



East Side Entrance Station Replacement Environmental Assessment

August 2018



Figure 1: View of Butterfield Homestead from near Proposed Entrance Station in Alternative 3

Pinnacles National Park
5000 Highway 146
Paicines, CA 95043-9770 S

Chapter 1: Purpose of and Need for Action

Introduction

The Pinnacles National Park General Management Plan (GMP) (2013) calls for improvements to the facilities on the east side of the park, including acknowledgement of the expanded park boundary. As part of the proposed implementation of the improvements, this Environmental Assessment analyzes the impacts of relocating the current entrance station from well inside the park to near the expanded park boundary (see *Background* section).

A. Purpose

The purpose of the proposal is to improve the visitor entrance experience by constructing a new entrance station and gateway sign, thereby providing a better sense of entry to Pinnacles National Park and reaching more visitors with park information. The new entrance station would help reduce visitor congestion upon entering the park, and improve opportunities for administrative fee collection operations at the east entrance to the park (Figure 3: Location Map). New entrance facilities would be established on lands near the current park boundary, replacing the existing kiosk which is located at a previous boundary, approximately 2.5 miles inside the park. Because the old kiosk is in such poor condition, it is not currently intended for reuse.

B. Need

Entrance Sign

A new entrance gateway sign and turnout is needed to mark the beginning of the national park experience for park visitors and to acknowledge the expanded park boundary. A new entrance sign would make it clear to park visitors that they are entering Pinnacles National Park, before driving approximately 2.5 miles to the current entrance station/campground junction (Figure 2: Historic Park Boundary Markers). Constructing a new gateway sign with a paved turnout would welcome visitors as they document their entry into Pinnacles National Park.

Entrance Station

Pinnacles National Park is a fee collecting park under the Federal Lands Recreation Enhancement Act (FLREA). Visitors arriving at the park either pay their entrance fee in the camp store building or at the existing entrance station, when it is staffed.

The current entrance station became obsolete in 2006 when expansion of the park resulted in that entrance station being located approximately 2.5 miles from the boundary at a logistically inconvenient location. The entrance station is beyond the visitor center and overflow parking area, an arrangement which confuses visitors and results in lost fee revenue because of the need to divert vehicles during busy times into parking areas before the entrance station (Figure 4: Existing East Entrance Station).



Figure 2: Historic Park Boundary Markers

A new entrance station located before the overflow parking area would acknowledge entry into the park, continuing the experience begun by an entrance sign. Visitors would be able to obtain park information and wayfinding prior to arriving at destinations within the park. A new entrance station is also needed to meet current road and building safety and accessibility standards; retire an outdated entrance booth; enable the park to improve fee capture; and manage visitor congestion and vehicle queueing.

Until recently, the section of California State Highway 146 East that serves as the main park road between the existing entrance station and the park boundary was a California Department of Transportation maintained right-of-way on NPS land. With the right-of-way for the entire road now transferred to the park, the NPS assumes responsibility for road maintenance. This new jurisdiction also allows the park to control speed limits to reduce impacts to wildlife and to improve visitor satisfaction as they slow their highway driving pace to experience the park upon arrival. The right-of-way transfer will also allow road widening to accommodate the entrance station kiosk in the center of the road lanes under both alternatives, an action which was previously not feasible for Alternative 3.

The current entrance station has the following deficiencies which affect visitor experience, employee and visitor safety, and park operations:

- The booth and adjacent pullout parking do not meet standards for accessibility (including access to and within the booth).
- The booth does not meet standards for energy performance, ventilation, safety (including security and alarm systems), fee collection, or employee comfort (e.g., heating and cooling).
- The location of the booth adds to congestion at the campground intersection and requires fee booth operations to be suspended during busy times to reduce traffic congestion when using overflow parking near the visitor center (when parking areas beyond the booth are full, the entrance station closes and visitors are directed to overflow parking and to pay their fee at the visitor center).
- Fee compliance is reduced because some visitors do not go to the visitor center after entering the park to pay their fee.
- The visitor center becomes extremely crowded because too many visitor activities (information gathering, fee payment, camping registration, book and camp store sales) are occurring in the same location.

During peak-use times (holiday and weekends year-round and the three to four weeks associated with spring break at local schools and colleges), queueing at the entrance station can include up to 100 vehicles. Normally, queues of this size at parks and other facilities would be attributed to transaction delays at the entrance station and would indicate that a second entrance kiosk is necessary. In this case, however, the reason behind the roadway congestion is that the number of vehicles inside the park exceeds the designated parking capacity. When this occurs, the park temporarily diverts traffic at the campground intersection, and relies on shuttles to transport visitors to trailheads and other destinations located further inside the park. Although this alleviates some vehicle congestion at trailheads and enhances the visitor experience once they are able to park, it does not allow for systematic fee collection because of the current fee booth location. There is also a risk to visitor safety because there is little opportunity for vehicle turnaround on the narrow roadway segment between the campground and the current entrance station. Vehicle queues back up around roadway curves with limited visibility.

When the day use parking area reaches capacity, there is no additional parking in the park and it is full. At this point, vehicles are queued at the entrance to the visitor center/campground. Frustrated visitors often park illegally along the entrance road during these congested periods and create an additional safety hazard as they walk along the roadway to get to the visitor center/restrooms and/or shuttle stop.

Relocating the entrance station to a site either before the campground entrance (south site) or closer to Highway 25 (north site) would enable the park to collect entrance fees from inbound vehicles prior to

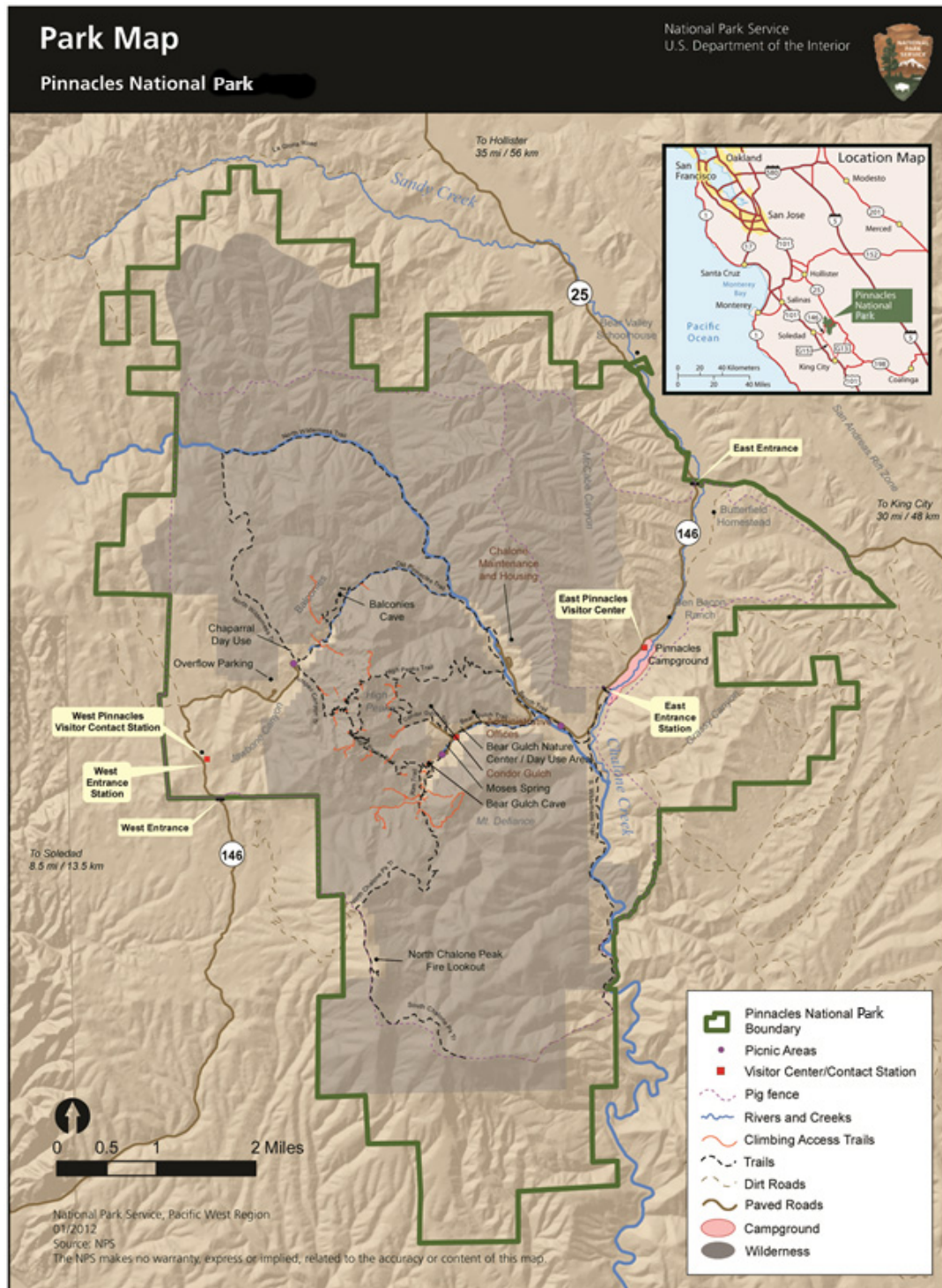


Figure 3: Location Map

arrival at the campground entrance, picnic areas, shuttle stops and other visitor use areas. A new entrance station location would allow visitors to obtain park information and wayfinding at a central point prior to arriving at these key visitor use areas. Capturing entrance fees at the entrance would also allow “iron rangers” (fee collection portals) at the campground and Bear Gulch to be removed, resulting in a less confusing fee collection situation for park visitors. A new site design would also allow visitors to safely

turnaround if they want to leave the park instead of entering and paying their fee. Bypass lanes would allow visitors who have already paid their fee to proceed or to enter the campground.

In addition to the fee booth, employee and visitor safety requirements, including those in NPS Director's Order (DO) 22: Recreation Fees (2010) and DO 22A: Fee Collection Reference Manual, call for a nearby restroom, fee counting office space, and storage area in a separate building close to the entrance station.

C. Background

Pinnacles National Park (then monument) was expanded in 2006 with the acquisition of the private Pinnacles Ranch in the Bottomlands, an open agricultural area that precedes the former entrance to the park. This expansion added approximately 2,000 acres to Pinnacles, including the privately developed Pinnacles Campground, extending the eastern boundary approximately 2.5 miles to State Route 25. The NPS had tried twice before to purchase this land (in 1941 and 1958, but each time the negotiations had ceased since it could not secure the funds) (NPS 2009: 46 of 97). Following the expansion, the area was later re-designated by Congress (in 2013) as Pinnacles National Park. With this new designation, visitation, which was already high in the spring and early summer, greatly increased. The park now comprises approximately 26,606 acres, with legislative boundaries comprising approximately 27,214 acres (NPS 2013).

Pinnacles is effectively divided into two parts because there is no through-road between its west and east sides, although hiking between them is relatively short (approximately three miles).

The east side of the park includes the park administrative headquarters, including the superintendent's, law enforcement, maintenance, interpretation, and resource management offices. It also encompasses a range of visitor facilities, including the campground, visitor center/camp store, trails, shuttle stops, nature center, and picnic areas.

Shortly after the 2013 GMP was approved, west side facilities, which had been awaiting modifications since the 1980s, were improved. East side facilities are also proposed for improvement in the GMP. Among the improvements called for are new visitor and administrative facilities to replace those in Bear Gulch, a narrow canyon which is not only home to park headquarters and very high visitor use, but which is frequently threatened by both wildfire and flooding. The GMP calls for these facilities to be replaced if they are destroyed by fire or flooding. Although not considered in this environmental assessment, construction of a new visitor center, headquarters and staff offices is being considered in concurrent planning.

D. Issues and Impact Topics from NPS, Tribal and Public Scoping

Issues and impact topics are the resources of concern that may be affected by the range of alternatives considered in this EA. Impact topics are used to analyze changes from the current conditions within the project area in the *Environmental Consequences* chapter.

Impact topics were retained if they are directly related to the proposal; if analysis of environmental impacts is important to make a choice between the alternatives; if the environmental impacts were raised



Figure 4: Existing East Entrance Station (approach from north)

as a concern by the public and/or other agencies; or if there are potentially significant impacts associated with the issue.

The following resource topics are considered in this Environmental Assessment (EA): soils, vegetation, special status (including threatened and endangered) species, wildlife, water resources (water quality, water quantity, and floodplains), archeological and historic resources, and visitor experience (including human health and safety).

E. Issues and Impact Topics Considered but Dismissed

Issues and impact topics are dismissed from further evaluation if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be no measurable effects from the proposal.

The following topics were eliminated from detailed study because there would be minimal or no potential impacts: air quality, geology, water resources (hydrology, wetlands), socioeconomics, wild and scenic rivers, Indian trust resources, and environmental justice.

U.S. Department of the Interior (USDOI) policy requires either an analysis or specific dismissal of Indian trust resources (USDOI 1995). No Indian trust resources are in the park; therefore, Indian trust resources were dismissed as an impact topic in this EA.

USDOI policy also requires either an analysis or specific dismissal of environmental justice (USDOI 1997). Paicines, Hollister and other communities surrounding the park contain both minority and low-income populations; however, environmental justice was dismissed as an impact topic for the following reasons:

- The impacts associated with implementation of the preferred alternative would not disproportionately affect any minority or low-income population or community.
- Implementation of the preferred alternative would not result in any identified effects, including human health effects, specific to any minority or low-income community.

F. Decision to be Made

This EA evaluates impacts from the proposed plan on park resources and will be used by the NPS Pacific West Regional Director to make a decision, based on a recommendation from the Superintendent of Pinnacles National Park, about whether and where to relocate the entrance station. This decision will be documented in the proposed Finding of No Significant Impact (FONSI) for this EA. If the EA reveals significant impacts on park resources from the project, an Environmental Impact Statement and Record of Decision would be prepared.

G. Federal, State, Local Permits and Consultation Requirements

A variety of construction permits, including a non-point source discharge elimination system (NPDES) permit would be required. In addition, a permit from San Benito County may be needed if a wastewater (septic) system is constructed.

Consultation with the California State Historic Preservation Office (SHPO) and potentially other consulting parties, such as Native American Indian tribes, under Section 106 of the National Historic Preservation Act (NHPA), as well as the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act (ESA) is required.

Chapter 2: Alternatives, Including the Proposed Action

This chapter describes the alternatives. An *Alternative Comparison Chart* (Table 1) simplifies the differences among the alternatives and an *Impact Comparison Chart* (Table 2) compares their environmental effects.

Three alternatives are described (Figure 5). The no action (continue current management) alternative is intended to serve as a baseline to describe the conditions associated with use of the current entrance station. The action alternatives are intended to achieve improved management conditions, including improved visitor and employee safety, park operations and visitor use opportunities. The alternatives were generated using interdisciplinary team analysis, public scoping and consultation with applicable agencies and organizations, and are consistent with NPS Management Policies (NPS 2006).

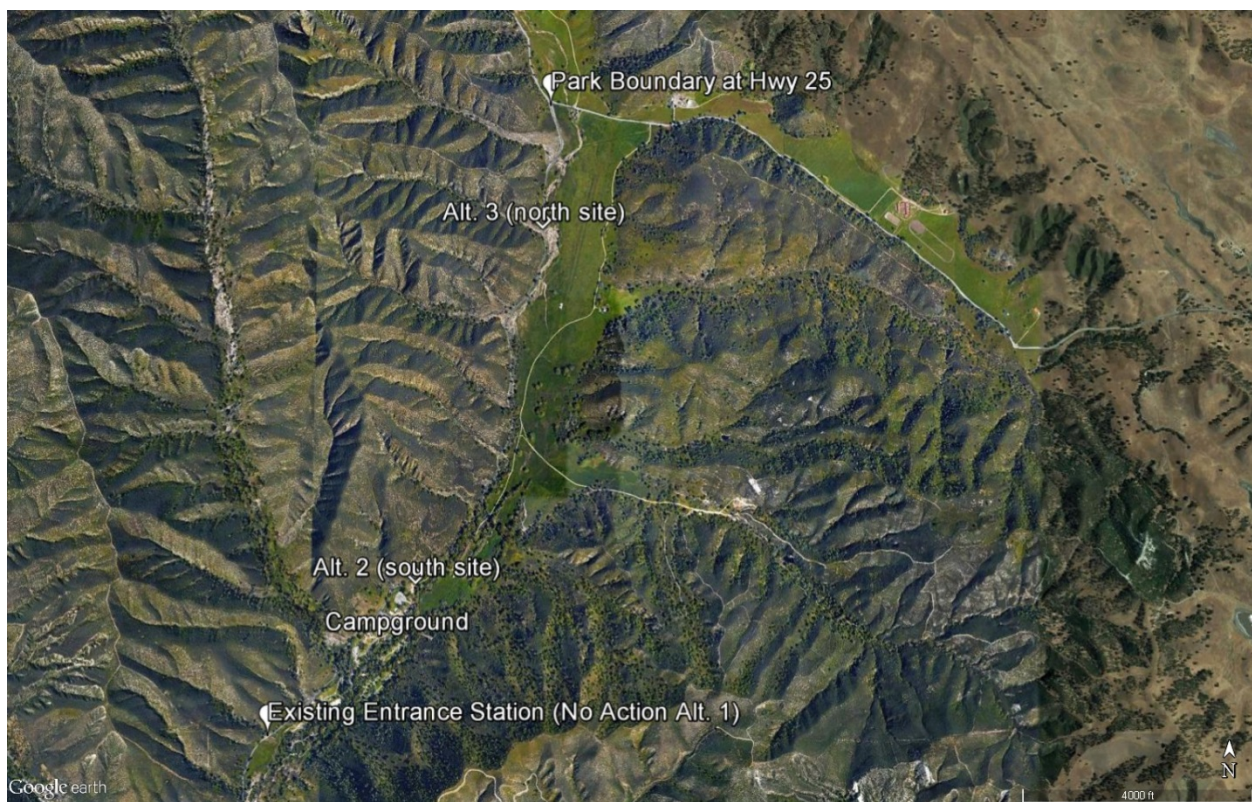


Figure 5: Entrance Station Alternatives

Description of the Alternatives

Alternative 1: No Action (Continue Current Management)

Under Alternative 1 (No Action), there would continue to be no entrance gateway sign or turnout near the Pinnacles National Park eastern boundary. The entrance station would remain in its present location on the main park road, 0.56 miles beyond the campground entrance and approximately 2.5 miles from the eastern boundary at the intersection of the east entrance road and State Route (SR) 25. Two different signs would continue to identify the park, one approximately 600 feet west of the intersection with SR 25 and another at the former entrance past the Pinnacles Campground, approximately 3.3 miles from the boundary.

