

United States Department of the Interior
Bureau of Land Management

Environmental Assessment

Las Vegas In-Valley Area Multi-Action Analysis

DOI-BLM-NV-S010-2016-0054-EA

PREPARING OFFICE

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Chapter 1 Introduction

Title: Las Vegas In-Valley Area Multi-Action Analysis Environmental Assessment (In-Valley EA)

NEPA Number: DOI-BLM-NV-S010-2016-0054-EA

Type of Document: Multi-Action Analysis

Location: The Las Vegas In-Valley Area Multi-Action analysis encompasses the cities of Las Vegas, North Las Vegas, Henderson, and adjacent areas that fall within the disposal boundary established by the Southern Nevada Public Land Management Act, Public Law 105-263 (SNPLMA), as amended. See Appendix A for map, herein referred to as the Las Vegas In-Valley.

Introduction

The Las Vegas Field Office of the Bureau of Land Management (BLM) manages federal public land parcels interspersed among private land in the Las Vegas metropolitan area and federal land holdings surrounding the Las Vegas Valley. The BLM processes multiple land actions within these areas each year, including disposal of public lands out of federal ownership, and land-use authorizations such as rights-of-way (ROW), Recreation and Public Purpose Act (R&PP) leases, mineral material disposal actions, various permits, and licenses within the Las Vegas In-Valley. The BLM also responds to trespass actions that occur on BLM-administered public land. Trespass is the unauthorized use of public land, and can result in financial penalties against persons found to be in trespass. Trespass activities include dumping of trash and debris, constructing/maintaining roads, farming/irrigation, and occupation without authorization.

This document will analyze the impacts of development, construction, operations, maintenance, renewals, amendments, decommissioning, restoration, and/or termination of actions authorized through rights-of-way grants, mineral material disposal actions, or other permits or leases including land disposals within the Las Vegas In-Valley. On December 19, 2014, Congress passed the National Defense Authorization Act for Fiscal Year 2015, H.R. bill 3979, (Public Law 113-291). Portions of this bill amended the Las Vegas In-Valley, which included incorporating additional public land for disposal. The aforementioned land actions would be conducted pursuant to the Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (43 U.S.C. §1737, P.L. 94-579), as amended, the SNPLMA, as amended, the R&PP Act, as amended, and the regulations under 43 CFR 2700, 2800, 2920, Subtitle A, Part 5; mineral materials areas administered by the BLM under the regulations at 43 CFR 3600; the Federal Aid Highway Acts (23 U.S.C. §107 (d) and 317), P.L. 109-59; and Section 28 of the Mineral Leasing Act of 1920, as amended and the regulations under 43 CFR 2880. Examples of the types of land actions include but are not limited to:

Land Disposals

Linear ROW

- Sewer line
- Gas pipeline
- Underground water line

- Fiber-optics/cable
- Telephone line
- Above ground transmission line
- Underground transmission line
- Roads/highways/trails
- Infrastructure development
- Post and Cable fence

Site-Type ROW

- Sewage treatment plant
- Detention basin
- Water treatment plant
- Construction staging areas
- Electrical sub-station
- Communication sites
- Apiaries

R&PP Lease

- Parks
- Trails
- Fire departments
- Police stations
- Schools
- Youth centers
- County buildings
- State buildings
- Qualifying nonprofit facilities

Mineral Material Disposals

- Mineral material exploration permits
- Mineral material sales contracts
- Mineral material free-use permits
- Authorizations to export mineral materials

Permits

- Photography/film/motion picture
- Exploration (geotechnical testing, soil sampling)
- Special recreation permits
- Construction staging areas

In accordance with FLPMA (Sec. 102), public land parcels may be disposed of if it will serve national interests; public lands may be withdrawn or designated for specified purposes; management of public lands will be on the basis of multiple use and sustained yield; public lands will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect

certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use; public lands will be managed in a manner which recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber from the public lands including implementation of the Mining and Minerals Policy Act of 1970 (84 Stat. 1876, 30 U.S.C. 21a) as it pertains to the public lands.

Public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources. The BLM is authorized to grant, issue, or renew rights-of-way over, upon, under, or through public lands for transportation, systems, or facilities (FLPMA, Sec. 501. a).

The National Environmental Policy Act (NEPA) of 1969 [42 USC 4321 *et seq.*] requires federal agencies to consider environmental consequences in their decision-making process. The Council on Environmental Quality (CEQ) issued regulations [40 Code of Federal Regulations (CFR) 1500-1508] to implement NEPA that include provisions for both the content and procedural aspects of the required environmental analysis. The BLM NEPA Handbook (H-1790-1) provides instructions for compliance with the CEQ regulations and Department of Interior guidance (516 DM 1-7) on NEPA. The NEPA is the mechanism by which the BLM ensures that its decisions are based on an understanding of potential environmental consequences.

Purpose and Need for Action

The Las Vegas Field Office receives applications for land disposals, ROW grants, R&PP leases, mineral material disposal actions, permits, and licenses for a variety of actions within the Las Vegas In-Valley. The purpose of this document is to sufficiently analyze the effects on the human environment from various actions on BLM-managed lands within the Las Vegas In-Valley, Clark County, Nevada. Those effects include, among others, impacts on social, cultural, economic, and natural resources (40 CFR 1508.8). The need for this document is to support project-specific proposals in timely review and authorization.

The BLM will use the analysis in this document to decide whether to approve or deny a proposed land disposal or land-use authorization such as a ROW, R&PP lease, permit, mineral material disposal action, or license application. The BLM may include any terms, conditions, and/or stipulations it determines to be in the public interest, and it may require modifying the proposed use or changing the route or location of proposed facilities (43 CFR 2805.10(a)(1)). All authorizations will be in compliance with FLPMA, BLM regulations, mineral material disposal regulations, and other applicable federal, state, and local laws and policies. In the decision process, the BLM must consider how the BLM's resource management goals, objectives, opportunities, and/or conflicts relate to non-federal use of public lands.

Conformance Summary

Las Vegas Resource Management Plan

October 1998

The Las Vegas In-Valley EA is in conformance with the Las Vegas Resource Management Plan (RMP), October 1998. The emphasis of the 1998 Las Vegas RMP is to protect unique habitats for threatened, endangered, and special status species, while providing areas for community growth, recreation, mineral

exploration and development, as well as many other resource uses. The following land-use plan (LUP) objectives and management directions are in place to meet the goals of the 1998 Las Vegas RMP and protect resources (Appendix A of the 1998 Las Vegas RMP Record of Decision):

Air Resource Management Objective: AR-1. Ensure the actions occurring on BLM-administered lands do not violate local, state, tribal and Federal air quality laws, regulations, and standards.

- *Management Direction:* AR-1-a. Ensure that the planning process addresses air quality considerations by incorporating objectives and actions into resource activity plans, such as Allotment Management Plans, Habitat Management Plans, and Watershed Management Plans. Where applicable, include “conformity” demonstration in site-specific activity plans and/or National Environmental Policy Act documentation.
- *Management Direction:* AR-1-b. Permit only those activities on BLM-administered lands that are consistent with Federal, State, and local air quality standards and regulations. Require that all appropriate air quality permits are obtained before BLM approval of an action is granted. Where applicable, demonstrate how proposed management actions comply with local, state, tribal and Federal air quality laws, regulations, and standards (Conformity: per 40 CFR 93.100 et seq).

