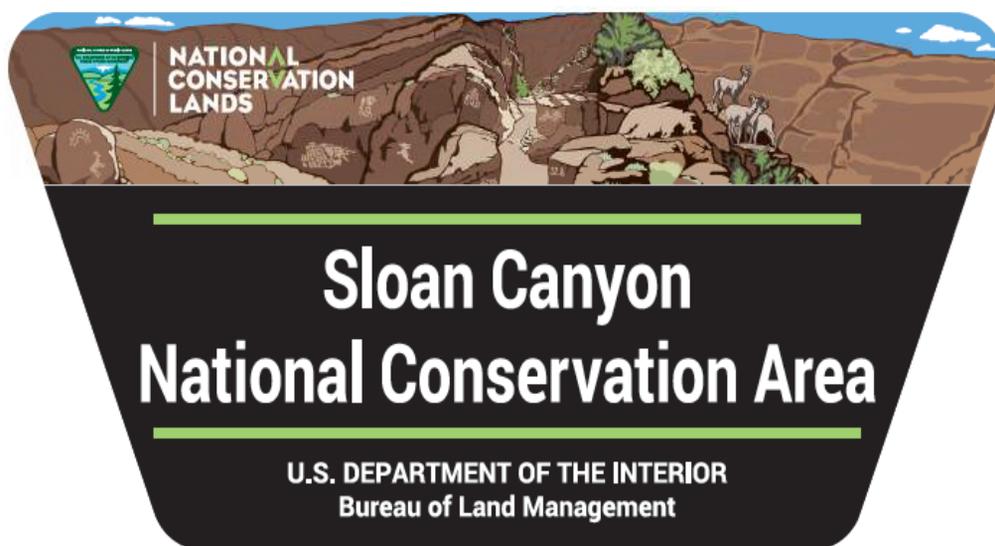


**U.S. Department of the Interior
Bureau of Land Management**

Environmental Assessment

**Right-of-Way Renewal and Amendment for
Construction of an Access Road and Temporary Contact
Station, Sloan Canyon National Conservation Area**

**DOI-BLM-NV-S020-2015-0008-EA
N-78443**



PREPARING OFFICE

U.S. Department of the Interior
Bureau of Land Management
Red Rock/Sloan Field Office
Las Vegas, Nevada



Table of Contents

1.0 Introduction	1
1.1 Identifying Information and Preparing Office	1
1.2 Background	1
1.3 Project Location.....	2
1.4 Proposed Action	4
1.5 Purpose and Need.....	4
1.6 Decision to Be Made	4
1.7 Scoping and Public Involvement.....	5
2.0 Proposed Action and Alternatives	5
2.1 Elements Common to Action Alternatives	5
2.1.1 Roadway and Vehicle Turnaround/Parking Lot Design.....	5
2.1.2 Roadway Alignment	6
2.1.3 Roadway Construction and Best Management Practices	6
2.1.4 Restoration of Disturbed Areas	6
2.1.5 Contact Station and Temporary Amenities	9
2.1.6 Visitor and Resource Management	9
2.1.7 Maintenance	9
2.2 Alternative 1 (Proposed Action)	10
2.3 Alternative 2 (Partial Ridge Alternative)	10
2.4 Alternative 3 (No Action Alternative)	10
2.5 Alternative Considered but not Analyzed in Detail	10
2.6 Conformance.....	11
3.0 Affected Environment.....	12
3.1 Biological Resources	16
3.1.1 Vegetation.....	16
3.1.2 Invasive Species/Noxious Weeds	16
3.1.3 Fish and Wildlife Excluding Federally Listed Species	17
3.1.4 Federally Threatened, Endangered Proposed, or Candidate Animal Species and Critical Habitat	18
3.1.5 Migratory Birds.....	18
3.2 Soils	19
3.3 Water Resources/Quality (drinking/surface/ground).....	19
3.4 Recreation for Public Land managed by the BLM under the Sloan Canyon Resource Management Plan.	20

3.5 Visual Resources for Public Land managed by the BLM under the Sloan Canyon Resource Management Plan.	21
3.6 National Landscape Conservation System	21
4.0 Environmental Consequences.....	21
4.1 Biological Resources	21
4.1.1 Vegetation.....	21
4.1.2 Invasive Species/Noxious Weeds	25
4.1.3 Fish and Wildlife Excluding Federally Listed Species	26
4.1.4 Federally Threatened, Endangered, Proposed, or Candidate Animal Species and Critical Habitat	27
4.1.5 Migratory Birds	28
4.2 Soils	29
4.3 Water Resources/Quality (drinking/surface/ground).....	30
4.4 Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)	31
4.5 Visual Resources - (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)	32
4.6 National Landscape Conservation System	33
5.0 Cumulative Impacts.....	34
5.1 Vegetation	35
5.2 Invasive Species/Noxious Weeds	36
5.3 Fish and Wildlife Excluding Federally Listed Species	37
5.4 Federally Threatened, Endangered, Proposed, or Candidate Animal Species and Critical Habitat.....	37
5.5 Migratory Birds	38
5.6 Soils	39
5.7 Water Resources/Quality (drinking/surface/ground).....	39
5.8 Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)	39
5.9 Visual Resources - (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)	40
5.10 National Landscape Conservation System	40
6.0 Mitigation Measures	41
6.1 Vegetation	41
6.2 Invasive Species/Noxious Weeds.....	41
6.3 Fish and Wildlife Excluding Federally Listed Species.....	42
6.4 Federally Threatened, Endangered, Proposed, or Candidate Animal Species and Critical Habitat.....	43
6.5 Migratory Birds	43

6.6 Soils	44
6.7 Water Resources/Quality (drinking/surface/ground).....	44
6.8 Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)	44
6.9 Visual Resources - (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)	44
6.10 National Landscape Conservation System	44
7.0 List of Preparers.....	44
8.0 Tribes, Individuals, Organizations, or Agencies Consulted	46
8.1 City of Henderson.....	46
8.2 Tribes	46
9.0 References.....	47

Figures

Figure 1: Nawghaw Poa Road Location Map	3
Figure 2: Nawghaw Poa Road Proposed Cross Section	7
Figure 3: Nawghaw Poa Road Proposed Alignments.....	8
Figure 4: Alternative 1 - Permanent and Temporary Disturbances	23
Figure 5: Alternative 2 - Permanent and Temporary Disturbances	24

Appendices

Appendix A: General and Special Stipulations
Appendix B: Programmatic Biological Opinion (84320-2010-F-0365.R003)
Appendix C: Response to Public Comments

Abbreviations and Acronyms

BLM	Bureau of Land Management
BMP	Best Management Practices
COH	City of Henderson
EA	Environmental Assessment
EIS	Environmental Impact Statement
LVVDB	Las Vegas Valley Disposal Boundary
MBTA	Migratory Birds Treaty Act
NCA	Sloan Canyon National Conservation Area
NLCS	National Landscape Conservation System
NMWMP	North McCullough Wilderness Management Plan
NPR	Nawghaw Poa Road
PUP	Pesticide Use Proposal
RMP	Sloan Canyon Resource Management Plan
SNPLMA	Southern Nevada Public Land Management Act
TMP	Sloan Canyon National Conservation Area Trails Master Plan
WMP	Weed Management Plan

1.0 Introduction

This Environmental Assessment (EA) evaluates the U.S. Bureau of Land Management's (BLM) proposal to renew and amend right-of-way N78443 for the construction of Nawghaw Poa Road (NPR) which includes a paved pedestrian pathway; and a looped vehicle turnaround/parking lot and a platform to place a temporary contact station. NPR would replace an existing unpaved roadway.

The BLM, in partnership with City of Henderson (COH), developed the proposed project. This EA characterizes the existing environment and evaluates potential impacts associated with implementation of two action alternatives and the no action alternative.

The BLM will also determine whether an Environmental Impact Statement (EIS) is required based on the level of environmental effects documented in this EA. If no significant effects are anticipated, a Finding of No Significant Impact will be issued and a Decision Record (DR) will be prepared.

1.1 Identifying Information and Preparing Office

- N-78443, Nawghaw Poa Road, Parking and Visitor Amenities Project
- BLM Project Number: DOI-BLM-NV-S020-2015-0008-EA
- BLM Las Vegas Field Office and Red Rock/Sloan Field Office

1.2 Background

The Clark County Conservation of Public Land and Natural Resources Act of 2002 established the Sloan Canyon National Conservation Area (NCA) and the North McCullough Wilderness. The North McCullough Wilderness is entirely contained within the NCA. The 48,438-acre NCA, which forms the natural, mountainous southern skyline of COH and Las Vegas, contains important archaeological sites, scenic resources, and wildlife habitat. The centerpiece of the NCA is Petroglyph Management Area, one of the most notable cultural resources in southern Nevada. More than 400 rock art panels with nearly 1,200 designs represent native cultures dating from the Archaic to Historic era.

The law establishing the NCA also required the BLM to develop a plan for the appropriate use and management of the NCA and the North McCullough Wilderness within three years of enactment. The BLM fulfilled this requirement with the release of the Sloan Canyon Resource Management Plan (RMP), North McCullough Wilderness Management Plan (NMWMP) in May 2006. The RMP and NMWMP provide the BLM Red Rock/Sloan Field Office with a comprehensive framework for managing the NCA and the North McCullough Wilderness. The documents provided for moderate levels of developed recreation, facilities, and transportation improvements to ensure that neither resources nor visitor experiences are unacceptably degraded.

In 2009, the BLM completed the Sloan Canyon National Conservation Area Trails Master Plan (TMP) to implement the recreation management directives from the RMP. Specifically, the TMP fulfilled the requirement for a systematic planning and development of a sustainable, low impact trail system that accommodates multiple non-motorized uses by utilizing a combination of new trails, existing roads and rights-of-way, and the reconstruction of unauthorized routes and social

trails (BLM 2006a). Implementation of the TMP led to the construction of several trails within the NCA including Trails 100 and 101 which provide access to the Petroglyph Management Area as well as the North McCullough Wilderness.

However, the TMP focused primarily on the development of a trail network throughout the NCA, leaving the establishment of trailheads, parking areas, and road improvements to a future planning effort (BLM 2009, Section 2.2.5).

The proposed project further implements management directives from Section 2.2.8 of the RMP and compliments the TMP by implementing infrastructure improvements that would facilitate access to Trails 100 and 101 and facilitate development of educational and interpretive outreach programs to manage visitors and protect sensitive cultural and natural resources.

In May of 2015, the Sloan Canyon NCA Implementation Management Strategy was completed and examines, in detail, potential development scenarios for facilities within the NCA that meets the intent of the RMP while balancing the needs and expectations of visitors along with managing for the longevity of funding sources. The need for a visitor contact station at this general 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. The Petroglyph Canyon entrance will be developed in two phases and the proposed act is the first phase. A temporary visitor contact station and parking will be placed at the end of the road and will be staffed by BLM and volunteers who will provide visitor services until the permanent facility is completed. The City of Henderson and Friends of Sloan Canyon are key partners in this initial effort.

1.3 Project Location

The project is located within the immediate vicinity of expired ROW N-78443, an unpaved access road located near Sloan Canyon, upon land within the Las Vegas Field Office and Sloan Canyon National Conservation Area, legally described as Mount Diablo Meridian, T.23S, R61E, sec 26, NE, NWSE. See Figure 1.

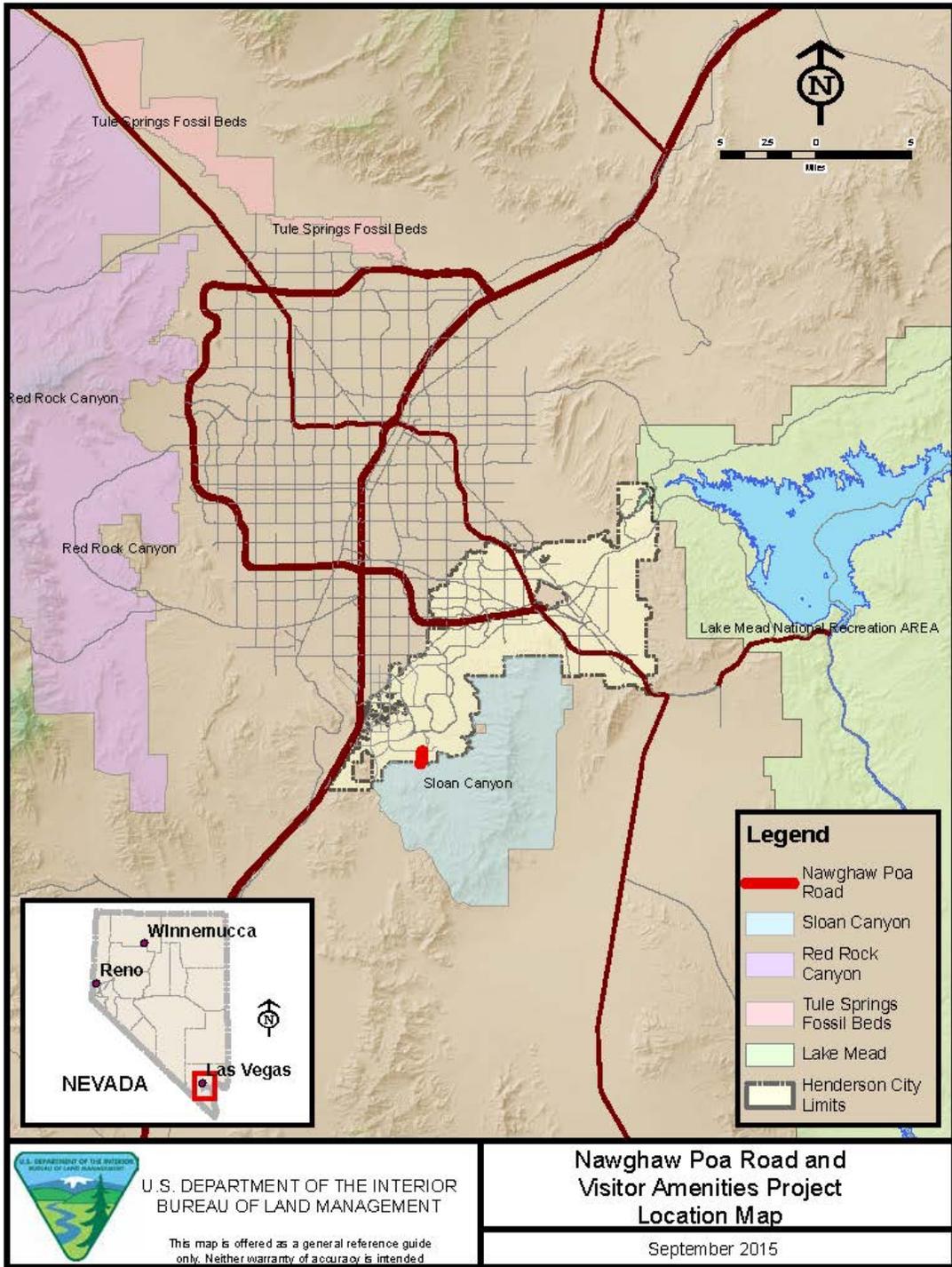


Figure 1: Nawghaw Poa Road Location Map

1.4 Proposed Action

BLM proposes to renew and amend ROW N-78443 to provide access to the NCA in perpetuity. The City of Henderson is constructing Democracy Drive and the BLM is proposing to construct a road from Democracy Drive that will provide access to the NCA complete with a looped parking area and temporary visitor contact station. The project needs to meet the intent of the RMP while balancing the needs and expectations of visitors along with managing for the longevity of funding sources.