The entrance booth would continue to contain the same deficiencies noted under “Need” in Chapter 1. Existing conditions associated with traffic back-up and the lack of overflow parking would also continue to be present during peak periods in spring and on holiday weekends. The current entrance station was moved down Highway 146 to the second park boundary location in the 1980’s. It is a simple wood frame building in poor condition. It has no foundation, only axles. It lacks insulation, double pane windows, and adequate ventilation. In the peak spring-summer season the park rents a portable toilet and installs it in an adjacent gravel pullout.

Fee operations are conducted in a small modular trailer (approximately 10 years old and 200 square feet), located near the swimming area restroom, approximately 0.5 miles from the entrance station. These restrooms are shared with visitors, campers and swimmers.

Elements Common to the Action Alternatives (2 and 3)

Both alternatives would include construction of a gate at the park boundary (approximately 65 feet from the junction of Highway 25 and Highway 146). This gate would be closed only when conditions require that the park is closed (such as may be required during a government shutdown). The park would continue to be open during the day and night. The area up to this point is private land, on which the California Department of Transportation has a right-of-way for use and maintenance of Highway 146.

The action alternatives would both include construction of an entrance gateway sign near the intersection with SR 25. The area would provide an opportunity to pull off and take a photograph. The paved pullout lane near the entrance sign area would be approximately 12-feet wide by 50-feet long, large enough for an oversized vehicle plus one or two standard vehicles to park. The new entrance sign would be up to eight feet high and 15 feet long and have an accessible route to the front of the sign for photos.

The alternatives would also include construction of a park entrance station (fee collection booth) (Figure 7). There would also be a support office with site improvements and road widening to accommodate a pass-through lane. The entrance station in both alternatives would be located prior to the campground entrance, closer to the park boundary.

The entrance station would be a stand-alone kiosk set in a new median island in the center of the main park road. The island would also contain protective bollards, a flagpole and space for a future self-pay station for use during off-hours. A nearby support building would provide needed office space, storage, and restroom facilities for the kiosk. Roadway widening would accommodate the new building and expanded travel lanes, two 12-foot entry lanes (one for the entrance station, and an outside bypass lane) and at least one 12-foot wide exit lane. Staff (including accessible) parking would also be included. The entrance station would include utilities (power, telecommunications, fresh air exchange, heating and cooling, alarms and a surveillance system). The adjacent fee management office would include a restroom and would also require power and telecommunications, as well as a small water supply, and small wastewater treatment system. This office would be in close proximity to the primary fee collection point to meet NPS policy requirements (Director’s Order 22: Recreation Fees and 22A: Fee Collection Reference Manual). Depending on which alternative is selected, utilities may be nearby and/or may be extended from existing lines. A dedicated photovoltaic solar array and battery system could reduce overall electrical needs and could be considered at both locations. Both locations would be fed data through fiber-optic lines. Commercial power (overhead 3-phase transmission lines) is also near both locations.

The new entrance station, and separate fee operations office would be compatible in appearance with architecture associated with the Ben Bacon Ranch Historic District and the surrounding agricultural area. The buildings would meet current standards for building codes, energy performance, comfort and accessibility, and for safety requirements specific to fee collection. The buildings would be designed to be energy, water and resource efficient, as well as durable and pest resistant. They would also be protected from vehicle collisions by the installation of bollards.

Additional space would be needed to provide two to three staff parking stalls, including one that meets Architectural Barriers Act Accessibility Standards (ABAAS), the accessibility law that applies to federal lands. Depending on the location, a rainwater collection system (if suitable), small water storage tank, a septic tank and leach field, and ground-mounted electrical transformer and a small PV solar array may be appropriate (see description of each alternative). Adjacent amenities would include information signs and accessible paths of travel between an accessible parking space and the entrance station as well as circulation to move from the entrance station to the support building and back, such as a crosswalk. These would be designed to meet ABA standards. Dark sky compliant lighting (directed inward and downward with lighting and brightness appropriate for, but not exceeding its need) would also be included.

As a result, the new entrance station and fee office would comprise between 400 and 500 square feet of building space (including approximately 140 square feet for the entrance station, 64 square feet for the staff restroom, 140 square feet for the fee office, and 100 square feet of storage). An area of up to 0.75 acres would be required for locating the entrance booth, travel lanes, parking and access pathways. Most disturbance would be located within and adjacent to the roadway. Construction staging areas would be delineated and would likely be in the immediate area to be developed and in a portion of the existing day-use parking areas near the campground store/visitor center. Upon construction completion, revegetation with native plants would occur to minimize disturbed areas and to naturalize the building setting.

Mitigation Measures: Mitigation measures have been developed to lessen the potential adverse effects of the proposed project on Pinnacles National Park. The project would be scheduled to avoid predictable wet periods. Other general measures include using construction materials (design, types, and colors) that blend with the surroundings;

revegetating disturbed areas to blend with the surrounding environment; and using construction Best Management Practices (BMPs) to reduce overall impacts from construction. A list of mitigation measures applicable to affected resources may be found in the impact analysis sections in Chapter 3: Environmental Consequences section.



Figure 6: Proposed Location of Entrance Station in Alternative 2 (South Site)

Alternative 2: Entrance Station Close to Existing Visitor Center and Campground on the Pinnacles East Entrance Road (South Site)

Under Alternative 2, the entrance station and fee office would be constructed adjacent to the existing overflow parking area for the Visitor Center and Pinnacles Campground, 0.75 miles closer to the intersection of the east entrance road and SR 25 (Figure 9: Proposed Location of Alternative 2 (South Site Entrance Facilities)). Since this site is 1.77 miles from the intersection of SR 25 and more than 500 feet from the entrance to the visitor center and campground, the roadway could accommodate a vehicle queue of more than 100 vehicles waiting to enter the park, however only 15-18 cars could queue before reaching

the next blind curve. Fee collection staff at the entrance station would be close to other park staff, especially if a future visitor center is constructed in the vicinity of the campground.

Utility systems (power, telecommunications, and water) would be in close proximity to others currently used by the park and could be extended. Trenching for water lines would pass through mature oak woodlands. A new wastewater system would need to be constructed, since the campground systems are overused, aging and failing and not located near the proposed sites. The system would be located off the north corner of the day use area. A microwave data connection would be impossible to the south site locations since there is no direct line of sight to the Pinntel box on State Route 25. Telephone and data connections would need to tap off the camp store system which is the terminus of the existing Pinntel fiber optic line. This would require additional trenching or overhead lines to connect to the camp store and it is not known if the data capacity at the camp store is sufficient to support the entrance station point of sale and workstation systems.

Alternative 3: Entrance Station Located Close to State Route 25 (at Milepost 0.4) on the Pinnacles East Entrance Road (North Site) (Proposed Action/Preferred Alternative)

Under Alternative 3, the entrance station and fee office would be constructed approximately 0.43 miles from the intersection with SR 25 (Figure 10: Proposed Location of Alternative 3 (North Site Entrance Facilities) and 1.34 miles from the existing Visitor Center and Pinnacles Campground. Even with the entrance station closer to the SR 25 intersection, the roadway between them could accommodate a vehicle queue of 100 vehicles (with an average estimated length of 20 feet) waiting to enter the park. Approximately 40 vehicles could queue before reaching a slight rise in the road where there is a bit of an obstructed view. This entrance station would be located more than two miles from other park administrative infrastructure.

Overhead electricity lines are located approximately 250 feet from the proposed north site and would require an overhead lateral extensions from the existing utility pole to cross Sandy Creek to a new pole, and then an underground conduit from the new pole to the buildings. Data would be provided via an underground boring at the existing fiber optic line on the east side of the creek. Pinntel would excavate the boring under Sandy Creek in another similarly-sized hole. Conduit would carry the fiber optic and telephone line. Under this scenario, the entrance station would have redundant phone/data connections. Existing water and wastewater systems are located approximately two miles away in the campground – too far for extensions. Therefore, the facility would require an independent wastewater system (septic tank and leach field or vault tank), and a potable water system (rainwater collection, well or storage tank) and/or other portable separate potable water supply.

List of Alternatives and Actions Considered but Eliminated from Detailed Study

An architectural team developed three facilities plan alternatives for the Bottomlands area, including 2 alternative locations for the entrance station along the main park road. The possible sites for the entrance station were restricted by available land along the road as it is bordered on the west by hills and on the east by Sandy Creek. They were also restricted by areas with enough room to queue vehicles to avoid effects on State Highway 25, and to areas with few or no blind curves. Alternative locations utilizing existing unpaved road routes were discussed, but the feasibility of improvements to those roads and the extent of necessary construction dismissed them from further consideration.

Relocate Entrance Station closer to SR 25

Another location for the entrance station, closer to SR 25 than the site considered in Alternative 3 was initially under consideration. Further investigation, however, found that this site could not accommodate a 100 vehicle queue. As a result, during an interim period, where overflow parking was not increased on the east side, a queue of the expected size could back up onto SR25. This site would have been similar to

Alternative 3, in that it would require extension of utilities (phone and power) or construction of new utilities (water and septic). In addition, the site was closer to an alluvial debris flow hazard area.

Alternate North Site

Another site slightly north of the Alternative 3 site was considered but dismissed because it would have been within an alluvial fan debris flow hazard zone and could have affected habitat for a rare plant. Because this alternative would have had more impacts than Alternative 2, it was dismissed from further consideration.

Alternate South Site

This site was adjacent to the well site and its solar voltaic array and would have required much more cut and fill than the alternate site identified. In addition, sight distance was less ideal for placement of the building. Because this alternative had more impacts than the other alternatives, it was dismissed from further consideration.

Replacement with a Self-Pay Electronic Fee Station Only

This alternative was rejected because self-pay only would slow the passage of vehicles through the entrance, lengthening already long lines and visitor delays.

Table 1: Alternative Comparison Chart

Action	Alternative 1: No Action	Alternative 2	Alternative 3 (Preferred)
Construct Park Entry Sign and Turnout Area	n/a	X	X (Same as Alternative 2)
Construct New Entrance Booth	Retain current building 48 square feet	X Construct close to campground to meet current codes, safety and accessibility guidelines	X Construct close to State Route 25 to meet current codes, safety and accessibility guidelines
Fee Operations Building	Retain current building 200 sf	Construct new building approx. 400 sf.	Same as Alternative 2
Travel Lanes	9-10 feet wide	12 feet wide, plus bypass	Same as Alternative 2
Provide for Self-Pay at Entrance	Retain current "Iron Rangers"	Automated Self-Pay System	Same as Alternative 2
Restroom	Retain use of campground restroom	Include in fee operations building	Same as Alternative 2
Utilities	Retain existing. Continue use of portable toilet (monthly rent and service fee)	Shorter connections than Alternative 3. Connect to existing power, telecommunications, and water. New wastewater system. Possibility for solar system.	Longer connections than Alternative 2. Connect to existing power and telecommunications. New water and wastewater systems. Possibility for solar system.

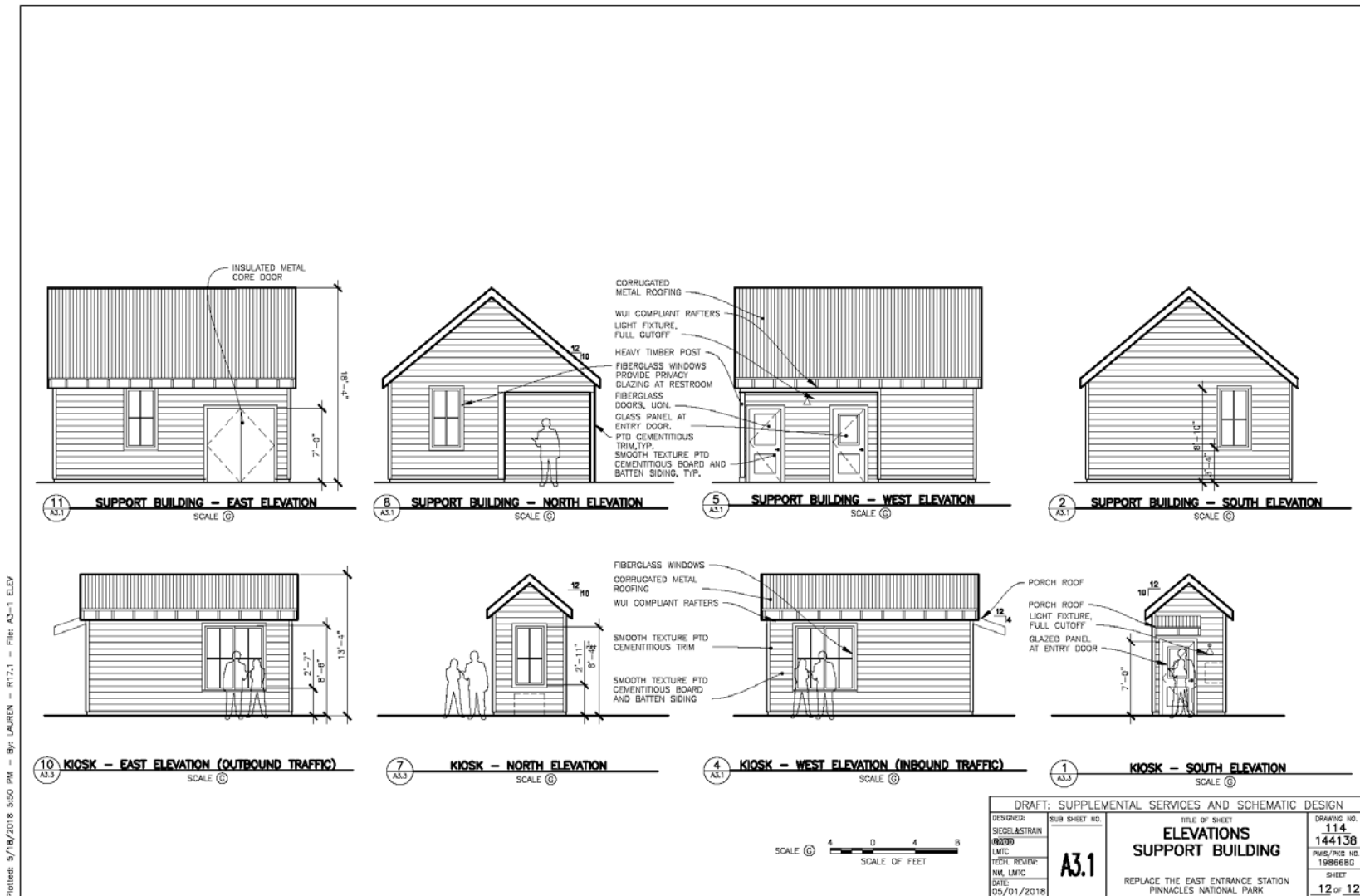


Figure 7: Conceptual Views of New Entrance Facilities¹

¹ Based on further design development, the board and batten siding would be drop siding and a brace or bracket would be added on the porch awning roof



Figure 8: Proposed Location for Alternative 2 (South Site Entrance Facilities)

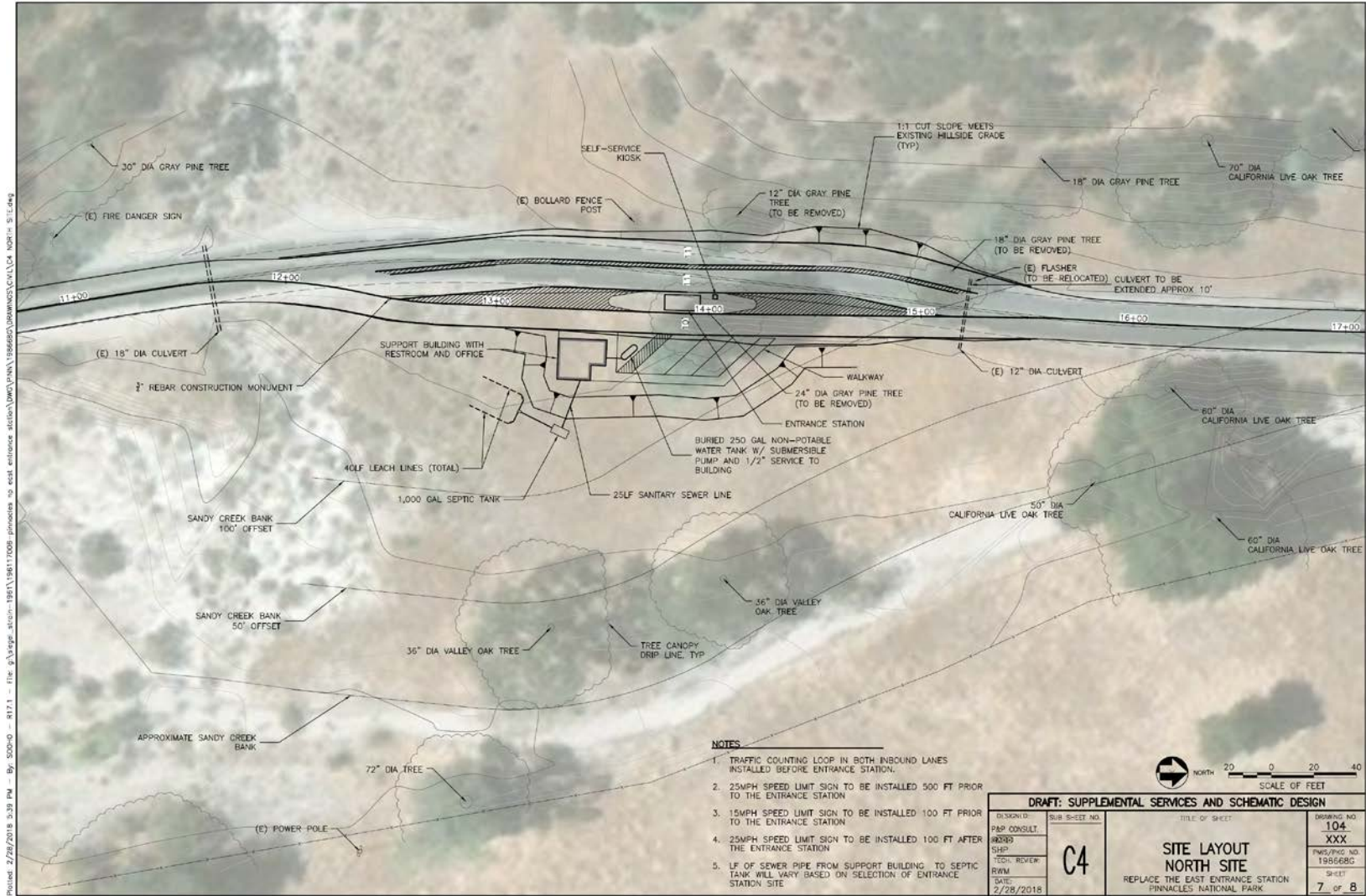


Figure 9: Proposed Location for Alternative 3 (North Site Entrance Facilities)

Chapter 3: Affected Environment and Environmental Consequences

Introduction

This section describes the affected environment (existing setting or baseline conditions) and analyzes the potential environmental consequences (impacts or effects) that would occur as a result of implementing the no action and action alternatives. Cumulative effects are also analyzed for each resource topic carried forward.

