

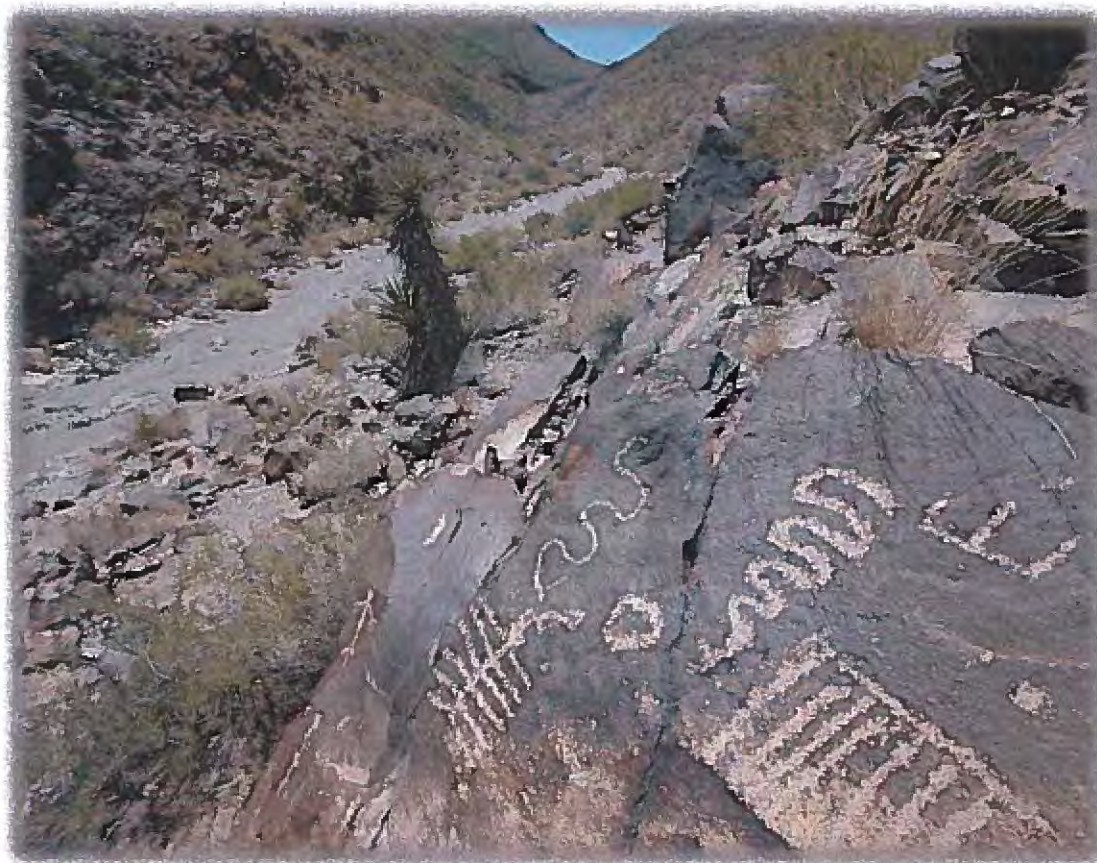


**NATIONAL  
CONSERVATION  
LANDS**

# **Sloan Canyon National Conservation Area**

**April 2018**

## **Implementation Management Strategy**



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## **NOTE TO READER**

The Sloan Canyon Implementation Plan contains five chapters. Chapters 1 and 2 were developed in 2005 as part of the initial business plan. The information presented in Chapters 1 and 2 are not updated for this version of the implementation plan.

# **CHAPTER 1**

## **INTRODUCTION AND PURPOSE**

### **A INTRODUCTION**

In November 2002, Congress designated the Sloan Canyon National Conservation Area (NCA) to preserve and protect a portion of southern Nevada's Mojave Desert as a permanent asset for future generations. The Clark County Conservation of Public Land and Natural Resources Act of 2002 established the Sloan Canyon NCA and the North McCullough Wilderness, which is entirely contained within the NCA. The 48,438-acre NCA, which forms the mountainous southern skyline of the City of Henderson and the Las Vegas Valley, contains unique scenic and important archaeological sites. The centerpiece of the NCA is Petroglyph Canyon, one of the most significant cultural resources in southern Nevada. More than 300 rock art panels with nearly 1,700 designs represent native cultures dating from the Archaic to historic periods.

The purpose of this Implementation Management Strategy is to examine potential development scenarios for facilities within the NCA that meet the intent of the Resource Management Plan (RMP), while balancing the needs and expectations of visitors with managing for the longevity of funding sources. This is not a decision document, but rather a detailed look at viable, possible options for meeting future demands. Additional analysis and public involvement will occur prior to implementation of these recommendations.

### **B REGULATORY GUIDANCE AND EXISTING PLANS**

In establishing Sloan Canyon as a national conservation area, Congress also established a special fund account through the sale of 500 acres of adjacent federal land to fund the development and operations of the NCA. The account funds:

- The construction and operation of facilities to support the management of the conservation area;
- The construction and repair of trails and roads in the conservation area authorized under the management plan;
- Research on and interpretation of the archaeological and geologic resources of the conservation area; and
- Conservation and research relating to the conservation area

#### **2005 Business Plan**

In 2005, a draft business plan was completed that addressed needs for facilities, staffing, operations, and maintenance within the Sloan Canyon NCA. Since this plan was developed, internal and external factors have changed, leading to an opportunity to reevaluate resources and needs and produce an updated implementation management strategy.



## Resource Management Plan

The following vision statement for Sloan Canyon was developed in consultation with cooperating agencies. It is based on the direction, intent, and spirit of the Sloan Canyon NCA legislation, as well as on public input received during the RMP public scoping process.

The Bureau of Land Management (BLM) will manage the Sloan Canyon NCA to preserve, protect, and enhance the area's cultural features and natural resources and wilderness values for the benefit and enjoyment of present and future generations by:

- Protecting the Sloan Canyon Petroglyph Site and respecting the canyon for its importance to Native Americans.
- Providing education on the importance of preserving and protecting the area's cultural, natural, and wilderness values.
- Providing information and education on Sloan Canyon NCA's resources in a creative manner.
- Providing recreational opportunities that are compatible with and protect the various elements of the natural landscape.

The RMP provides an overview of allowable uses and expectations of facility development and also sets visitation limitations in the Petroglyph Management Area. The RMP states that "visitors must join a BLM-sponsored tour" to access the Petroglyph Management Area on weekends. The plan also states that "no more than one guided group of no more than 20 people are allowed in the Petroglyph Management Area at one time." Given the usual pattern of increased demand for visitation on weekends, these visitation limits will have an impact on total visitation to the Petroglyph Management Area by limiting the number of weekend visitors that can be accommodated. The RMP also states that during the weekdays "visitors may go to the Petroglyph Management Area unaccompanied by a BLM-sponsored guide if they obtain a permit" and that "a total of no more than 25 permits per hour will be issued for self-guided tours." A full analysis of visitation potential is discussed in Chapter 2.



Along the Cowboy Trail

## C REGIONAL CONTEXT

Currently, residential housing, schools, parks, and businesses border much of the northern and western edges of the Sloan Canyon NCA. Presently, there is new development underway near Petroglyph Canyon in an area that was previously somewhat inaccessible desert landscape.

The NCA also shares several miles of its boundary with fully built-out, higher-density residential neighborhoods of Henderson, Nevada. The City of Henderson is a dedicated partner and has provided its residents with high-quality recreational opportunities for decades. The City of Henderson and BLM have both benefited from a long relationship of coordinating on land planning and recreation management decisions.

Recent trail and trailhead construction and increased publicity surrounding Sloan Canyon have led to a noticeable increase in visitation. Visitors want to see more developed features and amenities for comfort and enjoyment, along with appropriate infrastructure to manage use while protecting the resources.

The City of Henderson recently updated its Land Use Plan for the West Henderson area, which is near Petroglyph Canyon. The Land Use Plan includes detailed projections for the city and the West Henderson area in 5-year increments from 2010 to 2050, at which time the immediate area would be considered built out. Population growth for Henderson is expected to reach



View from NCA to the North

500,000 people in this time period, with over 80,000 residing in the West Henderson area. New roads, such as Democracy Road, will connect the Anthem neighborhood and the emerging Inspirada community with the proposed Sloan Interchange at Interstate 15. These roads will also provide improved access to the Sloan NCA. Other growth activity will continue near Dutchmen Pass and Interstate 95, as well as in communities such as Paradise Hills.

## **D. PUBLIC INVOLVEMENT**

On December 4, 2014 a public meeting was held to review initial concepts for the Sloan Canyon National Conservation Area Implementation Management Strategy. The public meeting briefed interested parties on the strategy's purpose, potential facility development, discussed the relationship between the program elements and the special account, and gathered input on desired program elements and phasing.

### **Participation**

Almost 100 people attended the public meeting on December 4<sup>th</sup> with 20 people providing input on comment forms provided at the meeting. To gather additional comments, an online virtual survey was developed that provided an overview of the materials presented at the meeting and a venue for comments. Another 52 comment responses were collected from the online virtual survey with over 100 reviewing the meeting materials.



Many comments expressed a concern for the protection of resources, especially within Petroglyph Canyon, as well as the importance of partnerships with the city of Henderson and volunteer groups. Also stressed was the need to include these groups and the general public on the distribution of information regarding future developments as projects move forward. The importance of volunteers in the stewardship of the NCA was also emphasized. Some responses mentioned conformance with the Resource Management Plan as well as inquiring how funds from the special account will be used.

**Key comments from the public comment period are provided below:**

- Importance of additional trails and completing the trail network
- Improve road access to Petroglyph Canyon/Visitor Contact Station
- Improve protection and management of Petroglyph Canyon through on-site staff presence and facilities
- General support for all program elements including Phase 1 and 2 (See Chapter 3.)
- Initiate design of Phase 1 and 2 to improve access and manage the resource
- Additional emphasis on improvements to Dutchman Pass Road

**Future Public Involvement**

It is important to emphasize that this strategy is not a decision document. Development of the proposed trailheads and other facilities will require subsequent analysis and planning under the National Environmental Policy Act (NEPA), which includes additional public involvement and an assessment of environmental, social and recreational impacts.

**E STUDY AREA**

This implementation strategy looks at overall visitation and recreation trends related to the use of the Sloan Canyon NCA, which can be accessed through several neighborhoods and City of Henderson trailheads. However, the analysis of facility development, access, operations, and maintenance is targeted to the four trailheads identified in the RMP:

- Visitor Contact Station/Petroglyph Canyon
- TrailheadHidden Valley Trailhead
- Dutchman Pass Trailhead
- Quo Vadis Trailhead

In addition to the four trailheads identified in the RMP, three other access points into the NCA exist in the surrounding neighborhoods:

- Shadow Canyon
- Anthem Hills

McCullough Hills



Petroglyph Canyon



Figure 1-1 shows an overview of the trailhead locations and context to the greater Las Vegas Area.



Figure 1-1. Sloan Canyon National Conservation Area Overview

## CHAPTER 2

### MARKET DEMAND ANALYSIS

#### A CURRENT ACCESS AND HISTORICAL VISITATION TO SLOAN CANYON

##### Overview of Existing and Planned Access Points/Facilities

BLM staff report that historical visitation to Sloan Canyon NCA has primarily consisted of trail use by individuals living in close proximity to the NCA boundary—most notably, individuals from the community of Henderson, Nevada. These visitors use existing trail systems to access the NCA, and they reportedly use the trails for running, walking (including dog walking), and bike riding, with a high level of repeat use. Trailheads that are located near and easily accessible from residential subdivisions within Henderson are the most popular points of access into the NCA, according to input and trail count data provided by BLM staff.

The following subsections discuss the current access points to the Sloan Canyon NCA, ease access to these areas from surrounding communities, facilities/amenities available onsite, and judgments on future visitation potential.

##### *Hidden Valley Access*

Hidden Valley is the southernmost access point within the NCA and provides access to the Hidden Valley Trail which leads to the North McCullough Wilderness and the Petroglyph Management Area from the south. The permitted uses on Hidden Valley Trail include hiking and horseback riding.

The Hidden Valley Trailhead is very remote, with the proposed trailhead located approximately 30 miles (by vehicle) southwest of central Henderson (Figure 2-1). In addition, access to the trailhead is difficult; approximately 5 miles of the road leading to the trailhead is unpaved and requires the use of a high-clearance four-wheel-drive vehicle. The unpaved road—Sloan Canyon Access Road—is not well marked and consists entirely of a very primitive single-lane road. The unpaved road considerably increases the trip time to the trailhead, as vehicles are restricted to low speeds, generally less than 15 miles per hour.

There are no facilities onsite, other than a small interpretive sign and map. The remoteness and primitive access to the site, while appealing to some, reflects a significant barrier for most visitors. The Sloan Canyon RMP calls for a parking lot, equestrian staging area, interpretive kiosk, and vault toilets to be developed onsite at the trailhead. To achieve higher-than-historical levels of use and visitation, the 5-mile unimproved dirt road would need to be improved so as to allow the site to be accessible by vehicles other than high-clearance, four-wheel-drive vehicles. Road improvements might include grading/leveling and use of paved or gravel substrate to enhance access.





**Figure 2-1. Proposed Location for Hidden Valley Trailhead**

***Petroglyph Canyon Access***

This site provides access to Petroglyph Canyon and the wider Petroglyph Management Area from the north. Only hiking is permitted within the Petroglyph Management Area, with limits on daily visitation. The site lies within close proximity to the boundary of West Henderson and, with the new growth of West Henderson, lies directly adjacent to newly developed subdivisions in that community.



**Figure 2-2. Entrance Road to Petroglyph Canyon Area**

Currently, there is a trailer housing a Visitor Contact Station, and portable toilet facilities. However, the Sloan Canyon RMP calls for a number of facilities to be developed at this location, including a permanent visitor contact station that will manage access to Petroglyph Canyon and the North McCullough Wilderness area. The proximity of this site to West Henderson, as well as proposed access improvements and newly developed or extended paved roadways, is expected to greatly enhance visitation to this site. The availability of, and improved access to, Petroglyph Canyon is expected to broaden the visitor base by attracting nonlocal visitors to the area, in addition to local visitors.

### ***Shadow Canyon Access***

This access point is located outside the boundary of the Sloan Canyon NCA and within a subdivision of Henderson along Shadow Canyon Drive. Access from this site to the NCA is easy and convenient, particularly for residents of the area who are expected to represent the largest user group of this access point into the NCA. The trailhead facilities were built and are currently maintained by the City of Henderson.

Onsite facilities/amenities include a paved parking area with six spaces, street parking, and a covered interpretive panel that includes trail maps of the area. The site provides access to the Anthem East Trail system, the Black Mountain Trail, and provides connectivity to other trails within the conservation area. Hiking is the only permitted activity on the Black Mountain Trail and other trails maintained by BLM in this area.

Figure 2-3 depicts the entrance to the trailhead facilities at Shadow Canyon (in the foreground of the image).



**Figure 2-3. Shadow Canyon Access Point**



### ***Anthem East Access***

This access point to the Sloan Canyon NCA is very similar to the Shadow Canyon access point, as it is located outside the NCA within a subdivision in Henderson, and was constructed and is currently maintained by the City of Henderson. The site is located next to Anthem Hills Park and is easily accessible from McCullough Hills Parkway.



Figure 2-4. Anthem East Trail

Onsite facilities/amenities include a paved parking area with roughly 55 spaces, interpretive displays that include trail maps of the area, and a shaded picnic bench. The site provides access to the Anthem East Trail and the McCullough Hills Trail.

### ***Mission Drive/McCullough Hills Trailhead Access***

This access point is located at the northeastern boundary of the Sloan Canyon NCA and is similar to the Shadow Canyon and Anthem East access points, as it is located in close proximity to a residential area of Henderson. The City of Henderson developed the McCullough Hills Trailhead at this location; the trailhead offers onsite facilities, including paved parking, restrooms, drinking water, waste disposal, and interpretive information (Figure 2-5). Unlike Shadow Canyon and Anthem East, the Mission Drive access point is located *within* the boundary of the NCA, but is managed by the City of Henderson via right-of-way. The McCullough Hills Trailhead provides convenient access to visitors residing within the area and is among the most heavily used access points to the NCA. This site provides access to the McCullough Hills Trail and connects to other trails within the NCA. Permitted activities on most of the trails in this area include hiking, biking, and equestrian uses.



**Figure 2-5. Mission Drive/McCullough Hills Trailhead Access Point**

### ***Dutchman Pass Access***

This site is located approximately 1 mile south of the Mission Drive access point, is entirely undeveloped, and borders a residential neighborhood in Henderson. The Sloan Canyon RMP calls for a parking lot, equestrian staging area, interpretive kiosk, and vault toilets to be developed onsite. The exact location of these onsite facilities has yet to be determined. The Mission Drive/McCullough Hills Trailhead access point would likely serve much of the demand for access to the Sloan Canyon NCA in this area, as it is only located approximately 1 mile north of Dutchman Pass and has fully developed facilities. Therefore, there would be less of a need to provide access at Dutchman Pass, as it is already being provided at the McCullough Hills Trailhead. Given this, BLM might consider Dutchman Pass as a lower priority when developing access points specified in the RMP. Figure 2-6 shows the undeveloped area where facilities might be developed to serve the Dutchman Pass access point.



**Figure 2-6. Dutchman Pass Access Point**



### **Quo Vadis Access**

This is another undeveloped access point to the Sloan Canyon NCA. Quo Vadis is located approximately 5 miles south of the Mission Drive access point, in a relatively remote location. Primary access is from US Highway 95, yet visitors must travel on undeveloped dirt roads for approximately 4 miles after turning off US 95. Similar to the Hidden Valley access point, the remote location of and primitive access to Quo Vadis, while appealing to some, are a significant barrier for most visitors. The Sloan Canyon RMP calls for a parking lot, equestrian staging area, interpretive kiosk, and vault toilets to be developed onsite. When developed, this site will provide visitors with access to various hiking, biking, and equestrian trails.

### **Historical Visitation to Sloan Canyon National Conservation Area**

From 2011 to 2014, BLM has monitored trail use within the Sloan Canyon NCA using magnetic and infrared counters. The counters count either visitors or vehicles entering a particular area. Vehicle counts were converted to visitors by multiplying each vehicle by 2.6 passengers per vehicle, based on BLM input. Where required, the counts were adjusted for two-way traffic to reflect individual visitors. Complete annual visitor counts were not available for all years and for all trails, with counts missing for certain months in some years. Furthermore, certain trails were monitored in some years and not in others. Therefore, to estimate total annual visitation levels for different areas of the NCA, the periods offering the most complete counts for a particular trail/access point were aggregated to reflect visitation for a complete year. This approach results in an estimate of total visitation to the NCA and provides insights on the relative level of use within different areas of the NCA.

Exhibit 2-1 summarizes the estimated total annual visitation based on trail use monitoring over the last 4 years within the Sloan Canyon NCA for each of the seven access points discussed in the preceding section.

**Exhibit 2-1. Average Annual Visitation to Sloan Canyon NCA, 2011-2014**

<b>Trail Count Location</b>	<b>Visitor Count</b>	<b>Share of Total Visitation</b>
Shadow Canyon	32,753	42.1%
Anthem East	27,048	34.8%
Mission Drive	13,819	17.8%
Petroglyph Canyon	1,723	2.2%
Quo Vadis	957	1.2%
Dutchman Pass	828	1.1%
Hidden Valley	699	0.9%
<b>Total</b>	<b>77,828</b>	<b>100%</b>

Source: BLM.

Exhibit 2-1 reveals that the Shadow Canyon access point located along the northeastern boundary of the Sloan Canyon NCA reflects the highest levels of visitation, at nearly 33,000 visitors per year (or 42.1% of annual visitation). BLM staff reported that no trail count data was available for the Anthem East access area but reported that this access point receives a

significant level of visitation. BLM estimates the Anthem East visitation using a portion of the Shadow Canyon visitation, since the Anthem East access point is very similar to the Shadow Canyon access and provides visitors with access to similar trails. Anthem East visitation is estimated to be approximately 27,000 visitors per year (or 34.8% of annual visitation). The Mission Drive access point receives nearly 14,000 visitors per year (or 17.8% of annual visitation). Together, Shadow Canyon, Anthem East, and Mission Drive represent nearly 95% of total annual visitation to the NCA (or roughly 74,000 visitors per year). The high level of visitation to the NCA from these three access points is due to all three points being developed, easily accessible, and in close proximity to Henderson neighborhoods. Therefore, access for Henderson residents is convenient and easy. This type of local use represents a “built in” visitation base that generates a significant amount of repeat use which is less dependent on wider trends in tourism visitation to outdoor recreation attractions. Instead, locals use the Sloan Canyon NCA for their own recreation purposes—hiking, biking, nature viewing, etc.—and access the site repeatedly, partly because the NCA is conveniently located close to their neighborhoods.

