and SHPO to minimize the adverse effect on the historic property during and construction planning and implementation. Alternative 1 would result in no adverse effect to the Yosemite Valley Historic District.	Although the majority of proposed actions would not impact the characteristics that make The Ahwahnee eligible for inclusion on the NRHP, or diminish its integrity, as a whole Alternative 2 would result in an adverse effect to the historic property. The 2011 Programmatic Agreement (Appendix A) would be implemented to resolve the adverse effect. In addition, NPS historical architects and the park historic preservation officer will continue to work with the project design team and SHPO to minimize the adverse effect on the historic property during and construction planning and implementation. Alternative 2 would result in no adverse effect to the Yosemite Valley Historic District.	Although the majority of proposed actions would not impact the characteristics that make The Ahwahnee eligible for inclusion on the NRHP, or diminish its integrity, as a whole Alternative 3 would result in an adverse effect to the historic property. The 2011 Programmatic Agreement (Appendix A) would be implemented to resolve the adverse effect. In addition, NPS historical architects and the park historic preservation officer will continue to work with the project design team and SHPO to minimize the adverse effect on the historic property during and construction planning and implementation. Alternative 3 would result in no adverse effect to the Yosemite Valley Historic District.
ARCHEOLOGICAL RESOURCES			
The No Action Alternative proposes no ground disturbance, resulting in no adverse effect on individual archeological resources or the Yosemite Valley Archeological District	Under Alternative 1, actions that would cause ground disturbance, including improvements to fire department access, accessibility, operational efficiency, and site drainage, would have the potential to result in an adverse effect on archeological sites CA-MRP-292/293/H and CA-MRP-291/751, as well as the Yosemite Valley Archeological District. Potential adverse effects would be resolved through adherence to NPS cultural resource management guidelines and implementation of the 2011 Programmatic Agreement (Appendix A), which stipulates application of the <i>Archeological Synthesis and Research Design</i> (Hull and Moratto 1999). In addition, an NPS archeologist and the park historic preservation officer would be consulted throughout project design and construction planning and implementation.	Under Alternative 2, actions that would cause ground disturbance, including improvements to egress, fire department access, seismic strengthening, accessibility, operational efficiency, site drainage, and energy efficiency, would have the potential to result in an adverse effect on archeological sites CA-MRP-52/H, CA-MRP-292/293/H, and CA-MRP-291/751, as well as the Yosemite Valley Archeological District. Potential adverse effects would be resolved through adherence to NPS cultural resource management guidelines and implementation of the 2011 Programmatic Agreement (Appendix A), which stipulates application of the <i>Archeological Synthesis and Research Design</i> (Hull and Moratto 1999). In addition, an NPS archeologist and the park historic preservation officer would be consulted throughout project design and construction planning and implementation.	Under Alternative 3, actions that would cause ground disturbance, including improvements to fire department access, seismic strengthening, accessibility, operational efficiency, and site drainage, would have the potential to result in an adverse effect on archeological sites CA-MRP-292/293/H and CA-MRP-291/751, as well as the Yosemite Valley Archeological District. Potential adverse effects would be resolved through adherence to NPS cultural resource management guidelines and implementation of the 2011 Programmatic Agreement (Appendix A), which stipulates application of the <i>Archeological Synthesis and Research Design</i> (Hull and Moratto 1999). In addition, an NPS archeologist and the park historic preservation officer would be consulted throughout project design and construction planning and implementation.
AMERICAN INDIAN TRADITIONAL CULTURAL RESOURCES			
There would be no new impacts on American Indian traditional resources and practices under the No Action Alternative	Traditional cultural resources of value to American Indians might be affected by construction, removal of select native vegetation, and alteration of archeological constituents. The park would continue consultation with culturally associated tribes and groups during project planning and implementation, and would implement the 2011 Programmatic Agreement (Appendix A) in order to protect resources to which American Indian tribes and groups attach cultural values		

Identification of the Preferred Alternative

A Value Analysis and Choosing by Advantage workshop was conducted from September 27 through September 29, 2010. The workshop team included National Park Service subject matter experts and managers, representatives of the park concessioner (Delaware North Companies Parks and Resorts at Yosemite, Inc.), and design and engineering contractors. The workshop was supplemented by several follow-up teleconferences.

Two 50% schematic design alternatives, representing two different approaches to meeting the purpose and need of the plan, were evaluated. Alternative 1 was considered a minimum scheme that relied on code waivers and management options to the maximum extent possible, and adopted the least invasive means of meeting the fundamental objectives of the program. Alternative 2 provided substantive code compliance, exceeded basic seismic safety requirements, and provided a higher degree of historic rehabilitation and operational improvements. One of the primary objectives of the VA was to establish the value added by the increased scope of work represented by Alternative 2.