Cultural Resource Management Objective: CR-1. Identify and protect cultural and paleontological resources in conformance with applicable legislation and BLM policy.

Fire Management Objective: FE-1. Provide fire suppression on approximately 3,332,000 of public acres, based on suppression areas/zones and resource management needs.

- *Management Direction:* FE-1-a. Provide fire suppression efforts commensurate with resource and adjacent property values at risk.
- *Management Direction:* FE-1-b. Prevent human-caused fires through an aggressive education, investigation, and public outreach effort.
- *Management Direction:* FE-1-c. Provide for maximum fire protection through a comprehensive fire detection system using a multi-agency approach.
- *Management Direction:* FE-1-e. For fire suppression, follow specific guidance in the Fire Management Action Plan.

Hazardous Materials Management Objective: HZ-1. Prevent hazardous materials contamination of public lands.

- *Management Direction:* HZ-1-a. Minimize releases of hazardous materials through compliance with current regulations. When hazardous materials are released into the environment, assess their impacts on each resource and determine the appropriate response, removal, and remedial actions to take.

Hazardous Materials Management Objective: HZ-2. Reduce risks associated with hazardous materials on public lands.

- *Management Direction:* HZ-2-a. Evaluate all actions (including land use authorizations and disposals, mining and milling activities, and unauthorized land uses) for hazardous materials, waste minimization and pollution prevention.
- *Management Direction:* HZ-2-b. Complete site-specific inventories when lands are being disposed or acquired. It is departmental policy to minimize potential liability of the Department

and its bureaus by acquiring property that is not contaminated unless directed by Congress, court mandate, or as determined by the Secretary (602 DM 2).

- *Management Direction:* HZ-2-c. Inspect mining and milling sites to determine appropriate management for hazardous materials.

Lands Management Objective: LD-1. Approximately 175, 314 acres¹ of public lands within the disposal areas identified in the RMP are potentially available for disposal through sale, exchange, or Recreation and Public Purpose patent to provide for the orderly expansion and development of Southern Nevada.

- *Management Direction:* LD-1-a. Unauthorized use of public lands outside established disposal areas may be resolved through direct sale, if proven the action was not willful or was due to an erroneous survey; or if remediation of existing hazardous substances on the property would be too costly.

Lands Management Objective: LD-2. All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of Areas of Critical Environmental Concern and Wilderness Study Areas, are available at the discretion of the agency, for land use leases and permits under Section 302 of Federal Land Policy and Management Act and for airport leases under the authority of the Act of May 24, 1928, as amended.

- *Management Direction:* Land use lease or permit applications and airport lease applications will be addressed on a case-by-case basis, where consistent with other resource management objectives and local land uses. Special terms and conditions regarding use of the public lands involved will be developed as applicable.

Minerals Management Objective: MN-1. Where Lands remain open to entry provide for orderly exploration and development of valuable minerals on federally owned mineral estate whether or not the surface estate is in Federal ownership.

- *Management Direction:* Solid Leasable Minerals
 - MN-1-a. On split estate lands, private surface that is developed for non-mineral use will not be managed for solid mineral development.
 - MN-1-l. Mineral material disposal determined to be detrimental to desert tortoise would not be authorized.

Mineral Management Objective: MN-2. Use appropriate environmental safeguards to allow for the preservation and enhancement of fragile and unique resources.

Recreation Management Objective: RC-1. Ensure that a wide range of recreation opportunities are available for recreation users in concert with protecting the natural resources on public lands that attract users.

- *Management Direction:* RC-1-a. Primary management emphasis will be on resource-based uses, not facility-based uses.

Recreation Management Objective: RC-5. Coordinate with county and city governments to manage 197,300 acres in the Las Vegas In-Valley to facilitate the provision of open space areas, recreational trails, and parks necessary for valley residents.

¹ Approximately 32,000 acres available for disposal are within the Las Vegas In-Valley.

- *Management Direction:* RC-5-a. Identify Land for reserve recreational trail, open space, parks, etc. as needed, prior to Land disposals. Reservation should be done through Recreation and Public Purpose applications by local governmental agencies.
- *Management Direction:* RC-5-b. Identify public lands on the perimeter and within the Special Recreation Management Area that are appropriate for recreational uses in support of local government land use plans.
- *Management Direction:* RC-5-c. Prohibit recreational and target shooting on public lands within the Special Recreation Management Area, in accordance with the Clark County and local government shooting ordinances. Prohibit camping on public lands in the Special Recreation Management Area, except where specifically authorized and designated.
- *Management Direction:* RC-5-d. Close the Special Recreation Management Area to individual, organized, and competitive off-road use and vehicle events including off-road casual use. An exception to this closure is the Nellis Dunes off-road vehicle Area and the “Nevada 400” course route to the north. Nevada 400 course limited to one event per year.

Recreation Management Objective: RC-10. Manage public lands not included within Special Recreation Management Areas as the Southern Nevada Extensive Recreation Management Area, emphasizing dispersed and diverse recreation opportunities.

- *Management Direction:* RC-10-a. Manage permitted recreation and commercial events (outside Special Recreation Management Areas) as follows:
 - Other Areas - Permit events on a case-by-case basis. Restrictions and stipulations necessary for protection of the desert tortoise may be imposed within desert tortoise habitat. Close land disposal areas to overnight camping.
- *Management Direction:* RC-10-b. Allow recreation concession leases that enhance resource management objectives.
- *Management Direction:* RC-10-c. As resource conditions and/or use levels warrant, inventory, designate, and manage mountain bicycle and equestrian trails throughout the Extensive Recreation Management Area to meet increasing public demand for these activities.

Rights-of-Way Management Objective: RW-1. Meet public demand and reduce impacts to sensitive resources by providing an orderly system of development for transportation, including legal access to private inholdings, communications, flood control, major utility transmission lines, and related facilities.

- *Management Direction:* RW-1-a. Designate the following corridors:
 1. A corridor 1,400 feet wide from the north side of the Sunrise Instant Study Area south through Rainbow Gardens to the Lake Mead crossover. This corridor is described as west of the east boundary of the IPP-McCullough powerlines. Activation and use of this corridor is contingent upon Congressional action releasing the Instant Study Area from further wilderness consideration and study.²
 2. Corridor designations totaling approximately 158,806 acres, including legislative designations and the proposed Sunrise Mountain designation. The corridors range in width from 1,400 feet to 3,000 feet, for a total length of approximately 538 miles.
- *Management Direction:* RW-1-c. When feasible, and where compatible, major pipeline rights-

² In January 2014, through an appropriations act, Congress released the Sunrise Instant Study Area from further wilderness consideration. Refer to Section P.1.7 of this document for additional information concerning this corridor labeled 39-231 (commonly referred as the Sunrise Corridor).

of-way will be placed within power line corridors.

