



**SR-159 CORRIDOR TRAIL FEASIBILITY STUDY
AND PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
RED ROCK CANYON NATIONAL CONSERVATION AREA**

FINAL - DECEMBER 2009





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RED ROCK NATIONAL CONSERVATION AREA
CLARK COUNTY, NEVADA**

Final

December 2009

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Red Rock/Sloan Field Office • Bureau of Land Management • Department of Interior
4701 N. Torrey Pines Dr. • Las Vegas, NV 89130

MISSION STATEMENT

The Bureau of Land Management is responsible for stewardship of our public lands. The BLM is committed to manage, protect and improve these lands in a manner to serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife habitat, wilderness, air and scenic quality, as well as scientific and cultural values.

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ABBREVIATIONS AND ACRONYMS

EXECUTIVE SUMMARY

BLM	Bureau of Land Management
Blvd	Boulevard
DNA	Determination of NEPA Adequacy
Exit Lot	Scenic Drive Exit Lot
ft	foot/feet
HMA	herd management area
LiDAR	light detection and ranging
NEPA	National Environmental Policy Act
PBO	Programmatic Biological Opinion
PEA	Programmatic Environmental Assessment
ROW	right-of-way
RRCNCA	Red Rock Canyon National Conservation Area
SHPO	Nevada State Historic Preservation Officer
SNPLMA	Southern Nevada Public Lands Management Act
SR	State Route
TES	Threatened, Endangered, Sensitive Species of Concern
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
VRM	Visual Resource Management

CHAPTERS

ADT	average daily traffic count
APE	Area of Potential Effect
Ave	Avenue
bike trail	The trail systems that would be primarily a bicycle and pedestrian trail that would accommodate recreational bikes, joggers, hikers, dog walkers, and other nonmotorized vehicles.
BLM	Bureau of Land Management
Blvd	Boulevard
CAA	Clean Air Act
CBER	Center for Business and Economic Research
CCDCP	Clark County Department of Comprehensive Planning
CCRFC	Clark County Regional Flood Control District
CCRPC	Clark County Regional Planning Commission
Census	US Census Bureau
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide

CWA	Clean Water Act
DAQEM	Clark County Department of Air Quality and Environmental Management
DLC	Desert Learning Center and Wild Horse and Burro Facility (Oliver Ranch)
DNA	Determination of NEPA Adequacy
Dr	Drive
DR	Decision Record
EA	environmental assessment
EIS	environmental impact statement
EJ	environmental justice
EPA	US Environmental Protection Agency
Exit Lot	Scenic Drive Exit Lot
Fee Booth	fee booth parking area
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
ft	feet/foot
GIS	geographic information system
Gun Club	Desert Sportsman's Rifle & Pistol Club
HMA	herd management area
KOPs	Key Observation Points
LiDAR	light detection and ranging
MBTA	Migratory Bird Treaty Act
MDC	Mojave Discovery Center
MEAs	Management Emphasis Areas
Mojave	Mojave Desert
mph	miles per hour
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRS	Nevada Revised Statutes
O&M	Operations and Maintenance
O ₃	ozone
OHWM	ordinary high water mark
Overlook	Red Rock Canyon Scenic Overlook
PA	Programmatic Agreement

PBO	Programmatic Biological Opinion
PEA	Programmatic Environmental Assessment
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
Rd	Road
RMAs	Recreation Management Areas
RMP	Resource Management Plan
ROD	Record of Decision
ROW	right-of-way
RRCNCA	Red Rock Canyon National Conservation Area
RTC	Regional Transportation Commission
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMRSP	Spring Mountain Ranch State Park
SNPLMA	Southern Nevada Public Lands Management Act
SNRPC	Southern Nevada Regional Planning Coalition
SR	State Route
SRUPA	Special Recreation Use Permit Area
St	Street
TES	Threatened, Endangered, Sensitive Species of Concern
the alignment	The 100 to 300 ft. wide trail corridor study alignment
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
USGS	US Geological Society
VRM	visual resource management
Wheeler	Wheeler Camp Spring
WOUS	Water of the US



EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Bureau of Land Management (BLM) is proposing the development of a trail system within the Red Rock Canyon National Conservation Area (RRCNCA). The trail would provide recreational opportunities for a broad range of non-motorized users. This hiker/biker trail would provide a safe link from the end of West Charleston Boulevard (Blvd) at the north end of State Route 159 (SR-159) to State Route 160 (SR-160), running roughly parallel to SR-159. The trail system would include the trail alignment, as well as elements such as trailheads and underpasses. This alignment would serve as a trail “spine” from which connections to nodes such as the Red Rock Canyon Campground, Red Springs, Red Rock Canyon Visitor Center, Spring Mountain Ranch State Park (SMRSP), Bonnie Springs, and Blue Diamond could be made. The trail system would also connect trail users to existing and planned trails system in the greater Las Vegas Valley.

In addition to the proposed trail corridor alignment, a series of trail system design guidelines have been developed to provide guidance for site-specific design of the trail and trail elements such as underpasses, steep slopes, wash crossings, and trailheads (Appendix A, Project Design Guidelines). The design guidelines also provide a sense of the look and feel of the Proposed Action and demonstrate how the proposed trail system would gently integrate into the desert landscape providing a high-quality visitor experience.

Due to the large scale and general planning nature of this project, a Programmatic Environmental Assessment (PEA) approach is being taken. Thus, it will only generally address the issues and types of impacts, including the cumulative effects. The magnitude of impacts and the applicability and effectiveness of mitigation measures cannot be assessed in detail at the programmatic level due to the general nature of the Proposed Action and environmental data. Specific impacts and commitments to mitigation will need to be evaluated during the design phase when a more exact location is known and consideration of site-specific factors can be given. Tiering is often involved in the PEA approach, allowing the implementation of a plan in logical segments at a site-specific or Tier 2 level of detail. Subsequent site-specific Tier 2 National Environmental Policy Act (NEPA) documents, such as a BLM Determination of NEPA Adequacy (DNA) or a tiered environmental assessment, would present more detailed design and environmental analysis for the Proposed Action.

ES.2 PURPOSE AND NEED

The primary need of this proposed hiker/biker trail system is to construct a hiker/biker trail “spine” that roughly parallels SR-159 from West Charleston Blvd to SR-160 and to improve access to various nodes within RRCNCA. This need is consistent with the Resource Management Plan for RRCNCA, which calls for providing recreation opportunities that allow the public to enjoy and appreciate the

unique natural setting of Red Rock Canyon, while conserving and protecting the RRCNCA's natural resources. Given that management direction, a hiker/biker trail system that satisfies the need for safe recreational use while minimizing disturbance of the site's resources is important. The RRCNCA is located immediately adjacent to the Las Vegas metropolitan area, which is historically one of the country's fastest growing urban populations. As such, RRCNCA has experienced a sizable increase in use from both residents and tourists seeking to enjoy the high-quality, unique desert landscape that was the impetus for the original designation.

The purpose of the project is to provide safe access to the various recreational nodes in RRCNCA for non-motorized users from the greater Las Vegas Valley and to provide recreational loops within RRCNCA. The trail system would fulfill many objectives of RRCNCA by improving safety, increasing access from the greater Las Vegas Valley, improving circulation for non-motorized users within RRCNCA, providing a high-quality recreational experience, continuing to promote preservation of natural and cultural resources in RRCNCA, enhancing human health, and minimizing additional operations and maintenance costs.

No paved off-road routes currently exist in RRCNCA that allow recreational users to circulate through the conservation area and connect easily to recreational nodes; therefore, families and other less skilled cyclists and runners use the highway shoulder. SR-159 is also heavily used as a high-speed transportation link between West Charleston Blvd and SR-160. Increased use of SR-159 and SR-160 has continued to escalate, and both routes are unpleasant and dangerous and provide the recreational user a low-quality experience of RRCNCA. The Proposed Action would include the following elements:

- A trail corridor alignment study area with a general width of 100 feet (ft) located in the vicinity of SR-159 from West Charleston Blvd at the Red Rock Detention Basin to the SR-160 vicinity and easterly from the intersection of SR-159 and SR-160 to the Upper Blue Diamond Detention Basin. In certain locations the study area has been expanded to 300 ft wide to ensure that the impacts analysis would be inclusive of all resources.
- A 10-ft-wide paved hiker/biker trail with unpaved 2-ft-wide shoulders on either side that would be located within that corridor based on further study and analysis.
- Trailheads at logical areas along the alignment. The

trailheads would be fenced with a single vehicular access point and provide auto parking and a few spaces for oversized vehicles; some trailheads would have facilities for equestrians.

- Trailheads that would provide amenities including vault toilets, shade, picnic tables, and bicycle racks.
- In areas where equestrians are allowed within RRCNCA, a trail designated for equestrian use separate from the hiker/biker trail.

ES.3 DESCRIPTION OF ALTERNATIVES

Two alternatives are analyzed in this PEA: the Proposed Action and the No Action alternative. In addition, two alternative trail surfaces are under consideration: (1) asphalt with concrete wash crossings and (2) concrete throughout. Given the purposes described above, a series of alignments were identified, further refined, and screened based on certain criteria developed early in the planning process to arrive at the Proposed Action. The criteria included the direction to:

- Identify a trail alignment study area that averages 100 ft in width for further study (300 ft in some areas as previously described).
- Provide trailheads at logical access areas—some with equestrian parking and facilities.
- Create a series of design guidelines for development of a trail system that would include a 10-ft-wide trail suitable for family recreational users.
- Create an avoidance map and avoid identified areas where feasible, including cultural and biological resources.
- Minimize the need for new land disturbance.
- Traverse slopes/avoid switchbacks and follow guidelines for accessible grades.
- Recognize that washes would need to be crossed (stay perpendicular, find short expanses with relatively gentle side slopes).
- Locate and design to minimize maintenance.
- Diversify the recreational experience.
- Minimize disturbance to existing mountain bike and equestrian users as feasible.
- Separate from SR-159 and SR-160, yet do not push too deeply into the landscape.
- Minimize crossing SR-159; use underpasses if a crossing is needed.

ES.3.1 PROPOSED ACTION

Based on the criteria, a series of three action alternative trail alignments were more fully developed and presented to the public in August 2008, along with the No Action alternative. Based on public comments and subsequent input from BLM staff, the Proposed Action would primarily be a combination of two of the three alternative alignments presented to the public at the August 2008 meeting. This Proposed Action alignment has been selected after extensive field study, public input, and BLM staff input because it would provide all of the connections and loops, use a substantial amount of existing disturbance, and provide a diverse and high-quality recreational experience.

The Proposed Action is a proposed trail alignment, with associated trail elements such as trailheads and underpasses, and would contain approximately 35 miles of trail and connections. The 35 miles include up to 53.45 acres of new permanent disturbance; 45.5 acres of temporary, construction-related disturbance that would be restored; and the use of 36.10 acres of previously disturbed land. The hiker/biker trail and associated trail elements would be 27 miles, with the remaining 8 miles designated for equestrian trail use. These trails would be located along the SR-159 and the SR-160 corridors between the Red Rock Detention Basin at West Charleston Blvd and the Upper Blue Diamond Detention Basin at SR-160 and Hualapai Way.

The Proposed Action would consist of the trail system that would include a paved hiker/biker trail, new development or redevelopment of seven trailheads by the BLM and others, 8.3 miles of designated equestrian trail, closure of the First Creek Trailhead, realignment of First Creek Trail, signing of 3.4 miles of bicycle access on Clark County and BLM roads with "Share the Road" signage, three underpasses, and one bridge. The proposed trail alignment would include trail loop opportunities at each end in addition to the connections to amenities within the RRCNCA. It would also provide opportunities to make connections with other existing or planned trail alignments inside and beyond RRCNCA integrating it into the greater Las Vegas Valley recreational network.

More than half of the alignment would be over 750 ft away from SR-159, mostly on existing trails, dirt roads, or utility disturbances. This would provide trail users a unique desert experience away from the hazards and nuisances associated with a highway without extensive additional impacts on the

resource associated with new disturbance. At this distance, maintenance and trail monitoring would be manageable because most of the trail could be viewed from the road and would be easily accessible by maintenance vehicles. In a few areas, to avoid extensive resource impacts and to take advantage of existing infrastructure, the trail would be located in the SR-159 right-of-way (ROW) and separated from the roadway by a landscape buffer.

The trail system would be suitable for families and may include users such as recreational bicyclists, joggers, walkers, and hikers. Consistent with guidelines for universal accessibility in recreation areas, most of the alignment would be designed at a grade of 5 percent or less; the vast majority of the remaining alignment would be designed at grades between 5 percent and 8.33 percent. In cases where design at grades of 8.33 percent or less would not be possible without undue impacts on the resource, an equivalent experience would be provided.

This trail system would also include a separate unpaved equestrian trail in areas near SR-159 where equestrians are currently allowed and an identifiable trail is needed. The trail system would provide continuous access between the Scenic Dr Exit Lot (Exit Lot) and the Special Recreation Use Permit Area.

The BLM has contracted to have the project area surveyed using light detection and ranging (LiDAR), a remote sensing system used to collect topographic data. Using data from the LiDAR survey, the BLM has contracted to prepare a planning level Construction Cost Analysis Report for the Proposed Action. The cost analysis will be used to help determine a priority sequencing for construction of the Proposed Action. The LiDAR data will be used by applying Eaglepoint software applications to assist in the development of profiles of the Proposed Action along the proposed corridor centerline. These profiles will be used to determine planning-level earthwork quantities for cut-and-fill slopes. With this trail profile information, design criteria for the trail cross section can be further refined and developed to assist in Tier 2 decision making by assuring that the alignment-related mitigation measures will be followed and that the least amount of earth disturbing activities will occur.

ES.3.2 NO ACTION

Under the No Action alternative, no additional trails would be developed. The recreational user would continue to ride on the shoulder of SR-159 and SR-160 or along the small section of a planned separated paved trail along SR-160. The RRCNCA hiker/biker experience would continue to be dominated by traffic noise, exhaust fumes, radiated pavement heat, and fast-moving traffic to get from one node to another. In addition, the trailheads and parking areas in the SR-159 ROW that already exist would continue to be maintained in their present configurations and automobiles parked on the road shoulder would continue to back out into SR-159. In addition, very limited equestrian access across the SMRSP property would continue to restrict the connection between the Exit Lot and Blue Diamond area.

The Southern Nevada Public Lands Management Act (SNPLMA) (1998 as amended) specifically designated funding for RRCNCA capital improvements. The subsequent Las Vegas Valley Disposal Boundary Environmental Impact Statement specified that funds received through the SNPLMA account would be applied to develop trails to connect the Las Vegas Valley Trails System (also known as the Vias Verdes Trail) with the RRCNCA. The No Action alternative would prevent the BLM from complying with the SNPLMA mandate and the BLM Record of Decision designating funding for trails in the RRCNCA

ES.4 ENVIRONMENTAL CONSEQUENCES

Table ES - 1 briefly summarizes the potential impacts and mitigation measures. All potential impacts can be mitigated, and none are considered substantial. The No Action alternative is also discussed. Table ES - 1 also provides a comparison of impacts associated with the Proposed Action and No Action alternatives and briefly describes the mitigation measures for both Tier 1 and Tier 2 activities.

ES.5 INDIVIDUALS, ORGANIZATIONS, AGENCIES AND TRIBES CONSULTED

One focus group meeting and three public meetings were held concerning the feasibility and siting of the hiker/biker trail. BLM sent notifications to local newspapers and radio stations (both English and Spanish speaking). Elected officials, as well as federal, state and local governmental representatives, were notified of the project and meeting dates. Organizations and businesses with a direct interest were also identified and notified of the meetings.

Invitations to participate as a consulting agency were sent to 17 individuals representing federal, state, and local agencies. Additionally, five local tribes were invited to participate by providing comments. None of the agencies or tribes accepted the invitation to participate in an official manner for the PEA.

The threatened, endangered, sensitive species of concern (TES) Section 7 consultation involved applying to append the US Fish and Wildlife Service (USFWS) Programmatic Biological Opinion (PBO) for Implementation of Actions Proposed in the Red Rock Canyon National Conservation Area General Management Plan and Red Rock Herd Management Area Activities, Clark County, Nevada, File No. 1-5-04-F-526. Once the LiDAR analysis is completed and the 30-ft corridor is defined, a request to append will be submitted to USFWS.

BLM archaeologists performed the fieldwork for Cultural Resources and determined that there will be no historical properties affected. The BLM has issued a findings report under the Programmatic Agreement with the State Historic Preservation Officer (SHPO). The BLM will ensure that design measures are away from known sites or confine construction limits. If any sites are threatened by the location of the trail, BLM will develop a treatment plan.

Table ES - 1. Summary of Comparison of Environmental Consequences and Mitigation of Alternatives

RESOURCE	ENVIRONMENTAL CONSEQUENCES	
	PROPOSED ACTION	NO ACTION
Air Quality	<p>Temporary minor impacts during construction.</p> <p>A tradeoff between closing parking along SR-159, and new equestrian (non-paved surface) means a no net gain of PM_{10} emissions.</p> <p>Mitigation Tier 1: None required.</p> <p>Additional Mitigation Tier 2: Construction contractor to obtain air quality permits as determined by Clark County Department of Air Quality and Environmental Management.</p>	Continued release of PM_{10} from unauthorized parking along SR-159.
Biological Resources	<p>Wildlife and Vegetation: New disturbance will permanently displace species, but the available habitat is abundant. Closing and revegetating First Creek Trail, and re-aligning the trail to begin at the Old Oak Creek parking.</p> <p>Cacti and yucca to be salvaged, according to BLM protocol.</p> <p>Mitigation Tier 1: Construction disturbance outside the paved hiker/biker trail will be revegetated.</p> <p>Additional Mitigation Tier 2: Pre-construction survey for cacti and yucca species.</p> <p>Mitigation measures such as salvage and relocation of protected species may be required by BLM. The Final Construction Cost Estimate and Design Guidelines will describe the location and avoidance measures for each Zone.</p>	Minor impacts from increased use of RRCNCA.
Biological Resources	<p>Migratory Birds: Possibility of disruption to nesting habitat.</p> <p>Mitigation Tier 1: Surveys to be completed prior to construction activities outside the avian breeding season, between March 15th and July 30th. If timing is not feasible, a qualified biologist will be retained. If nests are located, or other evidence of nesting is found, a protective buffer would be delineated and the area avoided to prevent destruction or disturbance to the nests until they are no longer active.</p> <p>Additional Mitigation Tier 2: No additional mitigation.</p>	No change from the current practices.

RESOURCE	ENVIRONMENTAL CONSEQUENCES	
	PROPOSED ACTION	NO ACTION
Biological Resources	<p>Noxious Weeds:</p> <p>Possible spread of weeds during construction.</p> <p>Mitigation Tier 1:</p> <p>Perform a weed survey prior to construction using the protocol established in the BLM Noxious Weed Plan. Proposed weed treatments will be outlined in the weed plan.</p> <p>Additional Mitigation Tier 2:</p> <p>Limit ground disturbance to the minimum area needed for construction.</p>	<p>Possible spread of noxious weeds caused from unauthorized parking in unpaved areas along SR-159.</p>
Biological Resources	<p>Threatened, Endangered, Sensitive Species of Concern (TES):</p> <p>New disturbance of a maximum of 99 acres (at the 100 to 300 ft study level). Area is considered low density for tortoise, although tortoises have been observed near the project area. Possible indirect impacts on the Blue Diamond cholla and the rosy twotoned beardtongue through increased use of the RRCNCA.</p> <p>Mitigation Tier 1:</p> <p>Follow USFWS protocol as described in the PBO for the RRCNCA. Any additional mitigation will be included when the appended PBO for the RRCNCA has been received from the USFWS.</p> <p>Additional Mitigation Tier 2:</p> <p>All mitigation measures in the PBO and the amendment from the USFWS will be followed.</p> <p>A BLM/USFWS-approved biologist will present a tortoise education program to all foremen, workers, permittees, and other employees or participants.</p> <p>Permits will be required from the USFWS and BLM prior to any tortoise surveys. The Blue Diamond cholla and rosy twotoned beardtongue will be included in the TES surveys.</p> <p>Intensive surveys completed within 48 hours prior to any surface disturbing activities.</p>	<p>No change from existing conditions. BLM would continue to manage RRCNCA under the existing PBO.</p>
Cultural Resources	<p>The BLM has determined that there will be no historical properties affected and has issued a findings report under the Programmatic Agreement with the Nevada SHPO.</p> <p>Mitigation Tier 1:</p> <p>Determination of no adverse effects reached.</p> <p>Additional Mitigation Tier 2:</p> <p>The BLM to ensure design measures are away from known sites or confine construction limits. If any sites are threatened by the location of the trail, BLM will develop a treatment plan.</p>	<p>Indirectly, as visitorship increases, features run the risk of damage and vandalism.</p>

RESOURCE	ENVIRONMENTAL CONSEQUENCES	
	PROPOSED ACTION	NO ACTION
Environmental Justice	No EJ populations identified. Mitigation Tier 1: None required. Additional Mitigation Tier 2: If 2010 Census data are available, an impacts analysis should include a re-evaluation of population using the same analysis approach as Tier 1.	No change from current conditions.
Floodplains	At least 59 ephemeral washes would be crossed and 3 culverts would be installed across SR-159. Parking areas would not be located in any floodplains. Twenty-seven linear miles of paved facilities could cumulatively contribute to overall runoff and erosion. Mitigation Tier 1: Design elements such as "Arizona crossings" for washes would be constructed. Additional Mitigation Tier 2: A permit from the US Army Corps of Engineers (USACE) may be required. Individual washes would need to be identified for possible waters of the US, and coordination efforts with the USACE. Nevada Division of Environmental Protection would require a National Pollutant Discharge Elimination System construction permit, and best management practices would be applied during construction.	Continued erosion during storm events of unpaved trails. Cumulatively could accelerate based on increased use of the trails and added unauthorized parking along SR-159.
Land Use	Project is consistent with BLM, SNPLMA, and Clark County land use plans. Mitigation Tier 1: None required. Additional Mitigation Tier 2: None required.	The intent of existing land use plans would not be met.
Recreation	Adds approximately 27 miles of paved hiking/biking opportunities. Removes recreation biking from SR-159 shoulder. Provides a connected north/south trail for equestrians. Provides greater interpretative opportunities for the resource. Mitigation Tier 1: None required. Additional Mitigation Tier 2: None required.	Continued unsafe bike riding along SR-159 shoulder. Continued lack of north/south trail access for equestrians.

RESOURCE	ENVIRONMENTAL CONSEQUENCES	
	PROPOSED ACTION	NO ACTION
Socioeconomics	<p>Preliminary estimates (with a 20 percent to 40 percent contingency factor): \$74 to \$78 million in new regional economic output. \$30 to \$35 million in payroll.</p> <p>No additional BLM staff is anticipated and no use fee is expected (except for the Scenic Loop fee already in place).</p> <p>Mitigation Tier 1: None required.</p> <p>Additional Mitigation Tier 2: If updated estimated project cost is appreciably changed, an impacts analysis should include a re-evaluation of impacts using the same analysis approach as used in the PEA.</p>	No direct change from current operations. Indirect impacts would include loss of revenue in terms of economic output (construction-related costs) and payroll.
Soils	<p>Approximately 9 linear miles of new disturbance. Approximately 13 acres of new disturbance in the parking areas, but reclamation of 7 acres in parking areas resulting in a net disturbance of 6 acres. Trail limiting soils on a maximum of 44 acres (includes the 100- to 300-ft-wide study area).</p> <p>Disturbance would contribute to the long-term loss of fertility of soils.</p> <p>Mitigation Tier 1: The mitigation measures described in the Project Description would be followed. Construction equipment would stay within the 10 ft width of the final designated trail whenever possible and would not veer out of the 100 ft study area. No cross-country travel of construction equipment.</p> <p>Proper maintenance would reduce impacts on soils, and soils will be stabilized by revegetation. Signage requesting the public to remain on the pavement will be posted. Paving of the parking areas would reduce erosion.</p> <p>Additional Mitigation Tier 2: Each phase of construction would require the identification of the soil types within the specific Zones. Additional mitigation would include, but not be limited to, site-specific design of wash crossings, identification of vegetation species to be removed, and soil stabilization procedures to be used, including the number of associated miles or acres of area to be revegetated following construction.</p>	Soil deposition and disturbance would remain the same in disturbed areas and may increase because of increased use and the associated possibility of erosion sedimentation.

RESOURCE	ENVIRONMENTAL CONSEQUENCES	
	PROPOSED ACTION	NO ACTION
Transportation and Right-of-Way	<p>To meet the primary purpose of the project, the trail would remove the casual biker from SR-159 with a physical barrier, resulting in an overall addition of safety for hikers, bikers, and motorists.</p> <p>Addition of 415 marked parking spaces and 30 spaces for equestrians. Loss of approximately 25 parking spaces at First Creek Trailhead. Unauthorized parking along SR-159 to be signed for no parking and areas revegetated.</p> <p>Mitigation Tier 1: Any road modifications would need final Nevada Department of Transportation approval. Trail alignments within the ROW would need an Intergovernmental Agreement with BLM.</p> <p>Additional Mitigation Tier 2: Specific design elements would be a part of the Tier 2 activities.</p>	<p>Continued haphazard parking in authorized areas because the spaces are not marked.</p> <p>Continued parking in unauthorized areas along SR-159, with the corresponding safety compromises from traffic pulling over, or onto the road from all directions, without appropriate lane configurations.</p>
Visual Resources	<p>The action will be in compliance with BLM Class II Visual Resource Management (VRM) objectives.</p> <p>Mitigation Tier 1: The Design Guidelines direct that trails blend in with the existing environment as closely as possible.</p> <p>Additional Mitigation Tier 2: Unless there are substantial changes to the design, additional mitigation measures would not be required.</p> <p>Compliance to the Class II VRM designation would be necessary.</p>	<p>No direct changes to current conditions.</p> <p>Indirect impacts include continued parking along SR-159 and the associated visual effects of (1) foreground-middle ground views along much of the road and (2) stress from drivers who must constantly be vigilant because of the possibility of a car pulling out onto the road at any time.</p>
Water Resources	<p>No use of well water will occur. All monitoring wells are at least 160 ft from the proposed trail and have locked covers. No direct impacts expected.</p> <p>Mitigation Tier 1: Water for dust control during construction activities would be trucked onto the site, and no water from existing wells in the RRCNCA will be used.</p> <p>The restroom facilities at the trailheads would not be connected to a public sewer system. Signs warning the public to not tamper with the wells would be installed.</p> <p>Additional Mitigation Tier 2: If changes occur such as connecting restroom facilities to a public sewer system, or using well water for construction activities or consumption, then impacts analysis and mitigation measures should be addressed.</p>	<p>No change from current monitoring of wells would occur.</p>

RESOURCE	ENVIRONMENTAL CONSEQUENCES	
	PROPOSED ACTION	NO ACTION
Wetlands and Riparian Zones	<p>The Wheeler Camp Spring is within ¼ mile of the proposed trail. The Lone Willow Spring is over ¼ mile from the proposed trail. Based on topography and feasibility, there was no other reasonable location to place the trail.</p> <p>The trail is not placed directly on any riparian area and is far enough away that construction activities would not have an impact on the springs.</p> <p>Mitigation Tier 1:</p> <p>Mitigation measures conducted for TES species and Noxious Weed abatement will be applicable.</p> <p>Construction workers will be advised to avoid the springs. A qualified water resource biologist will place staking at Wheeler Camp Spring prior to construction. The BLM will design interpretive panels to explain the sensitive nature of the springs and riparian areas.</p> <p>Additional Mitigation Tier 2:</p> <p>Direct disturbance of any wetlands is not expected with this project; however, Tier 2 activities should involve a USACE-approved wetland delineation and jurisdictional determination prior to construction.</p>	No change from current conditions.
Wild Horse and Burro	<p>Temporary disturbance of travel corridors during construction. Indirectly, wild horses and burros will begin to use underpasses as a crossing for SR-159 or as a location for shade.</p> <p>Mitigation Tier 1:</p> <p>No substantial direct impacts and no changes to the Herd Management Area. Appropriate management level would be required.</p> <p>Many of the mitigation measures associated with biological resources would apply. No additional species-specific mitigation is recommended.</p> <p>Additional Mitigation Tier 2:</p> <p>No additional measures required.</p>	<p>No direct changes to current conditions.</p> <p>Indirectly, the possibility of wild horses and burros using the underpasses for highway crossing or shade would be removed.</p>
Note: Additional Tier 2 mitigation measures assume that all Tier 1 mitigation will be followed.		



CHAPTER 1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The Bureau of Land Management (BLM) is proposing the development of a trail system within the Red Rock Canyon National Conservation Area (RRCNCA). The trail would provide recreational opportunities for a broad range of non-motorized users, such as recreational bicyclists, hikers, runners, and people pushing strollers or walking dogs. Throughout this document, the proposed State Route 159 (SR-159) corridor trail will be referred to as the hiker/biker trail. This trail alignment would provide a safe link from the end of West Charleston Boulevard (Blvd) at the north end of SR-159 to State Route 160 (SR-160), running roughly parallel to SR-159. The trail system would connect trail users to existing RRCNCA destinations and to existing and planned trail systems in the greater Las Vegas Valley. The trail system would include the trail alignment, as well as elements such as trailheads and underpasses. This alignment would serve as a trail “spine” from which connections to nodes such as the Red Rock Canyon Campground, Red Springs, Red Rock Canyon Visitor Center, Spring Mountain Ranch State Park (SMRSP), Bonnie Springs, and Blue Diamond could be made.

In addition, a series of trail system design guidelines (see Appendix A, Project Design Guidelines) have been produced. These design concepts were developed to provide guidance for site-specific design of the trail and trail elements such as underpasses, steep slopes, wash crossings,

and trailheads. The design guidelines also provide a sense of the look and feel of the Proposed Action and demonstrate how the proposed trail system would gently integrate into the desert landscape, provide a safe high-quality visitor experience, and minimize undue operations/maintenance without compromising the variety of natural and cultural resources present at RRCNCA.

Before implementing actions with potential adverse effects on the natural and human environment such as the Proposed Action, the BLM is required by the National Environmental Policy Act (NEPA) of 1969 [42 USC 4321 *et seq*] and subsequent regulations set forth by the Council on Environmental Quality (CEQ) [40 Code of Federal Regulations (CFR) 1500-1508] to conduct certain levels of environmental analysis to ensure that potential environmental consequences are adequately understood and appropriately addressed by any proposed action.

Due to the large scale and general planning nature of this project, a Programmatic Environmental Assessment (PEA) approach is being taken. Thus, it will only generally address the issues and types of impacts, including the cumulative effects. Tiering is often involved in the PEA approach, allowing the implementation of a plan in logical segments at a site-specific or Tier 2 level of detail. In most cases, a BLM Determination of NEPA Adequacy (DNA), or a tiered environmental assessment (EA), would present more detailed design and environmental analysis.

The magnitude of impacts and the applicability and effectiveness of mitigation measures cannot be assessed in detail at the programmatic level due to the general nature of the Proposed Action and environmental data. Specific impacts and mitigation commitments will need to be evaluated during the design phase when a more exact location is known and consideration of site-specific factors (such as existing land use, presence of paleontological and cultural resources, proximity to surface water, groundwater conditions, existing ecological resources, and proximity to visual resources) and project-specific factors (such as which technologies would be used, size of operations, water consumption and wastewater generation, air emissions, number of employees, and development time lines) can be given.

To this end, a project study area that averages 100 ft in width (and up 300 ft in width in some areas) has been identified for this programmatic level analysis. In future phases, the proposed trail corridor alignment would be located within this study area and detailed design development would occur. To this end, this PEA consists of two major components: (1) an assessment of a proposed study area within which the alignment for the main trail and trail connections would be located, along with the trailheads and other trail elements (as described in the Proposed Action) and (2) a programmatic assessment of the issues and general types of impacts, including the cumulative effects, associated with the construction, maintenance, and management of subsequent phases of the proposed trail system improvements.

To facilitate decision making at the Tier 2 level, BLM has contracted to have the project area surveyed using light detection and ranging (LiDAR). LiDAR is a remote sensing system used to collect highly accurate topographic data. This topographic data would be used to locate and design a trail alignment in sufficient detail to assure that associated impacts would be adequately assessed, that alignment-related mitigation measures would be followed, and that earth disturbing activities would be minimized. With this information, project-specific tiered EAs or DNA reports would be prepared for subsequent NEPA compliance and a final cost analysis would be prepared.

1.1.1 BACKGROUND

The RRCNCA is one of only 15 areas designated as a National Conservation Area and managed by the BLM. Consisting of more than 198,000 acres, the RRCNCA is located immediately adjacent to the Las Vegas metropolitan

area, which is historically one of the country's fastest growing urban populations. The US Census Bureau (Census) indicates that the population of Clark County grew at a rate of 29.2 percent between April 1, 2000, and July 1, 2006, from 1,375,765 to 1,777,539. The national average for the same period of time was 6.4 percent (Census 2000a). As such, RRCNCA has experienced a sizable increase in use from both residents and tourists seeking to enjoy the high-quality unique desert landscape that was the impetus for the original designation. The Resource Management Plan (RMP) for RRCNCA calls for providing recreation opportunities that "allow the public to enjoy and appreciate the unique natural setting of Red Rock Canyon" while the primary management direction is conserving and protecting the RRCNCA's natural resources (BLM 2005). Given that management direction, a hiker/biker trail system that satisfies the need for safe recreational use while minimizing disturbance of the site's resources is important.

Almost all site users access the amenities in RRCNCA by bicycle or automobile via SR-159 or SR-160. SR-159 also provides a link between the Summerlin area and west to Pahrump via SR-160. The terrain in the valley where the SR-159 corridor is located is characterized by a series of washes and drainages that feed central washes that the highway roughly parallels. From the vicinity of the Scenic Drive Exit Lot (Exit Lot), water flows either easterly into the Red Rock Wash and out to the Red Rock Detention Basin, or southerly draining toward Blue Diamond and then out to the Upper Blue Diamond Detention Basin. Both SR-159 and SR-160 are well sited to take advantage of the drainage patterns and their indelible marks on the landscape by minimizing the crossing of these two major washes. As such, the gentlest terrain for trail development is within close proximity to SR-159 and SR-160 and/or at the heads of these drainages and the less prominent drainages that feed them.



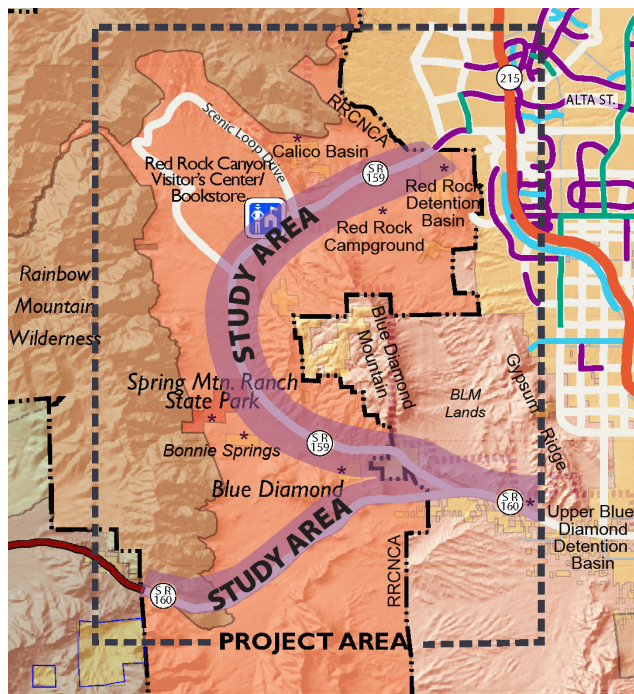
Looking south across Red Rock wash and SR-159 from an overlook near Calico Basin Rd.

1.1.1.1 PROJECT LOCATION AND DESCRIPTION

The limits of the project study area begin at the end of West Charleston Blvd, extending southerly through the SR-159 corridor toward SR-160, terminating in the vicinity of the Upper Blue Diamond Detention Basin, a large Clark County Regional Flood Control District (CCRFCD) detention facility. The Red Rock Detention Basin anchors the opposite end of the alignment (see Figure 1-1). A connection to the Late Night Lot was also considered as part of the feasibility study only.

The hiker/biker trail developed through the SR-159 corridor would serve as a trail “spine” that connects a larger network of trails and trailheads, some existing and some proposed. The proposed hiker/biker trail would provide connection to various nodes including Red Rock Canyon Campground, Red Springs/Calico Basin, Red Rock Canyon Visitor Center and the Scenic Loop Drive, SMRSP, Bonnie Springs, Blue Diamond, and SR-160 (see Figure 1-2, Existing Trails and Recreation Facilities in RRCNCA). Subsequent phases of trail development are planned to expand the network of trails in RRCNCA and to make connections to trail systems outside RRCNCA. In addition to the hiker/biker trail, a series of trailheads are proposed to make it easy for a broader range of users to access a diversity of areas within RRCNCA and different sections of this trail.

Figure 1-1. Project Study Area



THE PROPOSED ACTION WOULD INCLUDE THE FOLLOWING ELEMENTS:

- A trail corridor alignment with a general study width of up to 300 feet (ft) located in the vicinity of SR-159 from West Charleston Blvd at the Red Rock Detention Basin to the SR-160 vicinity and easterly from the intersection of SR-159 and SR-160 to the Upper Blue Diamond Detention Basin.
- A 10-ft-wide paved hiker/biker trail with unpaved 2-ft-wide shoulders on either side that would be located within that corridor based on further study and analysis.
- Trailheads at logical areas along the alignment. The trailheads would be fenced with a single vehicular access point and provide auto parking and a few spaces for oversized vehicles; some trailheads would have facilities for equestrians.
- Trailheads that would provide amenities including vault toilets, shade, picnic tables, and bicycle racks.
- In areas where equestrians are allowed within RRCNCA, a trail designated for equestrian use separate from the hiker/biker trail.

1.2 PURPOSE AND NEED

The primary need of this proposed hiker/biker trail system is a hiker/biker trail “spine” that roughly parallels SR-159 from West Charleston Blvd to SR-160 and provides connections to various nodes within RRCNCA for recreational use. As mentioned above, almost all users access the amenities in RRCNCA by bicycle or automobile using SR-159 or SR-160. In addition, SR-159 is a popular route for road cyclists and runners, many of whom are training for road racing or generally conditioning themselves. No paved off-road routes currently exist in this area of RRCNCA that allow recreational users to circulate through the area and connect easily to recreational nodes; therefore, families and other less skilled cyclists and runners also use the highway shoulder. SR-159 is also heavily used as a high-speed transportation link between West Charleston Blvd and SR-160. As of July 2009, the Nevada Department of Transportation (NDOT) reduced the speed limit from 60 miles per hour (mph) to 50 mph by following a legislative action. The resulting law requires regular NDOT review of the speed limit based on safety concerns along the highway. Increased use of SR-159

has continued to escalate annually at an average of 1,000 cars per day (see Section 3.11). This increase in traffic has had adverse safety impacts on cyclists and runners on the road shoulder. Like SR-159, SR-160 is also unpleasant and dangerous. Both routes provide a low-quality experience of RRCNCA for the recreational cyclists and runners.

The purpose of the project is to provide safe access to the various recreational nodes in RRCNCA for non-motorized users from the greater Las Vegas Valley, to expand opportunities by providing loops within RRCNCA, and to improve the overall recreational experience of RRCNCA. The trail system would fulfill many objectives of RRCNCA, including:

- Improve safety along the SR-159 corridor for motorized and non-motorized users
- Increase access to RRCNCA from the greater Las Vegas Valley system of on- and off-road non-motorized trails
- Improve circulation for non-motorized users between existing recreational amenities, nodes, and services within RRCNCA
- Provide visitors a high-quality recreational experience of RRCNCA's unique desert landscape

- Continue to promote preservation of natural and cultural resources in RRCNCA
- Enhance human health
- Minimize additional operations and maintenance (O&M) costs

A discussion of the various purposes follows.

1.2.1 SAFETY

Many accidents have occurred along SR-159; NDOT recorded almost 200 between 1993 and 2003 (NDOT No date) (see Table 1-1). More recently, an off-duty police officer who was also a resident of Blue Diamond was struck and killed while riding a bicycle. The incident prompted a public response. NDOT recently widened the road shoulder by approximately 2 ft to more safely accommodate use by cyclists. In addition, as mentioned previously, the speed limit has been lowered to 50 mph along SR-159. This has helped alleviate some safety concerns, but the safety of less experienced cyclists, runners, or visitors seeking a more tranquil experience of the resource was not necessarily improved.

Table 1-1. SR-159 Safety Study

1/1/1994 TO 12/31/2003				
CRASH TYPE	FATAL	INJURY	PDO	TOTAL
Ran Off Rdwy and Overturned	6	42	16	64
Animal	1	4	33	38
Sideswipe Collision - Opposite Direction	0	20	0	20
Ran Off Rdwy Struck Fixed Object	0	9	8	17
Ran Off Roadway	0	5	4	9
Ran Off Rdwy & Other Combinations	2	5	0	7
Sideswipe Collision - Same Direction	0	3	4	7
Rear-End Collision	0	3	3	6
Overturned in Roadway	0	4	1	5
Out of Control Vehicle	1	2	0	3
Pedacycle	3	1	0	4
Angle Collision	0	0	2	2
Head-On Collision	1	1	0	2
Left-Turn Collision	0	1	1	2
Chain Reaction Collision	1	0	0	1
Object in Roadway	0	1	0	1
Overturn Down Cliff	0	1	0	1
Ran Off Rdwy & Struck Culvert	0	0	1	1
TOTAL	15	102	73	190

* PDO = Property damage only

Source: NDOT no date



Looking west along Calico Basin Rd to Red Spring

Unauthorized road shoulder parking is occurring between the Exit Lot and SMRSP. Vehicles pull across traffic and the road shoulder at multiple points along SR-159 to park. When motorists leave, they back out onto the highway. In some cases safe sight distance is inadequate and non-motorized users may be difficult to see. This has become a major safety issue, especially on high use days.

1.2.2 ACCESS

SR-159 and SR-160 are the only paved routes into and crossing the RRCNCA. All visitors must use these high-speed routes to access the diverse amenities within RRCNCA. Currently, no paved off-highway route for recreational users exists besides the shoulder of SR-159, which varies in width from 5 to 8 ft. Cyclists and runners frequently use this road shoulder, and the experience can be unpleasant and stressful due to exhaust fumes, noise, and high-speed traffic. SR-160 provides access to SR-159, as well as the Upper Blue Diamond Detention Basin and the BLM's Late Night Lot Trailhead almost 5 miles west of SR-159. The experience along SR-160, which traverses the southern portion of the project area, is much the same with the addition of even heavier truck traffic, though the shoulder has a designated bicycle lane.

1.2.3 CIRCULATION

Once inside RRCNCA, a series of roads provide connections from SR-159 to destinations within RRCNCA. Various jurisdictions manage these roads, including the BLM, Clark County, and NDOT. These roads do not explicitly accommodate cyclists/hikers/runners either by designation and/or by design criteria. The roads and their destinations include:

- Moenkopi Road (Rd) – access to Fire Station and Red Rock Canyon Campground

- Calico Basin Rd – access to Calico Basin community, Red Springs, and various trailheads
- Scenic Loop Drive (Dr) – access to the visitor center complex and various trailheads
- SMRSP Rd – access to SMRSP
- Bonnie Springs Rd – access to Bonnie Springs
- Arroyo Rd and Castalia Street (St) – access to Blue Diamond

1.2.4 EXISTING RECREATIONAL AMENITIES

1.2.4.1 TRAILS

One of the primary recreational opportunities available to visitors at RRCNCA is the extensive network of hiking, biking, and equestrian trails. Some of these trails provide access to RRCNCA's abundant and varied resources from world-renowned climbing routes to backcountry designated wilderness areas.