1.5 Purpose and Need

Visitations to the Petroglyph Management Area and the North McCullough Wilderness are expected to increase since lands adjacent to the NCA would be developed in the near future. Pursuant to the Southern Nevada Public Land Management Act (SNPLMA), public lands currently managed by the BLM outside of the NCA's northern border have been designated for disposal. These lands are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. At full build out, these developments would abut the NCA. Currently, construction of Inspirada, a 13,500-unit master-planned community is underway. As part of the development, Democracy Drive, an east-west arterial, would be extended westward towards Sloan Canyon, facilitating access to the site. Furthermore, the City of Henderson anticipates construction of Gateway Park, a regional park near the NCA boundary (see Figure 1). As a result, annual trail use visits in the NCA is expected to reach 111,600 by 2030. Likewise, annual visits to the Petroglyph Management Area are expected reach 16,500 by 2030.

Currently, there is no infrastructure such as roads or visitor amenities to accommodate the projected levels of visitations. Furthermore, management measures, visitation thresholds, and interpretive programs in conformance with the RMP and NMWMP could not be implemented in the absence of these facilities and programs. Thus, increased visitations to the NCA and the Petroglyph Management Area would impact natural and cultural resources within the NCA.

In order to provide public access, protect cultural resources, and provide a recreational experience with appropriate wilderness qualities to the Petroglyph Management Area, the BLM proposes to construct a paved road and temporary contact station. The contact station will provide environmental education and provide visitors with limit use information and availability. ROW N-78443 provided legal access to the NCA but expired June, 2015. A ROW renewal application has been submitted to construct a road across public land managed by the Las Vegas Field Office and a parking area and temporary visitor contact station and amenities within the NCA.

1.6 Decision to Be Made

The decision to be made is whether or not BLM will approve the renewal and amendment of N-78443 and if so, which alternative will be selected and what conditions or stipulations will be required.

1.7 Scoping and Public Involvement

A draft of the draft EA was made available for public review from October 1, 2015 through October 12, 2015. Furthermore, a public meeting was held on October 1 from 6 to 8 p.m. at Levi Strauss & Co. located at 501 Executive Airport Drive, Henderson. There were 44 people in attendance excluding BLM staff. Fifteen written comments were received. The list of attendees, submitted comments, and responses to comments are found in Appendix C.

2.0 Proposed Action and Alternatives

All alternatives will be authorized by a right-of-way issued to Sloan Canyon NCA in perpetuity. If the no action alternative is selected, then the ROW will renewed without amendments. Under the proposal, BLM would construct NPR, an approximately 0.7 mile long roadway and pedestrian pathway across public land managed by the BLM and construct a looped vehicle turnaround/parking area. Temporary visitor amenities such as a contact station, portable restrooms, potable water supply, and bike racks would also be placed at this location. Areas disturbed during construction (e.g., staging areas, construction easements, etc.) as well as existing segments of the unpaved access road outside of the NPR alignment would be restored. Usage would be managed pursuant to thresholds identified in the RMP and NMWMP.

Two action alternatives were evaluated in addition to the No Action Alternative. Of the two action alternatives, Alternative 1 is the Proposed Action.

2.1 Elements Common to Action Alternatives

2.1.1 Roadway and Vehicle Turnaround/Parking Lot Design

NPR would consist of a two-lane, 32 foot wide asphalt road including five foot shoulders/ bike lanes on both sides. The roadway would be outfitted with rumble bumps at selected intervals to control speed. A 10 foot wide, pedestrian pathway would also be constructed adjacent to the road for the entirety of the 0.7 mile-long alignment. The roadway and pathway would be separated by a 9 foot wide, unpaved median. Two 6-inch-diameter conduits with pull boxes would be buried 30 inches deep in the median for installation of utilities as part of a future project. The total width of the roadway and pathway would be approximately 51 feet. See Figure 2.

Furthermore, the road will have curb cuts every 50 feet throughout the majority of its alignment to keep rainfall within 50 feet of where it falls and to avoid concentrating the storm water. In addition, rip rap energy dissipators would be placed at each curb cut to minimize potential for erosion.

NPR would form a T-intersection with the planned extension of Democracy Drive at the northern terminus. The intersection would incorporate a dedicated left turn lane. A gate spanning entry lane would be placed near the T-intersection. A traffic spike would be placed on the exit lane to allow for after-hour exit and prevent after-hour parking. There would be no gates across the pedestrian pathway. From the T-intersection, the roadway and pathway would proceed south and terminate at the boundary of the NCA.

A looped vehicle turnaround/parking lot would be constructed at the southern terminus within the NCA boundary. The vehicle turnaround would be sufficient for use by fire trucks and other emergency vehicles. A temporary contact station, portable toilets, potable water sources, trash

receptacles, bike racks and an informational kiosk would be located on site. The temporary amenities will remain until a permanent visitor center is constructed as part of a future project. A generator or a solar panel would provide electricity to the temporary contact station.

Construction would take place within a construction corridor ranging from 100 to 200 feet in width. Although the width of the construction corridor would range from 100 to 200 feet, it is unlikely that the entire 200 foot width would be required for construction. The 200 foot width was proposed in the EA primarily to accommodate potential adjustments to the road alignment during construction. The width of the construction corridor is expected to be approximately 101 feet in width: 51 foot wide road with two 25-foot-wide construction corridors on either side of the road. A temporary pedestrian pathway would be established within the 200 foot wide corridor to allow access to the Petroglyph Management Area during construction.

2.1.2 Roadway Alignment

In general, the two action alternatives share the same alignment from the intersection with Democracy Drive proceeding south to a distance of approximately 2,500 feet. The shared alignment would be constructed immediately adjacent to the existing unpaved access road to Sloan Canyon. Under both alternatives, the northern terminus of NPR would form a T-intersection with Democracy Drive, approximately 500 feet north of the power line access road. From Democracy Drive, the alignment would diagonally veer eastward across the power line access road towards a ridge. The alignment would follow the ridgeline to the south for approximately 2,000 feet. The two action alternatives differ in their alignment from this point onwards. See Figure 3.

2.1.3 Roadway Construction and Best Management Practices

A grader or bulldozer would clear and grub vegetation within the road footprint. A grader or bulldozer would further prepare the road surface, leveling bumps and filling in dips. The leveled surface would be sprayed with water and compacted to its maximum density. Concrete for curbs would be poured into forms. Gravel would be placed on the roadbed between the concrete curbs and be further compacted. Asphalt would be placed on top of the gravel, and the surface finished to the design grade. Construction would occur within a construction corridor ranging in width from 100 to 200 feet. Construction of the turnaround/parking lot would require limited amounts of cut and fill. Duration for construction would be approximately three months. Street lighting would not be installed as a part of this project.

Under both action alternatives general and resources specific stipulations would be implemented to avoid or minimize impacts to resources. See Appendix A, Stipulations

2.1.4 Restoration of Disturbed Areas

Disturbed areas within the construction corridor as well as segments of the unpaved access road outside of the construction footprint would be restored. Holes would be augered within disturbed areas for installation of vertical mulch such as dead Yucca. Berms on both sides of the roadway would be leveled. Appropriately-sized large, medium and smaller rocks for this specific area would be placed within the disturbance area to restore a natural vista. Appropriately colored (the coloration in the area is black rocks on light brown soil) desert varnish would be applied to replicate the natural coloration in the area.

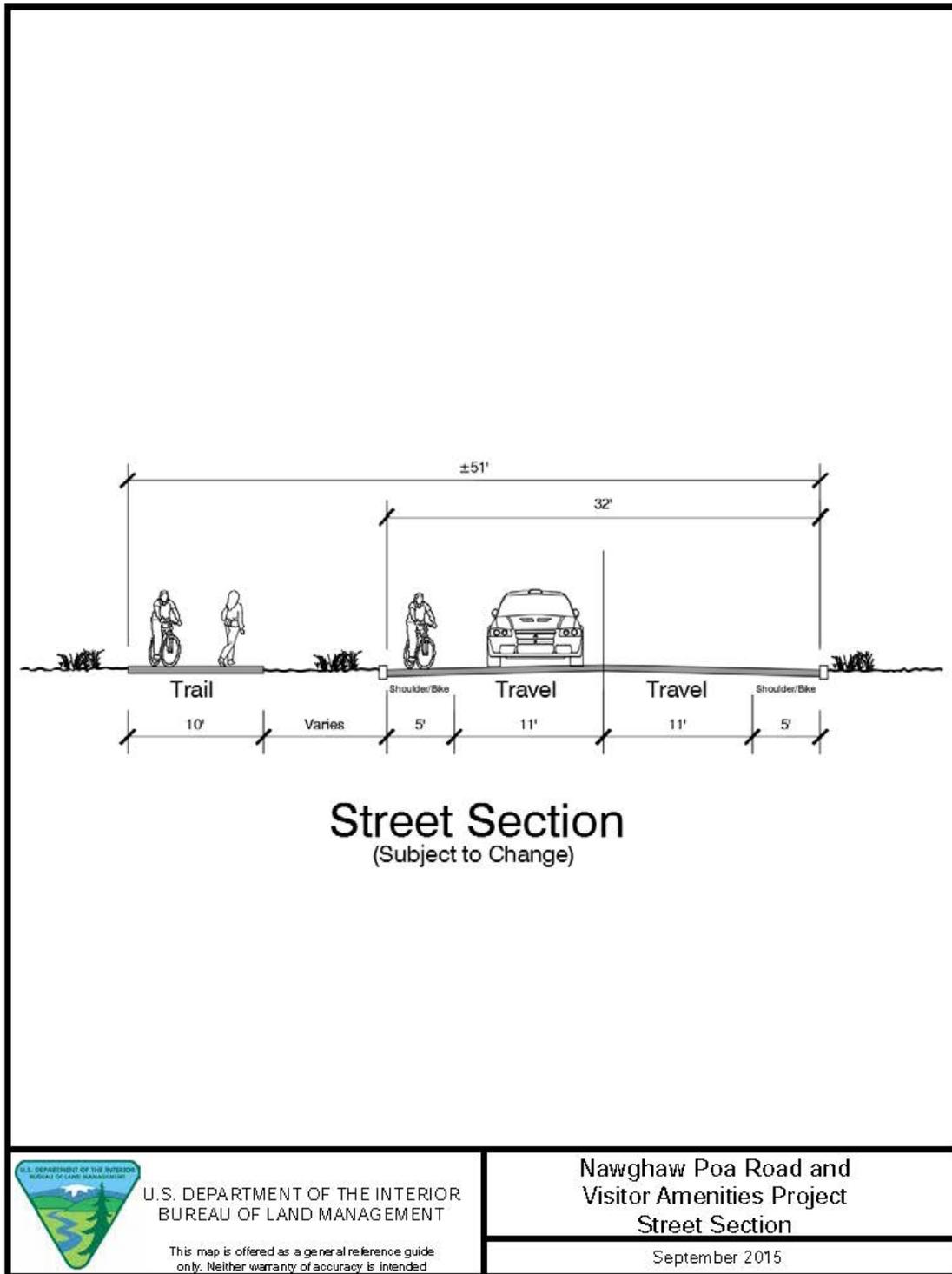


Figure 2: Nawghaw Poa Road Proposed Cross Section

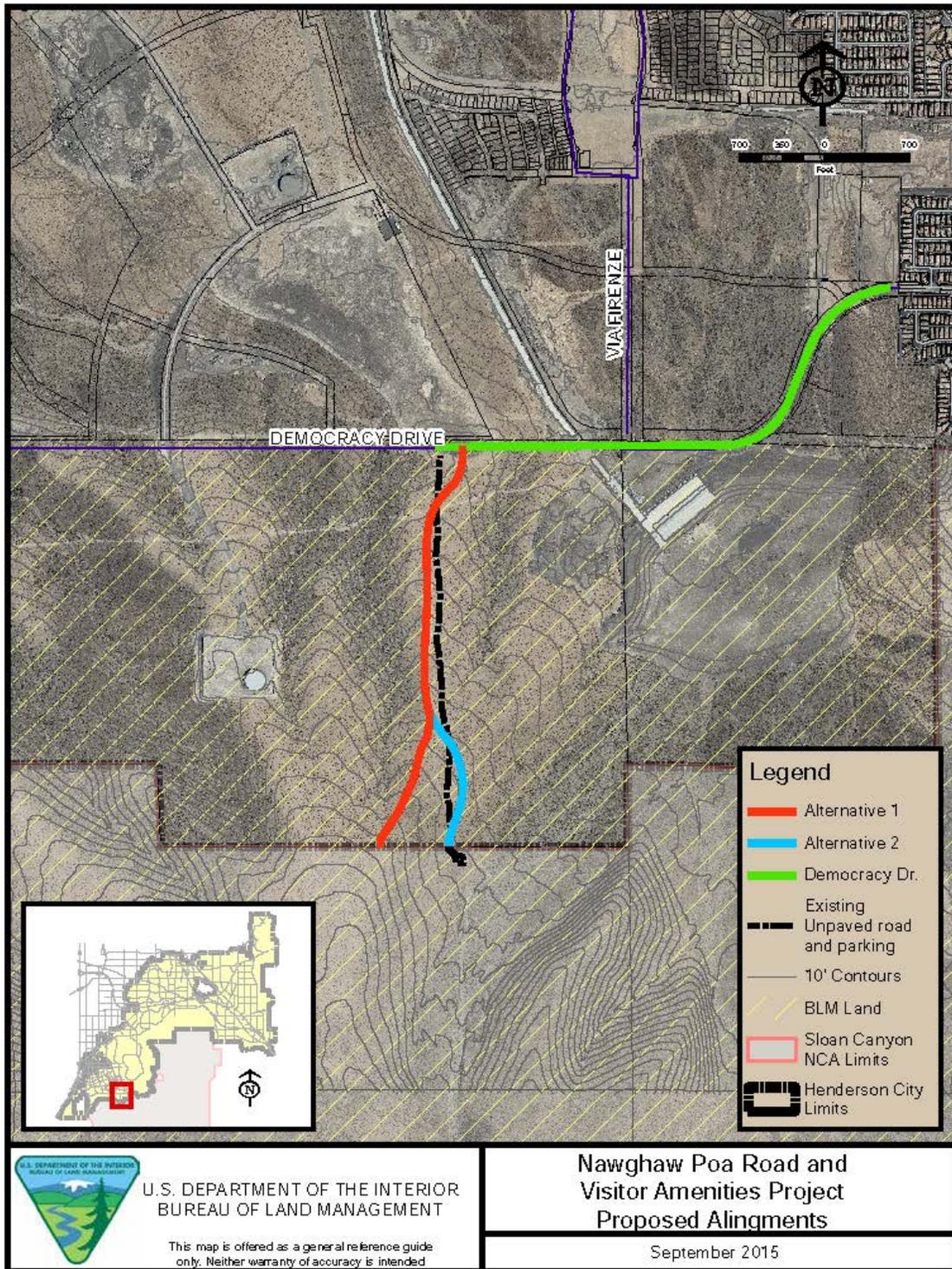


Figure 3: Nawghaw Poa Road Proposed Alignments

2.1.5 Contact Station and Temporary Amenities

Upon completion of the roadway and pedestrian pathway, temporary amenities including but not limited to a contact station, information kiosk, portable restrooms, potable water supply, bicycle racks, and trash receptacles would be placed on site. Trash would be removed on a regular basis. Until installation of permanent facilities as part of a future project, bottled water would be delivered and composting or portable toilets would be serviced on a regular basis.