Significantly fewer visitors access the Sloan Canyon NCA through the Hidden Valley, Petroglyph Canyon, Dutchman Pass, and Quo Vadis access points, which together have a total of approximately 4,200 visitors per year (or 5.4% of total annual visitation). Access to those four sites is much more limited because of the long stretches of undeveloped road requiring the use of four-wheel-drive vehicles, as well as the lack of signage. The remoteness of Hidden Valley and Quo Vadis access points is another limiting factor that deters many visitors. Access and facility improvements proposed in the Sloan Canyon RMP would be expected to improve visitation levels for Petroglyph Canyon and Dutchman Pass access points but would not be expected to significantly impact visitation to Hidden Valley or Quo Vadis access points because of access limitations and remoteness in these areas.

Exhibit 2-2 indicates that visitation to the Sloan Canyon NCA is greatest during the cooler fall, winter, and spring seasons, which correspond to the period of October through April. Visitation during this period is distributed relatively evenly, with average monthly visitation ranging between 7,000 and 9,000 visitors (or between 10% and 12% of annual visitation). March has the highest visitation, averaging nearly 9,300 visitors (or 11.9% of annual visitation). Visitation steadily declines after April as daily temperatures increase with the approach of summer, discouraging outdoor recreation within the NCA. Not surprisingly, visitation is at its lowest point during the month of July, which is also typically the hottest month, with daytime temperatures regularly exceeding 100 degrees Fahrenheit.

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**Exhibit 2-2. Average Monthly Visitation to Sloan Canyon NCA**

	Visitation	Share
January	8,252	10.6%
February	8,113	10.4%
March	9,292	11.9%
April	7,373	9.5%
May	5,206	6.7%
June	3,850	4.9%
July	2,614	3.4%
August	3,616	4.6%
September	5,249	6.7%
October	8,142	10.5%
November	8,400	10.8%
December	7,722	9.9%
<b>Total</b>	<b>77,828</b>	<b>100%</b>

## **B. REGIONAL TOURISM AND OUTDOOR RECREATION TRENDS**

### **Las Vegas Tourism Trends**

Sloan Canyon NCA is situated in a highly active tourism environment offering visitors access to numerous attractions and activities in the region. From a visitation standpoint, the NCA benefits significantly from being situated near Las Vegas, which is a major national and international tourism destination. Visitation to Las Vegas is undoubtedly the primary driver of tourism in southern Nevada and generates visitation to numerous natural/cultural attractions in the region. Overall trends in visitation to Las Vegas will have an impact on visitation to the Petroglyph Management Area of the NCA. This subsection presents general trends in tourism and visitation in southern Nevada, particularly Las Vegas visitation trends.

The Las Vegas Convention and Visitors Authority tracks visitation and tourism trends in southern Nevada and publishes annual reports on visitor demographics and trip characteristics for the communities of Las Vegas, Laughlin, and Mesquite. These communities are the primary tourism centers in the region. Exhibit 2-3 summarizes total annual visitation to Las Vegas over the last 10 years, from 2004 to 2013.

From 2004 to 2013, visitation to Las Vegas grew in every year except 2008, 2009, 2013 when visitation declined by 4.4%, 3.0%, and 0.1%, respectively. The declines in 2008 and 2009 were mostly due to the impact of the national recession in those years, which reduced tourism activity nationally. Since 2009, visitation has rebounded and, in 2012, exceeded the pre-recession (2007) peak visitation of nearly 39.2 million visitors. Visitation declined only slightly in 2013 by just 0.1% and remained close to the all-time peak visitation of 39.7 million visitors in 2012. Visitation of nearly 27.8 million visitors through August 2014 was 4.1% higher than visitation through August 2013, indicating that visitation rebounded in 2014 despite the slight slowdown in 2013.

**Exhibit 2-3. Historical Annual Visitation to Las Vegas, 2004-2013**

	Visitors to Las Vegas	% Change
2004	37,388,781	5.2%
2005	38,566,717	3.2%
2006	38,914,889	0.9%
2007	39,196,761	0.7%
2008	37,481,552	-4.4%
2009	36,351,469	-3.0%
2010	37,335,436	2.7%
2011	38,928,708	4.3%
2012	39,727,022	2.1%
2013	39,668,221	-0.1%

*Source: Las Vegas Convention and Visitors Authority.*

Visitation to Las Vegas increased at an average annual rate of 0.7% over the last 10 years, including significant declines in 2008 and 2009. Over the last 43 years, from 1970 to 2013, visitation to Las Vegas has steadily and consistently increased in all but 6 years, highlighting the strength of the positive visitation trends to Las Vegas.

The 2013 Las Vegas Visitor Study Profile reported that roughly 50% of all visitors were male and 50% were female, 79% were married, 15% were single, and 6% were divorced or widowed. In 2013, 51% of the visitors surveyed were college graduates and 13% had only a high school diploma or less. The study found that the average visitor age was 46, with 42% of visitors being between the ages of 21 and 39, 34% between the ages of 40 and 59, and 24% over the age of 59. The 2013 study results therefore indicate that Las Vegas caters primarily to middle-age married visitors. Exhibit 2-4 summarizes the origins and key trip characteristics of Las Vegas visitors from 2009 to 2013.

Exhibit 2-4 indicates that the primary origins of visitors to Las Vegas are from western states, primarily California, which over the last 5 years has averaged 54% of visitation to Las Vegas. Over the last 5 years, foreign visitation has averaged 17% of total visitation to Las Vegas. Exhibit 2-4 indicates that the origins as shares of total visitation have remained relatively constant during the last 5 years, with some decline in the share of visitors from mid-western states. The average visitor group size was 2.4 persons, and the average length of stay was 4.5 days. Not surprisingly, virtually all visitors surveyed indicated that they purchased food and beverages during their trip, while 61% of visitors made retail purchases and 6% made sightseeing purchases. In 2013, average food and beverage expenditures per trip were \$278.95 (or \$64.87 per day), retail expenditures were \$140.90 (or \$32.77 per day), and sightseeing spending expenditures were \$9.29 per trip (or \$2.16 per day). The share of visitors making retail purchases declined in the last 2 years, while the share of visitors making sightseeing purchases has increased somewhat during this period. In general, as presented in Exhibit 2-5, the share of visitors making food and beverage, retail, and sightseeing expenditures has remained stable over the last 5 years. The much lower expenditures on sightseeing suggests that visitor budgets for sightseeing activities tend to be limited compared with other trip expenditures, including

lodging, food and beverage, and retail spending.

**Exhibit 2-4. Origins of Las Vegas Visitors, 2009-2013**

	2009	2010	2011	2012	2013	Average
<b>Domestic</b>	<b>86%</b>	<b>82%</b>	<b>84%</b>	<b>83%</b>	<b>80%</b>	<b>83%</b>
Eastern States	7%	6%	6%	7%	6%	6%
Southern States	11%	11%	12%	11%	12%	11%
Midwestern States	12%	12%	11%	11%	10%	11%
<b>Western States</b>	<b>55%</b>	<b>54%</b>	<b>55%</b>	<b>54%</b>	<b>52%</b>	<b>54%</b>
California	31%	30%	31%	33%	33%	32%
Southern California	26%	26%	26%	26%	26%	26%
Northern California	5%	4%	5%	7%	7%	6%
Arizona	10%	7%	9%	6%	6%	8%
Other Western States	14%	16%	15%	15%	13%	15%
<b>Foreign</b>	<b>14%</b>	<b>18%</b>	<b>16%</b>	<b>17%</b>	<b>20%</b>	<b>17%</b>

Source: Las Vegas Convention and Visitors Authority.

Exhibit 2-5 also indicates that on average 58% of visitors travel to Las Vegas by auto, bus, or recreational vehicle (RV), while 42% travel by plane. In 2013, 50% of visitors indicated that they used their own vehicle when traveling around Las Vegas and 12% reported using a rental car. The high use of personal vehicles and rental cars (totaling 62% of visitors) indicates that most visitors are mobile and have the ability to travel to areas/attractions outside Las Vegas, including Sloan Canyon NCA.

The visitor demographic to Las Vegas, however, may not be entirely representative of the visitor demographic for Sloan Canyon NCA and therefore may not be indicative of those individuals who might visit Sloan Canyon. As discussed in Section D of this chapter, the Las Vegas visitor demographic is expected to be most interested in accessing the Petroglyph Management Area of the Sloan Canyon NCA. For those Las Vegas visitors interested in visiting areas/attractions outside Las Vegas, the petroglyphs within the Petroglyph Management Area of the NCA may be considered a unique cultural attraction worth visiting. However, most NCA visitation, which is based on the use of trails, is expected to be generated by locals, not Las Vegas visitors, because Las Vegas visitors seeking hiking opportunities would have access to trail sites closer to Las Vegas or to their other travel destinations. In addition, most Las Vegas visitors are mainly seeking gaming and live entertainment options, not outdoor natural/cultural recreation opportunities. The 2013 Las Vegas Visitor Study provided profile information on the share of Las Vegas visitors who visited or planned to visit locations other than Las Vegas. According to the Las Vegas Visitor Study, 14% of Las Vegas visitors in 2008, 13% in 2010, and 14% in 2012 reported that they had visited locations other than Las Vegas. Therefore, only a relatively small minority of visitors to Las Vegas indicated that they visited other places during (or before or after) their trip (Exhibit 2-6).

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**Exhibit 2-5. Trip Characteristics of Las Vegas Visitors, 2009-2013**

	2009	2010	2011	2012	2013	Average
Average Persons per Group	2.4	2.4	2.3	2.4	2.4	2.4
Average Days/Trip	4.6	4.6	4.7	4.3	4.3	4.5
% Visitors Making F&B Purchases	100%	100%	100%	100%	99%	100%
Average F&B Spending/Trip	\$250.39	\$256.82	\$275.27	\$265.11	\$278.95	\$265.31
% Visitors Making Retail Purchases	61%	64%	61%	58%	59%	61%
Average Retail Spending/Trip	\$101.97	\$122.80	\$129.34	\$149.29	\$140.90	\$128.86
% Visitors Making Sightseeing Purchases	5%	5%	5%	8%	7%	6%
Average Sightseeing Spending/Trip	\$5.77	\$7.21	\$10.24	\$9.63	\$9.29	\$8.43
% of Visitors Arriving by Auto/Bus/RV	58%	59%	56%	57%	58%	58%
% of Visitors Arriving by Air	42%	41%	44%	43%	42%	42%

Source: Las Vegas Convention and Visitors Authority.

**Exhibit 2-6. Other Locations Visited by Las Vegas Visitors, 2008, 2010, and 2012**

	2008	2010	2012	Average
Hoover Dam	64%	64%	57%	62%
Grand Canyon NP	50%	61%	61%	57%
Lake Mead NRA	31%	20%	21%	24%
Zion NP	14%	6%	10%	10%
Bryce Canyon NP	10%	6%	10%	9%
Red Rock Canyon NCA	8%	9%	5%	7%
Death Valley NP	3%	7%	7%	6%
Laughlin, NV	6%	1%	7%	5%
Valley of Fire SP	4%	3%	6%	4%
Mt. Charleston	3%	2%	7%	4%
Mesquite, NV	3%	1%	1%	2%
Primm, NV	2%	1%	2%	2%
Other	2%	2%	2%	2%

Source: Las Vegas Convention and Visitors Authority.

Note: The percentages reported in this exhibit are for visitors who reported visiting other places, in addition to their trip to Las Vegas, and do not include visitors for whom Las Vegas was their only destination. As noted elsewhere in this chapter, the share of visitors who visited other locations during their trip was 13%-14%, based on 2008, 2010, and 2012 visitor surveys conducted by the Las Vegas Convention and Visitors Authority.

According to the Las Vegas Visitor Studies conducted in 2008, 2010, and 2012, Hoover Dam, Grand Canyon National Park (NP) and Lake Mead National Recreation Area (NRA) consistently rank as the top three other attractions visited by Las Vegas visitors, with 62%, 57%, and 24% of visitors who traveled to other attractions in the area, reporting to have visited these sites, respectively. Red Rock Canyon NCA, which is the outdoor recreation site closest to Sloan Canyon NCA, ranks (on average) as the sixth most popular other attraction, with 7% of Las Vegas visitors



who traveled to other attractions in the area reporting to have visited this site. Death Valley NP, another site offering a desert wilderness experience comparable in certain respects to Sloan Canyon NCA, ranks as the seventh most popular attraction among visitors traveling other areas, with 6% of these visitors reporting to have visited the site. In addition, Valley of Fire State Park (SP), another comparable outdoor recreation site in the region, ranks as the ninth most commonly visited other site, with 4% of visitors reporting that they visited this site during their trip.

Exhibit 2-6 clearly indicates the popularity of nearby high-profile national park units, including Grand Canyon NP, Lake Mead NRA, Zion NP, and Bryce Canyon NP. These are destination parks for many visitors traveling to or through Las Vegas. However, Exhibit 2-6 also indicates the popularity of nearby outdoor recreation sites, most notably Red Rock Canyon NCA, which is conveniently located next to Las Vegas and is an easy trip for most visitors. Although the entrance to Petroglyph Canyon—the primary entrance point to the Sloan Canyon NCA and area of interest for Las Vegas visitors—is located somewhat farther from central Las Vegas than Red Rock Canyon NCA, Sloan Canyon NCA is still easily accessible to visitors staying in Las Vegas. The current one-way trip time from central Las Vegas to the northwest section of the Sloan Canyon NCA (near the entrance to Petroglyph Canyon) is approximately 35-40 minutes, with Interstate 15 offering a convenient (high speed) connection between Las Vegas and the NCA.

### **Visitation to Natural and Cultural Attractions in the Region**

This subsection summarizes trends in annual visitation to other natural and cultural sites within the region, which provide insights on the health of outdoor participation levels for sites that have resources and activities similar to those at Sloan Canyon NCA. The sites that are judged to be the most similar to the Sloan Canyon NCA in terms of location, access, permitted activities, and onsite natural/cultural resources include Red Rock Canyon NCA, Valley of Fire State Park (SP), Mojave National Preserve, and Death Valley NP. These sites provide visitors the opportunity to experience varying degrees of outdoor desert wilderness, with some sites offering more developed and easily accessible facilities/amenities and other sites providing a more primitive wilderness experience. Sloan Canyon NCA will offer a unique mix of desert wilderness experience, with minimal development and facilities yet convenient access from nearby communities, including primarily Henderson but also Las Vegas. Having an undeveloped wilderness area so close to a large urban setting like the Greater Las Vegas-Henderson metropolitan area is relatively unique.

As previously noted, Grand Canyon NP, Lake Mead NRA, Death Valley NP, Zion NP, and Bryce Canyon NP are some of the most popular natural/cultural attractions in the region. These outdoor attractions generate large amounts of visitation from local and nonlocal/international visitors annually and are some of the biggest drivers of outdoor recreation within the region. Many visitors travel to several of these popular attractions on a single visit because of the convenience of interconnecting highways between these parks/sites. Las Vegas is one of the primary tourism hubs where many visitors' trips begin and end; from Las Vegas, visitors often make day or overnight trips to other regional destinations. Therefore, Las Vegas visitation

trends, as presented in the previous subsection, tend to influence nonlocal outdoor recreation visitation to other sites in the region—including, to some extent, future visitation to Sloan Canyon NCA as well.

The natural attractions which lie in closest proximity to Sloan Canyon NCA include Red Rock Canyon NCA, Lake Mead NRA, Spring Mountain Ranch SP, Valley of Fire SP, and Mojave National Preserve.

Other relevant outdoor attractions in the region that are located farther away include Grand Canyon NP, Death Valley NP, Zion NP, and Bryce Canyon NP—all of which are highly popular with nonlocal and international visitors traveling to Nevada, California, and Arizona. Joshua Tree NP is located outside the immediate area but is relevant in that it represents an outdoor desert attraction situated within the general tourism region.

Cultural attractions in the region that have similar cultural resources to those available at Sloan Canyon NCA and that would attract a similar visitor demographic include Lost City Museum, Old Las Vegas Mormon Fort State Historic Park (SHP), and Clark County Heritage Museum.

Historical annual visitation to these natural and cultural sites is presented in Exhibits 2-7 and 2-8.

Exhibit 2-7 shows that all National Park Service (NPS) park units in the region, with the exception of Lake Mead NRA, have generally experienced positive average annual growth over the last 5 years. Grand Canyon NP experienced growth in all years except 2011, when visitation declined slightly by 2.1%. Visitation to Bryce Canyon NP increased in every year except 2013, when visitation declined by 5.3%. Visitation to Zion NP declined in 2010 and 2013 (2.5% and 5.6%, respectively) but increased in 2011 and in 2012. Visitation to Death Valley NP has fluctuated from year to year, but the park experienced an overall average annual increase of 3.5% during this 5-year period. Visitation to Mojave National Preserve has increased in each of the last two years (2012 and 2013), but visitation declined from a peak of 600,897 visitors in 2010 to 536,006 visitors in 2011. Joshua Tree NP has experienced consistent minor to moderate declines from 2010 to 2013, but the park experienced an overall average annual increase of 1.0% during this 5-year period. Finally, visitation to Lake Mead NRA declined in every year except 2013, likely due to impacts associated with lower lake levels and lower recreational boating use. In summary, visitation levels at other NPS park units throughout the region have remained reasonably stable or generally have increased over the last 5 years.

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**Exhibit 2-7. Annual Visitation to Regional National Park Service Sites, 2009-2013**

	Lake Mead NRA	Mojave National Preserve	Death Valley NP	Joshua Tree NP	Zion NP	Bryce Canyon NP	Grand Canyon NP
2009	7,668,689	528,865	828,574	1,304,471	2,735,402	1,216,377	4,348,068
2010	7,080,758	600,897	984,775	1,434,976	2,665,972	1,285,492	4,388,386
2011	6,396,682	536,006	946,867	1,396,237	2,825,505	1,296,000	4,298,178
2012	6,285,439	542,527	984,568	1,396,117	2,973,607	1,385,352	4,421,352
2013	6,344,714	549,599	951,972	1,383,340	2,807,387	1,311,875	4,564,840
<b>Average</b>	<b>6,755,256</b>	<b>551,579</b>	<b>939,351</b>	<b>1,383,028</b>	<b>2,801,575</b>	<b>1,299,019</b>	<b>4,404,165</b>
<b>CAGR</b>	<b>-4.6%</b>	<b>1.0%</b>	<b>3.5%</b>	<b>1.5%</b>	<b>0.7%</b>	<b>1.9%</b>	<b>1.2%</b>

Source: NPS.

The following summarizes the current entrance fees and relevant tour rates at NPS Park units identified in Exhibit 2-7:

- **Lake Mead NRA:** \$10.00 per vehicle or \$5.00 per person entrance fee; There are multiple commercial outfitters providing a range of guided tours within and around Lake Mead, mostly focusing on water or vehicle related activities that are less comparable to the guided hike service in Petroglyph Canyon. Tour services range widely and are typically \$100 per person or more.
- **Mojave National Preserve:** No entrance fee or comparable guided tour fees
- **Death Valley National Park:** \$20.00 per vehicle or \$10.00 per person entrance fee; \$15.00 and \$20.00 for the guided tour fees for Scotty's Castle and Lower Vine Ranch tour, respectively.
- **Joshua Tree National Park:** \$15.00 per vehicle or \$5.00 per person entrance fee; \$5.00 for the Keys Ranch Guided Walking Tour
- **Zion, Bryce Canyon, and Grand Canyon National Parks:** \$25.00 per vehicle or \$12.00 per person entrance fee; there are multiple commercial outfitters providing guided hikes and tours within these parks, many of which are full day or multiple day excursions. Half-day guided tours are typically \$100 per person or more.

Exhibit 2-8 summarizes visitation to other popular natural/cultural attractions in the region. The exhibit indicates that mixed growth patterns for several other popular outdoor attractions in the region.