The more intensely used trail areas in and adjacent to the project area include:

- Hiking trails accessed from trailheads on the Scenic Loop Dr, which are used frequently by more casual users such as tourists and families.
- The trails between the Exit Lot and SMRSP, which provide access to places such as First Creek and Old Oak Creek and are heavily used by equestrians, hikers, and climbers.
- The Blue Diamond area and Cottonwood Valley trails, which are used primarily by equestrians and mountain bikers; hikers are also allowed.



Existing mountain bike/equestrian trail near Wheeler Camp Spring

The Record of Decision (ROD) for the RRCNCA RMP designated the appropriate uses for these trail areas as noted above (BLM 2005). In some of these areas, there have been compatibility issues between user groups, most notably between mountain bikers and equestrians using the Cottonwood Valley trails (see Section 1.5). Trail connections for non-motorized users between these trail areas and other recreational amenities are limited and sporadic (see Figure 1-2). Most notably, equestrians and other trail users cannot currently move easily between the areas north and south of SMRSP. At the gate at the SMRSP entry road from SR-159, they must lead their animals out into the SR-159 right-of-way (ROW) to move between the north and south area. Occasional trespassing into SMRSP through openings cut illegally into the SMRSP perimeter fence also occurs to move from north to south.

1.2.4.2 TRAILHEADS

A variety of trailheads and parking areas in the vicinity of SR-159 are developed to various levels. Some of these facilities adequately meet the current needs of visitors; others can be filled beyond capacity on high-use days in

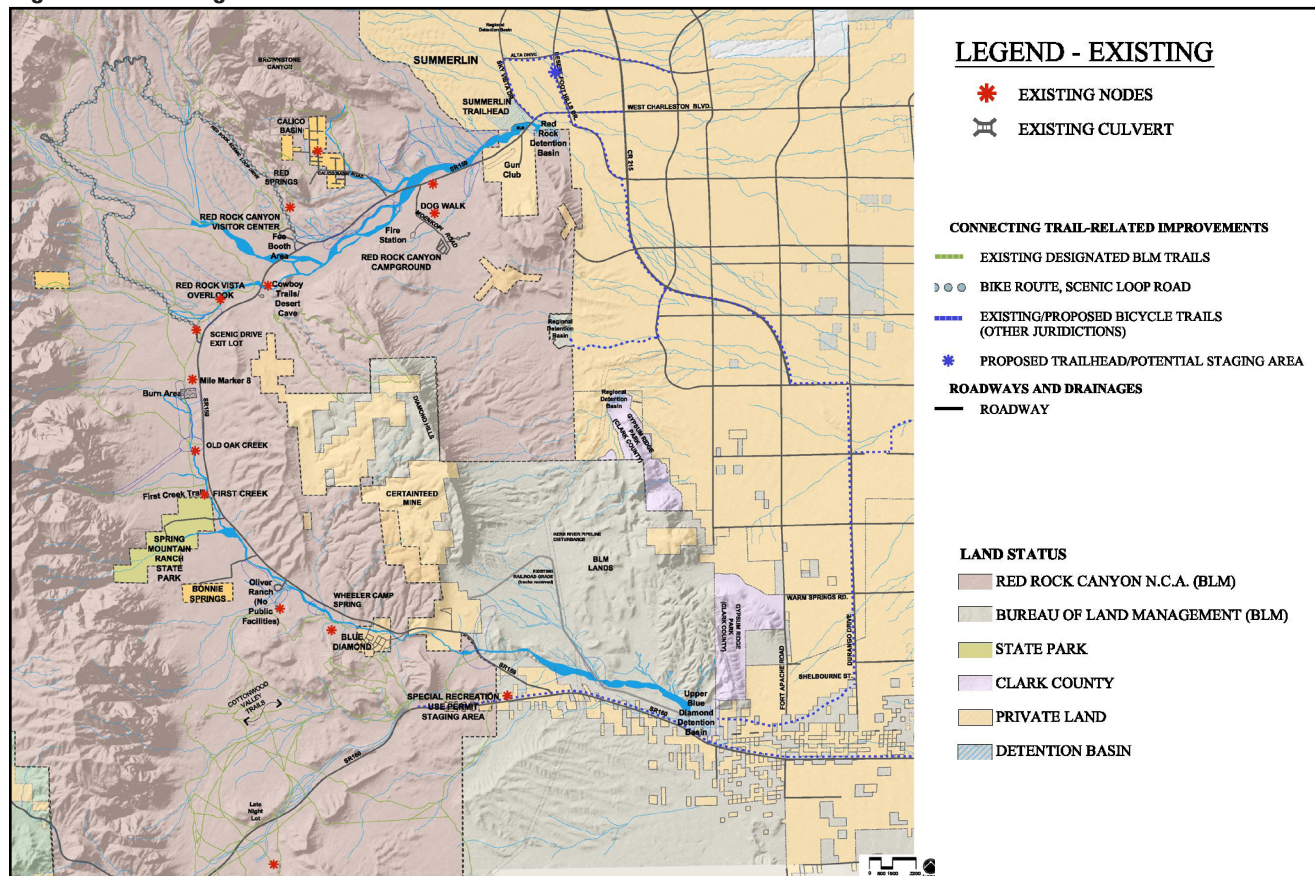


Road shoulder parking on SR-159 at First Creek Trailhead

RRCNCA. On such days, there is heavy use of the shoulder of SR-159 for parking.

Existing paved parking areas in the project area include Red Springs, the Scenic Dr fee booth parking area (Fee Booth), and the Red Rock Canyon Scenic Overlook (the Overlook). Red Springs is well developed, including restrooms, shaded picnic areas, and the interpretive spring area. The Fee Booth is being reconfigured as part of renovations occurring at the visitor center (see Section 1.5.1.1), but it is not intended to

Figure 1-2. Existing Trails and Recreational Facilities in RRCNCA



serve as a trailhead in this project. The Overlook provides parking, restrooms, shaded picnic areas, in addition to interpretive elements and a world famous view. It does not, however, meet anticipated demand over the next 13 years, with more than three times the existing spaces required to do so (Robert Peccia & Assoc. 2001).

The Late Night Lot Trailhead has recently been completed. This trailhead is located on SR-160 and provides parking for autos and trucks and a separate unpaved equestrian parking area along with restrooms. An amply sized drainage underpass beneath SR-160 provides access into the Cottonwood Trails area.

Several gravel parking areas located along SR-159 currently provide parking, trail access, and staging areas. In general, these areas provide very few additional amenities. They are hot, dry, and dusty much of the year, lacking shade and pavement; and they do not provide restrooms, picnic areas, or bicycle racks. For short very informal walks in the desert, nearby residents favor the so-called “Dog Walk” area located on Moenkopi Rd south of SR-159. There are no designated trails in the area and a simple “v-gate” controls access through the fence.

Between the Scenic Overlook and SMRSP, a series of trailheads and parking areas provide access to the canyons to the west as well as some frequently used equestrian trails west of SR-159. They include the Exit Lot, the road shoulder in the vicinity of SR-159 mile marker 8, the gate at Old Oak Creek, and the First Creek Trailhead. On high-use days, vehicles line the shoulder of SR-159 essentially from the Exit Lot south beyond the First Creek Trailhead. As mentioned above, this creates unsafe conditions. In addition, heavy use of the road shoulder for parking destroys vegetation within the ROW, increases erosion, creates dust, and detracts from the general quality of the recreational experience.

The Exit Lot was built to provide equestrian parking and staging at the north end of the area where equestrians are permitted. It is a simple gravel lot on the north side of the exit from Scenic Dr onto SR-159 with multiple points of access. It is highly used by equestrians. South of the Exit Lot is the Old Oak Creek Campground, which was closed, and camping facilities provided there were moved to the Red Rock Canyon Campground. The gravel access road from SR-159 is still intact and gated. Visitors currently



Existing Trailhead at Wheeler Camp Spring

park on the SR-159 shoulder and access the Oak Creek Trail from there. Yet farther south is the First Creek Trailhead. This heavily used trailhead provides access to some popular climbing routes in First Creek Canyon. Parking here is essentially on the road shoulder with limited capacity due to the immediate proximity of a large wash.

There is another equestrian-friendly trailhead between Oliver Ranch and Bonnie Springs called Wheeler Camp Spring (Wheeler). This is also a gravel parking area, though it has some improvements including a wood fence, a corral, and gates. Crossing the wash to the southwest, trail alignments lead southeast to Blue Diamond or northwest toward Oliver Ranch and Bonnie Springs. There is a covered monitoring well in the parking area and Wheeler is located just southeast of this area.

There is also a disturbed area near the southwest corner of the CertainTeed Mine site, near the intersection of SR-159 and SR-160, where the BLM has issued Special Recreation Permits for staging equestrian and mountain biking events, that is generally closed to use. It is referred to as the Special Recreation Use Permit Area (SRUPA).

1.2.5 RESOURCE PRESERVATION

Given the management direction of RRCNCA toward resource preservation, the use of existing trail alignments and trailheads in the design of a trail system is important. A number of additional existing disturbances within the project area could accommodate the trail system as well. These include dirt roads that are used to access utilities and other

destinations, utility corridors, and informally created “social” trails. Some disturbances are roads that have subsequently been abandoned as land use patterns in the area have changed over time. Many are well located in gently sloping areas and where wash crossings are narrow with gently sloping edges.

In addition, there are known cultural resources in the project area. Avoidance and/or appropriate mitigation would be a consideration of any proposed action. There may be opportunities to sensitively integrate these resources into the design of the trail system through interpretation or other means.

1.2.6 HUMAN HEALTH

Cyclists, runners, and others are using the SR-159 road shoulder for training and conditioning. An off-road trail system would safely expand that opportunity to additional user groups. By minimizing trail grades, by providing trail-heads at regular intervals that enhance access and provide human comforts, and by creating an inviting recreational experience, this trail system would attract new and diverse users and engage those users in physical activity contributing to their health.

1.2.7 OPERATIONS AND MAINTENANCE

A rise in O&M issues can be anticipated if no action is taken by the BLM to provide for increasing visitor use of RRCNCA. Additional disturbance can be expected as social trail usage expands near residential areas and existing parking. The strain on parking facilities will grow, which will result in further deterioration. Unauthorized road shoulder parking will continue and likely expand, thereby creating new disturbance, and requiring additional maintenance and law enforcement presence.

As demonstrated by the level of public involvement in this planning process, a number of stakeholders in the broader community are willing to partner with the BLM in the O&M of a trail system. These consist of user groups, community organizations, other public entities, and concerned neighbors. There is an opportunity to engage these stakeholders as stewards of a new trail system through ongoing relationships and special events, such as public service days. These stakeholders may also advocate for RRCNCA as a whole.

1.3 THE DECISION TO BE MADE

The BLM will decide if the Proposed Action analyzed in this PEA best meets the Purpose and Need as described in this PEA in addition to meeting long-term management objectives for RRCNCA as described in the RMP. As noted in Section 1.1.1, these management objectives include conserving and protecting the natural resources of RRCNCA, and providing recreation opportunities allowing the public to enjoy and appreciate the “unique and natural setting of RRCNCA” (BLM 2005).

This PEA is not the decision document for the Proposed Action. Instead, the Field Office Manager will first determine whether an environmental impact statement (EIS) is required based on the significance of environmental effects (40 CFR 1509.9) documented in the PEA. If no significant effects are anticipated, a Finding of No Significant Impact (FONSI) will be issued and a Decision Record (DR) will be prepared. The DR will document the decision regarding the action for which the PEA was completed and will specify which alternative is selected for implementation. The decision cannot be implemented until the DR is signed. Once the DR is signed, implementation would consist of detailed design of the trail alignment and structures within the trail corridor alignment proposed under the PEA. Trail system development would occur as segmented, phased design and construction projects that would also include the preparation of tiered EAs or DNA reports for subsequent NEPA compliance (40 CFR 1508.28).



April 2008 Focus Group meeting at RRCNCA Bike Pavilion

1.4 PUBLIC PARTICIPATION

BLM's intention for this project has been to assess the concerns, needs, and desires of the public at-large and to create a trail system that would be sensitive to these needs. Given the purpose of the proposed trail to enhance safety, improve access and circulation, provide a high-quality recreational experience, remain sensitive to the resources at RRCNCA, and promote human health, a high-level of public input has been sought for guidance in addressing these needs.

During the planning process, multiple opportunities have been provided for public input into the plan of the trail system. These include an initial focus group meeting and three public meetings with subsequent public comment periods. Appendix D, Public Meeting Materials, provides copies of materials from each meeting. Information collected from the public has played an important role in identifying siting criteria for the trail alignment, developing alternatives, and final development of the Proposed Action. Information received from the public participation meetings is summarized in the following sections.

1.4.1 FOCUS GROUP

A focus group meeting was conducted with seven members of the public on April 16, 2008, at the Bicycle Pavilion once located near the Red Rock Canyon Visitor Center. The group consisted of representatives from local key user groups currently using RRCNCA for recreation, including walkers/hikers, cyclists, runners, and equestrians. The intention of the meeting was to provide the BLM planning team with initial information about the community's values, issues, and desires related to trail development in the vicinity of SR-159. The meeting's format was an informal roundtable discussion guided by an agenda (see Appendix D-1 for additional information and meeting materials).

1.4.2 PUBLIC MEETING #1 – VALUES AND ISSUES

Public Meeting #1 was held at the BLM's Las Vegas Field Office at 4701 North Torrey Pines Dr, Las Vegas, Nevada, on May 29, 2008, from 12:00 PM to 8:00 PM. The purpose of the meeting was to introduce the public to the scope and scale of the project and to give the public an opportunity to communicate their "values and issues" related to develop-



Informal discussion at public meeting #2 open house August 2008

ment of a trail system in the vicinity of and generally parallel to SR-159. The meeting format included an open house during the afternoon, with a more formal workshop held in the evening. Graphic exhibits described the scope/purpose of the project, the proposed criteria for siting and development of the trail, and the spatial geographic information system (GIS) information used to develop an overall Assets and Avoidance map for the project area (see Appendix D-2). Comments and concerns during the workshop session were noted on flip charts, and questionnaires were provided to participants to obtain their input on the materials presented. In addition, a two-week public comment period followed the meeting, with the meeting materials and the questionnaire available to the public in the public reading room at the BLM office on Torrey Pines Dr. Eleven questionnaires were returned by the end of the public comment period.

Major points made by the public in Public Meeting #1 included:

- Minimize impacts on resources while providing a quality user experience
- Keep the trail alignment in the vicinity of SR-159 but a safe distance away
- Minimize the visual impacts of parking areas from SR-159
- Separate bicycling and equestrian uses
- Have no net loss of existing soft-surface equestrian facilities
- Include the following desired trailhead amenities: restrooms, water availability, bike racks, picnic areas, and safety provisions

1.4.3 PUBLIC MEETING #2 – PLAN ALTERNATIVES

Public Meeting #2 was held at the BLM's Las Vegas Field Office on Torrey Pines Dr on August 12, 2008, from 12:00 PM to 8:00 PM. The purpose of the meeting was to present three alternative trail alignments and a No Action alternative, design guidelines for development of the trail system, and alternative trail surfaces. Refer to Appendix D-3 for additional information and meeting materials. Presentations of the materials were made during the lunch hour and in the evening. Discussion groups followed the presentations; at which time, public input was noted on flip charts. Based on the attendance at the two meetings, one group was formed during the earlier session and three groups during the evening session. An open house was held between presentations, and a questionnaire was available for participants to formally record their input.

In addition to the presentation, a series of graphic exhibits illustrated the three alternative alignments and the design guidelines. In addition to maps of each alternative, a comparative summary analysis of the alternatives was also provided. Another graphic used site photos to demonstrate the visual difference in the "visitor experience" for each alternative.

A table showing the differences of the various trail surface alternatives (asphalt, concrete, and crusher fines) was shown; sample surface alternatives were also on hand. The summary table is included as Appendix C, Trail Surface Alternatives. A two-week public comment period followed the meeting, with materials and the meeting questionnaire available to the public in the public reading room at the BLM office on Torrey Pines Dr and on the BLM Southern Nevada District webpage. Thirty-eight questionnaires were returned by the end of the public comment period.

Appendix D-3 of this PEA includes a detailed summary of questionnaire responses. Public input from the meetings and questionnaires was incorporated into the development of a preferred alternative. The section that follows describes this alternative and the manner in which public input was incorporated.

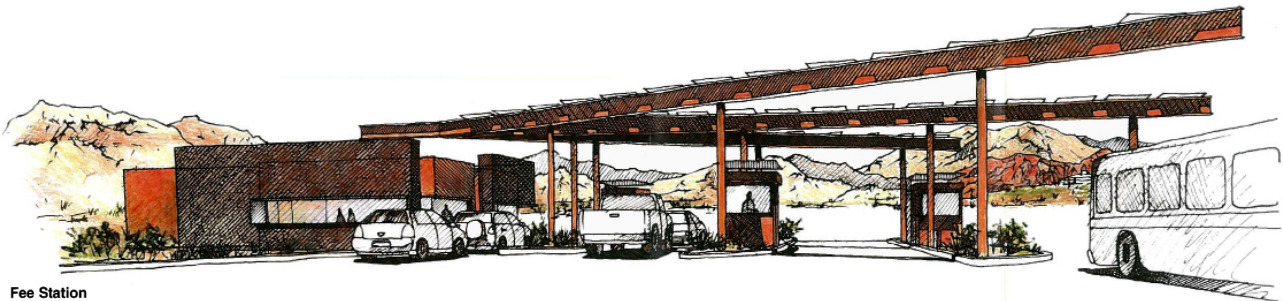
The preferred alternative that emerged from this meeting and from subsequent questionnaires was a combination of two of the three alternatives. The preference toward a paved trail surface emerged at this meeting as well. Other input

included the need to consider the consolidation of trailheads (that is, provide fewer, higher quality trailheads), provide "loop" opportunities within the trail system, and avoid sensitive lands and displacement of current mountain bike uses in any connection planned between the SRUPA and the Late Night Lot. Section 2.4 summarizes the alternatives presented and the preferred alternative that emerged from this second public meeting. A substantial amount of the feedback obtained from the public, including the proposed alignment of the trail and the proposed trail surface, has been included in the Proposed Action. See Chapter 2 for a detailed description of the Proposed Action and the alternatives screening process.

1.4.4 PUBLIC MEETING #3 – INTERIM DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

The third public meeting occurred on January 8, 2009, at the BLM's Las Vegas Field Office on Torrey Pines Dr. Public notification of the meeting was made two weeks before the meeting. The purpose of this meeting was to present the Proposed Action and Interim Draft Final PEA to the public and to solicit their feedback. The Interim Draft Final PEA was available to the public for review at the meeting and for the two-week comment period that followed. An open house was held throughout the day, with a short formal presentation being made during the lunch hour and again in the early evening. A questionnaire was provided for the public to provide their feedback.

Details presented for the first time at this meeting include the proposed closure of the First Creek Trailhead and the proposed relocation of the trailhead for First Creek Trail to the proposed trailhead at Old Oak Creek. A public comment period followed the meeting, with materials and the meeting questionnaire available to the public in the public reading room at the BLM office on Torrey Pines Dr and on the BLM webpage. Feedback was generally positive. No logistical problems were noted based on the Proposed Action. Appendix D-4 of this PEA includes a detailed summary of questionnaire responses.



Fee Station
 Schematic Design Submittal
 US Department of the Interior Bureau of Land Management
 Red Rock Canyon Visitor Center
 Line and Space, LLC
 11/15/09

1.5 RELATIONSHIP OF THE PROPOSED ACTION TO OTHER BLM AND OTHER COOPERATING AGENCY PROGRAMS, POLICIES, AND PLANS

There are a variety of plans, policies, and programs within the BLM and with other agencies that have some relationship to the Proposed Action. They are summarized in the following subsections by agency or other landholders. Chapter 2 details more specifically how the Proposed Action would be compatible with the following plans, policies, and programs.

1.5.1 RED ROCK CANYON NATIONAL CONSERVATION AREA (BLM)

The BLM currently has several planning and/or construction projects underway in RRCNCA that relate to the Proposed Action. They include the improvements in the Red Rock Canyon Visitor Center area, the Red Rock Canyon Campground and Fire Station Improvements and Utilities Extension, the Mojave Discovery Center, and the Wild Horse and Burro Management areas.

1.5.1.1 RED ROCK CANYON NCA VISITOR CENTER

A new visitor arrival center is currently under construction at the site of the existing visitor facilities. The visitor center itself is the first component of a multi-phased project. The inside of the new visitor center opened to the public in October 2009. Other improvements will include outdoor

exhibits, an amphitheater, redesign of the old visitor center into an administrative building, and construction of the new fee booth. The full project is expected to be completed by mid-2010.

As part of the Proposed Action discussed in this PEA, a segment of the trail alignment would bring users just south of the proposed parking area (Fee Booth) and would accommodate access from the parking area to the Fee Booth area and trail alignment. In each public meeting, attendees indicated a need for water to be available along the trail. A vending machine with bottled water may be available in this parking area near the Fee Booth.

1.5.1.2 RED ROCK CANYON NCA CAMPGROUND AND FIRE STATION IMPROVEMENTS AND UTILITIES EXTENSION

Improvements proposed for the Red Rock Campground/ utilities project could include the installation of utilities along SR-159 and Moenkopi Rd. Ongoing coordination with that project is recommended as the Proposed Action could use disturbance created by utility installation. In addition, trail alignments proposed in future phases may use the Campground as a node.

1.5.1.3 DESERT LEARNING CENTER (OLIVER RANCH) / MOJAVE DISCOVERY CENTER

The Desert Learning Center and Wild Horse and Burro Facility (DLC) was proposed for construction at the Oliver Ranch area. In 2006, a Draft EA was prepared (BLM 2006a). Detailed data contained in that Draft EA will be used to refine the proposed trail alignment and to provide initial data for determining soil conditions that affect the design of the trail cross-section in the vicinity of Oliver Ranch. This information may also be used in developing initial cost estimates.

The Desert Learning Center name has been changed. It is now called the Mojave Discovery Center (MDC). The BLM is preparing an EA proposing that the MDC be constructed in a new location adjacent to the visitor center (east of the visitor center).

1.5.1.4 WILD HORSE AND BURRO MANAGEMENT AREAS

Segments of the Proposed Action may transect the Red Rock Herd Management Area (HMA) within RRCNCA. Certain practices, including the use of fencing and cattle guards, have already been implemented in the HMA. These practices have been put in place to keep animals off roadways and to protect fragile resources, such as wetlands, by keeping the animals away from these resources and providing alternative water sources. Boundaries of the current HMA in the project area need to be confirmed to ensure that appropriate mitigation measures would be taken in implementing the Proposed Action.

1.5.2 BUREAU OF LAND MANAGEMENT LANDS

A large tract of land adjacent to RRCNCA and to the east is managed by the BLM but is not a part of RRCNCA. Portions north of SR-160 are included in the project area and would include portions of the proposed trail alignment.



Planning team and NDOT engineers at Old Oak Creek gate on SR-159, August 2008

One proposed and pending action has been identified in this area (BLM 2008a). The action proposed would be the development of a gravel mining facility just south of the existing railroad abutments, which could also affect the location of the alignment. However, the company may not pursue this proposal further as they currently have other BLM sites they are not meeting production on. The BLM will probably not contract an agreement for this area.

In addition, BLM parcels are being held in land reserve at the intersection of Hualapai Way and SR-160 on both the north and south sides of SR-160 under agreement with the Regional Transportation Commission (RTC) for consideration as future park-and-ride facilities. The Clark County Department of Comprehensive Planning (CCDCP) reports that areas could potentially provide parking and trail access to the proposed alignment and other potential alignments outside the project area (CCDCP 2007a).

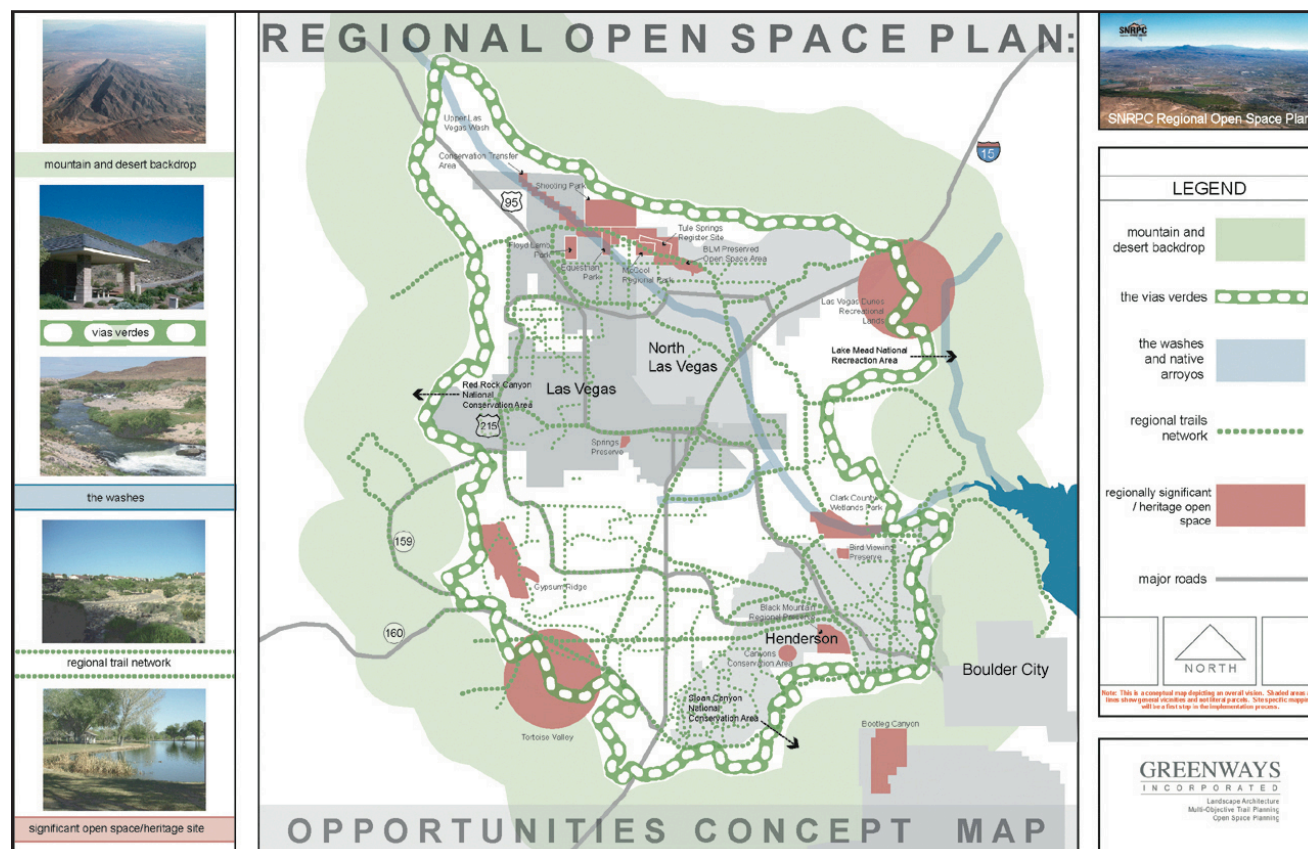
1.5.3 NEVADA DEPARTMENT OF TRANSPORTATION

NDOT plans to widen SR-160 from Fort Apache St to the intersection at SR-159. Included in the scope of this project is the extension of underground utilities in the ROW on the north side of the roadway. An asphalt-paved service road is proposed on top of or near these underground utilities. This asphalt service road will also be designated as a hiker/biker trail (10-ft-wide) and connect to existing trail(s) east of the Upper Blue Diamond Detention Basin at Fort Apache St. Bidding and construction are currently on hold (NDOT 2008a). The asphalt trail could link to the proposed trail alignment to create a loop trail around the Blue Diamond Wash and the Upper Blue Diamond Detention Basin.

1.5.4 REGIONAL TRANSPORTATION COMMISSION

RTC is responsible for managing comprehensive bicycle trail coordination, planning, and mapping throughout the Las Vegas Valley. Their 2007–2008 Bicycle Map has been consulted to identify existing and planned on- and off-road bicycling facilities that would feasibly connect to the trail system identified in the Proposed Action (RTC 2007).

Figure 1-3. Regional Open Space Plan, Southern Nevada Regional Planning Coalition



(Source: SNRPC 2006)

1.5.5 REGIONAL OPEN SPACE PLAN FOR SOUTHERN NEVADA

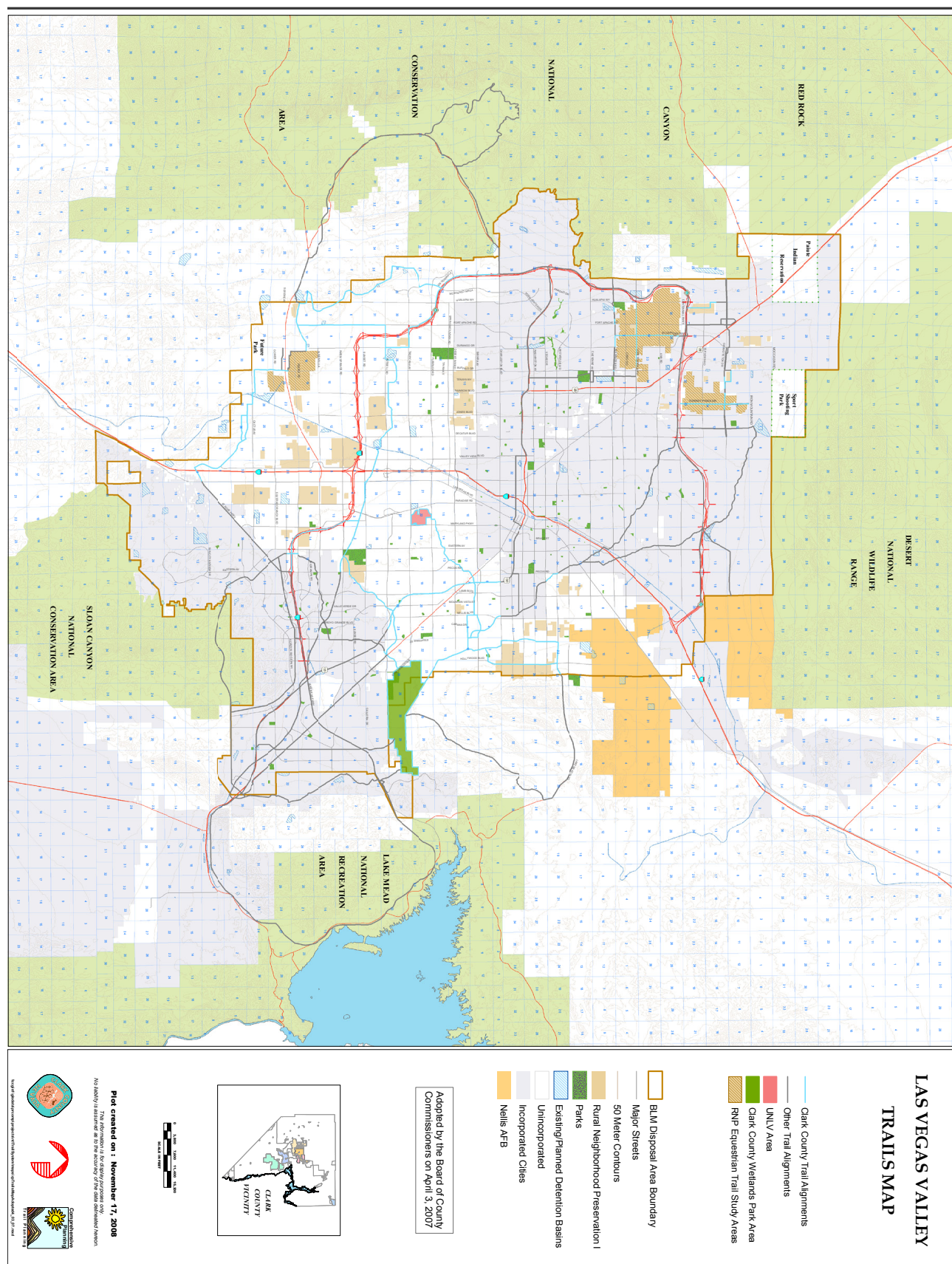
Southern Nevada Regional Planning Coalition (SNRPC) completed the Regional Open Space Plan for Southern Nevada in June 2006. The Opportunities Concept Map (Figure 1-3) has identified SR-159 as a part of the regional trails corridor, with the Sandstone Mountains as a mountain backdrop that should be protected and preserved (SNRPC 2006). It also identified the “Vias Verdes” as a trail “green belt” that surrounds the main valley, potentially located on the east side of Blue Diamond Hill.

The Gypsum Ridge Park area has also been identified as a regionally important/heritage open space in the Regional Open Space Plan. Trails development in the SR-159 corridor would fulfill this vision put forth by the open space plan and that of the SNPLMA directive for development of trail connections, such as those included in the Proposed Action.

1.5.6 CLARK COUNTY PLANNING AND PARKS, TRAILS, AND OPEN SPACE DEVELOPMENT

A trailhead is under construction at the intersection of Durango Dr and Shelbourne Ave north of SR-160. A trail connection between the Durango Trailhead and Gypsum Ridge Park is in the planning/scoping stages. According to the Clark County Department of Air Quality and Environmental Management (DAQEM), additional facilities for Gypsum Ridge Park, which may include equestrian facilities, are being planned (DAQEM 2008a). Connection through the Clark County trail system into the Las Vegas Valley Trails Plan (see Figure 1-4) is also consistent with SNPLMA’s directives.

Figure 1-4. April 2007 Las Vegas Valley Trails Map, Clark County Department of Air Quality and Environmental Management



1.5.7 PROPOSED NEIGHBORHOOD PARK, SUMMERLIN-HOWARD HUGHES CORPORATION

The Master Plan for a proposed neighborhood at Summerlin includes the development of a park and trailhead facility on the west side of Sky Vista Dr approximately 1,000 ft northwest of SR-159.

1.5.8 CLARK COUNTY WATER RECLAMATION DISTRICT/BLUE DIAMOND WATER COOPERATIVE

Both the existing Blue Diamond water reclamation facility (settlement ponds) and the potable water pumping facility east of Blue Diamond are being studied for continued viability. Whether they remain operational or not, the existing disturbance created by their service roads could provide an opportune trail alignment.

1.5.9 DESERT SPORTSMAN'S RIFLE & PISTOL CLUB (GUN CLUB)

The patent for the Gun Club lease will expire in 2010 (BLM 2008b). It is not known at this point if the lease will be re-issued.

1.5.10 CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

A copy of this draft was shared with the CCRFCD for preliminary review related to existing CCRFCD facilities within the planning area.

1.6 CONFORMANCE WITH APPLICABLE REGULATIONS AND LAND USE PROGRAMS

1.6.1 SOUTHERN NEVADA PUBLIC LANDS MANAGEMENT ACT (SNPLMA)

SNPLMA (1998 as amended) authorized the BLM to dispose of BLM-owned land and specifically designated funding for RRCNCA capital improvements. The subsequent Las Vegas Valley Disposal Boundary EIS identified that funds received through the SNPLMA account would be applied to develop trails to connect the Las Vegas Valley

Trail System (also known as the Vias Verdes Trail) within the RRCNCA (BLM 2004a). Implementation of the Proposed Action would comply with the SNPLMA mandate and the BLM ROD designation of funding for trails in the RRCNCA.

1.6.2 RESOURCE MANAGEMENT PLAN FOR RRCNCA

This Proposed Action is in conformance with the ROD and RMP meeting the plan's primary management direction "to conserve and protect the natural resources" and "to provide recreation opportunities allowing the public to enjoy and appreciate the unique natural setting which composes Red Rock Canyon" (BLM 2005).

As part of the RMP, Management Emphasis Areas (MEAs) were developed and codified in the ROD to "provide a framework for indicating management intent for a particular geographic area and for evaluating appropriateness of future actions and proposals" (BLM 2005). According to the map (BLM 2005), the Proposed Action would traverse all MEAs with the exception of Primitive Areas. The Proposed Action would be in compliance with the designations set forth in the ROD. Of note would be the proposed Old Oak Creek Trailhead in a non-motorized MEA. The MEA zone description notes that motorized use is prohibited; however, it states further that "facilities...may be provided for resource protection and user safety" (BLM 2005). As noted in greater detail in the description of the Proposed Action, the proposed trailhead would consolidate unsafe parking occurring in the shoulder of SR-159 to a single vehicular access point facility on existing disturbance.

1.6.3 RED ROCK DESIGN OVERLAY DISTRICT

The Proposed Action is also in general compliance with the Clark County land use requirements as established in the Red Rock Design Overlay District.

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CHAPTER 2.0 PROPOSED ACTION AND ALTERNATIVES CONSIDERED

Two alternatives are analyzed in this PEA: the Proposed Action and the No Action alternative. In addition, two alternative trail surfaces are under consideration: (1) asphalt with concrete wash crossings and (2) concrete throughout. During the feasibility study for this project, a series of alternative alignments were developed and studied that met the initial project objective:

PROJECT OBJECTIVE

Determine a preferred alignment for a non-motorized, spine trail that generally links the west end of Charleston Blvd (SR-159) to SR-160. Off the spine trail, provide a link to Red Rock Campground, Red Springs, Red Rock Canyon Visitor Center, Spring Mountain Ranch State Park, Bonnie Springs and Blue Diamond. Recognize the corridor may need to be adjusted based on field surveys and more detailed design. In addition, the trail system would enhance safety, improve access and circulation, provide a high-quality recreational experience, remain sensitive to the resources at RRCNCA, promote human health, and minimize additional O&M costs.

Such a trail system would fulfill many purposes of RRCNCA for implementation of a non-motorized trail spine, including:

- Improve safety along the SR-159 corridor for motorized and non-motorized users
- Increase access to RRCNCA from the greater Las Vegas Valley system of on- and off-road non-motorized trails
- Improve circulation for non-motorized users between existing recreational amenities, nodes, and services within RRCNCA
- Provide visitors a high-quality recreational experience of RRCNCA's unique desert landscape
- Continue to promote preservation of natural and cultural resources in RRCNCA
- Enhance human health
- Minimize additional O&M costs

With these purposes in mind, the series of alignments were further refined and screened based on the following criteria:

- Identify a study area at the programmatic level that averages 100 ft in width within which the trail alignment would be located and detailed design development would occur in future phases. Project-specific tiered EAs or DNA reports would also be prepared for subsequent NEPA compliance. (Note: The study area has been expanded to as much as 300

ft-wide in a few areas given certain unknowns related to limited topographic data. The BLM has initiated a LiDAR study to collect better elevation data for use in the future design development phases.)

- Provide trailheads at logical access areas—some with equestrian parking and facilities.
- Create a series of design guidelines for development of a trail system that would include a 10-ft-wide paved trail with 2-ft-wide unpaved shoulders on either side suitable for family recreational users. (Note: The trail would create a total initial disturbance of up to a 30-ft-width with a permanent disturbance width of 14 ft for the paved trail and shoulders; and, some additional temporary disturbance could be created during construction, up to an additional 16ft in width, which would be restored as phases of construction are completed.)
- Create an avoidance map and avoid identified areas, where feasible, including cultural and natural resources.
- Minimize the need for new land disturbance.
- Traverse slopes, avoid switchbacks, and follow guidelines for providing accessible grades.
- Recognize that washes would need to be crossed (stay perpendicular, find short expanses with relatively gentle side slopes).
- Locate and design to minimize maintenance.
- Diversify the recreational experience.
- Minimize disturbance to existing mountain bike and equestrian users as feasible.
- Separate from SR-159 and SR-160, yet do not push too deeply into the landscape.
- Minimize crossing SR-159; use underpasses if a crossing is needed.
- Follow guidelines for providing universal access in outdoor areas.

Based on these criteria, a series of three alternative trail alignments and a No Action alternative were more fully developed and presented at Public Meeting #2 in August 2008. See Appendix D-3 for materials presented. Based on public input from workshop sessions and completed meeting questionnaires with subsequent input from BLM staff, the Proposed Action would primarily be a combination of two of the three alternative alignments presented at that meeting.

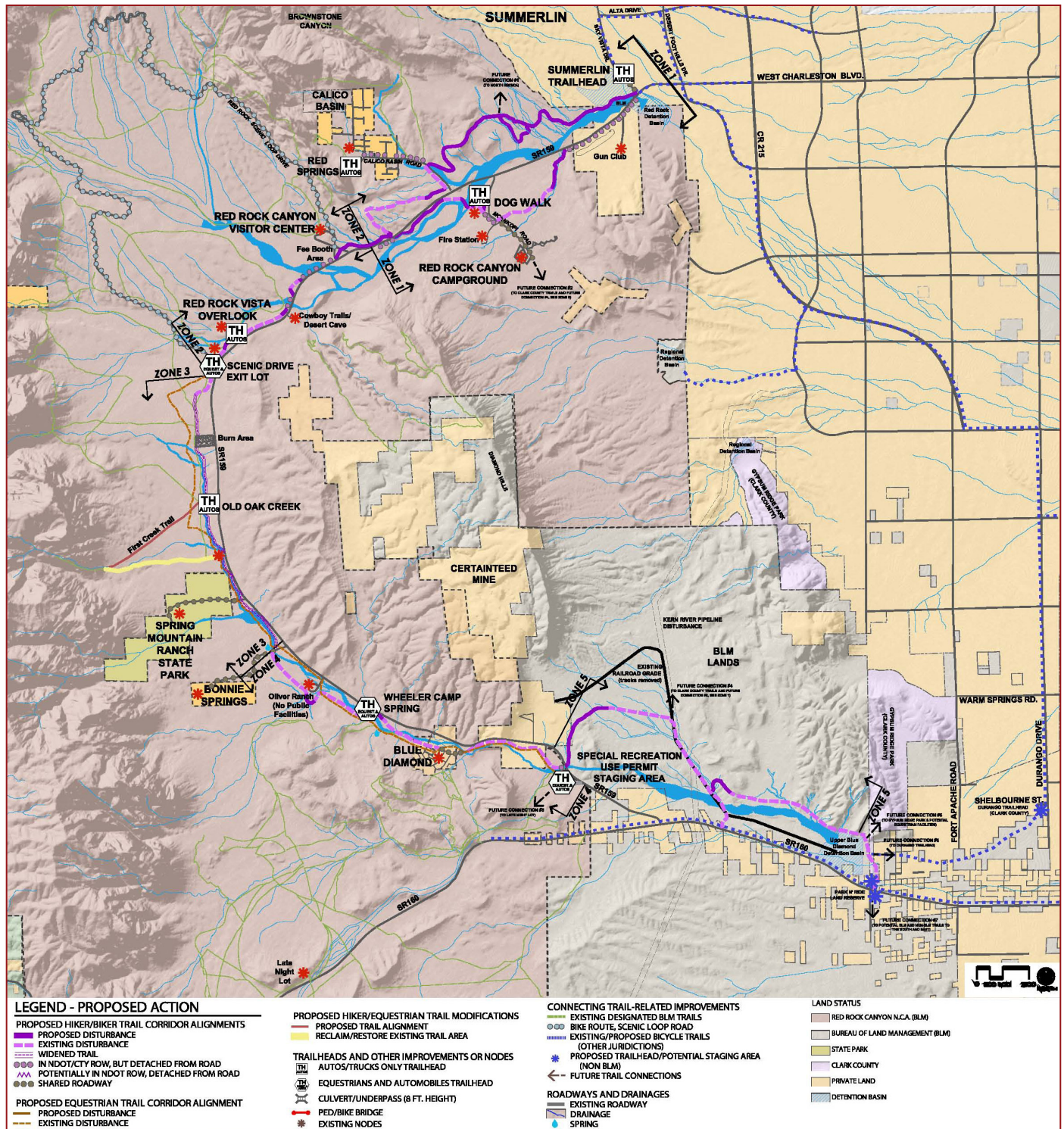
As described in Chapter 1, the current level of heavy use of recreational facilities in RRCNCA is anticipated to continue at increasing levels, straining the existing facilities capacity and further impacting resources. Unauthorized social trails caused by casual use and unsafe parking along SR-159 can be anticipated near more developed areas, and both are expected to strain existing O&M staff and budgets. While analysis of construction and maintenance costs is not explicitly required of the PEA, the BLM would like to incorporate consideration of long-term additions to O&M budgets in decision-making related to construction of any trail-related improvements to assure user safety, resource protection, and long-term maintenance.