2.1.6 Visitor and Resource Management

If the proposed action or Alternative 1 is selected, BLM would implement management directives from the RMP for the North McCullough Wilderness and the Petroglyph Management Area in Section 2.2.3 of RMP and Section 4.2 of NMWMP and summarized below:

- **Usage Threshold Management:** BLM would manage usage thresholds in accordance with the RMP including implementation of a usage monitoring program and modification of usage thresholds as appropriate. BLM Rangers would require visitors to check in prior to entering the Petroglyph Management Area. During periods of high use, such as weekends and holidays, visitors would be required to join a BLM-sponsored tour. No more than one guided, 20-person group would be allowed in the Petroglyph Management Area at one time. With prior reservations, organized groups of 10 to 35 people would be allowed to visit the Petroglyph Management Area, accompanied by BLM sponsored guides. Permission would be required for visitation outside of high-use periods. A total of no more than 25 permits per hour will be issued. BLM Rangers, BLM Staff and/or volunteers would monitor visitation.
- **Contact Station Staffing:** BLM would staff the contact station according to the following schedule:

June - September: Friday, Saturday and Sunday from 8:00 am to 4:30 pm.
October – May: Daily from 8:00 am until 4:30 pm.

Contact Station Staff will open the gate when the contact station opens and close the gate at an appropriate time to facilitate closing the area to visitors. The gate across the roadway would manage vehicular access to NPR. Gate opening and closing times would match the contact station staffing schedule. There would be no gates across the pedestrian pathway.

- **Interpretive Element:** BLM would strive to provide information and programming to visitors consistent with the interpretive strategy of the RMP (see Appendix E of RMP) and the NMWMP (see Section 4.8 of NMWMP). Upon initial establishment of the contact station, basic orientation and education materials about the area and applicable regulations would be made available to visitors. Opportunities for in-person interaction with BLM staff would be available during operational hours of the contact station.

2.1.7 Maintenance

The road and contact station will be monitored for maintenance needs by BLM and maintenance will be conducted upon the recommendation of the District Engineer. Routine maintenance such as sweeping will be performed by City of Henderson as a contribution to this collaborative project.

2.2 Alternative 1 (Proposed Action)

Under Alternative 1, the alignment would remain on the ridge and proceed approximately 1,200 feet south and terminate at the looped vehicle turnaround inside the NCA boundary. From the looped vehicle turnaround/parking lot, an approximately 1,000 foot long connector trail would be graded towards the existing unpaved vehicle turnaround/parking lot located at the terminus of the unpaved access road. The existing graded and disturbed parking area will remain until Phase II of the implementation plan is implemented. See Figure 3.

2.3 Alternative 2 (Partial Ridge Alternative)

Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards Sloan Canyon Wash; and terminate at the existing vehicle turnaround/parking lot. See Figure 3.

2.4 Alternative 3 (No Action Alternative)

Under the No Action Alternative, NPR would not be constructed. The unpaved access road would continue to provide access to Sloan Canyon and the North McCullough Wilderness.

Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. Increased vehicular use of the unpaved access road would result in further road deterioration. With continued deterioration, it would be increasingly difficult to drive on the road with standard passenger vehicles.

The existing unpaved turnaround/parking lot would not have sufficient space for vehicles as visitations increase. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, potentially resulting in disturbance of previously undisturbed areas.

As the average daily traffic on Democracy Drive continues to increase commensurate with the increased development of the surrounding area, unstructured and unregulated ingress and egress from Democracy Drive to the unpaved access road would result in potentially hazardous traffic conditions at the intersection.

The potential need for emergency services would be commensurate with increased visitations. An unpaved single lane road with no fire truck turnaround would limit access for safety personnel and first responders in case of emergencies.

Last, with no visitor amenities including a contact station, there would no opportunities for implementation of education, interpretive and management programs. Conservation and protection of cultural and natural resources would be compromised. Conditions under the No Action Alternative would not be in compliance with management directives from the RMP and NMWMP.

2.5 Alternative Considered but not Analyzed in Detail

Gateway Park Alternative: Under this alternative, the contact station and associated visitor amenities would be sited near the City of Henderson's proposed Gateway Park. The Gateway Park is a regional park that would be located north of the NCA boundary on BLM-managed public lands. Managers dropped this alternative from further consideration since the park

would be located within a disposal area pursuant to the SNPLMA. Furthermore, Managers concluded the contact station would be located too far from the trail head for effective implementation of management and interpretative programs. Last, there is an immediate need for a contact station and the Gateway Park is not planned for several years in the future.

2.6 Conformance

All alternatives in this EA were prepared in compliance with Council on Environmental Quality (CEQ) Regulations for implementing NEPA (40 CFR § 1500-1508), and all applicable regulations and laws passed subsequent to the passage of NEPA, and stipulations and format outlined in the BLM NEPA Handbook (H-1790-1).

The Proposed Action and this EA is in conformance with the National Environmental Policy Act (NEPA) and is allowable on BLM-administered lands according to Title V of the Federal Land Policy and Management Act of 1976 (FLPMA), Sec. 501 and Sec. 507, and BLM regulations 43 CFR 2800, at the discretion of the Secretary of the Interior or his/her delegated officer.

The Proposed Action is in conformance with Las Vegas Resource Management Plan and Final Environmental Impact Statement, October 1998, and the Record of Decision signed October 5, 1998.

The Proposed Action is in conformance with the 2006 Sloan Canyon NCA Resource Management Plan (RMP) and North McCullough Wilderness Management Plan (WMP). It is also in conformance with the 2009 Omnibus Public Lands Management ACT, BLM Manual 6100 and 6200 and Secretarial Order No. 3308.

In particular, one of the RMP's goal is to "enhance visitor use and experience by providing appropriate facilities compatible with the character and characteristics of the NCA's resources" (BLM 2006a, Section 2.2.8). The management directive supporting this goal is the development of a visitor center at the northern entrance of Sloan Canyon that would "provide NCA management with office space, serve as one of the access and control points for the Petroglyph Management Area, and be the base of operations for patrols and rangers" (BLM 2006a, Section 2.2.8).

Cognizant of the increasing development adjacent to the North McCullough Wilderness and the projected increase in visitations to the area, the NMWMP seeks to conserve the natural and cultural resources through implementation of interpretive programs to foster an understanding and appreciation of cultural resources. Furthermore, the NMWMP sought to balance projected increase visitations and conservation of unique natural and cultural resources by "managing the Petroglyph Management Area intensively to prevent the degradation of natural and cultural resources that could result from visitor use" (BLM 2006b, Section 3). The management directive supporting this goal is to control visitations "through a Visitor Center located near the NCA boundary at the northern end of the Sloan Canyon wash" (BLM 2006b, Section 4.2).

In addition, the Proposed Action is in conformance with the following:

- Clean Air Act of 1970 (as amended in 1977 and 1990). 42 USC 7401 et seq. PL 91-604; 42 USC 1857h-7 et seq.
- Clean Water Act of 1977 (as amended). 33 USC 1251-1387. PL 92-500.
- Endangered Species Act of 1973 (as amended). 16 USC 1531 et seq. PL 93-205.

- Executive Order 13112. 1999. Invasive Species. February 3.
- Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701 et seq.).
- Migratory Bird Treaty Act of 1918, as amended (16 USC 703 et seq.).
- National Environmental Policy Act of 1969 as amended. Public Law 91-190, 42 USC 4321 4347, Public Law 94-52, July 3, 1975, Public Law 94-83, August 9, 1975, and Public Law 97 258, § 4(b), Sept. 13,1982.
- National Historic Preservation Act of 1966 as amended. 16 USC 470a et seq. 80 Stat. 915; PL 89-665.
- Federal Noxious Weed Act of 1975. Public Law 93-629. 7 USC 2801 et seq.; 88 Stat. 2148. January 3.
- Wild Free-Roaming Horses and Burros Act of 1971. PL 92-195
- Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282).

3.0 Affected Environment

This section discusses the resources identified by BLM as necessary to reach a reasoned choice among alternatives. In designating the resources to be carried forward for analysis, environmental resources known to occur or with the potential to occur in the proposed project have been identified.

Table 1 summarizes (1) the environmental resources that have been reviewed, (2) whether they would be affected by the proposed project, and (3) the rationale for that determination. Elements that are either not present, or are present but would not be affected, are not discussed further. Resources that may be affected are analyzed in further detail in Sections 3 and 4 of this document.

Table 1. Affected Resources Form

Environmental Resource	Not Present	Present/ Not Affected	Present/ Maybe Affected	Rationale for Determination
Air Resources		X		The federal Clean Air Act of 1990 requires that air quality throughout the United States meet certain NAAQS, with respect to criteria pollutants, in order to protect the public health and the environment. The proposed action is located in a non-attainment area (does not meet the standard) for PM ₁₀ and therefore must be managed in accordance with the Clark County SIP. Fugitive emissions from construction activities are temporary in nature and would not create any lasting impacts to the environment.
Areas of Critical Environmental	X			The proposed project area is not within an Area of

Environmental Resource	Not Present	Present/ Not Affected	Present/ Maybe Affected	Rationale for Determination
Concern				Critical Environmental Concern.
BLM Natural Areas	X			Resource is not present.
Cultural Resources	X			The area has been subjected to previous archaeological survey and there has not been significant cultural resources found within the Area of Potential Effect for the undertaking.
Greenhouse Gas Emissions		X		Currently, there are no emission limits for suspected greenhouse gas (GHG) emissions for this project and no technically defensible method for predicting potential climate change contributions from GHG emissions during construction of the proposed action.
Environmental Justice	X			It is unlikely that minority or low-income communities are present or near the proposed project area.
Farm Lands (Prime or Unique)	X			There are no prime or unique farmland designations in the District.
Fish and Wildlife Excluding Federally Listed Species			X	Fish and Wildlife Excluding Federally Listed Species are characterized in Section 3.1.3 and impacts are evaluated in Section 4.1.3 of this EA.
Floodplains	X			There are no FEMA designated floodplains present in the project area.
Fuels/Fire Management		X		Human caused wildfires could increase. Standard fire prevention measures, adherence to fire restrictions, and best management practices are expected to minimize or mitigate most potential impacts.
Geology/Mineral Resources/Energy Production	X			No mining claims or mining operations are present.
Hydrologic Conditions			X	Hydrology is characterized in Section 3.3 and impacts are evaluated in Section 4.3 of this EA.
Invasive Species/Noxious Weeds			X	Weeds and invasive species are characterized in Section 3.1.2 and impacts are evaluated in Section 4.1.2 of this EA.
Lands/Access	X			Construction within the NCA would comply with the RMP.
Livestock Grazing	X			Not present. The proposed action is outside of an active grazing allotment.
Migratory Birds			X	Migratory birds are characterized in Section 3.1.5 and impacts are evaluated in Section 4.1.5 of this EA. Stipulation from the ARF has been incorporated in the stipulations of this EA.
Native American Religious Concerns		X		No Native American religious concerns have been identified in the project area.
National Landscape Conservation System			X	NLCS policies are characterized in Section 3.6 and compliance with applicable laws and policies are evaluated in Section 4.6 of this EA.

Environmental Resource	Not Present	Present/ Not Affected	Present/ Maybe Affected	Rationale for Determination
Paleontology	X			There are not any known paleontological resources in the vicinity.
Rangeland Health Standards		X		Potential impacts are evaluated in Section 4.1.1 (vegetation), Section 4.3 (hydrology), Section 4.1.3 (wildlife), and Section 4.1.4 (federally listed species) of this EA.
Recreation for Public Land managed by the BLM under the Las Vegas Resource Management Plan.		X		The proposed action will not prohibit or depreciate recreation opportunities in lands managed by the BLM Las Vegas Field Office.
Recreation for Public Land managed by the BLM under the Sloan Canyon Resource Management Plan.			X	The affected environment is characterized in Section 3.4 and impacts are evaluated in Section 4.4 of this EA.
Socioeconomics		X		The level of economic benefit during construction is unlikely to be a degree that would require a detailed analysis.
Soils			X	The affected environment is characterized in Section 3.2 and impacts are evaluated in Section 4.2 of this EA.
Threatened, Endangered or Candidate Plant Species	X			Not present within the project area.
Threatened, Endangered or Candidate Animal Species			X	The affected environment is characterized in Section 3.1.4 and impacts are evaluated in Section 4.1.4 of this EA.
Wastes (hazardous or solid)	X			Not present within the project area.
Water Resources/Quality (drinking/surface/ground)			X	The affected environment is characterized in Section 3.3 and impacts are evaluated in Section 4.3 of this EA.
Wetland/Riparian Zones	X			No permanent surface waters or wetlands exist in or near the project area.
Wild and Scenic Rivers	X			Wild and Scenic Rivers do not exist near or in the project area.
Wilderness/WSA	X			No impacts to the Wilderness anticipated from the project.
Woodland/Forestry		X		The project area contains low densities of cactus and yucca. Impacts to BLM forestry program resources are expected to be negligible. No salvage is required.

Environmental Resource	Not Present	Present/ Not Affected	Present/ Maybe Affected	Rationale for Determination
Vegetation Excluding Federally Listed Species			X	The affected environment is characterized in Section 3.1.1 and impacts are evaluated in Section 4.1.1 of this EA.
Visual Resources for Public Land managed by the BLM under the Las Vegas Resource Management Plan.		X		The proposed project meets the visual resource management objectives of the Las Vegas RMP of 1998.
Visual Resources for Public Land managed by the BLM under the Sloan Canyon NCA Resource Management Plan.			X	Visual resources are characterized in Section 3.5 and impacts are evaluated in Section 4.5 of this EA.
Wild horses and Burros	X			The proposed road is not located in an active herd management area. There will be no impacts to wild horses or burros.
Areas with Wilderness Characteristics	X			There are no identified lands with wilderness characteristics outside of the designated Wilderness area in the project area.

