



National Park Service

U.S. Department of the Interior

Grand Canyon National Park

Grand Canyon, Arizona

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Maswik South Rebuild

Environmental Assessment

October 2018



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Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Comments will not be accepted by fax, email, or in any other way than those specified above. Bulk comments in any format (hard copy or electronic) submitted on behalf of others will not be accepted.

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# **PURPOSE AND NEED**

## **Introduction**

The National Park Service (NPS) is proposing to demolish six modular lodging buildings at the Maswik South lodging complex (herein referred to as Maswik South or complex) and construct four new lodging buildings within the existing footprint of the complex. Maswik South is located in Grand Canyon Village (Village) on the South Rim of Grand Canyon National Park (GRCA) (Figure 1). In addition, NPS also proposes to construct two new road spurs, extending from Backcountry Road to Kennel Road and also connecting to the complex (Figure 1).

## **Purpose and Need for Action**

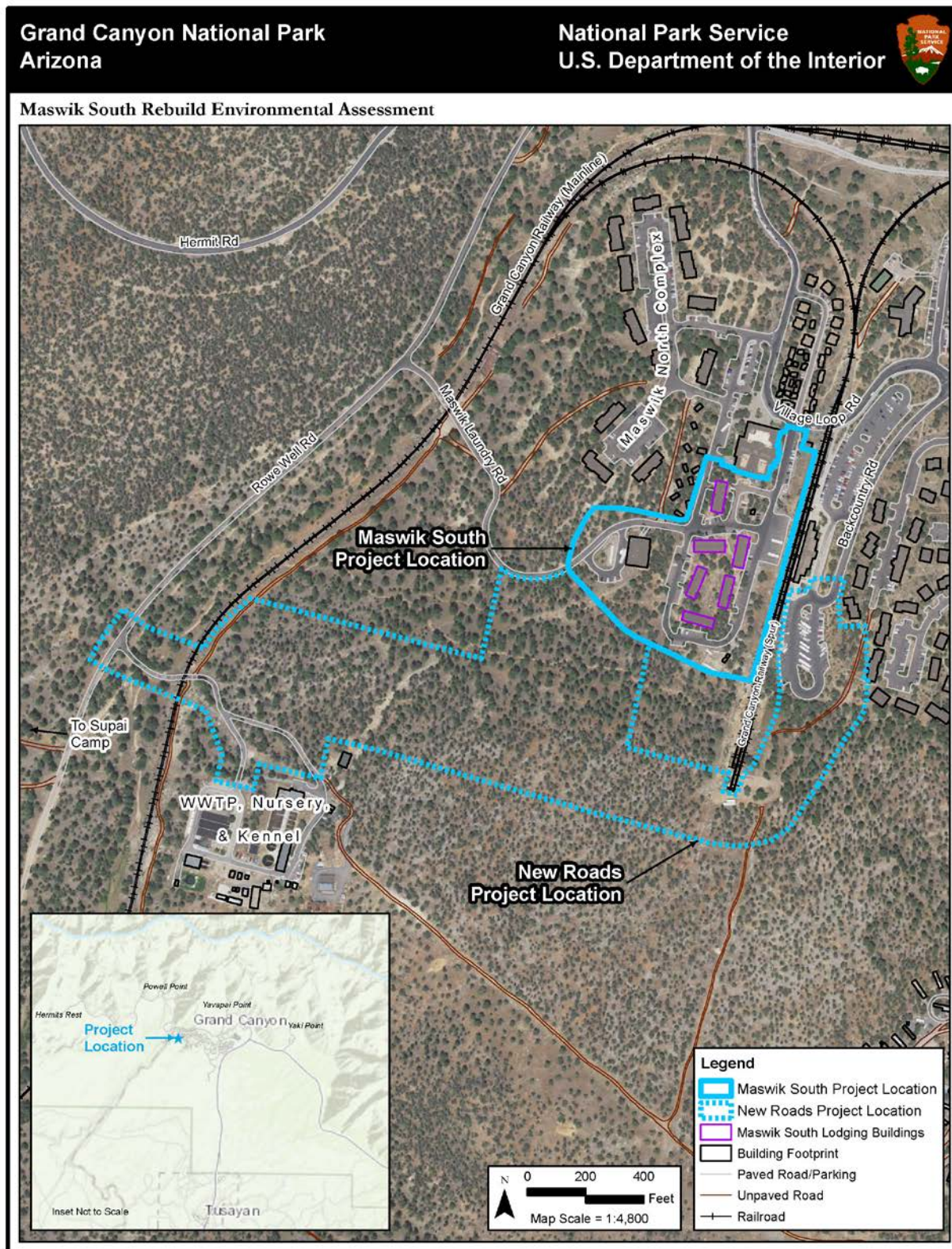
The purpose of this project is to improve local mobility, reduce conflicts between pedestrians and vehicles in the Maswik South area, and provide sustainable lodging within the existing site footprint that meets current visitor needs and expectations.

The project is needed because:

- The buildings are outdated, inefficient, and do not meet visitor needs and expectations.
- The complex lacks safe and accessible pedestrian routes.
- The buildings and site are not compliant with the Architectural Barriers Act of 1968 (ABA) and Americans with Disabilities Act of 1990 (ADA).
- The existing site configuration and local road network contributes to increased traffic and poor traffic circulation at the complex, which results in high vehicle congestion.
- The existing site configuration and mixed uses (e.g. visitor and non-visitor, commercial buses, commercial laundry facility, propane facility) at the complex cause conflicts and safety concerns between visitors and traffic.
- The existing site and associated infrastructure (e.g. roads, parking, and utilities) are outdated, in poor condition, and do not meet visitor needs and expectations.
- The two routes that provide access between the Village and Rowe Well Road are indirect and impede mobility.



Figure 1. Project Location



## Background

### Building Conditions

Maswik South consists of six two-story, prefabricated lodging buildings constructed in 1971. These buildings and their components have exceeded their expected useful life of 40 years. Although routine maintenance is carried out on the buildings, they have not been updated since 2008 and exhibit noticeable signs of wear. Due to their construction date and prefabricated nature, the buildings are not compliant with current fire code (lack of fire suppression systems), the Architectural Barriers Act of 1968 (ABA), and Americans with Disabilities Act of 1990 (ADA)<sup>1</sup>. In addition, the buildings are not energy- or water-efficient as they are poorly insulated, do not use reclaimed water, and are not equipped with modern energy and water saving fixtures and systems.

The buildings consist of 90 guest rooms total, none of which are fully ABA-ADA accessible. The guest rooms are accessed from the outside and have no elevators present. All partially ABA-ADA accessible rooms are currently located on the ground level since elevators aren't present to provide access to the second story rooms for individuals with disabilities.

The economy, motel-style rooms generally consist of a living/sleeping space and a restroom, and do not comfortably accommodate larger families or groups. The lodges also lack common accommodation options, such as air conditioning, rooms with kitchenettes, and vending areas.

### Site Configuration and Traffic Circulation

In addition to lodging, a propane facility, commercial laundry facility, and commercial bus<sup>2</sup> parking are also located at or near the complex (Figure 2). The laundry facility is situated along Maswik Laundry Road just west of the main lodging area, while the propane facility and bus parking occur within the lodging complex. Therefore, vehicles accessing these sites, which are normally larger delivery trucks, must use the Maswik South road network (Figure 3). The location of and access for these operational functions contributes to traffic congestion and conflicts between pedestrians and vehicles at Maswik South.

Hermit Road and Maswik Laundry Road are the only two roads that provide a connection between the Village and Rowe Well Road, which is a designated emergency egress and provides direct access to a residential area and workplaces (Figure 3). Because Hermit Road is gated the majority of the year, the majority of vehicles traveling between the Village and Rowe Well Road use Maswik Laundry Road, which is routed through Maswik South between lodging buildings. As a result, through-traffic (i.e. those with destinations other than Maswik South) is introduced to Maswik South, which increases overall traffic and contributes to traffic congestion and conflicts between pedestrians and vehicles at the complex. Additionally, due to the road configurations at Maswik South, the current route through the complex impedes mobility and traffic flow for the through-traffic that must navigate through the complex on a daily basis. See Social and Community Considerations for additional discussion on vehicular traffic and mobility.

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<sup>1</sup> Hereinafter, ABA and ADA are grouped together as ABA-ADA.

<sup>2</sup> These tour buses traverse through Maswik South to access Maswik Lodge and drop off passengers at their rooms. These tour buses have been driving through and parking at Maswik South since at least the early 1990s.