Cumulative Impacts

The CEQ regulations that implement NEPA require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Because the scope of this project is small, the geographic and temporal scope of the cumulative impact analysis is similarly small. The temporal scope includes future projects within a range of approximately 10 years.

Past plans and projects

- Pinnacles National Park General Management Plan EA (NPS 2013)

This plan states “A replacement East Pinnacles Visitor Center (approximately 3,800 sf) and a replacement campground store will be built in a previously disturbed area in the vicinity of the current visitor center/campground store building to replace the current structure when it no longer meets park needs or cannot be cost-effectively maintained. The current building was not designed for multiple functions occurring in the same space. It has structural deficiencies and public health concerns. The replacement visitor center and a picnic area will be designed to provide better separation between day use visitors and campers, improving visitor experience. A replacement east side entrance station will be constructed along Highway 146 between the park entrance and visitor center to improve visitor orientation and circulation. Future site planning will identify specific locations and footprints for these structures and will be subject to additional environmental analysis.”

- Habitat Restoration/Fire Management Plan Update EA (NPS 2010)

This plan was developed to analyze and treat nonnative invasive plants and to restore areas in the Bottomlands, then a new acquisition.

- Sandy Creek Bridge Reconstruction EA (NPS 2011)

The bridge over Sandy Creek leading to the Bacon Homestead washed out in 2010 and was reconstructed in 2012.

Current projects

- Peaks View Toilet and Parking Modifications

This project calls for reconfiguring the Peaks View parking area, paving it, and installing a new vault toilet.

Future projects

- East Side Development Concept Plan (DCP) EA

This project includes a new visitor center, and new administrative and visitor facilities on the east side of the park. The current visitor center, which is also located before the existing entrance station, is undersized and serves a dual purpose as a campground store. When the entrance station is closed visitors are directed to pay fees at the visitor center, but some do not. Visitors in line for parking also leave their cars and walk up the roadway to access nearby facilities. For the East Side DCP, a transportation study

was conducted to assess parking needs, shuttle operational efficiency, and how the location of the entrance station could affect parking management. Three preliminary facilities plan alternatives were developed for the Bottomlands and are currently undergoing additional feasibility planning, including additional floodplain delineation and analysis related to the proposed improvements.

- **Peaks View Parking Rehabilitation**

This project includes paving existing parking areas and adding a double vault toilet.

- **Old Pinnacles Parking Rehabilitation**

This project calls for paving existing parking areas and adding a double vault toilet.

- **Parkwide Shuttle Stops**

This project calls for providing more amenities at park shuttle stops, including accessibility improvements, shade, and reconfiguring parking areas.

- **Bottomlands Trailhead**

The GMP calls for the addition of trailheads that provide better access to the Bottomlands and McCabe Canyon.

Environmental Impact Analysis

Some information about park resources can be found within the analysis below. More detailed information is available in the Pinnacles National Park General Management Plan (NPS 2013), previous environmental assessments, and on the park's website (www.nps.gov/pinn).

In addition to the measures identified within each section that would avoid, minimize or mitigate environmental impacts, the following general measures would be adhered to:

- Any contractor-selected non-commercial material source, staging or spoils areas not identified within this EA for project work would, at a minimum, prior to any use have written documentation submitted by the contractor (under the laws noted) to ensure that potential effects on rare, threatened or endangered species (Endangered Species Act), waters of the United States (Clean Water Act), or prehistoric or historic resources (National Historic Preservation Act) have been evaluated as to presence and effects of the proposed activity(ies).
- The park would conduct a project orientation program for all workers to increase their understanding and sensitivity to the challenges of working within a national park environment.

Soils

Park upland soils are typically thin, sandy loams with large amounts of gravel and little water or nutrient-holding capacity. Relatively small pockets of soil may be rich in humus and up to two feet deep. Where deep soils occur, extensive root development is possible. Generally though, the low soil fertility, and water and nutrient-holding capacity of upland soils tend to increase moisture loss, causing less water to be available for plant cover. When plant cover is disturbed, these soils become very susceptible to erosion during periods of intense rainfall (NPS 1999 in NPS 2012).

Alluvial soils are found in creek bottoms and valleys, such as the floodplain of Sandy Creek, and are often dominated by riparian vegetation. These deeper, coarse-textured soils in the Bottomlands have more water holding capacity. As an alluvial floodplain, Bottomlands soils are fairly deep, well-drained gravelly sandy loams and sandy loams formed from conglomerate rock. These soils are thicker, up to 80 inches deep, and more developed than in comparable valley areas in the park (NRCS 1969 in NPS 2012, NRCS 2009 in NPS 2012). Because of their location in valley bottoms, alluvial soils are also subject to removal and deposition from periodic flooding.

Impacts from Alternative 1

There would be no additional impacts to soils under Alternative 1. Existing long-term adverse impacts would continue to occur along the roadway from maintenance activities. Routine, ongoing maintenance of the road involves shoulder work and ditch maintenance. As a result, soils would continue to be mixed, removed, moved and replaced. These actions would occur as a result of annual and/or cyclic maintenance and repair needs and, except in the case of annual maintenance actions, would generally occur widely spaced over time. Occasionally small debris flow deposited material would need to be cleared from the roadway near the bottom of side canyons.

Impacts from Alternative 2

Soils would be affected over the length of the road modification and entrance station construction project, wherever excavation and/or fill are called for. Two small rock-faced pillars on either side of the road would be constructed for the entrance sign. To construct the pillar footings, an area of approximately 70 square feet would be disturbed, and soils excavated to a depth of approximately 2 feet within it (280 cubic feet). In areas like this where excavation occurs, there would be localized loss of the soil profile and soil mixing, including replacement of some of the excavated material with native and imported fill. Moving, covering, trampling, and compaction of soils by equipment and workers within the construction work zone would also occur. Covering the concrete core of the entrance pillars in native stone that has been salvaged from past work in the park and/or purchased from a commercial vendor would also occur. There would be a total of approximately 2,000 square feet of ground disturbance to construct an aggregate or asphalt paved pullout on both sides of the road, the entrance sign, and an accessible paved sidewalk from one pullout to the sign.

To construct the 120-square foot entrance station, support building, and additional pass-through lane and to provide enough sight distance for vehicles (300 feet in each direction), approximately 989 cubic yards of soil and rock would be removed from the road-cut above the roadway. Needed fill would comprise approximate 26 cubic yards, leaving an excess of approximately 962 cubic yards that would need to be stored or disposed of.

Other actions that would involve soil disturbance would include re-grading the roadway within the disturbance area, including for a distance of 400 linear feet (before and after the entrance station) in an area up to 40 feet wide (up to 16,000 square feet or 0.37 acres). Compared to the impacts from excavation to widen the roadway, impacts from re-grading would be small.

Construction of the adjacent 400-square foot support building would include excavation for its foundation to a depth of two feet. Both the entrance station and the support building would have a perimeter foundation (1-foot wide by 2-feet deep) of reinforced concrete spread footings.

Additional excavation impacts would include trenching for utilities to connect the entrance station and support building to power, water, wastewater and telecommunications.

Data Lines: Data would be provided via a trench within the roadway from a connection approximately two miles away and would be installed by the area telecommunications service (Pinntel).

Electricity: Electricity would be provided via a new pole installed by PG&E (with 75 x 1 x 3-foot deep trench). Otherwise, it would be installed underground by constructing a trench 852-feet long (with the same width and depth) from the visitor center.

Water: Potable water lines would be located in a trench 71 x 1 x 3-feet deep and extended to the new facilities from existing lines.

Wastewater: The support building would be connected to a 1,500-gallon septic tank (approximately 360 cubic feet) or (5 x 12 x 6-feet), which would be buried, approximately eight feet deep (to allow for a 2-foot cover of soil). The septic lines themselves would require a leachfield of approximately 1,450 square feet

with approximately two lateral lines (40 x 2 x 7-feet). There would be another 200 linear feet of sanitary sewer-line to connect the system to the support building.

In total, this alternative would have an estimated 400 feet of trenching (approximately 1-foot wide by 2-3 feet deep). Trenching would be more than triple this if it included underground electricity from the visitor center. Much of this trenching would occur in the vicinity of numerous mature oak trees.

Throughout the project area, localized soil compaction from trampling and equipment use during construction would temporarily decrease soil permeability, change soil moisture content, and lessen its water storage capacity. Because of planned scarifying during restoration, soils remaining uncovered would not be expected to remain compacted. Therefore, some of these impacts would be temporary. Other areas, including the fee booth island and walkways to and from the entrance station and support building would be permanently impermeable because they would be covered by asphalt-concrete pavement or concrete. Altogether there would be an additional 14,600 [roadway] + 530 [buildings] square feet of new impermeable surfacing.

Impacts from Alternative 3

Impacts would be the same as in Alternative 2 for the construction of the entrance sign, however less cut and fill would be required for construction of the entrance station and for trenching utilities. Unlike Alternative 2, this alternative would also require a small new septic system and an underground water supply tank. Despite these additions, there would be less trenching required to connect the entrance station and support building to utilities because of the new adjacent water and wastewater utilities.

For the entrance station, approximately 390 cubic yards of soil and rock would be removed from a slope above the roadway to provide clearance for sight distance (500 feet in each direction) and for construction of the new entrance station and support building. This is approximately 40 percent of the excavation required in Alternative 2. Most of this (approximately 305 cubic yards) would be used to construct the new egress lane, with some remaining for the fill needed for the new support building (438 cubic yards). Two existing drainage culverts would remain near either end of the proposed project area, a 12-inch diameter culvert on the north and an 18-inch diameter culvert on the south. The northern culvert would be extended 10-feet. No changes would be made to the southern culvert. Excavation needed for these would be in addition to excavation for the building and utilities. Utility trenching would occur in non-sensitive habitat.

As in Alternative 2, additional excavation impacts would include trenching for utilities to connect the entrance station and support building to power, water, wastewater and telecommunications.

Data Lines: Data would be provided via an underground boring (from a hole 4 x 4 x 6 feet) at the existing fiber optic line on the east side of the creek. Pinntel would excavate the boring for approximately 185 feet, going under Sandy Creek at a depth of 6-8 feet and surface within 25 feet of the entrance station in another similarly-sized hole. Conduit would carry the fiber optic and telephone line. Under this scenario, the entrance station would have redundant phone/data connections (Pinntel).

Electricity: An overhead power line and pole installed by PG&E would be located approximately 25-feet from the support building to bring power across Sandy Creek. From there it would travel underground to the support building and kiosk in a trench approximately 75 x 1 x 3-feet.

Water: Water would be provided by the park for the support building by filling a 1,500 gallon fiberglass water tank (8-feet deep x 6-feet diameter). This would involve excavation to a depth of approximately eight feet to allow for three feet of soil cover over the tank, the tank and placement of a deadman (anchor) below the tank to secure it. Trenching for the tank would include that needed for a submersible pump. The park would fill a water trailer from a potable water source within the park, transport the water to the entrance station and fill the water supply tank, as needed. Currently the park does not own water trailer rated for potable water, so the restroom lavatory would be labeled “non-potable” and would be suitable

only for handwashing. If the park purchased a trailer with a potable rating, the underground water tank could be cleaned and designated potable.

Wastewater: The support building would be connected to a 1,500-gallon septic tank (approximately 360 cubic feet) or (5 x 12 x 6 feet), which would be buried, approximately eight feet deep (to allow for a 2-foot cover of soil). The septic lines themselves would require a leachfield of approximately 1,450 square feet acres, with approximately two lateral lines (68 x 2 x 7 feet). There would be another 42 linear feet of sanitary sewer-line to connect the system to the support building.

Other excavation impacts would include trenching telecommunications to connect the entrance station and support building (35 feet). In total, this alternative would have an estimated 250 feet of trenching (approximately 1-5 feet wide by 2-3 feet deep), depending on the purpose. New impermeable surfacing would be similar to that in Alternative 2 (approximately 15,000 square feet).

Measures to Avoid, Minimize or Mitigate Impacts

- Construction vehicle parking would be limited to existing roads and parking areas.
- Cut and fill would be balanced to the extent practicable.
- Construction limits would be clearly marked with stakes at the beginning of ground disturbing activities. No disturbance would occur beyond these limits. Temporary construction fencing would be installed where determined necessary by the contractor and NPS project coordinators.
- Vegetation and soil disturbance would be minimized to the maximum extent possible.
- Erosion control measures will include the use of some or all of the following: sediment traps, silt fencing, and check dams. Disturbed and/or stockpiled soils may be temporarily covered with straw, jute matting, and erosion control netting, or plastic sheeting.
- Regular site inspections during construction would be conducted to ensure that erosion control measures remain in place and are functional.

Cumulative Effects

Adverse impacts to soils as a result of other past and ongoing actions include compaction, soil mixing, and soil loss from removal and erosion, from development and concentrated visitor use in the park, as well as from areas where soils have been disturbed and revegetation has not occurred naturally or been undertaken by the park. Other impacts include an overall decrease in soil infiltration, where hardening of surfaces (roads, walkways, buildings) has occurred. Some restoration and development projects (e.g. addition of new visitor service facilities, restoration of old roads or building sites) could occur within the park and project vicinity. These projects could contribute to both beneficial and adverse impacts to soils. Because most of the park continues to be undisturbed by human impacts, including within designated wilderness, the amount of area affected by past and possible future projects is not substantial and soil impacts therefore are small. Impacts from the above actions, together with the impacts of the alternatives, would continue to result in a small degree of cumulative impacts to soils in the park from soil loss, movement, mixing, and covering.

Conclusion

Except for proposed excavation of road-cuts, soils in the project corridor have been previously disturbed by road development. To construct the new entrance station and support building the Alternative 2 setting would require approximately 40 percent more cut and fill compared to the Alternative 3 location. Other impacts associated with the alternatives would be similar (entrance station and support building construction footprints) or the same (entrance sign).

Water Resources: Water Quality, Water Quantity and Floodplains

Because of Pinnacles' Mediterranean climate, with hot dry summers and cool wet winters, park water resources are highly seasonal. Average rainfall totals approximately 16 inches per year and snow can occur in higher elevations between mid-December and March. Several creeks, numerous springs and small

ponds comprise the park's surface water resources. The project area drains into Sandy Creek, while most of the park drains into Chalone Creek and its tributaries. Chalone Creek flows southwest to the Salinas River and from there to Monterey Bay in the Pacific Ocean. The park is approximately 40 miles from the coast.

The project areas, in the upper (north) or lower (south) Bottomlands, is adjacent to Sandy Creek. Sandy Creek, which joins Chalone Creek near the east entrance, originates outside the park. Chalone Creek and Sandy Creek flow through the park. Their uppermost sections, located on private lands, are impounded. There are also dams on two tributaries of Sandy Creek within the park and the Bear Gulch Dam impounds a tributary of Chalone Creek. Valley alluvium, particularly along the east entrance road and South Chalone Creek, is a reliable source of groundwater. Sandy Creek has a meandering shallow channel that has perennial water in its woodland riparian sections near the campground. Unlike most tributaries of Chalone Creek, Sandy Creek has a substantial groundwater flow through the Bottomlands alluvium that continues late into the year. This alluvium, with a depth of at least 38 feet (11.5 meters), is permeable and has high hydrologic conductivity. Where the valley crosses a resistant rock unit, the groundwater is often brought to the surface in perennial pools or springs.