- *Management Direction:* RW-1-d. Provide right-of-way access for local flood control agencies to develop or maintain flood control developments, consistent with right-of-way avoidance and exclusion areas.
- *Management Direction:* RW-1-h. All public land within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for rights-of-way under the authority of the Federal Land Policy Management Act.

Rights-of-Way Management Objective: RW-2. Maximize the use of existing communication sites and prevent the proliferation of scattered single-user sites.

- *Management Direction:* RW-2-b. Authorization of future communication site rights-of-way would be handled as follows:
 - *Communication Sites with a Site Management Plan:* 1. Facilities authorized under new rights-of-way will be constructed in accordance with an approved Site Management Plan.
 - *Communication Sites without a Site Management Plan:* 2. New rights-of-way will be authorized within and on existing rights-of-way and facilities.
This direction also includes communication site facilities not ordinarily located on a mountain top, such as AM radio facilities, personal communications service facilities, and cellular telephone sites. Personal communications service facilities will most likely occur along transportation corridors such as interstate highways.
- *Management Direction:* RW-2-c. Requests for new communication sites will generally be processed as follows:
 1. Competitive bidding procedures will be utilized.
 2. Multi-user facilities will be constructed.
 3. Site users will jointly form a committee and develop a Site Management Plan.

Riparian Management Objective: RP-1. Provide widest variety of vegetation and habitat for wildlife, fish, and watershed protection; ensure that all riparian areas are in proper functioning condition by achieving an advanced ecological status, except where resource management objectives require an earlier successional stage.

- *Management Direction:* RP-1-f. Use integrated weed management techniques to control and eradicate tamarisk, such as burning, chemical, biological or mechanical treatments, where potential for treatment is good. Rehabilitate the area with native species to help reduce the potential for tamarisk re-establishment and improve ecosystem health.

Soil Resource Management Objective: SL-1. Reduce erosion and sedimentation while maintaining or where possible enhancing soil productivity through the maintenance and improvement of watershed conditions.

- *Management Direction:* SL-1-a. On watersheds that exhibit good potential for recovery, implement protective measures, including but not limited to fencing and removal of tamarisk.
- *Management Direction:* SL-1-b. Improve watersheds that have a critical erosion condition and a moderate erosion condition to have a high erosion susceptibility. Give priority to those watersheds within the Colorado River drainage system.
- *Management Direction:* SL-1-c. Maintain watersheds that have a stable and slight erosion condition with a low moderate or high susceptibility; and maintain watersheds that have a moderate erosion condition with a low or moderate erosion susceptibility.

Special Status Species Objective: SS-3. Manage desert tortoise habitat to achieve the recovery criteria defined in the Tortoise Recovery Plan (USFWS 1994) and ultimately to achieve delisting of the desert tortoise.

Vegetation Management Objective: VG-1. Maintain or improve the condition of the vegetation on public lands to a Desired Plant Community or to a Potential Natural Community.

Vegetation Management Objective: VG-2. Restore plant productivity on disturbed areas of the public lands.

- *Management Direction:* VG-2-a. Rehabilitate, reclaim, or re-vegetate areas subjected to surface disturbing activities, where feasible. When rehabilitating disturbed areas, manage for optimum species diversity by seeding native species, except where non-native species are appropriate.

Water Resource Management Objective: WT-1. Maintain the quality of waters presently in compliance with State and/or Federal water quality standards. Improve the quality of waters found to be in noncompliance.

Las Vegas Valley Disposal Boundary Final EIS and ROD December 2004

The Las Vegas In-Valley EA is in conformance with and refers to the Las Vegas Valley Disposal Boundary as approved by the Final Environmental Impact State and Record of Decision, December 2004 because:

“The analysis contained in the FEIS is site specific for all lands falling within a rights-of-way alignment based on 10 acre parcels of BLM land. The analysis assessed impacts to all resources 100 feet inside the boundary and 100 feet outside the boundary of all 10 acre parcels, contiguous or not. These impacts are quantified in the FEIS to allow BLM to approve future land use authorizations provided the entire action falls within the site specific areas analyzed in the FEIS. Documentation of actual resources impacts caused by each project would be documented in the project record.” “All alternatives provide for continuation of other land uses such as right-of-way (ROW) grants, Recreation and Public Purpose Act (R&PP) leases, permits, and licenses.”

The BLM will require mitigation and monitoring measures to minimize the impacts to resources caused by BLM-authorized activities, including issuance of ROW grants, R&PP leases, permits, and licenses.

Laws, Regulations, Policies

The following are directly relevant laws, regulations, policies, and program guidance with which the Las Vegas In-Valley EA complies:

Agricultural Act of 2014 (Good Neighbor Authority)

Airport and Airway Improvement Act of 1982 (49 U.S.C. 2215)

Carl Levin and Howard P. ‘Buck’ McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291)

Clark County Air Quality Regulations Section 90

Clark County Conservation of Public Land and Natural Resources Act of 2002(Public Law 107-282)

Clean Water Act of 1977
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
Council on Environmental Quality Regulations, 40 CFR Parts 1500-1508
Demonstration Cities and Metropolitan Development Act of 1966
Disaster Relief Act, Section 417 (Public Law 93-288)
Endangered Species Act of 1973, as amended
Energy Policy Act of 2005
Federal Fire Prevention and Control Act, October 29, 1974 (88 Stat. 1535, 15 U.S.C. 2201)
Federal Land Policy and Management Act of 1976, as amended
Federal Noxious Weed Act of 1974, as amended
Federal Power Act of 1935, as amended
Federal Property and Administrative Services Act of 1949, as amended
Healthy Forests Restoration Act of 2003
Intergovernmental Cooperation Act of 1968
Lincoln County Conservation, Recreation, and Development Act of 2004, Public Law 108-424
Materials Act of 1947, as amended
Mineral Leasing Act of 1920, as amended
Mining and Minerals Policy Act of 1970, as amended
Mining Law of 1872
Multiple Surface Use Act of 1955, as amended
National Environmental Policy Act of 1969
National Historic Preservation Act of 1966
Protection Act of September 20, 1922 (42 Stat. 857; 16 United States Code [USC] 594)
Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 USC 1856, 1856a)
Recreation and Public Purposes Act of 1926, as amended
Santini-Burton Act of 1980 (Public Law 96-586)
Section 106 of the National Historic Preservation Act of 1966
Section 211 of the Superfund Amendments and Reauthorization Act (SARA) of 1986
Section 368(a) of Energy Policy Act of 2005 (P.L. 109-58)
Section 7 of the Endangered Species Act of 1973, as amended
Southern Nevada Public Land Management Act of 1998, as amended (Public Law 105-263)
Title 40 CFR 50, 51, 80, and 81 – Protection of the Environment
Title 43 CFR Subtitle A, Part 5 Commercial filming and similar projects and still photography on certain areas under department jurisdiction
Title 43 CFR 2000s - Land Resource Management-Land Sales – General Provisions, 43 CFR 2710
 -Leases, 43 CFR 2910
 -Leases, Permits, and Easements, 43 CFR 2920
 -Permits for Recreation on Public Lands, 43 CFR 2930
 -Recreation and Public Purposes Act, 43 CFR 2740
 -Rights-of-Way Under the Federal Land Policy Management Act, 43 CFR 2800
 -Rights-of-Way Under the Mineral Leasing Act, 43 CFR 2880
Title 43 CFR Part 9210, Subpart 9212 – Wildfire Prevention
Title 43 CFR Part 9230, Subpart 9239 – Kinds of Trespass
United States Code (USC).
 - Title 18 U.S.C. 1855 – Timber set afire
 - Title 18 U.S.C. 1856 – Fires left unattended and unextinguished

Internal Scoping

The following resources have been evaluated by BLM internal resource specialists and will be carried forward for analysis if found to be affected by one or more of the actions outlined in Chapter 2 of this document. Stipulations and mitigation measures listed in Appendix D will be included in ROW grants as requirements to minimize or avoid impacts to resources. These mitigation measures reduce impacts to resources to the point of being negligible and therefore will not be carried forward for analysis.