Figure 2. Site Configuration

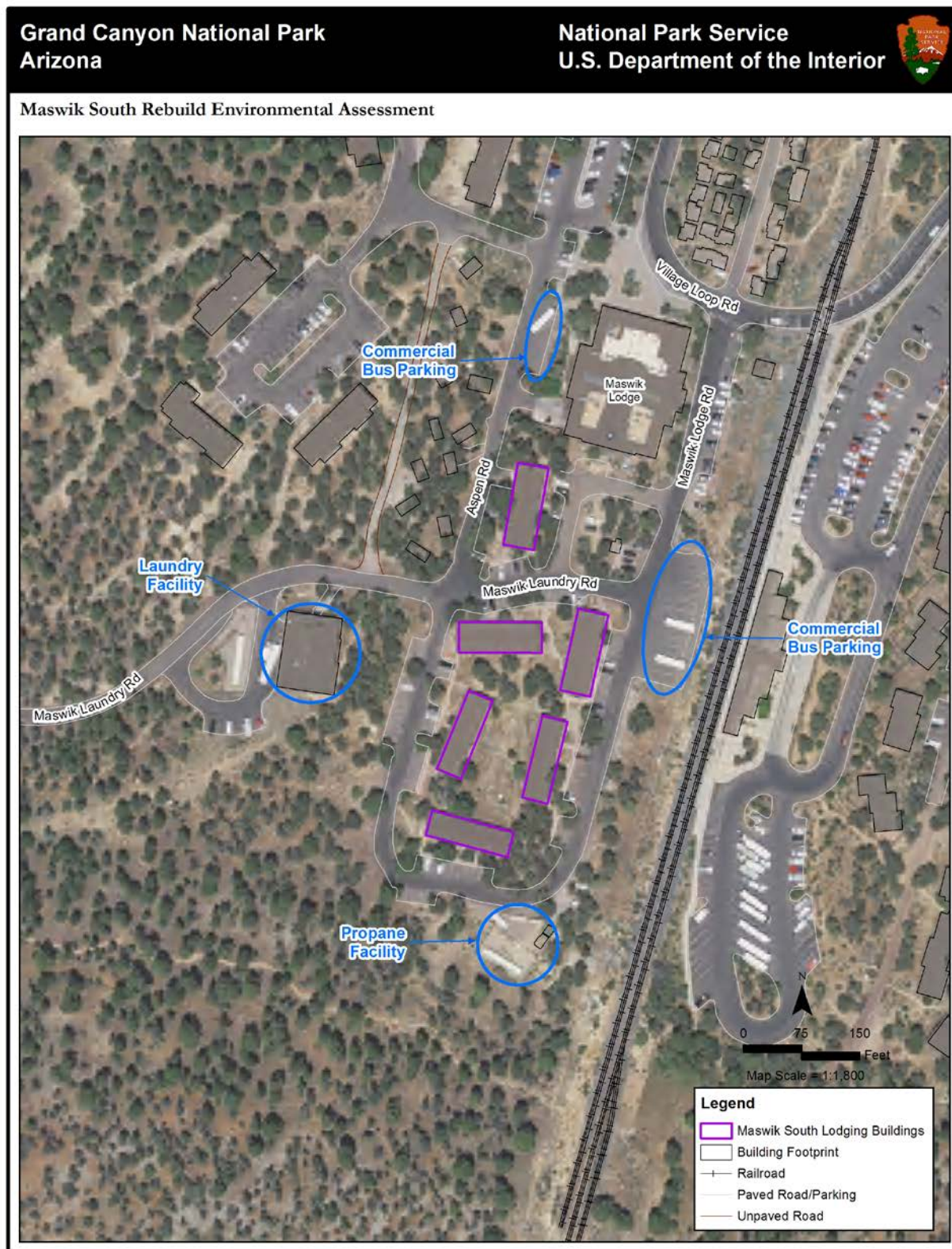
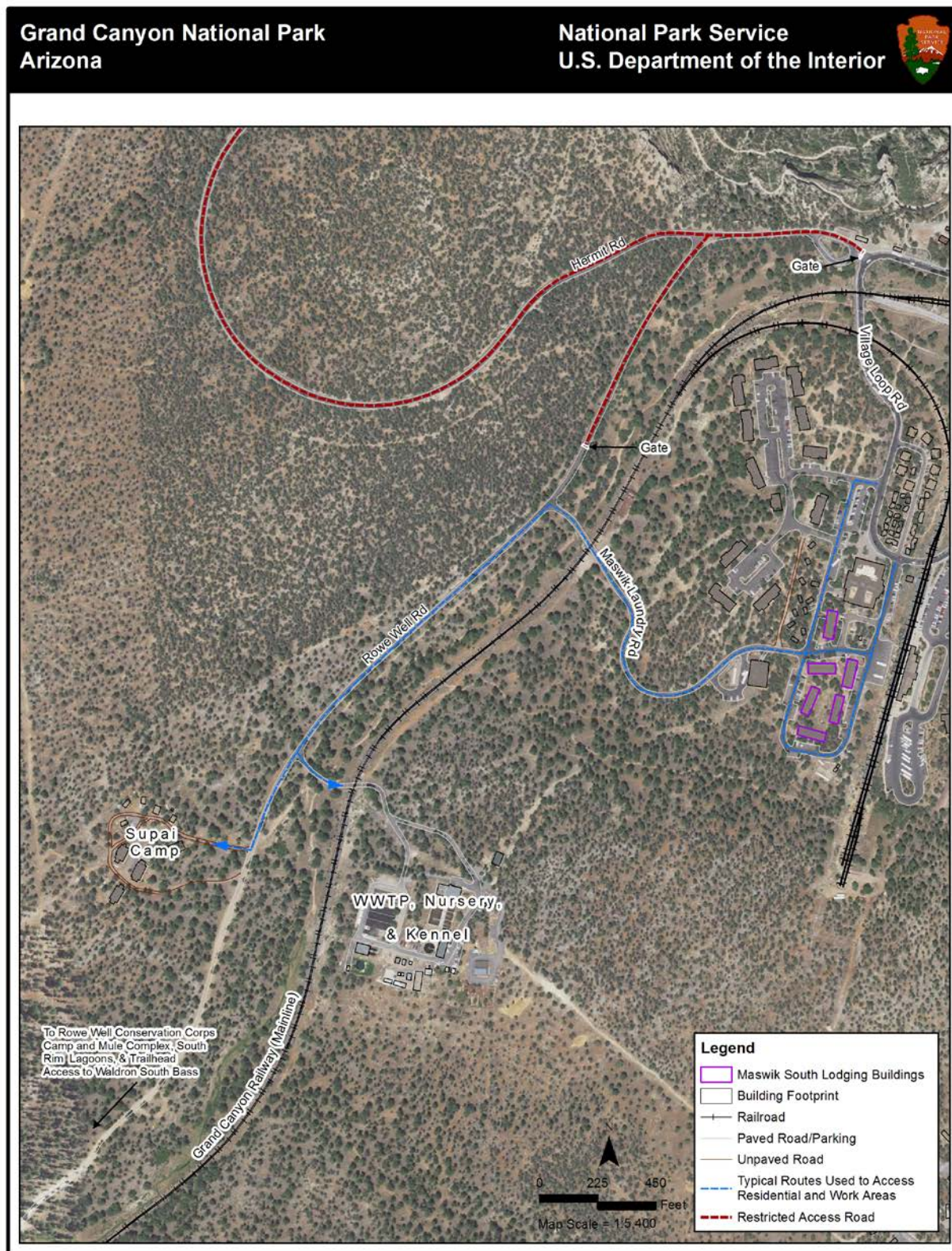




Figure 3. Vehicular Circulation



As shown above, the existing site configuration, including the operational functions at the complex, as well as the local road network are not conducive to traffic circulation, introduces mixed traffic use in a visitor use area, and leads to conflicts between pedestrians and vehicles.

### Pedestrian Facilities and Accessibility

Sidewalks and walkways are present in front of the buildings, but are discontinuous or absent within the overall complex (i.e. between lodge buildings) and between the complex and main Lodge building, often resulting in pedestrians walking in the road. The complex is also completely devoid of marked/painted pedestrian crosswalks. Additionally, many of the sidewalks are in poor condition/disrepair due to their age and lack of maintenance, which has led to uneven surfaces that create tripping hazards and obstacles for mobility devices (e.g. wheelchairs). ABA-ADA deficiencies are also present at parking spaces, curb ramps, and transitions between walkways and rooms.

The insufficient pedestrian facilities (i.e., sidewalks and crosswalks) contribute to safety concerns and conflicts between pedestrians and vehicles because the lack of sidewalks often causes pedestrians to walk in the road. Additionally, the lack of pedestrian connectivity between the complex and the main Maswik Lodge building (Lodge) is inadequate since the Lodge building contains the registration desk, retail store, and dining options, and as such, is frequented by visitors.

## **Impact Topics Retained for Further Analysis**

The following topics are carried forward for further analysis in this EA:

- Social and Community Considerations
- Visitor Use and Experience

## **Impact Topics Dismissed from Further Analysis**

The following topics are dismissed from further analysis in this EA for the reasons provided. Unless otherwise noted, no impacts are associated under the no action alternative.

### Air Quality & Greenhouse Gas Emissions

GRCA is designated as a Class I air quality area under the Federal Clean Air Act of 1970, meaning that this area receives the highest level of protection with only a small amount of additional air pollution allowed. Air pollutants (i.e. ozone, nitrogen, sulfur, and toxics) directly impact GRCA by reducing visibility, and can contaminate vegetation, soils, and surface waters, as well potentially harm certain wildlife species (NPS, 2016).

The project would result in a limited, temporary increase of air pollution and greenhouse gas emissions (GHGs) from the use of construction equipment and the transport of project materials. Construction related activities would result in a localized increase of vehicle exhaust, emissions, and fugitive dust throughout the estimated 16 month demolition and construction period at Maswik South<sup>3</sup> and the 24 month construction period for the new roads. The use of various types of equipment (e.g. excavators, backhoes, and material delivery trucks) over the construction period would produce emissions that are small relative to those produced from visitor and commercial transportation within the park, and would make an inconsequential contribution to the park's overall

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<sup>3</sup> Herein, "demolition and construction" at Maswik South may be referred to collectively as construction.

emissions profile. Any increase in air pollution or GHGs would cease once construction is complete; therefore no long-term contribution of air pollution or GHGs would occur under either alternative discussed in this EA. Additionally, the construction of a new bypass road south of Maswik South could have a beneficial long-term impact by reducing emissions since this route would provide more direct access and result in less “stop-and-go” traffic when compared to vehicles navigating through the complex.

Dust emissions resulting from project activities would be mostly confined to the project areas and immediately adjacent properties. Dust impacts would be temporary and would be mitigated by using Best Management Practices (BMPs).

### Historic Structures and Cultural Landscapes

The project areas are not located within any historic districts or cultural landscapes; however, the Maswik South project area is adjacent to, and visible from, the Grand Canyon Village National Historic Landmark District (NHL), which includes historic buildings and cultural landscape features. The project area associated with the new roads is not visible from the NHL. The No Action and the Proposed Action alternatives would have no adverse effect to historic structures, districts, or cultural landscapes.

The existing Maswik South lodging buildings that would be demolished have been determined ineligible for listing in the National Register of Historic Places (NRHP). The Arizona State Historic Preservation Office (ASHPO) concurred with the determination of ineligibility (DOIE) on January 2, 2013. In addition, ASHPPO concurred with the finding of no adverse effect for the demolition of the lodging buildings on January 2, 2013. ASHPPO also concurred with the finding of no adverse effect for the proposed rebuild of Maswik South on July 30, 2018.

The modifications to existing roads would impact Rowe Well Road, which is being treated as eligible for listing in the NRHP. Rowe Well Road likely dates to the early 1900s and has its origins as a wagon road used by Grand Canyon pioneer Sanford Rowe. The road was possibly paved as early as the 1930's. At its intersection with Kennel Road, Rowe Well Road would be modified (e.g. repaved) to accommodate the widened Kennel Road. Rowe Well Road would remain in its existing alignment and character defining features would be retained. ASHPPO concurred with the finding of no adverse effect for the new road construction and associated modifications to existing roads on July 30, 2018. The NPS would continue to consult with ASHPPO and tribes as road designs progress.

Therefore, as described above, no adverse effect to historic structures or cultural landscapes would occur under either alternative discussed in this EA. As such, this topic has been dismissed from further analysis.

### Archaeological Resources

There are six known archaeological sites located within or in the vicinity of the proposed project area. Three are American Indian sites (B:16:0104, B:16:0181, and B:16:0384) and three are Euro-American historic sites. There are no known archaeological sites within the offsite staging area.

Historic period archaeological site B:16:0976 is located along the east side of the Maswik South project boundary and would be impacted by the project; however, this site has been determined ineligible for listing in the NRHP in consultation with ASHPPO on April 17, 2018. The site contains remnants of the Maswik Auto Cabins complex that was razed in the 1980s and no longer retains integrity. ASHPPO concurred with the finding of No Adverse Effect for impacts to this site resulting



from the Proposed Action on July 30, 2018.