2.1 PROPOSED ACTION

The Proposed Action delineates a proposed trail study area and recommends locations for associated trail elements such as trailheads and underpasses that would provide for approximately 35 miles of trail and connections. The 35 miles include up to 53.45 acres of new permanent disturbance; 45.5 acres of temporary, construction-related disturbance that would be restored; and the use of 36.10 acres of previously disturbed land (see Section 2.1.6 for a more detailed summary of resource disturbance). The hiker/biker trail would be 27 miles, with the remaining 8 miles designated for equestrian use. These trails would be located along the SR-159 and the SR-160 corridors between the Red Rock Detention Basin at West Charleston Blvd and the Upper Blue Diamond Detention Basin at SR-160 and Hualapai Way (Figure 2-1). The proposed trail alignment would include trail loop opportunities at each of those ends in addition to the connections it provides to amenities within the RRCNCA. This alignment has been selected as the Proposed Action after extensive field study, public input, and BLM staff input because it would safely provide all of the needed connections and desired loops by using a substantial amount of existing disturbance, while providing a diverse and high-quality recreational experience.

The intent of the Proposed Action would be to create a trail system running generally along the SR-159 corridor that would integrate gently into the existing landscape by responding to site conditions with minimal intrusion to RRCNCA. The trail would also provide a safe, high-quality, and diverse recreational experience to a broad range of non-motorized users, meeting the project purpose and criteria noted previously. More than half of the alignment would be

Figure 2-1. Proposed Action



located over 750 ft away from SR-159, mostly on existing trails, dirt roads, or utility disturbances. This would provide trail users a unique desert experience away from the hazards and nuisances associated with a highway, such as noise, car exhaust, radiated pavement heat, and fast-moving vehicles, without extensive additional impacts on the resource associated with new disturbance. At this distance, maintenance and trail monitoring would be manageable because most of the trail could be viewed from the road and would be easily accessible by maintenance vehicles. In a few areas, to avoid extensive resource impacts and to take advantage of existing infrastructure, the trail would be located in the SR-159 ROW and separated from roadway uses by a landscape buffer.

The BLM has contracted to have the project area surveyed using LiDAR, which is a remote sensing system used to collect topographic data. Using data from the LiDAR survey, the BLM has contracted to prepare a planning level Construction Cost Analysis Report for the Proposed Action. The cost analysis will be used to help determine a priority sequencing for construction of the Proposed Action. The LiDAR data will be used by applying Eaglepoint software applications to assist in the development of profiles of the Proposed Action along the proposed corridor centerline. These profiles will be used to determine planning-level earthwork quantities for cut-and-fill slopes. With this trail profile information, design criteria for the trail cross section can be further refined and developed to assist in Tier 2 decision making by assuring that the alignment-related mitigation measures will be followed and that the least amount of earth disturbing activities will occur.

The trail system would be suitable for families and may include users such as recreational bicyclists, joggers, walkers, and hikers. This trail system would also include a separate unpaved equestrian trail in areas where equestrians are currently allowed and an identifiable trail is needed. The BLM does not plan to charge a fee for using any portion of this trail system.

Consistent with the guidelines for accessibility in outdoor areas, much of the alignment would be designed at a grade of 5 percent or less; the majority of the remaining alignment would be designed between 5 percent and 8.33 percent. In cases where design at grades of 8.33 percent or less would not be possible without undue impacts on the resource, an equivalent experience would be provided. These parameters are generally consistent with proposed guidelines for trail improvements on federal lands (36 CFR Part 1195).

THE PROPOSED ACTION WOULD CONSIST OF A TRAIL SYSTEM THAT WOULD INCLUDE:

- 27 linear miles (10-ft-wide paved) hiker/biker trail including approximately:
 - 14 miles of trail on existing disturbance, road, and trail*
 - 9 miles of trail on undisturbed lands*
 - 3 miles in the SR-159 ROW*
 - 1 mile in the Calico Basin Rd ROW connecting to facilities at Red Spring*
- Development of approximately 8 miles of designated equestrian trail (existing disturbance)
- Signing of 3 miles of bicycle access on Clark County and BLM roads with “Share the Road” signage
- New development or redevelopment of seven trailheads
- Closure of one existing trailhead (First Creek)
- Realignment of one hiking/equestrian trail (First Creek Trail)
- Three underpasses
- One bike/pedestrian bridge

(Note: Trail lengths are approximate and based on planning level data.)

For the purposes of this PEA, a 100- to 300-ft-wide trail corridor alignment (the alignment) has been delineated as the trail study area within which, with further analysis, the paved hiker/biker trail would be located to create a high-quality recreational experience that is sensitive to the diverse natural and cultural resources present in RRCNCA. In some cases that may mean avoiding the resources, while in other cases, it may present an opportunity to interpret a resource as a more appropriate course of action. Other mitigation measures may be developed as well as discussed in subsequent chapters of this document.

It should be noted that this alignment represents a general planning-level recommendation for the most appropriate location for the proposed trail alignments (both the hiker/biker and the equestrian) based on the criteria, field study, public input, available data, and BLM staff input. In some cases, once more detailed study is conducted, the alignment may need to move outside the original 100ft study area to minimize resource disturbance and avoid specific areas of sensitivity. Certain areas where wider areas of study may be warranted at this programmatic level are noted in the Appendix B Zone Figures.



Illustrative cross section of proposed typical wash crossing

To provide context, a description of site-specific needs for development of the trail is provided in Section 2.1.1. Section 2.1.2 details the proposed hiker/biker trail alignment and provides separate descriptions of the proposed equestrian alignment. Section 2.1.3 describes the proposed trailheads, along with the proposed closure of the existing First Creek Trailhead and proposed realignment of First Creek Trail.

2.1.1 DESIGN GUIDELINES AND SITE-SPECIFIC NEEDS OF THE HIKER/BIKER TRAIL

The following section describes a series of design guidelines for the site-specific design of the proposed trail system. Illustrations are provided in Appendix A, Project Design Guidelines. The guidelines also provide a general sense of the desired look and feel of the Proposed Action. The proposed guidelines for site-specific needs are detailed as follows to provide a richer context for the description of the proposed alignment in subsequent sections. The descriptions include proposed typical detailing of the following:

- Trail cross section
- Trail siting on steep slopes
- Wash crossings
- Trails in the ROW and “Share the Road” signage
- Underpasses and bridges

2.1.1.1 TRAIL CROSS SECTION

The hiker/biker trail would primarily be a 10-ft-wide paved surface with a gentle 2 % cross slope. This cross slope would promote natural drainage and would be highly accessible to a variety of users (see Appendix A, Figure A-5). The trail would have 2-ft-wide gravel shoulders on either side to act as a recovery area and to help minimize weeds along the trail. Swales would be provided, where

warranted, to provide adequate drainage. The trail surface would be paved with asphalt to minimize maintenance and airborne dust, except at washes or steep areas where concrete would be used to reduce long-term maintenance. In addition, concrete would be considered as a bid alternate for the length of the entire trail at the time of construction bidding to provide a cost comparison. If it proves to be cost-effective, concrete will be strongly considered. The recent cost of concrete is similar to that of asphalt, especially when life cycle costs such as longevity and maintenance are included (see Appendix C). In either case, the pavement design would have admixtures, colorants, aggregates, and/or other ingredients to ensure that the pavement blends well into the surrounding landscape.

The hiker/biker trail would be designed to accommodate two-way traffic. Near trailheads and other higher use areas, traffic controls such as striping and signage would be used to direct traffic and enhance safety. Along the majority of the alignment, the trail would integrate gently and easily into the existing landscape. However, there would be instances where trail elements such as guardrails, walls, culverts, fencing, and landscape buffers would be necessary to assure user safety and minimize adverse impacts on the landscape. These situations include trail siting on steeper cross slopes where cut and fill would be necessary, wash crossings, and trail sections in the ROW and through underpasses. In these special circumstances, every effort would be made to design solutions that would integrate well into the environment and add to the quality of the recreational experience.

2.1.1.2 TRAIL SITING ON STEEP SLOPES

The vast majority of the trail would be in areas where a grade of 5% or less could be achieved with minimum cut and fill. However, there are trail sections where steep slopes



Illustrative representation of proposed typical trail in right-of-way

would be involved. These areas would be designed with grades to minimize grading, erosion, and potential washout. Earthwork and hauling would be minimized by balancing cut and fill of material as much as possible. In addition, walls of native stone or other compatible materials would be incorporated where cutting would be necessary and revegetation would occur within all undisturbed areas (see Appendix A, Figure A-6 and Figure A-7).

2.1.1.3 WASH CROSSINGS

The numerous washes that convey water during storm events in RRCNCA are a prominent feature of this landscape. The washes can be avoided much of the time; however, at least 59 crossings of washes and drainages would be needed. In areas where they would be needed, narrow crossings with gentle side slopes would be used as feasible. In these areas, the trail would be sited to traverse perpendicularly to the wash, and low (Arizona) crossings would be used. In all cases, wash crossings would be constructed of concrete and at an elevation that allows major flows across the top of the crossing, thereby, reducing backup, clogging, or washout. Cut-off walls on either side of the crossing would go to a sufficient depth to minimize undercutting. The crossings

would be armored with riprap and/or concrete, as would the sides of the wash's slope on approach to the crossing. Trickle channels would be provided to accommodate lower flows and still allow for trail use (see Appendix A, Figure A-7, and Figure A-8).

2.1.1.4 TRAILS IN THE RIGHT-OF-WAY AND “SHARE THE ROAD” SIGNAGE

In some cases, it would be necessary for the trail to be located in the SR-159 ROW to avoid sensitive areas and difficult terrain and to reduce construction costs. In such situations, the existing roadway and shoulder would be retained and at least 17 ft of width would be added to accommodate the paved trail, a landscape buffer, and a guardrail (see Appendix A, Figure A-11). The BLM would work with NDOT to obtain approvals. A site visit with NDOT occurred in August 2008 to discuss the potential location and detailing of such an alignment, potential underpasses, and other ROW uses that would be part of the Proposed Action. Based on their site observations and planning-level design documentation, NDOT engineers and ROW agents noted that the Proposed Action appeared feasible (NDOT 2008a).

Similarly, an 8-ft-wide trail alignment detached and separated from the roadway would occur along a section of the Calico Basin Rd ROW that would provide a connection from the main trail to Red Springs. BLM would work with Clark County to obtain approval to construct this section of trail.

Portions of lightly traveled County and BLM roads would also be used to provide connections to certain destinations. These road segments would be posted with “Share the Road” signage to alert drivers to the potential presence of bicyclists,



Illustrative cross section of proposed underpass near the visitor center

pedestrians, and other users. These road segments would include Moenkopi Rd to the Red Rock Canyon Campground, SMRSP Rd to the state park's public parking area, Bonnie Springs Rd to Bonnie Springs, and a short segment of Arroyo Rd in Blue Diamond.

2.1.1.5 UNDERPASSES AND BRIDGES

Three underpasses and one bridge proposed in this trail system would be considered critical to provide a safe system for trail users and drivers on SR-159. These elements would provide for safe passage of users from one side of SR-159 to the other without on-street crossings on the 50 mph highway. These improvements would enhance the overall connectivity to other trail systems in the Las Vegas Valley and improve circulation within RRCNCA.

The underpasses would be located near existing drainage culverts to minimize site disturbance and impacts on SR-159. Two of the underpasses would be concrete box culverts with wing walls (see Appendix A, Figures A-9, A-10, and A-12). The third underpass would go beneath the west side of the NDOT bridge at the mouth of the Red Rock Detention Basin near the entry to RRCNCA at West Charleston Blvd. A bridge would be provided in the same area to provide for crossing of the Red Rock Wash. It would be located immediately north of the NDOT bridge and proceed directly across the channel, providing a connection to the underpass from the east side of the wash under the west edge of the highway bridge (see Appendix B, Figure B-1, Zone 1 Enlargement Area). Section 2.1.2 provides a more detailed description of these improvements.

2.1.2 TRAIL ALIGNMENT (HIKER/BIKER AND EQUESTRIAN)

This section provides a detailed description of the proposed trail alignment. As noted previously, a trail corridor alignment (the hiker/biker alignment) would be delineated as the Proposed Action study area within which, with further analysis, the paved hiker/biker trail would be located to create a high-quality recreational experience with a sensitivity to the diverse natural and cultural resources present in RRCNCA. Generally, this study area is 100 ft wide; however, in a few areas, it is as wide as 300 ft given certain unknowns related to limited topographic data. These areas are noted on the detailed zone maps of the Proposed Action in Appendix B. Wherever possible, this alignment would be set back from SR-159 or SR-160. The intent would be for

trail users to feel integrated into the landscape, yet not so far removed that help would be accessible, if needed.

In addition to the hiker/biker alignment, an equestrian alignment would be designated to provide a spine trail for equestrians along the west side of SR-159 where they are currently allowed. Equestrians expressed concern at public meetings and during public comment periods that the introduction of a paved trail through this corridor and the presence of bicyclists would have an adverse impact on their recreational experience and would potentially create safety concerns for all users. For this reason, to the fullest extent possible, the equestrian alignment would be separated from the hiker/biker alignment.

The project area has been divided into five zones to organize descriptions and site-specific segments of the trail in this and other parts of this document. Each zone is described in the subsections that follow. In addition, trail alignments have been further divided into segments within each zone. Refer to Appendix B for detailed maps of each zone. A table summarizing the attributes of each of the trail system components that would be within each zone is presented at the end of the zone descriptions. More detailed information related to component quantities and associated disturbance can be found in Appendix B, Figure B-6.

ZONE DESCRIPTIONS

**ZONE 1 THE NORTH LOOP -
SUMMERLIN TRAILHEAD
TO THE VISITOR CENTER
UNDERPASS (ON BOTH
NORTH AND SOUTH SIDES
OF SR-159)**

**ZONE 2 VISITOR CENTER UNDERPASS
TO EXIT LOT TRAILHEAD**

**ZONE 3 EXIT LOT TRAILHEAD TO
BONNIE SPRINGS ROAD**

**ZONE 4 BONNIE SPRINGS ROAD
TO SPECIAL RECREATION
USE PERMIT AREA (SRUPA)
TRAILHEAD**

**ZONE 5 UNDERPASS AT SRUPA TO
UPPER BLUE DIAMOND
DETENTION BASIN AND
SOUTH LOOP**



Zone One representation of the trail at the North-Segment 1G between Summerlin and Calico Basin

2.1.2.1 ZONE 1 – THE NORTH LOOP: SUMMERLIN TRAILHEAD TO THE VISITOR CENTER UNDERPASS

In Zone 1, trail alignments located north and south of SR-159 join together near the future connection to the Summerlin Trailhead in the vicinity of the Red Rock Detention Basin and at an underpass near the Red Rock Canyon Visitor Center to create a loop that would be approximately 12 miles long (see Appendix B, Figure B-1, Zone 1). The description of the alignment has been divided into two parts. The first part describes the trail alignment located north of SR-159 from the future connection to the Summerlin Trailhead to the north side of the underpass located $\frac{1}{4}$ mile east of the visitor center (the Visitor Center Underpass) at mile marker 10.9 with a side spur along Calico Basin Rd to Red Springs. The first part also includes a description of the crossings, a proposed bridge, and an underpass beneath the NDOT roadway bridge, which would provide access across the Red Rock Wash and onto the south side of SR-159 (see Appendix B, Figure B-1). The second part describes the alignment south of SR-159 from the underpass beneath the NDOT bridge, past the Dog Walk Trailhead, and onto the south side of the Visitor Center Underpass.

ZONE 1, ALIGNMENT NORTH OF SR-159

The alignment north of SR-159 would begin at the proposed future connection to Summerlin Trailhead located on Sky Vista Dr approximately 1,000 ft northwest of West Charleston Blvd. From the trailhead, users would proceed southwest down Sky Vista Dr in the bike lane or on a sidewalk to West Charleston Blvd (Segment 1A). Turning west, the alignment would divide as it proceeds down into the

wash/detention area to the west (see Appendix B, Figure B-1, Zone 1 Enlargement Area). At this junction, the alignment would enter BLM lands. One alignment would cross a proposed bridge over the Red Rock Wash parallel to the existing SR-159 bridge in the NDOT ROW from mile marker 14.7 to 14.75, then turn and proceed under the NDOT bridge to the alignment on the south side of SR-159 (Segment 1N described below). The north alignment would run along the Summerlin property line, either by using the existing Summerlin service road adjacent to the BLM property line by agreement or by widening the existing road/trail onto BLM property (Segment 1B).

After traveling the property line/service road for about 1,000 ft (Segment 1B), the alignment would then traverse the Gun Club parcel for about 2,000 ft (Segment 1C), crossing one wash along the way, and then entering RRCNCA. Segment 1D would then ascend a fairly steep hillside, primarily at grades between 5% and 8.33% and crossing in and out of washes six times and becoming increasingly distant from SR-159. After approximately 1 mile, a short loop trail (Segment 1F) would split off the main trail to the south. The short 3,500-ft loop trail would cross a wash, then wind a bit west to south, and traverse slightly downhill until coming to the edge of a very deep wash (Overlook #1). From here, it would turn north uphill along the top of the wash escarpment until meeting up with the main trail again at the western end of Segment 1E. Segment 1E, the main trail, would have in the meanwhile ascended another 2,000 ft from the west end of Segment 1D crossing two small washes before meeting the northwest end of the loop trail (Segment 1F). Using the loop and then returning back to the Summerlin Trailhead would create a relatively short and scenic 4.5-mile roundtrip excursion. In addition, a connection to trail alignments heading north to amenities such as Brownstone Canyon, Kyle Canyon, and northern portions of RRCNCA could be provided here at the west end of Segment 1E (Future Connection #1, see Section 2.1.3).

The proposed alignment (Segment 1G) would continue west across several washes and several distinct sections of steeper slopes where some cut and fill may be necessary. After crossing between and around several hills, the trail would arrive at Calico Basin Rd (west end of Segment 1G). At Calico Basin Rd, the trail would fork. One alignment would turn northwest and travel parallel along the road to the Red Springs Trailhead, about $\frac{3}{4}$ mile west (Segment 1H). This alignment would be a detached trail within the road ROW on



Zone One South- Illustrative view west from Overlook #3 near Gun Club

the north side of Calico Basin Rd. The main trail alignment would proceed across Calico Basin Rd, on a marked crosswalk, then link to an existing dirt road crossing two washes before turning west toward a small canyon (Segment 1I).

After turning west and over the next 1,500 ft, the alignment (Segment 1J) would cross the canyon's minor drainage two times before joining an existing dirt road that goes up the canyon. Taking advantage of the existing road, the alignment proceeds $\frac{3}{4}$ mile to the top of the ridge where the small canyon begins crossing the drainage as many as five times (Segment 1K). From this vantage point (Overlook #2), the valley floor of the RRCNCA's core area unfolds with a view of the visitor center with the Sandstone Cliffs as a backdrop and views up along the Calico Hills, plus the view across Red Rock Wash to Blue Diamond Hill. From here, it is a quick, somewhat steep, southerly descent of about $\frac{1}{2}$ mile on an existing dirt road along the ridge into the underpass area (Segment 1L). At the bottom of the ridge, there would be one last drainage to dip down into and cross before curving around to the underpass itself at mile marker 10.9 (Segment 1M). At the underpass, the north half of the 10-mile loop would be complete. Users could either continue west into Zone 2 parallel to SR-159 and on toward the visitor center, or proceed through the underpass under SR-159 on to the southern portion of the alignment to the Dog Walk Trailhead and then either to the campground or out of RRCNCA to the Summerlin Trailhead and connections with existing trail alignments in the Las Vegas Valley.

Trail Data, Zone 1- Alignment North of SR-159

Trail on Existing Disturbance	4,855 ft, 0.9 miles
Trail on Proposed Disturbance	26,210 ft, 5 miles
Trail in NDOT ROW	0 ft, 0 miles

Trail in County ROW	4,510 ft, 0.85 miles
Trail on Road	975 ft, 0.2 miles
Underpass	2
Overlook	2
Wash Crossing	25
Hiker/Biker Bridge	1
Trailheads (Auto Only)	2
Trailheads (Eq. and Auto)	0
Temporary Construction-related	
Disturbance (to be restored)	11.43 acres
New Permanent Disturbance	12.90 acres
Existing Disturbance Utilized	3.33 acres

Zone 1, Alignment South of SR-159

The south section of this alignment begins at the proposed Summerlin Trailhead at West Charleston Blvd (see Appendix B, Figure B-1, Zone 1 Enlargement Area, south end of Segment 1A). This alignment would split from the north alignment (Segment 1B) and cross the proposed non-motorized bridge discussed in the previous section immediately north of the SR-159 bridge, at mile marker 14.7 (Segment 1N). Then, the alignment would pass under the west side of the SR-159 bridge, and then turn southwest and remain in the SR-159 ROW along the Gun Club parcel from mile marker 14.7 to mile marker 13.9 (Segment 1O). The alignment would be located on a small ridgeline above the road grade but below a constructed berm that buffers SR-159 from the Gun Club. This alignment would proceed for about $1\frac{1}{4}$ miles to the RRCNCA boundary near the west end of the berm. From there, the alignment would traverse at 8% or more along and above the edge of the disturbance created to construct SR-159 in the NDOT ROW. At its highest point (Overlook #3), about 600 ft into the RRCNCA north boundary, users would have a view of the SR-159 corridor with the Sandstone Hills to the west and the Las Vegas Valley to the east. From here, the alignment (Segment 1P) would turn south, traversing down the hillside at about 8% for approximately another 600 ft, where it would cross another wash and proceed back up the other side of the drainage. This hillside is less steep and the alignment would gently cross the slopes to keep grades close to 5% where, over the next $\frac{1}{2}$ mile, the alignment would climb to the top of a wide ridge and join an existing dirt road. The alignment (Segment 1Q) would then follow the existing dirt road $\frac{3}{4}$ of a mile westerly, where it would intersect Moenkopi Rd about 200 ft north of the entry to the fire station.

Crossing Moenkopi Rd on a marked crossing, users would approach the Dog Walk Trailhead by proceeding north/northwest just outside the Moenkopi Rd ROW and link to an existing dirt road (Segment 1S). A small spur would tie into the Dog Walk Trailhead from that point (Segment 1U). The alignment (Segment 1T) would continue northwest for approximately ¼ mile to the edge of a bluff overlooking the Red Rock Wash, with SR-159 visible and the Sandstone Cliffs in the background (Overlook #4). Another spur would lead east back to the Dog Walk Trailhead from here creating a small loop (Segment 1V). The alignment (Segment 1W) would then use an existing dirt road cut that traverses the face of the bluff for about 500 ft dropping at around 8% into and turning north to cross the Red Rock Wash. This wash is about 500 ft across, one of the longer wash crossings in the entire project.

Once across the wash, the alignment would meet an existing dirt road again and head west for about 1,200 ft, then turn southwest, staying back from SR-159 an average of 150 ft for almost 1 mile (Segment 1X). It would then connect to SR-159 at mile marker 11.0, to cross over a cluster of culverts, make a clover-leaf turn down into the wash, and then proceed into the proposed Visitor Center Underpass located at mile marker 10.9 (Segment 1Y), connecting to the alignment on the north side of SR-159 and completing the North Loop at the west end of Segment 1M.

At the south end of Segment 1Q, a spur of the trail would turn southeast and use the lightly traveled Moenkopi Rd ROW for ½ mile to access Red Rock Canyon Campground (Segment 1R). Included in a subsequent phase of trail development could be an alignment (Future Connection #2, see Section 2.1.3) that navigates lands east of Blue Diamond Hill and connects the Red Rock Campground and the Zone 5 trail alignment near SR-160 on non-NCA BLM lands (see Zone 5, Future Connection # 4).

Trail Data, Zone 1- Alignment South of SR-159

Trail on Existing Disturbance	7,265 ft, 1.4 miles
Trail on Proposed Disturbance	8,665 ft, 1.65 miles
Trail in NDOT ROW	9,040 ft, 1.75 miles
Trail in County ROW	0 ft, 0 miles
Trail on Road	3,120 ft, 0.6 miles
Underpass	(see Zone 1-North)
Overlook	2
Wash Crossing	3

Trailheads (Auto Only)	1
Trailheads (Eq. and Auto)	0
Temporary Construction-related	
Disturbance (to be restored)	5.87 acres
New Permanent Disturbance	11.88 acres
Existing Disturbance Utilized	2.5 acres

Trail Data, Zone 1 - Total Both Alignments

Trail on Existing Disturbance	12,120 ft, 2.3 miles
Trail on Proposed Disturbance	34,875 ft, 6.6 miles
Trail in NDOT ROW	9,040 ft, 1.75 miles
Trail in County ROW	4,510 ft, 0.85 miles
Trail on Road	4,095 ft, 0.8 miles
Underpass	2
Overlook	4
Wash Crossing	28
Hiker/Biker Bridge	1
Trailheads (Auto Only)	3
Trailheads (Eq. and Auto)	0
Temporary Construction-related	
Disturbance (to be restored)	17.29 acres
New Permanent Disturbance	24.76 acres
Existing Disturbance Utilized	5.83 acres

2.1.2.2 ZONE 2 – VISITOR CENTER UNDERPASS TO EXIT LOT TRAILHEAD

From the north side of the Visitor Center Underpass (see Zone 1, west end of Segment 1M), the alignment (Segment 2A) would use existing disturbance to traverse the edge of the wash and run within approximately 30 ft of the SR-159 ROW at mile marker 10.9 (see Appendix B, Figure B-2). The alignment would then somewhat parallel the SR-159 alignment from mile marker 10.9 to 10.3, staying out of the ROW to the south and the meandering wash to the north for a total distance of ⅔ of a mile. About 500 ft short of the Fee Booth, the alignment (Segment 2B) would turn southwest and approach the Fee Booth. It would cross the Scenic Dr entry at the southeast end of the turnaround drive and head southwest to the intersection of the drive exiting the visitor center and SR-159 (see Appendix B, Figure B-1 and B-2, Fee Booth Area Alignment). A spur would connect the main alignment to the Fee Booth where bottled water would be available in a vending machine.



Zone Two-Illustrative view from Overlook #2 (Segment 1L) to Segment 2A

The alignment (Segment 2C) would then cross the visitor center exit drive at the intersection and the trail alignment would stay in the ROW of SR-159 on an extended shoulder along the wash for about 2,100 ft from mile marker 10.4 to 10.0 (see Appendix A, Figure A-11). The alignment (Segment 2D) would then diverge from the SR-159 shoulder along an existing dirt road, proceeding over a rise, and returning into the SR-159 ROW after another 2,000 ft. At that point, the alignment (Segment 2E) would return to the SR-159 ROW at mile marker 9.7, for approximately 1,000 ft, to mile marker 9.6. From that point, the alignment (Segment 2F) would again diverge onto an existing dirt road that roughly parallels SR-159 and would range from 25 to 100 ft outside the ROW from mile marker 9.6 to 8.9. After about $\frac{3}{4}$ mile, the alignment (Segment 2G) would merge with the existing asphalt Overlook Trail, about 200 ft northwest of the Overlook parking area (see Appendix B, Figure B-2, Zone 2 Enlargement Area). The alignment would then turn north just east of the parking area, proceeding between the parking area and the helipad. Pausing at the top of the hill, users could admire Red Rock Canyon's famous view (Overlook #5). Turning west, the alignment (Segment 2H) would traverse the slope just north of the parking area at 8% or steeper, if necessary. Refer to Design Guideline #6 for a conceptual "Before and After" illustration of this trail segment. Wrapping around the Overlook knoll, the alignment would be joined by a spur (Segment 2I) that would connect to/from the group picnic pavilion at the south end of Overlook parking area. Leveling out into a flatter area, the main alignment (Segment 2J) would cross two more small drainages while proceeding about $\frac{1}{4}$ mile to the Exit Lot Trailhead.

Trail Data, Zone 2

Trail on Existing Disturbance	5,840 ft, 1.1 miles
Trail on Proposed Disturbance	4,280 ft, 0.8 miles
Trail in NDOT ROW	3,180 ft, 0.6 miles
Trail on Road	None
Underpass	0
Overlook	1
Wash Crossing	3
Trailheads (Auto Only)	1
Trailheads (Eq. and Auto)	1
Temporary Construction-related	
Disturbance (to be restored)	3.71 acres
New Permanent Disturbance	7.74 acres
Existing Disturbance Utilized	5.10 acres

2.1.2.3 ZONE 3 - EXIT LOT TRAILHEAD TO BONNIE SPRINGS ROAD

Zone 3 would have both a hiker/biker trail alignment and an equestrian trail alignment. Separate descriptions for each alignment are included below (see Appendix B, Figure B-3, Zone 3, and Figure B-4, Zone 4).

ZONE 3, HIKER/BIKER TRAIL ALIGNMENT

Leaving the Exit Lot Trailhead, all users would cross the Scenic Loop Dr at the same marked road crossing. Once across, however, a trail alignment for equestrians would separate from the hiker/biker trail (see Zone 3, Equestrian Trail Alignment below). The main hiker/biker alignment (Segment 3A) would proceed toward a proposed trailhead at the Old Oak Creek Campground just over $1\frac{1}{2}$ miles away through a beautiful stand of Joshua trees. The alignment would stay about 1,000 ft away from SR-159, following an existing trail from the Exit Lot, and cross two washes before reaching the edge of a burn area near mile marker 8 after having traveled about $\frac{3}{4}$ mile. The alignment would ride the west edge of the burn area and then ascend the edge of a bluff, using existing social trails and crossing a couple of drainages to then overlook a densely populated Joshua tree landscape with the Sandstone Hills as a backdrop (Overlook #6). Descending the other side of the bluff, the alignment (Segment 3B) would approach the proposed Old Oak Creek Trailhead on existing social trails in the vicinity of the wash.

The proposed Old Oak Creek Trailhead would provide access to a proposed hiker/equestrian trail to the heavily used First Creek Canyon in addition to the main hiker/biker alignment. The existing First Creek Trail and First Creek Trailhead would be closed and restored. Both the existing and the proposed First Creek trails are approximately 7,520 ft long. In addition, all unauthorized parking along the SR-159 ROW from the Exit Lot to the existing First Creek Trailhead would be closed and the areas revegetated.

The proposed hiker/biker alignment would leave the proposed Old Oak Creek Trailhead following the edge of the wash south, using existing social trails while weaving around Joshua trees and other existing vegetation (Segment 3C). North of the existing First Creek Trailhead (that is, the south end of Segment 3C), the wash would force the alignment near SR-159, where the trail may need to enter the NDOT ROW at mile marker 6.3 between 100 to 500 ft to avoid disturbing the immediate edge of the wash. From there, the alignment (Segment 3D) would continue south to navigate between the highway and the wash. About 1,500 ft south of the current First Creek parking area, the hiker/biker alignment would be joined by the equestrian trail crossing over from the west side of the wash in order for both the alignments to stay within the RRCNCA property boundary at the northeast property corner of SMRSP. Once past the property corner, the hiker/biker alignment (Segment 3E) would continue south toward the SMRSP entry road, but the equestrians would cross back over to the west side of the wash. The hiker/biker alignment may again need to briefly enter the NDOT ROW about 500 ft before the SMRSP en-



Zone Three - Illustrative view of trail in Joshua trees near Old Oak Creek

try gate at mile marker 5.8. Then the alignment would cross the entry road along a marked crossing about 140 ft west of the existing historic gate. Visitors may ride the road into the SMRSP by paying an entry fee. Water would be available for the public from a spigot at the SMRSP fee booth.

The $\frac{3}{4}$ mile connection from SMRSP Rd to Bonnie Springs Rd would be much like other portions of the alignment through this area; the alignment would negotiate the flat lands between the highway and the wash and cross two minor drainages. Some Joshua trees through this area are rather substantial in size, and the trail would negotiate between and among them creating a unique recreational experience. Initially, the alignment (Segment 3F) would remain out of the SR-159 ROW crossing a single small drainage. However, the alignment (Segment 3G) would proceed through another narrow area between the highway and the wash about 800 ft past the SMRSP entry road, where it may be necessary to use short portions of the NDOT ROW and/or construct the trail on gabions along/inside the edge of the wash at mile marker 5.6 (see Appendix A, Figure A-11). The alignment through that segment would be approximately 500 ft long. The alignment (Segment 3H) would parallel the wash alignment as it bends west crossing Bonnie Springs Road on a marked crossing on the east side of the existing Arizona crossing also on Bonnie Springs Rd. Users would ride the lightly used Bonnie Springs Rd into attractions in Bonnie Springs.



Zone Three - Illustrative view of trail along edge of wash near Spring Mountain Ranch State Park

ZONE 3, EQUESTRIAN TRAIL ALIGNMENT

Equestrian-use corridor alignments would be proposed to continue to accommodate the equestrian uses designated in the Record of Decision (BLM 2005) through Zones 3 and 4 (BLM 2005). This equestrian alignment would originate from the existing equestrian staging facilities provided at the Exit Lot Trailhead. Equestrians would cross the Scenic Loop Dr on a marked crosswalk at the same location as the hikers/bikers, and proceed through a shallow draw separated 500 to 1,500 ft from the hiker/biker alignment for about ½ mile (Segment EQ1). The equestrian alignment (Segment EQ2) would then turn southerly on existing social trails and remain west of the wash (and the hiker/biker alignment) to the proposed First Creek Trail and its connection to the proposed Old Oak Creek Trailhead.

From the junction with the proposed First Creek Trail, the equestrian alignment (Segment EQ3) would continue south to southwest on existing social trails eventually crossing the wash near the SMRSP property corner, as mentioned in the hiker/biker alignment. The equestrian alignment would briefly proceed parallel to the hiker/biker trail coming around the SMRSP property corner. The equestrian alignment (Segment EQ4) would again then turn west to cross the wash proceeding to the SMRSP entry road in the vicinity of the existing wash crossing. At the SMRSP entry road, the equestrian alignment would move to the east side of the wash for approximately 500 ft to avoid a wide wash with rough terrain (Segment EQ5). Once clear of the rougher terrain, however, the equestrian alignment would cross again to the west side of the wash and proceed toward Bonnie Springs Rd (Segment EQ6). Just before arriving at Bonnie Springs Rd, equestrians would cross the hiker/biker alignment using the disturbed area, and cross the road at a marked crossing about 800 ft southwest of the intersection with SR-159.

Trail Data, Zone 3

Trail on Existing Disturbance	1,590 ft, 0.3 miles
Trail on Proposed Disturbance	17,250 ft, 3.25 miles
Trail in NDOT Row	1,000 ft, 0.19 miles
“Share the Road”	11,760 ft, 2.25 miles
Eq. Trail on Existing Disturbance	21,850 ft, 4.14 miles
Underpass	0
Overlook	1
Wash Crossing	5
Trailheads (Auto Only)	1

Trailheads (Eq. and Auto)	0
Proposed First Creek Trail	7,520 ft, 1.4 miles
Reclaim/Restore First Creek Trail	7,520 ft, 1.4 miles
Temporary Construction-related	
Disturbance (to be restored)	6.96 acres
New Permanent Disturbance	6.74 acres
Existing Disturbance Utilized	7.55 acres
Existing Disturbance Restored	6.00 acres

2.1.2.4 ZONE 4 – BONNIE SPRINGS ROAD TO SPECIAL RECREATION USE PERMIT AREA TRAILHEAD

Zone 4 would have both a hiker/biker trail alignment and an equestrian trail alignment. Separate descriptions for each alignment are included below (see Appendix B, Figure B-4).

ZONE 4, HIKER/BIKER TRAIL ALIGNMENT

Zone 4 provides, perhaps, the most diverse cultural resource and recreation experience along the corridor as users would move from Bonnie Springs Rd to the town of Blue Diamond to the SRUPA. Beginning at Bonnie Springs Rd, users would ride along the north shoulder of the road and a widened Arizona crossing to cross the wash (northwest end of Segment 4A). The alignment would then turn southeast up a hillside at grades less than 8% to a mesa above and to the west of Oliver Ranch using existing disturbance as much as possible. The alignment would move through the Joshua trees meeting existing road disturbance in the vicinity of the ranch’s historic water storage “tank” about ½ mile southeast of Bonnie Springs Rd (Segment 4A). There is a



Zone Four - Illustrative view of the trail on utility road southeast of Blue Diamond (Segment 4I)

uniquely expansive 360° view from that ridge: up the valley to the northwest, back to Bonnie Springs to the west, and across and past Blue Diamond to the southeast with the highway feeling quite distant (Overlook #7). The alignment (Segment 4B) would continue to follow an existing dirt road southeast using a natural slope of exposed bedrock to traversing down the hillside at about 8% and crossing two washes before proceeding up a slight slope and meeting an existing dirt road. This wash area is lush with trees and other plant material that may indicate the presence of a shallow water table. Users would have traveled about 1,400 ft south of the water tank.

Segment 4C would use the ample, flat disturbance where the dirt road sits to proceed to Wheeler, about $\frac{3}{4}$ mile south on the trail with equestrians riding slightly southwest and uphill from the hiker/biker trail (Equestrian Alignment EQ9 described below). The hiker/biker alignment (Segment 4D) would turn northeast toward Wheeler to cross a fairly wide wash of about 100 ft. Then, it would proceed along the southeast edge of the existing trailhead, 200 ft from the well site, which would be further protected with fencing and/or other barriers. A spring site is also located in the vicinity of the trailhead. The trail alignments would attempt to avoid this spring by using existing disturbance away from the spring site. Additional mitigation measures such as fencing and interpretive signage would be used to preserve the integrity of the site. As more site-specific survey work and design development occur, additional coordination with BLM resource specialists would occur.

Near the edge of the SR-159 ROW at mile marker 4.8, the alignment (Segment 4E) would turn southeast over a culvert and then south along the edge of a short bank for about 1,000 ft. The alignment (Segment 4F) would then follow an existing dirt road south across the wash, using the existing disturbance to avoid the heavily vegetated areas. Then, the alignment would stay on the lower road alignment into Blue Diamond and hit the disturbed area at Castalia St, which is often used to stage biking events. The length of the trail from the wash crossing at Wheeler to this point on Castalia St would be almost 1 mile.

Access from the alignment to the community of Blue Diamond would be via Castalia St. Otherwise, the alignment (Segment 4G) would use a proposed marked road crossing and proceed along a dirt road on the northeast side of Blue Diamond Park and along the north side of a few private properties. After tying into an alley, users would ride on



Zone Four - Illustrative view of SRUPA underpass from the SRUPA Trailhead vicinity

Arroyo Rd back out of town (Segment 4H). After crossing over the wash on Arroyo Rd, the alignment (Segment 4I) would use a utility service road to travel through a heavily vegetated area. It would pass the Blue Diamond water district facility and the water reclamation facility and then turn southeast toward the culvert under SR-159 at mile marker 1.8, all on existing service roads. The alignment would split before the culvert (see Appendix B, Figure B-4, Zone 4 Enlargement Area). One segment (Segment 4J) would proceed under SR-159 at mile marker 1.8 via the proposed SRUPA underpass that would be parallel to and north of the existing culvert (see Appendix A, Figure A-9 and Figure A-10). The other segment (Segment 4K) would proceed into the SR-159 ROW to cross over the proposed underpass and the existing culvert and enter the proposed SRUPA Trailhead, an equestrian/hiker/biker facility. A future connection to the Late Night Lot to the southwest and into the Cottonwood Trails system and beyond could be provided from this trailhead (Future Connection #3, see Section 2.1.3). The distance from Castalia St in Blue Diamond to the underpass would be approximately $1\frac{3}{4}$ miles. The connection over the culvert to the trailhead would be another 1,000 ft with about 600 ft in the NDOT ROW between mile markers 1.8 and 1.7.

ZONE 4, EQUESTRIAN TRAIL ALIGNMENT

Through Zone 4, a designated equestrian corridor would connect riders from the equestrian crossing at Bonnie Springs Rd to equestrian parking/staging facilities at the proposed SRUPA Trailhead.

From the Bonnie Springs Rd crossing, the equestrian alignment (Segment EQ7) would take advantage of existing disturbance between the wash and SR-159 riding southeast 3,300 ft to the Oliver Ranch entry road. The equestrian alignment (Segment EQ8) would then turn southwest onto the ranch's entry road, turning south at the gate, crossing the wash near the existing corrals and riding up a short slope to the social trail, southwest of the existing dirt road proposed to become the hiker/biker alignment (see Segment 4C above). Equestrians would ride this alignment (Segment EQ9 and EQ11) to Blue Diamond. A spur off the trail (Segment EQ10) would connect equestrians to staging/parking facilities at Wheeler, which would also be the point at which the hiker/biker trail would diverge. Riders would have ridden 0.7 miles since joining the Oliver Ranch entry road to the Wheeler spur. They would ride another 0.9 miles on an existing equestrian/mountain bike trail (Segment EQ11) to get to the crossing at Castalia St.

From Castalia St, the equestrian alignment (Segment EQ12) would proceed along the northeast edge of the Blue Diamond Park diverging northeast after approximately 250 ft on to social trails along and near the wash north of Blue Diamond. As the wash crosses Arroyo Rd heading east out of Blue Diamond, the equestrian corridor (Segment EQ13) would merge with the hiker/biker corridor and remain on the north side of the wash, taking advantage of the same utility service roads, yet staying separate from the proposed hiker/biker trail. Once past the water reclamation facility, the alignment would continue to take advantage of existing service roads with the equestrian alignment (Segment EQ14) diverging from the hiker/biker alignment and crossing the wash about 800 ft before the underpass at mile marker 1.8 and approaching the SRUPA Trailhead from there (see Appendix B, Figure B-4, Zone 4 Enlargement Area). The connection between Castalia St and the SRUPA Trailhead would be approximately 1.7 miles. The SRUPA Trailhead would be the southern end point of the proposed equestrian trail.

Trail Data Zone 4

Trail on Existing Disturbance	14,415 ft, 2.75 miles
Widening of Existing Trail	1,500 ft, .28 miles
Trail on Proposed Disturbance	3,165 ft, 0.6 miles
Trail in NDOT ROW	515 ft, 0.1 mile
"Share the Road"	2,175 ft, 0.4 miles

Eq. Trail on Existing Disturbance	22,060 ft, 4.2 miles
Underpass	1
Overlook	1
Wash Crossing	8
Trailheads (Auto Only)	0
Trailheads (Eq. and Auto)	2
New Access Road	925 ft, 0.17 miles
Temporary Construction-related	
Disturbance (to be restored)	7.45 acres
New Permanent Disturbance	6.01 acres
Existing Disturbance Utilized	10.64 acres

2.1.2.5 ZONE 5 – UNDERPASS AT SPECIAL RECREATION USE PERMIT AREA TO UPPER BLUE DIAMOND DETENTION BASIN AND SOUTH LOOP

The Zone 5 alignment would connect the east side of the SRUPA underpass, using non-NCA BLM lands, to the Upper Blue Diamond Detention Basin (see Appendix B, Figure B-5). This zone of the alignment would take advantage of a proposed paved trail paralleling SR-160 and existing and proposed elements of the Clark County trail system, potentially connecting to a trailhead under construction on Durango Rd, as well as facilities planned for Gypsum Ridge Park.