Resource	Carry Forward for Analysis?	Rationale
Air Quality	No	Potential resource impacts would be mitigated by following stipulations in Appendix D of this EA.
Areas of Critical Environmental Concern	No	Not present.
BLM Natural Areas/Conservation Lands	No	Not present.
Climate Change/ Greenhouse Gas Emissions	No	Currently, there are no emission limits for suspected greenhouse gas (GHG) emissions within the Las Vegas In-Valley and no technically defensible method for predicting potential climate change contributions from GHG emissions during ground-disturbing activities within the boundary. However, there are, and would continue to be, several efforts to address GHG emissions from federal activities, including BLM-authorized uses in future planning documents.
Cultural Resources	Yes	Carry forward for analysis.
Environmental Justice and Socioeconomics	Yes	Carry forward for analysis.
Farmlands (Prime or Unique)	No	Not present.
Fish and Wildlife Excluding Federally Listed Species	Yes	Carry forward for analysis.
Floodplains	Yes	Carry forward for analysis.
Fuels/Fire Management	Yes	Carry forward for analysis.
Geology / Mineral Resources/Energy Production	Yes	Carry forward for analysis.
Human Health and Safety	No	Potential of public health and safety issues related to the construction, operation and maintenance, and decommissioning of a proposed action will not be significant

		due to the limited context and intensity of the proposals typical within the Las Vegas In-Valley. Any potential hazards to public health and safety would be mitigated with the implementation of construction and worker safety plans. Administrative actions, such as renewals, will not impact the health and safety as they are continuations of existing actions.
Hydrologic Conditions	Yes	Carry forward for analysis.
Invasive Species/ Noxious Weeds	Yes	Carry forward for analysis.
Lands/Access	No	Consistent with Section 4(d) of SNPLMA, public land is nominated by units of local government through a joint selection process in response to an expression of interest from potential buyers. The joint selection process is to ensure that the parcel is not needed for a public purpose. Land disposals would be processed subject to valid existing rights — hence no impacts to land-use authorizations. Land-use authorization potential impacts to adjacent applicant/proponents of valid existing rights would be mitigated by following stipulations in Appendix D of this EA. Applicant/proponents shall provide proof of access and/or utilize existing access roads to the maximum extent feasible, minimizing the number, lengths, and widths of roads and construction support areas.
Lands with Wilderness Characteristics	No	Not present.
Livestock Grazing	No	Not present.
Migratory Birds	Yes	Carry forward for analysis.
Native American Concerns	Yes	Carry forward for analysis.
Paleontology	Yes	Carry forward for analysis.
Recreation	Yes	Carry forward for analysis.
Transmission	Yes	Carry forward for analysis.
Soils	Yes	Carry forward for analysis.
Threatened, Endangered or Candidate Plant Species	No	Not present.
Threatened, Endangered or Candidate Animal Species	Yes	The proposed action has a may affect, likely to adversely affect determination for the threatened desert tortoise (<i>Gopherus agassizii</i>), and no effect for its designated critical habitat. This project will have no effect on any other federally listed species or designated critical habitat. Carry forward for analysis.
Wastes (hazardous or solid)	No	Not present.
Water Resources/ Quality (drinking/ surface/ground)	Yes	Carry forward for analysis.
Wetlands/Riparian Zones	Yes	Carry forward for analysis.
Wild and Scenic Rivers	No	Not present.
Wilderness/WSA	No	Not present.
Integrated Vegetation	Yes	Carry forward for analysis.

(including sensitive plants and forestry)		
Visual Resources	No	The VRM classes within the Las Vegas In-Valley are either Class III or IV. VRM Class III aims to partially retain the existing character of the landscape. VRM Class IV allows for high levels of change to the existing landscape. Any action proposed in the Las Vegas In-Valley would be adjacent to adjacent to existing developments and are not expected to dominate the view of the casual observer.
Wild Horses and Burros	No	Not present.

Chapter 2 No Action and Proposed Action Alternatives

No Action Alternative

Under the No Action Alternative, applications received for Las Vegas In-Valley actions would require individual NEPA analysis, which is current practice for the Las Vegas Field Office. Because many of the actions occurring within the geographic boundaries of the Las Vegas In-Valley are similar in scope and intensity, it is redundant and inefficient to create individual NEPA documents for individual actions.

Proposed Action

General:

Under the Proposed Action alternative, the BLM will use the analysis in this EA and associated Decision Record as the supporting NEPA for the respective public land disposals made available pursuant to Public Law 113-291, ROW grants, mineral material disposal actions, various permits, and leases, including trespass resolution, within the Las Vegas In-Valley (see map in Appendix A) in Clark County, Nevada. The BLM receives applications submitted by various private and public entities, as well as governmental agencies, for actions within the Las Vegas In-Valley that would be authorized through land disposals, ROW grants, mineral material disposal actions, or other permits or leases. These actions may include transfer of public lands out of federal ownership; or the construction, operation, maintenance, decommissioning, and/or restoration of development, infrastructure, or utilities to support the growth of the city; or renewals, amendments, or termination requests for an existing ROW, lease, or permit. Other actions may include permits for photo shoots and other filming activities; disposal of mineral materials on split estate properties; disposal of mineral materials from within the boundaries of other authorized actions (e.g. ROW, lease, etc.); trespass resolution; and R&PP leases. Although this is not an exhaustive list of the actions that could be permitted within the Las Vegas In-Valley, the actions occur between highly developed areas, and most are previously disturbed.

The following land actions would be authorized based on the analysis provided for the proposed action:

- Land disposal
- Linear rights-of-way
- Site type rights-of-way
- R&PP leases
- Film permits
- Special recreation permits
- Mineral material exploration permits, sales contracts, and free-use permits
- Authorizations to relocate mineral materials
- Trespass resolution

The purpose and need of this document is to analyze the effects on the human environment from various actions to support project-specific proposals in timely review and authorization. The Proposed Action meets the purpose and need in that sufficient environmental analysis would be conducted to encompass a range of actions and provide appropriate mitigation to allow applications for Las Vegas In-Valley disposals, ROW grants, mineral material disposal actions, permits, and leases, including trespass

resolution, to be authorized without additional NEPA being required. This would result in increased efficiency in processing.