The following sections provide a brief description of the affected environment for resources identified as “present and may be affected”. Please note: the order of sequence will differ from the list in Table 1 above. Biological Resources section contains subsections of the following resources: Vegetation, Invasive Species/Noxious Weeds, Fish and Wildlife Excluding Federally Listed Species, Threatened, Endangered or Candidate Animal Species, and Migratory Birds. This will be followed by Soils, Water Resources/Quality (drinking/surface/ground), Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan), Visual Resources (or BLM public lands managed under the Sloan Canyon NCA Resource Management Plan), and National Landscape Conservation System.

3.1 Biological Resources

3.1.1 Vegetation

According to the U.S. Geological Survey's Gap Analysis Land Cover Data, creosote/bursage scrub is the most abundant vegetation type in the project area, occupying roughly 70 percent of the vegetation cover on public lands managed by the Las Vegas and Pahrump Field Offices. In this vegetation community creosote bush (*Larrea tridentata*) and bursage (*Ambrosia dumosa*) are generally the most conspicuous plant species present. This vegetation community occurs below 4,000 feet and is the primary habitat for the threatened desert tortoise. Generally occurring below 4,000, this community consists of large open expanses of vegetation, and is the primary habitat for the desert tortoise.

There have been declines of this vegetation type since 1998 because of BLM realty actions and congressionally mandated land transfers (e.g., land sales, patents, and rights-of-way authorizations). This decrease has predominantly been on multiple-use lands within designated disposal boundaries and utility corridors. Important threats to this ecosystem include direct and indirect impacts resulting from anthropogenic activity, invasion by non-native annual grasses and increased fire frequency. Anthropogenic activities include grazing, development, highway and road construction, utility corridor construction, and off-highway vehicle uses. Disturbances associated with these activities have fragmented habitat, increased edge effects, and created conditions that facilitate establishment on non-native annual grasses.

Within an arid environment, temporary impacts to vegetation can take decades to centuries to recover depending on the impact. If disturbance is too frequent, recovery may be delayed or prevented entirely as soils become eroded or severely compacted. Slow recovery from disturbance means most impacts to this vegetation community will accumulate over time.

3.1.2 Invasive Species/Noxious Weeds

Invasive plants and noxious weeds are managed on public lands by the BLM under the direction of the National Invasive Species Council established in 1999 (Executive Order 13112). This statute defines invasive species as " ... an alien (non-native) species whose introduction does, or is likely to cause, economic or environmental harm or harm to human health" (NISC 2008). In addition, much of the management of invasive plants and the listing of noxious weeds are regulated by the US Department of Agriculture under the Federal Noxious Weed Act (7 U.S.C. 2801 et seq. 1974).

Executive Order 13112 outlines the federal responsibility to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause ... " Additionally, Nevada Revised Statutes, Chapter 555.05 defines "noxious weeds" and mandates the extent that land owners and land management agencies must control specific noxious weed species on lands under their jurisdiction.

The 2006 Sloan Canyon NCA Resource Management Plan (RMP) seeks to establish an integrated weed management program by cooperating with State and county weed programs and building cooperative weed management areas. The objective is to, "Protect the natural condition and biodiversity of the NCA by preventing or limiting the spread of noxious and invasive weeds that displace native vegetation, through integrated weed management principals to detect and eradicate all existing infestations, eliminate new infestations before they begin to spread, and prevent or limit the spread of established weeds into areas

containing little or no infestations. RMP weed management direction is described in VEG 9, “BLM will continue ongoing efforts to survey, monitor, and manage invasive and noxious weeds using integrated weed management principals. This effort includes working with local organizations, agencies, and landowners to promote education and to assist in managing weeds.”

Weed management in the project area is guided by the *Partners Against Weeds—An Action Plan for BLM* (BLM 1996) and the Las Vegas Field Office Noxious Weed Plan (BLM 2006). In addition, weed management will be in accordance to the BLM’s Programmatic EIS (PEIS) for Vegetation Treatment Using Herbicides on BLM Lands in 17 Western States (BLM 2007). These resources provide direction and guidance for an active integrated weed management program using Best Management Practices (BMP).

NPR would be located in an area known to have populations of the following invasive species or state listed noxious weeds: Russian thistle (*Salsola tragus*), red brome (*Bromus rubens*), Sahara mustard (*Brassica tournefortii*), Malta starthistle (*Centaurea melitensis*), Fountain grass (*Pennisetum setaceum*), puncture vine (*Tribulus terrestris*), halogeton (*Halogeton glomeratus*) and salt cedar (*Tamarix ramosissima*). Many noxious and invasive plant species contribute to wildfire problems in southern Nevada. In particular, red brome is known to promote an invasive annual grass fire cycle. Weed surveys or inventories in the area were completed in 2009 and 2015.

3.1.3 Fish and Wildlife Excluding Federally Listed Species

The proposed project area supports and is adjacent to lands that support wildlife characteristic of the Mojave Desert. Biological diversity varies according to topography, plant community, and proximity to water, soil type, and season. For a comprehensive discussion of potential wildlife species that may be present, refer to the most recent Resource Management Plan.

BLM Sensitive Wildlife Species

BLM sensitive species are species that require special management consideration to avoid potential future listing under ESA and that have been identified in accordance with procedures set forth in BLM Manual 6840 – Special Status Species. A complete list of BLM sensitive species within the area can be found in the Resource Management Plan. Many of these species as well as other wildlife species of concern are also discussed in the Nevada State Wildlife Action Plan (NDOW 2012) and the Clark County Multiple Species Habitat Conservation Plan. Sensitive bird species are also provided protection by the Migratory Bird Treaty Act and thus are discussed in the Migratory Bird Section. The following sensitive species could potentially be impacted by the proposed action:

- *Chuckwalla (Sauromalus ater)*
Chuckwalla occur in rocky desert, lava flows, hillsides, talus slopes, and rock outcrops mostly below 5000 feet, where creosote bush is typically the dominant plant species. Chuckwalla will seek shelter in rock crevices and bask on rocks during the day. They are herbivorous, preferring annuals, but they will also eat perennial vegetation. Chuckwallas are relatively common throughout their Nevada range and likely occur within the project area, but would be localized on rock outcroppings.

- *Banded Gila monster (Heloderma suspectum)*
Gila monsters occur in desert washes and rocky upland desert scrub at elevations below 5,000 feet. Banded Gila monsters frequently utilize lower slopes of mountains and nearby plains. They will use and are occasionally encountered out in gentler terrain of alluvial fans. Hence, Gila monster habitat overlaps habitats of both the desert tortoise and chuckwalla. Threats to this reptile include illegal collection, traffic fatalities, and habitat destruction from urban and agricultural development.
- *Mojave Desert Sidewinder (Crotalus cerastes cerastes)*
The Mojave Desert sidewinder is a nocturnal snake hiding in the day in animal burrows or coiled camouflaged in a shallow self-made pit at the base of a shrub. This species is most common where there are sand hummocks topped with creosote bushes, mesquite, or other desert plants but may also occur on flats, barren dunes, hardpan, and rocky hillsides.

3.1.4 Federally Threatened, Endangered Proposed, or Candidate Animal Species and Critical Habitat

Threatened and endangered species are placed on a federal list by the U. S. Fish and Wildlife Service (USFWS) and receive protection under the Endangered Species Act of 1973, as amended. The only federally protected species known to occur in the vicinity of the project area is the threatened Mojave Desert tortoise (*Gopherus agassizii*). The proposed project is not within desert tortoise critical habitat.

The Mojave Desert tortoise occurs primarily on flats and bajadas with soils ranging from sand to sandy-gravel. They are also found on rocky terrain and slopes. Tortoises occur in saltbush scrub, creosote scrub, and blackbrush scrub habitat types. Within these vegetation types, desert tortoises can potentially survive and reproduce provided their basic habitat requirements are met. These requirements include a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and overwintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow.

The project area is within moderate density tortoise habitat. Survey data documented more than 50 burrows and 20 carcasses within one half mile of the project area. The project area is not within designated critical habitat for the species.

3.1.5 Migratory Birds

The MBTA (16 U.S.C. 703 et. seq.) protects migratory birds and their nests; a list of MBTA-protected birds are found in 50 CFR 10.13. The list of birds protected under this regulation is extensive and the project area has potential to support many of these species, including BLM sensitive species, and their nests. Typically, the breeding season, which generally occurs from February 15 through August 31, is when these species are most sensitive to disturbance. The following sensitive bird species could potentially be impacted by the proposed action:

- *Western burrowing owl (Athene cunicularia hypugaea)*
The Western burrowing owl (*Athene cuniculari hypugaea*) is a diurnal bird of prey specialized for grassland and shrub-steppe habitats. Burrowing owl habitat in the Mojave Desert typically consists of open, dry, treeless areas on desert floors. Burrowing owls

most frequently use mammal burrows created by other animals such as ground squirrels (*Spermophilus spp.*), coyotes (*Canis latrans*), or desert tortoises (*Gopherus agassizii*). The burrows are used for nesting, roosting, cover, and caching prey. In recent decades, the range and species count have been declining primarily because of agricultural, industrial, and urban development that reduce burrow availability.

- *Loggerhead shrike (Lanius ludovicianus)*
This species prefers open country with nesting habitat preference toward scattered trees and shrubs. They are commonly found in shrub habitat types comprising savanna, desert scrub, and occasionally, open woodland. Perches are an important habitat component used for hunting. If natural perches are unavailable, they will perch on poles, wires or fence posts. Population trend data in Nevada has shown an unexplained 5 percent decline per year since 1966.

3.2 Soils

Soils in the project area consist primarily of sand and sandy loam. Much of the unvegetated areas are covered by desert pavement (thin layer of tightly packed rock) and cryptogammic or biological soil crust (fungi, bacteria, lichen, and soil algae). Desert pavement and soil crusts help to prevent the erosion of fragile soils and ultimately reduce moisture loss. Each of these resources is well adapted to severe desert climates, but is very susceptible to disturbance. Generally, the loss of or damage to these resources is considered to be permanent, as the development of biological crusts and desert pavement can take as long as several hundred years (BLM 2009).

The primary soil association within the project area is Rock Outcrop-St.Thomas Complex (BLM 2009). This association is characterized by shallow, well drained soil on hills and low mountains with moderate permeability and rapid runoff. Water erosion potential is moderate.

3.3 Water Resources/Quality (drinking/surface/ground)

The NCA is located entirely within the arid Mojave Desert. This area receives an average of approximately 4 inches of rainfall annually (BLM 2009). Most months average less than a 0.5 inch of rain. One average rainfall event per month can deliver the full amount of rainfall expected for that month. Although the Sloan Canyon area is typically very dry, occasional high intensity and large volume rainfall events do occur on site. Nineteen occasions of rainfall exceeding 1 inch in 24 hours were recorded between 1950-2006 at McCarran Airport (BLM 2009). These infrequent, large rainfall events can produce large amounts of concentrated runoff from the larger watersheds, and may result in flash flooding within the natural on-site collection channels and washes.

Large volumes and high rates of runoff are concentrated within existing channels and washes. As stormwater flows reach the valley floor, longitudinal channel slopes decrease, the bed material becomes sandier and finer grained, and runoff eventually fans out in very shallow and wide, disorganized flowpaths through the alluvium. At this point, some portion of runoff will make its way to valley groundwater aquifers.

Infrequent but large stormwater generating precipitation events result in quick stormwater concentration and conveyance to sandy valley areas, which have the highest potential to erode. Disturbed areas with moderate erosive potential may experience local scour and contribute additional sediment to stormwater when subjected to large volumes and high rates of concentrated stormwater runoff. The infrequent nature of rainfall results in only intermittent

channelized flow in the project area; there are no perennial streams or surface waters within the project area.

The project area encompasses a low gradient ridge adjacent to the mouth of Sloan Canyon. Near this location, the wash transitions from the narrow confines of the canyon to a broad floodplain with braided channels. Thus, flows transition from concentrated high energy flows to broad low energy flows distributed within the braided channel complex. The wash is ephemeral; there are no perennial or intermittent waters. Groundwater in this region tends to be very deep, often more than 500 feet underground (BLM 2009). The existing unpaved access road terminates at a vehicle turnaround located in the uplands, approximately 230 feet away from the active channel of the wash.

Due to the slight rise in gradient, drainage from the ridge towards the wash likely consists of low energy flows. Evidence of erosion such as rills are absent from the slope of the ridge. The existing unpaved access road partly lies on the ridge for approximately 2,500 feet. The alignment then veers diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround.

3.4 Recreation for Public Land managed by the BLM under the Sloan Canyon Resource Management Plan.

The project area is ¼ mile north of the boundary of the North McCullough Wilderness and the north entrance to the Petroglyph Canyon. NPR would cross public land managed by the BLM's Las Vegas Field Office and terminate just inside the Sloan Canyon NCA boundary where the temporary contact station will be located.

Overall, the North McCullough Wilderness Area receives low levels of dispersed recreational use, primarily because of its rugged terrain and limited vehicle access to its boundary. There are opportunities for wildlife watching, hunting, camping, hiking, and horseback riding. Some of the more popular destinations include Sutor and Hanna Peaks, the North McCullough escarpment, and the Petroglyph Management Area. Equestrian use is not permitted in the Petroglyph Management Area (BLM 2009). Currently, a cable fence at the north entrance to the main Petroglyph Management Area to discourage equestrian (and motorized) users from accessing this area. Access to the south entrance of the Petroglyph Management Area is unmarked and not physically restricted, but still not permitted.

Visitation to the Petroglyph Management Area increased following the designation of the NCA and wilderness, with large parties, including organized hiking groups, frequenting the site. Based on limited monitoring in 2003-2004, preliminary visitor estimates indicate approximately 5-10 persons accessing the Petroglyph Management Area per weekday, and 15-20 persons on weekend days (BLM 2009).

The number of visitors is limited due in part to the challenges associated with accessing the site. Currently, access is possible only through an unpaved utility access road and the unpaved access road to Sloan Canyon. The unpaved roads require high ground clearance vehicles. With the development of lands surrounding the NCA and the extension of paved roads such as Democracy Drive, the number of visitors to the Petroglyph Management Area is expected to increase.

3.5 Visual Resources for Public Land managed by the BLM under the Sloan Canyon Resource Management Plan.

The project area is located within a Visual Resource Management Class III area as identified in the Sloan Canyon RMP (BLM 2006a) which allows activities "That partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate and may minimally attract the attention of the casual viewer."

Views of the project area looking north to south from the ridge consist of an open and expansive landscape with low gradient hills and swales forming undulating lines in the foreground. Also present in the foreground are beige hues from the desert pavement. Olive hues as well as heterogeneous textures associated with creosote bush and bursage vegetation communities also fill the vista. These elements gradually transition in the distance to distinct triangular forms and purple hues associated with the McCullough Range that comprises the background. The existing unpaved access road forms a distinct line due to the absence of vegetation while the unpaved roadbed retains the beige hues of the surrounding desert pavement.