Beginning on the east side of the SRUPA underpass at mile marker 1.4, the alignment (Segment 5A) would head north by northeast and climb the hillside to reach a saddle on the ridge east of the CertainTeed mine site. This alignment could take advantage of a service road proposed for development for a new communications tower for this ridge. From the saddle (Overlook #8), users would have panoramic views. From there, the alignment (Segment 5B) would proceed northeast and connect to an existing unpaved road, making two small wash crossings along the 2,500-ft segment. The alignment (Segment 5C) would then proceed almost due east on the existing road for another 3,000 ft, crossing two more washes. At this point, the alignment would turn south in the vicinity of the Kern River Pipeline disturbance (north end of Segment 5D). In addition, this would also be an opportune location for a connection to a potential trail alignment coming from the Red Rock Canyon Campground north of this area (Future Connection #4, see Section 2.1.3).



Zone Five - Illustrative view from railroad abutment across Blue Diamond Wash to Segments 5E and 5F

Segment 5D would turn south to merge with disturbance created by an existing railroad grade, a dirt road, or the Kern River Pipeline, and then proceed south down the gentle grade, turning more southeast after about 1,000 ft. It would then drop into a drainage after about 1 mile where one segment would go east (Segment 5F) and the other would continue south (Segment 5E). Proceeding south, Segment 5E would continue on the existing dirt road becoming steeper (8%) before crossing the Blue Diamond Wash, with a crossing of approximately 400 ft. (Note: Reuse of the railroad alignment and the remains of the bridge crossing would also be under consideration as a Rails to Trail project.) The alignment would then climb up the south side of the wash and continue south to intersect with an asphalt trail/service road planned for the NDOT ROW at mile marker 10.5, during SR-160 reconstruction in 2009.

Segment 5F would traverse a steep hillside in a general north to northeast direction at 8%, winding around and across a drainage to reach the top of a ridge and join an existing dirt service road. Segment 5G would proceed along the existing road alignment on the north side of the Upper Blue Diamond Detention Basin, having come 2 miles from the trail junction at the south end of Segment 5D.

From the east end of Section 5G, at the eastern boundary of the BLM lands, there would be many opportunities for interfacing this proposed trail system with other trail systems and providing the ever-growing population of Southwest Las Vegas recreational access to public lands. In cooperation with the CCRFCD, Clark County Parks and Recreation, and NDOT, an alignment could connect the east end of Segment 5G to the proposed paved trail in the SR-160 ROW (Segment 5H). Turning northwest on the SR-160 trail (Segment 5I), riders could complete a loop by returning to Segment 5E, creating a loop of approximately 5 miles.

Trail Data-Zone 5

Trail on Existing Disturbance	20,510 ft, 3.9 miles
Trail on Proposed Disturbance	7,070 ft, 1.3 miles
Trail in NDOT ROW	0 ft, 0 miles
“Share the Road”	0 ft, 0 miles
Eq. Trail on Existing Disturbance	0 ft, 0 miles
Eq. Trail on Proposed Disturbance	0 ft, 0 miles
Underpass	0
Overlook	1
Wash Crossing	15
Trailheads (Auto Only)	0
Trailheads (Eq. and Auto)	0
Temporary Construction-related	
Disturbance (to be restored)	10.14 acres
New Permanent Disturbance	8.21 acres
Existing Disturbance Utilized	6.97 acres

2.1.3 TRAIL SYSTEM CONNECTIONS

As noted in Section 1.5, one purpose of SNPLMA funds is to develop trails to connect the Las Vegas Valley Trails System with RRCNCA (BLM 2004a). The following section describes how the Proposed Action would make those connections to both existing and proposed alignments in the Las Vegas Valley Trails System. It also describes opportunities for making trail alignment connections within RRCNCA.

2.1.3.1 CONNECTIONS TO EXISTING TRAILS

One purpose of the proposed hiker/biker alignment would be to interconnect existing trails in RRCNCA with one another via these non-motorized alignments. These trail networks include:

- Hiking trails within the Scenic Loop Dr area, which would then be accessible by connecting from the Fee Booth
- The hiking/equestrian trails between the Exit Lot and SMRSP, which would become accessible via connections from the proposed alignment(s) and proposed trailheads
- The Blue Diamond area and Cottonwood Valley trails, which would become accessible via the proposed alignment

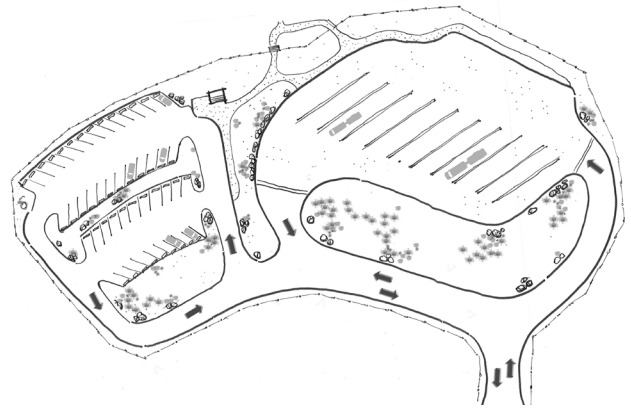
In addition, the Proposed Action would tie into the existing Clark County on- and off-road bike and trail system east of the project area in the vicinity of the detention basins that anchor the two ends of the hiker/biker alignment (see Figure 1-2).

RED ROCK DETENTION BASIN VICINITY

In the vicinity of the Red Rock Detention Basin, connections to existing trails would include the bike lane on Sky Vista Dr that connects West Charleston Blvd and Alta Dr, a major bike lane from Summerlin into downtown Las Vegas. The proposed Summerlin Trailhead is also located on Sky Vista Dr; West Charleston Blvd and a significant number of on- and off-road routes connect from the south in that vicinity.



Biker on the Cottonwood Valley trail system near the Late Night Lot



Proposed typical hiker/biker/equestrian trailhead

UPPER BLUE DIAMOND DETENTION BASIN VICINITY

In addition to the recreational facilities that may be developed at Gypsum Ridge Park as described in Future Connection #5 below, there are existing on- and off-road bicycle facilities in the area. These include a bike lane on SR-160 and the paved shared-use trail in the SR-160 ROW that terminates at Ft. Apache east of the project area. As noted in Section 1.5.3, NDOT plans to extend this alignment to SR-159 in the near future.

2.1.3.2 FUTURE CONNECTIONS

SUMMERLIN TRAILHEAD

BLM and Howard Hughes Corporation have been involved in ongoing discussions related to the development of trailhead parking as part of a park already incorporated into Howard Hughes Corporation's master plan for this neighborhood. However, no formal agreements have been signed (BLM 2009a). The proposed Summerlin Trailhead would be located in Summerlin on Sky Vista Dr about 1,000 ft northwest of West Charleston Blvd. It is delineated on the Zone 1 map as the northern terminus of Segment 1A. Although some partnership with the BLM is envisioned, Howard Hughes Corporation would assume responsibility for the development and maintenance of this facility. Trail users would be permitted to use the parking area. Discussions about this proposed facility have been ongoing. A connection to the greater Las Vegas Valley Trails System would occur here continuing on Sky Vista Dr to the existing bike lane along Alta Dr.

In addition to the connection to this trailhead in the Summerlin neighborhood and on to Alta Dr, seven future opportunities for connections from the proposed alignment to trail alignments and/or facilities planned but not yet delineated have been identified. Some connections would occur

on BLM lands as potential future phases of this project. Others connect to facilities planned by other jurisdictions such as NDOT and Clark County.

FUTURE CONNECTION #1

At Future Connection #1 in Zone 1, the Proposed Action could connect to trail alignments heading north to amenities such as Brownstone Canyon, Kyle Canyon, and northern portions of RRCNCA.

FUTURE CONNECTION #2 TO FUTURE CONNECTION #4

A potential alignment from Future Connection #2 in Zone 1 to Future Connection #4 in Zone 5 would head south from the Red Rock Canyon Campground to the proposed alignment in the vicinity of the CertainTeed Mine on the east side of Blue Diamond Hill. This potential future alignment would create an opportunity for a longer loop ride where users could use both the proposed alignment through the SR-159 corridor and this potential future alignment to circumnavigate Blue Diamond Hill. This potential future alignment would also provide for connection opportunities from any trails planned in the future by Clark County or on private lands east of RRCNCA including facilities at Gypsum Ridge Park or trail alignments planned for the Tropicana and Flamingo washes. No specific access points or alignments through this area have been identified.

FUTURE CONNECTION #3

Future Connection #3 in Zone 4 would connect the SRUPA Trailhead to the Late Night Lot Trailhead on SR-160 east of the project area. Current users of trails in the Cottonwood Valley have suggested that the alignment avoid displacing current mountain bike use in the area.

FUTURE CONNECTION #5

Future Connection #5 in Zone 5 would connect from the north side of the Upper Blue Diamond Detention Basin to any trails and trailheads planned by Clark County for Gypsum Ridge Park, which may include equestrian facilities (DAQEM 2008a). Refer to Section 1.5.6 for an additional description of potential facilities at Gypsum Ridge Park.

FUTURE CONNECTION #6

Future Connection #6 in Zone 5 would connect to the Clark County hiker/biker trailhead under construction on Durango Dr and Shelbourne Ave through or adjacent to the wash. A trail alignment connecting this trailhead to the Gypsum

Ridge Park parcel is planned, as well as connections to both on and off street trails in the vicinity (DAQEM 2008a).

FUTURE CONNECTION #7

There are two BLM parcels on the north and south sides of the intersection of Hualapai Way/Ft. Thorp and SR-160 in land reserve with the RTC in Zone 5 (Parcel Nos. 17619101002 and 17619201001). The parcels are being held in reserve for potential development as park and ride facilities (CCDCP 2007a). These could serve as additional staging areas to the proposed trail system. Additional trail connections could be made to potential trails to the south on BLM and non-BLM lands.

2.1.4 TRAILHEADS

The proposed trail system would include seven trailheads for hiker/biker use (see Appendix A, Figure A-1, for a typical configuration). Three of those would also include parking areas designated for equestrians (see Appendix A, Figure A-2, for a typical configuration). Each trailhead would be paved to control dust, except in the equestrian parking/staging area. Amenities would include restrooms, trash receptacles, picnic tables, shade, and delineated parking spaces. Fencing and other devices would be used to control access to and from the trail and to manage wild horses and burros as necessary (see Appendix A, Figure A-3 and Figure A-4). Trailheads would be designed with single access points for auto traffic safety, and enforcement measures would be taken to deter shoulder parking along SR-159 from occurring.

2.1.4.1 HIKER/BIKER TRAILHEADS

The Proposed Action would include four trailheads primarily for hiker/biker use (see Appendix A, Figure A-1). Newly developed trailheads would be approximately 2 acres in



The existing trailhead at Wheeler Camp Spring

size and would not have facilities for equestrians. Proposed hiker/biker trailheads include the Dog Walk Trailhead, Red Springs Trailhead, Overlook Trailhead, and Old Oak Creek Trailhead.

DOG WALK TRAILHEAD

The Dog Walk Trailhead is currently an informal gravel parking area located on Moenkopi Rd about 1,500 ft south of the turnoff from SR-159. This area would be redesigned and expanded as a hiker/biker trailhead for approximately 50 automobiles; 2 or 3 oversized vehicle spaces would also be provided in addition to other trailhead amenities.

RED SPRINGS TRAILHEAD

The existing Red Springs site would be used as a trailhead. Existing amenities include paved parking, restrooms, and picnic shelters, as well as the unique experience of the existing boardwalks and interpretive elements in the spring area. No new improvements or changes from the existing disturbance are planned for this trailhead.

OVERLOOK TRAILHEAD

The existing Overlook facility would be redesigned and facilities would be updated to accommodate the Proposed Action and also to meet current user demands. Amenities already provided there would continue to be provided, including an overlook, restrooms, and picnic facilities.

OLD OAK CREEK TRAILHEAD

A new hiker/biker day use trailhead would be constructed at the Old Oak Creek Campground site. Existing disturbance would be used to the fullest extent possible, and all potential wetlands and steep slopes would be avoided. The existing First Creek Trailhead would be closed and revegetated as would all road shoulder parking areas currently being used in the SR-159 ROW. The parking that is currently occurring at each of these areas would be effectively consolidated into the proposed Old Oak Creek Trailhead and its single access point from SR-159; the number of cars pulling out across SR-159 and the number of locations at which this is occurring should be minimized as a result.

CLARK COUNTY TRAILHEADS

While not a part of the proposed BLM trail system, the Clark County Durango Trailhead, located east of the Upper Blue Diamond Detention Basin on Durango and Shelbourne,

would be available for hiker/biker use and would anchor the southeast end of the proposed trail system. Trail facilities planned for Gypsum Ridge Park may include trailheads.

2.1.4.2 EQUESTRIAN/HIKER/BIKER TRAILHEADS

The three trailheads for equestrians would also be available for hikers/bikers (see Appendix A, Figure A-2). They would each be approximately 5 acres in size.

EXIT LOT TRAILHEAD

Located at the exit of Scenic Loop Dr onto SR-159, the Exit Lot was constructed as a short-term solution to meet equestrian needs in the area after the closure of Old Oak Creek Campground. The existing facility would be reconfigured to consolidate entry points, improve safety, and improve utilization. In addition, the redesign would accommodate the proposed trail alignment and add visitor amenities.

WHEELER TRAILHEAD

The trailhead at Wheeler would continue to function as parking/staging for equestrians as well. A slight reconfiguration would be needed to accommodate the proposed trail alignment and other amenities. Improvements would be concentrated on the southeast side of the existing parking area in consideration of the existing well on the opposite side of the existing parking area. Close coordination with BLM resource specialists would occur to ensure appropriate mitigation of impacts on the well site and the nearby spring site.

SRUPA TRAILHEAD

A proposed trailhead at the SRUPA would be developed on the existing disturbed area (see Appendix B, Figure B-4,



Trail siting at the culvert in the SRUPA vicinity with the planning team and NDOT engineers, August 2008

Zone 4 Enlargement Area). Access would be provided via an existing dirt road alignment with a clear site distance of SR-159 as recommended by NDOT engineers. Additional trailhead amenities would be provided at this location.

2.1.5 TRAIL REALIGNMENT AND TRAILHEAD CLOSURE

As indicated previously, the existing First Creek Trailhead would be closed and restored. Parking would be replaced at the proposed Old Oak Creek Trailhead. In addition, the trail alignment from First Creek Trailhead to First Creek Canyon would be closed and restored. Access to First Creek Canyon would be provided from the proposed Old

Oak Creek Trailhead. Because the existing and proposed trail alignments would each be approximately 7,500 ft long, there would be no net loss or gain of disturbed area for this hiking trail realignment. Also, unauthorized parking on the SR-159 road shoulder between the Exit Lot Trailhead and SMRSP would no longer be permitted; those disturbances would be closed and revegetated. Table 2-1 provides the maximum total, existing, and proposed restored acres for the Proposed Action.

Table 2-1. Maximum Acres of New and Existing Disturbance, and Restoration for the Proposed Action

	TOTAL NEW INITIAL DISTURBANCE (TEMPORARY & PERMANENT COMBINED)	NEW TEMPORARY CONSTRUCTION- RELATED DISTURBANCE (3)	NEW PERMANENT DISTURBANCE	EXISTING DISTURBANCE UTILIZED	EXISTING DISTURBANCE RESTORED (8) (9)
Trail on Existing Disturbance (1)(2)(3)	23.00	20.45	2.55	15.35	-
Trail on Existing Widened Trail (1)(3)(4)	10.80	6.90	3.90	2.15	-
Trail on New Disturbance (1)(3)	34.00	18.20	15.80	-	-
Trail in NDOT ROW (5)	9.50	-	9.50	-	-
Trail in County ROW (6)	1.90	-	1.90	-	-
Equestrian Trail on Existing Disturbance	-	-	-	8.30	-
New Access Road on Disturbed Area	-	-	-	0.30	-
Wash Crossings	5.80	-	5.80	-	-
Trailheads (7)	13.00	-	13.00	10.00	-
Restored First Creek Trail (8)	-	-	-	-	1.00
Proposed New First Creek Trail (9)	1.00	-	1.00	-	-
Restored First Creek Trailhead	-	-	-	-	5.00
	99.00	45.55	53.45	36.10	6.00

Considerations used in disturbance calculations above:

1. A 30-ft corridor width has been used to calculate initial disturbance for the trail alignment consisting of a permanent disturbance width of 14 ft for the 10-ft wide paved hiker/biker trail and unpaved shoulders (2 ft on each side) (see Design Guideline #5) plus a temporary disturbance width of 16 ft for construction (see Note 3).
2. Existing disturbance in these areas is an average of 12-ft wide.
3. A 16-ft wide temporary construction corridor would be restored following completion of construction.
4. Average width of disturbance of existing trail that would be widened is 5 ft.
5. Considers worst-case scenario that all improvements proposed within NDOT ROW would create new disturbance 30 ft in width, see Design Guideline #11.
6. Considers worst-case scenario that improvements proposed within County ROW along Calico Basin Rd would create new disturbance 18 ft in width (see Design Guideline #11; rip-rap/gabion not needed).
7. Considers worst-case scenario for total trailhead disturbance as 5 acres for the equestrian/auto trailheads and 2 acres for the auto only trailheads.
8. Existing First Creek Trail to be restored is currently an average of disturbance of 6 ft in width.
9. Proposed First Creek Trail would be a maximum of disturbance of 6 ft in width for a soft-surface hiker-only trail.

2.1.6 RESOURCE DISTURBANCE

The Proposed Action would create as much as 99 acres of new disturbance, of which 45.55 acres of temporary construction disturbance would be restored and the remaining 53.45 acres would be permanent disturbance. Almost half of this permanent disturbance would be located in existing NDOT ROW (9.50 acres), Clark County ROW (1.90 acres), or associated with new trailheads near the NDOT ROW (13.00 acres); a total of 24.20 acres. Given the proximity to existing roadways, the ROW already has some degree of disturbance from road-related impacts.

The Proposed Action would use 36.10 acres of existing disturbance such as gravel roads, trails, and other disturbed areas. In addition, 6.00 acres of disturbance at the existing First Creek Trail and trailhead would be restored following the construction of a new trailhead at Old Oak Creek; a new First Creek Trail alignment would be constructed to provide access to popular First Creek Canyon from the new trailhead. Table 2-1 provides a more detailed breakdown of disturbance. Disturbance in each zone is also summarized at the end of each zone description (see Section 2.1.2), with more detailed information provided in Figure B-6, Appendix B.

2.2 NO ACTION ALTERNATIVE

Under the No Action alternative, no additional trails would be developed. The recreational user would continue to ride on the shoulder of SR-159 and SR-160 or along the small section of separated paved trail along SR-160 once it is constructed by NDOT. The RRCNCA hiker/biker experience would continue to be dominated by traffic noise, exhaust fumes, radiated pavement heat, and fast-moving traffic to get from one node to another. In addition, the trailheads and parking areas in the SR-159 ROW that already exist would continue to be maintained in their present configurations and automobiles parked on the road shoulder would continue to back out into SR-159.

As noted in Section 1.5, SNPLMA (1998 as amended) specifically designated funding for RRCNCA capital improvements. The subsequent Las Vegas Valley Disposal Boundary EIS specified that funds received through the



A steeply sloped area of the Red Rock Wash eliminated from consideration due to potential for excessive disturbance

SNPLMA account would be applied to develop trails to connect the Las Vegas Valley Trails System (also known as the Vias Verdes Trail) with the RRCNCA (BLM 2004a). The No Action alternative would prevent the BLM from complying with the SNPLMA mandate and the BLM ROD designation of funding for trails in the RRCNCA.

2.3 DEVELOPMENT AND SCREENING OF ALTERNATIVES

Base data provided by the BLM Las Vegas Field Office, including aerial photography and GIS data, were used to create maps and to analyze opportunities and constraints related to development of the trail system. The materials were presented to the public in Public Meeting #1 in May 2008 (see Appendix D-2). In addition, extensive time was spent in the field to site potential alignments. To guide selection of the most appropriate alignment, trail development parameters and criteria were developed and used for screening alternatives.

TRAIL SITING PARAMETERS

- Identify a trail corridor study area, generally 100 ft wide, that would be analyzed in greater detail in later studies. There are a few areas, however, where it would be as wide as 300 ft given certain unknowns related to limited topographic data.



An illustrative representation of the preferred hiker/biker alignment descending into the Old Oak Creek area

- Design one two-way trail 10 ft wide with 2-ft shoulders.
- Design a trail suitable for family users.
- Provide trailheads at logical access areas, some with equestrian parking and facilities.
- Create an avoidance map and avoid identified areas where feasible.
- Follow guidelines for providing universal access in outdoor areas.

RESOURCE-BASED CRITERIA

- Minimize the need for new land disturbance and clearing of vegetation.
- Traverse slopes/avoid switchbacks.
- Recognize that washes would need to be crossed (stay perpendicular, find short expanses with relatively gentle side slopes).
- Use existing disturbances (trails, dirt roads, utility corridors, etc.).
- Locate and design to minimize maintenance.

VISITOR EXPERIENCE - RELATED CRITERIA

- Diversify the experience.
- Minimize displacement of existing mountain bike and equestrian users as feasible.
- Separate from SR-159 and SR-160, yet do not push too deeply into the landscape.
- Minimize crossing SR-159; use underpasses if a crossing is needed.
- Locate crossings on secondary roads where sight distance is good and clearly mark such crossings.

The project team tested many alternatives on paper and in the field during more than 10 days of field reconnaissance. Time in the field yielded many nuances about the landscape that both screened out many alignment alternatives and shaped the proposed alignment. In addition, public input contributed to defining the Proposed Action alternative. Refer to Section 1.3 for a brief description of scoping and public involvement. Appendix D contains materials from each public meeting.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

As part of the feasibility study, multiple alignments and trail configurations were considered. Many potential alignments were rejected in the field and on paper prior to public presentation. These alignments were eliminated due to:

- excessively steep slopes;
- presence of special status species (for example, Blue Diamond cholla);
- excess impacts on resource (such as excessively large wash crossings);
- too far from other amenities or too far into the landscape; and
- safety concerns (for example, crossing SR-159).

Three action alternatives and a No Action alternative were developed and presented to the public at Public Meeting #2 held in August 2008 (see Section 1.4 and Appendix D-3). Common to all three action alternative alignments was that they remained somewhat near the highway where slopes and wash crossings would be most minimal. Each alternative had portions of the alignment in the SR-159 ROW due to terrain constraints. They each also had a minimum of two underpasses under SR-159. A brief summary of the three alternatives from Public Meeting #2 follows.

2.4.1 ALTERNATIVE ONE

Alternative One would be primarily highway related. While the quantity of resource disturbance would be the least, the quality of the recreational experience would be low due to the alignment's constant proximity to the highway. This alignment would be well separated from other trails and trail users. This alternative would be easiest to manage and maintain.

2.4.2 ALTERNATIVE TWO

Alternative Two would stress a quality recreational experience, would be sited back from the highway a minimum of ¼ mile as feasible, and would be more directly related to the natural landscape. With this siting, visitors would feel well separated from SR-159 and would have a more direct connection with the natural landscape. However, resource disturbance would likely be higher in this alternative than in Alternative One. This alignment would use some existing equestrian trails, but it would provide for new alignments to ensure no net loss of equestrian trail. Management and maintenance would be more difficult than with Alternative One because the trail would be harder to access with maintenance and law enforcement vehicles in certain areas.

2.4.3 ALTERNATIVE THREE

Alternative Three would consist of a mix of Alternatives One and Two, with the addition of a loop between the Calico Basin and the Summerlin Trailhead, and a connection to the Late Night Lot Trailhead. The mix of Alternatives One and Two would not use trails currently used by equestrians, as feasible, and would use more existing disturbance while ensuring a diverse recreational experience. With the additional trail length, trail management and maintenance would be increased over the other two alternatives.

2.4.4 THE PREFERRED ALTERNATIVE

The Proposed Action's trail alignment is effectively the combination of Alternatives Two and Three, with a few minor adjustments that would seek to increase the use of existing disturbance and consolidate trailheads. The public liked the high-quality recreational experience of Alternative Two; they also liked the loops and connections in Alternative Three. A notable exception was the connection to the Late Night Lot, because of concerns about using important existing mountain biker trails and possible disturbance to natural and cultural resources. The proposed trail section from the SRUPA Trailhead to the Late Night Lot Trailhead was removed from consideration during this phase. An alignment may be considered in a subsequent phase, however.

2.4.5 TRAIL SURFACE

Trail surfacing alternatives presented at the public meeting in addition to asphalt and concrete included crusher fines and a polymer additive to existing soil. A crusher fines or decomposed granite trail surface was rejected citing the potential for more intensive ongoing maintenance. The polymer was also rejected due to the lack of any documentation regarding longevity. Refer to Appendix C for a more detailed comparison of the alternative trail surfaces.

2.5 SUMMARY COMPARISON OF ALTERNATIVES

NEED (SEE SECTION 1.2)	PROPOSED ACTION	NO ACTION
SAFETY	Recreation users would move from the roadway to the proposed trail system. Trailheads and underpasses would be provided at major crossings to ensure safety and to retain highway efficiency.	Diverse users would remain on the road shoulder and conflicts with traffic/high-speed vehicles would continue.
ACCESS	Access from non-motorized trail systems into the RRCNCA trail system would be provided at the north end of the project area in the vicinity of SR-159 at West Charleston Blvd; and at the south end of the project area at multiple points within the SR-160 corridor between the Upper Blue Diamond Detention Basin and SR-159.	Access to RRCNCA for non-motorized users would be provided solely via the SR-159 road shoulder.
CIRCULATION	The Proposed Action would create a trail “spine” that would provide circulation within RRCNCA for non-motorized trail users.	Access to the diverse recreational amenities in the vicinity of SR-159 within RRCNCA for non-motorized users would continue to be provided solely from the SR-159 road shoulder.
RECREATIONAL EXPERIENCE	<p>Overall: A continuous, high-quality, diverse user experience would be provided.</p> <p>Trailheads/parking: Development would help accommodate the growing increase in facility use. Parking would occur at controlled locations with NDOT approved access points screened from SR-159. Trailheads (auto parking) would be paved to reduce airborne dust. Unauthorized parking along SR-159 would be removed and those areas revegetated.</p> <p>Human comfort: Shade, toilets, rest areas, and access to water would be provided at shorter, regular intervals for recreational users.</p> <p>Universal accessibility: Universal access would be provided consistent with guidelines for outdoor areas including providing an “Equivalent Experience” in areas where impacts would otherwise be excessive.</p>	<p>Overall: Users would continue to have a primarily highway-related experience between pockets of recreational amenities.</p> <p>Trailheads/parking: Existing facilities would receive heavier and heavier use. Unauthorized parking would continue along sections of the road shoulder with traffic continuing to back onto the highway. Unpaved parking areas would continue to create airborne dust.</p> <p>Human comfort: Amenities would remain at less frequent/regular intervals. The Overlook and Red Springs parking lots would remain the only places with toilets, shade, and picnic tables along the corridor.</p> <p>Universal accessibility: Accessibility would remain sporadic, located in limited amenity pockets.</p>

NEED (SEE SECTION 1.2)	PROPOSED ACTION	NO ACTION
RESOURCE PRESERVATION	<p>Natural resources: The 35 miles includes up to 53.45 acres of new permanent disturbance, 45.55 acres of temporary, construction-related disturbance that would be restored, and the use of 36.10 acres of previously disturbed land. An additional 6 acres of restoration would occur at the existing First Creek Trail and Trailhead site.</p> <p>Cultural resources: Opportunities for interpretation and/or preservation of cultural resources would increase.</p>	<p>Natural resources: No new disturbance; however, increased use could lead to unplanned/uncontrolled disturbance throughout several areas within RRCNCA, especially near development.</p> <p>Cultural resources: Opportunities for interpretation and/or preservation of cultural resources would remain the same.</p>
HUMAN HEALTH	Expanded opportunities for exercise would open up to a broader range of users.	Training and conditioning would continue to occur on the shoulder of SR-159 and SR-160.
OPERATIONS/ MAINTENANCE	Substantial O&M would be created, yet the trail system would be planned for low maintenance and partnerships would be sought (such as Adopt-a Trail and other efforts).	O&M would increase due to increased social trail use, increased strain on parking facilities; partnerships would be less viable without the trail amenity.

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CHAPTER 3.0 AFFECTED ENVIRONMENT

This PEA assesses environmental, social, and economic issues at a programmatic level, not at a site-specific level. The Proposed Action consists of a trail system that would be primarily a bicycle and pedestrian trail that would accommodate recreational bikers, joggers, hikers, dog walkers, and other non-motorized vehicles (herein referred to as the hiker/biker trail). The project is defined as the 100-ft (and in certain areas 300-ft) alignment within which the Proposed Action paved hiker/biker trail would be placed. The descriptions of the affected environment presented in this Chapter provide a level of detail needed to assess the range of potential impacts that may occur as a result of the implementation of the Proposed Action, as well as the No Action alternative. Certain resource impact evaluations, such as air quality and water resources, require that the parameters of the Proposed Action be defined as more than the 100-ft alignment, and these expanded evaluation parameters are defined when this is necessary. A regional context is also provided to place the Proposed Action within the context of the specific resource being assessed. Regulatory requirements vary by resource, and a description of the specific requirement is provided for the applicable resource.

Data collected for and presented in the BLM RMP (BLM 2000) were used to establish environmental baseline conditions for the Proposed Action to the extent applicable. For resources in which data were not available from the RMP,

relevant environmental conditions were identified through GIS data available from the Clark County website, maps and aerial photography, literature searches, agency coordination, and field investigations conducted in March, April, May, and August 2008. For descriptive purposes, and where applicable, the organizational Zones as described in Section 2.1 of this study are used as a locator reference for the reader.

3.1 IDENTIFYING RESOURCES FOR ANALYSIS

This section discusses the resources identified by BLM as necessary to reach a reasoned choice between the Proposed Action and No Action alternative. In designating the resources to be carried forth for analysis, environmental resources known to occur or with the potential to occur in the Proposed Action were identified. The BLM requires an analysis of potential impacts on resources for the following conditions:

- May cause disagreement about the best way to use a resource
- To resolve an unwanted resource condition
- May potentially have effects of a Proposed Action or alternative
- Would show to have a cause and effect relationship with the Proposed Action or alternatives (BLM 2008c)



Zone Two - Near Calico Rd looking toward Las Vegas.

The NEPA referenced in Chapter 1 of this document is only one of many authorities that contain procedural requirements that pertain to assessment when the BLM is considering a federal action. Supplemental legislation requires that certain resources be examined to determine possible effects from a proposed action. Table 3-1 shows the resources that were examined and identifies those that were determined to be potentially impacted by the Proposed Action for this project and, thus, were carried forward for analysis in this PEA.

No areas of critical environmental concern, prime/unique farmlands, grazing allotments, mining claims, wild and scenic rivers, or wilderness areas occur in the Proposed Action or would be indirectly or cumulatively affected by the Proposed Action. A field investigation did not reveal any evidence of hazardous materials releases in the Proposed Action, and according to BLM, hazardous materials are not stored or dispensed on lands on or adjacent to the Proposed Action. The activities associated with the construction and maintenance of the hiker/biker trail will not result in the transportation, use, or storage of hazardous waste material. Because the proposed hiker/biker trail will be designated as non-motorized, no assessment of noise is needed. There is no surface water within the Proposed Action except for ephemeral flows in washes during major rain events. The activities associated with the hiker/biker trail are not such as to cause any degradation of water quality during the ephemeral flow events or to subsurface water sources. Additionally, the project will not provide any new drinking water sources; therefore, water quality in association with drinking or groundwater is not discussed further in this PEA.

Table 3-1. BLM Initial Examination of Resources to Potentially Be Affected

RESOURCE CONSIDERED	POTENTIAL EFFECT		RESOURCE CONSIDERED	POTENTIAL EFFECT	
	Yes	No		Yes	No
Air Quality	X		Mining Claims		X
Areas of Critical Environmental Concern		X	Native American Religious Concerns	X	
Biological Resources			Noise		X
Wildlife	X		Recreation	X	
Migratory Birds	X		Socioeconomics	X	
Vegetation	X		Soils	X	
Noxious Weeds	X		Transportation and Right-of-Way	X	
Endangered, Threatened, or Species of Concern	X		Visual Resources	X	
Cultural Resources	X		Wastes, Hazardous or Solid		X
Environmental Justice	X		Water Quality Drinking/Ground		X
Farmlands (Prime or Unique)		X	Water Resources – other than Drinking or Ground Water	X	
Floodplains	X		Wetlands/Riparian Zones	X	
Grazing – Range Management		X	Wild and Scenic Rivers		X
Hazardous Materials		X	Wilderness		X
Land Use	X		Wild Horse and Burro	X	

3.2 AIR QUALITY

3.2.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

The US Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The compounds that cause or contribute to air pollution that could endanger public health and the environment are listed under Section 108 of the Clean Air Act (CAA) (1970). The criteria pollutants include carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, lead, ozone (O₃), particulate matter less than 10 microns in diameter (PM₁₀), and particulate matter less than 2.5 microns in diameter (PM_{2.5}). O₃, a regulated pollutant that is not emitted directly from sources, is formed by a combination of nitrogen oxides and volatile organic compounds reacting with sunlight in the atmosphere.

Air quality of an area is based on the amount of pollutants emitted and climatic and geologic conditions that affect the formation and dispersion of pollutants. Areas are divided into “airsheds” that are roughly defined on hydrographic basins determined by the Nevada State Engineer’s Office. The EPA designates geographic areas as “attainment areas” or “nonattainment areas.” If an area complies with the NAAQS for a listed compound, it is considered to be in attainment, and conversely, if an area is not in compliance with a compound, it is considered to be in a nonattainment area. Each state prepares a State Implementation Plan (SIP) describing existing air quality conditions and control measures to attain and maintain NAAQS. The EPA then either approves or does not approve the SIP.

The RRCNCA is located in Hydrographic Basin 212, which is the Las Vegas airshed. The EPA has previously designated the Las Vegas airshed as a serious nonattainment area for CO and PM₁₀. On May 20, 2005, EPA determined that Las Vegas, Nevada, and the surrounding area meet the federal public health air quality standards for CO as there have been no exceedances of the CO standard since 1998. In September 2008, Clark County DAQEM and the County Board of Commissioners submitted a Carbon Monoxide Redesignation Request and Maintenance Plan for the Las Vegas Valley Nonattainment Area to EPA with the request to redesignate the valley as being in attainment for CO emissions. As of the preparation of this PEA, no determination from EPA has been promulgated.

On May 3, 2004, EPA finalized its approval of the Clark County PM₁₀ Plan as meeting the CAA requirements for serious PM₁₀ nonattainment areas. As part of this action, EPA approved a series of rules adopted by the DAQEM that control fugitive dust sources, including disturbed vacant lots, construction sites, unpaved roads, paved roads, and unpaved parking lots. Under these rules, any construction activities covering 0.25 acre or more are required to obtain an air quality permit (DAQEM 2008b). The rules are the major control measures relied on in the PM₁₀ Plan to demonstrate attainment of the health-based standard (EPA 2007a).

On April 15, 2004, the EPA announced large parts of California and two smaller areas in Nevada and Arizona had been included on its list of more than 100 nonattainment areas in 31 states nationwide that failed to meet a new, more stringent 8-hour health standard for O₃. The EPA



Zone Five - The upper valley trail to use existing dirt trail. The trail at this point would be removed from SR 159.

action included designation of Clark County, Nevada, as a “basic” nonattainment area (Clean Air Act [CAA] Part D, Subpart 1) for the new federal O₃ standard. Clark County is not required to submit a SIP on O₃ until after 2013, and the date has not yet been determined by EPA. The areas of Clark County that are not meeting the O₃ standard include Apex and Moapa Valleys to the northeast, and a broad area in the southern part of the county (EPA 2007b). The RRCNCA is not located within the areas designated as being in nonattainment for O₃.

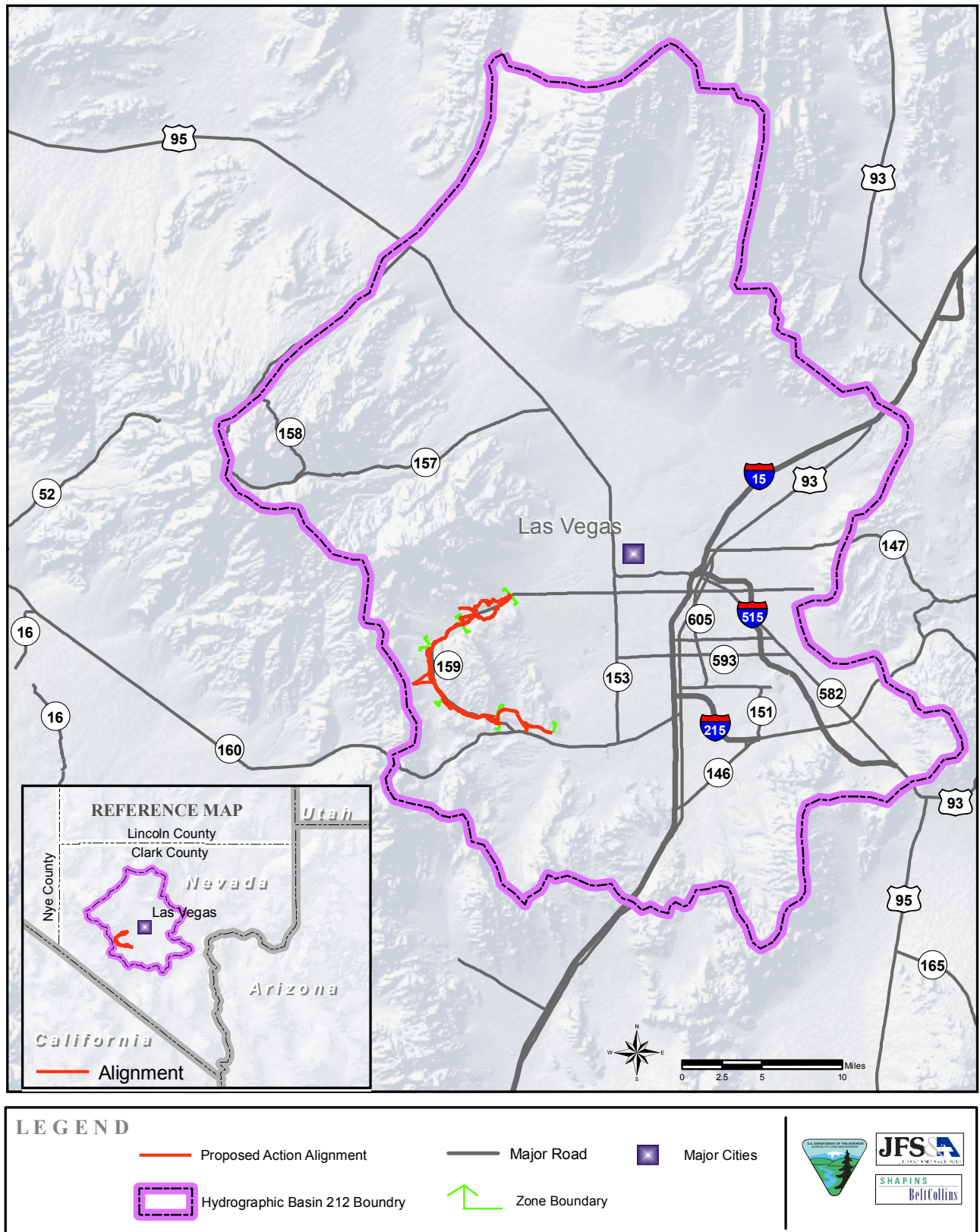
3.2.2 EXISTING CONDITIONS

The RRCNCA is located in the Las Vegas airshed (Figure 3-1) and any activities that could affect air quality within the airshed would be subject to air quality emission control measures as designated in the SIP for this basin. Therefore, for purposes of this study, and because impacts on air quality would affect more than just the Proposed Action, the existing conditions and study area would represent the entire east side of the RRCNCA, as well as general air quality conditions, as reported near the RRCNCA in the Las Vegas airshed.

The CertainTeed Mine located directly east of the RRCNCA along SR-159 is considered one of the Las Vegas Valley’s major source emitters (Facility ID number 3). The mine is operating under a Title V permit. Clark County Air Quality Regulation Section 19 sets forth a countywide air quality permitting system to meet the requirements of Title V of the CAA (1970), wherein all major sources in Clark County must apply to DAQEM for an air quality control permit. These sources must submit plans showing compliance with all the applicable CAA regulations. The monitoring station located at the mine is the closest air quality monitoring station in proximity to the RRCNCA, and as of 2005 (latest figures available), the CertainTeed Gypsum Mine was in compliance for all criteria pollutants emissions (DAQEM 2005).

Although the air quality in the general area is currently under compliance, unpaved trailheads at the Dog Walk, Exit Lot, and Wheeler contribute to PM₁₀ emissions in the RRCNCA. Additional use of unauthorized roadside vehicle parking from the Exit Lot to SMRSP also contributes to PM₁₀ emissions.

Figure 3-1. Air Quality – Las Vegas Airshed



3.3 BIOLOGICAL RESOURCES (WILDLIFE, MIGRATORY BIRDS, VEGETATION, NOXIOUS WEEDS, ENDANGERED AND THREATENED SPECIES)

3.3.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

Overall, in the RRCNCA, the Spring Mountains lie in a transition zone between the Colorado River, the warm Mojave Desert, and the Great Basin cold desert. It is the stated goal of the RMP for RRCNCA to maintain ecosystem-wide health. Regular monitoring of the biological species is an integral part of the RMP (BLM 2000). Specific regulatory requirements are explained for each biological resource discussed below.

3.3.2 EXISTING CONDITIONS

The Mojave creosote bush community, located mainly in the desert wash transzonal area (below 3,600 ft above mean sea level [msl]), represents the majority of the vegetative community of concern for this PEA. Field visits were made to the RRCNCA in March, April, May, and August 2008. In addition to siting the Proposed Action during these field visits, species of wildlife, migratory birds, vegetation, noxious weeds, and potential threatened and endangered species habitat were noted. However, no intensive survey or specified survey protocols were completed during these visits. The BLM RMP provides an extensive inventory of the wildlife, migratory birds, vegetation, cactus, and threatened, endangered or special status species, and these species lists are incorporated herein by reference (BLM 2000).



Zone Four - View from existing trail near Wheeler. The trail at this point would be removed from SR 159.

3.3.2.1 WILDLIFE

Wildlife species in the vicinity of the Proposed Action include small mammals, bats, birds, and reptiles. Appendices 5, 6, 7, and 8 of the RMP provide a complete list of mammals, bats, reptiles, amphibians, and birds that are found in the RRCNCA, and these species lists are incorporated into this PEA by reference (BLM 2000). Most of these species are common and widespread in distribution, and many were observed during field visits.

3.3.2.2 MIGRATORY BIRDS

Most birds are protected by the Migratory Bird Treaty Act (MBTA) (1918) (16 USC 703-712; Ch. 128 *et seq.*). The Mojave creosote bush vegetative community provides suitable resting, foraging, and nesting habitat for a wide variety of bird species, including, but not limited to, western burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), Scott's oriole (*Icterus parisorum*), ash-throated flycatcher (*Myiarchus cinerascens*), mourning dove (*Zenaidura macroura*), horned lark (*Eremophila alpestris*), lesser nighthawk (*Chordeiles acutipennis*), and black-throated sparrow (*Amphispiza bilineata*). Most of these species are common and widespread in distribution, and many were observed during field visits to RRCNCA, including the western burrowing owl, mourning dove, and black-throated sparrow.