Specific actions that could occur within select areas of the Las Vegas In-Valley may be subject to additional review by resource specialists and are listed in Appendix B of this document. These actions will be reviewed on a case-by-case basis to determine if the action has been sufficiently analyzed in this document or if further NEPA review is necessary:

- Formerly used defense sites within specified sections of the Las Vegas In-Valley.
- Transmission corridors within the Las Vegas In-Valley.
- Commercial drone use within the Las Vegas In-Valley.
- Vegetation disturbance within specified sections of the Las Vegas In-Valley that could impact certain special status species.
- Disturbance within Mining Claims within specified locations of the Las Vegas In-Valley.
- Disturbance near Saleable Minerals within the Las Vegas In-Valley.

Land Sales:

The BLM Las Vegas Field Office Lands Division currently conducts two competitive land sales a year consistent with the 1998 Southern Nevada Public Land Management Act (SNPLMA), as amended. The Las Vegas In-Valley is defined by the map in Appendix A. BLM-administered public land that is available for disposal consideration must fall within the Las Vegas In-Valley. The revenue derived from land sales is allocated between the State of Nevada General Education Fund (5%), the Southern Nevada Water Authority (10%), and the remaining 85% is deposited into a special account available to the Secretary of the Interior for:

- Parks, trails, and natural areas
- Capital improvements
- Conservation initiatives
- Multi-species habitat conservation plan (MSHCP)
- Environmentally sensitive land acquisitions and/or interests in lands
- Hazardous fuels reduction and wildfire prevention

Other provisions in the SNPLMA direct certain land sales and acquisition procedures, direct the BLM to convey title of land in the McCarran Airport noise zone to Clark County, and provide for the sale of land for affordable housing.

Special Recreation Permits:

Special recreation permits (SRPs) in the Las Vegas In-Valley are issued for commercial, competitive, vending, and organized group recreation events.

Commercial use is defined as recreational use of public lands for business or financial gain. Examples of commercial uses that may require an SRP in the Las Vegas In-Valley may include fund-raising activities, vending, festivals, and tour companies.

Vending use is defined as temporary, short-term, non-exclusive, revocable authorizations to sell goods or services on public lands in conjunction with a recreation activity. No permanent structures and no preferential rights are granted with vending SRPs. Examples of vendor uses that may require an SRP in the Las Vegas In-Valley may include T-shirt sales in conjunction with a bicycle or running race and food or souvenir stands at an obstacle course event. If the permittee for the event will control the vending, the vending may be included as part of the event SRP.

Competitive use is defined as any organized, sanctioned, or structured use, event, or activity on public land in which two or more contestants compete and either of the following elements applies: participants register, enter, or complete an application for the event; or a predetermined course or area is designated. Examples of competitive uses that may require an SRP in the Las Vegas In-Valley may include bicycle races, running races, and obstacle events.

Organized group activities and events are defined as group outdoor recreation activities or events that are neither commercial nor competitive. Examples of groups or events that may require an SRP in the Las Vegas In-Valley include scout troop activities, re-enactments, or a large family reunion participating in recreation activities on public land.

There would be no new land disturbance associated with SRPs within the Las Vegas In-Valley. Activities typically occur on existing recreation trails, R&PP leased lands, or on BLM lands that would otherwise be available for sale and eventual development. Permits for commercial and competitive use SRPs may be issued annually or on a five-year or 10-year basis. Vending and organized group event SRPs would be issued only in the short term, on a one-time basis.

Illegal Dumpsites and Trash Removal:

The growth of the Las Vegas In-Valley and the surrounding areas has resulted in an increase in the amount of illegally dumped trash throughout Southern Nevada. Illegally dumped materials are a public health and safety issue. The BLM proposes removing illegally dumped trash and debris from public lands throughout the Southern Nevada District using means appropriate for the nature of waste found on respective sites. The means by which the BLM proposes to remove illegally dumped waste from public lands will differ depending on the type of waste and the level of disturbance. Cleanup events would be held on an as-needed basis at any time during the year.

The BLM would use organized groups to remove trash and debris from public lands. Trash will be removed by hand. The BLM will use heavy equipment when materials are unsafe or unable to be removed by hand or hand tools. In cases where heavy equipment is used, portable water tanks or water trucks would be on site for dust mitigation purposes, as well as dust permits as necessary and advisable.

Staging areas are required for parking during cleanup events. Staging areas will be organized on disturbed areas near cleanup sites. Roll-off dumpsters would be placed in areas already disturbed along existing roads and rights-of-way.

Prior to cleanup events, appropriate BLM specialists will be consulted informally as to the sensitivity of respective cleanup sites in regards to cleanups. Record of this consultation will be added to the administrative record.

All vehicles, equipment, and personal gear will be clean and free of vegetation and soil before arrival on site and upon leaving the work site.

If hazardous wastes are encountered during cleanup events, reasonable precautions will be taken to ensure the safety of people involved in cleanup efforts. If hazardous waste is identifiable, guidelines outlined in the Emergency Response Guidebook will be followed. In each instance of the discovery of potential hazardous waste, the hazardous waste specialist will be notified.

Compliance with the special stipulations below will help to ensure that desert tortoises are not impacted:

- A speed limit of 25 miles per hour shall be required for all vehicles travelling on existing roads.
- Should a desert tortoise enter the area of activity, all activity shall cease until the animal leaves the area of its own accord.
- All drivers must check underneath vehicles and equipment before moving to ensure no tortoise has taken cover underneath parked vehicles.

Workers and volunteers will be instructed not to harass (feed, pet, chase, etc.) any livestock or wildlife encountered in or near cleanup areas. If they do see any livestock or wildlife, they should keep a safe distance.

When areas are subject to repeated illegal activity, signs will be erected to inform where certain activities are illegal. For instances where cleanup efforts and sign postings are not an effective means of preventative action, post and cable fences, gates, berms, boulders, and other barriers have been proven effective in controlling illegal activity.

Berms will be created using heavy equipment and materials (dirt, rocks, and gravel) that have been illegally dumped. Berming will not create any new disturbances as it will take place on previously disturbed areas and only when prudent. Benefits to berming are the reduced costs involved in removing materials from dump sites, reduced costs in erecting barriers, and eliminated costs for dumping in landfills and transfer stations.

Drones:

The use of small unmanned aircraft systems, also known as drones, for recreational use within the Las Vegas In-Valley must comply with the Federal Aviation Administration (FAA) Unmanned Aircraft Rule, 14 CFR Part 107, and follow the FAA guidelines as follows to include other applicable laws (i.e., Nevada State Assembly Bill 239):

- Do not fly within 5 miles of an airport.
- Fly no higher than 400 feet and remain below any surrounding obstacles.
- Always keep the vehicle within eyesight at all times.
- Stay clear of manned aircraft and don't intentionally fly over unprotected persons or moving vehicles, staying at least 25 feet away from people or property.
- Do not fly near sensitive infrastructure, such as power stations, water treatment facilities, correctional facilities, or heavily traveled roadways.