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**Exhibit 2-8. Annual Visitation to Other Regional Attractions, 2009-2013**

	Red Rock Canyon NCA	Valley of Fire SP	Spring Mountain Ranch SP	Lost City Museum	Clark County Heritage Museum	Old Las Vegas Mormon Fort SHP	Black Rock Desert Emigrant Trails NCA
2009	772,657	453,134	193,613	n/a	37,215	9,744	99,334
2010	944,377	462,120	179,627	11,086	33,525	12,214	107,311
2011	991,797	451,384	171,426	10,557	35,623	12,058	110,772
2012	952,723	461,329	191,017	9,624	31,422	10,901	154,977
2013	1,016,802	505,478	218,170	9,447	48,105	11,442	116,857
Average	935,671	466,689	190,771	10,179	37,178	11,272	117,850
CAGR	7.1%	2.8%	3.0%	-5.2%	6.6%	4.1%	4.1%

Source: BLM; Nevada State Parks; Bureau of Reclamation; Lost City Museum; Clark County Heritage Museum.

**Red Rock Canyon National Conservation Area**

Red Rock Canyon NCA consists of over 197,000 acres of protected lands managed by BLM and lies approximately 17 miles west of central (downtown) Las Vegas. The site provides visitors with an opportunity to experience the Mojave Desert and offers an array of outdoor recreation activities, including hiking, bike riding, equestrian uses, rock climbing, picnicking, camping, and other activities. Exhibit 2-8 indicates that visitation has steadily increased to Red Rock Canyon in each year over the last 5 years (2009-2013) with the exception of 2012, when visitation declined by 3.9%. Visitation to Red Rock Canyon has increased at an average annual rate of 7.1% over the last 5 years, reaching a peak visitation level of nearly 1.02 million visitors in 2013.

BLM reports that growth in Red Rock Canyon NCA over the last 5 years may be partly due to the effects of the 2008 recession, in that more budget-conscious vacationers are taking trips closer to home. In addition, budget-conscious travelers may be seeking ways to participate in less expensive recreation activities, including outdoor recreation activities, such as hiking, trail running, and biking. The growth in visitation to Red Rock Canyon is likely associated, at least in part, with steady growth in Las Vegas visitation during the last 5 years.

Although Red Rock Canyon NCA is located close to Sloan Canyon NCA and is also managed by BLM, the site is much more developed in terms of visitor facilities/amenities compared with existing and planned facilities/amenities at Sloan Canyon. Red Rock has a large visitor center with indoor-outdoor spaces offering information on the site, interpretive exhibits, a classroom, restrooms, and a gift shop. Red Rock Canyon also has the 13-Mile Scenic Drive, a one-way loop road which is very popular, offering sweeping views of desert landscapes and rock formations. The Scenic Drive also provides direct and convenient access to trailheads and also is popular among bicyclists and joggers. Red Rock Canyon also offers more recreation opportunities and facilities than Sloan Canyon, including very popular rock climbing sites, multiple picnic areas, a developed campground consisting of nearly 80 campsites (including individual and group sites), a wide range of guided hikes, paved/unpaved biking trail access, and off-highway vehicle (OHV) use areas. Petroglyphs are also available onsite and are accessible to visitors. The

current standard amenity fee at Red Rock Canyon is \$7.00 per vehicle and \$3.00 for bicycles, motorcycles, and pedestrians. The Red Rock annual pass is \$30.00 while the America the Beautiful (ATB) annual pass is \$80.00. Because of its broad range of visitor activities and facilities/amenities, easy access from Las Vegas, and established reputation as a popular regional attraction, Red Rock Canyon NCA has significantly higher annual visitation levels than Sloan Canyon NCA. The level of development proposed at Sloan Canyon NCA is less than that at Red Rock Canyon NCA due in part to Sloan having much lower current and projected future visitation levels and considering the resource protection and wilderness objectives specified in the Sloan Canyon RMP.

### ***Valley of Fire State Park***

Valley of Fire SP consists of approximately 42,000 acres of desert wilderness and is located approximately 55 miles (or a 1-hour drive) northeast of Las Vegas, significantly farther than Red Rock Canyon NCA and somewhat farther than Sloan Canyon NCA. Popular visitor activities include hiking, camping, picnicking, and photography. Petroglyphs are also available onsite and are accessible to visitors. The current entrance fee at Valley of Fire SP is \$10.00 per vehicle. Similar to Red Rock Canyon NCA, Valley of Fire SP offers a greater range of visitor facilities/amenities compared with those planned for Sloan Canyon NCA. Visitor facilities/amenities onsite include a large visitor center offering a range of interpretive information/exhibits; restrooms; a book/gift shop; and two developed campgrounds offering 72 sites, including RV hookups, and multiple picnic sites. Valley of Fire has experienced small to moderate inter-year fluctuations in visitation over the last 5 years (2009-2013), with average annual visitation growth increasing at an average annual rate of 2.8% per year over the period. Visitation to Valley of Fire SP increased by 9.6% in 2013, to the highest level achieved over the last 5 years. The availability of a greater range of easily accessible activities, facilities/amenities, as well as an established reputation as a regional attraction, is expected to result in annual visitation levels that are significantly higher than annual visitation levels at Sloan Canyon NCA.

### ***Spring Mountain Ranch State Park***

Spring Mountain Ranch SP consists of a 520-acre historic ranch property located just south of Red Rock Canyon NCA and roughly 15 miles west of Las Vegas. The site offers a visitor center with interpretive information, hiking trails, equestrian access, picnic areas, and guided and self-guided tours of the historic ranch house. The current entrance fee for this site is \$9.00 per vehicle. Spring Mountain Ranch SP has experienced steady increases in visitation over the last 3 years (2011-2013)—from 171,426 visitors in 2011 to 218,170 visitors in 2013, or a total increase of 27.3% during this period.

### ***Lost City Museum***

The Lost City Museum in Overton, Nevada, focuses on the ancient Anasazi culture and dwellings at this site, including interpretive exhibits displaying artifacts and information regarding Anasazi and other Native American cultures that have inhabited the area. Although Exhibit 2-8 indicates

that museum visitation has steadily declined from 11,086 in 2010 to 9,447 in 2013, or at an average rate of 5.2% per year, at least some (if not most) of the decline is due to the museum reducing its operating times from 7 days per week to 4 days per week in 2009, which was partly due to budgetary constraints during the 2008 recession. However, the Lost City Museum resumed its schedule of 7 days per week as of July 2013, and visitation for fiscal year 2014 has increased to 14,460 visitors, the highest level over the last 5 years.

### ***Clark County Heritage Museum***

The Heritage Museum is located in Henderson and is operated by the Clark County Department of Parks and Recreation. The museum is open daily from 9:00 a.m. to 4:30 p.m. year-round and has a general admission price of \$2.00. The museum is located on a 30-acre site that features various cultural exhibits, including a timeline exhibit for southern Nevada from prehistoric to present times. The Heritage Museum also includes a collection of historic buildings that present daily life from different eras in Las Vegas, Boulder City, and Henderson. Visitation to the museum has fluctuated over the last 5 years, ranging between 31,422 and 48,105 visitors per year. Visitation increased significantly in 2013 by 53.1%, possibly due to an expansion in the Heritage Museum's operating hours/days in 2013.

### ***Old Las Vegas Mormon Fort State Historic Park***

This SHP contains the remains of the original Mormon Fort and settlement in downtown Las Vegas, and represents the first nonnative settlement of the area. An onsite visitor center provides exhibits on the history of the site, including historic artifacts and interpretive information. The Park is open year-round from 8:00 AM to 4:30 PM, Tuesday through Saturday. The Park experienced a steady decline in visitation during the period of 2010 to 2012, yet visitation rebounded by 5.0% in 2013.

### ***Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area ("Black Rock Desert NCA")***

Black Rock Desert NCA is one of three NCAs in Nevada, which also include Sloan Canyon and Red Rock Canyon NCA. The site consists of approximately 1.2 million acres of public lands located within a remote area of northwestern Nevada. The BLM reports there are virtually no facilities whatsoever within NCA. Outdoor recreation opportunities include hiking, mountain biking, wildlife viewing, and horseback riding. However, access roads are generally limited to high, clearance four wheel drive vehicles. The NCA is located approximately 150 miles north of (or a 3-hour drive from) Reno. BLM reports visitation to the Black Rock Desert NCA increased steadily during the period 2009-2012 at an average annual rate of 16.0%. However, visitation declined sharply by nearly 25% in 2013. Over the last five years, visitation has increased at an average annual rate of 4.1% per year.

In summary, outdoor recreation sites within the region offering similar types of recreation activities and interpretive opportunities available at Sloan Canyon NCA have generally



experienced stable if not increasing levels of annual visitation during the last five years (2009-2013). These positive trends in outdoor recreation have positive implications for future visitation to Sloan Canyon NCA as well.

### **Visitation to Desert Petroglyph Sites**

This section presents information regarding visitation to other desert petroglyph sites in the western United States. Visitation levels at other petroglyph sites provide some idea regarding the future visitation potential to the Petroglyph Management Area of Sloan Canyon NCA after access improvements (namely road improvements) are made. There are many factors affecting visitation to these sites, including remoteness, ease of access to the site, walking distances/trip times to petroglyphs, weather/topographical constraints, and other factors.

This report recognizes that there are many other areas in the region that contain petroglyphs other than those considered or identified in this analysis. However, BLM sites that offer areas with concentrated petroglyphs were identified as comparable as these sites are judged to most similar to the Petroglyph Management Area within the NCA (i.e. visitors primarily travel to these sites to view petroglyphs).

Exhibit 2-9 reveals that annual visitation to petroglyph sites which track (or estimate) visitation ranges between a low of around 1,800 visitors at BLM-managed petroglyph sites in Lincoln County to a high of 115,000 visitors at Petroglyph National Monument (NM) operated by the National Park Service just outside of Albuquerque, New Mexico. Average annual visitation for all ten sites providing information was nearly 23,400 visitors. However, after eliminating the very high visitation to Petroglyph NM, the average annual visitation for all other sites falls to approximately 13,300 visitors.

The following summarizes general characteristics for the petroglyph sites presented in Exhibit 9 for which visitation data was provided.

#### ***Lagomarsino Canyon Petroglyph Site***

This site is located approximately 20 miles east of Reno via Interstate 80, and is situated on county-owned land. The Nevada Rock Art Foundation estimates visitation to be approximately 2,000 visitors per year. Visitors must access the site utilizing 11 miles of very poor, undeveloped roads resulting in a one way travel time to the site of approximately one hour and twenty minutes from the turnoff of the main paved road. However, once visitors arrive onsite, minimal hiking/walking is required to access the petroglyphs, as they are located near the pull-off areas where visitors park. In addition, the Rock Art Foundation reports the site is difficult to find, as there is virtually no signage or directional information available. The site is generally accessible year-round and there is no entrance or other fees charged. However, the site is not actively managed and there are no facilities or staff available onsite. In addition, no regularly scheduled guided hikes are available at this site.

**Exhibit 2-9. Visitation to Desert Petroglyph Sites in the Western United States**

	Average Annual Visitation to Petroglyph Area <sup>1</sup>
<b>NEVADA SITES</b>	
Red Rock NCA (BLM)	n/a
Valley of Fire SP (State)	n/a
Lagomarsino Canyon Petroglyph Site (County)	2,000
Grimes Point Petroglyph Site (BLM)	15,000
Petroglyph Sites in Lincoln County (BLM)	1,800
Grapevine Canyon Lake Mead NCA (NPS)	n/a
Arrow Canyon Wilderness (BLM)	n/a
<b>ARIZONA SITES</b>	
Painted Rock Petroglyph Site (BLM)	9,900
V-Bar-V Ranch Petroglyph Site (USFS)	12,000
<b>UTAH SITES</b>	
Little Black Mountain Petroglyph Site (BLM)	5,000
Parowan Gap Petroglyph Site (BLM)	47,000
<b>NEW MEXICO</b>	
Three Rivers Petroglyph Site (BLM)	16,500
Petroglyph National Monument (NPS)	115,000
La Cieneguilla Petroglyph Site (BLM)	n/a
Crow Canyon Petroglyph Site (BLM)	n/a
<b>WYOMING</b>	
White Mountain Petroglyph Site (BLM)	10,300
La Barge Bluffs Petroglyph Site (BLM)	n/a

<sup>1</sup> BLM and State Park staff reported that although petroglyphs are available onsite at each of these units, there is no breakout of annual visitation to these petroglyph sites specifically. Therefore, average annual visitation for those sites is listed as "not available (n/a)" in this column.

**Grimes Point Petroglyph Site (Nevada)**

This site is managed by the BLM yet co-located at a state highway rest area along Highway 50 East, 12 miles east of Fallon, Nevada. BLM staff indicated that perhaps 25% of visitation consists of locals who hike and/or walk their dogs onsite while all other visitors are nonlocals traveling through the area seeking historical/cultural attractions in the region. There is no fee to access the site and there are no guided hikes offered onsite, either by BLM or partners. The walking distance to the petroglyphs is around 50 yards and is less than a five minute walk. BLM reports that there are approximately 200 petroglyphs onsite in the main viewing area. Facilities available onsite include paved parking, vault toilets, shaded picnic tables, trash collection, and interpretive panels. The site is open to the public year-round, yet is unstaffed. The site is reported to receive around 15,000 visitors annually. The relatively high visitation at this site likely results from easy access from Highway 50, good signage directing visitors to the site, co-location next to highway rest area, and short walking distance and easy access to the petroglyph viewing area.

### ***Petroglyph Sites in Lincoln County (Nevada)***

BLM manages a number of different sites in Lincoln County, Nevada, offering petroglyphs, located approximately 140 miles north of Las Vegas. These sites include: Oak Springs, Ash Springs, White River Narrows, Mount Irish, Crystal Wash, Shooting Gallery, and other sites which are scattered over relatively remote areas within Lincoln County and offer virtually no facilities or amenities. There is no fee to access any of the sites and they are open year-round. The sites are also promoted by the Lincoln County Rock Art Guide, which provides information on locations, amenities, access, etc., for each of these sites. The remoteness, lack of facilities/amenities, and in some cases difficult access, explains the very low visitation of approximately 1,800 visitors per year.

### ***Painted Rock Petroglyph Site***

This site is operated by the BLM and is located approximately 94 miles southwest of (or a nearly 2-hour drive from) Phoenix, Arizona, offering good access from Interstate 8 and paved roads up to the main parking area. The site is open year-round, and offers paved parking, vault toilets, picnic tables, and interpretive displays and is staffed by 1 to 2 volunteers during the peak season. There is a \$2.00 vehicle entry fee. The walking distance to the petroglyphs from the parking area is approximately 50 yards, which is shorter than the distance to the petroglyphs at Sloan Canyon which are approximately 0.25 mile from the proposed location of the contact station. This site offers similar levels of access/facilities planned for the Sloan Canyon but is more remotely located. Average annual visitation is nearly 10,000 visitors.

### ***V-Bar V-Ranch Petroglyph Site***

This site is operated by the U.S. Forest Service (USFS) and is located approximately 45 miles (or 48 min drive) south of Flagstaff and 19 miles east of Sedona. There is good access to the site from Interstate 17. The site is only open Friday through Monday, from 9:30 AM to 3:00 PM year-round, and offers paved entrance roads, gravel parking, a 1,400-square-foot contact station with restrooms and bookstore/gift shop operated by Arizona Natural History Association, picnic tables, trash, drinking water, interpretive displays and is staffed by volunteers. There is a \$5.00 vehicle entry fee. The walking distance to the Petroglyphs is 0.5 mile, somewhat shorter than at Sloan Canyon. This site also offers similar levels of access/facilities planned for the NCA, yet is in a somewhat more remote location. Average annual visitation is 12,000 visitors.

### ***Little Black Mountain Petroglyph Site***

This site is operated by the BLM and is located 12 miles (or a 30-minute drive) south of St. George, Utah. Site access is relatively poor and visitors must travel 5 miles on unimproved gravel roads to access site. However, once onsite the petroglyphs are only 300 feet from the parking area. Vault toilets, interpretive panels, gravel parking, and sheltered picnic tables are available onsite. All facilities and areas are unstaffed. The site is open year-round and is free to



the public. Average annual visitation is reported to be approximately 5,000 visitors. In general, the access limitations and general remoteness of the area appear to explain the relatively low visitation at this site.

### ***Parowan Gap Petroglyph Site***

This site is operated by the BLM and is located 20 miles (or a 30-minute drive) north of Cedar City, Utah, in a fairly remote location. In 2014, new visitor facility improvements were made, including new restrooms, paved trails, interpretive panels, and other trail improvements. Access to this site is fair, with limited signage and access via a moderate distance of unimproved dirt/gravel roads. The site is free of charge and is open year-round. The BLM reports annual visitation to be 47,000 visitors, which appears very high for this relatively remote location and limited access.

### ***Three Rivers Petroglyph Site***

This site is operated by BLM and lies within a very remote location of New Mexico. However, there is good access to the site from U.S. Highway 54, with mostly paved roads leading to the site. The closest town is Alamogordo, New Mexico, located approximately 35 miles (or a 45-minute drive) south. The distance from the main parking area to the petroglyphs is 0.25 mile, the same as at Sloan Canyon. Facilities onsite include a small 300-square-foot contact station, picnic tables, flush toilets, potable water, and interpretive information. There is a \$5.00 vehicle entry fee at this site. The site is typically staffed by two volunteers 6 days per week. The facilities and access at this site are very similar to what is planned at Sloan Canyon. However, Three Rivers is much more remotely located than Sloan Canyon. The BLM reports average annual visitation to be nearly 17,000 visitors. **White Mountain Petroglyph Site**

This site is operated by the BLM and is located approximately 26 miles north of Rock Springs, Wyoming. The site lies within a remote location and there are very limited facilities onsite. Visitors appear to be required to travel on dirt roads and unimproved roads requiring high clearance at times. The site is open year-round and there is no fee to access the site. There are no staff onsite. Visitation for is reported to be 10,300 visitors per year.

### ***Petroglyph National Monument***

This site is operated by the National Park Service and lies directly adjacent to the western boundary of the City of Albuquerque, New Mexico. Access to the site is excellent, including convenient access from Interstate 40. Residential neighborhoods lie just outside the boundary of the National Monument, similar to what will ultimately be the case at Sloan Canyon when West Henderson is fully built-out. There is a medium-size staffed visitor center onsite offering interpretive information, maps/brochures, restrooms, water, and other amenities. Cell phone tours and Ranger led interpretive programs are available as well. Multiple hiking trails and petroglyph viewing areas are available within the site. There is no entrance fee, yet there is a \$1.00 (weekdays) to \$2.00 (weekends) parking fee charged for parking at Boca Negra Canyon. The site is open year-round but closes daily at 5:00 p.m. Visitation to Petroglyph NM of



approximately 115,000 visitors per year is expected to exceed Sloan Canyon, since this national monument has established name recognition among domestic and international visitors. Furthermore, NPS park units actively seek to promote recreation visitation to their sites and typically offer a greater level of visitor amenities than are often available at BLM or USFS sites.

In summary, the three petroglyph sites that are judged to be most comparable to the access and level of facilities/amenities planned for Sloan Canyon NCA are Painted Rock Petroglyph Site, V-Bar V-Ranch Petroglyph Site, and Three Rivers Petroglyph Site which experience visitation ranging between approximately 10,000 and 17,000 visitors per year. However, these sites are more remotely located compared to Sloan Canyon, which is located a relatively short distance from Las Vegas, a major tourism center, and which is also located next to the large community of Henderson. In the future, Sloan Canyon will also be accessible from Interstate 15, a route that is highly popular with tourism visitors traveling to recreation destinations in Nevada and California. For these reasons, annual visitation to Sloan Canyon would be higher than these sites and estimate annual visitation to Petroglyph Canyon to be 20,000 visitors per year after access/facility improvements are completed.

### **C VISITATION PROJECTIONS FOR SLOAN CANYON NATIONAL CONSERVATION AREA**

This section details the approach used to forecast visitation over a 30-year period. Future visitation to Sloan Canyon NCA will be comprised of two major components:

- Trail-use visitation, primarily by local residents
- Visitation to the Petroglyph Management Area, including a mix of local and nonlocal visitors

The following subsections discuss the methodologies used to project visitation for each of the two major components of annual visitation and present the annual visitation projections over a 30-year period.