3.6 National Landscape Conservation System

Section 2002 of the Omnibus Public Land Management Act (OPLMA) of 2009 withdraws the NCA from the multiple use and sustained yield directive for management of public lands. Under the OPLMA, the NCA is managed for conservation of cultural, ecological, and scientific values for the benefit of current and future generations through the establishment of a National Landscape Conservation System (NLCS). BLM policy encourages development of new facilities such as administrative offices, visitor centers, and content stations within nearby communities to enhance local economic vitality and quality of life and to minimize disturbance within the NCA (see BLM Handbooks 6100, 6220, and 8320). The RMP describes the placement of the contact station (Visitor Center) and parking area in this general location including within the NCA.

4.0 Environmental Consequences

4.1 Biological Resources

4.1.1 Vegetation

Alternative 1 (Proposed Action)

Road construction would entail clearing and grubbing of existing vegetation within the road footprint. The cleared area would be graded, topsoil would be removed and the substrate would be compacted. Asphalt, concrete, and gravel would be discharged resulting in 5.19 acres of permanent impact. See Figures 4 and 5.

Construction would likely take place within a construction corridor with widths ranging from 100 to 200 feet. Vegetation within the construction corridor maybe cleared and grubbed for construction access and staging areas. Maneuvering of off-road equipment may result trample or crushed vegetation. Construction could increase fragmentation potential for the transmission of non-native invasive species. Temporary impacts would range from 8.63 acres to 20.05 acres

With implementation of mitigation measures in Section 6, impacts to vegetation would be minimized.

Table 2. Impact Acreages for Alternative 1 (Proposed Action)

	Impact Acreages			
	Temporary	Permanent	Existing	New ¹
100 Foot Construction Corridor	8.63	5.19	3.58	10.24
200 Foot Construction Corridor	20.05	5.19	3.58	21.66

¹New disturbance is sum of temporary and permanent impacts minus the existing impacts.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Thus, permanent impacts associated with Alternative 2 (5.17 acres) are slightly less than Alternative 1 (5.19 acres).

Construction would likely take place within a construction corridor with widths ranging from 100 to 200 feet. Vegetation within the construction corridor maybe cleared and grubbed for construction access and staging areas. Maneuvering of off-road equipment may result trample or crushed vegetation. Construction could increase fragmentation potential for the transmission of non-native invasive species. Temporary impacts would range from 8.58 acres to 17.18 acres. See Figures 4 and 5.

Table 3. Impact Acreages for Alternative 2

	Impact Acreages			
	Temporary	Permanent	Existing	New ¹
100 Foot Construction Corridor	8.58	5.17	3.58	10.17
200 Foot Construction Corridor	17.18	5.17	3.58	18.77

¹New disturbance is sum of temporary and permanent impacts minus the existing impacts.

Alternative 3 (No Action Alternative)

There would be no new impacts associated with road construction. The existing access road would continue to be utilized. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area and the North McCullough Wilderness increases. During peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, potentially resulting in disturbance of previously undisturbed areas. Though, no notable increases beyond the existing 3.58 acres of impacts are anticipated, off-road parking could increase habitat fragmentation.

Moreover, there would be no on-site contact station and no opportunities to educate visitors on avoiding and minimizing impacts to sensitive biological resources. Off-road parking and lack of trash receptacles could indirectly result in the spread or introduction of invasive plant species.

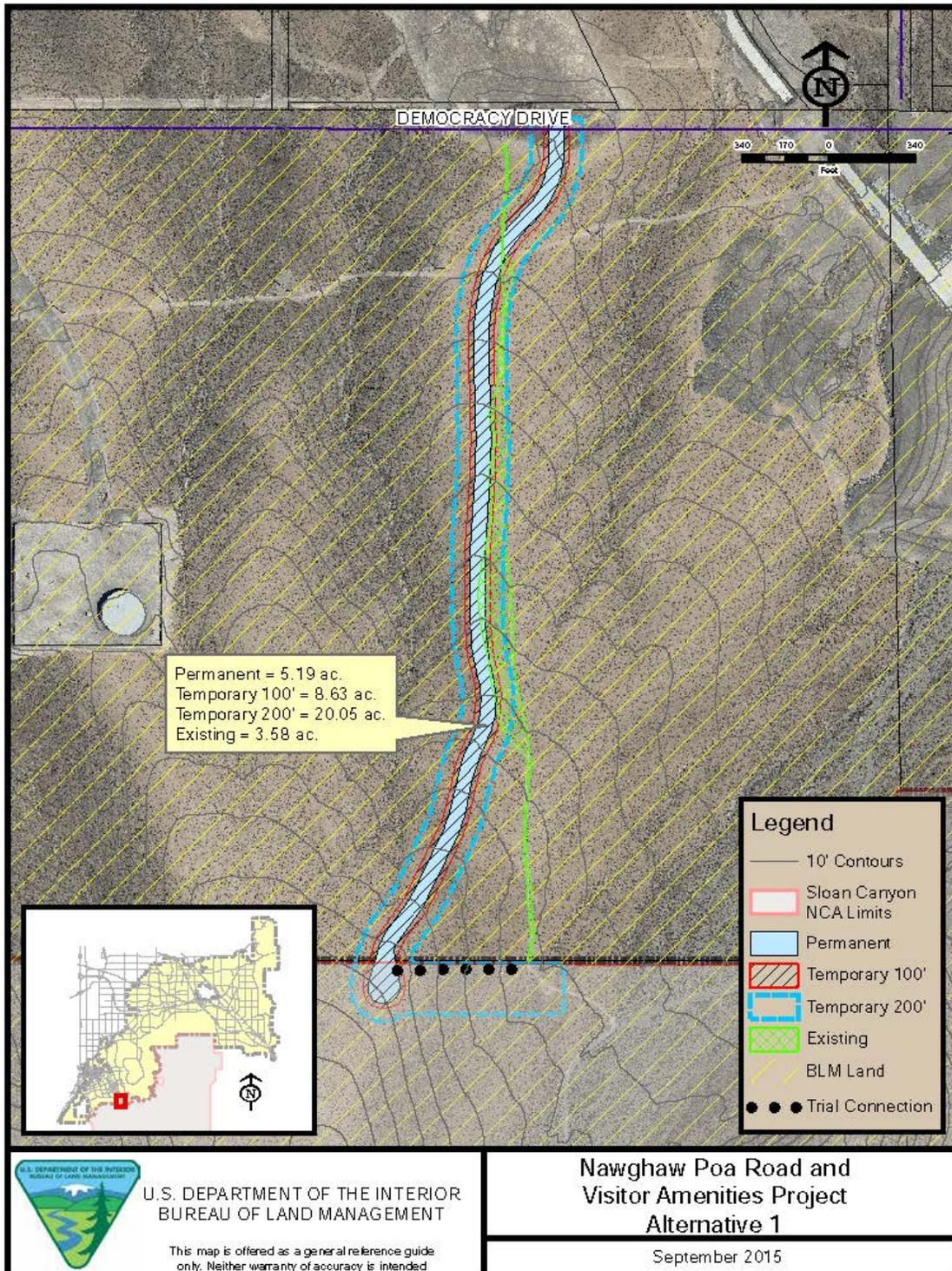


Figure 4: Alternative 1 - Permanent and Temporary Disturbances

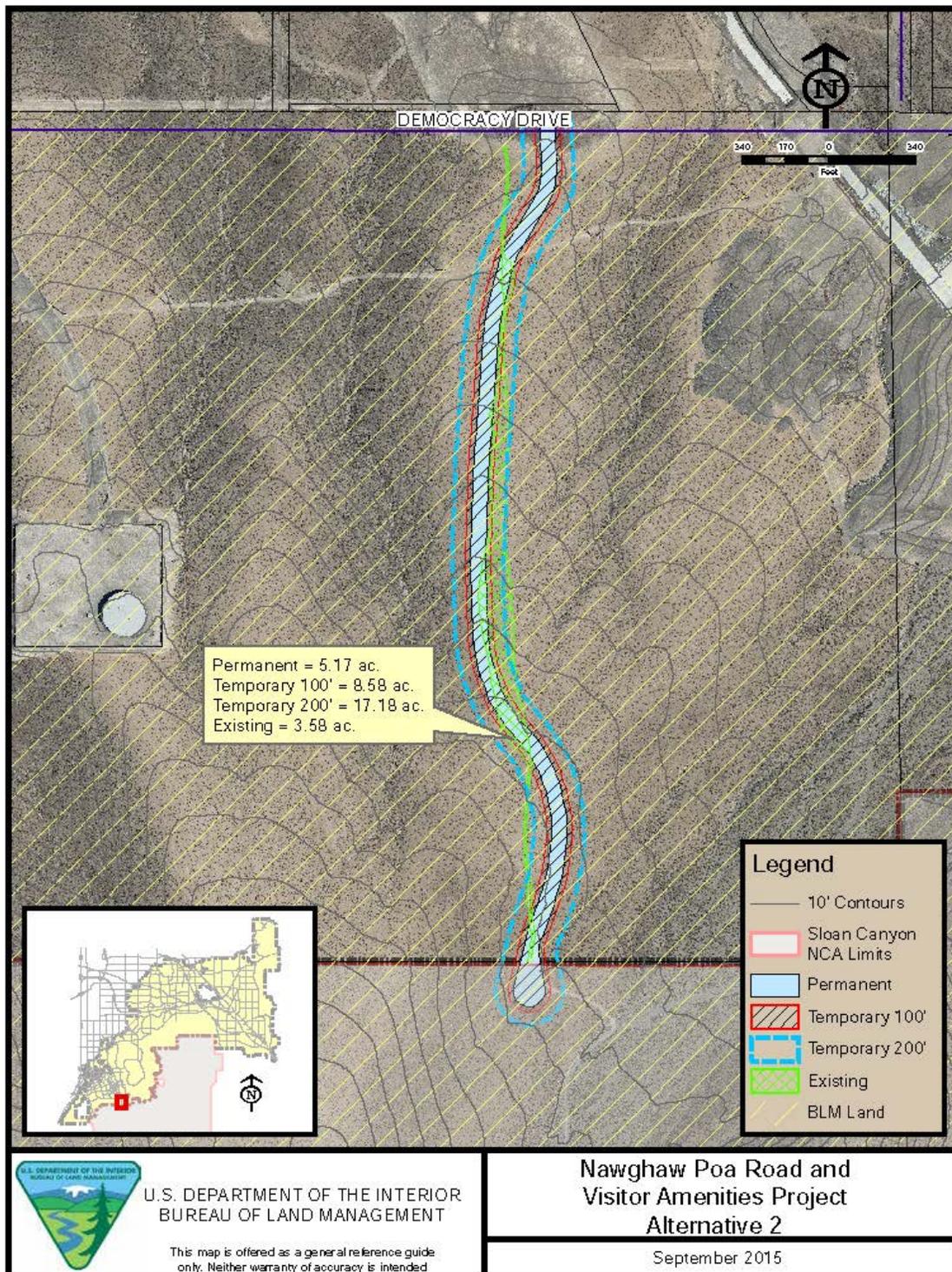


Figure 5: Alternative 2 - Permanent and Temporary Disturbances

4.1.2 Invasive Species/Noxious Weeds

Alternative 1 (Proposed Action)

Construction would require construction equipment such as loaders, graders, compactors, cement mixers, compactors, rollers, water truck and haul trucks. Use of such equipment could import non-native seeds from previous job sites. Work within the construction corridor would require clearing and grubbing of existing vegetation. The cleared area would be graded, topsoil would be removed and the substrate would be compacted. Soil disturbance could reduce the native seed bank associated at the site.

Construction would likely take place within a construction corridor with widths ranging from 100 to 200 feet. Vegetation within the construction corridor maybe cleared and grubbed for construction access and staging areas. Maneuvering of off-road equipment may result trample or crushed vegetation. Construction could increase fragmentation potential for the transmission of non-native invasive species. Temporary impacts would range from 8.63 acres to 20.05 acres. See Figures 4 and 5.

Bare ground areas within the construction corridor would provide an opportunity for non-native invasive weed species to colonize the project area. If weeds are established on the site there is potential for species to out-compete native plants for resources. Noxious and/or invasive weeds effectively compete with native species for sunlight, soil, water, nutrients, and space, thereby reducing forage productivity.

Increased vehicle traffic during all phases of the proposed project will also impact noxious and/or invasive weed. Vehicles are effective at introducing and/or spreading weeds by disbursing weed seed along roadways. More specifically the increased vehicular activity at the site has the potential to spread non-native invasive annual grasses.

Red brome (*Bromus rubens*) and cheatgrass (*Bromus tectorum*) readily ignite and burn. Over time these annual grass fires can result in increased wildfires. Increased wildfires can result in the loss or destruction of native plants and habitat. Invasive annual grass also competes with native plant species, and reduces the productivity of rangelands, forest lands, riparian areas, and wetlands.

Aggressively managing invasive or noxious species will limit residual effects to manageable levels. This is made possible by maintaining discontinuous, dispersed native vegetation, nonflammable native species, propagation and planting of native species, or complete removal of all vegetation. With implementation of mitigation measures in Section 6, the introduction and spread of noxious and/or invasive weeds would be minimized or mitigated.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Thus, permanent impacts associated with Alternative 2 are slightly less than Alternative 1.

Construction would likely take place within a construction corridor with widths ranging from 100 to 200 feet. Vegetation within the construction corridor maybe cleared and grubbed for

construction access and staging areas. Maneuvering of off-road equipment may result trample or crushed vegetation. Construction could increase fragmentation potential for the transmission of non-native invasive species. Temporary impacts would range from 8.58 acres to 17.18 acres. See Figures 4 and 5.

With implementation of mitigation measures in Section 6, the introduction and spread of noxious and/or invasive weeds would be minimized.

Alternative 3 (No Action Alternative)

There would be no direct introduction and spread of invasive species/noxious weeds associated with use of construction equipment. The existing access road and vehicle turnaround/parking lot would continue to be utilized.

Similar to impacts characterized under Alternative 1, increased passenger vehicle traffic would introduce noxious and/or invasive weed. Vehicles are effective at introducing and/or spreading weeds by disbursing weed seed along roadways. More specifically the increased vehicular activity at the site has the potential to spread non-native invasive annual grasses. Furthermore, due to insufficient capacity, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside as annual visitations increase, potentially resulting in introduction of invasive species beyond previously undisturbed areas. Moreover, there would be no on-site contact station and no opportunities to educate visitors on avoiding and minimizing introduction of invasive species. Off-road parking and lack of trash receptacles could indirectly result in the spread or introduction of invasive plant species.