Water Quantity: Three wells (including one on the west side) draw water from depths of 90 to 300 feet (30 to 100 m) to supply the park's drinking water. Visitor facilities in Bear Gulch, Chalone, and Peaks View are serviced by a well that taps valley alluvium near the confluence of Bear Gulch Creek and Chalone Creek. On the east side, another well supplies water to the campground and Bottomlands facilities. This well was replaced in 2009 due to its potential for surface water influence.

Water Quality: Measurements on Sandy Creek at the eastern park boundary show elevated levels of phosphates and nitrates perhaps from upstream ranching (Moore, in prep in NPS 2012). Healthy riparian areas have the ability to uptake and buffer excess nutrients and other pollutants (Hauer and Lamberti 1996 in NPS 2012). Infiltration of runoff into alluvial soils of the Sandy Creek floodplain should continue to improve overall water quality in the creek channel and groundwater.

Floodplains: Periodically, heavy rains can cause extensive flooding in the park. Because much of the park is within steep terrain, most facilities are located very close to creek channels. In the past two decades, three major floods in the Chalone Creek watershed have occurred. The largest of these was a 40-year flood event in 1998, which resulted in extensive damage to park facilities, including a large parking area and maintenance facility across Chalone Creek from the Peak's View parking area. Executive Order 11988 (Floodplains and Wetlands) requires analysis of proposed actions within and near floodplains. The Bottomlands are within the floodplain of Sandy Creek, which drains Bear Valley and joins the larger Chalone Creek just west of the Pinnacles Campground.

Impacts from Alternative 1

There would be no additional impacts to water resources under Alternative 1. Existing impacts would continue, from the use of water for park operations, and development in the vicinity of Sandy Creek, such as for the campground (5 restroom buildings [one with showers] serve approximately 134 campsites), and swimming pool and adjacent restroom/shower. There would also continue to be a range of park operations which use water near Chalone Creek, including the park maintenance and housing area.

Impacts from Alternative 2

Water Quantity: There would be a small degree of additional use of water from the provision of potable water from the adjacent store and campground water lines for flush toilets, handwashing, and drinking water in the entrance station support building. Because this use would occur from daily staffing during the busy season and from intermittent staffing at other times of year for 1-2 people, it would not be perceptible compared to the existing use of water for other park operations, such as the campground and maintenance area.

Water Quality: There would be a potential for a range of short-term impacts on water quality from disturbance to area soils for removal of asphalt, grading, trenching, construction, repaving and paving, as well as from construction of the entrance station and support building. These facilities would result in a small degree of additional impervious surfacing to pave an additional lane for ingress/egress through the entrance station area and from the sign and building footprints (as noted, this would be similar to Alternative 2). The additional paving for the entrance sign turnout would be within an existing disturbed area, while construction of the support building would disturb a small new area. The small increase in runoff from additional surfacing from the proposed construction of an additional lane, turnout, buildings, walkways and administrative parking would be directed via grading to stable culverts/outflow areas at either end of the new developed area.

Floodplains: There would be no additional impacts on floodplains. The project area is outside of the 100-year floodplain and is also outside of the extreme floodplain, including alluvial fan debris flow hazard zones. The action under Alternative 2 is not within its applicable regulatory floodplain (100 years).² Because the area is outside of the 100 year floodplain and because there would be no overnight occupancy, no Floodplains Statement of Findings would be required under the NPS implementation of Executive Order 11988: *Floodplain Management* or Executive Order 13690: *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*.³

Impacts from Alternative 3

Water Quantity: Because the additional use of potable water for drinking would be from water brought to the site, it would not impact area water resources. Expected use of 20-30 gallons per day is a very low draw. Daily potable water use would likely be provided from a commercially-sourced 5-gallon water cooler.

Water Quality: As in Alternative 2, the continued use of well-designed septic systems would not be expected to result in area contamination or other adverse effects. In Alternative 3, conservation measures, including oversizing the pre-cast concrete septic tank have been included to avoid impacts on these resources to the extent possible. For example, a 1,500 gallon tank would accommodate far more than the design use of 250 gallons requires. The long detention time in the tank would also prevent any potential for untreated wastes to be released should the area be inundated with flood flows. As required by the State of California, there would also be 100 percent redundancy in the septic leach field, allowing for periodic rest intervals for each leach line to maintain their filtration capacity, even if use was greater or percolation was slower.

Floodplains: The proposed site would not be within known floodplain hazard area. It would be offset at least 100 feet from the bank of Sandy Creek. Nonetheless, the potential for alluvially generated debris flows may exist. The lower (south) part of the proposed site would be near the edge of an alluvial fan, just outside an alluvial debris flow hazard area. Based on preliminary analysis of site constraints, the proposed location for the building is well outside of the alluvial fan debris flow zone and outside of the Sandy Creek 100-year floodplain. Because it is adjacent to the floodplain, however, a small degree of risk would be present. This degree of risk is not enough to warrant a floodplains statement of findings because the resources at risk would not be inhabited and do not include the entrance station itself. Although the southernmost portion of the site could be affected by a particularly large alluvially-generated debris flow, such a flow would have the potential to affect the roadway (which would not change in alignment), but

² According to the Guideline, NPS proposed actions are classified under one of three action classes. Depending on the action class, one of three *regulatory floodplains* applies (100-year, 500-year, and Extreme).

³ These executive orders require that if a proposed action is found to be in the applicable regulatory floodplain and relocating the action to a non-floodplain site is not a viable alternative, then flood conditions and associated hazards must be quantified as a basis for management decision-making and appropriate prescribed actions must be taken. If there is no other practicable alternative than for NPS facilities to occupy a regulatory floodplain, NPS policy does permit the activity when a statement of findings is prepared to explain the rationale for the decision to use the floodplain. The SOF (if applicable) would also disclose the risk from flooding and discusses how mitigation of that risk would be achieved.

not the entrance station. As in Alternative 2, because the area is outside of the 100 year floodplain, outside of an extreme floodplain, and because there would be no overnight occupancy, no Floodplains Statement of Findings would be required under the NPS implementation of Executive Order 11988 or Executive Order 13690.

Measures to Avoid, Minimize or Mitigate Impacts

In addition to the measures listed in Chapter 1, the following measures would be used to protect water resources:

- Stockpiling of materials during construction would occur in durable areas along roadways, such as the Bottomlands Access Road, or in overflow parking areas.
- Temporary barriers would be used to protect natural surroundings (including waterways, trees, plants, and root zones) from damage.
- Waste and excess excavated materials would be located outside of drainages to avoid sedimentation.
- Controls would be implemented to eliminate the discharge of pollutants into storm water and into streams, lakes, reservoirs or other waters from project construction materials.
- Chemicals, fuels, and other toxic materials would be properly stored, used and disposed of (according to manufacturer's instructions).
- Construction equipment would be refueled in upland areas to minimize the potential for fuel spills near drainages and would be inspected for hydraulic and oil leaks regularly as well as prior to use in the park.
- The contractor would submit spill prevention plans as part of the construction process.
- Water would be used as needed to control dust.

Cumulative Effects

Water Quantity: Water is withdrawn throughout the park to supply visitor and administrative needs, including for campgrounds, picnic areas, restrooms and other activities. The use of this water has been ongoing since establishment of the park, increasing over time. The small additional use of water during construction operations to minimize dust generation and during operations would add a small additional increment to the use of water for visitor and administrative uses.

Water Quality: Other visitor use and facilities in the park and project area contribute to sediments and pollutants, including oil and other contaminants from motor vehicles as well as litter that can enter drainages and affect water quality. Some restoration and development projects (e.g. addition of new visitor service facilities, restoration of old roads or building sites) have occurred within the park and would contribute both beneficial and adverse impacts to water quality. Given the minimal and localized nature of these effects parkwide, impacts on park waters would be small. Non-human factors, such as natural erosion of exposed soils can also affect water quality. Impacts of past, present and future actions that would affect soils, in conjunction with the impacts of the alternatives, would continue to result in additional small cumulative adverse effects on water resources. Cumulative impacts could be exacerbated if erosion and sedimentation measures are not effective (i.e., during earth disturbance construction activities or by improving drainage systems) but would not otherwise be present.

Floodplains: As described above, over the past twenty years, there have been three major floods in the Chalone Creek watershed. Because the actions in the alternatives would not occur within the floodplain and because steps have been taken during planning to minimize the overall effects of constructing new entrance facilities, there would be no additional cumulative impacts to floodplains.

Conclusion

There would be a small degree of additional water use for entrance station handwashing and toilet use in both alternatives. In Alternatives 2 and 3 these would be from existing utilities. Both alternatives would contribute a similar degree of impermeable surfacing, resulting in faster runoff. In both alternatives, wastes would be treated via a new underground wastewater treatment system.

Vegetation

Alluvial Fans: This habitat is characterized by open sand with annual herbs and scattered native shrubs. The loose, unstable sandy and low nutrient soils are alluvial deposits from the surrounding hills with a lower density of plants and fewer nonnative species. The plants that do persist are often specially adapted to the habitat. Therefore, alluvial fans have species scarce elsewhere in the park, and, with lower incidence of nonnative species, they have some of the best and most diverse wildflower displays. Two special status plant species are found on alluvial fans: Robbin's nemacladus (*Nemacladus secundiflorus* var. *robbinsii*, CNPR list 1B.2 (rare, threatened, or endangered in CA and elsewhere)⁴, and elegant buckwheat (*Eriogonum elegans*, CNPR list 4.3 (limited distribution). Although historically reported from about 20 locations, the Pinnacles population of Robbin's nemacladus is one of only five locations where the plant has been confirmed since the 1970s. During surveys for the schematic design in Alternative 3, this plant was located within the proposed project area. It was suspected that this plant would occur in the alluvial fan because it was found in the adjacent fan. Because it was found, modifications to the project area design were made to avoid it. In addition to providing habitat for rare and uncommon plant species, the open sandy habitat is used by a number of moth species usually associated with more southern arid habitats. The habitat is extremely rare, occupying only 0.2% of the park.

Valley Oak Woodland: Valley oak woodlands are comprised of valley oak (*Quercus lobata*), an iconic California endemic tree that forms mostly open canopy stands with an understory of grasses and annual forbs. This habitat is found most commonly on deep alluvial soils in valley bottoms. Other trees and shrubs may also be present, especially along streams. Valley oaks provide important wildlife habitat for numerous species, including both food, a food substrate, and structure in environments of otherwise low structural complexity. According to data from the California FWS, California's oak woodlands provide food support for nearly half of the state's terrestrial vertebrates.⁵ Valley oaks epitomize the central and southern California landscape and have a high degree of popular appeal. They also hold important cultural significance to Native American Indians. Because the preferred valley bottom habitat of valley oaks is also highly desirable for agriculture and building, this habitat has been greatly reduced in California. For example, within California's central valley, once home to the largest stands of valley oaks, Valley Oak Woodland had been reduced by over 90%. In addition to habitat loss, human caused changes to the environment (such as the introduction of European nonnative annual grasses) have led to very low valley oak regeneration rates. The broad valleys and sandy loam soils of Bear Valley support an extensive Valley Oak Woodland community.

Grasslands: Park grasslands are dominated by a dense layer of herbaceous plants with shrubs and trees playing a limited role in the type. The grasslands are dominated by Mediterranean annual grasses with scattered nonnative forbs and sparse native annual and perennial grasses and forbs. Some of the grassland areas that occur on the steeper slopes may be present due to frequent burning of chaparral sites (NPS 2005).

Nonnative Species: Nonnative species include yellow star thistle (*Centaurea solstitialis*), horehound (*Marrubium vulgare*), blessed thistle (*Centaurea benedictus*), summer mustard (*Hirschfeldia incana*), filaree or storksbill (*Erodium cicutarium*), wild oats (*Avena barbata*) and a variety of bromes (*Bromus* sp.), including red brome (*Bromus madritensis* ssp. *rubens*), and other thistles.

Impacts from Alternative 1

There would be no additional impacts to vegetation under Alternative 1.

⁴http://www.calflora.org/cgi-bin/species_query.cgi?where-taxon=Nemacladus+secundiflorus+var.+robbinsii accessed 3-16-18

⁵ http://ucanr.edu/sites/oak_range/woodland_wildlife/wildlife_species accessed 6-14-18

Impacts from Alternative 2

There would be approximately 2,000 square feet of vegetation removal (native and nonnative grasses and small shrubs) for construction of the entrance sign and turnout. The plants that would be affected are almost entirely nonnative annual grasses, such as red brome (*Bromus madritensis ssp. rubens*), ripgut (*Bromus diandrus*), and wild oats (*Avena barbata*).

In addition, approximately 15,130 square feet of vegetation (native and nonnative grass, forbs and small shrubs) would be removed for widening of the roadway and construction of the entrance station/support building. This would include the loss of one 12-inch gray or foothill pine (*Pinus sabiniana*) adjacent to the roadway. In addition, some of the large oak trees in the vicinity would be affected by the placement of additional impermeable pavement and development within the driplines of nearby oaks. Affected plants would include the following species: gray pine, valley oak, live oak (*Quercus agrifolia*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and various nonnative annual grasses.

In general, there is very little vegetation along the road shoulder and in turnouts that would be used for staging in the project area.

Although the entrance station site was designed with a separate office space to avoid the large valley oak trees near this site, the roadway and some of the new construction would be within the drip lines of five valley oaks (approximately 18, 24, 30, 36 and 40 inches in diameter). Because the building is located outside the driplines, it would not be likely to require future effects from hazard tree reduction, thereby limiting future indirect impacts to limbs from the larger valley oaks. Widening of the roadway on the north would also require the removal of one gray pine (less than 12 inches in diameter). In addition, the edges of the roadway in some parts of the project area are lined with native and nonnative grasses, forbs and small shrubs, some of which would be affected by project implementation.



Figure 10: Valley Oaks adjacent to South Site

Because there would be ground disturbance in an area where nonnative plants are present and/or nearby, there would be a potential for invasive species to spread within areas disturbed, but not covered by surfacing associated with the entrance sign and entrance station. Currently, the park uses a full range of nonnative species management tools, including prescribed burning, grazing, flaming, mulching, solarization, herbicide application, propagation and seeding, mowing and power tools and hand tools, as needed to quickly respond with the appropriate tool to meet conditions on the ground (nonnative plant invasion). As a result, although there would be a potential for nonnative species to occur, the full range of tools would also continue to be available to minimize spread. There would be both short-term adverse and long-term beneficial impacts on vegetation from the potential for nonnative species.

Impacts from Alternative 3

Impacts from construction of the entrance sign and turnout would be the same as in Alternative 2. Similar to Alternative 2, there would be additional impacts from construction of the entrance station and support office. Widening of the roadway to accommodate a pass-through lane would encompass approximately 15,130 square feet, including laying back a previously disturbed road cut. This would require the removal of three gray pines (12, 18 and 24 inches in diameter), however unlike Alternative 2 the project would not be in close proximity to mature oaks (with a diameter greater than 5-inches) and therefore none would be affected. (One immature (less than 2-inches in diameter) live oak is growing underneath a gray pine that would be removed for the inbound lane widening.) Because the entrance station would be constructed within the widened roadway, little additional vegetation disturbance would occur.

Although a rare plant that occurs within alluvial fan habitat was initially found to be located in the proposed construction area in an early version of the schematic design, it would not be affected by the proposed construction, which was shifted north, to avoid it. To ensure this, an area of habitat to avoid which would encompass this species and similar nearby habitat was delineated.

Construction of the support building, would affect a variety of non-sensitive plants, including: nonnative annual grasses such as red brome (*Bromus madritensis ssp. rubens*), ripgut (*Bromus diandrus*), and wild oats (*Avena barbata*), California poppies (*Eschscholzia californica*), silver bush lupine (*Lupinus albifrons*), and California buckwheat (*Eriogonum fasciculatum*).

Measures to Avoid, Minimize or Mitigate Impacts

- The proposed project area has been modified to avoid rare plant habitat in the adjacent alluvial fan habitat (Alternative 3). No rare plants are found in the proposed project area.
- No large valley, live or blue oaks would be removed as a result of the proposed project in any alternative. California Public Resources Code Section 21083.4 Oak woodlands conservation: environmental quality defines an oak “tree” as having a trunk of at least 5 inches dbh (diameter at breast height).
- Naturally present cottonwoods in Sandy Creek would be allowed to grow to provide additional screening to the entrance station and support building (Alternative 3).
- Construction equipment would be washed to thoroughly remove all dirt, plant and other foreign material before it is brought into the park and prior to working with or transporting weed free materials. Particular attention must be shown to the undercarriage and any surface where soil containing exotic seeds may exist.
- No straw mulch would be used for erosion control.
- If needed, tree wells or other protection would be used around trees to be retained, especially those that are within or directly adjacent to the limits of construction.
- Salvage of topsoil and duff would occur in and adjacent to the proposed project areas, as practicable.
- Only native species, appropriate to the site would be used in revegetation (seeding or planting).
- Cut and fill would be balanced to the extent possible to minimize the amount of imported fill needed in the proposed project.
- Fill materials imported from outside the park would be from approved commercial sources and would be inspected and/or approved by NPS staff prior to importation into the park. Alternatively, the contractor would control exotic species prior to importing materials from quarries or borrow areas outside the park.
- Staging areas would be protected from spillover impacts by the placement of silt fencing or other barriers as appropriate and would be returned to pre-construction conditions upon completion of the proposed project.
- Revegetation would occur as soon as possible following road rehabilitation actions.
- Disturbed areas would be reseeded with a mixture of native grasses (*Melica californica*, *M. imperfecta*, *Poa secunda*, *Muhlenbergia rigens*, *Nasella pulchra*, *N. lepida*, and *Elymus glaucus*) and

low growing forbs, such as elegant buckwheat (*Eriogonum elegans*), California buckwheat (*Eriogonum fasciculatum*), elegant clarkia (*Clarkia unguiculata*) and yellow pincushion flower (*Chaenactis glabriscula*).