#### **Trail-Use Visitation**

As noted in Section A, most visitors access the NCA through trailheads located in the northern/northeastern region of the NCA, including the Shadow Canyon, Anthem East, and McCullough Hills access points. Hidden Valley, Petroglyph Canyon, Dutchman Pass, and Quo Vadis access points all have significantly lower visitation levels partly because of their limited access, including undeveloped roads, remote locations, and lack of signage. Projections are based on the following assumptions regarding current and future changes in trail-use visitation:



Hiking in the Sloan Canyon NCA

- Shadow Canyon, Anthem East, and McCullough Hills will remain the primary visitation access points to the NCA in the future. Visitation at these three access points will be driven by local users seeking outdoor recreation opportunities, including walking/hiking, trail running, biking, dog walking, nature viewing, etc. This use pattern is expected to generate a high level of repeat visitation.
- Trailhead improvements proposed in the RMP for Hidden Valley, Dutchman Pass, and Quo Vadis, consisting of a parking lot, equestrian staging area, interpretive kiosk, and vault toilets, are not expected to generate significant additional visitation at these locations, for the following reasons:
  - Hidden Valley and Quo Vadis are much more remote and difficult to access by the existing undeveloped roads compared to other access points. Developing these limited facilities will not change these access limitations. Even with road improvements, these sites are sufficiently remote that such improvements would still not generate significant additional levels of visitation, particularly when there are more conveniently located access points in other areas of the NCA. Therefore, future visitation levels are projected to be similar to historical levels for these access points.
  - Dutchman Pass is much more accessible; however, the McCullough Hills access point is fully developed and is located only 1.3 miles north (or a 4-minute drive) of the proposed Dutchman Pass trailhead location. Developing the Dutchman Pass location would likely split visitation to Mission Drive, as visitors residing closer to Dutchman Pass would utilize it instead of Mission Drive. This would redistribute visitation, yet is not expected to generate additional visitation. Therefore, no adjustment to our visitation projections was made due to the development of this access point.
- Trail-use visitation will likely increase at the rate of local population growth in the area where the trailhead is located. Therefore, the City of Henderson's population projections by ZIP code were used to project trail-use visitation over a 30-year period. Adjusted populations estimates and growth rates were taken from the West Henderson Land Use Plan Update to account for the West Henderson developments which will expand housing and increase the local population, impacting trail-use visitation in the northern/northeastern area of the NCA.
- It is assumed that the projected annual visitation average of approximately 77,800 visitors presented in Exhibit 2-13 is representative of 2015 visitation to Sloan Canyon NCA. Therefore, this visitation level was used as the base year (2015) visitation in making projections.

Exhibit 2-10 presents 2015 NCA visitation by access point, the corresponding ZIP codes in which the access point is located, 2015 and 2044 population projections within each ZIP code, and the average annual population growth rates (over the 30-year period of 2015 to 2044) used to forecast NCA visitation by access point.



**Exhibit 2-10. Population Growth Rates Used to Forecast Trail-Use Visitation**

	2015 NCA Visitation	ZIP Code	2015 ZIP Population	2044 ZIP Population	Ave. Annual Pop. Growth
Shadow Canyon	32,753	89044	22,160	83,012	4.7%
Anthem East	27,048	89052	50,964	59,063	0.5%
McCullough Hills	13,819	89002	32,165	49,167	1.5%
Petroglyph Canyon*	1,723	89044	22,160	83,012	4.7%
Quo Vadis	957	89052	50,964	59,063	0.5%
Dutchman Pass	828	89002	32,165	49,167	1.5%
Hidden Valley	699	89044	22,160	83,012	4.7%
<b>TOTAL</b>	<b>77,827</b>	-	-	-	-

\* Visitation to Petroglyph Canyon is projected separately in Section D of this chapter.

Note the sizeable population growth for ZIP code 89044 is due to the expansion of the West Henderson area currently under way, with future housing developments that will ultimately border the northern section of the NCA.

Exhibit 2-11 summarizes total projected annual trail-use visitation to the NCA for all access points, excluding the Petroglyph Management Area (which is projected in following subsection), over the 30-year period of 2015 to 2044.

The exhibit indicates that the NCA is projected to experience sizeable increases in annual trail use as the populations of the surrounding communities expand over time. The current trail-use visitation to the NCA is projected to double by 2041.

**Exhibit 2-11. Projected Trail-Use Visitation, 2015-2044**

Year	Trail Use Visitors	Year	Trail Use Visitors	Year	Trail Use Visitors
2015	76,100	2025	97,300	2035	129,400
2016	77,900	2026	99,900	2036	133,500
2017	79,700	2027	102,600	2037	137,700
2018	81,600	2028	105,500	2038	142,100
2019	83,500	2029	108,500	2039	146,700
2020	85,600	2030	111,600	2040	151,500
2021	87,700	2031	114,900	2041	156,500
2022	90,000	2032	118,300	2042	161,700
2023	92,300	2033	121,900	2043	167,200
2024	94,700	2034	125,600	2044	172,900

#### **D. VISITATION PROJECTIONS FOR PETROGLYPH MANAGEMENT AREA**

Our projections of visitation to the Petroglyph Management Area are based on the following judgments, assuming the facility and access improvements proposed at this site are constructed:

- As discussed in the preceding section, visitation to other desert petroglyph sites in the western United States ranged between 1,800 and 115,000 visitors per year. However, most BLM or USFS operated petroglyph sites experienced visitation ranging between 5,000 and 16,500 visitors per year, with Parowan Gap Petroglyph Site in Utah (a BLM site) experiencing substantially higher visitation of 47,000 visitors annually.
- Based on locational factors, onsite facilities, and access, the V-Bar-V Ranch, Painted Rocks, and Three Rivers Petroglyph Sites (discussed in the preceding section) represent the most comparable petroglyph sites to Sloan Canyon NCA. These three sites report annual visitation between nearly 10,000 and 17,000 visitors annually. However, all three sites are not as closely located to major urban areas as is the NCA. Due to the closer proximity of the NCA to Las Vegas/Henderson, which is a major tourism center, will generate visitation levels above the upper bound of this range. This observation was verified by the Nevada Rock Art Foundation (who is very familiar with Sloan Canyon) as being a reasonable and achievable annual visitation level.
- Our visitation projections assume that 60% of visitation to Petroglyph Canyon would be nonlocal visitors that are representative of the greater regional tourism market (i.e. out-of-area visitors traveling to various outdoor/cultural recreation sites in the region) and 40% would be local visitors. These visitation shares are based on an understanding of the regional tourism market, analyzing visitation patterns at other outdoor recreation sites, and inputs obtained regarding the level of local versus nonlocal visitation at other petroglyph sites. However, due to these assumptions, local visitation share could potentially be lower, depending on how locals choose to use improved access/facilities in the Petroglyph Management Area in the face of competing access points elsewhere in the NCA. Visitation by nonlocals will be influenced by outreach and marketing efforts to inform the public, including nonlocal tourism visitors of the outdoor recreation resources available at Sloan Canyon.
- It is projected that visitation to Petroglyph Canyon will increase at different rates for local versus nonlocal visitors. Specifically, we estimate nonlocal visitation to trend with the overall growth in Las Vegas tourism visitation, which has increased at an average annual rate of 0.7% during the last 10 years. With a slightly higher annual growth rate of 1.0% to project nonlocal visitation. It is projected that local visitation will trend with population growth for the surrounding community of West Henderson, estimated to be 4.7% per year.
- Visitation projections take into consideration the carrying capacity limits stated in the RMP, as described below:
  - **Weekends.** The RMP states that “visitors must join a BLM-sponsored tour” to access the Petroglyph Management Area on weekends. The RMP states that “no more than one guided group of no more than 20 people are allowed in the Petroglyph Management Area at one time.” Assuming a 9-hour operating day, an average



- roundtrip travel time of 3 hours, the limit of 20 visitors per group, and assuming (as the RMP suggests) that two groups cannot be in the Canyon simultaneously, this translates to a *maximum allowable limit of 60 visitors per day or 6,240 visitors per year during weekend days*.
  - Historical visitation data to Petroglyph Canyon indicates approximately 50% of all visitors travel to the site on a weekend day (Saturdays and Sundays). We assume this same distribution of weekend visitation in our projections.
  - The high level of visitation on the weekends, combined with the visitation limits specified in the RMP, will have a moderate impact on limiting annual visitation to the Petroglyph Management Area, since it is projected that not all weekend visitors can be accommodated. However, those visitors who were unable to visit the site on the weekends due to lack of capacity, could always opt to go on a weekday (as their time/schedules permitted) when visitation is less restricted per the RMP. This analysis conservatively assumes that weekend visitors who cannot be accommodated on weekend days do not redistribute to weekdays.
  - As described in Chapter 5, this analysis assumes that the required guided hikes on the weekends would be provided by a private, for-profit or non-profit, operator using a Special Recreation Permit (SRP) and potentially using volunteer labor to provide the guide service. This assumes that the price for a basic guided weekend hike would be \$20.00 per visitor including an assumed \$5.00 Special Area fee (per visitor) paid directly to BLM (the guide service provider would receive \$15.00 per visitor). As an SRP holder, the guide service provider would be required to pay BLM 3.0% of the gross revenues generated from the service (see Chapter 5 Section A. Revenue Estimates for additional information). To account for the potential impacts to weekend visitation associated with the higher price to access Petroglyph Canyon on weekends, weekend visitation is reduced by 40%. This reduction reflects the share of visitors who might not be willing to pay the higher price of the guided hike service on weekends.
- **Weekdays.** The RMP states that during the weekdays “visitors may go to the Petroglyph Management Area unaccompanied by a BLM-sponsored guide if they obtain a permit” and that “a total of no more than 25 permits per hour will be issued for self-guided tours.” Assuming an 8-hour operating day and a maximum of 25 permits (i.e., visitors) per hour, this translates to a *maximum allowable limit of 200 visitors per day or 52,200 visitors per year during weekdays*. Historical visitation data to Petroglyph Canyon indicates approximately 50% of all visitors travel to the site on weekdays (Monday through Friday). We assume this same distribution of weekday visitation in our projections.
  - Based on the assumptions described above and the visitation limits specified in the RMP, we judge that all weekday visitation demand for the Petroglyph Management Area could be accommodated.
  - Considering the capacity limits on weekends, it is anticipated that virtually all



future visitation growth to Petroglyph Management Area occurs on the weekdays.

Exhibit 2-12 summarizes projected visitation to Petroglyph Canyon over the 30-year period 2015 to 2044.

Exhibit 2-12 shows that prior to 2020, visitation is projected at current levels of approximately 2,000 visitors annually. Visitation more than triples in 2020 to 4,500 visitors due to the completion of access and facility improvements in the Petroglyph Management Area. After 2020, visitation steadily increases as the public becomes increasingly aware of the new access, facilities, and services available at the Petroglyph Management Area.

**Exhibit 2-12. Projected Visitation to Petroglyph Management Area, 2015-2044**

Year	Petroglyph MA Visitors	Year	Petroglyph MA Visitors	Year	Petroglyph MA Visitors
2015	1,700	2025	14,600	2035	18,700
2016	1,800	2026	15,000	2036	19,100
2017	1,900	2027	15,400	2037	19,600
2018	2,000	2028	15,700	2038	20,100
2019	2,100	2029	16,100	2039	20,600
2020	4,500	2030	16,500	2040	21,100
2021	9,100	2031	16,900	2041	21,600
2022	13,600	2032	17,300	2042	22,100
2023	13,900	2033	17,800	2043	22,700
2024	14,300	2034	18,200	2044	23,200

Exhibit 2-13 combines projected trail-use visitation and Petroglyph Management Area visitation to calculate the total projected annual visitation to Sloan Canyon NCA.

**Exhibit 2-13. Projected Total Annual Visitation to Sloan Canyon NCA, 2015-2044**

Year	All Visitors	Year	All Visitors	Year	All Visitors
2015	77,800	2025	111,900	2035	148,100
2016	79,700	2026	114,900	2036	152,600
2017	81,600	2027	118,000	2037	157,300
2018	83,600	2028	121,200	2038	162,200
2019	85,600	2029	124,600	2039	167,300
2020	90,100	2030	128,100	2040	172,600
2021	96,800	2031	131,800	2041	178,100
2022	103,600	2032	135,600	2042	183,800
2023	106,200	2033	139,700	2043	189,900
2024	109,000	2034	143,800	2044	196,100

Over the 30-year period of 2015 to 2044, Sloan Canyon NCA visitation is projected to more than double, from approximately 77,800 visitors in 2015 to nearly 200,000 visitors in 2044. For comparison, projected visitation to Sloan Canyon NCA in 2044 would only be approximately 20% of current visitation to Red Rock Canyon NCA. This level of visitation is achievable, given the proximity of the Sloan Canyon NCA to Las Vegas/Henderson, population growth in nearby communities, access improvements in the Petroglyph Management Area, visitation levels and trends at other popular outdoor/cultural attractions in the region, and visitation to other petroglyph sites.

## **CHAPTER 3**

### **FACILITY AND ACCESS DEVELOPMENT**

This chapter describes current and proposed developments at Sloan Canyon NCA. The proposed improvements are based on the visitation projections described in Chapter 2 and are consistent with the 2006 RMP, the 2009 Trails Master Plan, and other applicable guidance as well as initial public input. Given the specific direction provided by the RMP and the Trails Master Plan, as well as input received from the public, ranges of facility development were not analyzed. Instead, a basic level of development was defined for each use area, which can be phased in response to visitation levels, infrastructure availability, and other considerations.

Proposed facilities at each of the sites identified in the RMP are described on a site-by-site basis below. Order of magnitude cost estimates for each scenario are presented later in this chapter. Drawings contained in this chapter represent one of many possible design solutions and are for illustration only. Specific design would occur at subsequent stages of development based on a more detailed analysis and additional public input.

#### **A. SITES**

##### **Petroglyph Canyon**

This area is the centerpiece of the NCA and one of the most significant cultural resource sites in Southern Nevada. Protection of these sensitive resources, while providing for public use and enjoyment of the area, are paramount concerns. The need for a visitor contact station at this location has long been recognized as an essential element of any strategy to protect the area's cultural resources and manage visitation levels and activities.

In 2016, the first phase of developments for this area was completed. Improvements consisted of designing and constructing a paved road and a 22 car/1 bus parking lot, installing a temporary visitor contact station and restrooms, construction of a connector trail and the development and installation of interpretative signage. Friends of Sloan Canyon currently provides potable water to the station. A generator is supplying power to the station. The following photos illustrate these improvements.

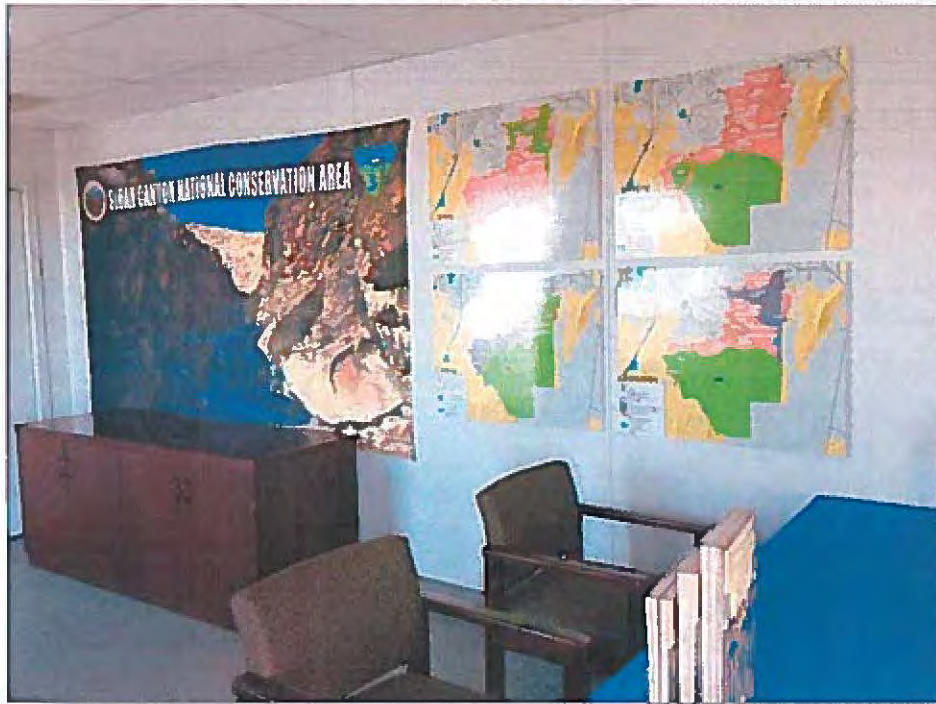




**Access road and trail**



**Temporary Visitor Contact Station**

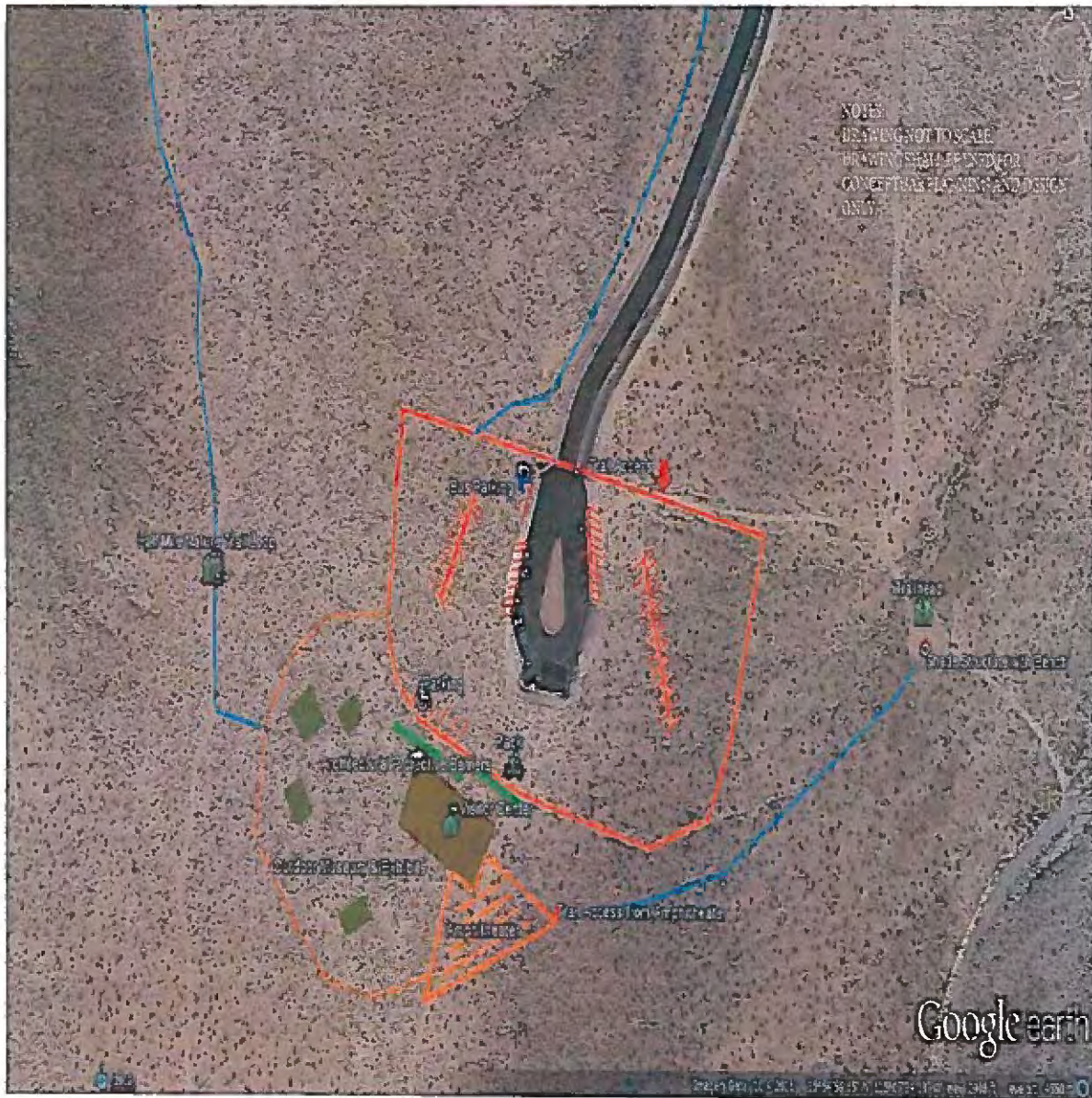


**Inside of temporary Contact Station**

The second phase of development is currently in planning and consists of design and construction of a permanent building to serve as the Sloan Canyon Visitor Contact Station and Administration facility, additional parking (up to an additional 64 spaces), an outdoor exhibit area with interpretative displays, additional accessible trails, permanent restrooms, benches, shade structures, an amphitheater, water, sewer, electric, and data connections.