3.3.2.3 VEGETATION

The Mojave creosote bush community is dominated by creosote bush (*Larrea tridentata*). Co-dominate plants include white bursage (*Ambrosia dumosa*), krameria erecta (*Pima rhatany*), Mormon tea (*Ephedra torreyana*), cheesebush (*Hymenoclea salsola*), spiny menodora (*Menodora spinescens*), desert almond (*Prunus fasciculata* var. *fasciculata*), sagebrush (*Artemisia tridentata* ssp. *Tridentata*), and catclaw (*Acacia greggii*). Grasses commonly found include needle grass (*Hesperostipa*), dropseed (*Sporobolus*), and galleta (*Hilaria jamesii*). A variety of small flowering plants include buckwheats (*Eriogonum*, spp.), desert marigold (*Baileya multiradiata*), globe mallow (*Sphaeralcea ambigua*), and Mojave prickly poppy (*Argemone corymbosa*). The majority of these plants were observed during field visits. There are several vegetative communities within the Mojave creosote bush community, and Figure 3-2 provides graphic information on the specific vegetation types found in the Proposed Action.



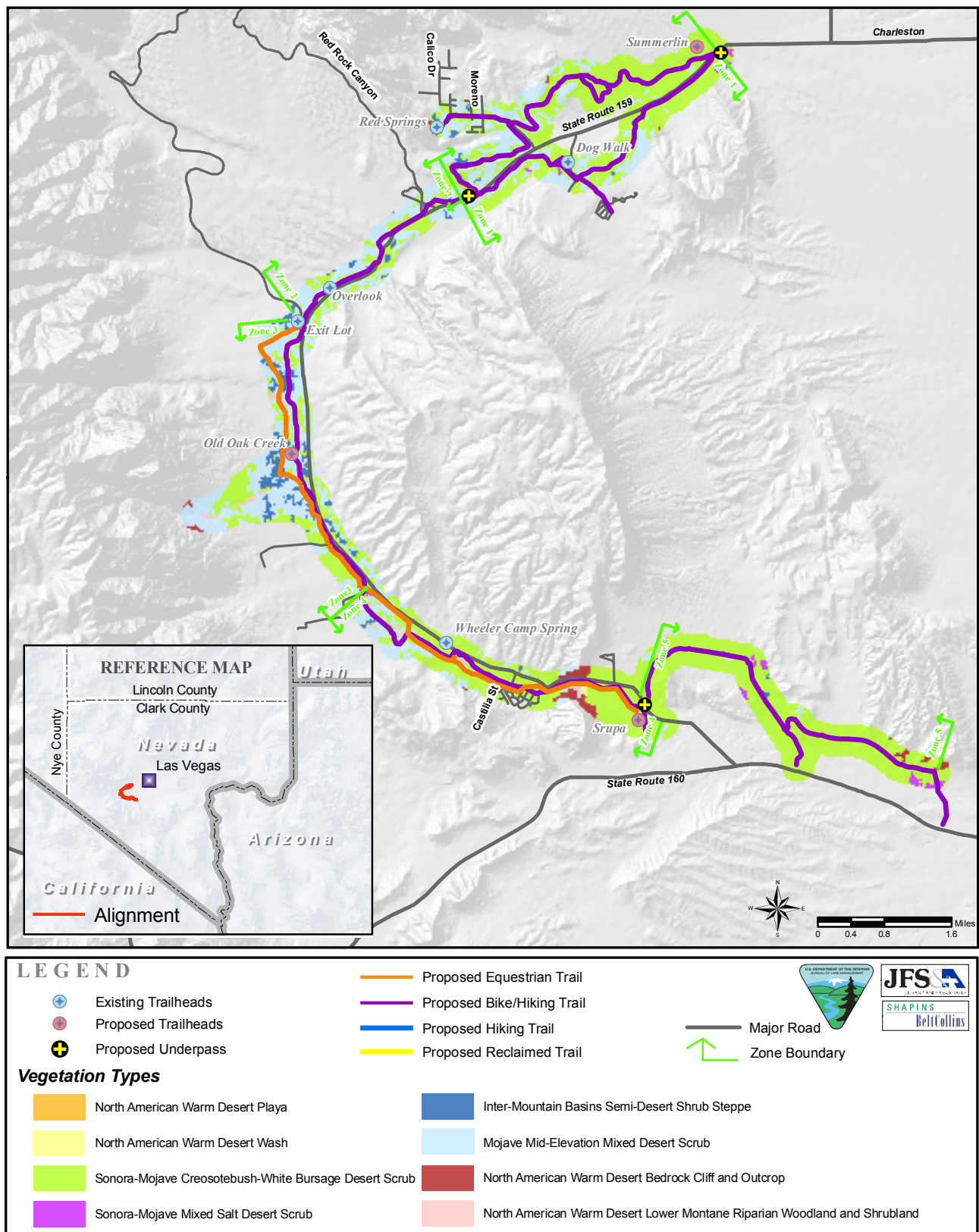
Zone Four - Near Blue Diamond, typical Mojave desert scrub vegetation.

Grasses are usually sparse, and species include Indian ricegrass (*Oryzopsis hymenoides*), squirreltail (*Elymus elymoides*), fluff grass (*Erioneuron pulchellum*), and big galleta (*Hilaria rigida*). All of these species were observed during field visits.

Cactus and yucca species are protected and regulated by the State of Nevada (Nevada Revised Statutes [NRS] 527.060-.120). Dominant yucca and cacti found in the Mojave creosote bush communities are yucca (or Spanish bayonet) (*Yucca schidigera*) and cholla (*Opuntia* spp.) and are prevalent throughout the Proposed Action. In addition to the yucca and cholla, large strands of Joshua tree (*Yucca brevifolia*) are especially predominant between Wheeler and the Exit Lot pullouts in Zones 3 and 4 of this study.

Non-native species identified in BLM's RMP area include red brome (*bromus rubens*) and cheatgrass (*B. tectorum*), both of which were identified within the Proposed Action.

Figure 3-2. Biological Resources – Vegetation



3.3.2.4 NOXIOUS WEEDS

The Federal Noxious Weed Act (1975) established a federal program to control the spread of noxious weeds. Executive Order 13112 (1999) further defines the responsibilities of federal agencies to prevent the introduction of invasive species and provide for their control by minimizing the economic, ecological, and human health impacts that invasive species cause. A noxious weed is generally destructive and difficult to control or eradicate. Table 3-2 lists noxious and invasive weeds that have been identified in the Las Vegas area. A project site-specific inventory for noxious weeds was not conducted for this level of the PEA; however, tamarisk (*Tamarix ramosissima*) was noted during field visits in March, April, May, and August 2008, as a dominant species along most of the washes in the alignment, and especially in the washes at the Blue Diamond area. Additionally Russian knapweed (*Acroptilon repens*) and thistle species were noted during the field visits.

3.3.2.5 ENDANGERED, THREATENED, OR SPECIES OF CONCERN

The Endangered Species Act (1973) requires federal agencies that authorize, fund, or carry out actions to avoid jeopardizing the continued existence of endangered or threatened species and to avoid destroying or adversely modifying their critical habitat. The BLM RMP identified one endangered, one threatened, and one candidate species in the RRCNCA. The American peregrine falcon (*falco peregrinus anatum*) was listed as endangered in the RMP, but the falcon has since been removed from the US Fish and Wildlife Service (USFWS) endangered species list (USFWS 2008a). However, the falcon is still a State of Nevada Special Status species, protected under NRS 501, and also a BLM Sensitive Species. The Mojave desert tortoise (*Gopherus agassazii*) is listed as threatened, and the Blue Diamond cholla (*Cylindropuntia multigeniculata*) is listed as a species of concern by the BLM.

Table 3-2. Noxious Weeds and Invasive Species Known to Occur in the Las Vegas Area of Clark County, Nevada

COMMON NAME	SCIENTIFIC NAME	LOCATION AND OTHER CHARACTERISTICS
Upland Species		
Camelthorn	<i>Alhagi camelorum</i>	Wood shrub found in agricultural areas and along washes
Cheatgrass ¹	<i>Bromus tectorum</i>	Annual grass found in all systems but abundant in disturbed and wetter areas
Dalmatian toadflax	<i>Linaria dalmatica</i>	Perennial herb found along roadsides, fields, and wastelands
Hoary cress	<i>Cardaria draba</i>	Perennial weed found along roadsides, fields, and wastelands
Johnsongrass	<i>Sorghum halepense</i>	Coarse perennial grass found in fields, fencerows, and ditch banks
Musk thistle	<i>Carduus nutans</i>	Biennial found in rangeland along roadsides and in fields
Puncturevine	<i>Tribulus terrestris</i>	Annual weed found along roadsides, fields, and deserts
Red Brome ¹	<i>Bromus rubens</i>	Annual grass found in all systems but abundant in disturbed and wetter areas
Russian knapweed	<i>Acroptilon repens</i>	Annual weed found along ditches, roadsides, and fields in creosote bush scrub
Scotch thistle	<i>Onopordum acanthium</i>	Biennial found along roadsides, ditches, and fields
Sow thistle	<i>Sonchus arvensis</i>	Annual found in waste areas, along roadsides, and in disturbed places
Tumbleweed ¹	<i>Salsola kali</i>	Annual herb found in roadside and disturbed areas
Spotted knapweed	<i>Centaurea masculosa</i>	Annual weed found along ditches, roadsides, fields, and waste places
White horse-nettle	<i>Solanum elaeagnifolium</i>	Poisonous perennial herb found along roadsides and fields
Yellow star thistle	<i>Centaurea solstitialis</i>	Annual weed found along roadsides, disturbed areas, and fields
Riparian Species		
Purple lossestrife	<i>Lythrum salicaria</i>	Found in moist to wet ground along ditches, stream banks, meadows, waste ground, prairies, roadsides, and railroads
Tall whitetop	<i>Lepidium latifolium</i>	Found in disturbed alkali soils of desert shrub or riparian communities
Tamarisk	<i>Tamarix ramosissima</i>	Deciduous, highly saline tolerant, forms thickets along washes, streams, ditches, and moist areas

¹ Species is non-native and considered invasive, although it does not have the formal status of noxious.

Source: Chapter 555.005 NRS, BLM 2009b

The USFWS, Nevada Natural Heritage Program (NNHP), and Nevada Department of Wildlife (NDOW) provided lists of threatened, endangered, sensitive species of concern (TES) and Nevada protected species that are known to occur or have an indication of presence or absence of suitable habitat within 1 mile of the Proposed Action. Although BLM designated sensitive species are not protected by federal law, it is BLM policy that no action with BLM involvement should be taken that would contribute to these species becoming federally listed. Table 3-3 provides the list of species, protection status, and indication of presence or absence of suitable habitat in the Proposed Action. Appendix E includes the letters from the USFWS, NNHP, and NDOW with the comprehensive species lists from each agency. The NNHP provided locations where species have been recorded, and Figure 3-3 provides graphic information on the threatened, endangered, and Nevada protected species sightings within 1 mile of the Proposed Action.

The NNHP also reported that in addition to the species they provided in their table, habitat may also be available for the chuckwalla (*Sauromalus ater*), Las Vegas bearpoppy (*Arctomecon californica*), and the Nevada admiral (*Limenitis weidemeyerii nevadae*), but there have been no recorded sightings in the RRCNCA. The NDOW does not provide information on location of sighting of wildlife species under its realm of authority for which it is mandated through State laws and regulations. Therefore, these three NNHP species and the NDOW listed species are not shown on Figure 3-3.



Blue Diamond Cholla

Table 3-3. At Risk Taxa Recorded Within One Mile of the Red Rock Recreational Trail Project Area

SPECIES		PROTECTION STATUS			SUITABLE HABITAT PRESENT
SCIENTIFIC NAME	COMMON NAME	USFWS	BLM	STATE	
Plants					
<i>Angelica scabrida</i>	rough angelica	xC2	N		No: due to elevation
<i>Arctomecon californica</i>	Las Vegas bearpoppy		N	CE	Yes
<i>Arctomecon merriamii</i>	white bearpoppy		N		Yes
<i>Astragalus remotus</i>	Spring Mountains milkvetch	xC2	N		Yes
<i>Calochortus striatus</i>	alkali mariposa lily	xC2	N;C		Yes
<i>Cylindropuntia multigeniculata</i>	Blue Diamond cholla	RI	S	CE, CY	Yes
<i>Cryptantha tumulosa</i>	New York Mountains catseye				No: due to elevation
<i>Penstemon bicolor ssp. bicolor</i>	yellow twotone beardtongue	xC2	N		Yes
<i>Penstemon bicolor ssp. roseus</i>	rosy twotone beardtongue	xC2	N		Yes
<i>Sisyrinchium radicatum</i>	St. George blue-eyed grass				Yes
Invertebrates					
<i>Limenitis weidemeyerii nevadae</i>	Nevada admiral				Yes
<i>Pyrgulopsis deaconi</i>	Spring Mountains springsnail		N		Yes
Amphibians					
<i>Bufo microscaphus</i>	Arizona toad		N		Not reported in study area
Reptiles					
<i>Gopherus agassizii</i>	desert tortoise (Mojave Desert pop.)	LT, SA	S	Yes	Yes
<i>Heloderma suspectum cinctum</i>	banded Gila monster	xC2, NL	N,C	Yes	Yes
<i>Sauromalus ater</i>	Chuckwalla		N		Yes
Mammals					
<i>Antrozous pallidus</i>	pallid bat		N, C	Yes	Yes
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat		N, C	Yes	Yes
<i>Idionycteris phyllotis</i>	Allen's big-eared bat		N	Yes	Yes
<i>Myotis thysanodes</i>	fringed myotis	xC2	N;C	Yes	Yes
Aves					
<i>Athene cunicularia</i>	Burrowing owl		N	Yes	Yes
<i>Auriparus flaviceps</i>	Verdin			Yes	
<i>Chordeiles acutipennis</i>	Lesser nighthawk			Yes	
<i>Falco peregrinus</i>	Peregrine falcon		N, C	Yes	
<i>Lanius ludovicianus</i>	Loggerhead shrike		N	Yes	
<i>Phalaenoptilus nuttallii</i>	Common poorwill			Yes	
<i>Spizella breweri</i>	Brewer's sparrow		N		

Source: NNHP 2008, USFWS 2008b, NDOW 2008

US Fish and Wildlife Service (USFWS) Categories for Listing under the Endangered Species Act:

LT Listed Threatened

RI Former Category 1 Candidate or Proposed species for which there is insufficient evidence of vulnerability and threats

xC2 Former Category 2 Candidate, now NNHP species of concern

NL Not Listed (no status) in a portion of the species' range

SA Similarity of appearance species

Bureau of Land Management (BLM) Species Classification:

S Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law

N Nevada Special Status Species - designated Sensitive by State Office

C California Special Status Species (see definition S and N)

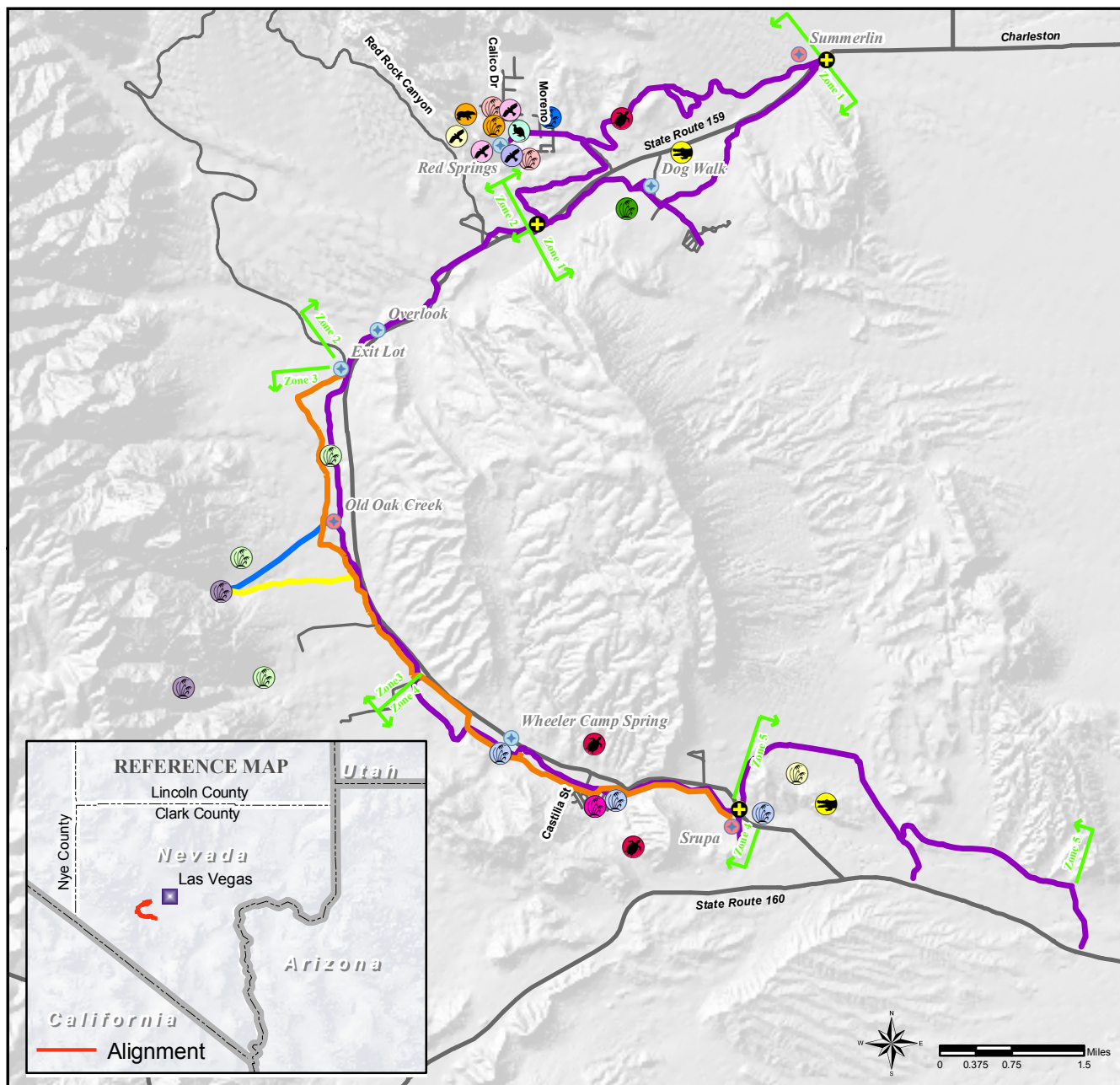
Nevada State Protected (State) Species Classification:

Fauna: YES Species protected under NRS 501.

Flora: CE Critically endangered - species whose survival requires assistance because of overexploitation, disease, or other factors, or because their habitat is threatened with destruction, drastic modification, or severe curtailment (NRS 527.260-.300)

CY Protected as a cactus, yucca, or Christmas tree (NRS 527.060-.120)

Figure 3-3. Biological Resources – Threatened, Endangered, and Nevada Protected Species Recorded Sightings



LEGEND

- Existing Trailheads
- Proposed Trailheads
- Proposed Underpass

- Proposed Equestrian Trail
- Proposed Bike/Hiking Trail
- Proposed Hiking Trail
- Proposed Reclaimed Trail

- Major Road
- Zone Boundary

Threatened and Endangered Species

- | | | | |
|----------------------------|------------------------------|--------------------------|---------------------|
| Blue Diamond cholla | White bear poppy | fringed myotis | banded Gila monster |
| NY Mountains catseye | alkali mariposa lily | pallid bat | |
| Rough Angelica | rosy twotone beardtongue | Allen's big-eared bat | |
| Spring Mountains milkvetch | yellow twotone beardtongue | Townsend's big-eared bat | |
| St. George blue-eyed grass | Spring Mountains springsnail | desert tortoise | |

Plants

The Las Vegas bearpoppy is a Nevada BLM Special Status Species protected under Nevada state law (NRS 527.260-.300) as critically endangered. This bearpoppy is found in open, dry, spongy or powdery, often dissected (“badland”), or hummocked soils with high gypsum content, often with well-developed soil crust, in areas of generally low relief on all aspects and slopes, with a sparse cover of other gypsum-tolerant species (NNHP 2001). This plant has been observed in the RRCNCA, but the NNHP does not have exact locations of sightings in its database; however, it is likely to occur near the CertainTeed Mine.

The white bearpoppy (*Arctomecon merriamii*) was included in the NNHP list of species as a Nevada BLM Sensitive species. The bearpoppy is found in loose rocky slopes in the desert, favors soils with a high gypsum content, and has been reported near the Proposed Action in Zone 1.

The Spring Mountains milkvetch (*Astragalus remotus*) is an NNHP species of concern and a State of Nevada Special Status species. The milkvetch is endemic to the RRCNCA and is found on rocky hillsides and canyon banks on gravelly sandstone or limestone (BLM 2006a). This plant has been previously reported near the Proposed Action in Zone 3.

The alkali mariposa lily (*Calochortus striatus*) is an NNHP species of concern and a State of Nevada Special Status species. The lily is found in alkaline meadows, moist creosote-bush scrub, and Mojave desert at an elevation of 224 to 5104 ft above msl (BLM no date). The lily has been recorded near Red Springs in Zone 1 at the RRCNCA.

The Blue Diamond cholla is a State of Nevada Special Status species and is protected under NRS 501. The cholla is endemic to Clark County and occurs in a variety of soils, including sandy-loam, gravel, coarse-cobbled soils, silty alluvial fan terraces, decomposed granite and schist, and clays of volcanic origin. The cholla was first identified from a population growing approximately 2 miles north of the town of Blue Diamond (Baker 2005). The NNHP reports a sighting of the cholla in Zone 5 of the Proposed Action.

The yellow twotone beardtongue (*Penstemon bicolor* ssp. *bicolor*) is an NNHP species of concern and a State of Nevada Special Status species; is found in wouldow gravelly washes, roadsides, and cliffs above seep washes between

elevations of 1970 to 5480 ft; and is associated with creosote bush and Joshua tree (BLM 2006a). The beardtongue has been reported growing near the Proposed Action in Zone 4.

The rosy twotone beardtongue (*Penstemon bicolor* ssp. *roseus*) is an NNHP species of concern and a State of Nevada Special Status species and is found in gravelly or rocky soils within the creosote or blackbrush scrub (BLM 2006a). This beardtongue has been reported growing near the community of Blue Diamond in Zone 4.

The St. George blue-eyed grass (*Sisyrinchium radicum*) is not federally or state protected but is identified by the NNHP as an indicator species based on distribution within Nevada and is recognized to be vulnerable to extinction or expirpation due to extreme rarity, imminent threats, or other factors (NNHP 2001). This grass has been reported growing near Red Springs in Zone 1 in the RRCNCA.

Invertebrates

The Nevada admiral is considered imperiled by the NNHP but is not currently protected. However, because of the BLM policy that no action with BLM involvement should be taken that would contribute to these species becoming federally listed, this butterfly is included in this section. The Nevada admiral is usually found in riparian habitats in mountains but is also present in some towns and residential areas (NatureServe 2008a). This butterfly has been observed in the RRCNCA, but the NNHP does not have exact locations of sightings in its database.

The Spring Mountains springsnail (*Pyrgulopsis deaconi*) is a State of Nevada Special Status species and is found in spring ecosystems with permanent flow of highly oxygenated water. The water must also be highly mineralized but relatively unpolluted. The springsnail is found in the Red Springs area (Mojave Max 2003). NNHP also reports sightings at Red Springs in Zone 1.

Reptiles

The Mojave desert tortoise is a federally listed threatened and State of Nevada Special Status species. The tortoise can be found in low to moderate densities in the RRCNCA throughout the creosote-bursage scrub and salt desert scrub habitat (BLM 2006a). The tortoise has been sighted along the Proposed Action in Zones 1 and 4. The RRCNCA is considered a low-density habitat area for the tortoise (BLM 2000).

The banded Gila monster (*Heloderma suspectum cinctum*) is an NNHP species of concern and a State of Nevada Special Status species protected under NRS 501. The Gila monster habitat is the desert scrub in southernmost Nevada and is usually found in rocky areas at middle elevations (BLM 2006a). The NNHP reports that the Gila monster has been sighted in Zones 1 and 4 in the RRCNCA.

The chuckwalla, a State of Nevada Special Status species, inhabits rocky desert, lava flows, hillsides, and outcrops in creosote habitat (NatureServe 2008b). The chuckwalla has been observed in the RRCNCA, but the NNHP does not have exact locations of sightings in its database.

Mammals

The pallid bat (*Antrozous pallidus*) is a State of Nevada Special Status species protected under NRS 501. The bat habitat is cliffs in arid deserts and grasslands, often near rocky outcrops and water (NatureServe 2008c). This bat has been sighted near Red Springs in Zone 1.

Townsend's big-eared bat (*Corynorhinus townsendii*) is a State of Nevada Special Status species protected under NRS 501 and is found near riparian habitats in cliffs in the desert (NatureServe 2008d). This bat has been sighted near Red Springs in Zone 1.

Allen's big-eared bat (*Idionycteris phyllotis*) is a State of Nevada Special Status species protected under NRS 501 and is found in Mojave desert scrub in caves and abandoned mineshafts (BLM 2006a). This bat has been sighted near Red Springs in Zone 1.

The fringed myotis (*Myotis thysanodes*) is an NNHP species of concern and a State of Nevada Special Status species protected under NRS 501. The bat is found in desert scrub, shrub-steppe, oak-pinyon, and coniferous forest habitats in caves, rock crevices, and buildings (BLM 2006a). This bat has been sighted near Red Springs in Zone 1.

Aves

The following avian species have all been known to occur in the RRCNCA, but specific locations for sightings have not been documented (BLM 2000).

The burrowing owl (*Athene cunicularia*) is a State of Nevada Special Status species that is found in sagebrush and desert shrub up to 9,000 ft above msl.

The verdin (*Auriparus flaviceps*) is a protected species (NDOW 2008). This bird is found in desert and arid brush, primarily in mesquite and creosotebush, and nests in a shrub, small tree, or cactus (NatureServe 2008e).

The lesser nighthawk (*Chordeiles acutipennis*) is a protected species (NDOW 2008). This bird is found in desert regions.

The peregrine falcon (*Falco peregrinus*) was formerly listed as an endangered species but is now a State of Nevada protected species and a State of Nevada Special Status species. The falcon is found in open country, especially overlooking rivers, lakes, or seacoasts, as well as in open forests and wetlands; the falcon prefers areas with nearby cliffs or outcrops for nesting. The NDOW reports that an active breeding territory has been identified in Zone 4.

The loggerhead shrike (*Lanius ludovicianus*) is a State of Nevada Special Status species and a protected species. This bird is found in open country with scattered trees and shrubs, savanna, and desert scrub in the southwestern US (NatureServe 2008f).

The common poorwill (*Phalaenoptilus nuttallii*) is a Nevada protected species found year round in the Mojave in scrubby and bushy areas, desert, rocky canyons, open woodland, and broken forest in valleys and foothills, mixed chaparral-grassland, and pinyon-juniper habitat. This bird nests in open areas on bare sites (NatureServe 2008g).

The Brewer's sparrow (*Spizella breweri*) is a State of Nevada Special Status species and a protected species. This bird is found in the Mojave in sagebrush, in areas with scattered shrubs and short grass (NatureServe 2008h).



Mojave desert tortoise



Zone Three -The original entrance to SMRSP will remain

3.4 CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

3.4.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

Section 106 of the National Historic Preservation Act (NHPA) (1966, as amended) requires that federal agencies consider the effects of their undertakings on cultural resources. Cultural resources collectively include archaeological, paleontological, historical, and architectural resources. These resources are structures, items, places, or events considered important to a culture or community for reasons of history, tradition, religion, or science. The RRCNCA currently operates under a Programmatic Agreement (PA) with the Nevada State Historical Preservation Officer (SHPO). Under Section 106 of the NHPA (1966, as amended), its attendant regulations, and the BLM State Protocol Agreement, the BLM has defined the Area of Potential Effect (APE) as coterminous with the project corridor except in the Red Rock Wash area where undocumented rock ring features have been previously reported by site stewards.

Research for paleontological resources has been minimal, and few paleontological resources were identified in the RMP. According to Mark Boatwright, the BLM Las Vegas Field Office Archaeologist, there are 251 known sites in the RRCNCA (BLM 2008d). The BLM RMP identified several prehistoric and historic sites in the RRCNCA, which include:

- Campsites possessing lithic material such as stone flakes for formed tools, ceramics, animal bone or plant materials, milling equipment, and remains of a cooking fire within a hearth

- Stone features, such as rock rings, and rock art locales, which are generally found near water sources or along game trails, as well as food source plants
- Portions of the Old Spanish Trail
- Sites related to farming, ranching, and mining, including roads, building foundations, cut stone blocks, developed water holes and springs, mine shafts and adits, and small trash sites

3.4.2 EXISTING CONDITIONS

Many areas that contain the Proposed Action have not been previously surveyed. This section describes the known or probable cultural resource sites based on information received from the BLM Las Vegas Field Office Archaeologist.

As a part of the ROW activities associated with aligning and widening SR-159, on-ground surveys have been conducted within 100 ft of the centerline of the highway, and any cultural resources that were found have already been identified and mitigated. However, the majority of the Proposed Action will not be within the SR-159 previous survey; therefore, additional cultural resources surveys would be required for this project.

The Proposed Action Segment located north of Moenkopi Rd (Zone 1) may cross through a known site. The BLM has documented this site and has expressed the desire to possibly use this site as an interpretive opportunity (BLM 2008d). If this site is to become a cultural resource interpretive area, the BLM will need to develop a plan for use.

The Proposed Action loop located on the northern boundary of the alignment and north of SR-159 (Zone 1) may have sites, but this area would need further surveys conducted (BLM 2008d).

Oliver Ranch (Zone 4) contains known eligible sites, but a field check conducted by the BLM Las Vegas Field Office Archaeologist showed that they are most likely not within the Proposed Action. The alignment may possibly need to be moved toward the west at one area located to the west of Oliver Ranch; however, that decision would be determined following detailed alignment placement that would not be considered at the programmatic level. Areas just south of Oliver Ranch along the Proposed Action near the wash have been excavated, and no eligible sites were found (BLM 2008d).

The loop at the south end of the Proposed Action (Zone 5) along the railroad grade would be considered eligible. Additionally, there may be sites located away from the Proposed Action at this point that would be considered visually compelling to the public to venture off the alignment to investigate. A cultural resources survey along this portion of the alignment would likely expand the APE to include possible sites based on any visually compelling sites (BLM 2008d).

3.5 ENVIRONMENTAL JUSTICE

3.5.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

Federal agencies must identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations as directed by Executive Order 12898 (1994). An Environmental Justice (EJ) population is defined as a population being at least half minority status or at least half low-income status. A minority is defined as Black or African-American, Hispanic or Latino, Asian, American Indian and Alaskan Native, Native Hawaiian and other Pacific Islander. For comparison purposes with available Census information, the year 1999 is used in this study. The Census defined the average poverty threshold for a household as a maximum income of \$11,214 or less for the year 1999 (Census 2007).

3.5.2 EXISTING CONDITIONS

The RRCNCA is located on BLM land and does not contain any permanent populations. However, the Proposed Action would cross two existing communities (Calico Basin in Zone 1, and Blue Diamond in Zone 4) and connect to existing communities to the north and south of the alignment and may, therefore, affect these populations. Because of the variance in age of the communities and the diversity of the housing conditions and populations, a Census-based EJ study was conducted to identify any possible disproportionate minority or low-income populations. The Census tracts located adjacent to the RRCNCA from the north beginning point on SR-159, south to SR-160 were used. These Census tracts include populations located north and west of SR-159 as follows:

- Tract 58.10, which includes Calico Basin
- Tract 58.17, which is 65 miles across and includes the Mt. Charleston community
- Tract 58.19, which includes the Summerlin area
- Tract 58.20, which is the Blue Diamond community

In 2000, tracts 58.10, 58.17, and 58.20 were considered 100 percent rural (Table 3-4). Tract 58.19 is by far the most populous of the four tracts and is generally considered urban in nature.

Data from the 2000 Decennial Census were used to determine minority composition and income status. The 2000 Census data indicate population and income as of the end of 1999. Since 1999, growth in the Las Vegas area has occurred, and with this population growth, it is expected that demographic changes may have also rapidly occurred. Therefore, the race/ethnicity and income data used in this section may no longer be completely accurate in 2009. At the end of 1999, there was a total population of 5,323 in these four Census tracts. Table 3-4 lists the population and income data for the corresponding Census tracts. The residential areas affected by the Proposed Action are predominately white. Table 3-4 includes income information. The median household income for each of the Census tracts is well above the poverty threshold.

Based on the Census information, no EJ populations were identified in the communities surrounded by or directly adjacent to the RRCNCA.

Table 3-4. Census Tracts – Population and Income 2000

CENSUS TRACT	TOTAL POPULATION	WHITE	BLACK	AMERICAN INDIAN	ASIAN	PACIFIC ISLANDER	HISPANIC	OTHER	MEDIAN HOUSEHOLD INCOME
58.10	106	102	0	0		0	0	4	\$53,529
58.17	1,058	934	25	46	14	2	49	37	\$69,578
58.19	3,877	3,058	155	22	391	16	313	235	\$63,578
58.20	282	266	0	1	4	1	4	10	\$54,091
Total	5,323	4,360	180	69	409	19	366	286	
Percent of Population*		82%	3%	1%	8%	0%	7%	5%	

* Does not equal total population by ethnicity because of census reporting by individuals

Source: Census 2000a, Census 2000b.

3.6 FLOODPLAINS

3.6.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

Federal Emergency Management Agency (FEMA) Map Panels 2125 and 2525 of 4040 showing the 100-year floodplain and floodway for the RRCNCA were used to determine if the proposed facilities are within a floodplain (FEMA 2002). The 100-year frequency flood event is defined as the flood that has a 1 percent chance of being equaled or exceeded in any given year. Floodways are where the water in a floodplain or stream is likely to be deepest and fastest, and it is the area of the floodplain that should be kept free of obstructions to allow floodwaters to move downstream.

The Proposed Action is within the Las Vegas Valley hydrographic area, and drainage from the valley is considered a contributor to the Colorado River Basin. Flow from the RRCNCA is split directing some flow north and east, and some flow south and east to the Las Vegas Wash, which is a tributary to the Colorado River, which is an interstate water and considered a Water of the US (WOUS). The term WOUS applies to the jurisdictional limits of the authority of the US Army Corps of Engineers (USACE) and by definition includes the interstate waters, tributaries of interstate waters, and wetlands adjacent to interstate waters and tributaries. The jurisdiction of the USACE extends to the ordinary high water mark (OHWM). The OHWM is generally defined as the clear, natural line on the channel bank established by water fluctuations. The line would be indicated by physical characteristics such as shelving, changes in soil character or vegetation, or the presence of litter or debris.

Section 404 of the Clean Water Act (CWA) (1977) establishes a program to regulate the discharge of dredged and fill material into WOUS. The basic premise of the program is that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be substantially degraded. Dredging is a regulated activity controlled by a permit review process administered by EPA and USACE (Guidelines for Specification of Disposal Sites for Dredged or Fill Material 1977).

The CCRFCD is responsible for developing and implementing a comprehensive flood control master plan to alleviate flooding in the Las Vegas Valley. As part of the Master Plan, CCRFCD has constructed, or designated for construction, flood control conveyances and detention basins throughout the Las Vegas Valley. Currently, there are no constructed conveyance channels in the project site. However, surface water runoff from the northern portion of the RRCNCA is collected at the Red Rock Detention Basin, which is located west of SR-159 at the curve where



Zone Three - Near Wheeler - the trail would be placed above the wash in existing disturbance

Charleston Blvd becomes SR-159 in Zone 1. Additionally, water flows from the southern portion of the RRCNCA are collected at the Upper Blue Diamond Detention Basin, which is located east of the intersection of SR-159 and SR-160, and north of SR-160 in Zone 5. CCRFCD maintains these two constructed detention basins permitted by the USACE under the CWA. Flows from these detention basins are part of the Flamingo/Tropicana Washes that eventually flow into the Las Vegas Wash and into the Colorado River (CCRFCD 2008).

3.6.2 EXISTING CONDITIONS

The Proposed Action lies in the Basin and Range Physiographic Province, which is characterized by dry ephemeral washes with gravelly, sandy, and/or caliche beds. Several unnamed ephemeral washes are located in the Proposed Action, and the drainage pattern is generally from west to southeast.

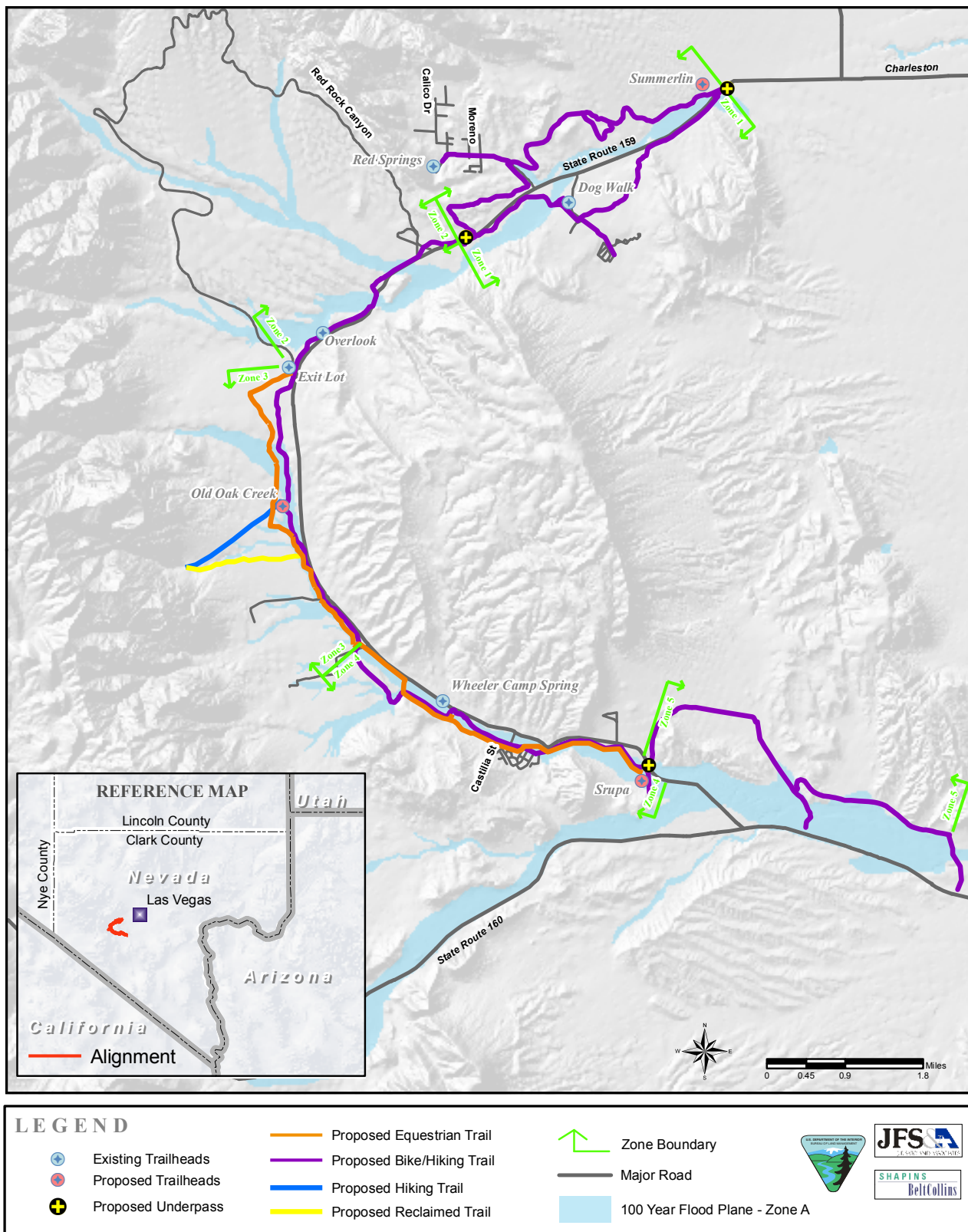
The Proposed Action crosses or is within several washes that have been designated on FEMA maps as Zone A, Special Flood Hazard Area (SFHA) (FEMA 2002) (Figure 3-4). A SFHA is the area subject to flooding in a 100-year flood event and is an area where floodplain management regulations must be enforced. The FEMA designated Zone A represents areas where no base flood elevations have been determined, and no floodway areas are determined in Zone A. FEMA and local entities regulate activities that may occur in a SFHA.

As explained in the project description (Chapter 2), the Proposed Action would cross at least 59 ephemeral washes, and 3 major washes would be used to cross under SR-159, where there are existing culverts or a bridge: the first located at Zone 1 (Segment 1A), the second at Zone 1 (Segment 1Y), and the third at Zone 4 (Segment 4J).



Zone One - Near Calico Basin

Figure 3-4. FEMA Zone A Areas Within the Proposed Action





Zone One - Existing disturbance at north end of proposed trail near housing development

3.7 LAND USE

3.7.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

The Proposed Action is located in the northwest planning area of Clark County, Nevada. Areas in the northwest planning area include the communities of Blue Diamond, Cactus Springs, Calico Basin, Cold Creek, Corn Creek, Indian Springs, Lee Canyon, Kyle Canyon, Mountain Springs, Mt. Charleston, and Red Rock. For purposes of discussion, only the BLM Red Rock, Blue Diamond, and Calico Basin area land use plans will be discussed in this section. Land use in the RRCNCA is dependent on the BLM's management plan that defines land use types and in-holding land ownership in the RRCNCA, which includes the Gun Club (Figure 2-1), the community of Calico Basin, SMRSP, Bonnie Springs/Old Nevada, the town of Blue Diamond, and part of the CertainTeed Mine.

3.7.2 EXISTING CONDITIONS

The RRCNCA area is approximately 200,000 acres and is visited by more than 1 million people each year (BLM 2008e). The proposed hiker/biker trail alignment and parking facilities are within the BLM's Roaded Natural MEAs (BLM 2000), which include existing dirt roads and allow:

- development limited to improved access and consistent with the natural environment;
- recreation experience based on the natural setting;
- roads, trails, and camping areas;
- human interaction level to be low to moderate (preference given to low side); and
- onsite subtle controls (present but not obtrusive).

The Proposed Action consists predominantly of vacant land, with a small amount of development, and is designated as Public Land in the CCDCP Land Use Plan for the area. The developed areas of Calico Basin (Zone 1) and Blue Diamond are within the Northwest Clark County Planning Area District Five, which is defined as existing rural towns located beyond the Las Vegas Valley. The mining area east of RRCNCA is designated as Community District One, which is defined as a regional economic development center (CCDCP 2007b).

Aside from the rural communities of Calico Basin and Blue Diamond, there is one master planned residential subdivision located within approximately ½ mile north of the Proposed Action. Some construction activities for the 400-acre Summerlin community of The Paseos are underway directly northeast of the RRCNCA boundary.

3.8 RECREATION

3.8.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

The SNPLMA (1998 as amended) authorized the BLM to dispose of BLM-owned land and specifically designated funding for RRCNCA capital improvements. The subsequent Las Vegas Valley Disposal Boundary EIS specified that funds received through the SNPLMA account would be applied to develop trails to connect the Las Vegas Valley Trails System (also known as the Vias Verdes Trail) with the RRCNCA (BLM 2004a).

Typical BLM-managed land recreation activities in the RRCNCA include camping, picnicking, mountain biking, hiking, rock climbing, sightseeing, horseback riding, and photography. Off-highway vehicle use is allowed on designated roads only. Recreation activities such as competitive, commercial, and certain organized groups require Special Recreation Permits from the BLM.