The five archaeological sites located in the vicinity of the proposed roads are eligible for listing in the NRHP under GRCA's multiple property nomination form for archaeological sites. GRCA previously performed data recovery for archaeological sites B:16:0104 and B:16:0181 in anticipation of a past project (light rail) which did not materialize; therefore, mitigation has already occurred for these sites, the information potential has been exhausted, and avoidance is not required. Portions of archaeological sites B:16:0977 and B:16:0384 are within the project area boundaries; however, the roads would be designed to avoid impacts to these archaeological sites, and the sites would be fenced prior to and throughout construction to avoid disturbance. The roads would also be designed with proper slopes and an adequate buffer so that after construction, road use and maintenance would not directly or indirectly affect the sites. Archaeological site B:16:0978 is located outside of the project area boundaries and would be avoided. AZSHPO concurred with the initial finding of no adverse effect on July 30, 2018; however, as the road construction is conceptual at this time, additional consultation with AZSHPO, as well as tribes, would occur as planning and design for the road construction progresses.

Appropriate steps would be taken to protect any previously unknown archaeological resources that are discovered through the implementation of either alternative discussed in this EA (see Mitigation Measures).

As discussed above, there would be no adverse impacts to archaeological resources; therefore, this topic has been dismissed from further analysis.

### Ethnographic Resources

There are no known ethnographic resources in the areas of potential effect. However, the park's eleven traditionally associated tribes often consider archaeological sites to be ethnographic resources and as previously stated, three of the sites near the proposed roads are of American Indian origin.

The tribal contacts were sent an email on June 29, 2018, describing the proposed project and requesting comments. Another email was sent on September 5, 2018. Overall, three tribes indicated no further need to consult and three others specifically requested to remain involved and have the opportunity to review documents. Consultation will continue with those tribes that requested to remain involved or that did not respond.

Due to a request from the Havasupai Tribe to observe the locations of the proposed road alignments, a site visit occurred on August 6, 2018. During the site visit the tribe indicated that there may be cultural resources not previously documented by GRCA within the vicinity of the proposed roads. A follow-up site visit with the Havasupai Tribe to survey the roads project area occurred on August 23, 2018. No previously undocumented cultural resources were identified. Consultation with the Havasupai Tribe would continue.

If the presence of previously unidentified ethnographic resources are identified in the project areas by tribes, the NPS would undertake appropriate measures to avoid these resources or to mitigate disturbances through further consultation with the tribes and SHPO. As necessary, regulations pursuant to the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) would be followed. The location of ethnographic sites would not be made public. Because impacts to ethnographic resources would be avoided, this impact topic was dismissed from further analysis. If new information about ethnographic resources, Tribal concerns, or other related issues arises, the



NPS will reconsider this determination.

### Environmental Justice

In accordance with the National Office of Environmental Policy and Compliance (OEPC) Environmental Compliance Memorandum 95-3, Grand Canyon Village, Tusayan, and other surrounding communities were assessed to contain both minority and low-income populations. However, this environmental assessment demonstrates that the impacts that could result from implementation of the alternatives would be few and would not be disproportionately high with regard to human health or environmental impacts on minority or low-income populations. Furthermore, the park staff and planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.

Potential impacts to minority or low-income populations that may be present would only result from construction activities, such as detours, increased noise, and dust. These impacts would be temporary and would cease upon construction completion. These impacts, specifically detours, would also affect other individuals, such as those workers at the wastewater treatment plant (WWTP), nursery, and kennel, as well as visitors accessing the kennel and other park areas west of the Village (e.g. Waldron Trail). New road segments constructed by the project would have beneficial impacts to minority and low-income populations, as well as many others, living within the park as the new roads would provide additional, more direct routes of travel through a less congested area, and would serve the community better when emergency situations occur.

As shown above, the Proposed Action would not have disproportionately high and adverse human health or environmental effects on minority and low-income population; therefore, this topic has been dismissed from further analysis.

### Socioeconomics

The park staff and planning team does not anticipate any impacts on the socioeconomic environment to alter the physical or social structure of nearby communities because the implementation of either alternative would neither change local or regional land use nor appreciably impact local business or other agencies.

There would be no appreciable change to the socioeconomics under the action alternative. The new buildings would provide 30 additional rooms compared to the current condition. During the majority of the year the demand for lodging, both within the park and in the gateway town of Tusayan, exceeds the current capacity of lodging. The increase in rooms would have a negligible impact to lodging in Tusayan as the additional 30 rooms within the park represents a 1.5% increase in rooms between the park's South Rim and Tusayan<sup>4</sup>. Therefore, 30 additional rooms at Maswik South would benefit visitors by adding room availability while not creating a measureable loss of income to other local hotels. If the additional lodging capacity in the park were to reduce some business in Tusayan, any potential loss of business would be negligible and would not result in complete loss of business (i.e. permanent closures). Additionally, the increase in lodging within the park is not expected to adversely impact employment in Tusayan.

Adding lodging rooms in the park is also consistent with the Grand Canyon General Management

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<sup>4</sup> 1,960 lodging rooms are currently present between the park's South Rim (880) and Tusayan (1080).

Plan (1995), which anticipated some additional lodging within the park.

Construction activities would be expected to support a number of workers and would also bring a temporary benefit to the local business community as workers would patronize local shops and dining establishments. The 30 additional rooms are also expected to support three full-time hospitality jobs during peak season, or may increase income (i.e. additional work hours available) for concessioner hospitality staff. During construction, the majority of the current staff at Maswik South would be absorbed into other similar jobs with the same company and within the park.

Currently, the Maswik South is one of the lower-priced overnight lodging options within the park. The approved room rate (the maximum allowable charge for a room) is expected to rise once the lodge is rebuilt to midscale lodging standards. Although the room rates would rise at Maswik South, other lower-priced lodging and camping options would remain available within the park and in the gateway town of Tusayan.

Other businesses that would be impacted by the Proposed Action include Titan Propane, Grand Canyon Railway, and other utilities companies (e.g. Arizona Public Service). Titan's office functions at Maswik South would be relocated outside the park. The propane tanks at Maswik South and the Maswik laundry facility would remain as they service Maswik buildings, as well as other facilities. Access to the tanks would be maintained during construction. As is typical for roadway construction projects, utility relocations (e.g. sewer, electrical) would be required. Continued coordination with Titan Propane, Grand Canyon Railway, and other potentially affected utility companies would occur.

The Proposed Action would require coordination with Grand Canyon Railway as road modifications would occur at at-grade roadway-railway crossings and could have minor, temporary impacts to train operations, such as delays. Once the roadway improvements are complete, the majority of traffic currently crossing the railroad at-grade at Maswik Laundry Road would likely be shifted to the crossing at Kennel Road (crossings are approximately 1,300 feet apart). Additionally, a portion of the new road near the Backcountry Information Center (BIC) may require modification to the railroad's land assignment; however, all railroad tracks and their associated infrastructure would remain unchanged. Additional coordination with Grand Canyon Railway would occur during roadway design. The project activities and impacts described above would not permanently impact railroad operations; therefore, this topic has been dismissed from further analysis.

### Vegetation and Soils

The 9-acre project area at Maswik South is disturbed and primarily consists of bare ground; however, some trees and vegetation are still present. Typical native species at the complex include juniper (*Juniperus osteosperma*), pinyon pine (*Pinus edulis*), whorled milkweed (*Asclepias subverticillata*), and Utah agave (*Agave utahensis*). The majority of the 27-acre project area encompassing the potential road alignments consists of both pinyon/juniper and ponderosa pine (*Pinus ponderosa*) woodlands with a sparsely vegetated understory. Please note that not all 27 acres within the roads project area would be impacted (see below and footnote for clarification on impacts). Some non-native species, such as cheatgrass (*Bromus tectorum*) are also present within the project areas. The native species and vegetative communities present within the project areas are prevalent throughout the South Rim and on adjacent lands. There are no sensitive plant species or important geologic features located within the project areas.

The Proposed Action would disturb up to 28 acres<sup>5</sup> of soil, rock, and vegetation within the Maswik South and new roads project areas; however, as previously noted, some of this area is already disturbed (i.e. the Maswik South footprint). Tree removals would be required, but would be minimized to the extent practicable through engineering design standards and BMPs. All trees identified to remain in place that are within or near the project areas would be appropriately protected. Upon construction completion, areas disturbed by construction would be revegetated or landscaped, as appropriate, using native seed and plants. Firewise landscaping and defensible space would be incorporated around buildings to lessen the chances of wildfires spreading to the buildings. Revegetation plans would be developed in coordination with the GRCA Vegetation Program. Revegetation and plant establishment could take up to three years to complete.

The vegetative communities and soils/rock that would be impacted by the Proposed Action are common and widespread throughout the park's South Rim, as well as on lands adjacent to the park boundary. Additionally, the total area that would be impacted by the Proposed Action is approximately 0.0023% of the park. For these reasons, this topic has been dismissed from further analysis.

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<sup>5</sup> Due to the early stage and minimal design information for the new roads portion of the project, a 200-foot-wide buffer was used around the proposed road alignments to roughly calculate impacts. It is anticipated that the construction of new roads would result in up to 19 acres of new disturbance to woodlands. Additionally, approximately 9 acres would be disturbed at Maswik South. These numbers total the 28 acres of disturbance identified.

## ALTERNATIVES

Two alternatives, action and no action, are carried forward for evaluation in this EA. A number of suggestions and alternate designs were also considered and dismissed (see the Alternatives Considered and Dismissed section).

### Alternatives Carried Forward

#### Alternative A – No Action

The No Action Alternative would include the continuation of activities that address safety and maintenance issues (e.g. routine/cyclic maintenance); however, no major improvements, upgrades, or new construction would occur at Maswik South. The buildings would eventually exceed their useful life to a point that they would require major rehabilitation and expenditures to continue to be used as commercial lodging. The complex would remain in its current configuration (Figure 4) and mixed uses would continue. Pedestrian connectivity and accessibility would not be improved. The Maswik South buildings and site would not be upgraded with ABA-ADA improvements. Sustainability features, such as reclaimed water, would not be incorporated.

New roads providing alternate access between the Village, Rowe Well Road and Maswik South would not be constructed. Primary access between the Village and Rowe Well Road would continue to be primarily provided via Maswik Lodge Road, Aspen Road, and Maswik Laundry Road; therefore, through-traffic would continue to be routed through Maswik South.

#### Alternative B – Demolish and Rebuild Maswik South Complex and Construct New Roads (Proposed Action and NPS Preferred Alternative)

##### *Maswik South Demolition and Rebuild*

The Proposed Action Alternative would demolish the six existing Maswik South modular lodging buildings and construct new lodging buildings at the existing site. Prior to demolition, lead-based paint (LBP) and asbestos-containing material (ACM) abatement would occur at the buildings. The site would also be reconstructed and reconfigured to accommodate the proposed layout; improve infrastructure, such as parking, roads, sidewalks, landscaping, and utilities; and improve vehicular and pedestrian circulation. Please reference Figure 4 for a depiction of the existing conditions and Figure 5 for a depiction of the Proposed Action.