4.1.3 Fish and Wildlife Excluding Federally Listed Species

Alternative 1 (Proposed Action)

Wildlife species would be disturbed or displaced as a maximum of 20.05 acres of habitat would be disturbed within the project area. The primary direct impacts of the proposed action on wildlife would be killing or maiming of ground dwelling animals, displacement of individuals, the permanent loss and fragmentation of habitat, and increased potential for harassment of wildlife. Noise and vibration associated with earth moving equipment as well as presence of visual forms associated with an active construction site would disperse mobile terrestrial species from the construction area. Work may discourage breeding or foraging within the vicinity of the construction footprint. Adjacent areas within the construction corridor may be temporarily abandoned for the duration of construction. Mortality could also result from visitor traffic subsequent to construction. Indirect impacts could include the introduction and spread of weeds and increased erosion potential. Wildlife species in the general area are common and widely distributed throughout the area and the loss of some individuals and/or their habitat should have a negligible impact on populations of the species throughout the region. Impacts to BLM sensitive species are not anticipated to lead to further decline of the species range-wide.

With implementation of mitigation measures in Section 6, impacts to these species would be minimized.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would

establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Thus, permanent impacts associated with Alternative 2 are slightly less than Alternative 1.

With implementation of mitigation measures in Section 6, impacts to the species would be minimized.

Alternative 3 (No Action Alternative)

With no construction of a new road, there would be no permanent loss of additional habitat nor long term impacts to habitat within the construction corridor. Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area and the North McCullough Wilderness increases. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, resulting in disturbance of previously undisturbed areas, further fragmenting habitat, or killing or maiming ground dwelling animals. Furthermore, increased use of the unpaved access road could further increase the potential for the introduction of noxious and/or invasive weed. With no receptacles to collect trash, trash left behind by visitors could attract nonnative species or household pets that could increase predation of native species. Moreover, there would be no on-site contact station and no opportunities to educate visitors on avoiding and minimizing impacts to native wildlife.

4.1.4 Federally Threatened, Endangered, Proposed, or Candidate Animal Species and Critical Habitat

The proposed project must comply with Section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.) for consultation with the USFWS on effects to federally listed species. The proposed action has a may affect, likely to adversely affect determination for the federally threatened desert tortoise (*Gopherus agassizii*) and no effect for its designated critical habitat, as the project is outside of this range. The proposed project will have no effect on any other federally protected species or designated critical habitat due to absence of the species and/or habitat.

Alternative 1 (Proposed Action)

Potential impacts to tortoise from the proposed action would be similar to those described in the Fish and Wildlife section including the permanent loss of 5.19 acres of habitat and maximum disturbance of 20.05 acres (see Table 2 and Table 3). Noise and ground vibration associated with earth moving equipment may cause individuals to temporarily abandon burrows and areas within vicinity of the construction corridor. However, due to limited mobility, individuals present within the construction corridor may be physically harmed during construction from use and maneuvering of earth moving equipment. Earth moving activities could also bury tortoise burrows. Due to habitat in the surrounding area, there is potential for tortoises to wander into the project area. If not noticed and avoided during construction and operation, desert tortoises could be either killed (by crushing) or harassed (being moved out of harm's way).

Section 7 consultation for this project is covered under the current Programmatic Biological Opinion (84320-2010-F-0365.R003) contingent on compliance with the terms and conditions which have been attached to this EA for desert tortoise. Terms and conditions and minimization measures in the above Biological Opinion contain measures to avoid and minimize potential impacts, including take, to desert tortoise. With implementation of mitigation

measures in Section 6 including implementation of terms and conditions of the Biological Opinion, impacts to the tortoise would be avoided or minimized.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Construction activities would result in a permanent loss of 5.17 acres of habitat and maximum disturbance of 17.18 acres (see Table 2 and Table 3). With implementation of mitigation measures in Section 6 including implementation of terms and conditions of the Biological Opinion, impacts to the tortoise would be avoided or minimized.

Alternative 3 (No Action Alternative)

With no construction of a new road, there would be no permanent loss of additional habitat nor would there be long term impacts to habitat within the construction corridor. Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area and the North McCullough Wilderness increases. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, resulting in disturbance of previously undisturbed areas, further fragmenting habitat, and killing or maiming ground-dwelling tortoises. Furthermore, increased use of the unpaved access road could further increase the potential for the introduction of noxious and/or invasive weed. With no receptacles to collect trash, trash left behind by visitors could attract nonnative species or household pets that could increase predation of native species. Moreover, there would be no on-site contact station and no opportunities to educate visitors on avoiding the desert tortoise.

4.1.5 Migratory Birds

Alternative 1 (Proposed Action)

Alternative 1 would result in the permanent loss of 5.19 acres of habitat and maximum disturbance of 20.05 acres (see Table 2 and Table 3). Construction within bird nesting season (February 15th through August 31st) could disturb nesting birds within or immediately adjacent to the construction area. Direct impacts could include the loss of nesting habitat and forage, mortality and harassment of individual animals, and decrease in habitat value of adjacent remaining areas due to increased human activity in the area. However, since construction would likely occur outside of bird breeding season, impacts would be avoided or minimized. With implementation of mitigation measures in Section 6 impacts to migratory birds would be minimized.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Construction activities would result in a permanent

loss of 5.17 acres of habitat and maximum disturbance of 17.18 acres (see Table 2 and Table 3). With implementation of mitigation measures in Section 6 including implementation of terms and conditions of the Biological Opinion, impacts to the tortoise would be minimized.

Alternative 3 (No Action Alternative)

With no construction of a new road, there would be no permanent loss of additional habitat nor would there be long term impacts to habitat within the construction corridor. Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area and the North McCullough Wilderness increases. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, resulting in disturbance of previously undisturbed areas, further fragmenting habitat, and potentially destroying nests. Furthermore, increased use of the unpaved access road could further increase the potential for the introduction of noxious and/or invasive weed. With no receptacles to collect trash, trash left behind by visitors could attract nonnative species or household pets that could increase predation of migratory birds.

4.2 Soils

Alternative 1 (Proposed Action)

Road construction would entail clearing and grubbing of existing vegetation within the road footprint. The cleared area would be graded, topsoil would be removed and the substrate would be compacted. Asphalt, concrete, and gravel would be discharged resulting in the permanent displacement of 5.19 acres of native soil. Due to the impermeable surfaces, the soil underneath the road bed would not be subject to erosion.

Furthermore, construction would likely take place within a construction corridor with widths ranging from 100 to 200 feet (see Figure 4). Vegetation within the construction corridor may also be cleared and grubbed for construction access and staging areas. Maneuvering of off-road equipment would disturb the desert pavement and soil crusts. Approximately 8.63 acres to 20.05 acres may be affected. Soil disturbance within the construction corridor would increase the potential for erosion and transportation of exposed fine-grained sands soils to lower elevations. Upon completion of construction, unconsolidated and loose topsoil would be conveyed down gradient to lower elevations during rain storms. These effects would be attenuated as vegetation and soil crusts are reestablished in the long-term. To that end, disturbed areas within the construction corridor as well as segments of unpaved access road outside of the construction footprint would be restored via installation of vertical mulch. The mulch would be irrigated until they are sufficiently established. However, soils within disturbed areas would remain disturbed for the long term.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Since the alignment under Alternative 2 would be located

down gradient within vicinity of a wash, the potential for soil erosion is slightly less relative to Alternative 1. However, given that both alternatives share the same alignment for approximately 2,500 feet, differences in erosion rates would not be notable.

Alternative 3 (No Action Alternative)

With no construction of a new road, there would be no permanent loss of native soil nor would there be long term disturbances of native soil within the construction corridor. There would be no increase in down gradient sedimentation rates during rainfalls.

Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area and the North McCullough Wilderness increases. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, resulting in disturbance of previously undisturbed soils. Moreover, there would be no on-site contact station and no opportunities to educate visitors on minimizing impacts to native soil.

4.3 Water Resources/Quality (drinking/surface/ground)

Alternative 1 (Proposed Action)

The construction footprint is located on a ridge outside of surface waterways. The existing unpaved vehicle turnaround, the southern terminus of the project footprint, is located in the uplands, approximately 230 feet away from the active channel of the wash. Thus, construction would not permanently or temporarily impound, redirect, or modify the desert wash traversing Sloan Canyon. Thus, the hydrology characterizing the wash would remain unaltered. Asphalt and concrete would be placed primarily placed along the ridgeline. Even though there will be a decrease in permeable surface area (about 5 acres), there should not be a measurable decrease in groundwater recharge.

The road and trail system would follow the existing contours and gradient of the existing ridgeline. Thus, the existing drainage pattern would be retained. Furthermore, the road will have curb cuts every 50 feet throughout the entirety of its alignment to keep rainfall within 50 feet of where it falls and to avoid concentrating the storm water. In addition, rip rap energy dissipaters would be placed at each curb cut to minimize potential for erosion.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Due to the slight rise in gradient, velocity of flows exiting the curb cuts on the slope of the ridge would be relatively higher. However, rip rap energy dissipaters will be placed at each curb cut decrease velocity and minimize potential for erosion.

Alternative 3 (No Action Alternative)

With no construction of a new road the existing hydrology and drainage patterns would remain unaltered.

Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area and the North McCullough Wilderness increases. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, resulting in disturbance of previously undisturbed soils. The increase of disturb soils could increase the potential for erosion.

4.4 Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)

Alternative 1 (Proposed Action)

During construction the existing unpaved access road to Sloan Canyon would be closed. However, a temporary pedestrian pathway would be established within the 200 foot wide corridor to allow access to the Petroglyph Management Area during construction.

Construction of NPR from Democracy Drive would provide improved vehicle access to the Petroglyph Management Area and the North McCullough Wilderness. Temporary visitor amenities such as portable restrooms, potable water sources, trash receptacles, parking areas, and an informational kiosk would be available to visitors. These elements would improve the visitation experience.

Interpretive programs would further improve the visitation experience and help to conserve, protect and restore this Nationally Significant area. Upon initial establishment of the contact station, basic orientation and education materials about the area and applicable regulations would be made available to visitors. Opportunities for in-person interaction with BLM staff would be available during operational hours of the contact station. In-person interaction as well as orientation and education materials would foster amongst visitors an appreciation and understanding of the cultural resources within the Petroglyph Management Area as well as recreational opportunities within the North McCullough Wilderness. In-person interactions would also foster an awareness of appropriate visitor use and site etiquette at cultural resources sites and within the North McCullough Wilderness.

Visits to the Petroglyph Management Area would be monitored to ensure usage thresholds are in conformance with the Management Emphasis Areas the RMP and NMWMP to conserve and protect cultural resources.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1.

Alternative 3 (No Action Alternative)

NPR would not be constructed. However, the COH would extend Democracy Drive as planned facilitating vehicular and pedestrian access to the Petroglyph Management Area and the North McCullough Wilderness. The unpaved access road to the Petroglyph Management Area would

remain. Temporary visitor amenities such as portable restrooms, potable water sources, trash receptacles, parking areas, and an informational kiosk would not be available to visitors. With no contact station, there would be no opportunities for BLM staff to interact with and educate visitors. Usage thresholds pursuant to those identified in the RMP and NMWMP would not be managed. With increased visitors and no infrastructure and programs to manage and educate visitors, human-caused deterioration of sensitive cultural resources and natural resources would increase.

4.5 Visual Resources - (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)

Alternative 1 (Proposed Action)

Within the NCA, placement of a temporary contact station and other temporary amenities such as portable restrooms would result in introduction of rectangular forms. However, the size of the structures would be similar to small construction trailers and would be limited to one story in height and will be replaced with permanent facilities during Phase II of the Sloan Canyon Implementation Strategy. These small rectangular forms would easily resolve to the undulating lines characterizing the low gradient hills within the larger view shed and will be colored an appropriate environmental standard color. The black asphalt would introduce a distinct color contrast to the landscape. However, given the limited geographic footprint within the NCA, the level of change to the characteristic landscape would be moderate and may minimally attract the attention of the casual viewer. Based on the above, Alternative 1 would be in conformance with the visual resource management measures in the RMP.

Furthermore, construction would likely take place within a construction corridor with widths ranging from 100 to 200 feet (see Figure 4). Vegetation within the construction corridor may also be cleared and grubbed for construction access and staging areas. Maneuvering of off-road equipment would disturb the desert pavement and soil crusts. Approximately 8.63 acres to 20.05 acres may be affected. These temporarily disturbed areas would be visually distinct from hues and textures associated with desert pavement as well as creosote bush and bursage vegetation communities. Disturbed areas within the construction corridor as well as segments of the unpaved access road outside of the construction footprint would be restored. The mitigation measures are further detailed in Section 6. Upon sufficient recovery of restored areas, visual impacts associated with disturbed areas would be minimized.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1 since both alternatives share the same alignment for approximately 2,500 feet before diverging. Under Alternative 2, the alignment would veer diagonally towards the southeast down the ridge; continue south towards a wash; and terminate at the existing vehicle turnaround. Whereas Alternative 1 would establish a new vehicle turnaround/parking lot, the existing vehicle turnaround/parking lot would be reconstructed under Alternative 2. Disturbed areas within the construction corridor as well as segments of the unpaved access road outside of the construction footprint would be restored. The mitigation measures are further detailed in Section 6. Upon sufficient recovery of restored areas, visual impacts associated with disturbed areas would be minimized.

Alternative 3 (No Action Alternative)

With no construction of a new road, there would be no temporary or permanent visual impacts associated with the construction of an asphalt road.

Visitations would increase due to the extension of Democracy Drive and development of areas outside the NCA boundary. The existing unpaved turnaround at the terminus of SCR would not have sufficient space for vehicles as visitations to Petroglyph Management Area increases. Thus, during peak visitation periods, visitors may park cars in areas beyond the existing boundary of the turnaround or park roadside, resulting in disturbance of previously undisturbed soils and vegetation.

These disturbed areas would be visually distinct from hues and textures associated with desert pavement as well as creosote bush and bursage vegetation communities. With no implementation of restoration measures, there would be long-term visual impacts associated with the disturbed areas.

4.6 National Landscape Conservation System

Alternative 1 (Proposed Action)

The project area is located within the immediate vicinity of the North McCullough Wilderness and encompasses public lands managed by the Las Vegas Field Office (BLM) as well as a portion of land within the NCA managed by the Red Rock/Sloan Field Office (BLM). The majority of NPR would be located outside the NCA boundary on public lands managed by the Las Vegas Field Office. The looped vehicle turnaround/parking area would be located immediately inside the NCA boundary, extending no further than 100 feet into the NCA. Upon completion of construction, temporary amenities including but not limited to a contact station, information kiosk, portable restrooms, potable water supply, bicycle racks, and trash receptacles would be placed on site.

BLM guidelines encourage placement of visitor amenities outside of the NCA in part to minimize disturbance within the NCA (see BLM Handbooks 6100, 6220, and 8320). However, due to the unique nature of the cultural resources within Sloan Canyon, its proximity to develop areas and the expected increase in annual visits, there is a need to effectively manage cultural and natural resources within the Petroglyph Management Area and the North McCullough Wilderness. The most effective method is to locate visitor facilities in close proximity to the site. This would better facilitate implementation of permitting and monitoring programs. Visitor amenities such as trash receptacles, portable restrooms, and potable water sources nearby would minimize litter.