The RRCNCA has more than 1 million visitors each year, and there are more than 30 miles of hiking trails. Although SR-159 has a 4- to 8-ft-wide shoulder that is used by cyclists, the 13-mile Scenic Loop Dr is currently the only paved bike trail in the RRCNCA, and it is shared with motorized vehicles.

Hiking is allowed on all designated trails in RRCNCA, and hikers are asked to stay within existing trails to avoid damaging the ecosystems. Equestrian use is limited to designated

equestrian trails, in the area from La Madre Mountain south to Cottonwood Pass, 3 miles south of SR-160, and from the Spring Mountains escarpment to the eastern boundary of the RRCNCA. Bicycles and mountain bikes are allowed on all paved roads and designated mountain bike trails. All bikes are obligated to follow motor vehicle road regulations on the Scenic Loop Dr and SR-159 (BLM 2008e).

3.8.2 EXISTING CONDITIONS

As described in Section 1.2.1 of this document, bike riders and hikers are currently parking in many casual (unimproved) and undesignated areas to access various trails in the RRCNCA. Oftentimes (especially on weekends) the parking areas overflow and people park along the shoulder on SR-159. The BLM tracks visits and visitor days at recreation management areas (RMAs) for all of the RRCNCA. Visitor use is based on actual numbers where available, such as traffic counts. Where actual numbers are not available, visitor use is compiled based on the BLM's professional estimates and knowledge. Table 3-5 shows the number of visits to the areas located in the Proposed Action or the RMA that would expect to be used as a result of the Proposed Action for October 2005 through September 2007, and Figure 2-1 shows the locations of the RMA sites.

The NDOT conducted a series of safety charrettes in 2005 to address safety issues along SR-159. According to information from the charrette, there were four bike crashes between January 1994 and December 2003 (NDOT no date).

The BLM, NDOT, and RTC do not track casual use biking numbers, but in the Las Vegas Valley, there are 735 miles encompassing 385 bike routes that are either in place or planned for construction (RTC 2007). Included in this hiker/biker trail route is the current SR-159 shoulder that is used as a bike path.

3.9 SOCIOECONOMICS

3.9.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

The CEQ's NEPA regulations require federal agencies to "identify environmental effects and values in adequate detail" (40 CFR § 1501.2) in their analyses and define the term "effects" to include social and economic effects, among others (40 CFR § 1508.8). The NEPA regulations define the human environment as the natural and physical environment and the relationship of people with that environment.

Table 3-5. Visits and Visitor Days to Sites Within the Proposed Action Study Area

RMA SITE	OCTOBER 1, 2005 – SEPTEMBER 30, 2006		OCTOBER 1, 2006 – SEPTEMBER 30, 2007	
	VISITS	VISITOR DAYS	VISITS	VISITOR DAYS
Dog Walk	0	0	123	10
Red Spring Picnic Area	13,958	2,908	17,249	3,575
Fee Booth	10,225	4,260	9,131	3,805
Desert Cave Rec (Cowboy Trails)	2,686	2,686	3,248	3,248
Red Rock Overlook, SR-159	10,556	986	14,262	1,229
Mile 8 SR-159 Trailhead	2,260	753	1,512	1,512
Old Oak Creek Trailhead-SR-159	2,674	3,473	2,083	2,760
First Creek Rec	4,602	5,369	3,669	4,281
Wheeler	531	266	754	377

Source: BLM 2008f



Zone One - Dog walk Area to be expanded for parking and trail access

3.9.2 EXISTING CONDITIONS

There are no permanent dwellings within the Proposed Action. The town of Blue Diamond and the community of Calico Basin are the only developed areas within the general project area. Because the RRCNCA is located on BLM land and does not contain any permanent populations, the Census tracts located adjacent to the RRCNCA from the north beginning point on SR-159, and south to SR-160, were used. As described in the EJ section (3.5) of this document, these Census tracts include populations located north and west of SR-159 (Tract 58.10, which includes Calico Basin), west of SR-159 (Tract 58.17, which is 65 miles across and includes the Mt. Charleston community), west of SR-159 (Tract 58.19, which includes the Summerlin area), and the community of Blue Diamond (Tract 58.20), and are those communities that would realize the greatest impact in terms of level of use and accessibility to the Proposed Action. Table 3-6 shows population and growth patterns in the Census tract areas under study.

Table 3-6. Population Change Between 2000 and 2007

General Area Name/Tract Number	Population in 2000	Population in 2007	Percent Change
Calico Basin – Tract 58.10	109	N/A	N/A
Mt. Charleston – Tract 58.17	919	1,205	31%
Summerlin South – Portions of Tract 58.19	4,855	26,986	456%
Blue Diamond – Tract 58.20	290	282	-3%

Source: CCDCP 2007c

Prices for land in Calico Basin vary from \$200,000 to \$500,000 per acre depending on the level of development and surrounding landforms. Property values in the community of Blue Diamond vary between \$200,000 to \$800,000, depending on lot size, level of developed land, and home age. The Proposed Action would be located on BLM-managed lands and, therefore, would add little to the property tax revenue.

3.10 SOILS

3.10.1 REGIONAL CONTEXT/REGULATORY REQUIREMENTS

The BLM RMP describes the soils in the RRCNCA as primarily Entisols and Aridisols. An in-depth discussion of all of the soils is provided in the RMP and incorporated into this document by reference. The soils within the RRCNCA were mapped by the Natural Resources Conservation Service (NRCS). Following is a description of the specific soil types and rating of limiting features for construction of a path, trails, and golf fairways within the Proposed Action (NRCS 2007).

3.10.2 EXISTING CONDITIONS

The Proposed Action traverses 11 soil types (Figure 3-5), all of which:

- are naturally well drained,
- do not meet hydric criteria,
- have a low shrink swell potential,
- are not flooded or ponded,
- have no zone of water saturation, and
- organic matter content in the surface horizon is about zero percent

The NRCS rates each soil type for use for paths and trails using a numbering system. The numbers indicate the limitations for placement of a trail within the specific soil type regime ranging from 0.01 to 1.0 with the larger value representing the greater potential limitation. Table 3-7 identifies the soil types found in the Proposed Action and within ½ mile of the alignment, provides a comparison of differences of soil composition, and shows trail limitation ratings.

Figure 3-5. Soil Types Within the Proposed Action

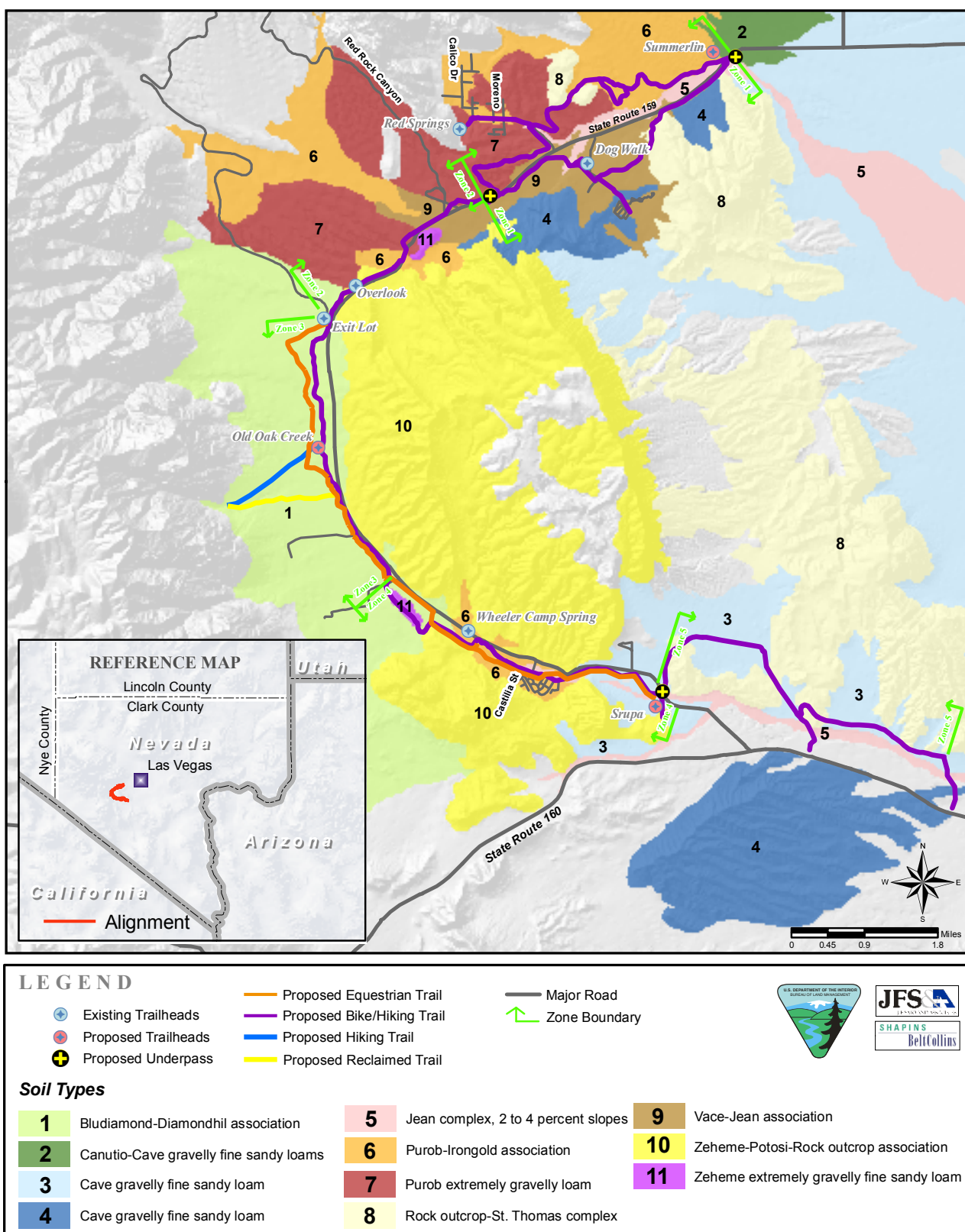


Table 3-7. Soil Types, Composition, Trail Limitation Ratings Within the Proposed Action

MUSYM	MAP UNIT NAME	SLOPES (PERCENT)	LOCATION	PARENT MATERIAL	DEPTH TO ROOT RESTRICTIVE LAYER (INCHES)	WATER MOVEMENT IN RESTRICTIVE LAYER	AVAILABLE WATER TO 60 INCHES	POTENTIAL TRAIL LIMITATION VALUE
151	Vace-Jean association	2 to 8	Fan remnants, fan piedmonts	Calcareous loess and mixed alluvium	4 to 14	Moderately high	Very low	Vace 0.01 Jean 0.57
152	Cave gravely fine sandy loam	0 to 4	Fan remnants	Mixed alluvium	4 to 20	Moderately high	Very low	Not limited
155	Cave gravely fine sandy loam	4 to 15	Fan remnants	Mixed alluvium	4 to 20	Moderately high	Very low	Not limited
263	Jean complex	2 to 4	Inset fans	Alluvium from limestone, sandstone, and quartzite	Greater than 60	High	Low	0.57
341	Zeheme extremely gravely fine sandy loam	8 to 30	Mountains	Colluvium residuum weathered from limestone	7 to 14	High	Very low	Slope 0.32 Sandy 0.01
342	Zeheme-Potosi-Rock outcrop association	15 to 50	Mountains	Colluvium residuum weathered from limestone	7 to 14	High	Very low	Zehme slope 1.00, sandy 0.01 Potosi gravel content 1.00, slope 1.00, dusty 0.50 Rock outcrop not rated
360	Rock outcrop-St. Thomas complex	15 to 30		Colluvium derived from limestone and dolomite over residuum weathered from limestone and dolomite	4 to 20	High	Very low	Somewhat limited large stones content 0.96, slope 0.92
411	Bludiamond-diamondhill association	2 to 8	Fan remnants	Alluvium derived from limestone and sandstone	21 to 39	Moderately high	Very low	Bludiamond, 0.34 Diamondhill 0.05
502	Canuto-Cave gravely fine sandy loams	2 to 8	Inset fans	Mixed alluvium	Greater than 60 inches	High	Low	Not limited
731	Purob-Irongold association	2 to 8	Fan remnants, fan piedmonts	Alluvium derived from limestone	14 to 20	Moderately high	Very low	Gravel content, 1.00 Dusty 0.50
732	Purob extremely gravely loam	8 to 30	Fan remnants, fan piedmonts	Alluvium derived from limestone	14 to 20	Moderately high	Very low	Gravel content, 1.00 Dusty 0.50

Source: NRCS 2007.

3.1.1 TRANSPORTATION AND RIGHT-OF-WAY

3.1.1.1 REGIONAL CONTEXT/REGULATORY REQUIREMENTS

Under Federal Highway Administration (FHWA) planning requirements, planning organizations must identify bicycle and pedestrian plans as part of their planning process. To comply with FHWA requirements, the RTC has developed a regional plan, with the goal to “provide for a regional alternative mode network consisting of paths, enhanced sidewalks, bicycle lanes and routes that form an interconnected, non-motorized transportation system for the Las Vegas Valley” (RTC 2008). As discussed in the Recreation section (3.8) of this document, the RTC reports that in the Las Vegas Valley there are 735 miles encompassing 385 bike routes that are either in place or planned for construction (RTC 2007). Included in this hiker/biker trail route is the current paved bike pathway located adjacent to SR-159 through the RRCNCA.

This section describes the existing motorized and bike transportation and traffic conditions within the RRCNCA, along SR-159, and SMRSP. Information from studies conducted by the interagency Transportation Assistance Group and NDOT was used to describe existing conditions.

3.1.1.2 EXISTING CONDITIONS

The RRCNCA Scenic Loop Dr received approximately 732,000 visitors from October 1, 2005, to September 20, 2006, and 710,000 visitors from October 1, 2006, through September 30, 2007, and the only access road to this drive is via SR-159 (BLM 2008f). The BLM predicts an approximate annual visitation of 1.0 to 1.2 million by 2021.

The NDOT has designated just over 8 miles of SR-159 as a Scenic Byway, which begins at the southern boundary of the RRCNCA area and ends at the eastern boundary of the RRCNCA (NDOT 2008b) (Zones 1 through 5).

The NDOT maintains three traffic count stations along SR-159 (traffic stations 30358, 30359, and 30360), and one station at the SR-160 interchange with SR-159 (traffic station 30361). Table 3-8 shows the location of the stations and average daily traffic (ADT) count for each station for the years 2002 through 2006 (latest information available). Although there have been surges and drops in traffic over the 5-year reporting time, overall the ADT has increased an average of at least 1,000 cars per day at these reporting stations.

The existing paved bike pathway along SR-159 is within a NDOT ROW through the RRCNCA. The NDOT collected informal bike counts along SR-159 in August 2005. These bike counts were taken during the weekday at the noon hour and between 3:00 and 4:00 PM. Only 9 casual bike riders were recorded during these timeframes. However, according to NDOT representatives, because of the time of day, the season, and that the count was taken during the week, the results are not considered indicative of the actual recreational bike use along SR-159, which is expected to be considerably higher (Sears 2008). The NDOT reports that in 2003 (latest figures available), there were three vehicle-related fatalities along SR-159 (NDOT 2003).

The 520-acre SMRSP is open year round and offers programs and activities throughout the year. The only entrance to the park is via SR-159, and the NDOT traffic counts include the visitors to the state park.

Table 3-8. Traffic Counts on SR-159

STATION NUMBER	ROUTE LOCATION	2002 ADT	2003 ADT	2004 ADT	2005 ADT	2006 ADT
30358	SR-159, 1 mile north of county road to Red Rock Canyon	4,150	3,650	5,100	4,550	5,300
30359	SR-159, 0.2 mile north of SR-160 (Pahrump Valley Rd)	2,250*	1,950	1,950	2,250	2,600
30360	SR-160, 0.3 miles west of SR-159 to Blue Diamond	7,550	7,450	8,050	8,600	8,850
30361	SR-160, east of SR-159 to Blue Diamond	8,600	8,600*	11,000*	9,550	9,750

*Data adjusted or estimated

Source: NDOT 2006



Zone Four - The existing trail with off-road bikers seen, near Wheeler

3.12 VISUAL RESOURCES

3.12.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

The Federal Land Policy and Management Act of 1976 (FLPMA) states, "...public lands will be managed in a manner which will protect the quality of the scenic (visual) values of these lands" (FLPMA 1976). The NEPA requires that measures be taken to "...assure for all Americans... aesthetically pleasing surroundings..." (NEPA 1969). To comply with these regulations, the BLM has developed a visual resource management (VRM) program that inventories and places federally administered lands into one of four visual resource inventory classes based on the relative value of the visual resource. The VRM class designations are arranged in ascending order with Class I indicating that the area is considered more visually distinct (and, therefore, valued). The following classes have been designated in terms of visual value for VRM purposes:

- Classes I and II are the more valued
- Class III represents a moderate value
- Class IV is of the least value

Following a VRM inventory, the BLM's 1998 RMP designated the RRCNCA as a Class II VRM area (BLM 1998a). The objective of Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic element of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The BLM's RMP allows a certain amount of visual modification or mitigation measures to lessen contrast so that a project will comply with the assigned VRM class, including:

- Selecting paint colors to camouflage constructed facilities
- Hiding proposed routes or roads from a popular overlook
- Rehabilitating or revegetating areas of existing high visual contrast

The RMP also states that proposed projects will undergo an individual visual analysis (BLM 2000). This project analysis for the hiker/biker trail and parking facilities includes a baseline inventory, which is an evaluation of existing conditions in terms of scenic quality evaluation, sensitivity level analysis, and delineation of distance zones. The proposed project is then evaluated on the level of possible changes using the same criteria.

3.12.2 EXISTING CONDITIONS

Sensitivity levels are the measure of public concern for scenic quality. Because of the existing disturbance along the road, the area immediately adjacent to the existing SR-159 would be considered medium sensitivity. Areas west of SR-159 would be considered high in sensitivity level because there are few man-made facilities along SR-159 to block the scenic view of the RRCNCA. While areas such as the Red Rock Vista Overlook and the Red Rock visitor center contain man-made structures, these structures are in place to enhance the visitors' experience by providing parking spaces and public facilities that serve to invite visitors to leave their vehicles to enjoy the view for an extended time.



Zone Two - Near SR 159. Trail would be placed in existing disturbance with physical barrier between the trail and road

Distance zones are divided into three classifications, and landscapes are evaluated based on the perceived quality of these viewing zones. Foreground-middle ground is visible to the observer and sensitive to change and includes areas seen from highways and viewing locations that are less than 3 to 5 miles away. Based on the project description, from SR-159 most of the Proposed Action would be within the foreground-middle ground zone. Unauthorized parking along SR-159 can alter the scenic quality in the foreground-middle ground zone, especially on weekends. Views from the Red Rock Vista Overlook provide foreground-middle ground zone views of the RRCNCA that are not interrupted by man-made structures, although the view is criss/crossed by unpaved bike/hiking trails from this overlook.

The background zone includes areas that are visible beyond the foreground-middle ground zone but are less than 15 miles from the viewer. This background zone in the project area would include views from SR-159 toward the Spring Mountains, which form the horizon.

The seldom seen zone is anything further than 15 miles from the viewer. Because of the backdrop of the Spring Mountains, there are few seldom seen zones from SR-159 within the Proposed Action. The proposed paved trail to be located along an existing trail in Zone 5 would provide the only seldom seen views.

Scenic viewing is the activity that attracts the highest percentage of visitors to the RRCNCA (BLM 2000), and the Proposed Action traverses the eastern length of the RRCNCA; therefore, there is a high level of sensitivity in the entire Proposed Action. Unpaved bike and hiking trails can be seen from many points along SR-159, but they blend in with the surrounding terrain in form and color. Exceptions



Zone Three - At the current Scenic overlook - note the biker along SR 159



Zone Three - Existing disturbance of area of proposed trail at teh Scenic Outlook

to the high sensitivity level include the proposed trailhead location at the Summerlin Trailhead on Sky Vista Dr and the connection to SR-160/Upper Blue Diamond Detention Basin, which are both developed urban areas and would be considered a medium level of sensitivity.

The BLM has already completed a visual resources inventory and designated the RRCNCA as a Class II VRM. This PEA evaluation includes a description of:

- the current view available to the casual observer while driving along SR-159;
- views that are currently available from existing disturbed trails (dirt roads); and
- views that are currently available to the casual hiker, but are accessible through off-trail walking.

The Proposed Action would include certain areas where the hiker/biker trail diverts from SR-159, and the current conditions are described where there are existing trails. Areas where the trail would be located in new disturbance are also included in this visual description, because the proposed new disturbance areas are currently available for the casual hiker. The Zones described in Section 2.1, Proposed Action, are used as reference points in describing the existing conditions.

Zone 1 The North Loop: The majority of the North Loop of Zone 1 would be removed from SR-159 and would involve new disturbance (Segments 1B to the north beginning point of 1I). Although there is currently no dedicated path along these Segments, casual hikers do have access to the area, and many places along the proposed hiker/biker trail provide exceptional scenic viewing. The proposed Overlook 1 in Segment 1F contains a view of high contrast of growth

patterns and terrain, especially when looking toward a deep wash that is visible from this overlook, which also offers distinct contrast in textures, color, line, and form.

There is an existing trail from the north beginning point of Segment 1I to Segment 1M, although this road is not visible from SR-159. Views along these Segments provide typical examples of the Mojave desert vegetation and associated color palette of the RRCNCA. The proposed Overlook 2, however, offers a panoramic view of the RRCNCA, with the dramatic contrast of texture, color, line, and form.

Zone 1 The South Loop: The majority of this portion of Zone 1 would be located in existing dirt roads or previously disturbed areas that are visible from SR-159 at Segment 1N, and again from Segments 1W through 1Y. The proposed Overlooks 3 and 4 have foreground-middle ground views toward the Spring Mountain Sandstone Hills to the west and background views of the Las Vegas Valley to the east.

Zone 2 Visitor Center Underpass to Exit Lot Trailhead: The majority of this Zone is within previously disturbed areas that are currently visible from SR-159. Views along these Segments provide typical examples of the Mojave desert vegetation and associated color palette of the RRCNCA, with the exception of the Overlook. The Overlook provides a panoramic view of the great variety of texture, color, line, and form of the RRCNCA. Views west of the Overlook valley floor are dominated by the color hues of green, gray-green and brown, and hike/bike trails are visible from this point, but are not dominate from this viewpoint.

Zone 3 Exit Lot Trailhead to Bonnie Springs Road: Segments 3A through 3C would be placed away from SR-159, in previously undisturbed areas. Because of the dense vegetation along these Segments, views are limited to the foreground-middle ground, but this provides a rare opportunity to view thick Joshua tree growth in this area of the Mojave, with the associated variety of texture and color that the vegetation would provide. There is currently no trail off SR-159 from Segments 3D through 3H.

Zone 4 Bonnie Springs Road to SRUPA: Segments 4A and 4B near Oliver Ranch provide views of the transition zone between the Mojave desert scrub and blackbrush vegetation zones that are not available from SR-159. This unpaved trail is currently available for mountain biking and hiking activities. These segments contain contrast of growth patterns and terrain, which includes changes in texture, color,

line, and form and provides an exceptional scenic quality view of the RRCNCA.

The remaining Segments of Zone 4 are within existing disturbance and may be seen from SR-159.

Zone 5 Trailhead at SRUPA to Blue Diamond Detention Basin: The existing trail in Zone 5 provides scenic quality views of the Mojave desert scrub community that are currently only available in conjunction with mountain biking and hiking activities. This area contains less contrast in color and form than at Oliver Ranch but provides unbroken vista viewing that is not available from either SR-159 or SR-160.

3.13 WATER RESOURCES

3.13.1 REGIONAL CONTEXT/ REGULATORY REQUIREMENTS

Water resources include the surface and groundwater sources. Because of the mobile nature of water, the area of discussion is expanded in this section to include water flowing immediately upstream and downstream from the Proposed Action.

3.13.2 EXISTING CONDITIONS

There is no surface water within the Proposed Action except for ephemeral flows in washes during major rain events. The activities associated with the hiker/biker trail are not such as to cause any degradation of water quality during the ephemeral flow events or to subsurface water sources. Therefore, water quality is not discussed in this section; however, water resources are discussed in context with the ephemeral flow and drainage potential.

The US Geological Society (USGS) maintains a database of groundwater sources and depths. Seven wells are located within 1 mile of the Proposed Action alignment; however, not all of the wells are regularly monitored for depth to water levels. Table 3-9 provides information on the wells and monitoring status, and Figure 3-6 shows the location of these wells in a north to south order.

Water quality data for these wells are not available; however, shallow groundwater (from 0 to 50 ft below ground surface) typically has high salinity.

Table 3-9. Depth to Water Level of Wells near the Proposed Action Alignment

WELL NAME/ID	DEPTH TO WATER LEVEL (2004 – 2008)	STATUS
ID 1233	N/A	Capped
ID 1234 – Visitor Center	406 feet. Sealed system, and not monitored for depth to water.	Currently used for water system at the visitor center. Water is treated with chlorination prior to use.
ID 1235	N/A	Well was drilled but was dry and is capped.
Bonnie Springs Monitoring Well	30 – 40 ft ¹	BLM regularly monitors this site and reports data to USGS.
Oliver Ranch Production Well	30 – 60 ft ¹	BLM regularly monitors this site and reports data to USGS.
Oliver Ranch Monitoring Well	30 – 50 ft ¹	BLM regularly monitors this site and reports data to USGS.
Wheeler Camp Spring Well	13 – 18 ft ²	BLM regularly monitors this site and reports data to USGS.
¹ Anomaly year 2005 depth to water level at 5 ft		
² Anomaly year 2005 depth to water level at 3 ft		

Source USGS 2008, BLM 2008g

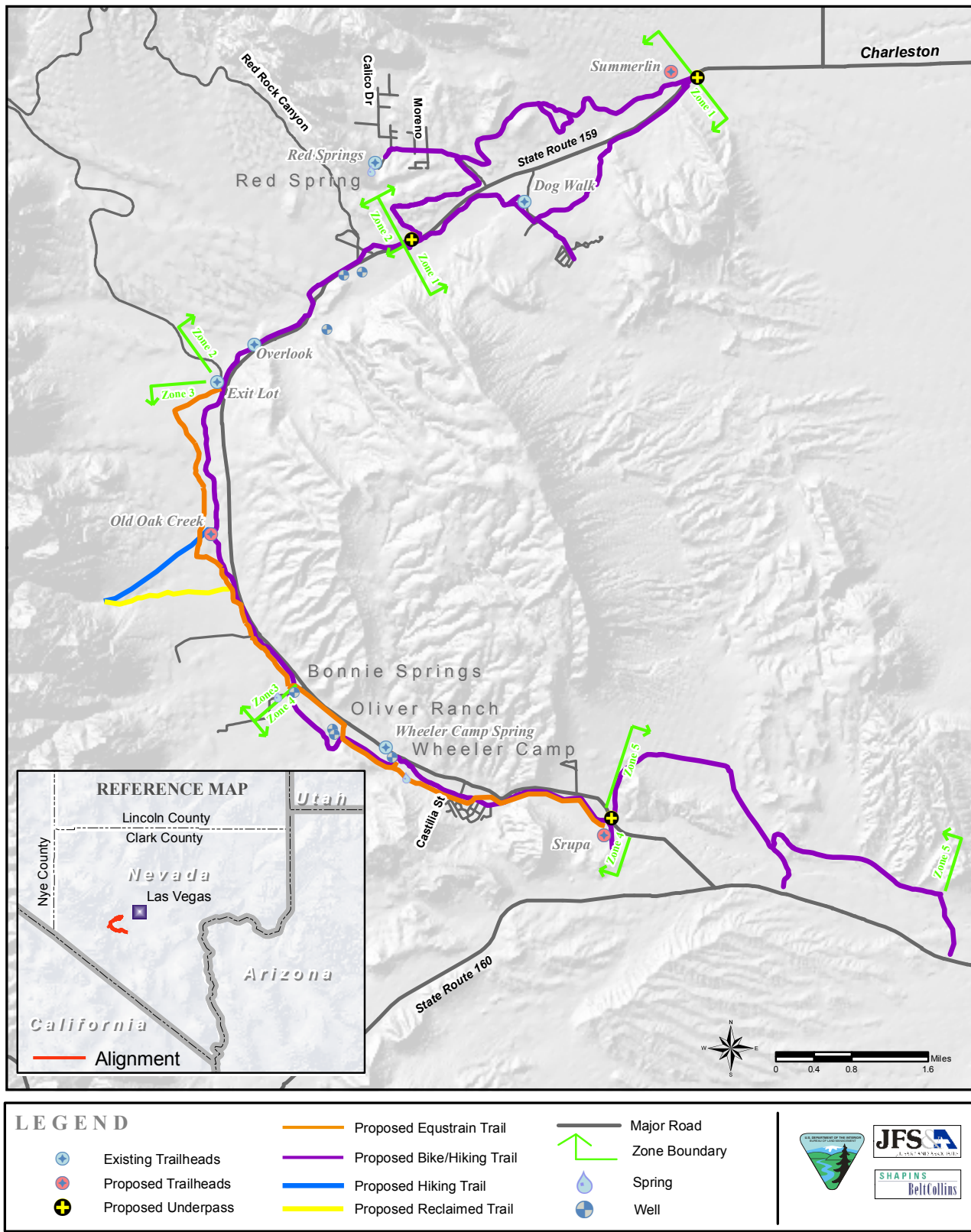
Water quality data for these wells are not available; however, shallow groundwater (from 0 to 50 ft below ground surface) typically has high salinity.

Certain areas of the Proposed Action are within floodplains and/or wetlands, and these resources are discussed in separate sections of this PEA.



Zone Four - Dry wash near Wheeler

Figure 3-6. Springs and Wells near the Proposed Action Wetlands and Riparian Zones





Zone Four - Near Wheeler Camp Spring At location of proposed trail

3.14 WETLANDS AND RIPARIAN ZONES

3.14.1 REGIONAL CONTEXT/REGULATORY REQUIREMENTS

Wetland and riparian communities provide habitat for a variety of plant and animal species and are considered a valuable natural resource especially in a desert environment. The BLM RMP Record of Decision states that “new trail proposals must be at least ¼ mile from springs and riparian areas, unless specifically designed to interpret those resources. Where feasible, realign existing trails to avoid springs and riparian areas” (BLM 2000).

3.14.2 EXISTING CONDITIONS

A total of 40 springs have been identified within the RRCNCA; and two springs are located within 1 mile of the Proposed Action. The Proposed Action centerline would be located approximately 1,145 ft from the Lone Willow Spring in Zone 3, Segment 3H, and approximately 490 ft from the Wheeler Camp Spring in Zone 4, Segment 4D, which places the Wheeler Camp Spring within ¼ mile from the proposed hiker/biker trail (Figure 3-6). The Wheeler Camp Spring is perennial with a 30.0 gallon per minute discharge recorded in May 1995. The spring is considered important bird habitat and has the highest bird species diversity in the RRCNCA (BLM 2000).

3.15 WILD HORSE AND BURRO

3.15.1 REGIONAL CONTEXT/REGULATORY REQUIREMENTS

The Wild Free-Roaming Horses and Burros Act (1971) directs the BLM to manage, protect, and control wild horses and burros in areas where they were found in 1971. The BLM was directed to evaluate areas to determine if it has food, water, cover, and space to sustain a healthy and diverse wild horse and burro population over the long term, and areas that meet the criteria are designated as HMAs. In an effort to sustain the health and productivity of public lands, the law also authorizes the BLM to remove excess wild horses and burros from the range. Nearly half of the wild horses and burros in the United States live on Nevada rangelands managed by the BLM. The current total population in Nevada is approximately 16,642 wild horses and 819 burros (BLM 2009c)

3.15.2 EXISTING CONDITIONS

Because of the mobile nature of burros and horses, the entire Red Rock HMA located in the RRCNCA is discussed in connection with the Proposed Action. Wild horses and burros are managed in accordance with their normal use patterns, and provisions are made to ensure the water supply for these species. Conditions of vegetation for forage are also monitored. The HMA consists of approximately 220,000 acres, and available water sources are found in the mid-range elevations along the slopes of the Spring Mountain range. During the hot months of the year, the burros occupy areas characterized by ravines, which supply shade, while horses tend to occupy the open country, and during the cooler season, horses and burros use all the HMA, including the Proposed Action. According to the BLM, the Appropriate Management Level is 16 to 27 wild horses and 29 to 49 burros (BLM 2004b). When a herd is determined to exceed the Appropriate Management Level, the BLM will gather and remove excess wild horses and burros. These excess animals are then available for adoption. In 2008, one special needs burro and one nuisance wild horse were removed and adopted.

Wild horses and burros generally foal beginning in March; however, some mares and jennies will foal throughout the year.

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CHAPTER 4.0 ENVIRONMENTAL EFFECTS

The BLM manages the RRCNCA under a RMP and the associated ROD (BLM 2000, 2005). The RMP management objectives feature promoting biodiversity, some reduction to dirt road access, and a moderate enhancement of the trails network.

This Proposed Action is in conformance with the RMP ROD meeting the plan's primary management direction "to conserve and protect the natural resources" and "to provide recreation opportunities allowing the public to enjoy and appreciate the unique natural setting which composes Red Rock Canyon" (BLM 2005).

As part of the RMP, MEAs were developed to "provide a framework for indicating management intent for a particular geographic area and for evaluating appropriateness of future actions and proposals" (BLM 2005). The MEAs identified four zones and the associated management directives and activities to be allowed within each zone. As stated in Section 1.6.2, the Proposed Action would be placed within three of the four MEAs: the Developed, Roaded Developed, and Roaded Natural, and the management directives are as follows:

Developed:

- *Substantial modification of natural environment*
- *Intensified motorized use and parking available*
- *Human interaction level moderate to high*
- *Onsite controls obvious and facilities widely available*
- *Law enforcement moderately visible*

Roaded Developed

- *Recreation activities rely on and are consistent with the natural environment*
- *May include paved roads and buildings, but the design should blend with the natural environment*
- *Human interaction level moderate to high in more developed portions and low to moderate elsewhere*
- *Onsite controls, facilities, and law enforcement noticeable*

Roaded Natural

- *Developments limited to improved access and those consistent with the natural environment*
- *The recreational experience is based on the natural setting*
- *May include roads, trails, and camping areas (new improvements for resource protection only)*
- *Human interaction level is low to moderate, more often on the low side*

- *Onsite controls present, but subtle*
- *Includes areas with existing dirt roads*

All parking facilities will be located in the Developed or Roaded Developed MEAs and will, therefore, comply with the general management principles as designated in the RMP. Some of the hiker/biker trail will be located in each of the three MEAs, and the impacts associated with these MEAs would be viewed in context of the allowed actions specific to each area. Where the hiker/biker trail has diverted from the Developed or Roaded Developed, the design elements have been specifically designated to adhere to the management directives for the Roaded Natural areas. Therefore, in general, the Proposed Action would be in compliance with the MEA guidelines for appropriate actions in the RRCNCA.

4.1 ASSESSING IMPACTS

This chapter identifies and evaluates the potential direct, indirect, and cumulative impacts of the Proposed Action and the No Action alternatives in relation to the allowed activities as defined in the BLM's RMP directives for the specific resource protection. The meaning of impacts or effects is the same, and impacts are considered in terms of direct (caused by the action), indirect (occurs later in time but is related to the action), or cumulative (impacts in relation to other planned actions as seen in combination with the Proposed Action).

As described in Chapter 3, the project is defined as the 100-ft alignment (and in certain areas 300-ft) within which the Proposed Action paved hiker/biker trail would be placed. The descriptions of the affected environment presented in this chapter provide a level of detail needed to assess the range of potential impacts that may occur as a result of the implementation of the Proposed Action, as well as the No Action alternative. Certain resource impact evaluations, such as air quality and water resources, require that the parameters of the Proposed Action be defined as more than the 100 or 300 ft alignment, and these expanded evaluation parameters are defined when this is necessary.

In this section a comparison of impacts is made, and the mitigation measures are identified. The impacts analysis and mitigation measures have been prepared using the guidelines as designated in the RMP Standard Operating Procedures for each resource area, as well as the ROD

Final RMP directives. Regulations or BLM policies may be applied broadly or be site specific when designating mitigation measures in this PEA. Additionally, because of future trail connections and development on BLM-administered lands, a programmatic approach to mitigation measures is also presented. Subsequent NEPA analyses tiered to this PEA may be prepared when site-specific impacts cannot be avoided or mitigated as specified herein. In most cases, a BLM DNA will be sufficient for Tier 2. Where applicable in each individual resource section, the Zones as described in Chapter 2 of this PEA, have been used (Figure 2-1 and Appendix B).

The BLM has contracted to have the entire project area surveyed using LiDAR, which is a remote sensing system used to collect topographic data. Using data from the LiDAR survey, the BLM has contracted to prepare a planning level Construction Cost Analysis Report for the Proposed Action. The cost analysis will be used to help determine a priority sequencing for construction of the Proposed Action. The LiDAR data will be used by applying Eaglepoint software applications to assist in the development of profiles of the Proposed Action and the general earthwork (cut-and-fill slopes) based on the corridor centerline and to develop design criteria. These design criteria will assist in Tier 2 decision making by assuring that the alignment-related mitigation measures will be followed and that the least amount of earth disturbing activities will occur.

4.2 AIR QUALITY

Certain regulatory considerations for air quality must be addressed as part of this PEA. This section describes the significance criteria and the methodology used for analyzing potential effects. It also analyzes potential air quality impacts for the Proposed Action and the No Action alternative.

As described in Section 3.2, the RRCNCA is not in an area determined to be in nonattainment for O₃, and therefore, emissions of this criteria pollutant will not result in a violation of the 8-hour standard. Also, the EPA is currently redesignating air quality emissions of CO, and there have not been any exceedances of CO since 1998. Therefore, the only criteria pollutant in question is PM₁₀. As described in Section 3.2, the nearest air quality monitoring station to the RRCNCA is located at the CertainTeed Mine, which is in compliance with all emission standards.



Zone Three - The existing disturbance at Old Oak Creek area for parking

The EPA's guidance for serious PM_{10} nonattainment areas provides that best available control measures and best available control technology are required to be implemented for all source categories unless the State demonstrates that a particular source category does not contribute significantly to PM_{10} levels in excess of the NAAQS. As part of this action, EPA approved a series of rules adopted by the DAQEM that control fugitive dust sources, including disturbed vacant lots, construction sites, unpaved roads, paved roads, and unpaved parking lots. Under these rules, any construction activities covering an acre or more are required to obtain an air quality permit (DAQEM 2008b). Projects located on federal lands in nonattainment areas are subject to conformity regulations (40 CFR 93.153). These regulations require that the impacts from implementation of a project (in this case, construction of the bike trail and parking facilities) be in conformance with the SIP. In determining if a project is in compliance with the SIP, the potential pollutant emissions from direct and indirect sources associated with the project are estimated and compared to major source thresholds. If the potential emissions are less than the threshold values, no future analysis is required. The threshold value for serious nonattainment areas for PM_{10} is 70 tons per year (40 CFR 93.153). The conformity determination is completed by the federal agency that is sponsoring the project.

For the purposes of this PEA, impacts on air quality are considered adverse if:

- emissions of any nonattainment pollutant exceed conformity thresholds and generate the need for a conformity determination; and
- emissions are not in conformance with any Clark County SIP (that is, cause or contribute to a new violation of any ambient air quality standard, aggravate

existing violations of any ambient air quality standards, or delay attainment of air quality standards).

Impact thresholds were established to determine if the Proposed Action would have an effect on air quality in the RRCNCA as follows:

- *No measurable impact:* All dust from construction activities can be controlled by mitigation.
- *Temporary minor impacts:* Dust from construction activities is visible for brief periods and only during the work period, but most can be controlled by mitigation.
- *Temporary moderate impacts:* Dust from construction activities is visible for an extended area for an extended period, but is reduced by mitigation. Smoke and exhaust fumes are detectable in high-use areas.
- *Temporary major impacts:* Dust from construction activities is visible for an extended area for an extended amount of time, and mitigation is unable to alleviate the conditions.
- *Continual impairment:* Air quality is degraded over the long term to the point that the RRCNCA RMP directives could not be fulfilled and the visitor experience is negatively affected.

4.2.1 DIRECT EFFECTS

4.2.1.1 PROPOSED ACTION

The construction of the trail and facilities is expected to produce emissions of certain criteria pollutants from construction equipment and activities. However, the construction activities would be considered to have no measurable, to temporary minor impacts on air resources because the majority of all dust from construction can be controlled by mitigation.

Because the designated use of the bike trail will not include motorized vehicles, the trail is not expected to cause emissions of the criteria pollutant of PM_{10} . However, the proposed parking lots for equestrian use will not be paved, and a small amount of PM_{10} is expected to be released into the atmosphere from use of these unpaved lots; however, it is expected that there will be no net gain in PM_{10} emissions from the unpaved equestrian lots, because the parking along SR-159 will be closed, with the associated drop in emissions in the unauthorized areas.

4.2.1.2 NO ACTION

Non-paved areas that are currently designated for parking would continue to provide parking for the casual hiker/biker. Because these parking areas would not be paved, a greater amount of particulate matter would continue to be disturbed than would occur under the Proposed Action. The unauthorized parking along SR-159 would be expected to continue, with the associated disturbance to the non-paved (dirt) surface from automobile tires. Continued acceleration of visitorship in the RRCNCA is expected, with the associated rise in airborne PM_{10} pollutants that would be emitted from use of extra vehicle traffic, off-road biking, and equestrian activities.

4.2.2 INDIRECT AND CUMULATIVE EFFECTS

4.2.2.1 PROPOSED ACTION

The use of the hiker/biker trail would not cause an appreciable rise in the release of pollutants because it would be designated as a non-motorized trail. Proper maintenance of the trail (removal of loose dirt especially following a storm event) would ensure that PM_{10} emissions would be minimized. However, the availability of parking and the associated facilities for the hiker/biker trail is intended to serve as an incentive to the public to use the trail. This means that more people would be using cars to access the parking and that more criteria pollutants would be released into the atmosphere as a result of these activities.

The Proposed Action, in connection with other proposed bike trails in the Las Vegas Valley, will contribute to PM_{10} only in circumstances where people will need to drive to a parking area to stage their departure onto the trail system. As the trail system is expanded from the RRCNCA into neighborhoods, fewer people would need to drive to a parking area. However, as the population in Clark County expands, more people will be accessing the trail system.

4.2.2.2 NO ACTION

The indirect effects on Air Quality as a result of the No Action alternative that would occur are the same as the direct effects.

4.2.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

In general, the impacts on air quality are anticipated to be minor, temporary, and short-term in nature. Localized emissions of PM_{10} would likely occur as a result of the construction activities involving soil disturbance and movement of construction equipment. However, the use of water during construction activities and the application of the type of trail cover, such as asphalt or concrete, would reduce the potential emissions.

The Clark County DAQEM has implemented a dust control permit program wherein all construction activities over an acre in size in the Las Vegas airshed are subject to the permit process. The DAQEM would be consulted, and a determination by the DAQEM for the permit may be required. The contractor conducting the actual earth moving work would be responsible for obtaining all air quality permits through the Clark County DAQEM. These permits would be required for any construction phase of the project and will need to be addressed individually for any Tier 2 activities. The next stage of this PEA will include levels of dirt removal based on Eaglepoint findings (such as the amount of earth excavated). The Final Construction Cost Estimate and Design Guidelines being prepared in conjunction with this PEA will be submitted to the BLM and referred to during the air quality permitting process.

Although release of PM_{10} from this project cannot be eliminated altogether, ongoing maintenance of the trail and the associated facilities will ensure that the release of PM_{10} will remain minimal, thereby reducing the residual effects. The RMP does not set specific standards for maintaining paved surfaces, but the BLM will be responsible for maintenance of the trail and parking areas in accordance with their management directives for any paved roads in the RRCNCA.