### Proposed site plan of future facilities





Further refinement of parking area layout and size would occur during the detailed design process utilizing existing parking; however, it is intended to be sized to accommodate the number of visitors allowed within the Petroglyph Management Area at any one time along with other visitors who may not visit Petroglyph Canyon but may come to see the exhibits, picnic, or use the area as a trailhead to access other trails. For example, on weekends when groups of 20 are allowed within the petroglyph area at one time, a second group may be waiting for the opportunity to enter the area and occupying parking spaces while they wait. Similarly, weekdays allow multiple self-guided groups to visit the petroglyph management area with up to 25 permits issued per hour. At times of high demand, multiple groups of 20 will be in the area at one time, creating a need for approximately 90 spaces depending on the number of persons per vehicle.

Another key concept shown in the proposal is the integration of the West Henderson Land Use Plan. In part, this is accomplished by the development of a gateway park proposed by the City of Henderson in the West Henderson Land Use Plan, which would feature a blend of native vegetation and turf along with a play area designed to mimic the adventure play experiences available in the adjacent natural areas of the NCA. This park could also serve as off-site parking during times of heavy visitation or staging area for those who want to walk or bike the 0.75 mile to the Petroglyph Canyon entrance area.

The visitor contact station would not exceed 3,000 square feet in size. This amount of space would provide for at least four offices and six work stations for BLM staff including law enforcement, an entry hall with a visitor contact counter, storage space for equipment, indoor exhibits on the natural and cultural history of Sloan Canyon, a small auditorium for interpretive presentations and other events, and public restrooms.

Near this facility an outdoor amphitheater would be developed that could accommodate approximately 140 visitors. The amphitheater would be used for interpretive presentations and other events. A series of outdoor exhibits, interpretive panels, and other features such as picnic tables and shade structures, would be developed in this same area.

Additional trails would be developed for visitors to circulate from the parking area to the visitor contact station and other use areas.

Utilities would be extended to the site, including electric, sewer, water, and data connections.

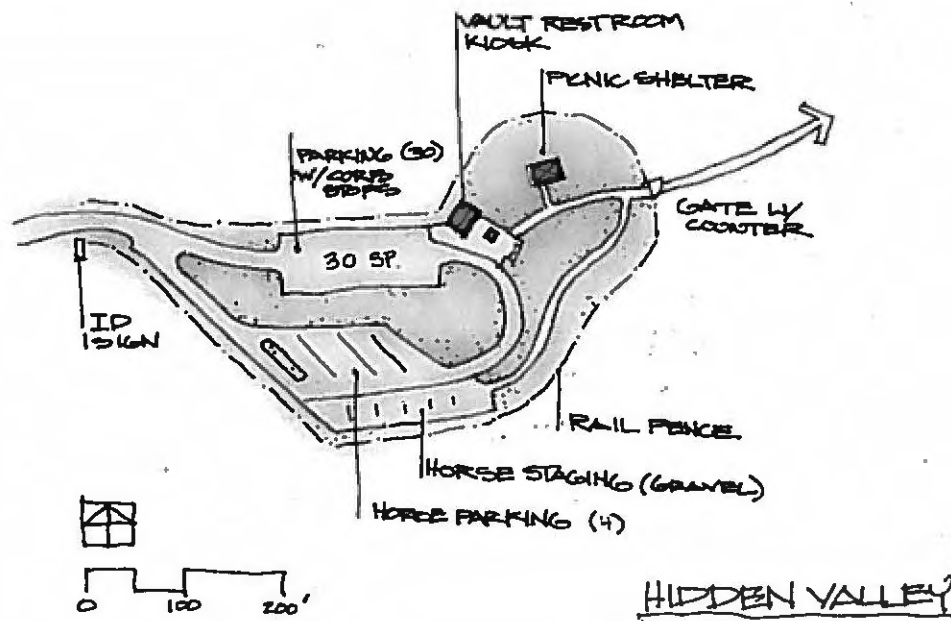
### **Hidden Valley**

This site provides an important entry to the North McCullough Wilderness, one that will become increasingly important as visitation increases in Petroglyph Canyon and limits on the number of visitors allowed at one time are more frequently put in effect. The Hidden Valley Trailhead provides direct access to the North McCullough Wilderness without the need to travel through

Petroglyph Canyon. A site plan for the area is shown below. The plan provides for the development of 30 vehicle parking spaces, along with an equestrian staging area and four pull-through parking spaces for vehicles with trailers. Additional facilities include a picnic shelter, vault restroom, an information kiosk, and signage.

Hidden Valley also provides an alternative route for accessing Petroglyph Canyon via the Hidden Valley Trail, which connects to the trails in the Petroglyph Management Area. Although formal trails do not exist within most of the wilderness, the area is open to cross-county travel on foot and horseback.

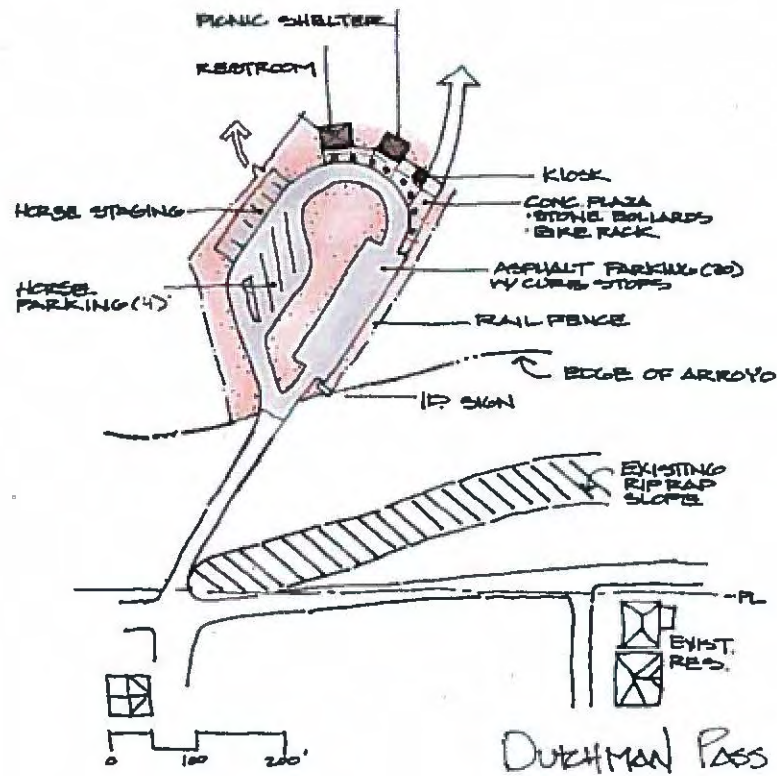
Access to the Hidden Valley Trailhead will need to be improved prior to or at the time of trailhead construction. Additional analysis and associated design is required before a cost estimate can be prepared for those improvements.



### Dutchman Pass

This site is located approximately 1-mile south of the McCullough Hills Trailhead, which provides access to the McCullough Hills Trail and the multi-use trail system developed within the northeastern corner of the Sloan Canyon NCA. The site plan calls for similar facilities as those at the Hidden Valley Trailhead, including vehicle parking (30 spaces), four pull-through spaces for vehicles with trailers, a vault restroom, and picnic shelters. A small concrete plaza with bike racks would be developed adjacent to the picnic shelters. Directional signage and an information kiosk would also be included.

The Dutchman Pass Trailhead area is currently accessed through residential streets. Prior to initiating construction activities of the trailhead, an access route needs to be identified that avoids directing visitors through those areas. Additional analysis and associated design for this access route is required before a cost estimate can be prepared.

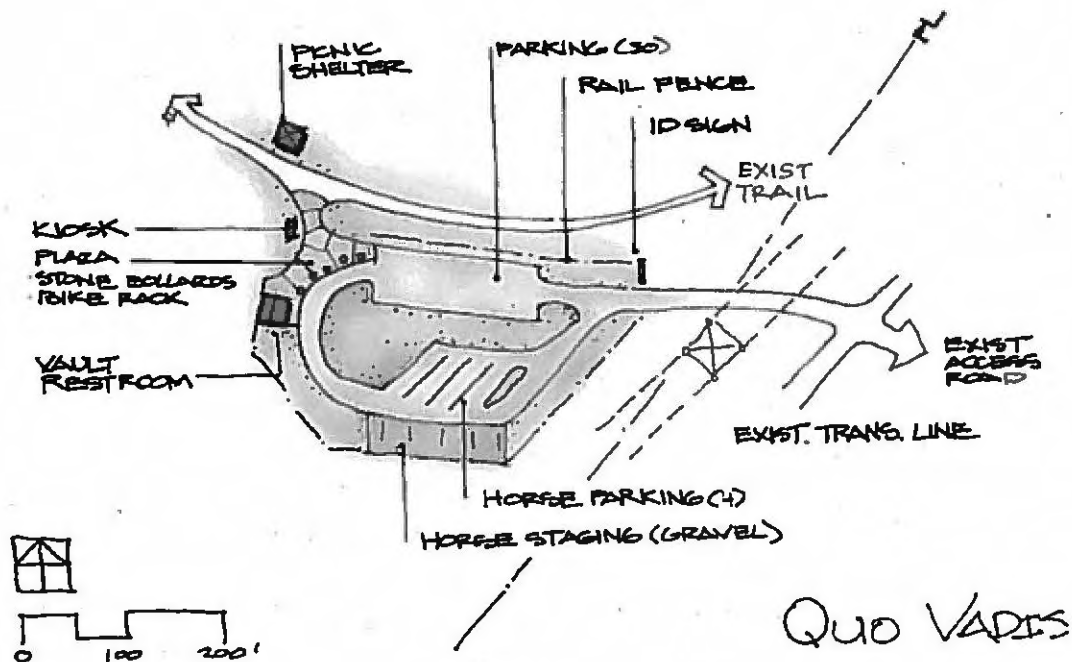


### Quo Vadis

Quo Vadis is an important access point for the trail system at the northeastern edge of the Sloan Canyon NCA and provides access to that portion of the NCA open to mountain bike use. The site plan for the area provides for the development of 30 vehicle parking spaces along with four pull-through spaces for vehicles with trailers. The trail system in this portion of the NCA is also intended for equestrian use. A staging area for equestrians is located adjacent to the pull-through spaces.

Additional facilities in this use area include a vault restroom and picnic shelter. An informational kiosk and signage complete the list of site elements.





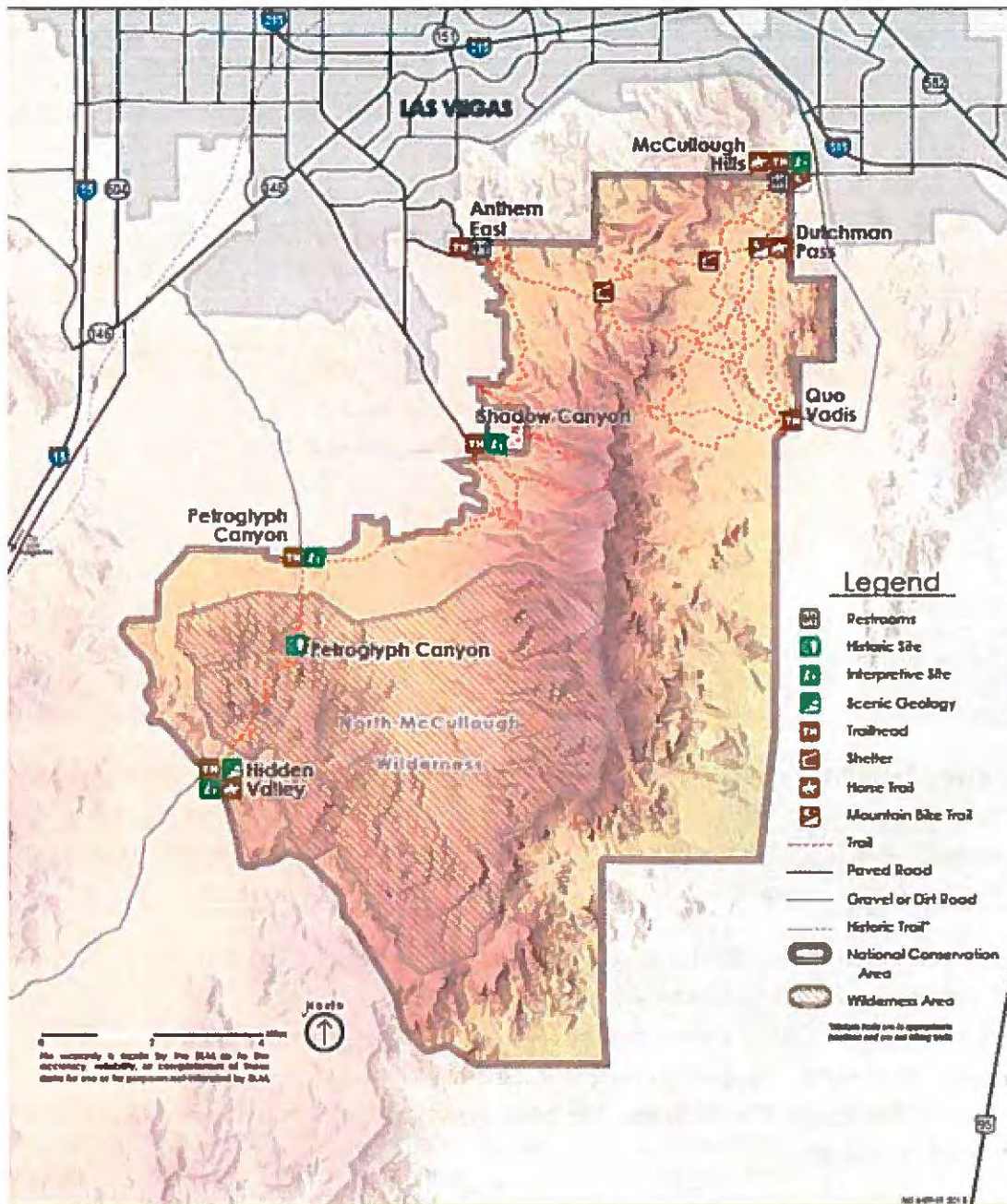
## Trails

The approved Trails Master Plan for Sloan Canyon NCA called for the development of a multiuse trail system which led to the designation of approximately 45 miles of trail. Of these, approximately 27 miles are open to hiking, biking, and equestrian uses. A total of 15.8 miles are designated for hiking only and 2.2 miles are hiking and equestrian use only.

Public input and recommendations suggest a need for additional trails. This is also evident by the continuation of user created trails in areas near the urban interface. Although a complete inventory of the user created routes is not available, early estimates show there may be upwards of 20 miles of undesignated trails across the NCA. Before a true cost estimate for the designation of an expanded trail system can be created, additional analysis and public involvement is required.

Along with the designation of the current trail system comes associated monitoring and maintenance. BLM Fire & Aviation firefighters will be utilized in the off-season to monitor, digitize existing trails for use by visitors with smartphones, and perform minor trail maintenance. A growing cadre of volunteers will continue to be utilized to assist with monitoring and restoration efforts.

## Existing Trail System



### B. ROAD IMPROVEMENTS

A road extending between the access points at Dutchman Pass and Quo Vadis is one of the few roads identified in the RMP for vehicular use. This unimproved road generally parallels a powerline corridor and extends over a distance of approximately three miles. This road provides access through the eastern portion of the NCA and provides more direct access between the southeastern portion of the City of Henderson and the Quo Vadis Trailhead. In

keeping with the nature of the Sloan Canyon NCA, the road would be classified as primitive, which is defined in the BLM system as “a linear route managed for use by four-wheel drive or high-clearance vehicles. These routes do not customarily meet any BLM road design standards.” As such, the road would receive a low level of maintenance, which would be limited to periodic inspection of drainage structures and grading as necessary to correct drainage problems. No improvements are currently planned for this road.

### C. COST ESTIMATES

This section provides an initial estimate of the costs of development at each of the use areas. A summary comparison is provided in Exhibit 3-1, with more details provided in Exhibits 3-2 and 3-3. Additional cost details are provided in the worksheets presented in Appendix A.

The estimated total development cost for all projects is \$14,243,113. All project funding is anticipated to come from the Sloan Special Legislation funding accounts.

**Exhibit 3-1 Sloan Canyon Development Cost Summary**

Area	Total Cost
Petroglyph Canyon Entry	\$8,245,625
Hidden Valley Trailhead	\$1,063,770
Dutchman Pass Trailhead	\$854,670
Quo Vadis	\$364,220
Expansion of Trail System (\$250,000 Each)	\$1,000,000
<b>Total Construction Cost</b>	<b>\$11,528,285</b>
Engineering Studies, Design and NEPA	\$1,562,000
Contingency	\$1,152,828
<b>Total Project Budget</b>	<b>\$14,243,113</b>

### D. PHASING

#### Phase 1

The primary consideration in developing a phasing plan was the rate at which planned improvements are made in West Henderson and the extension of utilities and an improved access road to the Petroglyph Canyon vicinity (Democracy Road). The extension of Democracy Road to Nawghaw Poa Road has been completed as well as the following Phase 1 items; constructing a paved road and parking lot, installing a temporary visitor contact station and restrooms, construction of a connector trail and the development and installation of interpretative signage. Cost of Phase 1 items totaled \$1,479,425.



## Phase 2

Phase 2 would complete developments at the Petroglyph Canyon entry area. A permanent visitor contact station building would be constructed as well as additional parking, an outdoor exhibit area with interpretative displays, additional accessible trails, permanent restrooms, benches and shade structures, an amphitheater, water, power and sewer and data connections.

The cost of constructing these additional facilities at Petroglyph Canyon would be approximately \$8,245,625. Applying \$1,886,562 for engineering, design, contingency and NEPA the total cost of Phase 2 to \$10,132,187.

**Exhibit 3-2 Contact Station Development Cost Summary**

Area	Total Cost
<b>Petroglyph Canyon Entry</b>	
Phase 2 with utilities	\$8,245,625
<b>NEPA and Design</b>	<b>\$1,062,000</b>
Contingency	\$824,562
<b>Total Project Budget</b>	<b>\$10,132,187</b>

## Phase 3

Trailhead improvements and trail system expansion are proposed for key areas identified in the resource management plan. Actual development will occur in response to visitation demands, but are anticipated to be completed by 2025.

**Exhibit 3-3 Trailhead and Trail Development Cost Summary**

Area	Total Cost
Dutchman Pass Trailhead	\$854,670
Hidden Valley Trailhead	\$1,063,770
Quo Vadis Trailhead	\$364,220
Trail System Expansion (\$250,000 Each)	\$1,000,000
<b>Total Construction Cost</b>	<b>\$3,282,660</b>
Engineering Studies, Design and NEPA	\$500,000
Contingency	\$328,266
<b>Total Project Budget</b>	<b>\$4,110,926</b>

## **CHAPTER 4**

### **STAFFING, OPERATIONS, AND MAINTENANCE COST ESTIMATES**

In addition to the staffing necessary to develop, operate, and maintain the Sloan Canyon NCA, there will be an internal management oversight group (MOG) for the planning, design and installation of all new construction. The MOG will consist of the following personnel from the state, district, and field offices:

- Sloan Canyon NCA Manager
- Southern Nevada District Office Associate District Manager (co-chair)
- State Recreation Lead
- State Engineer
- Special Legislation Program Manager (co-chair)

The MOG will develop guidelines and procedures for how they will operate and how and when recommendations and/or decisions will be made regarding the implementation of all aspects of new construction.

Staffing, operating, and maintenance cost estimates were developed for Sloan Canyon NCA as part of this Implementation Management Strategy. This chapter consists of the following sections:

**Staffing Plan and Direct Labor Expense Estimates.** This section presents direct labor cost estimates for the recommended staffing plan. This also includes labor cost estimates, which reflect labor supplied or allocated from the BLM Southern Nevada District Office and various BLM Field Offices, including administration, law enforcement, repair and maintenance labor expenses, and other labor expenses.