Of most importance is the ability of BLM staff to implement outreach and interpretive programs. These programs would foster amongst visitors an appreciation and understanding of the cultural resources within the Petroglyph Management Area as well as recreational opportunities within the North McCullough Wilderness. In-person interactions would also foster an awareness of appropriate visitor use and site etiquette at the petroglyph site.

Locating temporary amenities within the NCA would effectively comply with the intent of the Omnibus Public Land Management Act in establishing the National Landscape Conservation System; establishment of the NCA; and BLM guidelines: the conservation and protection of sensitive cultural and natural resources.

Alternative 2 (Partial Ridge Alternative)

Impacts would be similar to those characterized for Alternative 1.

Alternative 3 (No Action Alternative)

NPR would not be constructed. There would be no temporary visitor amenities within the NCA boundary. The COH would extend Democracy Drive as planned facilitating vehicular and pedestrian access to the Petroglyph Management Area and the North McCullough Wilderness. The unpaved access road to the Petroglyph Management Area would remain. Temporary visitor amenities such as portable restrooms, potable water sources, trash receptacles, parking areas, and an informational kiosk would not be available to visitors. With no contact station, there would be no opportunities for BLM staff to interact with and educate visitors. Usage thresholds pursuant to those identified in the RMP and NMWMP would not be managed. With increased visitors and no infrastructure and programs to manage and educate visitors, conservation and protection of cultural and natural resources would be compromised.

5.0 Cumulative Impacts

Cumulative impacts are defined in the BLM National Environmental Policy Act (NEPA) Handbook (1998) as impacts on the environment that result from the incremental impact of the Project when added to other past, present, and reasonably foreseeable future actions. The scope of analysis for cumulative impacts encompasses the northern border of the Sloan Canyon NCA near the North McCullough Wilderness including publicly managed lands north of the NCA boundary as well as lands covered by the COH's West Henderson Land Use Plan.

Past, present, and reasonably foreseeable future actions within this Project area that have impacted or may impact the affected resources are presented in Table 4.

Table 4. Past, Present, and Reasonably Foreseeable Future Planning and Projects

Factor	Action	Description	Area Affected
Past Action	Sloan Canyon Access Road	Unpaved access road to Sloan Canyon established	Public lands in the Sloan Canyon NCA at the mouth of Sloan Canyon.
Past Planning	LVVDB (2004)	Plan to dispose of federal lands that are interspersed in urbanized areas within Clark County.	46,701 acres of federal land within Clark County including publicly managed lands abutting the NCA boundary within the vicinity of the North McCullough Wilderness.
Past Planning	Sloan NCA RMP (2006)	RMP describes the appropriate uses and development of the conservation area as it provides management guidance and identifies land use decisions to be	48,438 acres of public lands in the Sloan Canyon NCA.

Factor	Action	Description	Area Affected
		implemented for management.	
Past Planning	NMWMP (2006)	Describes the appropriate uses and development of the North McCullough Wilderness area as it provides management guidance and identifies land use decisions to be implemented for management.	14,765 acres of public lands within the southwest portion of the Sloan Canyon NCA.
Past Planning	TMP (2009)	Framework for development of a comprehensive non-motorized trail network the Sloan Canyon NCA, including the North McCullough Wilderness.	non-motorized trail network in the Hidden Valley and Dutchman Pass areas of Sloan Canyon NCA.
Past Action	Trails 100 & 101 (2011-2015)	Construction of non-motorized trails through Sloan Canyon Petroglyph Management Area.	Sloan Canyon Petroglyph Management Area
Future Planning	West Henderson Land Use Plan (2014)	Land use plan for COH's West Henderson Planning Area.	Land generally bounded between the Sloan Canyon NCA border to the south and St. Rose Parkway to the north.
Future Planning	Permanent visitor center & utilities	Construct a permanent visitor center and utilities to replace the temporary contact station and visitor amenities.	Southern terminus of Nawghaw Poa Road just inside the NCA boundary.

5.1 Vegetation

Past, present, and reasonably foreseeable future projects are located within an area where creosote/bursage scrub is abundant.

The proposed action would replace the unpaved access road with NPR and establish temporary visitor amenities including a contact station. Vegetation within the construction corridor may be cleared and grubbed for construction access and staging areas. Maneuvering of off-road equipment may result trample or crushed vegetation. Construction could increase fragmentation potential for the transmission of non-native invasive species. Temporary impacts would range from 8.63 acres to 20.05 acres. With implementations of mitigation measures Section 7, impacts to vegetation would be minimized during construction.

As part of a future project, the BLM would construct a permanent visitor center at the looped vehicle turnaround/parking lot. Likewise, electrical utilities would be installed within the median separating the road from the paved trail (see Figure 2). Construction of the permanent visitor center and installation of utilities are likely to result in minimal disturbance of additional areas beyond the construction footprint evaluated in this document.

Over the long-term, the proposed improvements in combination with past, present, and reasonably foreseeable future projects could result in impacts to vegetation from increased visitations. However, with implementations of management measures, thresholds, and

interpretative programs pursuant to the RMP and NMWMP, impacts to biological resources would be avoided or minimized.

The majority of NPR is located outside the NCA boundary on public lands managed by the BLM. These lands have been designated for disposal pursuant to the SNPLMA and are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. Thus, disposal of land adjacent to NPR would contribute incrementally to regional declines of the creosote bursage scrub vegetation community. Environmental impacts associated with disposal of lands have been evaluated in the Las Vegas Valley Disposal Boundary (LVVDB) Environmental Impact Statement.

5.2 Invasive Species/Noxious Weeds

The Proposed Action, in conjunction with other projects, would result in cumulative impacts on native vegetation communities, including the potential spread of noxious and/or invasive weeds with the potential to adversely affect the Project Area and adjacent lands. The proposed ROW areas are adjacent to expanding residential developments. The combined effects of the following land uses have the potential to increase the rate at which the noxious and invasive weeds colonize adjacent BLM lands. The effects will be considered negligible if stipulations are met to identify, prevent, and treat the spread of noxious and or invasive species.

Weeds could spread from affected areas into unaffected areas over time. Operations and maintenance activities could spread or re-introduce weeds. Implementation of mitigation measures in Section 6, would minimize and mitigate the spread of invasive or noxious species over time.

Vehicles and human activities are known vectors for the introduction of new invasive or noxious species. Increased human activity and vehicle use could introduce new weed species into the area. With temporary visitor amenities in place and with the future construction of a permanent visitor center, increased passenger vehicle traffic would increase the potential for the colonization of noxious and/or invasive weed. However, with implementation of weed management measures, thresholds, and interpretative programs pursuant to the RMP and NMWMP, spread of invasive species would be avoided, mitigated or minimized. Thus, when combined with other past and present actions, the proposed actions are not likely to result in adverse cumulative effects.

Weeds could spread from adjacent lands. The majority of NPR is located outside the NCA boundary on public lands managed by the BLM. These lands have been designated for disposal pursuant to the SNPLMA and are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. Disposal of land adjacent to NPR could result in spread of invasive species in the vicinity of the project area, however, weed management would fall under the City of Henderson and Clark County Vector Control and would be mitigated according to local, county, and state regulatory requirements.

In addition, the BLM works with multiple entities under the Southern Nevada Cooperative Weed Management Area to prevent and control the spread of noxious and invasive weeds in southern Nevada. Collaborative and cooperative weed management activities across agency and jurisdictional boundaries were further reducing present and future cumulative weed impacts.

5.3 Fish and Wildlife Excluding Federally Listed Species

Past, present, and reasonably foreseeable future projects are located within an area BLM Sensitive Species such as the chuckwalla, burrowing owl, banded Gila monster, and Mojave Desert sidewinder may be present. Establishment of the existing unpaved access road over time and the relative inaccessibility of the site likely resulted in limited impacts to these species. With implementation of the proposed project, wildlife species would be disturbed or displaced as a maximum of 20.05 acres of habitat would be disturbed within the project area. With implementations of mitigation measures Section 7, impacts to these species would be avoided or minimized during construction.

With temporary visitor amenities in place and with the future construction of a permanent visitor center, increased passenger vehicle traffic would increase the potential for impacts to wildlife. However, with implementations of management measures, thresholds, and interpretative programs pursuant to the RMP and NMWMP, impacts to wildlife would be avoided or minimized during. Thus, when combined with other past and present actions, the proposed action would not result in adverse cumulative effects.

The majority of NPR is located outside the NCA boundary on public lands managed by the BLM. These lands have been designated for disposal pursuant to the SNPLMA and are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. With development of these lands, wildlife would be displaced. Furthermore, domestic pets such as dogs and cats may increase predation of the species. Thus, disposal of land adjacent to NPR could result in localized decline of these species in the vicinity of the project area. Environmental impacts associated with disposal of lands have been evaluated in the Las Vegas Valley Disposal Boundary (LVVDB) Environmental Impact Statement.

5.4 Federally Threatened, Endangered, Proposed, or Candidate Animal Species and Critical Habitat

The only federally protected species known to occur in the vicinity of the project area is the threatened Mojave Desert tortoise (*Gopherus agassizii*). The project area is within moderate density tortoise habitat but is not within desert tortoise critical habitat. Establishment of the existing unpaved access road over time and the relative inaccessibility of the site likely resulted in limited impacts if any to these species.

Potential impacts to tortoise from the proposed action would be similar to those described for the Fish and Wildlife section including the permanent loss of 5.19 acres of habitat and maximum disturbance of 20.05 acres (see Table 2 and Table 3). Section 7 consultation for this project is covered under the current Programmatic Biological Opinion (84320-2010-F-0365.R003). With implementation of mitigation measures in Section 6 including implementation of terms and conditions of the Biological Opinion, impacts to the tortoise would be avoided or minimized.

With temporary visitor amenities in place and with the future construction of a permanent visitor center, increased passenger vehicle traffic would increase the potential for impacts to the tortoise. With implementation of terms and conditions of the Programmatic Biological Opinion applicable to the future phases, impacts to the tortoise would be avoided or minimized. Furthermore, the BLM would implement management measures, thresholds, and interpretative programs pursuant to the RMP and NMWMP, impacts to wildlife would be avoided or minimized

during. Thus, when combined with other past and present actions, the proposed action would not result in adverse cumulative effects.

The majority of NPR is located outside the NCA boundary on public lands managed by the BLM. These lands have been designated for disposal pursuant to the SNPLMA and are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. With development of these lands, wildlife would be displaced. Furthermore, domestic pets such as dogs and cats may increase predation of the species. Thus, disposal of land adjacent to NPR could result in localized decline of these species in the vicinity of the project area. Environmental impacts associated with disposal of lands have been evaluated in the Las Vegas Valley Disposal Boundary (LVVDB) Environmental Impact Statement.

5.5 Migratory Birds

Past, present, and reasonably foreseeable future projects are located within an area where creosote/bursage scrub is abundant. Migratory birds that potentially utilize the vegetation include the Western burrowing owl (*Athene cuniculari hypugaea*) and the Loggerhead shrike (*Lanius ludovicianus*).

Establishment of the existing unpaved access road over time and the relative inaccessibility of the site likely resulted in limited impacts to migratory birds.

With implementation of the proposed project, potential impacts to migratory birds include the permanent loss of 5.19 acres of habitat and maximum disturbance of 20.05 acres (see Table 2 and Table 3). However, impacts to migratory birds will be limited since construction would occur outside of bird breeding season. With implementation of mitigation measures in Section 6 impacts to migratory birds would be minimized.

As part of a future project, the BLM would construct a permanent visitor center at the looped vehicle turnaround/parking lot. Likewise, electrical utilities would be installed within the median separating the road from the paved trail (see Figure 2). Construction of the permanent visitor center and installation of utilities are likely to result in minimal disturbance of additional areas beyond the construction footprint evaluated in this document. Thus, impacts to migratory birds associated with construction of a permanent visitor center would be de minimis.

With temporary visitor amenities in place and with the future construction of a permanent visitor center, increased passenger vehicle traffic could increase the potential for disturbance to migratory birds. However, with implementations of management measures, thresholds, and interpretative programs pursuant to the RMP and NMWMP, impacts to wildlife would be avoided or minimized during. Thus, when combined with other past and present actions, the proposed action would not result in adverse cumulative effects.

The majority of NPR is located outside the NCA boundary on public lands managed by the BLM. These lands have been designated for disposal pursuant to the SNPLMA and are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. With development of these lands, vegetating for migratory birds would be removed. Furthermore, domestic pets such as dogs and cats may increase predation of the migratory. Thus, disposal of land adjacent to NPR could result in localized decline of habitat for migratory birds in the vicinity of the project area. Environmental impacts associated with

disposal of lands have been evaluated in the Las Vegas Valley Disposal Boundary (LVVDB) Environmental Impact Statement.

5.6 Soils

Establishment of the existing unpaved access road over time likely resulted in localized impacts to soils. Implementation of the proposed action would result in the permanent loss of 5.19 acres of native soil. Areas disturbed during construction (e.g., staging areas, construction easements, etc.) as well as existing segments of the unpaved access road outside of the NPR alignment would be restored. Disturbed areas within the construction corridor as well as segments of the unpaved access road outside of the construction footprint would be restored via installation of vertical mulch. The mulch would be irrigated until they are sufficiently established.

As part of a future project, the BLM would construct a permanent visitor center at the looped vehicle turnaround/parking lot. Likewise, electrical utilities would be installed within the median separating the road from the paved trail (see Figure 2). Construction of the permanent visitor center and installation of utilities are likely to result in minimal disturbance of additional areas beyond the construction footprint evaluated in this document. Thus, impacts to soils associated with construction of a permanent visitor center would be de minimis.

The majority of NPR is located outside the NCA boundary on public lands managed by the BLM. These lands have been designated for disposal pursuant to the SNPLMA and are within the COH's West Henderson planning area. According to the West Henderson Land Use Plan, lands outside the NCA boundary would likely be developed for low density residential uses and designated open spaces. With development of these lands, native soil could be replaced by impervious surfaces within the vicinity of the project area. Environmental impacts associated with disposal of lands have been evaluated in the Las Vegas Valley Disposal Boundary (LVVDB) Environmental Impact Statement.

5.7 Water Resources/Quality (drinking/surface/ground)

Past, present, and reasonably foreseeable future projects are located in the uplands outside of surface waterways. Thus, the hydrology characterizing Sloan Canyon Wash would remain unaltered. There will be a decrease in permeable surface area (about 5 acres), and this project will cumulative add to an increasing diminishment of groundwater recharge in the area.

5.8 Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)

It is likely that the unpaved access road into Sloan Canyon developed over time, first as a trail for off-road vehicles. As the road became worn over time, access by high ground clearance passenger vehicles became possible, and recreational use of the area likely increased. Use of this road further increased with the growth of the Las Vegas metropolitan area, the establishment of the Sloan Canyon NCA in 2006, and establishment of Trail 100 and 101.