- Revegetation work would use topsoil conserved along the corridor and seeds or propagules from native species (genetic stock originating in Pinnacles National Park).
- Materials used in project work would be transported and stored so as not to acquire noxious weed seeds from adjacent areas.
- Undesirable plant species would be monitored and control strategies implemented if such species occur.

Cumulative Effects

The widespread introduction/spread of nonnative species throughout California in the mid-1800s dramatically changed native vegetation. In addition, according to the CLI, Bear Valley settlers inadvertently suppressed oak regeneration. The elimination or reduction of top predators like the California grizzly bear and the coyote combined with the introduction of exotic and highly-nutritious seed sources like filaree and wild oats resulted in an explosion of the ground squirrel and pocket gopher populations, both of which feed on oak seedlings. Pigs were also introduced and allowed to roam freely, feeding on acorns. The combined effect of the reduction of acorns and growth in squirrel and gopher populations reduced the number of seedlings which germinated, effectively suppressing the development of new oak woodland. All the while, mature oaks continued to be cut for firewood and other needs. The CLI estimates that as many as 150-200 oaks were cut annually for firewood in Bear Valley. As a result, much of the oak woodland within Bear Valley (including the Ben Bacon Ranch) was converted to savanna and open grassland over the course of the historic period of significance (NPS 2009: 65 of 97).

Other human activities, particularly agriculture and fire suppression, have altered the structure and composition of the Bottomlands vegetation, which changed due to grazing, dryland farming and water diversion (NPS 2010: 4). In addition to broad scale changes in vegetation characteristics, relatively small patches and corridors of habitat, including chaparral, oak woodlands, and riparian areas, have been lost in the park in areas that have been developed for facilities, trails, and roads. Impacts from the above actions, in combination with the impacts from Alternative 1, would continue to result in additional cumulative adverse effects on vegetation over the long-term from the loss of a small degree of vegetation within the project areas. Because of the small stature of the proposed new development in both action alternatives (2 and 3), impacts from the development of this area would contribute a small degree of additional loss and change to vegetation in the area. Some benefits from reseeding disturbed areas could improve the condition of the area near the proposed entrance station, particularly in Alternative 3, however the area in Alternative 2 is too close to existing overflow parking areas to result in much opportunity for revegetation.

Conclusion

Because a relatively small area (0.34 acres) would be affected by the new construction associated with the east entrance station and support building, because efforts have been made to avoid sensitive species, and because nonnative plants would be treated as they are found, there would be a small degree of effects on vegetation. Of the two sites, the south site is located in a more sensitive habitat (valley oak woodland) compared to the north site (chaparral and adjacent to an alluvial fan that would be avoided to the degree possible). Loss of one gray pine and impacts to the dripline of several large oaks would occur in Alternative 2, while there would be loss of three gray pines, but no impacts to mature oaks in Alternative 3.

Wildlife

Impacts from Alternative 1

There would be no additional impacts to wildlife under Alternative 1. Ongoing impacts from temporary noise, intermittent lighting, and activity associated with use of the roadway and campground area would continue. As in other highly used areas of the park, current human activity inhibits wildlife use of the habitat along the roadway, already reducing presence of some species. In addition, some species would

continue to be inadvertently killed from collisions with, or from being run over by, motor vehicles. For instance, during the fall, tarantulas migrate across the roadway (Figure 11).

Impacts from Alternative 2

Because most construction would occur in areas previously impacted by the road prism, there would be long-term impacts to wildlife both from disturbance to and loss of a small area of somewhat degraded habitat as well as relatively undisturbed habitat adjacent to the roadway. There would be a range of temporary impacts to wildlife from above ambient noise and activity during construction. Construction would also likely coincide with the visitor use season, when some of the heaviest traffic occurs on the main park road. As a result, wildlife would tend to avoid the construction area during daylight hours when project work was occurring. In the evening and on weekends when work would generally cease, wildlife would be expected to return to the project areas. Some birds, deer, and ground squirrels might be seen throughout the day, while other animals would entirely avoid the area. Because impacts would be localized alongside an already highly modified road corridor and a great deal of suitable habitat for wildlife would continue to be present in the vicinity, overall impacts would be small, but would include both short- and long-term effects.

Excavation needed to undertake construction would likely result in some disturbance and elimination of



Figure 11: Tarantula Crossing Road, near park boundary in Fall

small mammals, reptiles, and invertebrates not able to move quickly away from the project site. In addition, there would continue to be a high potential for wildlife vehicle collisions on the road as a result of normal use. Because changes would not result in faster speeds, the potential for these collisions would remain the same as in Alternative 1, and would continue to be a small long-term adverse effect on wildlife.

The loss of one small gray pine and occurrence of noise and disturbance adjacent to numerous mature valley oaks would have incremental adverse effects on wildlife, such as birds, particularly if this disturbance occurred during nesting season. Although construction noise would be louder than road noise, this roadway has been in use since park establishment in 1908, with increasing noise from motor vehicle use over time. Habitat modification (including loss of food and cover) from built elements in the

proposed project area would preclude a return to the former level of use in some areas by some species of wildlife, particularly perching birds, which used the formerly present trees/shrubs for food or roosting. Similarly, there would be small adverse effects from the loss of a small area of soil habitat for ground-dwelling mammals, vertebrates and invertebrates, which would be covered by impervious surfacing for the additional pass-through lane and the small office building.

Impacts from Alternative 3

Impacts would be the same as in Alternative 2 for the entrance sign. For the entrance station, however, because there would be loss of three, instead of one, gray pine, a small degree of additional wildlife habitat would be lost. In addition, although similar species would be removed or trimmed as part of the implementation, the actual number and area of plant species affected would be different (see Vegetation section). As a result, potential effects on wildlife from the loss of these would be slightly different as well. For example, there would be minimal effects on valley oaks and the species dependent on them because there are fewer valley oaks adjacent to the project area. As in Alternative 2, none would be removed.

Measures to Avoid, Minimize or Mitigate Impacts

- In conformance with the Migratory Bird Treaty Act, removal of the gray pines and other small trees and shrubs suitable for nesting would occur outside the nesting season and/or surveys to determine that no nesting was occurring would occur prior to removal.

Cumulative Effects

The combined effects of development in the park and in the surrounding area over time combined with the purposeful eradication of many predator species during the 1800s and early 1900s have contributed to low level or extirpated wildlife populations of some species. Past, present and reasonably foreseeable projects planned for the park, such as additional east side development would result in more cumulative effects to wildlife but would occur in areas showing recent human impacts from past development. Nonetheless, the cumulative effects of existing development continue to take a toll on wildlife from the effects of collisions on the road, from impacts of noise and activity in riparian corridors, and from occasional wildlife-human interactions. Within the vicinity of existing park development, wildlife, including sensitive species, in riparian woodlands is currently being impacted by light, noise, and human activity, such as wading and swimming. The existence and maintenance of the road and park developed areas would continue to contribute to cumulative adverse effects on wildlife, likely favoring some species, while adversely affecting others.

Conclusion

Although there would continue to be adverse effects on wildlife from noise and human activity, including temporary impacts related to construction, most areas of the park would not be affected by these impacts. The proposed project would contribute a small degree of additional impacts to wildlife, most of which would be temporary and/or which would be similar to existing impacts.

Special Status Species

Three federally-listed species are present in Pinnacles National Park. The California condor (*Gymnogyps californianus*) is listed as state and federally endangered, and the red-legged frog (*Rana draytonii*), and California tiger salamander (*Ambystoma californiense*) are listed as federally threatened. In addition, there are a number of California State Species of Special Concern, including the American badger, western red bat, burrowing owl, Cooper's hawk, sharp-shinned hawk, long-eared owl, yellow-breasted chat, grasshopper sparrow, San Joaquin coachwhip, and an unnamed sphinx moth (*Euproserpinus sp.*), which is a park species of concern, but which has no state or federal status. Many of the latter species favor grasslands, riparian, and/or alluvial fan habitats.

California Condor

Within the park, California condors roost on trees, snags, cliffs, and rocky outcrops, where launching for flight is optimal. These isolated roosts are also important because they provide protection from predators. Typically, foraging sites are in grasslands or oak-savanna regions at lower elevations, and roosting and nesting sites are located at higher elevations on cliffs. The Pinnacles release site and another located in Big Sur also continue to provide lead-free food to improve survivorship opportunities for condors (to allow them to avoid consuming lead in other carrion).

California Red-legged Frog

California red-legged frogs breed in early spring in ponds and streams. Red-legged frogs occupy the same habitat through fall, migrating to other areas in the winter. Although winter habitat areas in the park are unknown, it is likely that they seek out seeps and springs. Periodically, the search for food takes red-legged frogs away from water and riparian habitat for several days at a time. In addition, some areas that are dry most of the time may provide habitat in very wet years. Adult frogs require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 0.6 m) still or slow moving water. Frogs can also enter a dormant state during summer or periods of dry weather in small mammal burrows and moist leaf litter. They have been found up to 30 meters from water in adjacent dense riparian vegetation (USFWS 2002 in NPS 2010).

California Tiger Salamander

California tiger salamanders are restricted to habitats with grasslands and low foothills, which include vernal pools or seasonal ponds. Being unable to burrow themselves, they spend most of the year inside gopher and ground squirrel burrows, coming out during very wet November nights to travel a mile or more through a variety of habitats to access seasonal ponds for breeding. Because tiger salamanders prefer more open grassland habitat, in the park ongoing restoration efforts are targeted at reducing tall, dense thatch in areas with rodent burrows. California tiger salamanders can be adversely affected by habitat destruction or loss of burrow habitat such as from reductions in gopher and ground squirrel populations. They may also be affected by changes in burrow habitat, such as may occur when burrows are disturbed or trampled. During the breeding period individuals may be surface-active on humid or rainy nights, but they are believed to remain in their burrows during the rest of the year (Lannoo 2005). Migrations to and from breeding ponds have been observed from November-May (Lannoo 2005). While most individuals probably remain within several hundred meters of breeding ponds, juveniles have been found more than one mile from water (Austin and Shaffer 1992 *in* NPS 2010), while adults have been found more than 1.2 miles from the nearest breeding sites (Sweet 1998 *in* NPS 2010).

Although there are no known breeding ponds within the proposed project area, the fact that salamanders may migrate more than a mile between breeding sites and rodent burrows, may mean that they could be present in the project area. Studies have shown that most of them, however, will occupy burrows within 0.4 miles of their breeding site. There are three stock ponds and one seasonal depression in the Bottomlands (NPS 2010: 119).

California Species of Special Concern

Similar to tiger salamanders, badgers, burrowing owls, and grasshopper sparrows favor open grassland without dense thatch for habitat. Yellow-breasted chats, long-eared owls, and red bats occur in riparian areas. The San Joaquin coachwhip also uses open grassland as well as other relatively open habitats such as blue oak savanna, alluvial fans, and sandy washes. Cooper's and sharp-shinned hawks favor open areas for hunting and trees for nesting.

Other Species of Concern

An undescribed species of sphinx moth in the genus *Euproserpinus*, closely related to the federally threatened Kern Primrose Sphinx Moth, uses alluvial fan and sandy wash habitat. Only a few populations are known within the species' range, from the park southward to San Luis Obispo County. Ground disturbance and off-trail hiking may adversely impact sphinx moths. The sphinx moth that occurs in the park has not been described in the scientific literature, and is therefore unnamed and without legal protected status. Due to its rarity, limited geographic range, and northernmost known population being located in the park, it is important to protect. It also co-occurs with a suite of locally rare insects usually associated with more southerly areas.

Impacts from Alternative 1

There would be no additional impacts to special status species under Alternative 1. Ongoing impacts from human activity in the park, such as from water contact in the campground, would continue to affect some species, particularly red-legged frogs.

Impacts from Alternative 2

California Condor: Although California condors can routinely be seen flying above the project area (near the park release site), they are not known to use habitat within the proposed project areas for roosting or breeding. The distance of the proposed project areas from their known activity areas, particularly under Alternative 3, makes disturbance from project activity or construction noise unlikely to occur. Under Alternative 2, moving the entrance station approximately two miles north of its current location would be unlikely to result in any additional effects on California condors.

California Tiger Salamander: Although there are no known breeding ponds close to or within the proposed project area, California tiger salamander habitat may be found close to the project area. Due to distance from known breeding habitat and the presence of significant salamander migration barriers such as the deeply incised Sandy Creek channel, the likelihood of the presence of this species at the project site is considered to be extremely low. Because salamanders may use a variety of habitats during migration between breeding sites and burrows, however, surveys would occur to ensure that none are present in the proposed project area during construction activities, especially if construction occurs in the fall, and/or during wet periods.

California Red-legged Frog: Although the red-legged frog occurs in the vicinity of the project area, no actions would affect its breeding or prospective overwintering habitat and existing known habitat areas have been avoided by the proposed location of the entrance station under both action alternatives (2 and 3).

Other Species of Concern: Although numerous other species are listed as California or federal species of concern, there is no indication that the proposed project would affect these species. Based on analysis of their habitat and the small size and scope of the proposed action to replace the entrance station and to construct a gateway sign, they would not be affected. The dense groves of riparian trees used by some of these species for roosting and nesting would not be affected.

Impacts from Alternative 3

Impacts would be the same as in Alternative 2 for California condor, California red-legged frog and other species of concern. For California tiger salamanders, there would be some additional potential for disturbance, since the proposed site does not have any major barriers to salamander migration between it and known breeding ponds.

Measures to Avoid, Minimize or Mitigate Impacts

- The proposed project areas have been located to avoid known habitat used by the California red-legged frog.
- Areas proposed for construction are more than approximately 325 feet from suitable California red-legged frog habitat during the breeding season and wet season (October 16 – April 15). In the non-breeding and dry season (April 16 – October 15), when red-legged frogs would not be migrating in the extremely hot and dry conditions at the park, actions could take place approximately 100 feet from suitable habitat.
- Actions that could affect California tiger salamanders from trampling would not be conducted during the wet season (October 16 - April 15) or within approximately 2,200 feet of breeding ponds at night when adults and juveniles are actively mobile. No equipment or materials that might provide temporary refuge to tiger salamanders would be left overnight within this buffer zone during the wet season.
- No development of trails would occur in the alluvial fan habitat adjacent to the proposed entrance station in Alternative 3. This would avoid the potential for trampling in sphinx moth (*Euproserpinus* sp.) habitat.
- Known populations of special-status species would continue to be monitored to ensure long-term impacts are avoided. As needed, maps of current populations would be revised and consulted prior to initiating construction. If new populations of special status species are discovered or existing populations expand to a larger habitat area, species-specific and site-specific conservation measures would be applied.

Cumulative Effects

Over time, impacts from loss of habitat, modifications to that habitat and direct loss of individual animals have resulted in species being listed or considered for listing under the Endangered Species Act. Near the park, if development of adjacent private lands occurred it could have a wide range of long-term adverse impacts on California tiger salamanders, California red-legged frogs and California condors through

habitat loss, wildlife control, and trespass livestock. Uses that maintain an open landscape would likely continue to be compatible.

There have been a range of cumulative effects on California tiger salamanders in the region, including from ground squirrel eradication (salamanders use ground squirrel burrows for shelter most of the year) and hybridization with non-native tiger salamanders. There have also been cumulative impacts related to California red-legged frogs, with the extirpation from the Salinas River. The park continues to support one of the few remaining regional populations, however existing park development, including light, noise, and human activity continue to adversely affect California red-legged frog habitat. Cumulative adverse effects related to California condors resulted in near extinction of the species in the state, however recent reintroduction efforts, including those at Pinnacles have helped the population to rebound slightly and it is likely to continue to improve based on existing interventions.

The proposed actions in the alternatives would not appreciably add to the adverse effects of actions outside the park. Therefore, when the impacts from cumulative effects are added to the effects of the alternatives, overall impacts would be the same.

Conclusion

Alternative 1 would have no effect on rare, threatened or endangered species. The relocation/reconstruction of the entrance station is a small project and has been designed to avoid as many adverse effects as possible. Therefore, proposed actions under alternatives 2 and 3 would be not likely to adversely affect tiger salamanders and red-legged frogs and would have no effect on California condors. There would be no effect on other species of concern.

Archeological Resources

Archeological resources are the physical evidence of past human activity, including evidence of the effects of that activity on the environment. According to the 2011 Archeological Resources Overview and Assessment, portions of the park lands have been examined in four major surveys: Olsen, Payen and Beck's 1966 reconnaissance survey; Haversat, Breschini, and Hampson's 1981 survey of lands acquired since the 1966 survey; Schub's 1998 damage assessment survey following the Stonewall Fire; and Gavette's 2007 survey of the Butterfield Homestead and surrounding areas. Another survey after 2011 occurred on the west side of the park. These are documented in Olsen et al. 1967; Fritz and Smith 1978; Haversat, Breschini and Hampson 1981, and Gavett 2008 (Massey 2011: 26). These surveys have covered approximately 4,700 of the park's 26,000 acres, roughly 18 percent of the total holdings. The first archeological overview summarized research to that date. As of 2010, 33 archeological sites had been recorded. Of these, 25 represent Native American use, while three are remnants from homesteads settled in the late 19th or early 20th centuries.

Available data show that archeological sites are found in chaparral (n=12), oak woodland (n=7), riparian (n=3) and grassland (n=2) vegetation communities. Point structures such as buildings occur in riparian (n=8), chaparral (n=4), oak woodland (n=4) and grassland (n=1), whereas linear structures like roads and trails crosscut multiple vegetation communities. Less than 10% of the acreage in the park has been surveyed at either an "intensive" or "reconnaissance" level. Factors influencing survey effectiveness include thick vegetation, rugged terrain, and alluvial and colluvial erosion and deposition (NPS 2010: 140).