**Operational Expense Estimates.** This section presents estimates for expenses, such as materials and supplies, transportation, communication, utilities, contract services, and other indirect expenses. Estimates for operational expenses are based on current and historical expenses for these items at Sloan Canyon NCA, adjusted to reflect the new visitor facilities and access improvements. The estimates also consider similar expense levels at Red Rock Canyon NCA and the ongoing facility capital improvements cost at other comparable facilities.

**Summary of Expense Projections.** This section combines labor and operational expenses to present total annual operating cost projections over a 25-year period.

## **A. STAFFING PLAN AND LABOR COST ESTIMATES**

### **Direct Labor Cost Estimates**

This section presents estimates of direct labor for Sloan Canyon NCA. The following are the key assumptions used to estimate labor costs:

- Sloan Canyon NCA is assumed to be open to the public year-round, 7 days per week. The contact station is assumed to be open and staffed 8 hours daily, with potentially extended hours during peak visitation periods, such as weekends during the fall/winter months.
- BLM wage rates are fully burdened and include all benefits.
- Generally, information used to develop parts of this strategy used the midpoint of the wage rate range for BLM positions for a certain General Schedule (GS) level.
- The staffing plan proposed assumes up to two on-site volunteers to augment BLM staffing.
- A goal will be for trail maintenance to be performed largely by volunteers working on specific trail projects as well as post-season fire personnel.
- Construction of the contact station at Petroglyph Canyon is assumed to be completed and open to the public by 2020.
- Direct labor expenses are based on actual fully-loaded costs in 2017. Projected 2018 indicated on our projected numbered historical labor rate increase.
- The staffing plan and associated labor cost estimate presented in this section reflect staffing levels in 2020 and beyond—the period during which the major visitor facility improvements are assumed to be completed and available to the public.

The staffing plan table listed below (Staffing Plan and Labor Cost Estimates) describes the staffing levels and associated labor costs associated with each position. This staffing level has been determined by SNDO and Red Rock/Sloan NCA management that will be required to operate Sloan Canyon NCA.

The objectives of the staffing plan include:

- Meeting the needs of the facility and operating concepts for the NCA and requirements of the RMP.
- Maximizing labor efficiency and reducing unnecessary annual labor costs.
- Addressing the publically identified need for a unique identity and quality interpretation for Sloan Canyon.
- Providing a greater staff presence in the field.



**Staffing Plan and Labor Cost Estimates**

	Grade	Planned Hours	Hourly Rate (2017)	Total Labor 2018	Total Labor 2019	Total Labor 2020
<b>Sloan NCA Staff</b>						
NCA Manager	12	1760	\$64.93	\$117,134	\$120,062	\$123,064
Red Rock/Sloan Field Manager	13	352	\$77.02	\$27,789	\$28,484	\$29,196
Outdoor Recreation Planner	11	1760	\$60.67	\$109,449	\$112,185	\$114,990
Interpretive-Environmental Education Specialist	11	1760	\$60.67	\$106,779	\$109,449	\$112,185
Archaeologist	11	704	\$64.70	\$46,688	\$47,855	\$49,051
Planning & Environmental Coordinator	11	528	\$58.31	\$31,557	\$36,019	\$36,920
Civil Engineer, P.E.	12	528	\$64.93	\$0	\$36,019	\$36,920
Park Ranger	9	1760	\$48.51	\$87,512	\$89,700	\$91,942
Park Ranger	9	1760	\$48.51	\$87,512	\$89,700	\$91,942
Career Seasonal Park Ranger	5	1039	\$28.74	\$29,861	\$30,607	\$31,373
Career Seasonal Park Ranger	5	1039	\$28.74	\$29,861	\$30,607	\$31,373
Contact Station Specialist	5	1760	\$28.74	\$50,582	\$51,847	\$53,143
<b>District Staff</b>						
District Manager	15	88	\$93.94	\$8,473	\$8,685	\$8,902
Associate District Manager	14	176	\$90.48	\$16,323	\$16,731	\$17,149
Public Affairs Specialist (Asselin)	12	176	\$52.32	\$9,439	\$9,674	\$9,916
LE Chief	13	176	\$104.06	\$18,772	\$19,242	\$19,723
Supervisory LE Ranger	12	176	\$81.53	\$14,708	\$15,076	\$15,453
LE Ranger (Worfolk)	11	176	\$77.46	\$13,974	\$14,323	\$14,681
LE Ranger (Sloan NCA)	9	1760	\$69.51	\$125,396	\$128,531	\$131,744
Firefighters (Trail Maintenance)	7	1408	\$37.25	\$53,759	\$55,103	\$56,481

	Grade	Planned Hours	Hourly Rate (2017)	Total Labor 2018	Total Labor 2019	Total Labor 2020
<b>Support Services</b>						
Assistant District Manager, Support	13	88	\$77.02	\$6,947	\$7,121	\$7,299
Supervisory Operations Specialist	12	88	\$76.60	\$6,909	\$7,082	\$7,259
Civil Engineer	12	528	\$64.93	\$35,141	\$0	\$0
Budget Analyst	11	176	\$65.36	\$11,791	\$12,086	\$12,388
Safety Specialist	11	88	\$53.49	\$4,825	\$4,945	\$5,069
Engineering Equipment Operator	WG-10	88	\$48.90	\$4,411	\$4,521	\$4,634
Maintenance Worker	WG-6	88	\$47.18	\$4,256		
Maintenance Worker	WG-6	88	\$47.18	\$4,256		
Maintenance Worker	WG-6	88	\$47.18	\$4,256		
Maintenance Worker	WG-7	880	\$47.62		\$41,906	\$42,953
Financial Technician	7	88	\$37.25	\$3,360	\$3,444	\$3,530
<b>Las Vegas Field Office Staff</b>						
Wilderness Specialist	11	176	\$64.70	\$11,672	\$11,964	\$12,263
Realty Specialist	11	176	\$64.70	\$11,672	\$11,964	\$12,263
<b>Total</b>				<b>\$1,095,064</b>	<b>\$1,151,259</b>	<b>\$1,180,041</b>

**Note:** Support Services Engineering staff will be involved in the project until an Engineer is hired under Red Rock/Sloan funding. The Support Services Engineer will be involved with the project through 2018 until the additional Engineer is hired. The Engineer funded through Red Rock/Sloan is currently projected to be hired in 2019.

The specific duties and qualifications for Sloan NCA positions are as follows:

#### **NCA Manager GS-12**

*Duties:*

- Manage compliance with enabling legislation/NCA designation
- Monitor and ensure implementation of management plans
- Management and oversight of the budget and funding
- Provide supervision and management direction for NCA staff
- Identify and interface with partner organizations

#### **Outdoor Recreation Planner GS-11**

*Duties:*

- Maintain, monitor, and implement recreation management and implementation plans
- Develop monitoring program for visitor use and resource impacts
- Administer permitting program, including private Petroglyph Canyon access and all Special Recreation Permits in Sloan Canyon
- Direct work of park rangers with regard to maintenance and monitoring duties
- Identify, pursue, and manage partnerships and volunteers

#### **Interpretive Specialist/Environmental Educator GS-11**

*Special Qualifications:*

- Special qualifications—NAI certification as Interpretive Planner and/or Interpretive Manager

*Duties:*

- Creates/designs unique identification materials for Sloan Canyon
- Prepares Interpretive Master Plan for the NCA
- Develops interpretive messages and media
- Coordinates general community outreach
- Coordinates with the school district to ensure classroom programs meets standards and updates programs as standards change
- Manages the volunteer program



## **Archaeologist GS-11**

### *Duties:*

- Develops and maintains an accurate database of known cultural resource sites and inventories within the resource area
- Conducts consultation with Native Americans, regarding sacred sites and compliance with the Native American Graves Protection and Repatriation Act
- Reviews performance and reports conducted in association with Cultural Resource Permits
- Performs compliance reviews and field inspections
- Consults with the State Historic Preservation Officer for National Register eligibility and nominations
- Document and report any ARPA violations

## **Planning & Environmental Coordinator GS-11**

### *Duties:*

- Interprets planning and NEPA laws, regulations, policies
- Analyzes and provides guidance for field office planning and environmental processes
- Serves as technical liaison between the field office and other government entities
- Coordinates and provides planning and NEPA program oversight to interdisciplinary teams in the implementation of land use plans
- Coordinates identification of inventory and data collection needed to conduct resource management planning and NEPA decision-making efforts
- Coordinates resource assessment activities to determine resource condition prior to planning and decision making efforts
- Coordinates the development and accomplishment of implementation strategies for planning and NEPA decisions

## **Civil Engineer, P.E. GS-12**

### *Duties:*

- Coordinates, plans and executes all functions with project implementation, design, surveying, maintenance, and construction
- Maintains engineering data according to prescribed Bureau policies, standards and procedures
- Utilize automated equipment (hardware/software), data, systems and applications to accomplish the duties of the position
- Plans and monitors current and out year program budgets
- Provides engineering assistance to other staff on matters relating to feasibility studies, surveying, project layout, design and maintenance/repairs

## **Park Rangers GS-7/9 (2)**

### *Special Qualifications:*

- Special qualifications—NAI certification as Interpretive Guide. Advanced first aid, such as EMT or Wilderness First Responder

### *Duties:*

- Monitor, record, and report visitor-use information
- Light maintenance of facilities and trails
- Install and maintain signage
- Work with volunteers in the field
- Deliver interpretive information
- Provide visitor information and assistance
- General patrols and surveillance

## **Contact Station/Visitor Information Specialist GS-5**

### *Duties:*

- Public contact and information at the contact
- Coordinate volunteer staffing of contact station
- Assist public with acquiring permits for Petroglyph Canyon access
- Collect visitation data for contact station
- Ensures station is open and ready for visitors as scheduled

## **Career Seasonal Park Rangers GS-5 (2)**

### *Special Qualifications:*

- Special qualifications—NAI certification, advanced first aid, such as EMT or Wilderness First Responder.

### *Duties:*

- Assist and augment park rangers
- Conducts interpretative programs and guided hikes
- Monitor, document and oversee minor trail restoration
- Collect visitation data for annual reporting

## **Additional Labor Expense Estimates**

This section presents estimates of additional labor, which includes labor that is not involved directly with the normal day-to-day operations and management of the NCA. Additional labor primarily consists of support staffing from the BLM Southern Nevada District Office, Las Vegas and/or Pahrump Field Offices. Analysis of this labor began by identifying the primary recurring

labor divisions based on input from BLM staff and review of the historical NCA budgets from FY 2016 and 2017. Those labor divisions that do not represent normal recurring costs were not estimated. The following labor divisions were identified as recurring expenses that are judged likely to continue to be incurred after the new visitor facilities are completed in 2020.

***District Administration Labor***

This division includes senior managers and administrative staff labor from the Southern Nevada District Office. This expense will remain similar to current FY 2017.

***District Support Services***

This division includes finance, safety, engineering and maintenance support labor contributed from the Southern Nevada District Office. This expense will increase in the years following completion of facility and access improvements.

***Law Enforcement and Resource Protection Labor***

This division includes the law enforcement ranger labor expense. This is a major recurring expense that was established in FY 2017 with the hiring of an exclusive LE Ranger for the NCA. The projected law enforcement and resource protection labor expense is based on the FY 2017 budgeted expense for one full-time LE Ranger and the program administration by the LE Chief and Supervisor.

***Las Vegas Field Office Labor***

This category consists of miscellaneous labor contributed by the Las Vegas Field Office. Recurring labor costs of the Wilderness, Lands, Renewable Resources and Archeologist positions were incurred for these categories starting in FY 2013 to the present. Therefore, these expenses are assumed to be incurred in the Sloan Canyon development phases and were projected at their current level in FY 2017. The Archaeologist or other positions may be borrowed from the Las Vegas Field Office when the Red Rock and Sloan Canyon staff are short-handed for the work and timeframes needed.

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### Estimated Repair and Maintenance Expenses

Facility Component	Assumptions	Est. Annual Repair and Maintenance (R&M) Cost
Contact Station Facility	<ul style="list-style-type: none"> <li>• Assumes full 3,000 square foot facility at build-out</li> <li>• City water, sewer, on-grid electrical connections</li> <li>• Includes janitorial, minor repairs, utilities, administration and security</li> <li>• \$8.00 per square foot R&amp;M cost based on costs at similar facilities</li> </ul>	\$24,000
Road & Paved Parking at Contact Station	<ul style="list-style-type: none"> <li>• Average annual costs over 20 year maintenance cycle</li> <li>• A two-lane road with a length of ¾ miles and 43,000 square foot parking for 90 vehicles</li> <li>• Crack seal, seal coat every 5 years, with major overlay at 20 years</li> </ul>	\$11,700
Trailheads/Parking/Toilets	<ul style="list-style-type: none"> <li>• Parking could be native, graveled and/or possibly paved</li> <li>• Assumes largely native materials with some drainage controls</li> <li>• Single-hole vault toilet with 1,000 gallon capacity at two locations</li> <li>• Flush toilet at one location (Dutchman Pass)</li> <li>• Vault toilets pumped, charged once per year</li> <li>• Four maintenance visits a week by NCA staff for flush toilets, based on projected visitation</li> <li>• Two maintenance visits a week by NCA staff for vault toilets based on Projected visitation</li> </ul>	\$12,000
Kiosk/Panels	<ul style="list-style-type: none"> <li>• Assume 16, 4 ft. by 4 ft. interpretive panels at \$15.00/square foot for replacement</li> <li>• 100% replacement over five years.</li> <li>• Displays designed and ready to print by NCA staff</li> <li>• Minimal structural maintenance and repair</li> <li>• Interpretative signs/exhibits</li> </ul>	\$3,300
Equestrian	<ul style="list-style-type: none"> <li>• Maintaining grounds, parking areas, and upkeep</li> <li>• Does not include corrals or water</li> </ul>	\$1,000
<b>2017 Total Annual R&amp;M Costs</b>		<b>\$52,000</b>

## B. OPERATIONAL EXPENSE ESTIMATES

### Other Expenses

This section presents estimates of non-labor expenses, including materials, supplies, and services. These estimates are based on inputs provided by BLM staff, historical costs incurred for these items at the NCA during the last two fiscal years (FY 2016-2017) and comparison to

the same expense levels incurred at Red Rock Canyon NCA, recognizing the Red Rock Canyon NCA is much larger and more complicated operation compared the level of operations proposed for Sloan Canyon NCA.

### ***Transportation***

This line item includes costs associated with vehicle transportation, both of persons and items, including shipping costs. The line item also includes travel expenses and vehicle costs. In FY 2017, BLM budgeted \$33,000 for this expense at Sloan Canyon NCA. This includes vehicle costs for NCA and LE Staff.

### ***Rent, Communications, and Utilities***

This line item includes costs associated with actual or allocated rent, communications, and utilities expenses. In FY 2017, BLM budgeted \$305,200 for this expense at Sloan Canyon NCA compared. This large cost is an anomaly due to the power, water and sewer services required at the temporary contact station. Once the permanent facility is in-place, this amount will be re-adjusted.

### ***Contractual Services***

This line item includes the cost of any services that BLM contracts out rather than performs directly, such as janitorial services, special repair and maintenances services, and one-time contracts for special projects or services. In FY 2017, BLM budgeted \$1,612,000, for this expense at Sloan Canyon NCA. A large amount of this cost, \$1,562,000, is for the architecture and engineering contract needed for the permanent facility. The remaining \$50,000 was for procurement and outfitting of the LE Ranger vehicle and cost for support from Lake Mead Interagency Communication Center for dispatch services. Future planning under this category will be lower once the permanent facility is in place.

### ***Supplies and Materials***

This line item represents that cost of all materials and supplies utilized to support the NCA, including repair and maintenance supplies/materials, cleaning supplies, office supplies, etc. In FY 2017, BLM budgeted \$21,600 for this expense at Sloan Canyon NCA.

### ***Printing and Reproduction***

This line item reflects costs associated with printing and reproduction of NCA information, such as visitor brochures, maps, publications, interpretive materials, etc. In FY 2017, BLM budgeted \$8,000 for this expense at Sloan Canyon NCA.



### C. SUMMARY OF EXPENSE PROJECTIONS

This exhibit presents projected labor and operational expenses over the 25-year period 2017 to 2042.

#### Total Operating Cost Projections

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Labor	\$1,095,064	\$1,151,259	\$1,180,041	\$1,210,480	\$1,240,742	\$1,271,761	\$1,303,555	\$1,336,144	\$1,369,547	\$1,403,786
Capital Improve ment	\$9,876,625	\$3,522,842								
O&M	\$359,000	\$212,000	\$85,000	\$87,125	\$89,303	\$91,535	\$93,824	\$96,169	\$98,573	\$101,038
<b>Total</b>	<b>\$11,330,689</b>	<b>\$4,886,101</b>	<b>\$1,265,041</b>	<b>\$1,297,605</b>	<b>\$1,330,045</b>	<b>\$1,363,296</b>	<b>\$1,397,379</b>	<b>\$1,432,313</b>	<b>\$1,468,120</b>	<b>\$1,504,824</b>
	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Labor	\$1,438,881	\$1,474,853	\$1,511,724	\$1,549,517	\$1,588,255	\$1,627,961	\$1,668,660	\$1,710,377	\$1,753,136	\$1,796,965
Capital Improve ment										
O&M	\$103,564	\$106,153	\$108,807	\$111,527	\$114,315	\$117,173	\$119,782	\$122,503	\$125,225	\$127,946
<b>Total</b>	<b>\$1,542,445</b>	<b>\$1,581,006</b>	<b>\$1,620,531</b>	<b>\$1,661,044</b>	<b>\$1,702,570</b>	<b>\$1,745,134</b>	<b>\$1,788,442</b>	<b>\$1,832,880</b>	<b>\$1,878,361</b>	<b>\$1,924,911</b>
	2038	2039	2040	2041	2042					
Labor	\$1,841,889	\$1,887,936	\$1,935,134	\$1,983,513	\$2,033,101					
Capital Improve ment										
O&M	\$132,570	\$135,885	\$139,282	\$142,764	\$146,333					
<b>Total</b>	<b>\$1,974,459</b>	<b>\$2,023,821</b>	<b>\$2,074,416</b>	<b>\$2,126,277</b>	<b>\$2,179,434</b>					



## CHAPTER 5

### FINANCIAL ANALYSIS OF PROPOSED DEVELOPMENT

Revenue and cost projections were projected to consider the impacts on the BLM Special Account, the primary funding source for capital and operating costs. This chapter consists of the following three sections:

**Revenue Projections.** This section presents revenue projections associated with access/permit fees and revenues generated from by Special Recreation Permits (SRPs). The revenue projections are based on estimates of NCA visitation presented in Chapter 2, considering access/permit fees at other BLM sites, and Special Recreation Permit revenues generated at Red Rock Canyon NCA.

**NCA Funding Sources.** This section describes the relevant potential future funding sources for capital improvements and operations within the NCA, focusing in particular on the use of Special Account funding. This section discusses the current Special Account balance, funding requirements specified by the laws governing the Account, and an overview of the historical and potential future interest yields.

**Financial Projections and Recommendations.** This section combines projected revenues, operating costs, and capital cost estimates, and presents the impacts to the Special Account over a 25-year period.

#### A. REVENUE ESTIMATES

##### Special Area Permits for Petroglyph Canyon

The Sloan Canyon Resource Management Plan (RMP) indicates that all entry into Petroglyph Canyon shall be by permit only. The intent is that use on weekends would be reserved for guided hikes into the canyon with a capacity limit as follows: "No more than one guided group of no more than 20 people are allowed in the Petroglyph Management Area at one time." The RMP states that during the weekdays "visitors may go to the Petroglyph Management Area unaccompanied by a BLM-sponsored guide if they obtain a permit" and that "a total of no more than 25 permits per hour will be issued for self-guided tours."

There is no requirement that a fee be charged for these Special Area Permits, however, charging a fee provides an opportunity for revenue to offset some of the costs associated with permit issuance, compliance and resource monitoring. When the consultant team developed the original strategy they recommended that the BLM establish a special area fee for the Special Area Permits applicable to all visitors entering the Petroglyph Canyon Management Area, rather than seeking a Standard Amenity Fee for accessing the NCA at the Contact Station area.