Construction of NPR and placement of temporary visitor amenities as well as the future construction of a permanent visitor center would facilitate access to the Petroglyph Management Area and enhance visitor experience. With implementation of mitigation measures in Section 6 impacts to recreation during construction would be minimized. With implementations of management measures, thresholds, and interpretative programs pursuant to the RMP and NMWMP, BLM would be well-positioned to accommodate the projected increases in visitations to the NCA.

The proposed action is expected to have a positive, beneficial effect on recreation within the NCA. When combined with past, present, and reasonably foreseeable future actions, long-term beneficial cumulative effects to recreation are anticipated.

5.9 Visual Resources - (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)

Establishment of the existing unpaved access road over time resulted in localized impacts to the landscape. Construction of NPR and placement of temporary visitor amenities resulted in localized impacts to the landscape. However, given the limited geographic footprint within the NCA, the level of change to the characteristic landscape would be moderate and may minimally attract the attention of the casual viewer. Furthermore, areas disturbed during construction (e.g., staging areas, construction easements, etc.) as well as existing segments of the unpaved access road outside of the NPR alignment would be restored. Thus, impacts to visual resources would be reduced. By mostly retaining the existing character of the landscape, the proposed action would conform to the RMP's visual resource management guidelines. With implementation of mitigation measures in Section 6 impacts to visual resources would be minimized.

As part of a future project, the BLM would construct a permanent visitor center at the looped vehicle turnaround/parking lot. Likewise, electrical utilities would be installed within the median separating the road from the paved trail (see Figure 2). Construction of the permanent visitor center and installation of utilities are likely to result in minimal disturbance of additional areas beyond the construction footprint evaluated in this document. Thus, impacts to visual resources would be de minimis. When combined with past, present, and reasonably foreseeable future actions, long-term beneficial cumulative effects to recreation are anticipated. Thus, when combined with other past and present actions, the proposed action would not result in adverse cumulative effects.

5.10 National Landscape Conservation System

Past, present, and reasonably foreseeable future projects would minimally intrude into the NCA. The existing parking area/vehicle turnaround extends no further than 100 feet into the NCA. Likewise, the proposed parking area/vehicle turnaround also would extend no further than hundred feet into the NCA.

As part of a future project, the BLM would construct a permanent visitor center at the looped vehicle turnaround/parking lot. Likewise, electrical utilities would be installed within the median separating the road from the paved trail (see Figure 2). Construction of the permanent visitor center and installation of utilities would be limited to the construction footprint evaluated in this document. Cumulatively, the proposed action and future action within the NCA would effectively comply with the intent of the Omnibus Public Land Management Act in establishing the National Landscape Conservation System; establishment of the NCA; and BLM guidelines: the conservation and protection of sensitive cultural and natural resources. Thus, when combined with other past and present actions, the proposed action would not result in adverse cumulative effects.

6.0 Mitigation Measures

6.1 Vegetation

- Limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed.
- Demarcate the construction corridor with construction fence or flags. Construction equipment shall not operate beyond the demarcated area.
- Restore areas disturbed during construction (e.g., staging areas, construction easements, etc.) as well as existing segments of the unpaved access road outside of the NPR alignment via installation of vertical mulch. Appropriately-sized large, medium and smaller rocks for this specific area would be placed within the disturbance area to restore a natural vista. Appropriately colored (the coloration in the area is black rocks on light brown soil) desert varnish would be applied to replicate the natural coloration in the area.

6.2 Invasive Species/Noxious Weeds

- Follow direction and guidance established by the RMP and LVFO Weed Management Plan as appropriate.
- Complete a weed inventory and weed risk assessment of the project area prior to ground breaking activities.

Prioritize weed infestations for treatment within the project foot print. Should the weed spread beyond the project foot print then these weeds will be treated as a part of the project. This will include access routes. Report any new weed infestations to the BLM Weed Coordinator.

- Coordinate project activities with the BLM Weed Coordinator (702-515-5000) regarding any proposed herbicide treatment. All pesticide use must have an approved Pesticide Use Proposal (PUP). All PUPs must meet environmental compliance standards and may require additional NEPA and/or Section 7 consultation. In addition, herbicide use is subject to the BLM's Programmatic EIS (PEIS) for Vegetation Treatment Using Herbicides on BLM Lands in 17 Western States (BLM 2007).
- Limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. Avoid creating soil conditions that promote weed germination and establishment.
- Begin construction in weed free areas whenever feasible before operating in weed-infested areas.
- Locate equipment storage, machine and vehicle parking or any other area needed for the temporary placement of people, machinery and supplies in areas that are relatively weed-free. Avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely.
- Establish equipment-cleaning sites (if equipment is infested with weed seeds, plant parts or mud and dirt). Clean project related equipment and machinery (this especially includes the nooks and crannies of undercarriages) using compressed air or water to

remove mud, dirt and plant parts before moving into and from relatively weed-free areas. Collect, bag and deposit seeds and plant parts in dumpsters destined for local landfills as practical.

- Inspect, remove, and dispose of weed seed and plant parts found on personnel clothing and personal equipment. Bag and dispose of seeds and plants in a dumpster for deposit in local landfills. Disposal methods may vary depending on the project. If you have questions consult with the BLM Noxious Weed Coordinator.
- Evaluate options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.
- Utilize certified weed free materials in construction, restoration reclamation activities when and where possible.
- Invasive annual species such as red brome burn rapidly and are difficult to control. Fire prevention measures must be established where problematic annual grass infestations are present. Compliance with fire restrictions is mandatory while fire restrictions are in place. Fire restrictions are generally enacted between May and October. Specific noncompliant activities may be waived on a case by case basis by the District Manager after review and approval by the Fire Management Officer and Field Manager.
- Coordinate and collaborate weed management activities with the City of Henderson and Clark County Vector Control. Work with the Southern Nevada Cooperative Weed Management Area or other entities as appropriate to prevent and control invasive and noxious weeds.

6.3 Fish and Wildlife Excluding Federally Listed Species

- Immediately report any Gila monster encounters during construction to the Nevada Division of Wildlife NDOW at (702) 486-5127.
- Capture and detail live Gila monsters found in harms way in a cool, shaded environment (<85°F) using a qualified biologist trained in handling venomous reptiles until a BLM biologist can arrive for documentation purposes. A clean 5-gallon plastic bucket with a secure, ventilated lid; an 18"x 18"x 4" plastic sweater box w/ a secure, vented lid; or, a tape-sealed cardboard box of similar dimension may be used for safe containment. Provide written information identifying mapped capture location, date, time, and circumstances (e.g. biological survey or construction) and habitat description (vegetation, slope, aspect, substrate) will also be provided to the NDOW biologist.
- Transport injured Gila monsters within the construction footprint to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses will not be covered by NDOW. However, NDOW will be immediately notified during normal business hours. If an animal is killed or found dead, the carcass will be immediately frozen and transferred to NDOW with a complete written description of situation circumstances, habitat, and mapped location.
- Should NDOW be delayed to assist, biological personnel on site may be requested to remove and release the Gila monster out of harms way. Should NDOW not be

immediately available to respond for photo-documentation, provide to the NDOW good quality photographs of the Gila monster in situ at the location of live encounter or dead salvage. The pictures, will be provided to NDOW and will include:

- Encounter location (landscape overview with Gila monster in clear view)
- A clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view)
- A clear, overhead close-up of the head (head should fill camera's field of view).

6.4 Federally Threatened, Endangered, Proposed, or Candidate Animal Species and Critical Habitat

- Since the majority of this project occurs in the Las Vegas Field Office, Section 7 Consultation for this project is covered under the Programmatic Biological Opinion (84320-2010-F-0365.R003, see Appendix B) contingent on compliance with the terms and conditions. The project proposes to disturb 21.66 acres of tortoise habitat. The proponent will be required to pay remuneration fees of \$18,259.38 based on the current year's rate of \$843/acre of disturbance. Terms and conditions and minimization measures in the above Biological Opinion contain measures to avoid and minimize potential impacts, including take, to desert tortoise. A copy of the terms and conditions has been uploaded to ePlanning (Sec 7 Log # NV-052-15-135).
- Install temporary suction fencing on the perimeter of the area where there is active construction. Once fencing is installed, clear the work area inside the fencing for tortoise and burrows using a US Fish and Wildlife Service-authorized desert tortoise biologist.
- US Fish and Wildlife Service-authorized desert tortoise biologist shall remain on call and report to the site as needed.

6.5 Migratory Birds

- Scheduled habitat-altering activities outside the bird breeding season, which generally occurs from February 15th through August 31st. If such an activity has to occur during the breeding season, then a qualified biologist must first survey the area for nests immediately prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting in vegetation. If any active nests are found, an appropriately-sized buffer area must be established and maintained until the young birds fledge. This buffer must connect to other suitable undisturbed habitat. As the above dates are a general guideline, if active nests are observed outside this range they are to be avoided as described above.
- If a project that may alter any breeding habitat has to occur during the breeding season, then a qualified biologist must survey the area for nests prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting in vegetation. If any active nests (containing eggs or young) are found, an appropriately-sized buffer area must be avoided until the young birds fledge. As the above dates are a general guideline, if active nest are observed outside this range they are to be avoided as described above.

6.6 Soils

No mitigation measures are proposed.

6.7 Water Resources/Quality (drinking/surface/ground)

No mitigation measures are proposed.

6.8 Recreation (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)

- Establish a temporary pedestrian pathway within the 200 foot wide corridor to allow access to the Petroglyph Management Area during construction. The temporary pathway shall be located at a sufficient distance from active construction to avoid injuries.

6.9 Visual Resources - (for BLM public lands managed under the Sloan Canyon NCA Resource Management Plan)

- The proposed action is in VRM Class III. VRM Class III aims to partially retain the existing character of the landscape. Levels of change to the landscape can be moderate, but should not dominate the view of the casual observer.
- Restore areas disturbed during construction (e.g., staging areas, construction easements, etc.) as well as existing segments of the unpaved access road outside of the NPR alignment. Place appropriately-sized large, medium and smaller rocks within the disturbance area to restore a natural vista. Apply appropriately colored (the coloration in the area is black rocks on light brown soil) desert varnish to replicate the natural coloration in the area.

6.10 National Landscape Conservation System

No mitigation measures are proposed.

7.0 List of Preparers

Table 5. List of BLM Preparers

Name	Title	Contributed Sections
Charles Biederman	Outdoor Recreation Planner	Recreation
Mark Boatwright	Archeologist	Cultural Resources; Native American Religious Concern; Paleontology
Lisa Christianson	Air Resources Specialist	Air Quality; Greenhouse Gas Emissions
Lorri Dee Dukes	Geologist	Geology; Mineral Resources; Energy Production
Fred Edwards	Botanist	Areas of Critical Environmental Concern (ACEC); Livestock Grazing; Rangeland Health Standards; Threatened, Endangered or Candidate Plant Species; Vegetation (Excluding Federally Listed Species); Woodlands/Forestry

Name	Title	Contributed Sections
Susan Farkas	Planning and Environmental Coordinator	Environmental Justice; NEPA; Socio-Economics
Kathryn Foster	Realty Specialist	Lands/ Access
Mathew Hamilton	Biologist	Areas of Critical Environmental Concern (ACEC); Fish and Wildlife (Excluding Federally Listed Species); Migratory Birds; Threatened, Endangered or Candidate Animal Species
Krystal Johnson	Wild Horse and Burro Specialist	Farmlands (Prime or Unique); Wild Horses and Burros
	Wilderness Planner	BLM Natural Areas; Wilderness/Wilderness Study Areas (WSAs); Lands with Wilderness Characteristics
Ben Klink, GBI contractor	Weeds Specialist (under the supervision of Sean McEldery)	Invasive Species/Noxious Weeds
Sean McEldery	Fire Management Specialist	Fuels & Fire Management
Boris Poff	Hydrologist	Floodplains; Hydrologic Conditions; Soils; Water Resources/Quality (drinking/surface/ground); Wetlands/Riparian Zones
John Schumacher	Visual Resources Specialist	Visual Resources
Kerri-Anne Thorpe	Realty Specialist	Lands/ Access
Brenda Warner	Outdoor Recreation Planner	National Landscape Conservation System
Carla Wise	Biologist	Areas of Critical Environmental Concern (ACEC); Fish and Wildlife (Excluding Federally Listed Species); Migratory Birds

Table 6. List of Contracted Preparers

Name	Title
Kenneth Wong	Environmental Planner, US Army Corps of Engineers

8.0 Tribes, Individuals, Organizations, or Agencies Consulted

8.1 City of Henderson

The BLM, in partnership with COH, developed the proposed project, with COH providing engineering, planning, and design services. The BLM consulted with city staff listed in Table 7.

Table 7. List of Engineering and Planning Staff

Name	Title
Daniel Fazekas	Planner
Ed McGuire	City Engineer
Ross Weckesser	GIS Specialist

8.2 Tribes

Consultation letters were sent to the tribes listed in the table below on June 7 and July 5, 2015. Invitations were also extended to the same tribes for meetings arranged on July 23 and 31, 2015, which were held in Henderson, Nevada. A field visit was scheduled after a project presentation. The letters and meetings were intended to provide the opportunity for the tribes to discuss any concerns that they may have associated with the development of the project. In addition, contact information for Ms. Robbie McAboy, Assistant Field Office Manager, was provided to solicit comments for interested tribal members that were unable to participate and wished to speak to someone directly about the project.

Table 8. List of Tribes Consulted

Mr. Benny Tso, Chairman Las Vegas Paiute Tribe	Ms. Barbara Durham, THPO Timbisha Shoshone Tribe
Mr. Charles Good, Chairman Chemehuevi Indian Tribe	Mr. Eddie Jim, Chair Pahrump Paiute Tribe
Mr. Daren Daboda, Chairman Moapa Band of Paiutes	Ms. Lora Tom, Chairperson Paiute Indian Tribe of Utah
Ms. Deanna Domingo Moapa Band of Paiutes	Ms. Dorena Martineau, Cultural Coordinator Paiute Indian Tribe of Utah
Mr. Timothy Williams, Chairman Fort Mojave Indian Tribe	Mr. Herman Honanie, Chairperson Hopi Tribe
Ms. Linda Otero, Director Aha Makav Cultural Society	Mr. Leigh Kuwanwisiwma, Cultural Coordinator Hopi Tribe
Mr. Wayne Patch Sr., Chairman Colorado River Indian Tribe (CRIT)	Ms. Sherry Counts, Chairwoman Hualapai Tribe
Mr. George Gholson, Chairperson Timbisha Shoshone Tribe	Mr. Darrell Mike, Chairman Twenty-Nine Palms Band of Mission Indians

9.0 References

Bureau of Land Management. 2006a. Sloan Canyon Resource Management Plan and Environmental Impact Statement.

Bureau of Land Management. 2006b. North McCullough Wilderness Management Plan.

Bureau of Land Management. 2009. Sloan Canyon National Conservation Area Trails Master Plan and Environmental Assessment.

Bureau of Land Management. 2007. Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States.

City of Henderson. 2014. Updated West Henderson Land Use Plan.