The lodging complex would include four new two-story lodging buildings, which would be designed to Leadership in Energy and Environmental Design (LEED) Gold standards. Additionally, the building designs would adhere to the *1994 Architectural Character Guidelines for Grand Canyon National Park* to assure appropriate design, detailing and material selection. The new lodging buildings would contain 120 guest rooms, including 30 rooms with kitchenettes and seven ABA-ADA accessible rooms. All lodging buildings would include elevators.

The total footprint of the buildings would increase from approximately 14,920 square feet (sf) to 27,400 sf. Although nearly doubling the building square footage, the redesigned complex would fit within the existing site footprint as depicted on Figure 4 and 5.



Figure 4. Existing Conditions at Maswik South

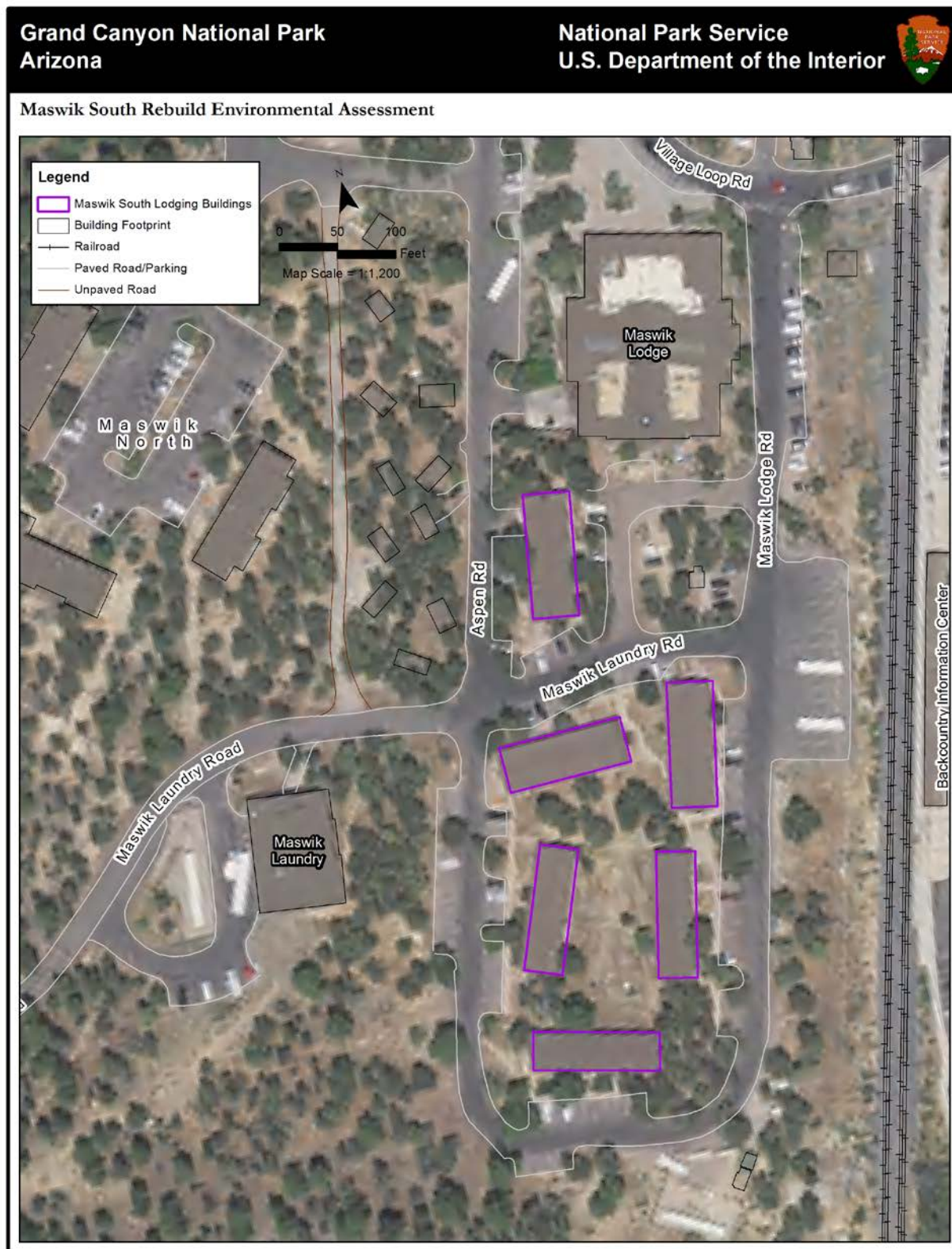
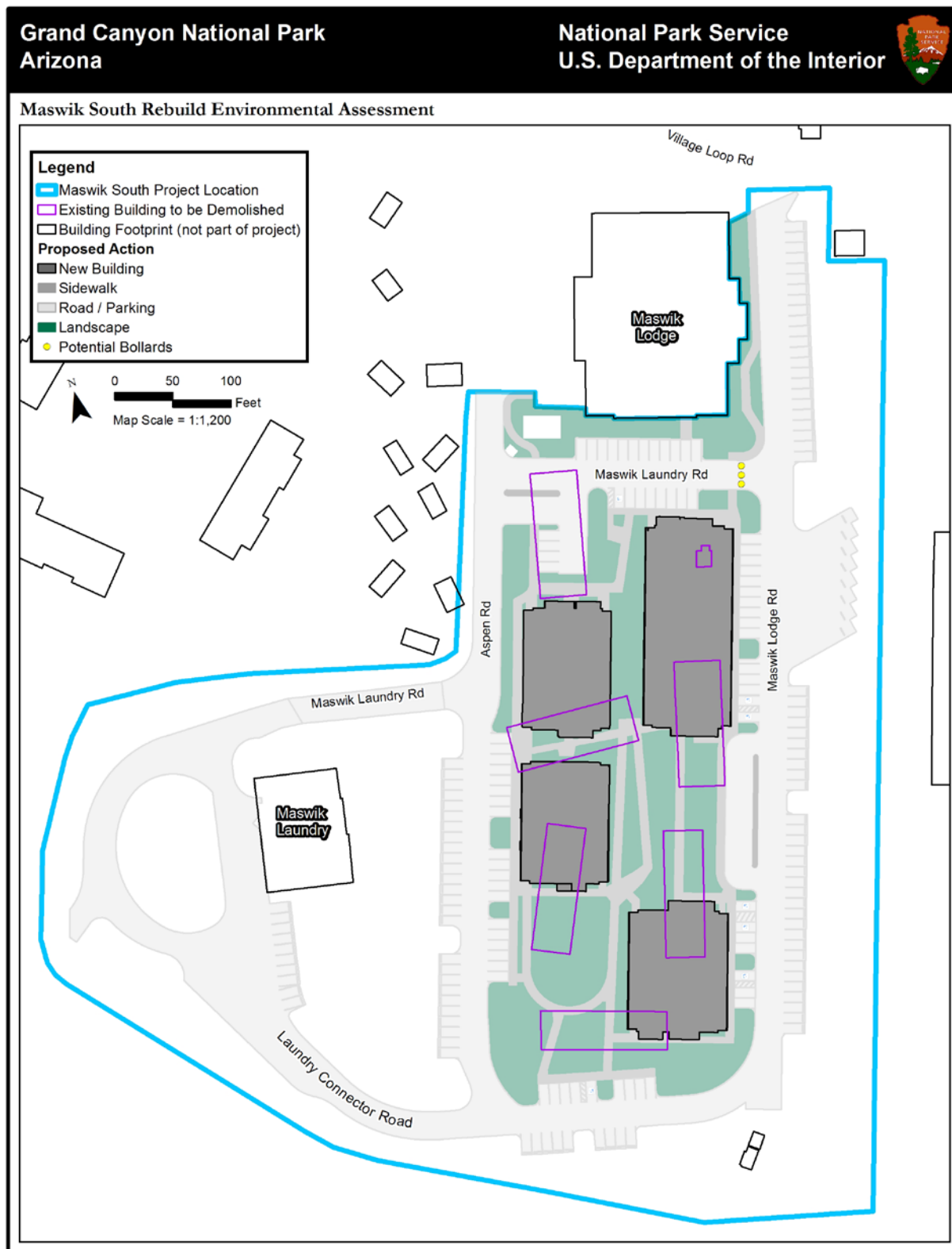


Figure 5. Proposed Action: Maswik South



The new buildings would be connected by walkways (e.g. sidewalks, paved paths). Walkways, including ABA-ADA accessible routes, would be constructed throughout the complex, along parking areas, and from the complex to the main Maswik Lodge building. Outdoor common areas would also be constructed, and may include designed landscapes or minor structures such as shade shelters.

To achieve LEED Gold design and sustainability, solar panels, reclaimed water, and low-flow water fixtures, among other features, would be incorporated into the buildings. It should be noted that although 30 additional guest rooms would be added by the rebuild (existing complex has 90 rooms), resource usage (i.e. water, electricity, and propane) is expected to be less than or similar to existing conditions at Maswik South. The proposed buildings would incorporate reclaimed water and low-flow water fixtures, which would be expected to reduce (potable) water usage by 75%<sup>6</sup> when compared to current conditions, even with the additional rooms. Based on general approximations, the anticipated electrical usage and propane usage are expected to be similar to current conditions, with the new lodges using slightly less electricity (-1%) and more propane (+11%).

Parking spaces within the complex project area would be modified; new parking spaces would be constructed, existing parking spaces to remain would be paved, and existing unpaved parking spaces would be paved. The Proposed Action includes approximately 163 parking spaces, 74 of which are new, between Maswik South, Maswik Lodge, and Maswik Laundry. All new parking spaces would be within the footprint as depicted on Figure 5. The additional parking spaces would make more efficient use of the footprint, and would be needed due to the added rooms, as well as to provide more parking for those visiting Maswik Lodge. Eight bus stalls would also be provided at Maswik South. The eight bus stalls is a reduction from the current 14 bus stalls. Buses no longer able to park at Maswik South would be relocated to the existing bus stalls in an administrative area of the park.

The segments of Maswik Lodge Road and Aspen Road within the project area would be reconstructed and would remain in generally the same alignment. The existing segment of Maswik Laundry Road that currently runs east-west through the middle of Maswik South (i.e. between Maswik Lodge and Aspen Roads) would be shifted approximately 100 feet to the north, creating an offset intersection at the junction of Aspen Road and Maswik Laundry Road. Additionally, bollards are being considered for use on this segment of Maswik Laundry Road to restrict “cut-through” traffic, in which case this area would function as parking and pedestrian access to the main lodge building, rather than a road (see Figure 5). Buses would only be allowed to travel one-way through the complex.

A new road segment would be constructed between the southwest corner of the Maswik South complex and the parking/loading area at the Maswik laundry facility (herein referred to as Laundry Connector Road) to provide improved access for industrial traffic to the Maswik laundry facility, as well as other through-traffic (Figure 5). Modifications would also be made to the segment of Maswik Laundry Road in the vicinity of the Maswik laundry facility to accommodate the new road and travel patterns. Other paved areas (e.g. parking/loading areas) at the Maswik laundry facility would also be reconfigured.