- Do not conduct surveillance or photograph people in places where there's an expectation of privacy without the individual's permission.

All commercially used unmanned aircraft or those over 55 pounds will be subject to additional NEPA and are required to obtain a Certificate of Authorization from the Federal Aviation Administration.

Chapter 3 Affected Environment and Environmental Effects

This chapter describes the affected environment and the environmental effects of the resources that have been identified as having a potential to be impacted by the Proposed Action. The resources that have been carried forward for analysis are: cultural resources, Native American concerns; paleontological resources; fire; mineral resources; soils; floodplains; hydrologic conditions; water resources; riparian areas and wetlands; fish and wildlife excluding federally listed species; migratory birds; threatened, endangered, or candidate animal species and critical habitat; integrated vegetation; and invasive species and noxious weeds. Refer to the internal scoping table in Chapter 1 for a complete list of resources considered.

A. Cultural Resources

A.1. Affected Environment

The National Historic Preservation Act (NHPA) requires that federal agencies make a good faith effort to identify significant cultural properties. The Nevada SHPO/BLM Protocol Agreement (2014), as a programmatic agreement under NHPA, specifies how the BLM will meet its responsibilities under Section 106 of NHPA, including development of a Cultural Resource Inventory Needs Assessment (CRINA) for the administrative record for each undertaking. The method used to determine effects to significant cultural properties rests on an application of the criteria of eligibility to the National Register of Historic Places (NRHP) under NHPA, and its implementing regulations in 36 CFR 60.4. To be considered significant, a cultural property must meet one or more of the criterion before it may be considered a “historic property.” An adverse effect results if there is a loss of integrity to a historic property, including destruction of the property, or an alteration of the resource in such a way as to diminish its eligibility to the NRHP.

Prehistoric resources are largely clustered in four major groups associated with water sources in the Duck Creek Drainage area in the southern part of the valley, the Las Vegas Springs area in the central portion of the valley, the Eglinton Escarpment overlooking the Las Vegas Wash, and the area around Tule Springs Fossil Beds National Monument. Other site concentrations have been found near springs, seeps, and even large concavities in bedrock that retain water known as tinajas or natural water-catchment basins. These resources represent the unique blend of indigenous archaeological cultures that inhabited the geographical interface of the Great Basin, the Southwest, and the Lower Colorado River, an occupation that extended from the early Holocene to the time of European contact. Significant historic sites relate to the period when Southern Nevada was visited by Europeans as early as 1829 by Antonio Armijo, who traversed the Mojave Desert over what became known as the Old Spanish Trail, and the construction of the San Pedro, Los Angeles, and Salt Lake (SPLA&SL) railroad, which was completed in 1905. Shortly thereafter, the town of Las Vegas was founded after a land auction although several Mormon settlements in the area had been established and subsequently abandoned. Other important historic resources represent ranching and mining activities, as well as the development of the City of Las Vegas. Over two dozen National Register-nominated sites are situated within the Las Vegas In-Valley.

Much of the Las Vegas In-Valley has been inventoried for cultural resources, including the Class III archaeological surveys preformed for the development of the Las Vegas Valley Disposal Boundary EIS

(2004) of 46,761 acres. With the completion of the 2004 Disposal Boundary Survey by HRA, Inc. (BLM Cultural Resource Report 5-2467), BLM determined that there was limited land remaining on the valley floor that had not been disturbed and surveyed for archaeological sites. With the 2004 Disposal Boundary EIS project, which essentially covers the same area identified as the Proposed Action in this EA with a few exceptions, indicated that there are nine sites situated on land administered by the BLM that are eligible for inclusion on the NRHP: the Tule Siding of the Las Vegas to Tonopah Railroad, a historic segment of the Las Vegas to Bullfrog/Tonopah wagon road, prehistoric open sites, rock shelters, a rock alignment, and several rock-ring sites. (SHPO concurred with BLM regarding these findings in correspondence dated August 6, 2004.) Subsequent surveys have been limited and have revealed few new archaeological sites in the valley.

A.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, BLM-administered lands within the Las Vegas In-Valley that are subject to development or utilization through ROW grants/renewals, R&PP leases, permits, or any other land-use authorization would continue to be analyzed on a case-by-case basis per the Nevada SHPO/BLM Protocol Agreement, including future undertakings that may occur in the area previously analyzed under the 2004 Disposal Boundary EIS. As a result, the identification of effects to cultural resources under the No Action Alternative would be similar or the same as that under the Proposed Action, and the No Action Alternative would result in no change in SNDO BLM practices. Areas where there has not been sufficient archaeological survey or where there the ground surface has not been significantly disturbed would continue to require, on a case-by-case basis, field surveys. In addition, where significant cultural sites are discovered or known, these would be avoided, and the direct impacts and indirect effects to NRHP-eligible sites would be mitigated.

A.3. Environmental Effects of the Proposed Action

The lease or disposal of BLM lands and the transfer of title would not have a direct impact on cultural resources, unless these actions occur in areas where there are known, previously located significant cultural resources. Each applicant/proponent will receive a standardized set of mitigation stipulations as provided in Appendix D. Avoidance is the preferred mitigation strategy. Also, where subsequent development and change in land use may have an indirect effect to known historic properties under the administration of the BLM, these will be addressed individually on a case-by-case basis under the Nevada SHPO/BLM Protocol Agreement. Because the determination of effects cannot be ascertained at this time, the Las Vegas Resource Management Plan (RMP) will continue to provide management directions for the preservation and conservation of cultural resources. In the event that there would be an adverse effect to historic properties, the BLM would prepare a Historic Treatment Plan in consultation with the Nevada State Historic Preservation Officer (SHPO).

A.4. Cumulative Impacts of the Proposed Action

Cumulative impacts to cultural resources can result from past, present, or other reasonably foreseeable project activities. With the incremental urbanization of almost the entire the valley, from both authorized and/or unauthorized activities, the opportunities to collect new information have greatly decreased. Eventually, once lands included within the Las Vegas In-Valley have been sold or developed, only a few archaeological sites may remain and could be restricted to a few protected settings, such as preserved

portions of the Old Spanish Trail, Las Vegas Wash, historic parks, and sites situated on lands restricted by the military.

A.5. Mitigation Measures (also in Appendix D)

Any impacts to historic properties would be preferably mitigated through avoidance or through other mitigation measures that may be identified in consultation with SHPO and affected tribes. Indirect effects to historic properties such as visual, atmospheric, olfactory, or auditory impacts that may alter the setting or feel also would be mitigated through design changes or through on-site or off-site mitigation measures, as appropriate.

A.6. Residual Impacts

The sale or lease of land to private landowners and developers has had, and would increasingly have, the potential to significantly affect the archaeological record of the Las Vegas Valley. To ensure that those adverse effects would not occur to known sites and undiscovered significant cultural resources without mitigation, residual effects would be contingent on adherence to appropriate measures and stipulations, including minimization of harm, and data collection, including excavation, where appropriate.