The Value Analysis focused on applying value analysis principles to identify which alternative components would provide the desired functions for the best value. The evaluation method was Choosing By Advantages, where the relative importance of the advantages of each alternative was weighed, and then the costs and benefits of each considered. The overall goal of the VA was to identify a preferred alternative using value-based decision-making.

As the first task of the evaluation phase, the team developed and discussed the factors that would be used to evaluate the alternatives. NPS Objectives and Factors (Table 2-4) provided the priority setting process based on National Leadership Council guidance, and formed the framework for the evaluation.

Table 2-4
NPS Objectives and Factors Used to Evaluate Project Alternatives

Objective: Protect Cultural and Natural Resources

Factor 1: Prevent loss of resources

Factor 2: Maintain and improve the condition of resources

Objective: Provide for Visitor Enjoyment

Factor 3: Provide visitor services and educational and recreational opportunities

Factor 4: Protect public health, safety and welfare

Objective: Improve Efficiency of Park Operations

Factor 5: Improve operational efficiency and sustainability

Factor 6: Protect employee health, safety, and welfare

Objective: Provide Cost-Effective, Environmentally Responsible, and Otherwise Beneficial Development for the National Park System

Factor 7: Provide other advantages to the national park system

Using the NPS Factors above as a guideline, the team developed the following list of Evaluation Criteria:

- Minimize impact on natural resources
- Preserve historic fabric
- Preserve historic integrity
- Restore historic character
- Provide a comparable experience (qualitative)
- Maintain a traditional level of visitor service (access to services as expected)

- Provide adequate services (including ADA-ABA accessibility)
- Ensure safety and security of visitors
- Ensure a safe working environment
- Ensure food safety and sanitation
- Optimize maintenance and life cycle functionality
- Optimize efficiency of service (and staff)
- Preserve revenue / limit financial impact
- Maximize compliance with NPS Sustainability goals.

Because of the complexity of the overall project, the alternatives were broken down into components for evaluation using Choosing By Advantages methods. These components were selected for detailed analysis because they address two or more of the established purpose and need objectives. Several other single-variant plan components were evaluated using a simple cost/benefit process.

Components were grouped together into packages reflecting interlinked scopes (such as area of building, specific systems impacted, or specific goals addressed). These were:

- Egress from the 5th and 6th floors (no longer addressed in this plan)
- Egress from the 2nd floor
- Kitchen / Dining – Seismic bracing of the Dining hall, construction of the new mezzanine above the Kitchen, and Kitchen renovations. This package also included moving employee locker rooms and break room to the new mezzanine.
- Public restrooms
- Egress from the East Wing, and reconfiguring of the Ahwahnee Bar
- Accessibility / egress from the South Mezzanine
- Raising the Porte Cochere to accommodate taller buses
- Replacement of the maintenance building
- Seismic bracing in the Great Lounge
- Modifications to / addition of air conditioning in public spaces
- Modifications to the Service Bar in the Dining Room
- Seismic bracing of the stone veneer and chimneys
- Renovation of the elevators and shafts
- Protection and rehabilitation of the historic fabric
- Master keying options
- Improvements to the laundry room and chute

Based on the evaluation phase, the team selected the component from each category which scored the highest, established refinements to the alternatives, and an additional alternative was developed.

The Value Analysis-recommended Preferred Alternative is a blend of elements from Alternatives 1 and 2, and in some cases includes new options developed during the workshop. It was presented to and concurred on by the Yosemite National Park Leadership Team on October 20, 2010. Concurrence on the park-approved Preferred Alternative was received in February 2011 from the NPS Pacific West Regional Office and the Preferred Alternative is presented as Alternative 3 of this document.

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: Under the No Action Alternative, further historic rehabilitation and stabilization would not occur as it would under the action alternatives. Thus this alternative would not best protect, preserve, or enhance cultural resources, nor would it provide for the safety and code improvements proposed under the action alternatives.

Alternatives 1, 2, and 3 would all meet the above criteria, as they would each provide substantive compliance with current codes and standards, provide historic rehabilitation work that is needed to maintain and protect the historic integrity of The Ahwahnee, and provide increased operational and energy efficiencies. Alternative 1 would best meet criterion (4), as it proposes the minimal scheme to address code compliance issues, relying on code waivers and management options to the maximum extent possible, and adopts the least invasive means of meeting project objectives. Alternative 2 would best meet criterion (6) as it provides the most substantive code compliance with the highest degree of energy and water use efficiencies. However, Alternative 3 would best meet criteria (1), (2), (3), and (5) because it incorporates many of the increased efficiencies and much of the substantive code compliance of Alternative 2 with minimally invasive options of Alternative 1. Alternative 3 provides the maximum feasible protection and preservation of the historic property while meeting plan objectives for public and employee safety, operational and energy efficiency, and visitor experience. Thus, the National Park Service has identified Alternative 3 as the environmentally preferred alternative.

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