The office space at the existing propane facility at the south end of the complex would be relocated outside of the park, while the propane tank itself would remain as it distributes propane to the

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<sup>6</sup> Existing water usage at Maswik South has been reported as approximately 4.9 million gallons per year. The *Maswik South Preliminary Energy Analysis Report* anticipates that the future build conditions would reduce water usage to approximately 1.2 million gallons per year.

complex, as well as multiple other facilities.

The project would include vegetation removal, site grading, erosion control, drainage modifications and improvements, landscaping improvements, and utility removal and replacement. New utilities would also be added, including electrical vehicle charging stations and fiber-optic cable. In addition to grading, the utility work would require trenching in the project area. Exterior lighting meeting dark sky requirements would be installed on buildings, along walkways and roads, and at parking areas. Larger open spaces within the complex may be constructed as gathering areas, with shade structures, interpretive exhibits, and other landscaping elements.

Staging for the project would occur within the project area boundaries. Parking for construction workers would occur onsite and offsite in previously disturbed areas (e.g. existing paved or non-paved parking areas). All practical efforts would be taken to minimize reductions to visitor parking outside of the project areas.

Material excavated from the site that is suitable for reuse would be used in the rebuild of Maswik South, and surplus suitable material may be saved for other reuse within the park. The rock would be hauled to the park's Dry Dump<sup>7</sup>, located approximately 2¾ miles from the nearest visitor use area (Mather Campground), or another disturbed site for crushing, sorting/seining, and stockpiling. Additionally, a temporary concrete and/or asphalt batch plant would also be staged at the Dry Dump to provide concrete for the project. Spoil material determined unsuitable for reuse would be hauled outside of the park and properly disposed. All demolished building materials would also be hauled outside of the park and disposed of according to applicable federal and local regulations.

The overall project duration is expected to be 16 months. All reasonable attempts would be made to phase the project so that traffic could be maintained through the complex to accommodate travel between Rowe Well Road and the Village; however, detours may still be required at times. The project would be phased to minimize the amount and duration of any required detours. Signage would be used to notify drivers of travel routes and any detours during construction.

### *New Road Construction*

Alternative B also includes the future construction of new paved roadways extending from Backcountry Road to Kennel Road (herein referred to as Bypass Road), from Bypass Road to Maswik South (herein referred to as Maswik Connector Road), and from Bypass Road to the WWTP area (herein referred to as WWTP Connector Road) (Figure 6). The new roads would total approximately 0.7 miles; however, this distance may be slightly greater once the design is finalized. This element of the Proposed Action would not occur at the same time as the Maswik South rebuild, but is tentatively planned to begin in the next three to ten years.

The roadways would be two-lane undivided (i.e. with no median), with 12-foot-wide travel lanes and appropriate shoulders. All new intersections would be controlled by stop signs. Roadway design would comply with NPS Park Road Standards (NPS 1984), Federal Highway Administration (FHWA) standards, and/or American Association of State Highway and Transportation Officials (AASHTO) standards, as appropriate. Sidewalks, or potentially a paved trail, would be considered for construction along Bypass Road. Conduit may also be installed along the new roadways to

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<sup>7</sup> The Dry Dump was analyzed under the Hermit Road Rehabilitation EA (NPS, 2006) and the South Rim Visitor Transportation Plan EA (NPS, 2008). The NPS has determined that the previous analysis is sufficient and does not require further analysis in this EA.



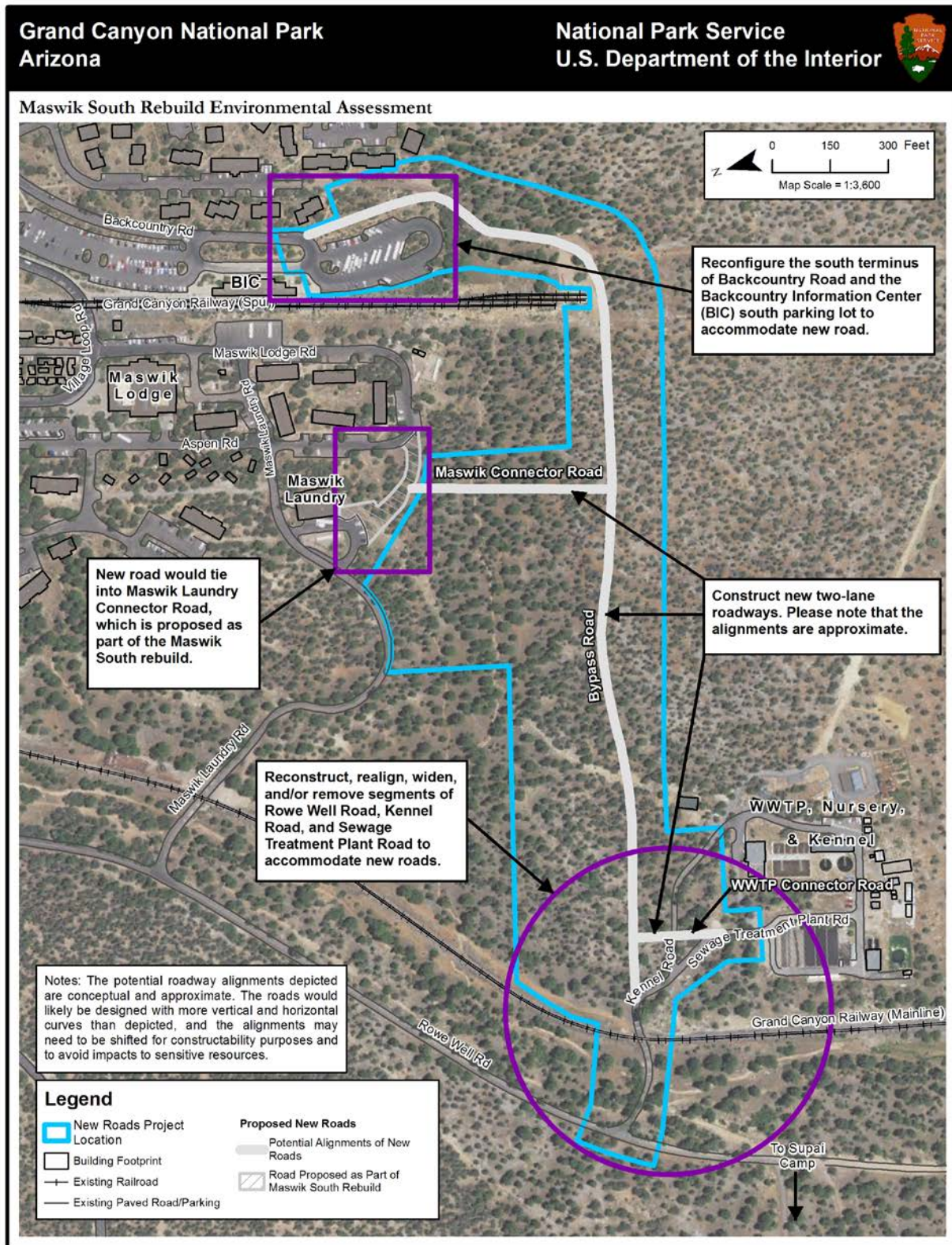
accommodate future underground utilities.

Portions of existing roads, intersections, and parking lots that are located at the termini of the new roads would be modified, including reconstruction (e.g. realigned, widened) or elimination, to accommodate the new roadways and associated traffic. These include Backcountry Road, the south parking lot at the BIC, Laundry Connector Road, Kennel Road, Sewage Treatment Plant Road, and Rowe Well Road.

The majority of staging would occur onsite. All off-site staging or construction parking areas would be in previously disturbed areas (e.g. existing paved or non-paved parking areas). A temporary concrete and/or asphalt batch plant would be staged at the Dry Dump to provide pavement for the project. Material excavated from the site that is suitable for reuse would be used onsite, and surplus suitable material may be saved for other reuse within the park. Reusable rock would be hauled to the Dry Dump or another disturbed site for crushing, sorting/seining, and stockpiling. Spoil material not determined suitable for reuse would be hauled outside of the park and properly disposed by the contractor according to applicable federal and local regulations.

The overall project duration is expected to be up to 24 months. The road construction would be phased to reduce detour durations and distances and to maintain access between the Village and Supai Camp, and the Village and WWTP area during the project. During the majority of the construction of Bypass and Maswik Connector Roads, detours and traffic restrictions may not be needed since existing roads could be traveled as normal. During construction along Kennel, Sewage Treatment Plant, and Rowe Well Roads, the project would be phased to keep one lane of traffic open at all times; however, periodic restrictions may be required. Signage would be used to notify drivers of travel routes and any detours during construction.

Figure 6. Proposed Action: New Road Construction



## **Alternatives and Alternative Elements Considered and Dismissed**

The following alternatives and alternative elements were considered but dismissed from further analysis. These include suggestions from public scoping, as well as the project planning team.

### **Major Rehabilitation**

This alternative would include major rehabilitation of the existing buildings and site. The existing buildings are past their expected useful life. Major rehabilitation would require enlarging several rooms to meet ABA-ADA requirements, thus reducing the number of overall rooms. It would also be labor intensive and costly to bring the buildings up to code (e.g. fire suppression), properly insulate them, make them water- and energy-efficient, make them ABA-ADA accessible, etc. Abatement of LBP and ACM would be still be required to perform major rehabilitation. This alternative would also require major site work, similar to the Proposed Action, to: resurface parking areas and roads, which are in poor condition; improve pedestrian connectivity; install reclaimed water; and others. The site configuration and road network would be maintained, which would not address traffic circulation concerns. The Major Rehabilitation alternative would not resolve the purpose and need for taking action and is therefore dismissed.

## **Mitigation Measures and Best Management Practices**

The following mitigation measures would minimize the degree and/or extent of adverse impacts and would be implemented during the project.

### **Air Quality**

- Equipment would not be allowed to idle longer than 2 minutes when not in use.
- All motor vehicles and equipment would have mufflers conforming to original manufacturers' specification that are in good working order and are in constant operation to prevent excessive or unusual fumes or smoke.
- All haul loads would be covered.
- Dust emissions would be controlled using BMPs.

### **Historic Structures and Cultural Landscapes**

- In order to ensure that there is no adverse effect on the Grand Canyon Village National Historic Landmark District, building and site design will comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

### **Archaeological and Ethnographic Resources**

- All contractors and subcontractors would be informed of the procedures to follow in the event of archaeological and ethnographic resource discovery, as well as the penalties for illegally collecting artifacts or intentionally damaging archaeological sites or historic properties. If previously unknown archaeological resources are encountered during project activities, all necessary steps will be taken to protect them and the park Cultural Resources Program Manager will be notified immediately. The NPS would then consult with the AZSHPO and the traditionally associated tribes in accordance with §36 CFR 800.13, Post Review Discoveries.
- During construction, specifically activities involving earthwork or digging, qualified park staff would monitor work zones to confirm the presence or absence of archaeological or ethnographic resources. Should construction unearth archaeological resources, work would be

stopped in the area of discovery and the GRCA Cultural Resources Program Manager would be notified immediately.