4.3 BIOLOGICAL RESOURCES

The RMP directs the BLM to ensure that wildlife, migratory birds, vegetation, and TES species be monitored and protected in the RRCNCA and that discrete habitat niches for species be avoided if possible (BLM 2000). Effects on biological resources would be considered adverse if a disproportionate number of wildlife, migratory birds, or vegetation were displaced or destroyed, or if existing habitat

were fragmented. Effects on TES would be considered adverse if activities resulted in the taking of a species, or if disruption to critical habitat were to occur.

The BLM has received a Programmatic Biological Opinion (PBO) for Implementation of Action Proposed in the RRCNCA RMP and Red Rock HMA Activities, wherein “if the anticipated effects from the proposed project are consistent with those anticipated in the PBO, there would be no impact on TES species” (USFWS 2004a). A portion (8.8 acres, or 5.2 linear miles at 14-ft wide) of the Proposed Action is within BLM land, but not located within the RRCNCA. The new disturbance on this BLM-managed land would be approximately 1.7 acres (1 linear mile). The PBO for this area allows for the new disturbance of 40 acres or less to proceed without further consultation unless BLM lands have been identified to contain or are adjacent to occupied Las Vegas buckwheat habitat (USFWS 2004b).

4.3.1 DIRECT EFFECTS

4.3.1.1 PROPOSED ACTION

Wildlife

The Proposed Action would cause a permanent displacement of wildlife species along the bike trail alignment. However, because of the level of new disturbance expected with this project in relation to the overall size of the RRCNCA, and the abundance of wildlife habitat in the area, this would not jeopardize the continued existence of any of those species.

Migratory Birds

With the exception of the initial construction, biking activities on the hiker/biker trail and in the parking areas would not have an impact on migratory birds. During construction, there is a possibility that migratory bird nesting could be impacted, but the implementation of mitigation measures prior to construction would reduce the potential impacts to a negligible level. Migratory birds, including the BLM sensitive species the western burrowing owl, may be present on the project site.

Vegetation

Construction of the Proposed Action would result in the permanent removal of existing vegetation along the alignment. The impacts would not be substantial because the trail alignment design is located in areas where approximately two-thirds of the footprint is already partially cleared by foot/equestrian travel. No clearing of riparian or wetland vegetation communities will occur.

The First Creek Trailhead parking areas and trail are proposed to be closed. The proposed new First Creek Trail would begin at the parking facility at Old Oak Creek (Zone 3) and would be the same length as the existing trail that currently begins at the First Creek Trailhead. The existing trail will be revegetated with native species and use any cacti that are salvaged from the new trail.

Nevada State protected cacti and yucca species exist on the project site at moderate densities. In addition to using previously disturbed alignments, the 100-ft and expanded areas of the 300-ft trail alignment study areas were designed to avoid the unnecessary removal of large cacti and yucca, such as the Joshua trees, and impacts on these species would be minimal. Additionally, most of the remaining yucca and cacti that would need to be displaced may be salvaged prior to construction activities.

Noxious Weeds

Under the Proposed Action, construction activities and equipment may introduce and spread noxious weeds in the project site; however, implementation of appropriate mitigation discussed below would reduce this potential impact to a negligible level.

Endangered, Threatened, or Species of Concern

Per Figure 2 of the Las Vegas Valley PBO, there is no identified Las Vegas buckwheat habitat in the Proposed Action alignment (USFWS 2004b).

The federally threatened species Mojave desert tortoise has been documented near the project alignment (Figure 3-3). Habitat loss and degradation are major threats to the recovery of this species. The Proposed Action would create as much as 99 acres of new disturbance, of which 45.55 acres of temporary construction disturbance would be restored. The Proposed Action would also take advantage of 36.10 acres of existing disturbance, such as gravel roads, trails, and other disturbed areas. In addition, 6 acres of disturbance at the existing First Creek Trail and Trailhead would be restored following the construction of a new trailhead at Old Oak Creek, from which a new First Creek Trail alignment would be constructed to provide access to First Creek. Therefore, the maximum (worst-case scenario) total acres of potential desert tortoise habitat from new disturbance would be 99 acres. A more detailed breakdown of disturbance is provided in Table 2-1. Disturbance in each zone is also summarized at the end of each zone description (see Section 2.1.2).



Zone Three - Resources such as strands of Joshua trees will be avoided from any disturbance

Potential effects may include permanent or temporary disturbance to habitat, and based on the protected status of the species, the mitigation measures outlined below would be required. Tortoise burrows not observed during clearance surveys could be filled in, thereby entombing the occupant. Although no resident desert tortoises were observed within the project area, its proximity to surrounding areas in which tortoises are known to occur suggests there is the potential for individuals to wander into the project area. Desert tortoises that wander into the project area may be directly harmed (injured or killed) by heavy construction equipment. Displaced tortoises may also wander into the new areas subjecting themselves to increased incidences of predation and illegal harassment. However, the project alignment is located in an area considered low density for tortoise. Additionally, areas that are currently disturbed and locations adjacent to SR-159 do not typify desirable burrowing habitats. Therefore, the impacts on the tortoise and tortoise habitat are considered minor.

The majority of the Species of Concern that have been identified in the project area are centralized around existing springs, especially at Red Springs (Figure 3-3). The proposed alignment will not disturb any existing habitat at Red Springs and, therefore, there are no expected impacts on these riparian dependent species. Of the remaining NNHP species of concern, or BLM or Nevada State species of concern, the following may be impacted by the Proposed Action (based on recorded sitings and the project alignment):

- Banded Gila monster
- Peregrine falcon
- Blue Diamond cholla
- Rosy twotone beardtongue
- Spring Mountains milkvetch
- White bearpoppy
- Yellow twotone beardtongue

Possible habitat for the Gila monster is in Zones 1 and 5 of the Proposed Action, but sitings of the banded Gila monster are rare because they spend the majority of the year in underground burrows. Impacts on the Gila monster from construction activities may occur as a result of the Proposed Action; however, the survey and avoidance measures outlined below would serve to minimize adverse impacts.

The NDOW identified an active breeding territory for the peregrine falcon in Zone 4 and reported it to BLM in a letter dated June 24, 2009. Impacts on the falcon may occur as a result of the Proposed Action; however, the survey and avoidance measures outlined below would serve to minimize adverse impacts.

The remaining Species of Concern are all plants that could be impacted by both construction and continued use of the proposed hiker/biker trail. The environmental study area of the alignment is 100-ft wide to 300-ft wide in certain areas. One of the reasons for studying this wide of an alignment was to make it possible to avoid populations of TES populations or habitats. Proper surveys prior to construction as outlined below would help to avoid populations and to minimize adverse impacts.

Also, with any opening up of previously unused wild areas, there is always a possibility that the public will stray from the designated pathways, which could result in unintended impacts on TES species.

4.3.1.2 NO ACTION ALTERNATIVE

Wildlife

Areas that are currently open to public access would remain the same. As use in the RRCNCA continues to grow, minor impacts on wildlife would continue. However, because of the abundance of wildlife in the area, this would not jeopardize the continued existence of any of species.

Migratory Birds

There would be no change on current conditions, and therefore, impacts on migratory birds would remain the same.

Vegetation

There would not be any impact on existing vegetation, and BLM would continue vegetation management practices as outlined in the RMP.

Noxious Weeds

The spread of noxious weeds is oftentimes associated with construction activities. However, it is not just the construction activity that causes the spread of weeds, it is the disturbance of land and the associated possibility for invasive species to spread unchecked from other colonies. Therefore, under the No Action alternative, if unauthorized parking were to continue and expand into previously undisturbed roadside areas, the possibility of invasion of noxious weeds remains higher than that of the Proposed Action because the BLM does not have a maintenance schedule for the areas along SR-159 that have been disturbed through unauthorized parking.

Endangered, Threatened, or Species of Concern

Because no action would be undertaken and present conditions would remain the same, there would not be any impacts anticipated on TES or habitats. Because there are no known nests or burrows or plant colonies located directly adjacent to SR-159, any additional unauthorized disturbance along the roadway would not likely cause impacts on TES.

4.3.2 INDIRECT AND CUMULATIVE EFFECTS

4.3.2.1 PROPOSED ACTION

Added use of the proposed trail and facilities could result in permanent movement by wildlife and migratory birds to avoid the trail areas, but because of the abundance of available habitat in the RRCNCA, these indirect and cumulative impacts would be considered minimal. Vegetation would continue to be managed under the guidelines in the RMP, and no indirect or cumulative impacts are expected to occur. However, because of the closure of unauthorized parking along SR-159, and the associated revegetation of these areas, vegetation along this roadway would experience a long-term improvement.

No critical habitat is designated for any TES species in the project area. However, the indirect effects of the Proposed Action are the consequences associated with the construction of the trails and the potential increase in human activities in the RRCNCA as the proposed trails will accommodate far more recreational biking, jogging, hiking, dog walking, and other non-motorized vehicular activity. Furthermore, human activities on surrounding lands could be impacted by illegal trails being developed, which would reduce habitat quality, increase chances for tortoise encounters, and displace resident tortoises in the area. As displaced tortoises move into areas with other tortoises, the competition for forage increases and during drought years, this competition can have lasting effects on the vegetation communities, as well as the desert tortoise population. Increased tortoise densities may lead to increased encounters and spread of disease, thus reducing overall population health. Increased tortoise densities would lead to increased competition for shelter. Displaced tortoises would be exposed to increased predation as they learn new surroundings and find shelter.

As proposed, the project will likely have an impact on two BLM special status plants. The Blue Diamond cholla and the rosy twotoned beardtongue. Both Red Rock Canyon and Sloan Canyon NCAs are very important to the conservation of these plant species. By itself, the Proposed Action is not likely to cause a trend toward listing; however, cumulatively the Proposed Action, coupled with threats from invasive non-native species, fire facilitated by non-native grasses, urban development, and BLM recreation projects, could result in cumulative effects on both species.

4.3.2.2 NO ACTION ALTERNATIVE

Wildlife and migratory birds would not experience any indirect or cumulative impacts under the No Action alternative because there would not be any change to their habitat. Vegetation along SR-159 would continue to be disturbed through unauthorized parking along the roadway and may possibly be further disturbed as new areas for parking are used, thus spreading the possibility of noxious weed invasion.

4.3.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

The proposed hiker/biker trail would not cause fragmentation to habitat because (1) it would be located near the existing paved SR-159, which has already fragmented any

habitat, or (2) in places where the trail is removed further from SR-159, such as in Zone 3, the width of the trail (10-ft), and designated non-motorized use of this trail would not cause species fragmentation.

4.3.3.1 WILDLIFE MITIGATION

There may be a small loss to wildlife as a result of construction, and wildlife will be avoided if sighted during construction. Mitigation measures outlined for Migratory Birds and TES species would serve to protect wildlife as well. However, because the loss is expected to be minimal, no formal mitigation measures will be taken.

4.3.3.2 MIGRATORY BIRDS MITIGATION

Under the MBTA (1918), nests (nests with eggs or young) of migratory birds may not be harmed or killed. All clearing of vegetation with equipment for trail construction will only be conducted outside the avian breeding season, which generally occurs between March 15th and July 30th to avoid the “take” of migratory birds or their nests. If this is not feasible, then a qualified biologist will be retained to survey the alignment prior to construction. If nests are located, or other evidence of nesting is found, a protective buffer would be delineated and the area avoided to prevent destruction or disturbance to the nests until they are no longer active (USFWS 2008b).

4.3.3.3 VEGETATION MITIGATION

Construction of the Proposed Action would result in the permanent removal of existing vegetation and displace common wildlife species that inhabit these areas or use them for forage or cover. Any disturbance outside the 10-ft hiker/biker trail along the 100-ft or 300-ft study alignment

will be revegetated with native species, and the impacts would not be substantial because the loss is expected to be minimal. The RMP does not set specific vegetation data but does address the goal of maintaining a basal cover for native grasses, and the vegetation management goals will continue to be adhered to by the BLM as set forth in the RMP.

In areas with high and moderate densities of cactus and yucca, BLM requires all private and federal project proponents to salvage and transplant the plants. The Proposed Action alignment contains areas with high and moderate densities of cactus and yucca. To demonstrate good faith with the public, BLM will salvage and transplant all cactus and yucca within the project footprint. BLM will choose to use the salvaged plants for revegetation of disturbed areas or as “native landscaping” at trailhead locations. All salvaged cactus and yucca will be watered at least once a month for 12 months following transplant to ensure survival. The salvage will be conducted with a qualified contractor with at least 3 years of documented experience salvaging and transplanting native plant materials. The RRCNCA is a R1: High Priority Restoration area. The restoration goal in R1 areas is to return project impacts to pre-disturbance conditions, and any restoration completed for the proposed project will comply with BLM restoration guidelines and objectives.

The Final Construction Cost Estimate and Design Guideline document will describe in detail the location and avoidance measures for cacti clusters to be taken in each specific Zone for this project. Specific salvage or relocation measures would be determined during the Tier 2 process and would be segment-specific based on the proposed alignment.

4.3.3.4 NOXIOUS WEEDS MITIGATION

Prior to construction, a weed survey will be performed using the protocol established in the BLM Las Vegas Field Office Noxious Weed Plan (BLM 2006b). Additionally, ground disturbance will be limited to the minimum area needed for construction in the project site, and guidance for compliance with this measure will be outlined in the final construction documents for each phase of this project. Proposed weed treatments will be outlined in the weed plan. Potential mitigation measures include treatments preceding construction to reduce seed bank and population, treatments during construction to reduce spreading seed bank, and withholding revegetation efforts for a growth season to ease treatments.



Rosy twotone beardtongue

4.3.3.5 ENDANGERED, THREATENED, OR SPECIES OF CONCERN

All activities will adhere to the mitigation measures as described in the RRCNCA and the Las Vegas Valley PBOs (USFWS 2004a, 2004b). Although this PEA has assessed impacts from this project using a 100- to 300-ft wide corridor, and the worse-case scenario of disturbance has been identified, at this level (Tier 1) the exact alignment and amount of expected disturbance are not known. The BLM will submit a request to append the PBO to the USFWS when the exact alignment for the trail has been determined using the LiDAR technology described in the Project Description (Section 2.1 of this PEA). Prior to the submittal for the appended PBO, the BLM will conduct a survey of the alignment to determine the presence/absence of the desert tortoise. All mitigation measures that the USFWS identifies in connection with this appended consultation will be adhered to and will be incorporated into the Tier 2 documentation.

Construction staging will be limited to previously disturbed areas and will be clearly marked for the construction crews. Construction disturbance for newly disturbed land for any phase will be kept at a minimum, and construction equipment will stay within the 100-ft (or 300-ft where applicable) study corridor. A BLM/USFWS-approved biologist will present a tortoise education program to all foremen, workers, permittees, and other employees or participants involved in projects at the Tier 2 level.

Intensive surveys of TES species and habitats would be required within 48 hours prior to any surface disturbing activities as part of specific project development for any phasing of this project undertaken in Tier 2. In addition, studies conducted during Tier 2 would be coordinated with the USFWS to identify ways to minimize impacts on TES species, including construction scheduling, such as seasonal and day-night restrictions. Permits will be required from the USFWS and BLM prior to any tortoise surveys. TES surveys will include surveying vegetation species.

To prevent considerable cumulative impacts on the Blue Diamond cholla, the hiking and equestrian trails in Zone 5 of the Proposed Action will be routed away from potential habitat to avoid impacts. To minimize cumulative impacts on the rosy twotoned beardtongue, the proposed trail and trailheads will be situated outside habitat for the plant as much as possible. Habitat for the rosy twotoned beard-

tongue includes washes and adjacent areas subject to periodic disturbance. If practical, a display describing the species and BLM's conservation concerns will be set up at key locations on the system to educate the public to minimize visitor use impacts on the rosy twotoned beardtongue and to make the public aware of the plant and avoid trampling and picking its flowers. Because hybridization with Palmer's penstemon (*Penstemon palmeri*) is a known threat to two-toned penstemon, any seed mix used for project revegetation must not contain Palmer's penstemon. At a minimum, signage will be placed at strategic places along the trail, informing the public of the TES species in the area, and requesting that these species not be harassed in any manner.

4.4 CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

As explained in Section 3.4, the RRCNCA currently operates under a PA with the Nevada SHPO, and the BLM has defined the APE as coterminous with the project corridor, except in the Red Rock Wash area, where site stewards have previously reported undocumented rock-ring features.

4.4.1 DIRECT EFFECTS

4.4.1.1 PROPOSED ACTION ALTERNATIVE

Under the BLM State Protocol Agreement pursuant to the PA between BLM and SHPO, the BLM has issued a finding of *no historic properties affected* for the undertaking. In addition, the BLM has determined there are no Native American issues concerning the undertaking. A copy of the findings determination can be found in Appendix E.

4.4.1.2 NO ACTION ALTERNATIVE

If no action is undertaken, no historic properties would be affected. However, some features, such as the rock-rings near major drainages that are currently being used as trails in the area, run the risk of damage and vandalism with a projected increase of visitation over time. The No Action alternative would not directly contribute to the continuation of this threat, although without a designated trail system, there is a possibility that future adverse effects may indirectly result from unconstrained pedestrian use of the area.

4.4.2 INDIRECT AND CUMULATIVE EFFECTS

4.4.2.1 PROPOSED ACTION

There is the possibility that a future connection at the southern end of the trail (Zone 5) may have sites within drainage system confluences.

4.4.2.2 NO ACTION ALTERNATIVE

Indirect effects are the same as direct effects under the No Action alternative.

4.4.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

Although no cultural resources have been identified in the project area, as each Zone or Zone segment is identified for development of the hiker/biker trail, the BLM will conduct an internal survey for cultural resources. The BLM will ensure that design measures will either shift the alignment away from known sites or confine construction limits in such a manner that sites will not be harmed. Sites that may be threatened by the proximity of the trail will be subject to a treatment plan that will be developed by the BLM.

4.5 ENVIRONMENTAL JUSTICE

An EJ study was conducted in the project area because of the variance in age of the two communities located within the project (Calico Basin and Blue Diamond). Communities located near the north and south termini of the project were also assessed.

4.5.1 PROPOSED ACTION ALTERNATIVE

No EJ populations were identified either within or adjacent to the project site. Therefore, there would be no direct, indirect, or cumulative effects from the Proposed Action.

4.5.2 NO ACTION ALTERNATIVE

No EJ populations were identified; therefore, the effects would be the same as those of the Proposed Action.

4.5.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

No mitigation is necessary. The Proposed Action would neither contribute to nor detract from the possible future development of EJ populations.

If 2010 Census data are available at the time that a Tier 2 based segment of the Proposed Action is completed, impacts analysis and subsequent mitigation efforts should include a re-evaluation of population using the same analysis approach as was completed in Section 3.5 of this PEA.

4.6 FLOODPLAINS

Significance criteria and mitigation activities for protection of floodplains were not specifically addressed in the RMP. Impacts would be considered adverse if the Proposed Action were to contribute to excessive erosion and subsequent sedimentation of materials in floodplains.

4.6.1 DIRECT EFFECTS

4.6.1.1 PROPOSED ACTION

The Proposed Action will not be located or cross any existing surface or perennial waters, and no modifications or eliminations of ephemeral drainages would occur. Also, no trenching for placement of underground infrastructure would be required for this alternative.

Accidental spills or leakages of lubricants and fuels from equipment could occur during construction activities. These substances could be transported off the construction site during storm events. Additionally, the potential for erosion and transport of sediment from disturbance of soils during construction could occur, all of which could have an impact on water quality in the Las Vegas Wash. Implementation of best management practices that would be required by the Nevada Division of Environmental Protection, Bureau of Water Pollution Control storm water construction permitting, would ensure that impacts would remain minimal.

The parking areas will not be located in any floodways; therefore, mitigation for parking areas is not necessary. The trail would cross at least 59 ephemeral washes and drainages, and 3 culverts would be installed to cross under SR-159. As stated in Section 2.1.1.5, the culvert crossings would be placed adjacent to existing culverts. The Design Guidelines (Appendix A) were developed to provide guid-

ance for site-specific design of the trail and trail elements such as underpasses, steep slopes, wash crossings, and trail-heads. The Design Guidelines were developed to integrate into the existing environment and to minimize erosion and subsequent sedimentation of materials in floodplains. In addition to following the Design Guidelines, specific mitigation measures described in Section 4.6.3 would minimize impacts on floodplains.

4.6.1.2 NO ACTION ALTERNATIVE

Under the No Action alternative, erosion from precipitation events would continue where there is disturbed land within the floodplain. Any sedimentation that is currently occurring following a storm event would continue.

4.6.2 INDIRECT AND CUMULATIVE EFFECTS

4.6.2.1 PROPOSED ACTION

The paving of approximately 35 miles of trail and connections would increase the potential for runoff and erosion; however, implementation of mitigation measures described in Section 4.6.3 would minimize the impacts. Construction of concrete crossings through the ephemeral washes could also contribute to overall runoff and erosion, and additional runoff would contribute to the sediment in the Red Rock and Upper Blue Diamond Detention Basins.

4.6.2.2 NO ACTION ALTERNATIVE

Indirect and cumulative effects as a result of the No Action alternative could include erosion and resulting sedimentation buildup in the Red Rock and Upper Blue Diamond Detention Basins from increased use of unpaved trails. Additionally, unauthorized parking along SR-159 is expected to increase, with the associated disturbance of soils, which would also add to the erosion and sedimentation associated with storm events.



Zone Four - Near Wheeler - trail would be widened and paved

4.6.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

Best management practices would be required, and the contractor conducting the actual earth moving work will obtain a National Pollutant Discharge Elimination System (NPDES) General Stormwater Permit for Construction. The contractor will be responsible for maintaining compliance with all provisions of the NPDES construction permit.

Based on the FEMA designation of Zone A and as applied to this project, WOUS may include the floodplains and/or ephemeral washes that the Proposed Action alignment would cross, and a permit from the USACE may be required. Any Tier 2 activities associated with this project would need to individually address the need to identify WOUS and to coordinate efforts with the USACE.

The Design Guideline elements will be adhered to in the final design documents. This will help ensure minimal erosion from the Proposed Action.

4.7 LAND USE

As stated previously, the Proposed Action alternative would be in compliance with the MEAs in which the alignment would be placed. Impacts on land use would be considered adverse if the project was not in compliance with laws, regulations, or planned uses.

4.7.1 DIRECT EFFECTS

4.7.1.1 PROPOSED ACTION

Construction and use of the proposed bike trail and parking facilities are consistent with the activities designated within the RRCNCA directives in the RMP, as well as the SNPLMA allowing for capital improvements at the RRCNCA. This activity is also consistent with the Clark County Comprehensive Planning Land Use Plan. Additionally the CCDCP has developed a Comprehensive Plan for the Las Vegas Valley, which includes a valley-wide connected trail system as shown on Figure 1-4. Eventually this bike trail would connect with trails leading to the Las Vegas Valley, as well as planned trails on federal lands located north and south of the RRCNCA.



Zone Five - Blue Diamond Detention Basin. The south end of the trail would connect here.

4.7.1.2 NO ACTION ALTERNATIVE

Although no laws specifically direct the RRCNCA to implement the trail system, the intent of the land use plans and documents referenced in Section 4.7.1.1 would not be carried forward.

4.7.2 INDIRECT AND CUMULATIVE EFFECTS

4.7.2.1 PROPOSED ACTION

The proposed hiker/biker trail and associated facilities are consistent with land use plans in the RRCNCA, as well as connecting to bike/trail plans in the Las Vegas Valley. The land use plans consider future use, and expanded use of these trails present a positive cumulative effect for the population as a whole. As use expands with the population, the possibility exists for overuse or crowding during peak use times such as weekends during cooler weather (October through March).

4.7.2.2 NO ACTION ALTERNATIVE

There has been a large amount of public interest and participation in developing this proposed hiker/biker trail. Many issues relating to land use, as well as other resources, have been discussed and commented on by the public, as well as federal, state, and Clark County agencies. Failure to implement this project could indirectly result in loss of public support for future BLM projects and would also represent a departure from planned land uses for the RRCNCA.

4.7.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

The planned bike trail is consistent with existing land use plans (both federal and county). Allowable uses and types of uses are designated in the BLM's RMP and are described in Section 3.7.2. The hiker/biker trail plan is within these designated use parameters; therefore, no mitigation would be required for land use.

4.8 RECREATION

The BLM promotes recreation in the RRCNCA as one of the primary activities to be enjoyed by the public. Biking activities are considered active uses of the area and are restricted to BLM designated paths. Impacts on the resource would be considered adverse if the Proposed Action would deviate from the RMP ROD's general directions 4D1.1 or 4D1.2 as follows:

- Do not allow any new trail development without BLM concurrence.
- Monitor the existing designated trails in the Scenic Loop Dr vicinity south to First Creek.
- Implement mitigative measures as needed to avoid excessive impacts.

4.8.1 DIRECT EFFECTS

4.8.1.1 PROPOSED ACTION

The bike trail feasibility study was initiated by the BLM and the hiker/biker trail has been planned with extensive input from the recreation users in the RRCNCA as described



Zone Four - View of Spring Mountains from existing disturbed hiking trail



Zone Four - The Oliver Ranch trail will use this existing disturbance. Note SR 159 in the distance

in Section 1.4 of this PEA. Overall public support has been overwhelmingly positive. Comprehensive attention to the recreation experience has been a priority in planning the alignment of this trail, and the siting of parking facilities. In addition to the current unpaved hiking trails, the Proposed Action would open almost 35 miles of hiking and biking opportunities in the RRCNA that have not been previously connected and/or accessible. Additionally, the trail will specifically be designed to integrate into the existing environment as well as possible, to minimize the feeling of development and help create a positive outdoor recreation experience.

The proposed hiker/biker trail would enhance the recreational experience for the casual (family) biker within the RRCNA, in terms of expanded vistas that will be available along areas that are removed from the SR-159 alignment, and added safety of having the trail separated or removed from the main highway.

As described in Section 1.2.4.1, equestrians currently do not have a continuous trail connection between the southern portion of the RRCNA, to access north of the SMRSP, and the equestrian community has expressed a desire to have this access. The Proposed Action would provide a continuous designated equestrian trail from the Exit Lot in Zone 2 to the SRUPA in Zone 4 (Figure 2-1). Also, the equestrian trail would be removed from the proposed hiker/biker trail, which would serve the purpose of helping to eliminate the compatibility issues as described in Section 1.2.4.1.

An added benefit to the casual recreational vehicle driver along SR-159 will be experienced in segments where the hiker/biker trail is adjacent to the roadway because of the separation between SR-159 and the trail. The added safety benefit of removing the bikers from the shoulder of the

highway will be experienced by motorists, as well as bikers, which will enhance the passive recreation experience for motorists.

4.8.1.2 NO ACTION ALTERNATIVE

Under the No Action alternative, the casual hiker/biker would not have the opportunity to either hike or bike in a safe paved connected trail removed from SR-159 to SR-160. The areas that are currently designated for off-road bike trails would continue to be used, but these trails are not conducive for use with road (small tire) bikes. Additionally, the only paved trail from SR-159 to SR-160 would continue to be SR-159, with the associated safety risks involved with riding a bike along the shoulder of a high-speed travelway.

Under the No Action alternative, equestrians will continue to not have a continuous trail connection between the southern and northern portions of the RRCNA.

4.8.2 INDIRECT AND CUMULATIVE EFFECTS

4.8.2.1 PROPOSED ACTION

By providing opportunities for casual family outdoor activities, with associated interpretive panels as described in the Project Description, participants are exposed to the resources available in the RRCNA, and an appreciation of these resources can be garnered. Increased promotion of family friendly activities located near the Las Vegas Valley would serve as a positive effect in portraying an increased variety of “non-gaming” options for visitors to the area. Another indirect effect of opening new recreation opportunities to the public is the resulting contribution toward a healthier population.

4.8.2.2 NO ACTION ALTERNATIVE

As described in Section 4.7.2.2, there has been a large amount of public interest and participation in developing this proposed hiker/biker trail. Failure to implement this project could indirectly result in loss of public support for future BLM projects and would also represent a departure from recreation use development for the RRCNCA.

4.8.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

The Proposed Action would be in compliance with the overall recreation objectives approved by the RMP within the RRCNCA. Therefore, no mitigation for recreation would be required.

4.9 SOCIOECONOMICS

The Clark County Demographer predicts an average 2 percent increase in population between 2009 and 2019 (Clark County 2009). Construction employment accounted for just over 9 percent of the Clark County population in 2006 (Clark County 2009).

As of September 2008, the state saw its highest unemployment rate in 23 years, and Nevada construction jobs experienced more than a 10 percent decrease when compared to 2007. In September 2008, Nevada's construction industry employed 117,700 workers, down from 119,900 workers during August. This is a 10.5 percent decrease from 2007 (Recruiting Nevada 2008).

The Center for Business and Economic Research (CBER), at the University of Nevada Las Vegas, reported that the Clark County Construction Index dipped sharply in January 2009, down 6.65 percent from December 2008. The index has shown a downward spiral observed since August 2008, and since September 2008, the construction industry in Clark County has lost 9,900 jobs, and the construction index is now at the lowest level since 1995. Moreover, completing projects now under construction and starting no new projects will result in further job losses. Also, possible future work stoppages for projects because of the lack of credit could mean further job losses. A cumulative loss of income in the months ahead is predicted because of a declining construction sector (CBER 2009).

Annual deviations between actual change and average change are the basis for determining a threshold for significance. Based on current trends in Clark County, impacts on socioeconomics would be considered adverse if the Proposed Action caused a deviation from population of -2 or 2 percent, and economic or employment threshold values of -10.0 to 10.0 percent.

4.9.1 DIRECT EFFECTS

4.9.1.1 PROPOSED ACTION

There would not be any direct impacts on populations of the town of Calico Basin or Blue Diamond as a result of the project because there is limited space for population expansion. Additionally, because Calico Basin does not have any retail activity in the town, there would be no direct economic impacts on the town. The access to Red Springs is already via the main road in Calico Basin, and the widening of the shoulder would serve to remove bikers from using this road, which would add to the safety along this spur, because bikers are already using this road, the change to the community would be minimal and would not reflect a socioeconomic impact. There is one grocery/convenience store located in Blue Diamond that may experience a rise in business as visitor numbers to the RRCNCA increase.

Construction impacts on the economy would be a short-term direct effect on the economy. Construction impacts in relation to socioeconomics would be directly connected with the cost of the hiker/biker trail as reported in the Preliminary Construction Cost Estimate document prepared in conjunction with this PEA. The Preliminary Cost Estimate was prepared using readily available data from the USGS at a 40-ft contour level, and as such, because of the uncertainty of terrain (lack of detailed information), the cost estimate has a built-in contingency level of as much as 40 percent. The construction expenditures have been calculated using the assumption that the entire project would be funded at one time.

As discussed previously, the BLM has contracted to have the project area surveyed using LiDAR technology. One of the results of this survey will be a Final Cost Estimate document, which is expected to refine the expected cost of construction for the hiker/biker trail. Any subsequent segmenting of the project would require project-specific calculating at a Tier 2 level of impact assessment. For



Zone One - Calico ROW. Trail to be placed in existing disturbance

consistency of evaluation of impacts, the assumptions and calculations used in this PEA should be referenced at the Tier 2 level to determine project-specific impacts.

A computer-based model plan of the economic effects that would be realized as a result of the construction costs of this project was not run. However, the Impact Analysis for Planning model used for the Draft EA for the DLC and Wild Horse and Burro Facility reports that each \$1.00 of construction expenditures would generate between \$1.65 and \$1.75 in regional output (BLM 2006a). Regional output means the industry output required to deliver a dollar of a commodity to final users; hence, the added generation of output dollars. Expenditures are calculated by assuming that dollars spent would be re-spent in the community, thus expanding the regional output total. In terms of regional output, the original investment of approximately \$45 million as estimated in the Preliminary Construction Cost Estimate would result in a short-term (construction-related) effect of \$74 to \$78 million in new regional economic output.

Construction wages are also considered when assessing direct socioeconomic effects of a project. The estimate of \$0.68 to \$0.77 in wages per every \$1.00 of construction expenditures was used to determine wage effects for this project (BLM 2006a). The total payroll for this project would, therefore, be \$30 to \$35 million. There is no income tax in Nevada, but sales and property taxes collected from local re-distribution of wages would be realized as a regional economic output.

It is important to re-state that these dollar estimates were based on 40-ft contour level information, and because of the uncertainty of terrain (lack of detailed information), the

cost estimate has a built-in contingency level of as much as 40 percent. Appendix F includes the assumptions and methodology used to reach these costs and a summary of the dollar amount. The Final Cost Estimate, using LiDAR technology, will provide a higher level of certainty of expected costs.

The BLM does not anticipate the need to employ additional staff in connection with this project, nor are there any plans as of the date of this PEA to charge entry fees (except at the Fee Booth to access the Scenic Loop).

4.9.1.2 NO ACTION ALTERNATIVE

Visitors to the RRCNCA are expected to increase in proportion to the rise in population of local residents as well as the visitorship to the Las Vegas Valley. Therefore, the one grocery/convenience store located in Blue Diamond may experience a rise in business as visitor numbers to the RRCNCA increase regardless of the implementation of the Proposed Action.

While the lack of economic stimulus would not be directly felt in the economy because there would be no negative economic impact, the expenditures as described under the Proposed Action would not be realized.

4.9.2 INDIRECT AND CUMULATIVE EFFECTS

4.9.2.1 PROPOSED ACTION

Because the timeframe for obtaining funding and commencing construction is unknown at this time, and the drastic recent fluctuations in the economy, it is not possible to determine the cumulative impact on the construction industry and the related economic expenditures. However, based on current trends, while the Proposed Action would not substantially change these spiraling economic indicators in the construction industry, this project, along with other federally funded projects that may be awarded as a result of the 2009 Federal Economic Stimulus Package, would be considered a positive cumulative impact on the Clark County socioeconomic status.

A wide variety of unpredictable events such as major economic downturn, natural disasters, or terrorism could have an impact on Clark County. These events, whether man-made or natural, are difficult to plan for, yet should be kept in mind.

4.9.2.2 NO ACTION ALTERNATIVE

The recent changes in the socioeconomic climate in the Las Vegas Valley make it difficult to predict indirect and cumulative effects that may occur if this project is not completed. It is sufficient to state that the declining economic indicators discussed in Section 4.9 may continue at least through 2009. By not constructing the hiker/biker trail and associated facilities, the overall construction industry in the Las Vegas Valley would be indirectly and cumulatively impacted from the lack of economic output and associated income that would have been realized.

4.9.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

No industry sectors would be negatively impacted as a result of the Proposed Action. Therefore, no mitigation measures are needed.

4.10 SOILS

Adverse impacts on soils would occur if there were sections of the proposed trail that would cause excessive erosion and/or sedimentation.

4.10.1 DIRECT EFFECTS

4.10.1.1 PROPOSED ACTION ALTERNATIVE

As described in Chapter 2, the Proposed Action would disturb a maximum of 99 acres of previously undisturbed soil including construction disturbance. The permanent areas would include approximately 89 acres (10 ft trail and trailheads) consisting of 53 acres of new disturbance and 36 acres of existing disturbance for paving. Table 3-7 listed the types of soils and a related potential trail limitation value, and these soil type locations were shown on Figure 3-5. In conjunction with the trail limitation value, the rating class and limiting-features are discussed below, and in some cases the soil types are a composite of two or more soil types, and in these cases, the soil limitations for each type are also discussed in Table 4-1. The soil type key numbers are provided in Table 4-1 to coincide with the soil numbers in Figure 3-5.

Table 4-1 shows soil types and limiting characteristics for trail construction. Existing and new disturbed acres for the parking are also shown; however, the limiting trail construction features are not a part of the construction factors for siting parking areas.

Table 4-1. Soil Type and Disturbance

SOIL TYPE KEY NUMBER ¹	SOIL TYPE	LIMITING TRAIL CONSTRUCTION FEATURES	VALUE ²	TRAIL EXISTING DISTURBED (ACRES)	TRAIL NEW DISTURBED (ACRES)	PARKING EXISTING DISTURBED (ACRES) ³	PARKING NEW DISTURBED (ACRES) ³
1	Bludiamond-Diamondhil association	Not limited		0.7	37.76	3.39	4.25
1	Bludiamond	Somewhat limited – too sandy	0.34				
1	Diamondhil	Somewhat limited – large stones content	0.05				
2	Canutio-Cave gravelly sine sandy loams		Not limited	0	0.35		
3	Cave gravelly fine sandy loam – 0 to 4% slopes		Not limited	13.7	1.89	1.01	4.02
4	Cave gravelly fine sandy loam – 4 – 15% slopes		Not limited	0.42			
5	Jean complex	Somewhat limited – too sandy	0.57	1.80	1.06		

SOIL TYPE KEY NUMBER ¹	SOIL TYPE	LIMITING TRAIL CONSTRUCTION FEATURES	VALUE ²	TRAIL EXISTING DISTURBED (ACRES)	TRAIL NEW DISTURBED (ACRES)	PARKING EXISTING DISTURBED (ACRES) ³	PARKING NEW DISTURBED (ACRES) ³
6	Purob-Irongold Association	Very limited	Gravel content: 1.00 Dusty: 0.50	2.10	11.00	2.52	3.11
6	Irongold	Very limited	Gravel content: 1.00 Dusty: 0.50				
7	Purob extremely gravelly loam	Very limited	Gravel content: 1.00 Dusty: 0.50	2.5	5.71		
8	Rock outcrop – St. Thomas complex			1.57	6.41		
8	Rock outcrop	Not rated					
8	St. Thomas	Somewhat limited	Large stone content: 0.96 Slope: 0.92				
9	Vace-Jean Association			2.4	6.06	2.35	1.67
9	Vace	Somewhat limited – too sandy	0.01				
9	Jean	Somewhat limited – too sandy	0.57				
10	Zeheme-Potosi-Rock outcrop association			3.37	1.16	0.03	
10	Zehme, steep	Very limited	Slope: 1.00 Too sandy: 0.01				
10	Potosi	Very limited	Gravel content: 1.00 Slope: 1.00 Dusty: 0.50				
10	Rock outcrop	Not rated					
11	Zeheme extremely gravelly fine sandy loam	Somewhat limited	Slope: 0.32 Too sandy: 0.01	2.16	0.11		
N/A	No soil			2.24			
Total				32.96	71.51	9.3	13.05

¹ Key to Figure 3-5

² Values from 0.01 to 1.0 with the larger number representing the greater potential limitation

³ Limiting trail construction features are not a part of the construction factors for siting parking areas.

Assumptions for these calculations are the same as those listed on Table 2-5. The differences in the totals are due to rounding variations.

Disturbance concerns would occur in soils that are too sandy because of the potential for erosion and sedimentation. Another concern for soils is the actual constructability factor of the soils; that is to say, that the limitation is based on the gravel content. Complexes that are considered too sandy or are limited based on gravel content in the project area have a trail limitation rating of 0.57 or more and occur on 49 acres of the Proposed Action, of which 16 acres are already disturbed areas. These reported acres of disturbance include the 100- to 300-ft-wide study area.

The parking areas have a total of 13.5 acres of newly disturbed soils; however, 7.3 acres will be reclaimed, making a net loss of 5.8 acres. The addition of equestrian parking areas will add to soil disturbance at the Wheeler and SRUPA because, for the safety of the animals, equestrian parking areas will not be paved. Soils at the equestrian parking area at the Scenic Loop Dr are not considered to have a high erosion factor.

4.10.1.2 NO ACTION ALTERNATIVE

There would not be any impact on soils if the hiker/biker trail and associated facilities are not constructed. Soil deposition and disturbance would remain the same in disturbed areas and may increase because of increased use and the associated possibility of erosion during storm events.

4.10.2 INDIRECT AND CUMULATIVE EFFECTS

4.10.2.1 PROPOSED ACTION

In areas that have not been previously disturbed, a biological soil crust covers the soil surface between shrubs and is composed of lichens, mosses, and cyanobacteria, which are extremely vulnerable to physical disturbance (BLM 2000). Where previous disturbance has occurred, the lichen and moss component of the soil crust is lost, and in a desert environment, it is estimated that in some instances, more than 100 years is required for these components to recover. However, the cyanobacteria will re-establish in two or three months following disturbance, which will help to maintain soil stability and nitrogen fixing. The cyanobacteria help the productivity of the soil, but not at the same rate as lichens and mosses. Therefore, new disturbance to soils would contribute to the long-term loss of fertility. The addition of the paved trail would result in the long-term loss of fertility to soils in the area that is paved. Levels of disturbance to the existing vegetation and maintenance along the sides of the trail can be mitigated to result in a minimum impact.

Following the completion of construction activities, indirect impacts on soils may occur if people using the trail choose to leave the pavement and ride their bikes on the unpaved surfaces. This indirect effect is not expected to occur along most of the trail because off-road biking areas have been designated in the RRCNCA and are well used by the public.

Long-term or cumulative effects would be associated with increased use of the trail as the population in the Las Vegas Valley grows. Maintenance activities would ensure that the trail does not deteriorate, and thus expose any unstable sandy soils to erosion threat.

4.10.2.2 NO ACTION ALTERNATIVE

Unpaved areas that are currently being used for parking would continue to experience higher levels of disturbance, with the associated potential for soil erosion and sedimentation.

4.10.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

Construction activities will involve the new disturbance of approximately 45 acres of soil. Along the entire alignment, construction equipment will stay within the alignment and within 30 ft of the final designated trail whenever possible, and will not veer out of the defined study area at all. Cross-country travel of construction equipment to access the hiker/biker trail will not occur.

Proper maintenance of the hiker/biker trail will reduce impacts on soils because after the initial disturbance from construction, the soils will be stabilized by revegetation as described in the Project Description. Signage along the trail requesting the public to remain on the pavement will discourage most people from straying, although it is recognized that some people will choose to leave the pavement. Paving of parking areas will serve to reduce the level of possible erosion that currently exists in unpaved parking lots.

In addition to soil erosion causing environmental concerns, in the sense of erosion and sedimentation, the need to stabilize soils and prevent erosion is a factor when designing a trail to prevent the degradation of the trail and ancillary facilities. Many of the necessary mitigation measures that would protect soil disturbance and the associated erosion and possibility for sedimentation have been written into the Project Description and design elements and are described

in detail in Section 2.1 of this PEA, and shown further in Appendix A. Following is a brief discussion of the mitigation measures as described in Chapter 2.

Any steep sloped areas would be designed with grades to minimize grading, erosion, and potential washout. Earthwork and hauling would be minimized by balancing cut and fill of material as much as possible. In addition, walls of native stone would be incorporated where cutting would be necessary and revegetation would occur within all undisturbed areas

The washes can be avoided much of the time; however, 59 crossings of washes and drainages would be needed. Narrow crossings with gentle side slopes would be used as feasible, and the trail would be sited to traverse perpendicularly to the wash, and low (Arizona) crossings would be used. In all cases, wash crossings would be constructed of concrete and at an elevation that allows major flows across the top of the crossing, thereby, reducing backup, clogging, or washout. Trickle channels would be provided to accommodate lower flows and still allow for trail use.

Each phase of construction would require the identification of the soil types within the specific Zones as shown on Figure 3-5. The mitigation measures listed above will be required for any phase of the project, and any additional mitigation measures not identified in this PEA would be addressed at the Tier 2 level. The mitigation measures to address at the Tier 2 level would include, but not be limited to, site-specific design of wash crossings, identification of vegetation species to be removed, and soil stabilization procedures to be used, including the number of associated miles or acres of area to be revegetated per phase, following construction.