Prior to requiring a Special Area Permit to enter the Petroglyph Canyon Management Area, the BLM would have to adopt a special rule requiring such permits of all individuals entering the Canyon. This rule making authority is vested in the BLM State Director and the authority for special rules is found in 43 CFR 8365.16. The process involves publishing the proposed rule and final rule in the Federal Register. If BLM seeks to establish a fee for the permit, there would be savings involved in combining the fee establishment within the special rule since both actions require Federal Register Publication.

Establishing a fee for the permit requires *Federal Register* notification, consultation with a Resources Advisory Council, and general public outreach. BLM is free to propose whatever fee it deems appropriate. For the purposes of this analysis, the fee for the Special Area Permit is *assumed* to be \$5.00 per person. This assumption is based on fees for similar experiences, such as at Cedar Mesa, Sand Flats, Slickrock Bike Trail, and Coyote Buttes BLM sites—all of which are located in Utah. The BLM only charges higher fees at locations with high-demand specialized experiences, including some rivers or locations that have much more developed infrastructure. The fee of \$5.00 per person per day is also in keeping with the BLM’s National Fee Schedule that has established that rate as the minimum use fee for organized groups and competitive events.

To estimate annual revenues associated with Special Area Permits (or tickets) for entrance into the Petroglyph Management Area, the assumed per person ticket price of \$5.00 was multiplied by the number of visitors projected to enter the Canyon on annual basis presented in Chapter 2.

### **Special Recreation Permits for Commercial, Competitive, and Organized Group Use**

The issuance of SRPs is provided for in the Sloan Canyon NCA RMP. BLM issues SRPs for a variety of purposes, all of which are applicable to Sloan Canyon NCA, including the following:

- Support recreation planning goals to provide experience and beneficial outcomes to the public
- Manage/monitor visitor use within capacity limits
- Provide for public health and safety
- Reduce user conflicts
- Reduce resource conflicts and damage
- Educate/communicate with the public
- Manage BLM workload
- Receive a return for the commercial use of public land

Permits are issued for commercial, competitive and organized group use for all the reasons listed above. They provide an opportunity to generate additional revenue as well as enhance management of the area and provide recreation/outdoor experiences for individuals who might not otherwise have access to them. Commercial use is defined as any recreation use for financial gain. This would include activities such as guiding, outfitting, and livery services. Two types of Special Recreation Permit revenues are considered in this analysis: revenues generated from Petroglyph Canyon Guided Trips on weekends and SRPs for all other miscellaneous services/uses.

### ***Petroglyph Canyon Guided Trips***

When the consultant team developed the original strategy they recommended that the weekend guided trips into Petroglyph Canyon be conducted by a commercial guide service holding an SRP. Either for-profit enterprises or non-profit groups (e.g. friends groups) could be the commercial SRP holder providing the guide services in Petroglyph Canyon. The recommendation of using a commercial guide service holding an SRP is based on the following:

- A substantial number of for-profit guides/outfitters and non-profit entities exist in southern Nevada, northwestern Arizona and southwestern Utah. For some of these operations, adding Petroglyph Canyon day hikes to their list of services would be fairly easy and would rely on existing resources.
- Professional guide outfitters and non-profit entities have marketing and public outreach expertise and access that would tend to maximize use over what the BLM would likely be able to accomplish. For example, outfitting companies often implement creative marketing strategies and have the ability to package trips either individually or with other outfitters.
- The outfitter or non-profit assumes all risks associated with marketing.
- Outfitters and guides are well insured and assume first position in the event of liability for personal injury and property damage and thus reduce the liability exposure of the BLM.
- One of the advantages of a non-profit group providing the guided hike service is that any use of groups' volunteer labor would potentially allow it to charge a somewhat lower rate than if paid labor were utilized. However, non-profit entities providing the guided hike using unpaid volunteer labor would still likely want to charge some amount for the service in order to cover expenses such as guide recruitment, training, marketing/outreach, transportation, supplies, insurance, and other expenses.

In this analysis, a commercial SRP holder is assumed to charge visitors a \$20.00 fee (including the \$5.00 special area fee) for leading the day hike into Petroglyph Canyon. The amount the operator could charge for the guided hike service is based on market demand and to a large extent, the value added by the guide. For a Petroglyph Canyon day hike, value added might



include having a professional archaeologist as a guide or providing lunch or transportation to and from the trailhead. In terms of the revenues that BLM would earn, the minimum yearly fee for a commercial SRP is the greater of \$105 per year or 3.0% of gross revenues generated from the guided hiking service. In addition to this, the BLM would receive the assumed Special Area Permit fee of \$5.00 per visitor entering Petroglyph Canyon.

To project revenues from the commercial SRPs for weekend guide service for Petroglyph Canyon during development of the original strategy, the consultant team used the estimated number of visitors taking the guided hikes on weekends, presented in Chapter 2, and multiplied that total number by the guided tour rate of \$15.00 per person.

### ***Other Commercial, Competitive, and Organized Group Opportunities***

The market for other SRPs within the Sloan Canyon NCA is still not well identified. However, given the population and economic growth in the area, it is not unreasonable to assume some of these uses will materialize.

There may be opportunity for guided trips outside of Petroglyph Canyon and there is a possibility for guided horseback trips and trail riding/packing equestrian tours. Similar opportunities may exist for mountain biking. Other possible commercial activities/events might include instructional services or gear demonstration days. Furthermore, there may be some opportunity for competitive events such as mountain bike races/trials and trail running.

There are a number of organized group events that could potentially take place within Sloan Canyon NCA, yet these would include mostly social activities such as weddings. Scouting activities, club events, corporate retreat type activities might also fit this category. However, considering the limited facilities planned within the NCA and the availability of competing facilities nearby, when the consultant team developed the original strategy they judged that such group uses/activities would generally be quite limited. Revenue from competitive and organized groups is the greater of \$105.00 or \$5.00 per person per day.

To estimate revenues from other SRP uses, when the consultant team developed the original strategy they utilized the average SRP revenues generated at Red Rock Canyon NCA per visitor for FY 2014 of approximately \$0.12 per visitor. Since there are far more SRP uses at Red Rock Canyon NCA and considering that this analysis already projected SRP revenues separately for guided tours, we reduced the average spending per visitor on SRPs by 50% for Sloan Canyon (or \$0.06 per visitor), then multiplied the average SRP spending by total annual visitation to the NCA.

The following exhibit summarizes projected revenues for Sloan Canyon NCA over the 20-year period of 2020 to 2039 (no revenues are generated in the interim period 2015-2019). These revenues are those that the BLM would receive directly.

### Sloan Canyon NCA Revenue Projections

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Petroglyph Canyon Fee	\$22,700	\$46,200	\$70,700	\$73,900	\$77,200	\$80,700	\$84,400	\$88,200	\$92,200	\$96,300
SRP for Guide	\$500	\$1,100	\$1,700	\$1,800	\$1,800	\$1,900	\$2,000	\$2,100	\$2,200	\$2,300
SRP Other	\$6,100	\$6,600	\$7,200	\$7,600	\$7,900	\$8,300	\$8,700	\$9,100	\$9,500	\$10,000
<b>Total Rev.</b>	<b>\$29,200</b>	<b>\$53,900</b>	<b>\$79,600</b>	<b>\$83,200</b>	<b>\$87,000</b>	<b>\$90,900</b>	<b>\$95,100</b>	<b>\$99,400</b>	<b>\$103,900</b>	<b>\$108,600</b>
	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Petroglyph Canyon Fee	\$100,700	\$105,200	\$109,900	\$114,900	\$120,100	\$125,500	\$131,200	\$137,100	\$143,300	\$149,800
SRP for Guide	\$2,400	\$2,500	\$2,600	\$2,700	\$2,900	\$3,000	\$3,100	\$3,300	\$3,400	\$3,600
SRP Other	\$10,500	\$11,000	\$11,600	\$12,100	\$12,700	\$13,400	\$14,100	\$14,800	\$15,600	\$16,400
<b>Total Rev.</b>	<b>\$113,500</b>	<b>\$118,700</b>	<b>\$124,100</b>	<b>\$129,800</b>	<b>\$135,700</b>	<b>\$141,900</b>	<b>\$148,400</b>	<b>\$155,200</b>	<b>\$162,300</b>	<b>\$169,700</b>

This exhibit indicates that the largest source of projected revenue is from the Special Area Permit or ticket fee to enter the Petroglyph Management Area. The assumed Special Area Permit fee of \$5.00 is charged to all visitors accessing the Petroglyph Management Area. The revenues associated with the SRP for guide service on weekends into Petroglyph Management Area were estimated by applying a rate 3.0% of the estimated total gross revenues generated by this service. Finally, SRP revenues for all other services were estimated by applying the adjusted average SRP spending per visitor based on spending per visitor at Red Rock Canyon NCA.

#### **B. SLOAN CANYON NATIONAL CONSERVATION AREA FUNDING SOURCES**

The funding sources available to Sloan Canyon NCA to fund operations and capital improvements primarily consist of the following:

- Sloan's Special Legislation Account Funding
- Other Potential Funding Sources:
  - Southern Nevada Public Land Management Act (SNPLMA)
  - BLM's Management of Land and Resources (MLR) appropriation
  - Other specific appropriation
  - Partner funding

The following describes each of these funding sources and their relevance for funding operations and capital improvements within the NCA.

#### **Special Account Funding**

In establishing Sloan Canyon NCA, Congress authorized the sale of roughly 500 acres of federal land within Clark County, Nevada, in 2002. The Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282) specified that 95% of the proceeds from the sale of these lands (also known as Tract A lands):

. . . shall be deposited in the special account established under the Southern Nevada Public Lands Management Act of 1998 (or Public Law 105–263; 112 Stat. 2345), to be available to the Secretary, without further appropriation for:

- (a) The construction and operation of facilities to support the management of the Conservation Area;
- (b) The construction and repair of trails and roads in the Conservation Area authorized under the management plan;
- (c) Research on and interpretation of the archaeological and geological resources of the Conservation Area;
- (d) Conservation and research relating to the Conservation Area; and
- (e) Any other purpose that the Secretary determines to be consistent with the purpose described in section 602.

In November, 2003 the parcel identified as Tract A was sold and the net revenue of \$63,175,000.00 was credited to what is now fund code XXXL52325L. In that same year, task order number NAD030071, in the amount of \$1.9 million, was awarded to Booz-Allen Hamilton. The objective of the task order was to produce a management plan for Sloan Canyon National Conservation Area (NCA). Since the NOC did not receive a copy of this document it is not able to comment on whether or not it included any information on investment or funding strategies. However, on July 14, 2017 the NOC did receive an excerpt from the Sloan Canyon NCA Implementation Management Strategy. This document was finalized by BLM Nevada in 2015 and they are in the process of updating parts of the strategy. Specifically, the part related to the interest earned on the Sloan Canyon investments. As of June 30<sup>th</sup>, the total interest collected was \$10.9 million and there were outstanding investments of \$60.5 million. The total disbursements were \$13.3 million, which means that the disbursements have exceeded the interest collected by \$2.4 million.

The NOC has reviewed the before mentioned excerpt and the following information was extracted from it. In summary, the consultant team judges that using Special Account funds would be the simplest and most straightforward means of funding facility capital improvements and operations. In addition, such use of funds is clearly permitted under the laws governing the account and appears to be the objective of establishing the Special Account in the first place. Yet, using the Special Account to fund capital improvements would also reduce the funds' principle and reduce future interest income that would otherwise have been generated by these funds. If the fund balance of \$63,245,000 was fully invested in Treasury Notes with a maturity of 5 years, earning an annual yield of 1.29%, the annual interest income would be \$815,900 instead of \$44,300.

Their judgment on the use of the Special Account funds has been a given since the law was enacted in 2002. As far as reducing the funds' principle in order to fund capital improvements



goes, the intent of the law was to fund the items listed in Section 606 of Title VI, not to maximize the interest earned. The NOC would be more than willing to invest whatever BLM Nevada wants in a 3-year U. S. Treasury Note as long as there are adequate funds available to cover the needs of the Special Account for that three year period. When the NOC invested in U. S. Treasury Notes in FY 2004 and FY 2005 there was not any information provided about the future needs of the Special Account so it was decided to stick with the U. S. Treasury Bills. The recent e-mail provided more information on the capital improvement spending requirements over the next three years than has been received since the law was enacted.

The July 20, 2017 cash balance is \$484,872.01 and there are outstanding commitments and obligations of \$963,420.06. The 2017 disbursements through June are \$649,836.09 and the NOC will be redeeming a \$10 million investment in September 2017. It is assumed that the capital improvement expenditures will begin in FY 2018, so the \$10 million will be re-invested for six months. During the first quarter of FY 2018 there will be two investments redeemed for a total amount of \$50 million. If the NOC invested \$40 million in a 3-year U. S. Treasury Note, using the current rate of 1.55%, there would be \$620,000.00 in interest collected annually, which would be nowhere near the \$1.5 million in projected operations costs that will be needed beginning in FY 2020. An interest rate of 3.75% would be required for an investment of \$40 million to produce \$1.5 million in interest a year.

### **Other Funding Sources**

The following are other funding sources that could possibly be used to fund NCA operations and capital improvements.

#### ***Southern Nevada Public Land Management Act (SNPLMA)***

SNPLMA allows the BLM to sell public land within a boundary around Las Vegas. Proceeds from sale of these lands are then made available for certain types of projects that are approved by the Secretary of the Interior. Authorized uses for SNPLMA funds that Sloan Canyon NCA is eligible for include:

- Capital improvements
- Conservation initiatives
- Environmentally sensitive land acquisitions

The MLR appropriation represents BLM's largest regular source of funding and provides funding for a wide range activities, services and areas including funding for NCAs. Specifically, MLR provides funds for operating programs such as energy and minerals development, protection of lands and resources, land use planning, management of wildlife, grazing, use authorizations of public lands, recreation, surveys and other programs. MLR funding could be used to fund ongoing operations at Sloan Canyon NCA, however, with the existence and availability of

Special Account funds, the BLM has indicated that securing and receiving MLR funding would be a challenge. This is particularly true since MLR funding has reportedly been significantly constrained in the post-recessionary period. Therefore, it appears that MLR funding would only be a potential option if the Special Account balance fell below that required to sustain NCA operations and alternative funding sources were required. Given this judgment, it appears that one strategy would be for BLM to develop and operate Sloan Canyon NCA using Special Account funds until those funds are depleted, then request MLR funding to support ongoing operations within the NCA.

**Partner Funding**

The ability of partners to contribute funding for either capital improvements or operations is largely a function of the partners’ funding capabilities. Although partner organizations such as Friends of Sloan Canyon, Nevada Rock Art Foundation, Great Basin Institute, and others are actively involved and interested in the NCA, most are non-profit organizations with limited funding ability. This is particularly true in the post-recessionary era where grant funding and fundraising have become significantly limited, resulting in reduced resources for most non-profit organizations. Instead, the contributions that these partners can make includes contributing volunteer labor, marketing and public outreach services which are incredibly valuable and ultimately help reduce costs that the NCA might otherwise incur.

**C. FINANCIAL PROJECTIONS AND RECOMMENDATIONS**

**Financial Projections**

This subsection presents the financial projections based on the assumptions and judgments described throughout this implementation strategy. The following exhibit summarizes the projected revenues, operating costs, initial and ongoing capital costs, Special Account interest yields, the resulting cash flows, and the Special Account balance at the start of each year starting 2018 to 2039.

**Financial Projection Estimates for Sloan Canyon NCA, 2018-2039**

	Total Revenue	Operating Costs	Capital Costs	SA Interest Yields/ Income	Cash Flow	SA Balance at Start of Year
2018	\$0	\$1,454,064	\$9,876,625	\$44,900	(\$11,285,789)	\$59,771,420
2019	\$0	\$1,363,259	\$3,522,842	\$37,700	(\$4,848,401)	\$48,542,141
2020	\$29,200	\$1,265,041	\$0	\$34,400	(\$1,201,441)	\$43,752,946
2021	\$53,900	\$1,296,667	\$25,000	\$33,600	(\$1,234,167)	\$42,550,427
2022	\$79,600	\$1,329,084	\$25,600	\$32,700	(\$1,242,384)	\$41,315,153
2023	\$83,200	\$1,362,310	\$26,300	\$31,900	(\$1,273,510)	\$40,071,639
2024	\$87,000	\$1,396,368	\$26,900	\$31,000	(\$1,305,268)	\$38,796,966
2025	\$90,900	\$1,431,277	\$27,600	\$30,100	(\$1,337,877)	\$37,490,507

	Total	Operating Costs	Capital Costs	SA Interest Yields/	Cash Flow	SA Balance at Start of Year
2026	\$95,100	\$1,467,059	\$28,300	\$29,200	(\$1,371,059)	\$36,151,411
2027	\$99,400	\$1,503,736	\$29,000	\$28,200	(\$1,405,136)	\$34,779,101
2028	\$103,900	\$1,541,329	\$29,700	\$27,200	(\$1,439,929)	\$33,372,683
2029	\$108,600	\$1,541,329	\$30,500	\$26,200	(\$1,437,029)	\$31,969,973
2030	\$113,500	\$1,579,863	\$31,200	\$25,200	(\$1,472,363)	\$30,494,026
2031	\$118,700	\$1,619,359	\$32,000	\$24,100	(\$1,508,559)	\$28,981,774
2032	\$124,100	\$1,659,843	\$32,800	\$23,100	(\$1,545,443)	\$27,432,329
2033	\$129,800	\$1,701,339	\$33,600	\$22,000	(\$1,583,139)	\$25,840,317
2034	\$135,700	\$1,743,873	\$34,500	\$20,800	(\$1,621,873)	\$24,214,795
2035	\$141,900	\$1,787,149	\$35,300	\$19,700	(\$1,660,849)	\$22,552,781
2036	\$148,400	\$1,831,554	\$36,200	\$18,500	(\$1,700,854)	\$20,854,389
2037	\$155,200	\$1,877,002	\$37,100	\$17,300	(\$1,741,602)	\$19,147,454
2038	\$162,300	\$1,973,031	\$38,000	\$16,000	(\$1,832,731)	\$17,308,400
2039	\$169,700	\$2,022,358	\$39,000	\$14,800	(\$1,876,858)	\$15,473,985

#### ***Use of Partnerships to Support BLM Staff***

The use of labor contributions from partner organizations, particularly the use of volunteer labor, presents an important opportunity to engage the community and stakeholder groups, while helping to augment BLM staffing within the NCA. The use of partner labor provides an opportunity for the NCA to reduce operating costs and/or expand capacity. In this context, partnerships also include the use of commercial service providers operating within the NCA. Due to the proximity of the NCA to a major metropolitan area, there appear to be many partnership possibilities. The following are the likely partnership candidates and the potential roles of each:

- **Outfitters and Guides.** These are private enterprises licensed to operate within the NCA that the BLM can use for the following services:
  - Provide guide service in Petroglyph Canyon Management Area
  - Deliver interpretive information to visitors
  - Participate in maintenance of trails
  - Resource monitoring
  - Public outreach and marketing of the NCA



- **Friends of Sloan Canyon.** This is a local grassroots organization with over 400 members dedicated to the conservation and enjoyment of Sloan Canyon. Members of the Friends of Sloan Canyon have already expressed an interest and willingness in providing volunteer labor to support the NCA.
  - Provide guide service in Petroglyph Canyon Management Area
  - Deliver interpretive information
  - Participate in maintenance of trails
  - Marketing of the NCA
  - Assist staffing contact station
  - Provide a source for volunteer labor
- **Nevada Rock Art Foundation.** The Nevada Rock Art Foundation is a non-profit organization which actively promotes the protection and conservation of prehistoric petroglyphs in Nevada and surrounding areas. The Foundation focuses and developing and implementing programs that improve archaeological knowledge of petroglyphs and raise public awareness of the significance and importance of these cultural resources. Members of the Rock Art Foundation have also expressed an interest and willingness in providing volunteer labor to support the NCA.
  - Provide guide service in Petroglyph Canyon Management Area
  - Deliver interpretive information
  - Inventory and monitoring of cultural resources
  - Site stewardship
- **Southern Nevada Rock Art Association (SNRAA).** This nonprofit organization was established with the objective of providing free educational/interpretive programs to the public and assisting local government agencies in the study, preservation and protection of petroglyphs in Southern Nevada.
  - Provide guide service in Petroglyph Canyon Management Area
  - Deliver interpretive information
  - Inventory and monitoring of cultural resources
  - Site stewardship
  - Possibly guided hikes into Petroglyph Canyon

- **Great Basin Institute.** This nonprofit organization seeks to promote environmental research, education, and conservation throughout the western United States. The Institute also has the objective of promoting ecological/environmental literacy and habitat restoration through educational outreach and direct service programs. The Great Basin Institute is reported to be active within the NCA, assisting with trail maintenance/development programs.
  - Deliver interpretive information to clients
  - Participate in construction and maintenance of trails
  - Biological and ecological resource monitoring
  - Marketing of the NCA
  - User surveys and monitoring
  - Visitor center/contact station management
- **Henderson Trail Watch.** This is a City volunteer organization whose members promote safety and appropriate trail use on Henderson trails by providing information and assistance to all trail users and by observing and documenting safety issues/concerns.
  - Advocate for safe, responsible trail use
  - Participate in construction and maintenance of trails

The partnerships in support of BLM Staff are not limited to the above mentioned.