- Archaeological sites B:16:0384, B:16:0977, and B:16:0978 would be avoided during road construction, use, and maintenance. The roads would be designed with proper slopes and an adequate buffer so that after construction, road use and maintenance would not affect the aforementioned archaeological sites. These sites are within the area of potential effect (APE) of the proposed two lane roads. If testing determines these sites to be ineligible for listing in the National Register, then through consultation with SHPO and with tribes, these mitigation measures may be able to be modified.
- Areas selected for staging equipment and materials are expected to be located in existing disturbed areas where there is no potential for archaeological resource disturbance. GRCA's Cultural Resource Program Manager would be contacted before creating/utilizing any staging areas not previously addressed or reviewed for this project.
- In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 would be followed.
- GRCA's Tribal Program Manager would be advised of travel impacts (e.g., detours) during construction so that the appropriate tribes can be notified.
- Consultation with the Havasupai Tribe, as well as other appropriate tribes, would continue as the roadway design progresses. Appropriate measures would be taken with the Havasupai Tribe to identify any sensitive sites that are unknown to GRCA personnel.
- If ethnographic resources are identified in the future, impacts to these resources would be minimized to the extent possible.

### Lightscape

- Outdoor demolition and construction activities would be limited to daylight hours so that lighting would not be needed.
- Exterior lighting at Maswik South would be compliant with International Dark Skies guidelines and GRCA's lighting policies and guidelines to minimize light pollution.
- To protect dark skies, only the minimum amount of lighting required would be installed along road segments.

### Soundscape

- All outdoor construction activities would be restricted to daylight hours.
- Equipment would not be allowed to idle longer than 2 minutes when not in use.
- All motor vehicles and equipment would have mufflers conforming to original manufacturers' specification that are in good working order and are in constant operation to prevent excessive or unusual noise.
- To limit noise impacts, construction vehicles hauling project materials and spoils would only use the designated construction route, unless otherwise approved by GRCA.

### Vegetation and Soils

- Construction zones would be identified (i.e. flagging, construction tape, etc.) to confine activity to the minimum work area required.
- Construction equipment would be cleaned before entering the park to minimize the transport of exotic seeds to the site. All equipment entering the park would be inspected and may be required to be pressure washed to remove foreign soil, vegetation, and other materials that may

- contain non-native seeds or vegetation.
- Erosion control measures that provide for soil stability and prevent movement of soils would be implemented, such as installing erosion control wattles along the edge of the construction zone.
- Soil would be piled in front of the erosion control measures (e.g. fencing) to avoid creating bare soil and potential for invasive plant species encroachment outside the project area.
- Prior to excavation for the roadway, available topsoil would be removed from the surface and stockpiled in hedge-rows for future reuse on this or other projects at the South Rim.
- Stockpiling of rock or other soil material for future reuse may occur at the Dry Dump or other disturbed areas approved by the NPS.
- Hauling and disposal of unused or unwanted soil and rock spoils would be the responsibility of the contractor.
- Tree removals would be minimized to the extent practicable through engineering design standards and best management practices.
- All trees identified to remain in place that are within or near the project areas would be appropriately protected.
- Pruning necessary for the project, and for any future periodic maintenance in the area, would adhere to the park's pruning guidelines with the goal of retaining health and integrity of trees and shrubs treated. Damage to trees or roots in or adjacent to project areas during construction would be avoided as much as possible, if avoidance is not possible, root pruning guidelines would be followed.
- Firewise landscaping and defensible space would be incorporated around the buildings to lessen the chances of wildfires spreading to the buildings.
- Continue coordination with GRCA's Vegetation Program for revegetation efforts and to determine vegetation that is salvageable.
- Vegetation material removed during the project that is unusable for revegetation efforts would be cut and shredded onsite for use as mulch in the project area. If the material needs to be stored off-site, the project manager would work with the Vegetation Program Management staff to determine the appropriate location.
- Mitigation for tree or other vegetation removal would be required as determined by the NPS GRCA Vegetation Management Program.
- Disturbed areas would be revegetated upon project completion. Revegetated areas would be appropriately irrigated until the vegetation has reestablished, or as directed by GRCA's Vegetation Program.

#### Wildlife, including Special Status Species

- Consideration would be given to choose plant species for revegetation that would not overly attract larger species of wildlife, such as deer and elk.
- Construction personnel would be oriented on appropriate behavior in the presence of wildlife and proper storage, handling, and disposal of food and/or other attractants.
- The construction area would be properly secured to limit larger wildlife from entering the work zone.
- Wildlife would not be fed or approached.
- Grand Canyon's Parkwide Spill Response Plan will be utilized by park employees and contractors to prevent potential poisoning of condors and other wildlife as well as soil and water contamination. Project Leaders are responsible for signing and implementing this plan.
- The project site will be cleaned up at the end of each day the work is being conducted (i.e. trash disposed of/secured appropriately, scrap materials picked up) to minimize the likelihood of



condors visiting the site. Park wildlife program staff may conduct periodic spot checks to ensure adequate project clean-up measures are being appropriately undertaken.

- Building design elements that reduce the risk of bird strikes would be incorporated.
- The contractor would attempt to remove trees outside of the primary nesting season (early-April to mid-August). If the proposed project would occur during the primary nesting season or any other time which may result in the “take” of migratory birds, a qualified biologist would conduct a field survey for active nests. Vegetation removal within the primary nesting season shall only be allowed after the qualified biologist determines that no nests are present or that they are inactive.
- If using erosion netting, biodegradable matting with a large diameter natural fiber shall be used to prevent entrapment of wildlife.
- If bats are encountered on buildings please cease all activity and contact the wildlife department for assistance and/or advice in removing them safely.
- For any projects involving trenching or digging holes, provisions (generally in the form of ramps; with a slope  $< 45^\circ$ ) must be made every 20-50' to allow for the escape of animals that may fall into these recesses, and/or they must be covered in such a way as to prevent animals (vertebrates) from falling into them.
- If culverts must be used, they shall be designed and installed/retrofitted to maintain water flow and animal movement.
- Trash receptacles and all dumpsters must be tightly covered to avoid wildlife access
- If a condor arrives at the site, then work will cease until it leaves on its own or until techniques are employed by permitted personnel which results in the individual condor leaving the area.
- Project staff will avoid interaction with condors and will immediately contact GRCA's Wildlife Department or Park Dispatch if and when condor(s) occur at a work site.

### Public Health and Safety

- If rodents or rodent material is encountered the protocols for Hantavirus would be followed.
- Lead-based paint (LBP) and asbestos-containing materials (ACM) abatement would be performed by certified and licensed personnel.
- The contractor would be responsible for hauling and disposing of LBP and ACM according to applicable laws and regulations.
- The contractor would be responsible for obtaining any applicable permits and approvals for the abatement, removal, hauling and disposal of LBP and ACM.
- The project area would be properly secured and limited to project personnel throughout demolition and construction

### Water Resources and Water Quality

- If required, an Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit would be obtained prior to construction. A Stormwater Pollution Prevention Plan (SWPPP) would be required prior to submitting a Notice of Intent (NOI) for an ASPDES permit. All provisions of the SWPPP and conditions of AZPDES permit would be followed.
- Standard erosion control measures such as silt fences, sand bags or equivalent control methods would be used to minimize any potential sediment delivery to streams or other drainages.

### Social and Community Considerations

- All reasonable attempts would be made to phase the project so that traffic could be maintained through Maswik South to accommodate travel between Rowe Well Road and the Village.
- Cliffrose Road, Aspen Road, and the segment of Maswik Laundry Road west of Maswik South would remain open for through traffic during the majority of construction at Maswik South.
- Temporary impacts to the traveling public would be mitigated by providing detours and providing signage and information prior to detours and other traffic restrictions.
- One lane of traffic would remain open at all times during construction at Rowe Well Road, Kennel Road and Sewage Treatment Plant Road as there are no alternate routes to access adjacent sites (e.g. Supai Camp, WWTP).
- Access would be provided for residents and workers temporarily affected by the project through the use of detours.
- Residents with direct access to Aspen Road would be provided access to their homes at all times.
- Construction routes, such as for hauling of materials, would be designated.
- The contractor would reasonably attempt to schedule material deliveries and other hauling activities during a time that would have the least impact to visitors.

### Visitor Use and Experience

- Signs, alerts, press releases, and notifications would be issued to inform visitors prior to and throughout the duration of construction.
- Construction zones would be properly secured to prevent visitors from entering construction zone.
- Construction materials staging would be restricted to areas that would neither impede vehicle traffic of visitors, contractors, or park staff.
- All practical efforts would be taken to minimize reductions to visitor parking outside of the project areas.

## **AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This chapter describes the affected environment (existing setting or baseline conditions) and analyzes the potential environmental consequences (direct, indirect, and cumulative impacts or effects) that would occur as a result of implementing the alternatives.

### **Social and Community Considerations**

#### Affected Environment

For this EA, Social and Community Considerations include travel patterns, mobility, and congestion that affect visitors and residents of Grand Canyon community, including Supai Camp.

The Maswik South road network consists of three, two-way roads that make up the “loops” around and through the complex – Maswik Lodge Road, located along the east and southeast sides of the complex; Aspen Road, located along the west and southwest sides of the complex; and Maswik Laundry Road, routed through the middle of the complex. The majority of the roads at Maswik South are also lined with parking stalls for visitors, as well as fourteen commercial bus stalls. See Visitor Use and Experience for more information on parking.

As previously noted in the Background section, in addition to lodging, a propane facility and commercial laundry facility are also present at or in the immediate vicinity of Maswik South. The laundry facility is situated along Maswik Laundry Road just west of the main lodging area, while the propane facility is located on the southern edge of the lodging complex.

Maswik Laundry Road, which traverses east-west through Maswik South between lodging buildings, is the primary route to Rowe Well Road. Rowe Well Road is the designated emergency egress from the park and also provides direct access to a residential area (Supai Camp), the park’s WWTP and nursery, the South Rim Kennels, the Rowe Well conservation corps camp and mule complex, and the South Rim lagoons. Rowe Well Road is also used to access several trailheads (e.g. Waldron, South Bass) and other areas of the park west of the Village. There are no alternate routes from the Village to access these sites without using Rowe Well Road; however, Rowe Well Road can also be accessed from the south via U.S. Forest Service roads along the park’s southern boundary.

Hermit Road, which is the only other route between the Village and Rowe Well Road, is gated the majority of the year. In addition, another gate is present along Rowe Well Road between Hermit Road and Maswik Laundry Road. This gated route typically deters travelers from using this route; therefore, the majority of people traveling between the Village and Rowe Well Road, such as Supai Camp residents, use the roads at Maswik South to reach their destinations.

The mixed uses and through-traffic at Maswik South contribute to increased traffic, which impacts traffic movement and flow, and causes concern for conflicts between pedestrians and vehicles.