According to the Bottomlands/Fire Management Plan Amendment (NPS 2010: 141), documented prehistoric resources include rock-shelters and open-air sites, often containing flaked stone artifacts, bedrock and portable milling tools, and midden constituents (ashy soil, bone, fire-cracked rock). Most of these sites occur near water sources in the Chalone Creek drainage, likely because this area has also had the most extensive surveys. The majority of the sites are thought to date to late prehistoric times. The archeological record reflects a somewhat restricted range of activities (hunting, plant extraction and processing) performed by small groups of individuals.

In 1978, three of these sites on the west side of the park were nominated to the National Register of Historic Places (NRHP) as the Chalone Creek Archaeological District in 1978 but little information is available about them. Other prehistoric archeological resources have been documented within the park but not evaluated for eligibility. No prehistoric archeological sites have been identified within the newly-acquired Bottomlands in the east-central portion of the park, though some isolates have been found. Historical sites include building foundations associated with other landscape modifications (rock walls, pits, fences), and trash scatters containing an array of artifacts (stoves, cans, glass, ceramics, ammunition, farm implements).

There are two National Register-listed historic districts in the park and one listed historic archeological district. Proposed actions will affect only the Ben Bacon Ranch Historic District, located within the Bottomlands on the east side of the park. Therefore only impacts to this district will be considered.

Although the park was established much earlier (1908), improved road access to the east side of Pinnacles (later to become Highway 146) was not completed until 1925. This road has recently become part of the park and is now undergoing evaluation for historic significance related to its design and construction.

A 2001 Cultural Resources Inventory of Caltrans District 5 Rural Highways (Mikkelsen et al. 2001) extended into areas along Highway 146, including approximately 51 acres in the Bear Valley area, 40-60 feet from the centerline of State Highway 146. Nine resources located on park land were identified: four isolates, and three historic-period resources. Although one lithic scatter, was found in 1999 close to the end of Highway 146, it is not within the project area. None of the other known sites are within the proposed project areas.

Impacts from Alternative 1

There would be no additional impacts on archeological resources from implementation of Alternative 1.

Impacts from Alternative 2

Surveys for archeological resources in the vicinity of the current entrance station and campground area occurred in 2001 and 2007, although the 2007 survey was limited to a smaller area (Gavette 2008). This “Area II” survey was close to the proposed location for the entrance station in this alternative, just north of McCabe Canyon along Highway 146. As noted in the report,

“the majority of this area is heavily disturbed with modern use by the homestead and the campground and store within this unit. Disturbances consist of: buildings associated with the homestead and the campground/store; agricultural fields surrounding the homestead; as well as roads; restrooms; swimming pool; and camping areas. Ground visibility was good, limited only by grasses and other vegetation in the riparian area surrounding Sandy Creek” (Gavette 2008: 5).

A bedrock mortar was recently found in the vicinity and would be avoided by the proposed project (Engel 2018).

Because this project involves trenching and the digging to accommodate a wider roadway and removal of a portion of a cut-bank, digging would be closely monitored by a qualified archeologist to ensure that potentially buried archeological resources, if found, are not disturbed. If any archeological or historical resources are discovered, all work would cease until the nature of the find can be evaluated and a determination of whether to proceed in the same location or to move the construction activity to a different location is made.

Impacts from Alternative 3

Surveys for archeological resources in the vicinity of the current entrance to Pinnacles occurred in 2001, with no resources discovered (Mikkelsen et al. 2001). There are no historic structures in the vicinity of the proposed project area in Alternative 3; therefore there would be no effect on historic structures from implementation of this alternative.

Measures to Avoid, Minimize or Mitigate Impacts

- Additional analysis and documentation would occur to evaluate the historic significance of Highway 146 and to nominate it to the National Register of Historic Places.
- Should unknown archeological resources be uncovered during construction, work would be halted in the discovery area, the park cultural resources specialist contacted, the site secured, and the park would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. In compliance with this act, the NPS would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the course of the project.

Cumulative Effects

Over the years, visitors have caused direct damage to known sites throughout the park. Indirect damage by visitors is difficult to measure but likely has affected sites that are adjacent to high public use areas such as roads, trails, geologic features, and visitor service areas. Natural processes, including erosion, also affect archeological sites. Dam, road, and other facility construction in the past likely resulted in cumulative adverse impacts on cultural resources, including archeological resources. Recent west side development and the expected increase in visitation, along with the change in dispersal of visitors, has also contributed to the potential for cumulative impacts on proposed historic archeological districts, however on ongoing monitoring, law enforcement and visitor education are expected to reduce this potential. It is also likely that some archeological sites have experienced adverse cumulative impacts in the past, ranging from gradual deterioration to loss of sites and artifacts. A backlog of archeological survey and condition assessment work, including that conducted for this proposal, continues to contribute to reducing this cumulative impact. Because known archeological resources have been avoided by the proposed project, implementation of the alternatives (1-3) would not add to overall adverse cumulative effects on archeological resources.

Conclusion

There would be no additional impacts (no effect) on known archeological resources from the implementation of the alternatives (1-3).

Historic Structures and Cultural Landscapes

Historic structures are constructed works built to serve human activity. Examples include buildings and monuments, trails, roads, dams, canals, fences and structural ruins. The NPS manages structures through the List of Classified Structures (LCS), an inventory of all prehistoric and historic structures with historical, architectural, or engineering significance.

Cultural landscapes are a reflection of human adaptation and use of natural resources and often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

Ben Bacon Ranch Historic District

The area added to the park in 2006 roughly corresponds to the lands acquired by homesteader, Ben Bacon, during the period of significance (1865-1941) and subsequently designated as the Ben Bacon Ranch Historic District (NPS 2009:2 of 97). The significance of the historic district as a dryland farm used for subsistence agriculture by homesteaders in San Benito County, California is conveyed by its character-defining features. After the period of significance, the local agricultural economy stagnated, isolating Bear Valley from the larger patterns of development which characterized agricultural communities throughout most of the rest of California (NPS 2009:3 of 97). The property is important because “in most of the state's rural districts, subsequent development of intensive agriculture through the introduction of irrigation has obliterated all traces of this earlier period with its unique technologies and way of life (NPS

2009:14 of 97). As noted in the CLI, “It still remains possible to imagine that earlier way of life, because so little has happened within the Historic District to efface the physical traces of it” (NPS 2009: 45 of 97).

The Bacon Homestead Cluster, located at the south end of the Historic District, is the main developed area and includes the home of Ben Bacon, associated outbuildings, structures, features, and vegetation. The Butterfield Cluster, located toward the northern end of the Historic District, contains barns, archaeological features, and tree stands associated with agricultural activities of the Butterfield and Bacon families during the period of significance (NPS 2009:2 of 97).

The southernmost section of the Ben Bacon ranch (along Chalone Creek), was sold to the federal government for addition to the Pinnacles National Monument between 1970 and 1975. This land, comprised part of Ben Bacon’s original homestead (1910) and all of Ben Bacon’s father, Myron Bacon’s homestead (1887) (NPS 2009: 27 of 97). Another small ranch, the Lange Homestead was situated at the current intersection of Highway 25 and Highway 146, which is about 0.3 miles north of the Alternative 3 project area and would not be affected by the proposal (Figure 12).

The significance of cultural landscapes is related to the degree to which the following landscape characteristics are represented:

- Spatial organization (the way elements are arranged within the landscape);
- Land use (the use of landforms);
- Natural systems and natural features (how these are retained or enhanced by landscape design);
- Circulation (provision for vehicle and pedestrian travel in the landscape);
- Vegetation (the use of landscaped vegetation to enhance or define areas);
- Views and vistas (the integration of views and vistas);
- Topography (the use of natural topography in the design);
- Small scale features (elements of the landscape such as drinking fountains, curbing and other built elements);
- Constructed water features (culverts, culvert headwalls, box culverts, etc.); and
- Buildings and structures (housing, administration, maintenance and other buildings, as well as bridges, utility systems, etc.).

Of these characteristics, the following are noted in the CLI as important to the Ben Bacon Ranch Historic District: spatial organization, natural systems and features, vegetation, buildings and structures, circulation, and archeological sites (NPS 2009: 53 of 97).

Spatial Organization: “The spatial organization of the Historic District consists of open fields and pastures punctuated by fence lines, roads, historic homesteads, oak woodlands, and riparian corridors. . . The existing spatial organization conveys the past land uses associated with agricultural traditions that had been developed by previous generations of pioneers and homesteaders.”

Natural Systems and Features: The current landscape conveys how natural systems and features were used. The roads are called out as part of the integrity for the response to natural systems: “The historic roads of Ben Bacon Ranch generally retain their simple character and alignments while providing evidence of connections between agricultural lands, homesteads, and larger regional circulation systems” (NPS 2009: 55). Other aspects of this integrity include the cluster of buildings near perennial water, the planting of shade trees, the erection of fence lines, and the manipulation of water resources.

Core homestead areas are located just outside floodplains in the bottomlands close to Sandy Creek and its tributaries. “The open character of the grass laden bottomlands of Sandy Creek reflects the agricultural activities that were concentrated in these relatively level and moist areas. The chaparral dominated slopes and hills that once provided light grazing areas for livestock are retained. Small valley oak woodlands retained from the historic period are scattered throughout the open grasslands and concentrated along the flanks of the bottomlands. Valley oak trees are also commonly retained in the vicinity of the homestead clusters. The bands of wooded riparian vegetation located along Sandy Creek and its

tributaries continue to divide the open grassland areas into smaller bounded areas. The recent introduction of invasive species has decreased the diversity of the species found in the grasslands while maintaining the open character.”

Vegetation: The ornamental and maintained vegetation within the Historic District is located within the homestead clusters. Historic plantings of ornamental vegetation include locusts, walnuts, cypresses, and catalpas. The large valley oaks in the vicinity of the homestead clusters were also maintained by homesteaders. New plantings, such as the row of London plane trees below the Ben Bacon homestead do not contribute to the historic district. Former seasonal crops present during the early homesteading era have been replaced by grasses desirable for grazing.

Topography: The topography of Sandy Creek influenced agricultural development at Ben Bacon Ranch. The relatively level and moist bottomlands along Sandy Creek provided conditions for dryland agriculture including livestock grazing. Homestead clusters were located just outside of the floodplains near water sources and relatively wet soils. The steep hills and slopes that enclosed the bottomlands were very dry and little used by homesteaders except for light grazing. Homesteaders modified the tributaries to control the seasonal flow of water along the Sandy Creek bottomlands.

Circulation: Much of the vehicular circulation system in the historic district has been retained, with the gradual loss of some minor roads due to lack of maintenance. The simple two track dirt road character on most roads has been maintained. Additional roads have been added or extended since the historic period. Generally, the road system continues to demonstrate connections with the bottomlands throughout the district along with interconnections with other homesteaders and larger regional circulation systems. The paved park entrance road (California State Highway 146) has retained its location and became an improved road in the latter part of the historic period.

Buildings and Structures: Several historic buildings and structures are located at the Bacon and Butterfield homestead clusters. Contributing Bacon homestead buildings include the barn, Bacon home, pump house, and garage. Contributing Butterfield homestead buildings include the barn (granary), secondary barn, and windmill. . . Unlike changes in agricultural landscapes associated with modern irrigation, ranching left the early homesteading landscape largely intact. The fences, gates, and corrals/paddocks may have been moved, modified or added since the historic period. These enclosure/exclosure features do not contribute individually but are compatible with the historic agricultural character and convey the separation of land use required for pasture and cropland.

Archeological Sites: Two historic archeological sites within the district are former homestead sites with the potential to yield additional information in the future. Based on their association with the historic development of Sandy Creek, the sites contribute to the significance of Ben Bacon Ranch.

California State Highway 146 East

According to the Cultural Landscape Inventory, the current park entrance road along the west side of Sandy Creek was built between 1907 and 1917, most likely in 1915. Based on USGS maps from the period, the road was altered from an unimproved road to a light duty road between 1919 and 1942. In 1923, after a visit by then NPS Assistant Director, Arno Cammerer, who advocated for better access to the monument, San Benito County bought easements from the Bacon brothers and other property owners and constructed a single lane road up to Bear Gulch. Cattle guards were installed in place of gates. By April 1924, the road was open to public access (NPS 2009: 44 of 97). Later (in 1936) it was designated as State Highway 146 and paved in 1938. The original Chalone Creek Bridge was also completed in 1936 by the CCC and local craftsmen employed by the Public Works Administration. In 1946, San Benito County was granted a 45-foot wide easement for the entrance road (NPS 2009: 25 of 97).

During the historic period, the main road was primarily the road that passes directly through the Butterfield Homestead. Later, but still during the historic period (the CLI notes that the timing is uncertain⁶), the main road shifted to the current alignment on the west side of the valley.

After the park was established in 1908, Monterey and San Benito counties sought to increase tourism to profit from the creation. In 1913, a committee from San Benito County selected the western alignment of the road as the main road because it could be traveled by automobile in the dry season, whereas the eastern road was not as navigable. By 1924, the new road was being improved, with cattleguards replacing the Ben Bacon Ranch gates and easements obtained from the Bacon's and other property owners along the route.

Highway 146 is a simple two lane utilitarian roadway that extends from the junction with Highway 25 to the former park boundary, a distance of approximately 2.4 miles. The road also continues past that point to Bear Gulch. Highway 146 was paved again between 1967 and 1969 and at that time, a drainage system, consisting of 12 culverts, spaced approximately 0.1 mile apart, was installed. Some of these have crude masonry headwalls with concrete mortar. Later other drainage culverts with concrete headwalls and larger culverts were installed on the lower (north) part of the roadway. Other features include drainage swales and riprap. The DOE also mentions the cattle guard on private land outside the park entrance (constructed in 1941) as being marked by two stone pylons of local green lapilli tuff, which is still present. This design was suggested by then park landscape architect (McKown).



Figure 12: Historic Photo of Highway 25/146 Junction (c. 1920s). A portion of the Lange homestead (no longer extant) is visible through the trees on the right.

According to the draft DOE, the road is both locally significant for its association with development by San Benito County and regionally significant because it is part of the larger story of State Highway 146, the cross-monument road, that was planned to, but never did, reach through the Pinnacles toward Soledad and King City. The character-defining features of this roadway include: its location and setting, design, workmanship, feeling and association. The road has not been significantly realigned or widened since the period of significance (1924-1941). It diverges at the same junction of Highway 25 and undulates along the toe of the hills on the west side of Bear Valley. The road setting and association with the Ben Bacon Ranch Historic District is unchanged. It is flanked by the valley on the east and steep, chaparral covered hills on the east. The design and workmanship of the road is reflected by its narrow two-lane width with little or no shoulder and an up and down ride that indicates it has not been substantially re-graded since the period of significance. In

⁶ This likely occurred between 1915 and 1920. Little had changed up to this time [1923], except that the principal route now ran along the west side of the valley, roughly following the present alignment of Highway 146 along the west side of Sandy Creek. When and how this change happened is not documented, but it may be associated with Ben Bacon's acquisition of the Butterfield Ranch, which occurred in 1915 following Cordelia Butterfield's death (George Butterfield had died ten years earlier). With Ben now the principal landowner in the area, the importance of the road on the east side of the valley may have diminished while the road along the west side, which followed a more direct route to Ben's own ranch, increased, although this is only conjecture. [51] (NPS 2009:44 of 97).

addition to its continued association with the historic district, it is associated with San Benito County as a road that continues to provide access to a major tourist site in the county, fulfilling the purpose for which the county agreed to back the construction of the road.

Impacts from Alternative 1

There would be no additional impacts to historic structures or cultural landscapes. The Ben Bacon Ranch Historic District and State Highway 146 would not be affected. Elements of the significance of the historic district, and the roadway, including location, design, setting, workmanship, feeling and association would be the same. For the cultural landscape, spatial organization, natural systems and features, vegetation, topography, circulation, buildings and structures, and archeological resources would be unchanged.

Impacts from Alternative 2

Ben Bacon Ranch Historic District

Under Alternative 2, there would be no effect on existing buildings and structures or archeological resources.

Entrance Sign: Construction of the proposed entrance sign, entrance station and support building would add new elements within the Ben Bacon Ranch Historic District. The entrance station and support building would be constructed in an area where there are already several buildings and structures and a high degree of vehicle and pedestrian congestion. The entrance sign would be constructed much closer to the park boundary, where there are no buildings or structures.

The entrance sign construction would result in modifications to an existing turnout to accommodate a sign. Under the current proposed design, the sign would be flanked by stone pillars on either side of the roadway, similar to the pillars at the cattle guard on private property outside the boundary. This would introduce new elements to the historic district (the sign and stone pillars), affecting spatial organization by placing a non-historic element within the open landscape, and a small degree of vegetation adjacent to the roadway to expand the turnout and to construct the sign.

Entrance Booth and Support Building: Entrance kiosk construction would require widening the roadway (with tapers at both ends) in an area approximately 400 feet in length. Two lanes would enter the park, while one would exit, with room for average vehicles to turn around just past the kiosk. This small development would also include a small island in the center of the roadway and a support building located across the street from the booth.