B. Native American Concerns

B.1. Affected Environment

The Southern Paiute (Nuwu) have considered the Las Vegas Valley their home for potentially thousands of years. In 1911, the Las Vegas Paiute Band was deeded 10 acres near downtown Las Vegas by Helen Stewart. In 1983, the Band received 4,000 acres north of the valley through congressional action. Of the 16 bands of Nuwu, four (Las Vegas, Moapa, Pahrump, and Chemehuevi) all have significant ties to the area. The four major cultural areas in the valley, Eglington Escarpment, Duck Creek, Las Vegas Spring, and the Tule Springs Fossil Beds National Monument area are considered important to the Nuwu. Beyond the edges of the valley are places of great cultural significance to the Nuwu, as well as tribes ranging from the Colorado River Indian Tribes to the Hopi Tribe.

As part of the effort to support the 2004 Las Vegas Valley Disposal Boundary EIS, ethnographers with Chambers Group, Inc. assisted the BLM in interviewing members of 11 Native American tribes and the four bands of the Paiute Indian Tribe of Utah that have a cultural affiliation with the area. The following were contacted: the Chemehuevi Indian Tribe; the Colorado River Indian Tribes (CRIT); the Fort Mojave Indian Tribe; the Hopi Tribe; the Hualapai Indian Tribe; the Kaibab Band of Paiute Indians; the Las Vegas Paiute Tribe; the Moapa Band of Paiutes; the Pahrump Paiute Tribe; the Paiute Indian Tribe of Utah (Indian Peaks Band, Kanosh Band, Koosharem Band, and Shivwits Band); and the Twenty-Nine Palms Band of Mission Indians. In June 2004, the Chambers Group presented the BLM with the Ethnographic Assessment for the Las Vegas Valley Land Disposal Project, Clark County, Nevada, that included the results of archival and literature reviews and documented tribal contacts through telephone calls and face-to-face meetings. A total of 24 potential culturally significant areas were identified. Of these, nine are within the Las Vegas In-Valley and were described as Southern Paiute village and farm sites. The location of only one of these habitation sites has been determined, and the Las Vegas Wash was the only culturally significant area identified by the tribes within the Las Vegas In-Valley; two other locations were uncertain: the Stone Mortar Site and an unnamed mesa in the Blue Diamond area. The NHRP eligibility and effect to these areas and the unidentified sites remains unknown. No traditional cultural properties (TCPs) or properties of religious cultural importance were identified.

B.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, BLM would continue to approve and grant ROWs/renewals, R&PP leases, permits, and other land-use authorizations within the Las Vegas In-Valley. Known or culturally significant sites identified through tribal consultation on a case-by-case basis would be avoided or mitigated to resolve adverse effects associated with sensitive areas. The lease or disposal of BLM-administered lands would not have a direct effect on Native American resources, as there were not any traditional cultural properties (TCPs) or properties of religious cultural importance that had been previously identified, and there would not a change in land use or loss of resource protection. Effects under the No Action Alternative would be similar or the same as those under the Proposed Action. The No Action Alternative would result in no change in SNDO BLM practices.

B.3. Environmental Effects of the Proposed Action

The continued lease or disposal of BLM-administered lands in the Las Vegas Valley would not directly adversely impact Native American resources, though continuing development could indirectly affect resources through ground-disturbing activities and audible and visual intrusions. The Southern Paiute village and farm sites may be found to be located on land in the Las Vegas In-Valley under the administration of the BLM, however, because the exact locations of these sites are unknown, these sites could potentially be affected by ongoing development on private property. Also, though there were not any TCPs identified within the Las Vegas In-Valley and there would not be any direct or indirect effects to these types of cultural resources, their potential identification is not precluded. Where known or culturally significant areas have been previously identified, there was not sufficient information to evaluate these areas as properties for listing as a TCP on the NRHP, and the SHPO determined that these efforts were adequate. Through current and future tribal consultations and documentation, however, it may be determined that these areas could be listed on the NHRP as TCPs. The Proposed Action would result in no change in SNDO BLM practices for consulting with affected Native American tribes.

B.4. Cumulative Impacts of the Proposed Action

The cumulative effects of the Proposed Action relates to increased development in the valley. Activities in, or adjacent to, culturally sensitive areas could lead to cumulative impacts to areas suitable for religious or traditional uses, given the extent of the effects on the locations of the resource and its importance if it may be identified by the tribes.

B.5. Mitigation Measures (also in Appendix D)

Tribal consultation for all federal undertakings is mandated under Section 106 and NEPA. No specific mitigation measures are called for when there are effects to Native American concerns. If needed, mitigation would be agreed to through consultation with the affected entities.

B.6. Residual Impacts

To ensure that adverse effects would not occur to known and undiscovered sites and culturally sensitive areas, residual effects would be contingent on adherence to appropriate tribal consultation for all federal undertakings as mandated under NHPA and NEPA, relevant Executive Orders and the BLM's Native American Tribal Consultation Handbooks and Manual. This would be in addition to management directions under the Las Vegas Valley RMP.

C. Paleontological Resources

C.1. Affected Environment

The Las Vegas Valley is divided by the Las Vegas Wash. The wash flows northwest to southeast, draining the washes of the Sheep Range and the Snow Mountains to the Colorado River at Lake Mead. In the Pleistocene Era, pluvial lakes formed in the wash, drawing megafauna to the region. As the glaciers subsided and the lakes diminished, springs formed in their place bringing mineralized water from the mountains to the surface of the valley. The paleontological resources of the area indicate that plants and animals have existed in Southern Nevada over the past 600 million years and provide evidence of great scientific value.

A considerable amount of the Las Vegas In-Valley has been inventoried for paleontological resources under the Paleontological Resources Assessment and Treatment Plan for the development of the Las Vegas Valley Disposal Boundary EIS (2004). Three sensitive fossil-bearing sedimentary formations were identified: the Horse Spring, Muddy Creek, and Las Vegas formations. In addition, one unconsolidated Quaternary (Pleistocene or Recent) alluvium overlays these formations. Based on a review of the Regional Paleontologic Locality Inventory, field surveys of high sensitivity areas within the disposal boundary area performed in 2004 revealed that the Las Vegas Formation is fossiliferous containing considerable non-diagnostic bone fragments that were deemed to have little potential to be paleontologically significant. Such fragments may indicate, however, the presence of more substantial subsurface remains. Since these surveys, there has not been an identification of any other high potential localities.

C.2. Environmental Effects of the No Action Alternative

The Paleontological Resources Protection Act (PRPA) of 2009 requires a good faith effort to recognize paleontological resources in any federal action. Several areas within the Las Vegas In-Valley are known as high potential localities for fossils. Effects to paleontological resources under the No Action Alternative would be similar or the same as those under the Proposed Action. The No Action Alternative would result in no change in SNDO BLM practices.

C.3. Environmental Effects of the Proposed Action

The lease or disposal of BLM lands and the transfer of title would not have a direct impact on paleontological resources unless these actions occur in areas where there are known, previously located significant paleontological resources. Where significant localities are known, these could be mitigated through excavation, although avoidance is the preferred mitigation strategy. Each applicant/proponent will receive a standardized set of mitigation stipulations. Because the determination of effect cannot be ascertained at this time, the Las Vegas Resource Management Plan (RMP) will continue to provide management directions for the preservation and conservation of paleontological cultural resources.