The analysis area for Social and Community Considerations is the west end of Grand Canyon Village.

## Environmental Consequences

### *Impacts of Alternative A — No Action*

#### **Direct and Indirect Impacts**

The No Action Alternative would maintain existing travel patterns and vehicular access to Rowe Well Road, Maswik South, and Maswik Laundry. The road network within and adjacent to Maswik South would remain as it currently exists; no new roads providing alternate access to Rowe Well Road, Maswik South, or Maswik Laundry would be constructed. Through-traffic would continue to primarily use the Maswik South roads to access Rowe Well Road and traffic movement and flow within the complex would continue to be adversely impacted. Local commuters, such as Supai Camp residents, would also continue to be adversely impacted. Commercial and industrial traffic accessing the laundry facility, propane facility, and WWTP area would continue to use the existing Maswik South roads to access these sites as no alternate routes of access would be provided, further contributing to traffic issues within the complex.

Additionally, because through-traffic would continue to contribute to increased traffic at Maswik South, potential conflicts between pedestrians and vehicles within the complex would also persist, specifically along Maswik Laundry Road. In addition to roads, no sidewalk improvements would be made at the complex, furthering the potential for conflicts between pedestrians and vehicles (see Visitor Use and Experience for more information on sidewalks).

#### **Cumulative Impacts**

Past, present, and reasonably foreseeable future actions, including major road rehabilitation in 2018 (FHWA 3R project) and the 2017 fiber optic project along Village Loop and El Tovar Roads, have resulted in short-term adverse impacts from traffic detours, restrictions, and delays, as well as parking reductions and limited access to visitor lodging and facilities. The FHWA and fiber-optic projects improved existing roads, but did not permanently change routes of travel; therefore, long-term impacts to travel patterns did not result from these past projects. Other than routine maintenance, there are no planned or reasonably foreseeable future roads projects within the analysis area or immediate vicinity. Collectively, the impacts of past, present, and reasonably foreseeable future actions have and could result in both adverse and beneficial impacts on social and community considerations. As previously described, the direct and indirect impacts of the No Action Alternative on social and community considerations, specifically travel patterns, would continue to route through-traffic, impede mobility, and cause conflicts between vehicles and pedestrian visitors at Maswik South. When the impacts of the No Action Alternative are combined with other past, present, and reasonably foreseeable actions, the total cumulative impact on travel patterns would be adverse since no actions would be implemented to alleviate traffic issues within or surrounding Maswik South.

### *Impacts of Alternative B — Proposed Action and NPS Preferred Alternative*

#### **Direct and Indirect Impacts**

##### Travel Patterns and Mobility

Under the Proposed Action, three new roads (Bypass Road, Maswik Connector Road, and WWTP Connector Road) would be constructed to provide additional routes to Rowe Well Road, Maswik South, and the WWTP area. An additional road (Maswik Laundry Road) would also be constructed to provide an alternate route between Maswik South and the Maswik laundry facility. The proposed road construction is depicted on (p. 18). The construction of these new roads would result in

permanent and temporary impacts to travel patterns. These new roads and the travel-related impacts brought about by their construction are discussed below.

#### Permanent Travel-Related Impacts

**Bypass Road:** Bypass Road would be constructed between Backcountry Road and Kennel Road. The construction of Bypass Road would provide a beneficial impact by improving mobility for community members, specifically Supai Camp residents, who often travel between the Village and Rowe Well Road as they would no longer be required to either travel through gates (via the Hermit Road route) or navigate the Maswik South complex (via Maswik Laundry Road). This new road would also improve access to Supai Camp for school buses picking up or dropping off children who attend Grand Canyon School. Furthermore, the new road would improve access for visitors traveling to the kennel or other areas accessed via Rowe Well Road.

Bypass Road would also have beneficial safety impacts. Individuals traveling between the Village and the WWTP, nursery, or kennel via Bypass Road would no longer be required to cross railroad tracks as the new road would tie into Kennel Road east of the railroad crossing. Additionally, Bypass Road would improve safety during an emergency evacuation event as it would provide an additional and more direct route to access the designated emergency egress road (i.e. Rowe Well Road).

Traffic delays due to train crossings would also be reduced for individuals traveling between the Village and the WWTP, nursery, or kennel since they would no longer be required to cross the railroad tracks.

Although several buildings, including the kennel and residences near the BIC, are in close proximity to the proposed Maswik South Bypass Road alignment, the Proposed Action would be designed to avoid direct, permanent impacts to these buildings. However, construction activities would result in temporary impacts, such as increased dust and noise, to nearby residences at the BIC and Supai Camp. BMPs and mitigation measures would be implemented to minimize these temporary construction-related impacts. Additionally, the parking lot size at the BIC may need to be reduced to accommodate the new road, permanently reducing the number of parking stalls. Impacts to visitors resulting from parking reductions at the BIC are discussed further in Visitor Use and Experience.

**Maswik Connector Road:** Maswik Connector Road would be constructed between Bypass Road and Maswik South. The majority of commercial and industrial traffic that currently travels through Maswik South would be redistributed to Bypass Road and Maswik Connector Road, thereby avoiding or reducing their travel within the complex. The reduction of commercial and industrial traffic within Maswik South would have a beneficial impacts to visitors lodging at the complex by improving circulation, reducing traffic congestion, and reducing potential conflicts between pedestrians and vehicles. This new road would also provide an alternate route for visitors to access Maswik South.

**WWTP Connector Road:** WWTP Connector Road would be constructed between Bypass Road and the WWTP area. The majority of traffic accessing the facilities at the WWTP area (i.e. kennel, nursery, and WWTP) would be use Bypass Road and WWTP Connector Road, thereby avoiding the need to travel through Maswik South. As previously stated, the reduction of traffic within Maswik South would have a beneficial impact to visitors lodging at the complex. The new roads would also provide more direct routes of travel between the



Village and the WWTP area.

**Maswik South Road Network:** The roads at Maswik South would be reconstructed, with the majority of the roads remaining in their existing configuration. The exception is the segment of Maswik Laundry Road that cuts through the complex, which would be shifted slightly north, creating an offset intersection at the junction of Aspen Road and Maswik Laundry Road. This would be expected to hinder traffic from cutting through the complex due to the additional turning movements, resulting in traffic remaining on the Maswik Lodge Road “outer loop” to access the segment of Maswik Laundry Road west of the complex. Additionally, bollards may be installed on this segment of Maswik Laundry Road to fully eliminate through-traffic. By reducing the amount of “cut-through” traffic using Maswik Laundry Road, the potential for conflicts between vehicles and pedestrians would be minimized, resulting in a beneficial impact to safety.

A new road would be constructed between the Maswik laundry facility and the southeast corner of Maswik South (Laundry Connector Road). Laundry Connector Road would alleviate some of the commercial/industrial traffic through Maswik South until the Bypass and Maswik Connector Roads are constructed. This new road segment would provide improved access for larger vehicles accessing the nearby commercial/industrial facilities, and would require these vehicles to stay on the “outer loop” roads of the complex rather than cutting through.

Other paved areas near Maswik Laundry would also be reconstructed. A portion of Maswik Laundry Road near the laundry would be shifted slightly northwest to accommodate turning movements and improve travel for larger vehicles.

As described above, much of the through-traffic and commercial/industrial traffic at Maswik South is expected to be redistributed to the new Bypass Road, Maswik Connector Road, and/or Laundry Connector Road, which would improve traffic movement and flow and reduce congestion at Maswik South, and would also improve overall mobility in the area. The alternate routes provided by the new roads would benefit community members by improving mobility, and the resulting reduction of non-visitor traffic at Maswik South would benefit visitors lodging at Maswik South.

#### Temporary Travel-Related Impacts

The Proposed Action would temporarily introduce additional traffic into the park due to required construction activities (e.g. hauling materials). The additional traffic is expected to have minimal impacts to the traveling public as it would be temporary and would not cause unreasonable traffic delays. Construction routes would be designated, and the contractor would reasonably attempt to schedule material deliveries and other hauling activities during a time that would have the least impact to the traveling public.

The Maswik South demolition and construction would be expected to result in temporary traffic restrictions and detours. Maswik Lodge Road and the segment of Maswik Laundry Road within the complex would be closed to through-traffic during construction; however, Cliffrose Road, Aspen Road, and the segment of Maswik Laundry Road west of the complex would remain open for through-traffic during the majority of the project, and thus would maintain access to Rowe Well Road. Because access would be maintained through the complex for the majority of the project, this would be a minimal impact to commuters. Additionally, parking at Maswik South would be temporarily unavailable during construction. Parking is discussed further in Visitor Use and Experience.

Detours would be required for approximately 45 days while the segments of Maswik Laundry Road west of the complex and Aspen Road are closed for reconstruction. The detour route is anticipated to use Hermit and Rowe Well Roads, resulting in slightly greater travel distances and travel time, depending upon departure and destination locations. Individuals most affected by the detour would include Supai Camp residents; those accessing the WWTP, nursery, and kennel; and individuals accessing the park via Rowe Well Road. Other commuters traveling between the Village and Rowe Well Road (e.g. visitors dropping off pets at the kennel) would also be impacted by the detour. The majority of park visitors are not expected to be directly impacted by the detour since Rowe Well Road is not heavily used by visitors.

During the majority of the construction of the Bypass and Maswik Connector Roads, detours and traffic restrictions would not be needed since existing roads could be traveled as normal. However, some minor traffic restrictions would be required at the termini areas of the new roads (Backcountry Road, Laundry Connector Road, and Kennel Road) due to construction. These are described below.

**Backcountry Road Area:** Backcountry Road dead-ends where the new road would tie-in; therefore, no additional impacts to travel patterns and vehicular access would occur at this area. The south parking lot at the BIC would be closed during construction, temporarily reducing parking stalls. The shuttle bus stop at the BIC would need to be temporarily relocated or closed as access would not be able to be maintained while construction is underway at the southern terminus of Backcountry Road. Impacts to visitors resulting from the temporary relocation or closure of the bus stop at the BIC are discussed further in Visitor Use and Experience.

**Laundry Connector Road:** Laundry Connector Road would need to be temporarily closed to create its intersection with Maswik Connector Road. Alternate roads are available within the Maswik South complex to provide access to all areas that could be impacted by construction at Laundry Connector Road. If necessary, traffic may also be detoured using Hermit and Rowe Well Roads.

**Kennel Road Area:** Kennel Road, Sewage Treatment Plant Road, and the intersection of Kennel Road with Rowe Well Road would need to be temporarily closed for reconstruction. The project would be phased to keep one lane of traffic open at all times as there are no existing alternate routes to access adjacent sites (e.g. Supai Camp, WWTP) without using at least one of these roads; however, periodic restrictions may be required.

The temporary travel impacts described above would primarily impact individuals traveling between Supai Camp and the Village, between the WWTP area and the Village, and individuals using the new Laundry Connector Road. These impacts would be temporary and access to adjacent residences and facilities would be maintained, although periodic restrictions may be necessary.