**NOTE:** Chapters 1 and 2 contain data that was analyzed during the preliminary development phase of the Sloan Canyon Implementation and Management Strategy. Visitation analyzed between 2009 and 2013 indicate an upward projection of future visitation demand. Visitation numbers between 2014 through 2018 have not been analyzed.

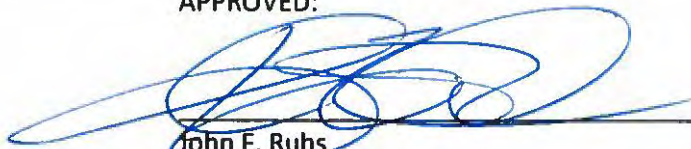
## Approval

The State Director hereby approves the Sloan Canyon Implementation and Management Strategy for the Clark County Conservation of Public Land and Natural Resources Act of 2002 (P.L. 107-282).

Annual administration and operating expenses identified in this strategy will continue to follow the Planning Target Allocation (PTA) and Annual Work Plan (AWP) budgeting process. Additional budget authority, one-time add-ons, or other special budget requests will be administered through the AWP process.

Approval of the Business Plan, the expenditure categories and staff positions herein will not be construed as final approval for any particular expenditure or staff position.

APPROVED:



John F. Ruhs  
Nevada State Director

26 April 2018

date



## **APPENDIX A**

### **DETAILED BUDGETARY COST ESTIMATES**

**Petroglyph Canyon Entry Area Work Previously Conducted**

Item	Qty	Unit	Unit Cost	Total	Notes
<b>Entry Road, Bike Trail, Utilities and Edge Fencing</b>					
30' road section with 3' gravel shoulders	4140	LF	\$220.00	\$ 910,800.00	Grading, 5" asphalt over 12" road base, striping, misc. signs
Entry gate with stone pillars	1	Allow	\$35,000.00	\$ 35,000.00	Locking Gate
Misc. grading including cut and fill	300000	5F	\$0.60	\$ 180,000.00	Total site area approx. 7 acres
Asphalt parking	3260	5Y	\$65.00	\$ 211,900.00	Grading, 5" asphalt over 12" road base,
24' loop road with 3' shoulders	645	LF	\$105.00	\$ 67,725.00	Striping - 20 spaces Grading, 5" asphalt over 12" road base, striping
Drainage	1	Allow	\$50,000.00	\$ 50,000.00	3' x 4' box culverts under
Curb stops	20	EA	\$175.00	\$ 3,500.00	road and trail + rock swale
Misc regulatory and Primary ID sign	1	Allow	\$20,500.00	\$ 20,500.00	
<b>Total</b>				<b>\$ 1,479,425.00</b>	

**Note:** The above table reflects items that were conducted during an Interagency Agreement with the United States Corps of Engineers.

**Petroglyph Canyon Entry Area Future Contract**

Item	Qty	Unit	Unit Cost	Total	Notes
<b>Entry Road, Bike Trail, Utilities and Edge Fencing</b>					
Low 2-rail fence both sides	8100	LF	\$30.00	\$ 243,000.00	Wood
Roadside revegetation	162800	SF	\$0.70	\$ 113,960.00	Soil amendment, grading, reseed and some shrub groups for 20' each side of road
Trail road crossing special pavement	300	SF	\$14.00	\$ 4,200.00	At Power line Trail
Drainage	1	Allow	\$50,000.00	\$ 50,000.00	Utilities needs to be researched with utility providers
Water utility and lift station	4600	LF	\$210.00	\$ 966,000.00	Utility costs include permits and apparatuses needed for installation.
Sewer Line	4600	LF	\$123.00	\$ 565,800.00	
Electrical and Cable service	4600	LF	\$195.00	\$ 897,000.00	
<b>Subtotal</b>				<b>\$ 2,839,960.00</b>	
<b>Overlot Grading, Parking and Loop Road</b>					
Misc. grading including cut and fill	300000	SF	\$0.60	\$ 180,000.00	Total site area approx. 7 acres
Asphalt parking	4460	SY	\$65.00	\$ 289,900.00	Grading, 5" asphalt over 12" road base
Loop road with 3' shoulders	60	EA	\$250.00	\$ 15,000.00	Striping - 60 spaces and two buses Grading, 5" asphalt over 12" road base, striping
Drainage	1	Allow	\$50,000.00	\$ 50,000.00	3' x 4' box culverts and diversion
Curb stops	60	EA	\$175.00	\$ 10,500.00	road and trail + rock swale
Parking lot lights	9	EA	\$4,500.00	\$ 40,500.00	
Misc regulatory signs	1	Allow	\$5,500.00	\$ 5,500.00	
<b>Subtotal</b>				<b>\$ 591,400.00</b>	
<b>Pedestrian Pavements and Trails</b>					
Vicinity of Main Use Area					
Integral color concrete	5800	SF	\$10.50	\$ 60,900.00	5" with fibermesh
Special colored concrete paving with scoring	10040	SF	\$12.00	\$ 120,480.00	5" with fibermesh
Decomposed granite	4400	SF	\$5.50	\$ 24,200.00	trail connections and around visitor center
<b>Subtotal</b>				<b>\$ 205,580.00</b>	



<b>Signs, Site Furnishings, Fencing and Shelters</b>						
ID/Wayfinding sign at Democracy Road	1	Allow	\$8,000.00	\$	8,000.00	
Benches	8	EA	\$900.00	\$	7,200.00	
Trash receptacles	6	EA	\$500.00	\$	3,000.00	
Bollard lighting	14	EA	\$1,500.00	\$	21,000.00	Bollard lighting placed along front of building in lieu of pedestrian lights.
Picnic shelters	3	EA	\$30,000.00	\$	90,000.00	15 x 15 w/ concrete pad
Picnic tables	6	EA	\$1,200.00	\$	7,200.00	
Bike rack	2	EA	\$1,000.00	\$	2,000.00	
Trash enclosure	1	EA	\$14,000.00	\$	14,000.00	Concrete block with wood gate and concrete pad metal posts and 3 wires.
Property edge fencing	2600	LF	\$30.00	\$	78,000.00	500' to west and 2100' to east
Enhanced fencing	1740	LF	\$40.00	\$	69,600.00	Three (3) rail fence with 20 stone columns around main use area.
<b>Subtotal</b>				\$	<b>300,000.00</b>	
<b>Landscape Areas</b>						
Revegetation of disturbed areas	1	Allow	\$51,930.00	\$	51,930.00	
Enhanced landscape plantings	130680	SF	\$1.00	\$	130,680.00	
<b>Subtotal</b>				\$	<b>182,610.00</b>	
<b>Buildings</b>						
Contact station with staffing facilities	3000	SF	\$400.00	\$	1,200,000.00	
Architectural Security Barriers with exhibits	4	EA	\$75,000.00	\$	300,000.00	
Indoor interpretive signs/exhibits	1	Allow	\$150,000.00	\$	150,000.00	
<b>Subtotal</b>				\$	<b>1,650,000.00</b>	
<b>Pedestrian Pavements and Trail</b>						
Loop Trail with interpretive panels	3000	LF	\$55.00	\$	165,000.00	
<b>Subtotal</b>				\$	<b>165,000.00</b>	
<b>Signs, Site Furnishings, Fencing and Shelters</b>						
Overlook pavilion	1	EA	\$55,000.00	\$	55,000.00	10 x 10 w/ DG pad includes low rock seating
<b>Subtotal</b>				\$	<b>55,000.00</b>	
<b>Amphitheater and Outdoor Exhibits</b>						
Decomposed granite surface	4300	SF	\$5.50	\$	23,650.00	
Seating	140	LF	\$200.00	\$	28,000.00	
Stage Area	375	SF	\$120.00	\$	45,000.00	
Custom Shade Shelter	1	Allow	\$120,000.00	\$	120,000.00	
Electrical outlets and minimum lighting	1	Allow	\$40,000.00	\$	40,000.00	
Outdoor interpretive signs/exhibits	1	Allow	\$520,000.00	\$	520,000.00	
<b>Subtotal</b>				\$	<b>776,650.00</b>	
<b>Grand Total Completed/Future Construction Budget</b>				\$	<b>8,245,625.00</b>	

## BLM Sloan Canyon Hidden Valley Trailhead

Item	Qty	Unit	Unit Cost	Total	Notes
<b>Entry Road and Utilities</b>					
Grade 15' road section (as needed)	26,400	LF	\$15.00	\$ 396,000	grading, 5" road base, misc. signs
Low 2-rail fence both sides	1000	LF	\$30.00	\$ 30,000	wood
Roadside revegetation	50,000	SF	\$0.70	\$ 35,000	soil amendment, grading, reseed and some shrub groups for 20' each side of road
Entry gate	1	Allow	\$15,000.00	\$ 15,000.00	auto lock gate
Drainage	1	Allow	\$10,000.00	\$ 10,000.00	
<b>Subtotal</b>				<b>\$ 486,000.00</b>	
<b>Overlot Grading, Parking and Loop Road</b>					
Misc. grading	87500	SF	\$0.60	\$ 52,500.00	total site area approx. 2 acres
Stabilized road base parking	2080	SY	\$15.00	\$ 31,200.00	grading, road base - 30 space and 4 truck/trailer
24' loop road with 3' shoulders	910	LF	\$210.00	\$ 191,900.00	grading, road base
Drainage	1	Allow	\$50,000.00	\$ 50,000.00	
Curb stops	30	EA	\$175.00	\$ 5,250.00	
Misc regulatory signs	1	Allow	\$2,000.00	\$ 2,000.00	
<b>Subtotal</b>				<b>\$ 332,850.00</b>	
<b>Pedestrian Pavements and Trails</b>					
Integral color concrete	800	SF	\$10.50	\$ 8,400.00	5" with fibermesh around vault toilet and bike rack
Decomposed granite	2800	SF	\$5.50	\$ 15,400.00	trails and space between vault toilet and kiosk
<b>Subtotal</b>				<b>\$ 23,800.00</b>	
<b>Signs, Site Furnishings, Fencing and Shelters</b>					
ID sign	1	Allow	\$7,000.00	\$ 7,000.00	
Benches	1	EA	\$900.00	\$ 900.00	
Bollards	4	EA	\$1500.00	\$ 6,000.00	stone with one steel removable
Picnic shelters	1	EA	\$30,000.00	\$ 30,000.00	15 x 15 w/ concrete pad
Picnic tables	2	EA	\$1,200.00	\$ 2,400.00	
Bike rack	1	EA	\$1,000.00	\$ 1,000.00	
Horse tie downs	5	EA	\$2,000.00	\$ 10,000.00	low wood posts and rails - natural ground surface in this area (3600 SF)
Trail gate	1	EA	\$4,500.00	\$ 4,500.00	
Low 2-rail fence	1360	LF	\$12.00	\$ 16,320.00	wood
<b>Subtotal</b>				<b>\$ 78,120.00</b>	
<b>Landscape Areas</b>					
Revegetation of disturbed areas	1	Allow	\$35,000.00	\$ 35,000.00	
Enhanced landscape plantings	15000	SF	\$1.00	\$ 15,000.00	
<b>Subtotal</b>				<b>\$ 50,000.00</b>	
<b>Outdoor Exhibits</b>					
Kiosk	1	Allow	\$8,000.00	\$ 8,000.00	
Outdoor interpretive signs/exhibits	1	Allow	\$15,000.00	\$ 15,000.00	
<b>Subtotal</b>				<b>\$ 23,000.00</b>	
<b>Buildings</b>					
Vault Restroom	1	EA	\$70,000.00	\$ 70,000.00	men and women's
<b>Subtotal</b>				<b>\$ 70,000.00</b>	
<b>Grand Total Construction Budget</b>				<b>\$ 1,063,770.00</b>	

**BLM Sloan Canyon Dutchman Pass Access Point Trailhead**

Item	Qty	Unit	Unit Cost	Total	Notes
<b>Entry Road and Utilities</b>					
Roadside revegetation	12,000	SF	\$0.70	\$ 8,400.00	soil amendment, grading, reseed and some shrub groups for 20' each side of road
Entry gate	1	Allow	\$35,000.00	\$ 35,000.00	auto lock gate
Drainage	1	Allow	\$15,000.00	\$ 15,000.00	
Water tap and meter installation	1	Allow	\$5,000.00	\$ 5,000.00	cost for water tap unknown
3" water line	670	LF	\$120.00	\$ 80,400.00	
Fire Hydrant	1	Allow	\$10,000.00	\$ 10,000.00	
Electrical service	1	Allow	\$30,000.00	\$ 30,000.00	This needs to be researched with utility provider
Sanitary sewer	300	LF	\$123.00	\$ 36,900.00	
Manholes	3	EA	\$5,000.00	\$ 15,000.00	
<b>Subtotal</b>				<b>\$ 235,700.00</b>	
<b>Overlot Grading, Parking and Loop Road</b>					
Misc. grading	2	AC	\$8,750.00	\$ 17,500.00	total site area approx. 2 acres
Asphalt parking	2080	SY	\$65.00	\$ 135,200.00	grading, 5" asphalt over 12" road base, striping - 30 space and 4 truck/trailer
24' loop road with 3' shoulders	520	LF	\$210.00	\$ 109,200.00	grading, 5" asphalt over 12" road base, striping
Drainage	200	LF	\$123.00	\$ 24,600.00	
Curb stops	30	EA	\$175.00	\$ 5,250.00	
Parking lot lights	8	EA	\$4,500.00	\$ 36,000.00	
Misc regulatory signs	1	Allow	\$2,000.00	\$ 2,000.00	
<b>Subtotal</b>				<b>\$ 329,750.00</b>	
<b>Pedestrian Pavements and Trails</b>					
Integral color concrete	3600	SF	\$10.50	\$ 37,800.00	5" with fibermesh
Decomposed granite	1600	SF	\$5.50	\$ 8,800.00	8' wide 200' connection w/ minimal grading required
<b>Subtotal</b>				<b>\$ 46,600.00</b>	
<b>Signs, Site Furnishings, Fencing and Shelters</b>					
ID sign	1	Allow	\$7,000.00	\$ 7,000.00	
Benches	1	EA	\$900.00	\$ 900.00	
Trash receptacles	2	EA	\$500.00	\$ 1,000.00	
Bollards	8	EA	\$800.00	\$ 6,400.00	stone with one steel removable
Picnic shelters	1	EA	\$30,000.00	\$ 30,000.00	15 x 15 w/ concrete pad
Picnic tables	2	EA	\$1,200.00	\$ 2,400.00	
Bike rack	1	EA	\$1000.00	\$ 1000.00	
Horse tie downs	5	EA	\$2,000.00	\$ 10,000.00	low wood posts and rails - natural ground surface in this area (3600 SF)
Low 2-rail fence	910	LF	\$12.00	\$ 10,920.00	wood
<b>Subtotal</b>				<b>\$ 69,620.00</b>	
<b>Landscape Areas</b>					
Revegetation of disturbed areas	1	Allow	\$15,000.00	\$ 15,000.00	
Enhanced landscape plantings	1500	SF	\$1.00	\$ 15,000.00	
<b>Subtotal</b>				<b>\$ 30,000.00</b>	
<b>Outdoor Exhibits</b>					
Kiosk	1	Allow	\$8,000.00	\$ 8,000.00	
Outdoor interpretive signs/exhibits	1	Allow	\$15,000.00	\$ 15,000.00	
<b>Subtotal</b>				<b>\$ 23,000.00</b>	
<b>Buildings</b>					
Restroom	400	SF	\$300.00	\$ 120,000.00	
<b>Subtotal</b>				<b>\$ 120,000.00</b>	
<b>Grand Total Construction Budget</b>					
				<b>\$ 854,670.00</b>	



**BLM Sloan Canyon Quo Vadis Trailhead**

Item	Qty	Unit	Unit Cost	Total	Notes
<b>Entry Road and Utilities</b>					
Entry gate	1	Allow	\$35,000.00	\$ 35,000.00	auto lock gate
<b>Subtotal</b>				<b>\$ 35,000.00</b>	
<b>Overlot Grading, Parking and Loop Road</b>					
Misc. grading	2	AC	\$8,750.00	\$ 17,500.00	total site area approx. 2 acres grading, road base - 30 space and 4 truck/trailer grading, road base, non-asphalt
Stabilized road base parking	2080	SY	\$15.00	\$ 31,200.00	
24' loop road with 3' shoulders	520	LF	\$96.00	\$ 49,920.00	
Drainage	1	Allow	\$15,000.00	\$ 15,000.00	
Curb stops	30	EA	\$175.00	\$ 5,250.00	
Misc regulatory signs	1	Allow	\$2,000.00	\$ 2,000.00	
<b>Subtotal</b>				<b>\$ 120,870.00</b>	
<b>Pedestrian Pavements and Trails</b>					
Integral color concrete	800	SF	\$10.50	\$ 8,400.00	5" with fibermesh around vault toilet and bike rack
Decomposed granite	2180	SF	\$5.50	\$ 11,990.00	trail entry by kiosk
<b>Subtotal</b>				<b>\$ 20,390.00</b>	
<b>Signs, Site Furnishings, Fencing and Shelters</b>					
ID sign	1	Allow	\$7,000.00	\$ 7,000.00	
Benches	1	EA	\$900.00	\$ 900.00	
Bollards	4	EA	\$800.00	\$ 3,200.00	stone with one steel removable
Picnic shelters	1	EA	\$30,000.00	\$ 30,000.00	15 x 15 w/ concrete pad
Picnic tables	2	EA	\$1,200.00	\$ 2,400.00	
Bike rack	1	EA	\$1000.00	\$ 1000.00	
Horse tie downs	5	EA	\$2,000.00	\$ 10,000.00	low wood posts and rails - natural ground surface in this area (3600 SF)
Trail gate	1	EA	\$4,500.00	\$ 4,500.00	
Low 2-rail fence	1080	LF	\$12.00	\$ 12,960.00	wood
<b>Subtotal</b>				<b>\$ 71,960.00</b>	
<b>Landscape Areas</b>					
Revegetation of disturbed areas	1	Allow	\$15,000.00	\$ 15,000.00	
Enhanced landscape plantings	15000	SF	\$1.00	\$ 15,000.00	
<b>Subtotal</b>				<b>\$ 30,000.00</b>	
<b>Outdoor Exhibits</b>					
Kiosk	1	Allow	\$8,000.00	\$ 8,000.00	
Outdoor interpretive signs/exhibits	1	Allow	\$8,000.00	\$ 8,000.00	
<b>Subtotal</b>				<b>\$ 16,000.00</b>	
<b>Buildings</b>					
Vault Restroom	1	EA	\$70,000.00	\$ 70,000.00	men and women's
<b>Subtotal</b>				<b>\$ 70,000.00</b>	
<b>Grand Total Construction Budget</b>				<b>\$ 364,220.00</b>	

**NOTES:**

- 1 - The cost estimates are conceptual in nature and are appropriate for strategic planning, business development, project screening, alternative scheme analysis, confirmation of technical and/or economic feasibility, and preliminary approval to proceed.
- 2 - Contract labor costs are derived from Market Research, 2017 RS Means Construction Cost Data, and previous Corps of Engineer contract.
- 3 - Cost does not include a contingency (typically 10-20%) that the customer shall plan for as part of this budget.
- 4 - All costs are presented in 2017 dollars and taxes are included in unit prices.

# **Sloan Canyon**

## **National Conservation Area**

Phone: 702-515-5350

Bureau of Land Management

Southern Nevada District

Red Rock/Sloan Field Office

4701 Torrey Pines Dr.

Las Vegas, NV 89130

April 2018

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