To accommodate the kiosk, the roadway would be widened by excavating a portion of the steep slope on the east side of the road. In addition to providing enough space to widen the road for the kiosk, laying back the toe of the steep slope would improve sight distance for vehicles approaching the entrance station. This would modify area topography, affecting the shape of the road prism and result in the loss of vegetation on the hillside, including a gray pine. Construction would also affect extant vegetation from the historic period by contributing to the decline of large valley oaks along the roadway, from widening the road within the drip lines and from the potential future need to trim part of the tree canopy that now shades the roadway. Because the hillside that would be excavated is steep and extends approximately 10 feet to 15 feet above the roadway, it is possible that it would need to be over-excavated, both to widen the roadway and to improve sight distance, thereby requiring a retaining wall at the new toe.

Although the circulation system would be the same, including the paved and unpaved roadways in the historic district, the main roadway would be widened from approximately 21-25 feet to approximately 40 feet in a short section about 400 feet long (including tapering at both ends). This widening would encompass approximately 3 percent of the roadway (which extends 2.4 miles or 12,672 feet).

Although the new buildings would be close to the Bacon Homestead, they would be somewhat screened from the homestead cluster by area topography and vegetation. Nonetheless, introducing a non-historic cluster of modern buildings, altering area topography, widening the historic roadway, adding a non-

historic retaining wall to it, and contributing to the decline of contributing vegetation along the roadway would adversely affect the Ben Bacon Historic District.

Highway 146 East

Entrance Sign: As noted above under the historic district analysis, there would be placement of new non-historic elements in the landscape adjacent to the roadway, including expansion of a turnout, construction of the sign and the associated stone pillars. Although the stone pillars would mimic those constructed in 1941, during the last year of the period of significance, when the cattle guards were constructed, these new elements would disrupt the open views of the landscape toward the Butterfield homestead and of the chaparral-covered hillsides and put the focus on capturing the experience of entering the park.

Entrance Booth and Support Building: Widening the historic roadway to construct a new entrance kiosk and support building and altering the topography and vegetation adjacent to the roadway would adversely affect the subtle character of this two lane roadway.

Impacts from Alternative 3

Impacts would be the same as in Alternative 2 for construction of the entrance sign. Impacts would be similar to Alternative 2 for construction of the entrance station and support building. Differences in impacts from the entrance station and support building are related to the location of these facilities closer to the park entrance, in a more open and less congested area than in Alternative 2.

Ben Bacon Ranch Historic District

Entrance Booth and Support Building: As in Alternative 2, there would be modifications to the narrow roadway to widen it to accommodate construction of the entrance station and the support building. Widening of the roadway would be the same as in Alternative 2, from 22 feet to 40 feet over a distance of 400 feet, including tapering at each end. This would include similar, but much less excavation of the slope adjacent to the roadway. Because the slope next to the proposed construction area in Alternative 3 has a gentler existing grade and does not tower over the roadway (as does the hill in Alternative 2), no retaining wall would be needed.

Compared to Alternative 2, there would be more evident modifications to the open character of the landscape from the placement of new, modern structures within it. This northern site is within the viewshed to and from the Butterfield homestead, which is part of the Ben Bacon Ranch Historic District.

The small building cluster would be partially concealed in some views of the roadway from the Butterfield Homestead as a result of two large oaks that would remain, but which are some distance from the roadway. Although there are also smaller shrubs between the project area and the homestead, they would not conceal the buildings from all of the views to or from the homestead area. From the south end of the



Figure 13: View toward Proposed Entrance Station in Alternative 3

The small building cluster would be partially concealed in some views of the roadway from the Butterfield Homestead as a result of two large oaks that would remain, but which are some distance from the roadway. Although there are also smaller shrubs between the project area and the homestead, they would not conceal the buildings from all of the views to or from the homestead area. From the south end of the

project area, the Butterfield Barn is clearly visible across the open grasslands that comprise the cultural landscape of Bear Valley (Figure 1). The project area is also visible from views from the homestead looking back toward the roadway (Figure 13). Numerous fast-growing cottonwoods within and adjacent to Sandy Creek, if not lost during flooding, would also provide future screening, but this would likely not be enough to conceal the buildings from all views. In addition, the loss of three gray pines (12, 18 and 24 inches in diameter) to construct the entrance station would reduce some existing natural screening between the homestead and the roadway.

The proposed project would also require an overhead power lines (in an aerial span across Sandy Creek) in the vicinity of the new entrance station.

Highway 146 East

Impacts would be the same as in Alternative 2.

Measures to Avoid, Minimize or Mitigate Impacts

- The proposed buildings would have finishes (such as attached porches, horizontal siding, gable roofs, and windows that would be or look double hung) and would be painted in a color compatible with the Ben Bacon Ranch Historic District to help them blend more into the landscape on the west side of Bear Valley.
- The proposed buildings would be screened from views from the Ben Bacon Historic District over time from growth of nearby cottonwoods in Sandy Creek and from massing of area appropriate shrubs.
- The park would interpret the Ben Bacon Historic District from turnouts along Highway 146.
- The park would remove the existing entrance booth and wheel-stop barrier.
- Upon future rehabilitation of the roadway the extent of asphalt roadway in the vicinity of the former entrance booth would be narrowed to restore the historic width of the roadway.

Cumulative Effects

Based on the information contained in the CLI, the Ben Bacon Ranch Historic District has had both lost and improved integrity since it has been managed by the NPS. Analysis in the CLI describes the presence of a former mobile home, used by the previous owners, which has now been removed. Similarly, other non-historic features, have also been removed and the area is being vegetatively restored based on nonnative plant treatment that is a direct result of the Bottomlands management plan. Over the past decade since its acquisition, the park has worked to reduce the presence of yellow star thistle and other nonnative plants in the Bottomlands. Because there has also been loss of oaks since the historic period, oak planting in the Bottomlands has also been undertaken. Combined, these activities have improved the condition of the historic district, compared to its condition upon NPS acquisition. Analysis of the historical significance of other components of the district has also been undertaken and there are proposals to rehabilitate some of the historic structures through adaptive reuse.

When the impacts of the alternatives are added to these cumulative effects, there would continue to be both cumulative adverse and beneficial effects, that on balance would result in continued preservation of the historic district, despite the potential adverse effects of some discrete actions, such as the new construction of buildings on the edge of/within view of the homesteads within the historic district, which would also affect Highway 146 East.

Conclusion

There would be no effect on the Ben Bacon Ranch Historic District and Highway 146 East eligibility from Alternative 1. Adverse effects on the Ben Bacon Ranch Historic District and Highway 146 East eligibility for the National Register of Historic Places from the construction of the entrance station and support building under Alternatives 2 and 3 would be mitigated by a range of measures in consultation with the State Historic Preservation Officer.

Visitor Experience

Visitors enter Pinnacles National Park's east entrance after driving southeast from Hollister on California Highway 25 for approximately 45 minutes. The park entrance intersection is located on private land at the junction of State Highway 25 and State Highway 146, however the park boundary is just 65 feet from this junction.

Until this spring, the NPS did not manage the section of Highway 146; however since 2013 the park has been pursuing a transfer of management for the right-of-way from the California Department of Transportation. The transfer was suggested in a comment on the General Management Plan EA in 2012. Comments on the GMP noted that the location of the visitor center before the fee booth confuses visitors and that the park should pursue ownership of Highway 146 to relocate the fee booth before the campground. The GMP selected alternative included moving the entrance station to before the visitor center. This is the subject of this EA and the transfer of Highway 146 is now imminent.

At the junction of state highways 25 and 146, there are two stone pillars adjacent to a cattle grate and a highway sign that marks the turnoff. Unlike many national parks, there is no archway or formal boundary sign where visitors can pull off to take a photo of their entrance experience. Approximately 0.25 mile from the boundary, however, is a billboard-type sign welcoming visitors to the park.

From the park boundary, visitors travel by vehicle approximately 2.4 miles to a congested area near the campground alongside the open landscape of the Ben Bacon Ranch Historic District by following the western toe of chaparral-covered hills on a curvy roadway. The first visible building in the park simultaneously operates as a concession managed campground store, an NPS Visitor Center and an association (WNPA) managed bookstore.

Visitors reach the turnoff to the camp store/visitor center/campground prior to reaching the current entrance station. If visitors do not stop at the camp store/visitor center, then they pay their fee at the entrance station, if it is staffed. The entrance station is typically staffed full-time during spring break and Friday, Saturday and Sunday year-round. At other times, the entrance station may be unstaffed. Since the entrance station is often only open on weekends, it is likely that many visitors enter the park and do not pay fees. Pinnacles National Park has an estimated fee capture rate of approximately 50 percent, which results in not only a loss of fee revenue, but a reduced ability to contact visitors with park information, prior to them accessing park facilities and trails.

Over the past 20 years, visitation has been rising, especially since 2013, when the park designation was changed from "national monument" to "national park." Due to population increases in the South Bay Area and Salinas Valley, visitation and recreational demand are expected to continue to rise. Park visitation was always high during the spring peak wildflower season, but now visitation is high on holiday weekends and during other times of year. Based on existing vehicle counts, the visitation demand today is approximately 50-90 vehicles per hour in each direction on weekends, with a peak of 150 vehicles per hour recorded on the Sunday of Memorial Day, per park traffic counters. The estimated number of inbound auto trips in 2030 is around 99 vehicles per hour (Fehr and Peers 2016).

The current entrance station was moved down the road to the second park boundary location in the 1980's. It is a simple wood frame building in poor condition, with no foundation, inadequate ventilation and inefficient windows. In the peak spring-summer season the park rents a portable toilet and installs it in an adjacent gravel pullout.

Impacts from Alternative 1

There would be no additional impacts from implementation of Alternative 1. Ongoing impacts to visitor experience in Alternative 1 would continue to include visitor confusion about the entrance of the park,

fee payment during entry, and impeded access to park facilities, including the campground, parking areas, and trailheads.

On peak weekends the number of visitor vehicles entering the east side of the park regularly exceeds the availability of parking. The first parking lots in the park to fill each day are located at the Bear Gulch, Peaks View, and Old Pinnacles trailheads. When these are full, visitors park at an unpaved day use lot, accessed via the campground turnoff. This day use parking area is behind the camp store/visitor center. From it, visitors may hike on the Bench Trail or take a park shuttle to the Bear Gulch Trailhead.

When parking areas above the campground become full, use of the existing fee station becomes obsolete and it is unstaffed since visitor vehicles do not continue past it. Instead, park staff directs visitors to the day use parking lot and to pay their fees at the visitor center. According to shuttle records, in fiscal year 2017, the trailhead parking lots filled and the shuttle(s) operated 130 days. Since the beginning of 2018, the park shuttle has operated 86 days.

On peak weekends, the day use parking lot also fills and vehicles are stopped by park law enforcement rangers on the main road near the campground and are able to enter the park on a one car out-one car in basis. Since before fall 2007, on every holiday weekend, the one car in-one car out process has had to be implemented. This one-in, one out policy is also used every day for three weeks during spring break for area schools and universities, which also coincides with the park's wildflower season. To manage parking, approximately 6-7 staff (including law enforcement rangers, ranger corps interns, and shuttle attendants) is required. Under Alternative 1, visitors would continue to be confused about the park boundary, how to pay their fees and how to best experience the park during peak periods and park staff time would continue to be occupied with parking and fee management operations, rather than in assisting visitors in enjoying their national park experience.

In addition, due to the occasionally long wait, visitors who are passengers in waiting vehicles often get out to access the facilities that they can see nearby, such as the camp store/visitor center, campground and restrooms. Although staff tries to deter this, there is limited ability or desire to enforce it, especially when waits are long or visitors need to access water or restrooms after the long drive from Hollister. According to the former facility manager, this generally consists of a queue of 10-100 vehicles (with an estimated 10-200+ visitors) plus park staff. During the time they are waiting, which may be up to two hours, visitors leave their vehicles to walk the side of the road or into the open fields, toward the creek bed or sandy wash 1-3 hours on 10-30 days per year.

Under current conditions, fee booth personnel access office space in a portable trailer near the pool area and must cross the congested camp store/visitor center area en route to that location. In addition, since there is no adjacent restroom, the park often procures a portable toilet that mars scenic entrance to the park because it is located in the turnout near the entrance station for much of the busy season.

Impacts from Alternative 2

Locating the entrance station and support building prior to the congested campground area would improve the visitor experience by allowing visitors to obtain information prior to reaching this area and by improving fee capture, indirectly benefitting park resources by providing a source of revenue that can be used to add interpretive exhibits, and improve facilities and services. The park has numerous projects and programs which would benefit from an increase in collected fees. These include renovating buildings, trailheads, and wastewater systems which are in deteriorating condition. Fees could also contribute to and the construction of new or replacement visitor facilities such as accessible restrooms, shuttle stops, a new visitor center, and other resource protection measures.

Visitors would be able to obtain park information prior to entering the park and paying the entrance fee, however, they would also have to travel more than two miles into the park after the boundary sign before encountering a place to obtain park information. Because visitors today often rely on pre-planning

information available on the park's website and because many park visitors are from the local area, this would primarily affect those visitors who had not planned ahead and were from out of the area.

In Alternative 2, the current congestion in the vicinity of the campground would remain and would be increased by constructing a new entrance station close to the campground entrance. Adding two small buildings would be consistent with the amount of development in the area and although these would be visible from the adjacent day use parking area, they would be in an area of existing development. Visitors waiting at the entrance station would likely be able to experience some shade as they wait, which would be provided by the abundance of large oaks near the site. Because the site is so close to an intersection, visitors would have little time to make a decision about places to go before coming upon the camp store/visitor center/campground entrance.

Vehicles approaching the new entrance station would have somewhat limited sight distance (300 feet each direction) compared to current conditions (300 feet) and Alternative 3 (500 feet each direction), despite laying back the hillslope across from the day use parking area. This limited sight distance could contribute to accidents and would remain because of the sinuous nature of the roadway (Highway 146) as it approaches the proposed facility. Limited sight distance could be exacerbated when lines of cars form near the entrance station, prior to being directed to day use parking ahead. Depending on the length of the line, vehicles would approach the entrance station and need to slow down at one of several curves just prior to it. Although traffic calming measures would be used to encourage slow-down prior to reaching this site, there would continue to be some risk from vehicles that did not adhere to warning lights or signs.

Depending on the length of the line at the entrance (on occasion, it has been up to 100 vehicles during the one-in, one-out practice), visitors waiting in this area would likely continue to be tempted to get out of their vehicles to access the adjacent facilities, while allowing the driver to remain with the vehicle. This would continue to result in unsafe travel along the narrow roadway toward the visitor center/camp store/campground facilities. Although roving staff deter visitors from doing this currently, there is little ability to enforce this.

There would continue to be idling of vehicles closer to an area where more human activities take place, potentially resulting in unpleasant conditions when back-ups of vehicles occur, such as from large diesel vehicles, or vehicles with exhaust contaminated with oil or from an unmaintained exhaust system.

Co-locating the entrance station with a support building would enhance safety for the fee booth personnel and reduce the proliferation of portable facilities (office trailer and portable toilet) that mar the scenic entrance to the park for visitors.

While relocating the entrance station closer to Highway 25 would alleviate congestion and improve entry fee collection at the camp store/visitor center, it would not resolve congestion in the vicinity of the campground because the proposed project does not address changes in overflow parking.

Impacts from Alternative 3

Impacts would be similar to Alternative 2, however because the area is open, offering distant views up and across Bear Valley, and is uncongested, entering the park would likely be a more pleasant experience for visitors. There would be more opportunities for visitors to experience the cultural landscape, including seeing the Butterfield homestead on the other side of the valley, before driving past it en route to other areas, such as the campground, the caves, or the high peaks.

The experience of entering the park would also be more like other large parks, where an entrance sign close to the boundary would welcome visitors to stop and take a photo, and a short distance (0.25 miles) later, they would encounter the entrance booth for this U.S. fee area. Having obtained information about the park, visitors would continue down the road, approximately two miles to where the camp store/visitor center and campground are located. With construction of the entrance station at the north site, however, the entrance station could be perceived as disrupting the nearly 2.4 mile expanse of open space before

visitors encounter park developed areas (at the junction of the camp store/visitor center/ campground. Because there would be less open space (less than 1.5 miles) between the entrance station in this alternative and that development, this expanse of open landscape would be reduced.

Under Alternative 3, wait times at the entrance station would likely be shorter until parking areas are filled. Afterwards, such as during spring break and holiday weekends, wait times would be similar to those in Alternative 1.

The ability to avoid queuing impacts to Highway 25 will depend both on the processing time for vehicles as they arrive, as well as the availability of parking in the park. For example, with existing peak weekend visitation demand, park attendants would need to process vehicles every 40 seconds at the proposed entrance station to prevent a queue from forming. Redundant fiber optic and telephone lines would allow for fast processing for credit card transactions, reducing wait times at the entrance station. Based on the available queue storage of approximately 100 vehicles, there is some flexibility for the processing time to increase without impacts to Highway 25 when parking is available. Several conditions could affect the queue, including the distribution of arrival times for vehicles during the peak hour (for example, if large platoons of vehicles arrive at one time), or if parking supply is unavailable and vehicles are prevented from entering the park, especially if the peak hourly visitation numbers continue to increase. With the proposed queuing distance, no effects on Highway 25 are anticipated. In addition, several mitigation measures have been included to ensure this (see below).

As in other alternatives, it is likely that visitors would want to leave their vehicles during longer wait times. Encouraging visitors to remain with their vehicles would be more effective at this location, because there would be fewer reasons for visitors to leave their vehicles, since there are no nearby visitor facilities. This would adversely affect the experience of some visitors who had anticipated getting to park facilities sooner. The park would also encourage visitors to remain with their vehicles and/or to avoid the open alluvial fan habitat near the entrance station in stretching their legs because the openness of that area renders it more vulnerable to trampling impacts from visitors wandering in it.

Under Alternative 3 there are opportunities to add additional trailheads between the entrance station and existing visitor destinations. New trails and trailheads can be added to side canyons and ridge lines to disperse visitors and relieve some congestion at existing trails, while still fully capturing park fees. Under Alternative 2, the addition of trailheads in the two miles before the entrance station would allow some visitors to continue to hike in the park without paying fees.