### **Cumulative Impacts**

As described in the Cumulative Effects section under the No Action Alternative, past, present, and reasonably foreseeable future actions that have impacted travel include the 2018 FHWA 3R project and the 2017 fiber-optic project along Village Loop Road and El Tovar Road. Collectively, the impacts of past, present, and reasonably foreseeable future actions have and could result in both adverse and beneficial impacts on social and community considerations. As previously described, the direct and indirect impacts of the Proposed Action Alternative on social and community

considerations, specifically travel patterns, would result in short-term adverse impacts resulting from traffic detours, restrictions and delays, as well as reductions in parking, but would also provide long-term beneficial impacts by reducing traffic within Maswik South and providing improved mobility and access within and surrounding Maswik South. Alternative B would add temporary adverse impacts from construction and would also add long-term beneficial impacts once construction is completed. Overall cumulative impacts would be long-term and beneficial with Alternative B being the primary contribution to the long-term beneficial impacts.

## **Visitor Use and Experience**

### **Affected Environment**

In 2017, over 6 million people visited GRCA, and this number is expected to grow. Due to the increasing number of visitors, lodging within the park is frequently fully booked, especially during the peak season, which continues to expand/be prolonged.

GRCA offers the possibility for many activities, including hiking, wildlife viewing, biking, and others. Within GRCA, numerous facilities are provided for visitor use and enjoyment, including trails, shuttle service, information centers, gift shops, restaurants, and lodging. GRCA's South Rim has six lodging areas, consisting of Bright Angel, El Tovar, Thunderbird, Kachina, Yavapai, and Maswik. With the exception of Thunderbird and Kachina, the lodges also provide dining options for visitors.

Maswik South is located approximately one-quarter mile from the rim of the Grand Canyon, providing a convenient location within walkable distance to the canyon's rim for those lodging at Maswik South. As previously noted, Maswik South currently provides 90 rooms for overnight visitors. On average, Maswik South is nearly at full capacity for about half of the year (i.e. during peak season), and is at approximately half capacity for the remainder of the year.

Currently, it is common for visitors to have a low quality experience while lodging at Maswik South as a result of several factors noted in Background and Social and Community Considerations. These include aged economy rooms with poor insulation and a lack of amenities, such as air conditioning; high traffic volumes, traffic congestion and poor circulation at the complex; not enough parking spaces; mixed uses, such as commercial bus parking; and inadequate pedestrian facilities (i.e. sidewalks, crosswalks).

The analysis area for Visitor Use and Experience is Grand Canyon Village.

### **Environmental Consequences**

#### ***Impacts of Alternative A—No Action***

##### **Direct and Indirect Impacts**

Under the No Action Alternative, the lodging experience at Maswik South would continue to be diminished due to the conditions of the buildings and site. The existing rooms and accommodations would continue to be substandard in meeting current visitor expectations and needs as they pertain to lodging, such as ADA-compliant rooms, rooms sized properly for larger groups or families, or rooms with air conditioning.

The Maswik South buildings and their components would continue to be used beyond their expected

useful life of 40 years. Although routine maintenance and repairs would continue on the buildings under the No Action Alternative, without major actions and expenditures, the buildings would likely fall into disrepair or deterioration to the point where they would be unsuitable for commercial lodging use, thereby decreasing the amount of lodging units available within the park. With the continual increase of park visitors, particularly during the peak season, any decrease in lodging within the park would be an adverse impact for visitors.

As mentioned, routine maintenance and repairs to the buildings would continue under the No Action Alternative. Impacts to visitor use and experience resulting from these actions would primarily be minimal and temporary construction-related impacts, such as additional noise or a reduction in rooms during construction.

Under the No Action Alternative, the visitor experience for those lodging at Maswik South would also continue to be diminished due to high traffic volumes and deficient pedestrian facilities (e.g. sidewalks). Safety concerns for conflicts between vehicles and pedestrians would persist because through-traffic between the Village and Rowe Well Road would continue to primarily use the Maswik South Road network, and traffic volumes would remain high in this visitor use area. Pedestrian facilities (e.g. sidewalks) would not be improved or constructed; therefore, the site would remain non-compliant with ADA standards, and pedestrians would continue using roads and parking areas when traveling within and through Maswik South.

### **Cumulative Impacts**

Past, present, and reasonably foreseeable actions that have or could impact visitor use and experience include routine/cyclic maintenance and repairs to lodging and facilities and the El Tovar Rehabilitation project. Typically, these types of projects have minimal impacts to visitor use and experience, the majority of which are temporary. Impacts primarily include temporary construction-related area restrictions, increased noise, or visual impacts (e.g. construction fencing). Short-term adverse impacts to visitor use have resulted from reductions in available visitor lodging and parking during construction. Small-scale projects at Maswik South resulting from the No Action Alternative may have similar impacts to visitors lodging at Maswik South. The majority of these small-scale projects provide long-term beneficial impacts, whether seen (e.g. interior remodeling) or unseen (e.g. electrical upgrades for safety), to visitors lodging at these facilities. As described under the direct and indirect impacts of the No Action Alternative, long-term adverse impacts would result from the No Action Alternative if the complex falls into disrepair and the amount of visitor lodging is reduced. Therefore, overall cumulative impacts would be long-term and adverse, with a substantial contribution from the No Action Alternative.

### ***Impacts of Alternative B— Proposed Action and NPS Preferred***

#### **Direct and Indirect Impacts**

The Proposed Action would benefit visitors by providing improved, modern lodging facilities and amenities for visitors. The new facilities would provide mid-scale lodging with amenities and accommodations not available elsewhere in the park (e.g. kitchenettes). The increase of rooms, from 90 to 120, within the rebuilt Maswik South would allow for more visitors to lodge within the park and be within walking distance of the Grand Canyon. Visitor parking would be increased at Maswik South to accommodate the additional vehicles that would be present as a result of the additional rooms, as well as to provide parking for other visitors, such as those dining at Maswik Lodge. The Maswik South buildings, as well as the entire Maswik South complex would be ABA-ADA compliant, representing the first completely ADA compliant lodging complex in the park. The

proposed site plan for Maswik South is depicted on Figure 5 (p. 14).

The rebuilt complex would be pedestrian friendly, with improved connectivity and access. Walkways would connect all Maswik South buildings, and would also be constructed between Maswik South and Maswik Lodge, benefitting visitors as they would no longer need to walk in travel lanes on adjacent roads or parking areas. Other pedestrian considerations, such as marked crosswalks or bollards to restrict traffic, would also improve safety for visitors.

Visitors would benefit from the reduction of mixed uses, specifically bus parking and propane filling/office functions, at Maswik South as these functions are unnecessarily located in a visitor use area.

As discussed in Social and Community Considerations, the proposed construction of Bypass Road and Maswik Connector Road would have beneficial impacts to visitors, specifically those lodging at Maswik South. By redistributing through-traffic from Maswik South to the new roads, traffic within Maswik South would be reduced, resulting in less traffic congestion, improved circulation, and less potential for conflicts between pedestrians and vehicles. Additionally, the new roads would improve access for visitors traveling to the kennel or Rowe Well Road to access trailheads (e.g. Waldron Trail).

As a result of the road construction near the BIC, visitor parking at the BIC's south parking lot may be permanently reduced; however, the BIC's north parking lot would remain and, as previously mentioned, additional parking would be constructed adjacent to the BIC at Maswik South, which would partly compensate for the lost parking at the BIC. Additionally, numerous parking areas are available throughout the park, as well as in Tusayan where visitors can park and then ride the shuttle bus into the park.

Under the Proposed Action, visitor use and experience would be temporarily impacted as a result of area closures, traffic restrictions and detours (see Social and Community Considerations for more information), reduced parking capacity near Maswik South, reduced in-park lodging capacity, and other temporary construction-related impacts (e.g. introduction of construction noise).

The closure of parking spaces at Maswik South during construction would impact visitors, but because lodging at Maswik South would not be available, the need for parking would be reduced. Temporary adverse impacts would be to those visitors dining at Maswik Lodge or in need of parking in the Village in general. Alternate parking areas near Maswik Lodge would remain open for visitors. Additionally, a shuttle bus stop is located directly in front of Maswik Lodge, so visitors could arrive at the lodge by bus. The shuttle bus stop at the BIC would be temporarily closed or relocated during new road construction in the vicinity of the BIC. If closed, visitors that would normally use the BIC bus stop would need to walk a short distance to the Maswik Lodge shuttle bus stop (approximately 700 feet walking distance).

The temporary reduction of in-park lodging would result in less overnight visitors being able to stay in the park during construction, primarily during the peak season. The concessioner who operates the Maswik lodging facilities has already made notifications via their website that lodging would be unavailable at Maswik South so that visitors can make other lodging arrangements in or outside the park.



Other temporary construction-related impacts, such as noise and construction traffic, would adversely affect visitor experience. Although these impacts cannot be fully avoided, they would be temporary and would be minimized to the extent practicable by implementing mitigation measures.

Overall, the Proposed Action is expected to have beneficial long-term impacts to visitor use and experience by providing improved lodging, improved pedestrian access, full ABA-ADA compliance, and reducing non-visitor uses and traffic within Maswik South. To provide these long term benefits, temporary adverse impacts to visitor use and experience, as described above, would be required, but would be minimized to the extent possible.

### **Cumulative Impacts**

As described in the Cumulative Effects section under the No Action Alternative, past, present, and reasonably foreseeable future actions that have or could impact visitor use and experience include other routine/cyclic maintenance and repairs and the El Tovar Rehabilitation project. Collectively, the impacts of these past, present, and reasonably foreseeable future actions have and could result in both adverse and beneficial impacts on visitor use and experience. As previously described in this EA, the direct and indirect impacts of the Proposed Action on visitor use and experience would permanently reduce parking at the BIC, introduce temporary construction-related impacts (e.g. noise, detours), and temporarily reduce in-park lodging capacity, but would also provide improved lodging, improved pedestrian facilities, universal access, and reduce non-visitor uses and traffic within Maswik South. When the impacts of the Proposed Action are combined with other past, present, and reasonably foreseeable future impacts, the total cumulative impacts would result in long-term benefits on visitor use and experience. The impacts of Alternative B would contribute to the beneficial impact.

## CONSULTATION AND COORDINATION

This chapter provides a list of the various consultations initiated and public involvement during the development of the environmental assessment.

### List of Agencies and Tribes Consulted

Agency consultation began early in the environmental assessment process and is ongoing to ensure all relevant agencies and tribes are informed of NPS planning actions. The following agencies and tribes have been or are being consulted:

Arizona State Historic Preservation Officer  
Havasupai Tribe  
Hopi Tribe  
Hualapai Tribe  
Kaibab Band of Paiute Indians  
Las Vegas Paiute Tribe  
Navajo Nation  
Paiute Indian Tribe of Utah  
Pueblo of Zuni  
San Juan Paiute Southern Paiute Tribe  
White Mountain Apache  
Yavapai-Apache Nation

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