Additionally, the CCDCP Trails Program has adopted Development Standards for Off-Street Trails (CCDCP 2005). One of the goals in adopting the standards is to minimize impacts on soils, and these development standards will be referenced when designing the hiker/biker trail.

4.1 1 TRANSPORTATION AND RIGHT-OF-WAY

Access and use of SR-159 to the RRCNCA was not specifically addressed in the BLM RMP. Therefore, impacts on transportation and ROW have been assessed to be considered adverse if a large percentage of parking or the

availability to the RRCNCA were changed, or if highway safety along SR-159 was compromised by design features of the Proposed Action.

4.1 1.1 DIRECT EFFECTS

An increase in traffic on SR-159 and the spur roads is anticipated regardless of the Proposed Action or No Action alternative.

4.11.1.1 PROPOSED ACTION

On May 13, 2009, Nevada State Senate Bill 240 was passed, which designated the RRCNCA portion of SR-159 as a Safety Speed Zone, and directed the NDOT to set a speed limit based on safety considerations for the Conservation Area (Senate Bill 240 2009). Senate Bill 240 became effective on July 1, 2009, and the speed limit has been lowered to 45 mph. It should be noted, however, that the Safety Speed Zone applies only to the RRCNCA; therefore, once the driver is out of the Conservation Area the speed limit is again 65 mph. The lowering of the speed limit within the RRCNCA will help to reduce the number of vehicle/bike accidents but will not eliminate the possibility of an accident. Removing the casual biker from SR-159 would provide an added safer passageway for both the biker and the motorist and would meet the primary purpose of this project.

The construction of the parking areas would result in 415 developed car parking spaces and an additional 30 spaces developed for equestrian use. BLM does not track the number of vehicles parked in unauthorized disturbed areas along SR-159. The parking areas that are currently being used do not have a designated number of spaces, but BLM reports the following number of vehicles could reasonably be currently accommodated:

- Desert Cave - 15 spots
- Overlook - 50 spots
- Exit Lot - 40 cars, 15 trucks with trailer spots
- First Creek - 25 spots
- Wheeler - 15 spots

The closing of the First Creek Trailhead would eliminate approximately 25 spots. The project would add 15 equestrian parking spaces from the existing 15. The 390 parking spaces that would be provided from the development of the designated parking areas would not be considered adding

a large percentage of parking and traffic to the RRCNCA because the majority of the developed parking areas would be in disturbed areas. The addition of designated parking with painted lines would serve to organize parking and eliminate haphazard parking patterns. Additionally, the safety feature of having designated parking areas, with the appropriate approaches and turn lanes, would be considered an improvement from activities that are already taking place with unauthorized parking along SR-159.

Construction of the additional parking facilities would result in providing safe authorized parking to the public. The unauthorized parking areas along SR-159 would be signed for no parking and revegetated. Following closure and revegetation, SR-159 would be monitored, and BLM would issue warnings where necessary.

4.11.1.2 NO ACTION ALTERNATIVE

Under the No Action alternative, parking in authorized areas would continue. However, because the parking areas do not contain a designated configuration, there remains the possibility that fewer cars could actually be accommodated.

Additionally, the unauthorized parking along SR-159 is expected to continue and most likely expand, which means that the safety of the road is compromised because of the lack of appropriate approaches and turn lanes.

4.11.1.2 INDIRECT AND CUMULATIVE EFFECTS

4.11.2.1 PROPOSED ACTION

According to CEQ guidelines, whenever a proposed action would increase the availability of public facilities, the need to address growth-inducing effects occurs. The question arises whether the public would continue to visit the RRCNCA at the same rate, without the added improvements. As reported in Section 1.2.1, and shown on Table 1-1, traffic safety has become a major concern to the BLM, NDOT, bike riders, and motorists along SR-159. From 1994 to 2003, 15 fatalities occurred on SR-159, and based on the expected increase in population and use of this highway, more fatalities will occur. Additionally, demographic projections predict an increase in traffic on SR-159 regardless.

4.11.2.2 NO ACTION ALTERNATIVE

Under the No Action alternative, unauthorized use of the shoulder of SR-159 would continue, with the associated lack of safety. Indirect and cumulative effects would be similar to those discussed as direct impacts.

4.11.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

BLM has consulted with NDOT extensively on the design of the proposed trail alignment that would be within the NDOT ROW to ensure that the safety features for traffic meet all current standards. Any road modifications, such as new turn lanes, would need final NDOT approval, and specific design elements would be a part of the Tier 2 activities.

4.12 VISUAL RESOURCES

Scenic viewing is the activity that attracts the highest percentage of visitors to Red Rock Canyon (BLM 2000). Any impact that would prevent viewing of the unique geologic features in the RRCNCA or any activities that would not comply with the Class II VRM designation would be considered adverse.

4.12.1 DIRECT EFFECTS

4.12.1.1 PROPOSED ACTION

This evaluation includes only the description of the project area changes as would be seen along the proposed alignment of the trail system and the parking areas from strategic view points, such as along SR-159, or the Scenic Overlook in relation to the Class II management directives (Section 3.12). Scenic quality evaluation includes modifications to man-made structures that represent change to the existing land, water, or vegetation, or that create visual contrast to the natural character of the landscape.

Visual simulations at strategic locations in the project site were prepared to show the level of change that may occur as a result of the Proposed Action. Each Zone has unique visual concerns in relation to the current views and expected changes, and the Key Observation Points (KOPs) were chosen based on these concerns. These simulations were selected based on the following factors:

- The major, potentially sensitive, viewer groups that may be affected by the action

- The types of planned improvements that would have varied visual impact consequences
- The orientation of the viewers toward the project site

Several visual simulations were prepared to provide a general idea of visual impacts for design guidelines, such as the view from SR-159 to immediately adjacent trails, or a simulation of the proposed parking areas. These simulations have been used in Chapter 2 as a visual aid for various sections in the Project Description. Appendix A, Design Guidelines, provides site-specific simulations, such as the under crossings that would occur on SR-159. A total of 13 simulations have been provided in Chapter 2 and 8 in Appendix A as part of the Project Description and Guidelines. In addition to the Project Description and Design Guideline simulations, Appendix G, Visual Resources, provides 15 side-by-side current (or before) photos, and simulations for each Zone, that were prepared for public meetings. Of those simulations, 6 were determined to be possibly seen along the proposed alignment of the trail system and the parking areas from strategic view points, such as along SR-159, or the Scenic Overlook, and were, therefore, designated as KOPs. The KOPs were selected to represent various types of development of the hiker/biker

trail and the associated visual experience from the strategic viewpoints. A BLM Form 8400-4, Visual Contrast Rating Worksheet, was prepared for each of these 6 KOPs, and these are provided in Appendix G.

Table 4-2 discusses the 15 visual simulations and the associated impacts, with the Zone and Zone Segments. Section 3.12 described in detail the views associated with the Zones. The entire RRCNCA has been designated as a Class II VRM area, and the impact analysis has been conducted using management objectives described in Section 3.12.1 as, “the level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic element of form, line, color, and texture found in the predominant natural features of the characteristic landscape.” Table 4-2 shows the key to the KOPs in connection with the Zone and Zone Segments and a description of impacts.

Table 4-2. Visual Simulations and KOPs within the RRCNCA and Impact Analysis

ZONE/ SEGMENT	DESCRIPTION OF VIEW	IMPACT ANALYSIS
1G	In the hills between Summerlin and Calico Basin – foreground shows existing unpaved path, which is noticeable, but does not attract undue attention.	The proposed trail would follow the existing non-paved alignment. The characteristic landscape in the foreground-middle ground would not be changed. Background views of the Spring Mountains would remain.
1P & 1Q (KOP #1)	View from west Overlook #3 looking west near the Gun Club to the Dog Walk Trailhead. Views include SR-159, typical Mojave upland vegetation with background view of Spring Mountains.	The texture and form of the foreground view would be broken in part by the trail. The trail would provide an additional line of sight in addition to SR-159. The background view of Spring Mountains would not be changed.
2C & 2F (KOP #2)	Adjacent to SR-159 and Red Rock Wash. Foreground view of SR-159 is predominant, with Spring Mountains in the foreground-middle ground.	These two simulations are typical of what the casual driver along SR-159 would experience in areas where the proposed trail is adjacent to the roadway. The foreground view of SR-159 is altered, but the trail follows the basic form, line, and texture of the existing road. Background views of the Spring Mountains are not affected.
2H	Red Rock Overlook – the descending slope immediately north. The focus of the overlook is the middle ground view of the valley leading into the background view of the Spring Mountains. The valley leading to the Spring Mountains in this area is criss-crossed with existing dirt trails.	Views of middle ground, background would not be impacted as the trail would be placed close to the overlook and lower than the existing facility. The trail would be noticeable to the casual viewer but would not attract undue attention, nor detract from the vista view.
3A	Bluff south of Lot near Overlook #6. Foreground middle-ground views provide a textural change from the typical Mojave desert upland seen in the RRCNCA with thicker vegetation, and the associated line and form complexity.	The trail would be noticeable to the casual viewer because this area would be new disturbance. The trail would be designed to follow the form and slope line as much as is practical, and vegetation removal would be minimal.

ZONE/ SEGMENT	DESCRIPTION OF VIEW	IMPACT ANALYSIS
3-B (KOP #3)	Looking south toward Old Oak Creek. Typical Mojave vegetation with Spring Mountains in the background.	The trail would be noticeable to the casual viewer because this area would be new disturbance. The trail would be designed to follow the form and slope line as much as is practical, and vegetation removal would be minimal.
3F	Wash area between SMRSP and Bonnie Springs (south end).	The trail itself would not be visible, but people using the trail would be visible from SR-159. The wash crossing would be an "Arizona" type crossing as described in Chapter 2, and shown in the Design Guidelines in Appendix A. The crossing itself would most likely attract the attention of the casual observer along the trail, as there would be a change in line, form, and color at the crossing. The color of the crossing would be the same as the wash material, which forms a natural break in form, line, and color along this segment of the trail.
4A	On the bluff west of the Oliver Ranch Overlook #7.	This segment would not be seen from SR-159. This segment shows a typical situation where an existing trail will be used for the alignment. Foreground views would be changed from the existing dirt alignment to a paved texture. Vegetation removal would be minimal, and background views of the Spring Mountains would remain the same.
4F	North of the wash, east of Blue Diamond with Blue Diamond in the distance.	This segment is typical of what would be seen in Segments 4C through 4F. The trail would involve new disturbance but would not change foreground-middle ground view of the nearby mountains by the community of Blue Diamond. The trail would not be a focal point for residents of Blue Diamond.
4I (KOP #4)	On the utility road east of Blue Diamond.	The paving of this well-used trail would not attract any more attention than the current visual impact. This segment is typical of Segments 4I and 4K.
SRUPA (KOP #5)	Current parking area.	This simulation provides a schematic of the design of the new parking area. Some vegetation would be cleared and the parking area paved. This area currently attracts the viewer's eye, in that it is a large, cleared area. Pavement and designated parking spots would also be clearly visible from SR-159.
5A (KOP #6)	View north from the west side of SRUPA Trailhead toward CertainTeed Mine showing underpass at road level view.	Views of the man-made process area of the CertainTeed Mine and SR-159 dominate the foreground. The addition of the trail and underpass will add to the man-made focal points but will not dominate the viewshed. Views of Blue Diamond Hill in the background would not be affected.
5C & 5D	View from Overlook #8 looking southeast.	The alignment is currently disturbed and vegetation clearing would be minimal. Paving of this area may result in views of the Mojave desert scrub divided by the line of the paved trail.
5E & 5F	View from railroad abutment across Blue Diamond Wash to segments (5F traverses the hillside).	Segments 5E & 5F would follow an already disturbed alignment, as is seen in the "before" photo. Pavement of the trail may draw attention to the casual observer from SR-160, but given the distance of the trail from the roadway, would not be considered a dominate feature of the viewshed. Additionally, SR-160 is not part of the RRCNCA and is not designated as a Scenic Byway.

The majority of the Proposed Action alignment would be placed in existing trail alignments. The remainder of the alignment would be designed to minimize visual impacts, as described in the Project Description and Design Guidelines. The Proposed Action would be in compliance with BLM Class II VRM directions.

4.12.1.2 NO ACTION ALTERNATIVE

Under the No Action alternative, there would be no direct visual impact because the hiker/biker trail and associated improvement to parking areas would not be constructed.

4.12.2 INDIRECT AND CUMULATIVE EFFECTS

4.12.2.1 PROPOSED ACTION

Future plans to expand the RRCNCA trail system are still in the discussion stage, but it is very possible that this project would become the anchor for an integrated hiker/biker trail throughout the conservation area. The BLM is bound by its VRM directions, which means that any additional trails within the conservation area would be held to the visual classification management standards that currently exist. The addition of trails, when handled properly, will add to the overall visual experience available at the RRCNCA.

4.12.2.2 NO ACTION ALTERNATIVE

It is prudent to assume that unauthorized parking along SR-159 will continue and may even expand into previously undisturbed roadside areas. The visual impact of this unauthorized parking will affect the casual view in two ways: (1) additional parking along the roadside will continue and expand, which means that the foreground middle-ground view of the driver along the highway will be impacted and a constant line of parked cars will degenerate the overall view in this Class II VRM area, and (2) the casual driver will not be able to fully enjoy the view because of the added stress of constantly keeping a vigil for cars that pull out into traffic from anywhere along SR-159.

4.12.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

Trail color and revegetation efforts have been incorporated into the Project Description, and all visual mitigation efforts described in the description will be followed. Any tiering from this PEA will require that the Project Description design guidelines are followed to ensure compliance with the Class II VRM designation.

4.13 WATER RESOURCES

The main concern of impacts on water resources is associated with wetland and riparian areas, discussed in Section 4.14. In relation to this project, any drawdown of an aquifer would be considered an adverse impact.

4.13.1 DIRECT EFFECTS

4.13.1.1 PROPOSED ACTION

Neither the construction nor the operation of the Proposed Action will use water from any of the wells in the RRCNCA; therefore, there would not be any drawdown of the aquifer. Any drinking water planned at this point will be from commercial sources such as bottled water or already existing sources that may be made available at SMRSP. As shown on Table 3-9, five wells may be impacted as a result of the installation of the hiker/biker trail, and the following lists the name of the well and the approximate proximity to the study centerline for the proposed hiker/biker trail:

• ID 1234: Visitor Center	1,142 ft
• Bonnie Springs Monitoring Well:	173 ft
• Oliver Ranch Production Well:	495 ft
• Oliver Ranch Monitoring Well:	397 ft
• Wheeler Camp Spring Well:	163 ft

Of the five wells near the Proposed Action alignment, only ID 1234 is used for consumption after treatment. The remaining wells are monitored for depth, and findings are reported to the USGS. All wells are at least 160 ft from the proposed trail and have protective locked covers. The footprint of the trail has been designed to avoid these wells. Therefore, no impacts on the wells are expected to occur as a result of the Proposed Action.

4.13.1.2 NO ACTION ALTERNATIVE

No change to the wells or monitoring would occur under the No Action alternative.



Zone Three - Example of an Arizona crossing at SMRSP Rd

4.13.2 INDIRECT AND CUMULATIVE EFFECTS

4.13.2.1 PROPOSED ACTION

Because the Proposed Action will not use any water from the active wells, no indirect or cumulative effects are expected. Vandalism to property is always a concern when discussing open public lands. The wells are covered with locked lids and are checked regularly by BLM staff. Vandalism may occur with or without the hiker/biker trail construction.

4.13.2.2 NO ACTION ALTERNATIVE

The indirect and cumulative effects on the monitoring wells would be the same as those of the Proposed Action.

4.13.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

Any watering associated with construction activities for dust control would be trucked onto the site, and no water from existing wells in the RRCNCA will be used. The amount of dust control watering will be decided by the Clark County DAQEM and addressed with the air quality permits.

At this time, the proposed restroom facilities at the trailheads would consist of portable restrooms and would not be connected to a public sewer system. The BLM will be responsible for the maintenance or contracting of maintenance for these facilities. If the BLM is able to connect restroom facilities to a public sewer system at any time during the phasing of this project, the potential impacts on water quality would need to be addressed at the Tier 2 level.

The wells are already covered with locked lids and would constitute the major mitigation measure. Signs warning the public to not tamper with the wells will also be installed.

If any plans for using well water for construction activities or consumption are part of Tier 2 activities, then impacts analysis and mitigation measures should be addressed at that level. Otherwise, no other mitigation for water resources would be required.

4.14 RIPARIAN ZONES

The BLM RMP is very specific concerning activities allowed near wetland or riparian zones.

The RMP ROD paragraph 1E.7 specifies that the design of trails minimize impacts on riparian areas, and paragraph 4D1.5 directs that new trails must be at least $\frac{1}{4}$ mile from springs and riparian areas, unless specifically designed to interpret those resources. Where feasible, existing trails will be realigned to avoid springs and riparian areas (BLM 2000). Impacts would be considered severe if the RMP directives were not obtainable as a result of the project.

4.14.1 DIRECT EFFECTS

4.14.1.1 PROPOSED ACTION

The Proposed Action would not change the existing amenities at the Red Springs area in Zone 1, and there would not be any additional impacts from the hiker/biker trail. The Proposed Action centerline would be located approximately 1,145 ft from the Lone Willow Spring in Zone 3, Segment 3H, and approximately 490 ft from the Wheeler Camp Spring in Zone 4, Segment 4D, which places the Wheeler Camp Spring within $\frac{1}{4}$ mile of the proposed hiker/biker trail. Based on topography and feasibility for the placement of the hiker/biker trail, there was no other reasonable location at which to locate the trail.

The Lone Willow Spring is located approximately 250 ft south of Bonnie Springs Road. The proposed hiker/biker trail would be located approximately 0.27 miles from this spring, and, therefore, would be outside the $\frac{1}{4}$ mile zone of protection as described by the BLM RMP.

The hiker/biker trail will not be placed directly on any riparian area of either spring, and the riparian areas are far enough away from the proposed hiker/biker trail that construction activities would not have an impact on the

springs. Impacts on the springs may occur if members of the public choose to leave the designated pathway to venture into the riparian area. The mitigation measures described in Section 4.14.3 will help ensure minimal impacts on this resource.

4.14.1.2 NO ACTION ALTERNATIVE

No change to the management of wetlands and riparian zones would occur; therefore, there would not be any direct impacts on wetlands and riparian zones.

4.14.2 INDIRECT AND CUMULATIVE EFFECTS

4.14.2.1 PROPOSED ACTION

As more people continue to visit the RRCNCA and subsequently use the proposed hiker/biker trail system, there are more opportunities for possible degradation of the Lone Willow and Wheeler Camp springs. The added use may discourage wild horses and burros to visit the springs as often, but because of the scarcity of water in the desert, this would be a temporary condition with the animals returning when people were not present.

4.14.2.2 NO ACTION ALTERNATIVE

No change to the management of wetlands and riparian zones would occur; therefore, there would not be any direct impacts on wetlands and riparian zones.

4.14.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

The mitigation measures that will be conducted for TES species and noxious weed abatement will be applicable for protection of the riparian habitat.

Construction workers will be advised to avoid the Lone Willow and Wheeler Camp springs, and a qualified water resource biologist will place staking at the Wheeler Camp Spring to delineate the riparian area prior to construction to ensure that the integrity of the habitat is not compromised.

The BLM will design interpretive panels to explain the sensitive nature of the springs and riparian areas. The panels will be similar in nature to the panels provided for the public at Red Springs and will be intended to educate the public about the importance of wetland and riparian areas and forbid the trampling or disturbance of sensitive areas.

Direct disturbance of any wetlands is not expected with this project; however, Tier 2 activities should involve a USACE approved wetland delineation and jurisdictional determination prior to construction.

4.15 WILD HORSE AND BURRO

The BLM was directed to evaluate areas to determine if it has food, water, cover, and space to sustain a healthy and diverse wild horse and burro population over the long term. Impacts would be considered severe if the BLM's ability to provide the habitat recommendations for the HMA were compromised.

4.15.1 DIRECT EFFECTS

4.15.1.1 PROPOSED ACTION

Temporary disturbance of travel corridors used by the wild horses and burros may occur during construction activities. No available water sources would be removed or disturbed. Some foraging habitat may be disturbed, but this would be considered minimal given the available foraging in the RRCNCA. The hiker/biker trail and associated improvements would not be located in areas that are currently used for foaling. Therefore, no substantial direct impacts are anticipated, and no changes to the HMA Appropriate Management level would be required.

4.15.1.2 NO ACTION ALTERNATIVE

Wild horse and burro movement, foraging, and foaling activities would remain the same. The BLM would continue to manage the HMA in the same manner.

4.15.2 INDIRECT AND CUMULATIVE EFFECTS

4.15.2.1 PROPOSED ACTION

The BLM RMP Record of Decision directed the BLM to complete a site plan for Oliver Ranch, the MDC, which would include a proposal for the development of a wild horse and burro facility. The Draft EA was completed in January 2006, but a final decision document has not been produced. The Draft EA proposes to construct a wild horse and burro facility on the west boundary of the Oliver Ranch property, approximately ½ mile from SR-159, which would place the facility near the Proposed Action alignment at Oliver Ranch.

The hiker/biker trail would include the construction of two underpasses to avoid an at-grade crossing of SR-159. Most of the ROW is fenced, with breaks in the fencing only at access points to other amenities in the RRCNCA. It is recognized that wild horses and burros are skeptical of closed-in spaces and that they perceive small, enclosed spaces to potentially hold danger, but the break in the fencing at the underpasses, combined with the height of the underpasses, may cause the wild horses and burros to choose to use these as an alternative to crossing the highway. The height, width, and lighting of the underpass can make a large difference in if and/or when a wild horse or burro would use the underpasses. This would result in a safer crossing for the animals. Also, these underpasses may be used as a source of shade during the summer months. These two possible uses of the underpasses would be seen as a positive effect for the species.

The Proposed Action would not result in a substantial loss to vegetation and, therefore, would not have an impact on the availability of food for horses and burros. Additionally, the Proposed Action would have no impact on existing water sources for horses and burros.

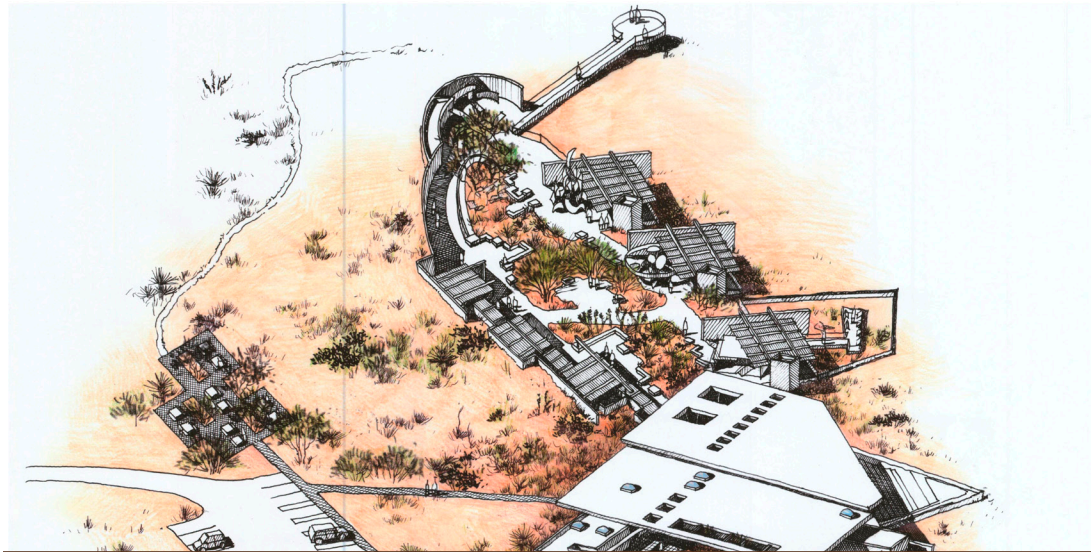
The proposed hiker/biker trail and associated facilities would most likely result in additional people visiting the RRCNCA for recreation purposes. Some additional noise from people using the trail may cause the horses and burros to be startled, but these two species have been in the RRCNCA with the associated hiking, car movement, and public for several generations; therefore, the species are already accustomed to this level of human intervention.

4.15.2.2 NO ACTION ALTERNATIVE

Indirect and cumulative effects would be the same as the direct effects, except that the possibility for the wild horses and burros to use the underpasses for crossing and/or shade would be eliminated.

4.15.3 MITIGATION MEASURES AND RESIDUAL EFFECTS

Wild horses and burros will continue to be managed under the existing HMA directives. Many of the mitigation measures described in Section 4.3.3 in the Biological Resources Section of this document would apply for wild horses and burros as well. No additional species-specific mitigation is recommended.



CHAPTER 5.0 INDIVIDUALS, ORGANIZATIONS, AGENCIES, AND TRIBES CONSULTED

In accordance with 40 CFR 1508.9(b), the consultation and coordination efforts made by BLM during the preparation of this PEA are summarized in this chapter. Some actions taken by the BLM are mandated by regulations; other actions were initiated by the BLM to further encourage participation in the NEPA process to ensure informed decision making. Meetings and briefings were conducted with federal, tribal, state, county, and local agencies and governments, as well as the public. Federal, state, and county agencies and tribes were sent invitations to participate as consulting agencies. Consulting agencies have provided comments for the Draft PEA prior to its issuance, which have been addressed.

Section 1.4 of this PEA described the public participation process and the associated focus group and public meetings that were held in conjunction with this study, and Appendix D provides copies of materials from each meeting. The efforts to involve the public, organizations, tribes, and government agencies during the siting of the hiker/biker trail, and subsequent PEA preparation are summarized below. Prior to each of the public meetings, the BLM posted notifications on its website and mailed notices to 41 individuals, organizations, and government agencies. The notifications as posted on BLM's website are included in Appendix D. The BLM also sent the notification as a press release to the

following:

Local Television Stations:

Outlet
Channel 3 (CBS)
Channel 5 (Fox)
Channel 8 (ABC)
Channel 13 (NBC)
Channel 21 (WB)

Local Radio Stations:

KNPR
KNUU
KDWN
KLAV
Metro Skyview News
KXNT

Elected Officials:

Congresswoman Berkley
Congressman Gibbons
Congressman Porter
Senator Reid
Senator Ensign

Las Vegas Local Newspapers:

Review Journal
Las Vegas Sun
AP
Boulder City News
Henderson Home News
Summerlin/Valley News

Outlying Areas Media:

KVPM41
Pahrump Valley Times
Pahrump Mirror
Channel 30, 62
KNYE

Spanish Speaking Media:

Telemundo
Univision
El Tiempo Libre

5.1 FOCUS GROUP MEETING

Specific individuals and organizations were contacted for an initial Focus Group meeting held April 16, 2008, at the RRCNCA group picnic area. The group consisted of invited representatives from local key user groups currently using RRCNCA for recreation, including walkers/hikers, cyclists, runners, and equestrians. The intention of the meeting was to provide the BLM planning team with initial information about the community's values, issues, and desires related to trail development in the vicinity of SR-159. The meeting's format was an informal roundtable discussion guided by the agenda. Seven people representing various biking and/or equestrian groups attended the meeting.

5.2 PUBLIC PARTICIPATION/INDIVIDUALS

The CEQ regulations require that "agencies shall make diligent efforts to involve the public in preparing and implementing their NEPA procedures" (40 CFR 1506.6). However, public participation concerning an EA is not considered mandatory, and the level of public participation is left to the discretion of the agency. The BLM handbook states that when a project involves a programmatic EA it is advisable to facilitate focused public involvement (BLM 2008g). Section 1.4 details the dates and results of the public meetings, and Appendix D2, D3, and D4 provide copies of the meeting materials, agenda, questionnaires, and synopses of the comments received as result of the public participation program for this study.

5.3 ORGANIZATIONS/BUSINESSES

In addition to meeting notifications, other organizations or businesses that are in the area or that could have an interest in the project were contacted.

5.3.1 HOWARD HUGHES CORPORATION (SUMMERLIN)

The BLM has worked closely with representatives of the Howard Hughes Corporation in identifying the location of the proposed trailhead in the Summerlin development on Sky Vista Dr. Coordination of planning efforts will continue. In addition, a segment of trail could take advantage of

existing road on the edge of the Summerlin development with cooperation of the Howard Hughes Corporation (see Chapter 2, Zone 1 description, Segment 1B).

5.3.2 THE OUTSIDE LAS VEGAS FOUNDATION

Coordination with Outside Las Vegas Foundation has occurred to assure that the Proposed Action is in line with trail master planning that has already occurred in the Las Vegas Valley.

5.3.3 BONNIE SPRINGS/OLD NEVADA

Coordination is ongoing related to providing access to trail users via Bonnie Springs Road.

5.3.4 GUN CLUB

The Gun Club has not been consulted for alignment coordination. The intention has been to keep the alignment within the NDOT ROW. No direct coordination has occurred with the lease holders of the Gun Club parcel. Some coordination may be required for a segment of trail north of SR-159 (see Chapter 2, Zone 1 description, Segment 1C). However, the intention of the trail siting is to remain within the NDOW ROW (see Segment 1O description).

5.3.5 CERTAINT EED MINE

Some coordination with the CertainTeed Mine may be necessary since a segment of the Proposed Action would traverse the property. Much, if not all, of these segments of the alignment would be located on the CCRFCD utility service roads as noted above. Coordination with the CertainTeed Mine would be finalized at the Tier 2 level.

5.4 AGENCY SCOPING

The scoping effort included internal scoping with appropriate BLM resource specialists. Internal scoping, while not considered public involvement, is used to set the stage for external scoping and is integral to the preparation of all EAs. Additionally, contact and coordination with the following agencies, jurisdictions, and landholders, and a summary of each of these efforts follows.

5.4.1 BLM

Extensive internal coordination has been ongoing from the onset of the project within the Las Vegas Field Office to ensure that all natural and cultural resources are being responded to sensitively and appropriately; and that this recreational amenity is being developed in accordance with the legislated management direction for RRCNCA. BLM staff has continued to engage a breadth of resource specialists to ensure that the project is appropriately addressing the diversity of resources and concerns that constitute RRCNCA. Specialists in the areas of recreation, hydrology, archeology, lands, and NEPA compliance have been contacted prior to release of this PEA for broader review and input.

5.4.2 UNITED STATES FISH AND WILDLIFE SERVICE

Invitations to the public meetings were extended to the USFWS. Also contact has been made with the USFWS by supplying them with a letter dated October 1, 2008, introducing them to the project. A map of the project area was provided for them to identify potential species of concern for the project and to start any Section 9 coordination issues in relation to the ESA.

5.4.3 NEVADA DEPARTMENT OF WILDLIFE

Invitations to the public meetings were extended to NDOW. Contact has also been made with NDOW by supplying them with a letter dated October 1, 2008, introducing them to the project. A map of the project area was provided so that they could identify potential species of concern for the project.



Informal discussion at meeting #3 Open House 1-10-09

5.4.4 NEVADA STATE HISTORIC PRESERVATION OFFICE

In conformance with NHPA and the Nevada BLM-SHPO Protocol Agreement, the BLM has determined that the Proposed Action Alternatives will cause no adverse effects on eligible historic properties. Under the BLM State Protocol Agreement pursuant to the PA between BLM and SHPO, the BLM has issued a finding of no historic properties affected for the undertaking. In addition, the BLM has determined there are no Native American issues concerning the undertaking. Appendix E contains a copy of the findings determination.

5.4.5 NEVADA DEPARTMENT OF TRANSPORTATION

Because both SR-159 and SR-160 are state highways, cooperation and approvals from NDOT will be required for implementation of the Proposed Action because in some areas the proposed trail alignment would be located within the NDOT ROW. There are also three areas where the proposed alignment would go under SR-159 through underpasses. And, two proposed trailheads would require access off SR-159 via “road cuts” not currently in regular use. As part of the feasibility study, ongoing coordination with NDOT staff has occurred. NDOT ROW experts and transportation engineers have conducted a review of design details being considered for the ROW and have verbally indicated a general acceptance of the details. NDOT staff also conducted a site visit with the planning team in August 2008 to provide informal review of the proposed alignment and design details and to suggest revisions that would provide cost savings and enhance safety. A formal design package will be required for approval for construction in the ROW; however, no major design conflicts have been noted at this time (see Section 1.5 for additional information).

5.4.6 SPRING MOUNTAIN RANCH STATE PARK

Coordination with SMRSP has been ongoing. The planning team met with SMRSP staff onsite in April 2008, and the park manager has attended all public meetings. Planning for the crossing of trail users across the access road to the state park has been the primary coordination item.

5.4.7 REGIONAL TRANSPORTATION COMMISSION OF SOUTHERN NEVADA

Information has been obtained from RTC for the appropriate coordination of proposed and existing bicycling facilities adjacent to the project planning area (see Section 1.5 for additional information).

5.4.8 CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT

Coordination is needed regarding feasibility of improvements that would be included in the Proposed Action in the vicinity of both the Red Rock Detention Basin and the Upper Blue Diamond Detention Basin. A copy of the PEA has been shared with the CCRFCD for preliminary review related to existing CCRFCD facilities within the planning area.

5.4.9 LAS VEGAS VALLEY WATER DISTRICT AND CLARK COUNTY WATER RECLAMATION DISTRICT

Coordination with the Las Vegas Valley Water District and the Clark County Water Reclamation District is ongoing to secure access to the utility access road that services District improvements southeast of the town of Blue Diamond.

5.4.10 CLARK COUNTY FEDERAL LANDS AND TRAILS PROGRAM, DEPARTMENT OF COMPREHENSIVE PLANNING

Representatives from trails planning in the CCDCP have provided information related to trail development on lands adjacent to and east of RRCNCA and non-designated BLM lands. In addition, they were in attendance at Public Meeting #2 and provided comment. They have also provided comments on typical trail detailing for the Las Vegas area in an effort to integrate the trail systems as seamlessly as possible (see Section 1.5 for additional information).

5.4.11 CLARK COUNTY DEPARTMENT OF PARKS & RECREATION

Discussions with Parks & Recreation are ongoing with regard to planning efforts for the Gypsum Ridge Park parcels also to the east of RRCNCA and the non-NCA BLM lands (see Section 1.5 for additional information).

5.4.12 CLARK COUNTY DEPARTMENT OF PUBLIC WORKS

Coordination with the Department of Public Works regarding proposed improvements in the ROW of County roads is ongoing.

5.4.13 TOWN OF BLUE DIAMOND

The Blue Diamond Citizens Advisory Council is the representative body of citizens to the County for the Blue Diamond area. The BLM has participated in regularly scheduled meetings of the Council during the course of the project, providing updates on the project and working with the Council on generating viable trail alignments now incorporated into the Proposed Action. In addition, representatives from this body have been in attendance at the Focus Group meeting and each of the public meetings.

5.4.14 ADDITIONAL SCOPING

In addition to this project-specific scoping discussed above, other entities were contacted to obtain information related to trail development in the Las Vegas area. The planning team contacted both the City of Las Vegas and the City of Henderson in an effort to understand trail development they had undertaken to date, including “lessons learned.” In addition, private vendors and other enterprises in the Las Vegas area have been consulted specifically related to trail surfacing alternatives. The planning team also obtained surveyed experienced trail development and operations/maintenance experts from Colorado, including the City of Boulder, Boulder County, and the City/County of Broomfield.

5.5 TRIBAL PARTICIPATION

Informational (scoping) packets were mailed on May 6, 2009, to the following five federally recognized Native American Tribes to participate in the PEA process:

Charles Wood, Chairman
Chemehuevi Indian Tribe

Daniel Eddy, Jr., Chairman
Colorado River Indian Tribe

Benny Tso, Chairman
Las Vegas Paiute Tribe

Phil Swain, Chairman
Moapa Band of Paiutes

Richard Arnold, Chairman
Pahrump Paiute Tribe

Previous consultations have been held with federally recognized Native American tribal governments to determine the presence or absence of properties possessing significance to tribal religious beliefs or practices and cultural affiliation. Although such properties exist in the vicinity, none are present within the proposed project area and no Native American concerns have been presently identified.

5.6 CONSULTING AGENCIES

Seventeen individual letters were mailed on April 13, 2009, inviting federal, state, and local government agency representatives to participate as a consulting agency in the PEA process (Table 5-1).

Table 5-1. Agency Mailing List

Patricia Ayala Park Planner City of Henderson 240 Water Street P.O. Box 95050 Henderson, NV 89009	Lisa Corrado Planner City of Henderson 240 Water Street P.O. Box 95050 Henderson, NV 89009	Connie L. Diso, P.E. Department of Public Works, Engineering and Planning City of Las Vegas 731 S. Fourth Street Las Vegas, NV 89101
Jerry Duke Clark County Regional Transportation Commission 600 S. Grand Parkway, Suite 350 Las Vegas, NV 89106	Tracy Foutz, AICP Deputy Director of Community Development City of Henderson 240 Water Street P.O. Box 95050 Henderson, NV 89009	Eric Glick Trails Coordinator Nevada Department of Transportation 1263 S. Stewart Carson City, NV 89712
Ron Gregory Assistant Planning Manager, Trails Clark County 500 S. Grand Central Parkway, 1st Floor, P.O. Box 555210 North Las Vegas, NV 89155-5210	Brad Hardenbrook Nevada Department of Wildlife 4747 Vegas Dr. Las Vegas, NV 89108	Rick Keller Park Supervisor Spring Mountain State Park P.O. Box 124 Blue Diamond, NV 89004
Michelle Menart Administration and Parks Planning City of North Las Vegas 1638 N. Bruce Street North Las Vegas, NV 89030	Fred Ohene Assistant General Manager Regional Transportation Commission 600 S. Grand Central Parkway, Suite 350 Las Vegas, NV 89106	Lance Olson, P.E. Public Works and Engineering City of Henderson 240 Water Street P.O. Box 95050 Henderson, NV 89009-5050
Tom Perrigo Deputy Director Comprehensive Planning City of Las Vegas 731 S. 4th Street Las Vegas, NV 89101	Deborah Reardon Community Development City of Henderson 240 Water Street P.O. Box 95050 Henderson, NV 89009	Lewis Wallenmeyer Director Clark County Department of Air quality and Environmental Quality 500 S. Grand Central Parkway Las Vegas, NV 89106
Bob Williams Field Supervisor US Fish and Wildlife Service, Southern Nevada Field Office 4701 North Torrey Pines Drive Las Vegas, NV 89130	Planning Department Clark County Regional Flood Control District 600 S. Grand Central Parkway, Suite 300 Las Vegas, NV 89106	

Responses were received from USFWS, NDOW, and CCDCP declining to be consulting agencies. Each of these agencies did request to be informed of the PEA progress and provided information in conjunction with the release of the Draft PEA. The USFWS and NDOW voiced concerns on T&E Species or Nevada Species of Concern, and these concerns were addressed in the mitigation portion of the appropriate section of this PEA.

5.7 ENDANGERED SPECIES ACT CONSULTATION

The USFWS determined that BLM would need to consult under section 7 of the ESA on the Proposed Action for possible impacts on desert tortoise. According to the USFWS, the action area for the subject project occurs within the action areas of the PBO for the RRCNCA RMP and the PBO for the Las Vegas RMP. The BLM will submit a request to append the PBO to the USFWS when the exact alignment for the trail has been determined using the LiDAR technology described in the Project Description (Section 2.1 of this PEA). Prior to the submittal for the appended PBO, the BLM will conduct a survey of the alignment to determine the presence/absence of the desert tortoise. All mitigation measures that the USFWS identifies in connection with this appendment will be adhered to and will be incorporated into the Tier 2 documentation.

5.8 NATIONAL HISTORIC PRESERVATION ACT, SECTION 106

Coordination between the BLM and the SHPO was discussed in Section 5.4.4.



CHAPTER 6.0 LIST OF PREPARERS

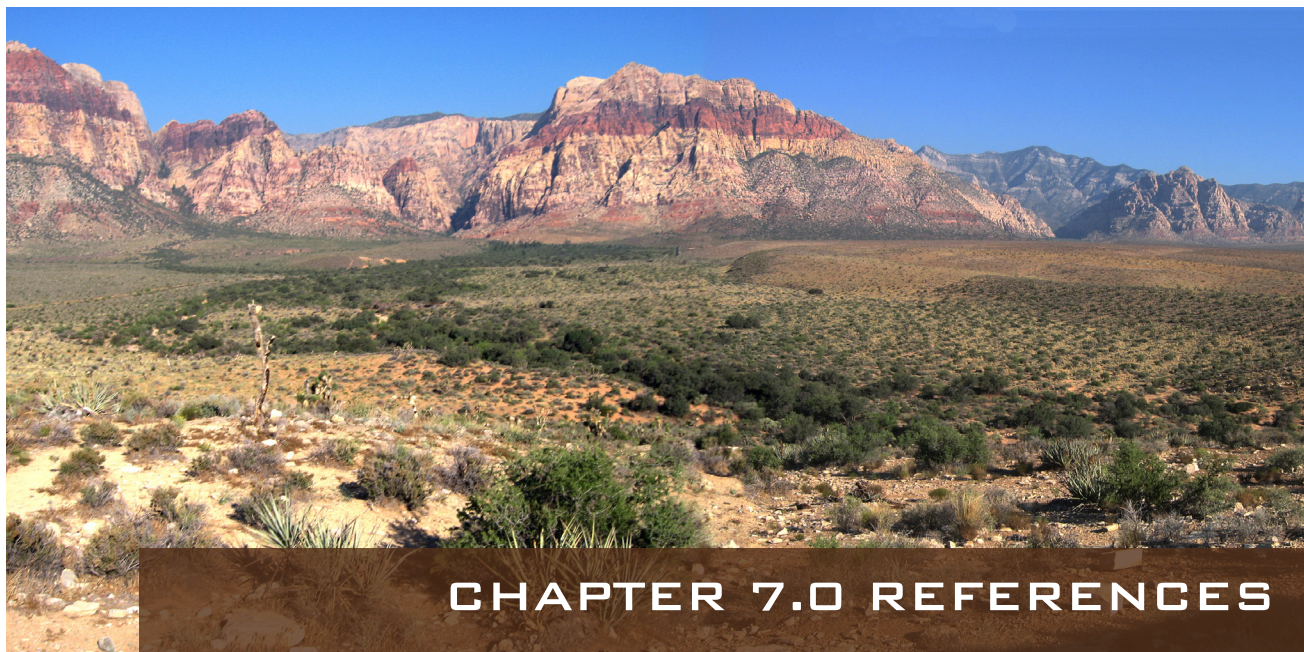
This PEA has been prepared by the Department of Interior, BLM with contractual assistance from Shapins Belt Collins and J.F. Sato and Associates. The following individuals were primarily responsible for preparing, reviewing, or providing senior guidance and quality control during the development of the PEA.

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CHAPTER 7.0 REFERENCES

7.1 REGULATIONS, ORDERS, LAWS

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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. 1977 (as amended). 33 USC 1251-1387. PL 92-500.

Code of Federal Regulations (CFR). (Determining Conformity of Federal Actions to State or Federal Implementation Plans, 40 CFR 93.153).

Endangered Species Act. 1973 (as amended). 16 USC 1531 et seq. PL 93-205.

Executive Order 12898. 1994. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. February 11.

Executive Order 13112. 1999. Invasive Species. February 3.

Federal Land Policy and Management Act (FLPMA). 1976 (as amended). PL 94-579.

Federal Noxious Weed Act. 1975. Public Law 93-629. 7USC 2801 et seq.; 88 Stat. 2148. January 3.

Guidelines for Specification of Disposal Sites for Dredged or Fill Material. 1977. 40 CFR 230.3.

Migratory Bird Treaty Act of 1918. 16 USC 703-712; Ch. 128 et seq.

National Environmental Policy Act (NEPA). 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.

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___ . Ch 555 Control of Insects, Pests and Noxious Weeds.

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