Under Alternative 3, there could be additional opportunities to monitor the one-in, one-out system from the entrance station and if the queue is long enough, visitors may see it and decide to turn around closer to the park boundary, where U-turn space is available. In comparison, under Alternative 2 they may drive 1.5 miles or more before seeing it and electing to make a multi-point turn to avoid it. Using traffic control strategies, the park would also not allow the queue to reach Highway 25.

Measures to Avoid, Minimize or Mitigate Impacts

- The park would monitor delays at the new entrance station and continue to deter visitors from leaving their vehicles to minimize safety concerns of having visitors on the roadway (Alternatives 2 and 3), and to avoid impacts to nearby sensitive plant habitat (Alternative 3).
- Ongoing planning would continue to address visitor congestion issues in accessing park facilities during peak periods.
- All construction equipment would employ functional exhaust/muffler systems to minimize sound-related environmental impacts.
- During construction, signs would inform visitors of the construction activities on the park road and of potential travel delays. Barriers and barricades, signs and flagging, as necessary or appropriate, would be used to clearly delineate work areas and provide for safe vehicle travel through the construction area.

- To alleviate potential future issues related to peak queuing at the proposed entrance station location, several improvements or management strategies suggested by the transportation analysis could be implemented:
 - Include a large overflow parking lot as part of the future improvements to the visitor center, reducing the need for vehicles to queue at the entrance station while waiting for parking.
 - Require staff and deliveries to use the existing secondary access road from Highway 25, which connects to several administrative and resource facilities.
 - Consider installation of automated parking sensor technology at future visitor center parking lots (including the overflow lots) to inform attendants at the entrance station the number of parking spaces are available and when parking is full. On peak days when parking is full and long queues form, vehicles could be sent in small platoons from the entrance station to the visitor center to wait for parking, if necessary to avoid spillback toward Highway 25.
 - Station a staff person near the entrance to warn incoming traffic about the wait time for entering the park and to encourage visits on less busy days.

Cumulative Effects

Over time, the visitor experience at Pinnacles has expanded. Park facilities, such as the trail system, construction of new and rehabilitation of existing park facilities, and the provision of a shuttle system, have improved both access to the park and visitor experience, resulting in beneficial impacts. Cumulative beneficial effects would continue to occur from the provision of a variety of recreational opportunities, including front country and wilderness hiking, vehicle camping, climbing, and educational experiences in the park. When past, present and reasonably foreseeable future actions are added to the alternatives, the presence of the entrance station would continue to facilitate improvements to visitor experience in Alternative 1, while the proposed relocation of the entrance station and enhanced fee capture rate in Alternatives 2 and 3 would contribute cumulative beneficial effects to the ability of the park to continue to provide a range of visitor facilities and to improve visitor use opportunities as needed over time.

Conclusion

Existing impacts would continue under Alternative 1 from visitor confusion, lost revenue and awkward park operations procedures. Park staff would continue to be diverted to directing traffic and other associated operations instead of providing visitor services. Construction of new entrance station facilities (in either location) would improve visitor satisfaction associated with fee collection operations and provide revenue to improve park facilities. During construction, there would be short-term adverse impacts from delays. In Alternative 2, the entrance station would continue to be after planned trailheads in the lower Bear Valley, resulting in the potential for additional fee capture losses, while the entrance station in Alternative 3 would be before planned trailheads. Visitor safety would be improved by the long sight distance in Alternative 3, compared to Alternative 2, however the experience of traveling an unimpeded landscape would be lost. Visitors would continue to wait in long queues until other east side facilities were improved.

Table 2: Impact Comparison Chart

Resource	Impacts from Alternative 1	Impacts from Alternative 2	Impacts from Alternative 3 (Preferred)
Soils	No additional impacts.	Requires approx. 989 cubic yards of hillside cut and fill (962 yards disposed of) and at least 400 linear feet of trenching for utilities. Approx. 15,000 square feet of new impermeable surfacing.	Requires approx. 390 cubic yards of hillside cut and fill (balanced) and approx. 250 linear feet of trenching for utilities. Approx. 15,000 square feet of new impermeable surfacing.

Resource	Impacts from Alternative 1	Impacts from Alternative 2	Impacts from Alternative 3 (Preferred)
Water Quantity	No additional impacts.	Small additional use of water from nearby facilities for toilets, handwashing and drinking water.	Same as Alternative 2. Expected use of 20-30 gallons per day. Separate source for drinking water.
Water Quality	No additional impacts.	Short-term impacts during construction, long-term impacts from additional impervious surfacing and additional septic system.	Same as Alternative 2. Planned septic tank is oversized for expected use and leachfield would have built-in redundancy.
Floodplains	No effect.	Outside of regulatory floodplain.	Outside of regulatory floodplain. Slight potential for debris to overtop road near south end of site.
Vegetation	No additional impacts	2,000 square feet affected for entrance sign in chaparral, 15,000 square feet for entrance facilities in valley oak woodland, a sensitive habitat. One gray pine removed plus trenching through mature valley oak habitat (5 mature trees). Support building would affect nonnative grasses and forbs and native shrubs and forbs.	Adjacent alluvial fan mostly avoided by construction. Area and location of habitat effects would be the same as Alternative 2 for the sign, however the facilities would avoid sensitive habitats. Loss of 3 mature gray pines and live oak (<2 inches in diameter). Support building construction in non-sensitive plant habitat (nonnative grasses and native forbs and shrubs).
Wildlife	No additional impacts. Existing effects from inadvertent collisions.	Continued effects from human activity but overall small degree of effects on wildlife.	Same as Alternative 2.
Special Status Species	No additional impacts.	No effect: California Condor. May affect: California tiger salamander and red-legged frog.	Same as Alternative 2.
Archeological Resources	No additional impacts on known resources.	Same as Alternative 1.	Same as Alternative 1.
Historic Structures and Cultural Landscapes	No additional impacts.	Adverse effect on Highway 146 East and Ben Bacon Ranch Historic District from widening roadway and constructing entrance facilities within viewshed.	Same as Alternative 1.
Visitor Experience	No additional impacts. Ongoing impacts from impeded access to park facilities and from staff preoccupation with directing traffic. Impacts from portable toilet at entrance.	Improved boundary marker and fee collection. Additional revenue for facility improvements. Opportunities to obtain information prior to entering park. Potential for lost revenue due to facilities before entrance booth. Nearby services would continue to affect visitor safety as people leave vehicles to use nearby facilities.	Similar to Alternative 2, however entrance station would be before existing and planned park facilities. More opportunity to get information before making decisions about where to go. Fewer visitors would leave vehicles to attain services because these would not be visible. Reduced open landscape upon entering park.

Chapter 4: Consultation and Coordination

This environmental assessment will be mailed to a list of persons and agencies who have expressed interest in Pinnacles National Park proposed actions and events. This document will also be posted on the NPS Planning, Environment and Public Comment (PEPC) website at <http://pepc.nps.gov/pinn/80426>. Commenters are encouraged to post their comments on PEPC, rather than mailing or emailing the park.

If substantive environmental impacts are not identified by reviewers, this environmental assessment will be used to prepare a Finding of No Significant Impact (FONSI) which will be recommended by the superintendent and sent to the Pacific West Regional Director for approval.

For additional information concerning this environmental assessment, please contact Chief, Integrated Cultural and Natural Resources, Brent Johnson at (831) 389-4486, or brent_johnson@nps.gov.

A. Internal Scoping

Internal scoping began in 2013, following the approval of the GMP, which called for improvements to east side facilities, including the entrance station. The proposed relocation of the entrance station is a small part of overall planning for the east side of the park based on recommendations in the GMP. The East Side Pinnacles Draft preliminary design report was available in December 2015 and the first interdisciplinary team meeting that included the entrance station was held in spring 2017. The proposed project was wrapped into the larger planning effort for the east side facilities. As a result, draft and final internal design reports were produced by an architectural and engineering firm and described potential development areas, including for the entrance station. By May 2018, a schematic design report focused on just the entrance station and support facility. Prior to that on site meetings were held in February and May 2017, with analysis of a range of alternatives in October 2017.

B. Public Scoping

In addition to public comments on the GMP about the proposed changes to east side facilities, there was additional public involvement conducted for the entrance station through a press release and drawings issued on April 18, 2018. Scoping comments were solicited until May 8, 2018. The press release announcing the scoping period was posted on PEPC and sent to individuals and organizations who have expressed interest in the park, including local government and local and national conservation organizations. The press release was also sent to a variety of local media outlets, including area newspapers, radio stations and chambers of commerce.

Two public comments were received. Both comments were in favor of the south site entrance station. One comment focused on the viewshed if the new entrance station was constructed. The other was primarily concerned with park operations and the new building needs for utilities. That comment letter identified concerns with staffing, distances from utility connections, costs, and the design of the proposed entrance station and support structure. All of the concerns raised by these letters were discussed by the planning team and applicable concerns are addressed in this EA.

C. Native American Indian Tribes Consulted

Prior to public scoping, scoping was conducted with Native American Indian tribes affiliated with the park. There are two tribes associated with Pinnacles. Neither is federally recognized. Nonetheless, the park regularly communicates with them. They are the Amah Mutsun Tribal Band and the Chalon Nation. These tribes were sent emails on April 20, 2018 noting the likely undertaking in the proposed project area. Informal conversations mentioning the project were also held. The tribes did not provide written comments on the proposal and no letters were received from the tribes during the public review period, however they regularly correspond with park staff. In addition, one public comment letter was received

from a member of a different tribe who identified himself as commenting as a member of the public, rather than the tribe.

D. Agencies Consulted

California State Historic Preservation Office

In accordance with Section 106 of the National Historic Preservation Act, the National Park Service provided the State Historic Preservation Officer (SHPO) of the California State Department of Archaeology and Historic Preservation an opportunity to comment on the effects of this project. The initial letter describing the area of potential effects (APE) was sent to the SHPO on April 18, 2018. SHPO responded with a request for more information on April 26, 2018 and the park provided that additional information in a letter dated May 8, 2018.

Because proposed actions would have an adverse effect on the Ben Bacon Ranch Historic District and on the eligibility of State Highway 146 for listing on the National Register of Historic Places, the park is continuing consultation with the expectation that a Memorandum of Agreement (MOA) will need to be developed to address mitigation measures for effects on the historic district and eligibility of Highway 146 East. There would be no effect on known archeological resources. During the public review period, concurrence with this determination of effect and a final MOA would be sought from the SHPO.

U.S. Fish and Wildlife Service

In accordance with the Endangered Species Act, the National Park Service contacted the U.S. Fish and Wildlife Service to determine which federally listed special status species should be included in the analysis (April 18, 2018). Based on subsequent analysis of the project and its potential effects, the park has determined that proposed actions may affect, but would not be likely to adversely affect: California condors, tiger salamanders and California red-legged frogs. Concurrence with these determinations of effect will be sought during the public review period.

E. List of Preparers, Persons, Agencies

NATIONAL PARK SERVICE

Pinnacles National Park

Timothy Babalis, Historian (preparer)
Greg Ballinger, B&U Supervisor, Facility Management
Karen Beppler-Dorn, Superintendent
Alicia Bowler, Administrative Officer
Mike Brindeiro, Visitor Use Assistant
Elizabeth Hudick, Park Ranger (Acting Chief of Interpretation)
Kyle Hudick, Law Enforcement Ranger
Brent Johnson, Chief, Integrated Cultural and Natural Resources (preparer)
Paul Johnson, Wildlife Biologist
Seth Macey, Chief Law Enforcement Ranger,
Amelia Byrd Ryan, Vegetation Ecologist
Debbie Simmons, Former Facility Manager

Pacific West Regional Office

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Debbie Campbell, former Project Manager/CBA Facilitator
Vida Germano, Historian
Elizabeth Gordon, Regional Section 106 Manager
Sarah Raube, Landscape Architect, Architect (preparer)
Rose Rumball-Petre, Environmental Protection Specialist (preparer)

California Department of Parks and Recreation
Office of Historic Preservation

1725 23rd Street, Suite 100, Sacramento, CA 95816-7100

Julianne Polanco, State Historic Preservation Officer
Mark Beason, State Historian

Siegel and Strain, Architects

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Nancy Malone, Architect, Principal
Lauren Cruz, Architect

Provost & Pritchard Consulting Group

286 W. Cromwell Avenue, Fresno, CA 93711

Rod McNeeley, Principal Civil Engineer
Soo Ho Park, Civil Engineer

F. List of Agencies, Organizations, and Persons to Whom Copies of the EA were Sent

The EA was sent to individuals and groups that have requested to be kept informed about park activities, as well as conservation organizations and federal, state and local partners, nearby agencies and media outlets (newspapers, radio stations, etc.). Among the organizations and groups notified of the availability of the EA were:

Federal Agencies

Bureau of Land Management, Hollister Field Office
Bureau of Reclamation
Environmental Protection Agency, Region 9
National Park Service Denver Service Center
Bay Area National Park Sites
U.S. Fish and Wildlife Service, Ventura Office
U.S. Geological Survey

U.S. Senators and Representatives

Honorable Dianne Feinstein, U.S. Senator,
Honorable Kamala Harris, U.S. Senator,
California Honorable Ro Khanna, U.S.
Representative, 17th District

California State Elected Officials and Agencies

California State Senators and Assembly
Members
SHPO, Office of Historic Preservation
California Department of Fish and Game,
Region 3
California Department of Transportation,
District 5
California State Parks

Local Officials and Agencies

City of Coalinga
City of Gonzales
City of Greenfield
City of Hollister
King City
City of Los Banos
City of Monterey
City of Salinas
City of San Juan Bautista
City of Soledad
Santa Cruz County Parks
Association of Monterey Bay Area Governments
Monterey County Board of Supervisors
Monterey County Convention
Monterey County Farm Bureau
Monterey County Parks
San Benito County Farm Bureau
San Benito County Office of Education
San Benito County, Administration Building
Transportation Agency Monterey County

Organizations

Access Fund
Amah Mutsun Tribal Band
American Conservation Experience

Bat Conservation International
 Bay Nature
 Big Sur Historical Society
 Big Sur Land Trust
 Bitterwater-Tully Union School District
 California Invasive Plant Council
 California Oak Foundation
 California Preservation Foundation
 California Rangeland Trust
 California State Horseman's Association
 Cal-BLMX Inc.
 California Academy of Science
 California Native Plant Society
 Cattlemen's Association, Monterey Chapter
 Chambers of Commerce (Soledad, Salinas, King
 City, San Benito, Monterey Peninsula, Santa
 Cruz, Los Gatos, San Jose, San Luis Obispo,
 Marina, Carmel, and Monterey County)
 Civilian Conservation Corp Alumni
 Fresno Audubon Society
 Friends of Pinnacles National Monument
 Gavilan College
 Gilroy Visitors Bureau
 Golden Gate Audubon Society
 Hartnell College
 Hollister Hills State Vehicular Rec. Area
 Hollister Rotary
 King City Rotary 260
 Monterey County Historical Society
 Monterey Fire Safe Council
 Monterey Peninsula Audubon Society
 Morro Coast Audubon Society

National Park Foundation
 National Parks Conservation Association
 National Trust/Historic Preservation
 Nature Conservancy
 Pinnacles Partnership
 Public Libraries (King City, Salinas, San Benito
 County, San Juan Bautista, Soledad)
 Royal Elk Park Management
 Salinas Valley Fairgrounds
 San Benito County Fairgrounds
 San Benito County Historical Society
 San Juan Bautista State Historical Park
 San Juan Bautista Rotary
 Santa Barbara Audubon Society
 Santa Clara University Sierra Club
 Loma Prieta Chapter Sierra Club
 Student Conservation Association
 The Wilderness Society
 Ventana Wilderness Society
 Ventura Field Office
 Western National Parks Association
 Wilderness Society, California/Nevada Region
 Wilderness Watch

Chapter 5: References

Council on Environmental Quality

National Environmental Policy Act (NEPA) Regulations, 40 CFR 1508 et seq.

Fehr and Peers 2016 Pinnacles Eastside Transportation Study, San Francisco, California.

National Park Service, Pinnacles National Park/Monument

1999 Natural and Cultural Resources Management Plan

2009 Ben Bacon Ranch Historic District Cultural Landscape Inventory

2009 The Heart of the Gabilans: An Administrative History of Pinnacles National Monument, prepared by Timothy Babalis, Historian

2010 Pinnacles National Monument Habitat Restoration Environmental Assessment Including an Update to the Fire Management Plan

2011 Sandy Creek Bridge Reconstruction Environmental Assessment

2012 Pinnacles National Monument General Management Plan and Environmental Assessment

2013 Pinnacles National Monument General Management Plan Finding of No Significant Impact

National Park Service, Pacific West Regional Office

2002 East Entrance Historic District, Cultural Landscape Inventory

2004 Relocate Westside Maintenance Facility and Visitor Contact Station: Environmental Assessment and Assessment of Effect

2017 Summary of Choosing by Advantages Workshop: East Side Entrance Station

2018 Draft Highway 146 East Determination of Eligibility, prepared by Vida Germano, Historian

National Park Service, Washington D.C. Office

2006 National Park Service Management Policies

2010 Director's Order 22: Recreation Fees

n.d. Director's Order 22A: Fee Collection Reference Manual

Natural Resources Conservation Service

2009 Soil Survey of Pinnacles National Monument, California

Siegel and Strain, Architects.

2017 Scoping Trip Report

2018 Draft Schematic Design Report

U.S. Department of the Interior Executive Orders

1995 Indian Trust Resources

1997 Environmental Justice

11988 Floodplain Management

13690 Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input