C.4. Cumulative Impacts of the Proposed Action

Cumulative impacts to paleontological resources can result from past, present, or other reasonably foreseeable project activities. With the continued urbanization of almost the entire the valley, from both

authorized and/or unauthorized activities, the opportunities to collect new information has greatly decreased. Eventually, once lands included within the Las Vegas In-Valley have been sold or developed, only a few paleontological sites may remain and could be restricted to a few protected settings, such as at Tule Springs Fossil Beds National Monument.

C.5. Mitigation Measures (also in Appendix D)

Disturbances to fossil-bearing strata can be mitigated by scientific removal of the fossils and curation in a federally approved facility. In Las Vegas, that facility is the Las Vegas Natural History Museum.

C.6. Residual Impacts

Development and urbanization would increasingly have the potential to significantly affect the paleontological record of the Las Vegas Valley. Residual effects to known and undiscovered paleontological remains, as well as sensitive areas, would be contingent on adherence to measures and stipulations, including minimization of harm, and data collection, including excavation where appropriate, and management directions under the 1998 Las Vegas Valley RMP as found in Chapter 1 of the EA.

D. Wildland Fire/Fuels

D.1. Affected Environment

Wildfires can threaten human safety, degrade air quality, destroy structures and infrastructure, damage sensitive natural and cultural resources, and decrease land value. Wildfires in the Las Vegas In-Valley are caused by lightning and unauthorized and accidental human-caused fires. Human-caused fires account for over 71% of wildfires in the Las Vegas In-Valley. The proposed actions are likely to impact wildland fire and fuels management.

The public lands managed by the Las Vegas Field Office within the Las Vegas In-Valley have numerous urban and wildland interface areas that can be characterized as lines, areas, or zones where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. The Las Vegas In-Valley is primarily wildland urban interface (WUI), and the wildfire response is suppression.

The operational role of the BLM in the WUI is wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Firefighter and public safety are the first priorities in every fire management activity. Fire management plans and activities incorporate public health and environmental quality considerations. A fire management plan defines a program to manage wildland fires (wildfire and prescribed fire) and identifies and integrates all wildland fire management activities in accordance with approved resource management plan decisions.

Wildfires frequently burn through jurisdictional boundaries. Responses to wildland fire are coordinated across levels of government regardless of the jurisdiction at the ignition source. The use of cooperative agreements promotes the common goals for the agency to manage incidents in a cost-effective manner for the protection of life, property, and natural resources. It is in the interests of city, county, state, tribal, and federal agencies to work toward a common goal concerning a wildfire incident.

The expansion of noxious and invasive plant species has altered the fire regime in the Mojave ecoregion from small, infrequent, and low-severity wildfires to more frequent, large, and high-severity wildfires. Plant communities and fire regimes have been altered where an invasive annual grass fire cycle has been established (Chambers, et al., 2013, p. 81). As a result, large, landscape-level fires have become possible when annual grass fuel loading is high and ignition sources are prevalent (Chambers, et al., 2013, p. 79). Common invasive annual grasses include non-native Mediterranean grass (*Schismus spp*), cheatgrass (*Bromus tectorum*), and red brome (*Bromus rubens*). Winter precipitation can generate a sufficiently dense growth of grasses and other annual plants to potentially promote wildfire at the landscape level (Chambers, et al., 2013, p. 81). Tamarisk, or saltcedar (*Tamarix spp.*), is common and is a state-listed noxious weed. Tamarisk fires are usually severe and are resistant to fire control efforts. Clark County, the National Park Service, BLM, and various cooperators have worked to reduce tamarisk. Landscaping utilizing combustible plant materials like fountain grass (a state-listed noxious weed - *Pennisetum setaceum*), Russian olive (*Elaeagnus angustifolia*), and fan palms (*Washingtonia filifera*) have also been observed to be susceptible to wildfire. Xeriscaping, which uses less-combustible vegetation, maintaining native desert vegetation or less continuous vegetation, usually results in less frequent severe wildfires.

The Healthy Forests Restoration Act of 2003 (HFRA) aids in the implementation of the goals of the National Fire Plan, the 10-year Comprehensive Strategy Implementation Plan, National Cohesive Wildland Fire Management Strategy, and the Healthy Forests Initiative. HFRA provides improved statutory processes for hazardous fuels reduction projects on certain types of at-risk BLM lands and provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownership.

Smoke from wildfires can impact air quality. Fire management activities work to minimize wildfire smoke impacts in coordination with local and state cooperators. Suppressing fires is a common minimization method. Reducing hazardous fuels before a wildfire event can reduce the amount of potential emissions by reducing the amount of available burnable fuel. Short-term impacts to air quality due to prescribed fire activities are possible. Prescribed fire projects are required to comply with federal, state, and local regulations and standards, including air quality and smoke management programs. Smoke management in Clark County is carried out in coordination with the Clark County Department of Air Quality (DAQ).

The fire management response following a wildfire can include emergency stabilization, rehabilitation, and restoration measures focused on preserving, protecting, and enhancing resource values where needed. Post-fire emergency stabilization and rehabilitation efforts are designed and implemented to achieve multiple objectives for vegetation, habitats, soil stability, and watersheds. For emergency stabilization, actions fall into several categories: human life and safety; soil/water stabilization; designated critical habitats for federal/state-listed, proposed, or candidate species; critical heritage resources; invasive plants; and monitoring. For burned area rehabilitation, some of the categories are: lands unlikely to recover naturally; weed treatments; tree planting; repair/replace fire damage to minor facilities; and monitoring.

The BLM's fire prevention and education program is responsible for wildland fire prevention, prescribed fire education, fire trespass and investigations, and compiling fire statistics. Special emphasis is given to abandoned campfires, equipment-caused fires, fireworks, children playing with fire, railroad fires, and prescribed fire and natural fire occurrence data. Prevention planning is integrated with the fire and resource management planning process, and needs are identified through a risk or hazard analysis that is approved as part of the fire management plan. Risk or hazard analysis can consider defensible space and landscaping. Buildings and landscaping within the Las Vegas In-Valley are generally composed of non-combustible materials (i.e. adobe, tile roofs, xeriscaping, etc.).

Fire trespass refers to the occurrence of unauthorized fire on agency-managed public lands where the source of ignition is tied to some type of human activity. BLM policy requires any human-caused fire on agency-managed public lands to be investigated to determine origin, cause, and responsibility. The agency and its employees must pursue cost recovery or document why cost recovery has not been initiated.

Direct impacts from the proposed action are human-caused wildfires. Indirect impacts from human-caused fires may result in the loss of native vegetation and habitats. Depending on a fire's location and size, fire can damage or destroy property or infrastructure, as well as threaten human safety and communities. Figures 1-3 below illustrate wildfire history within the Las Vegas In-Valley from 1992-2015 (Short, K. C., 2013. Data on file with BLM NV).

Disposal Boundary Area Fire History: Wildfire Cause - 1992-2015

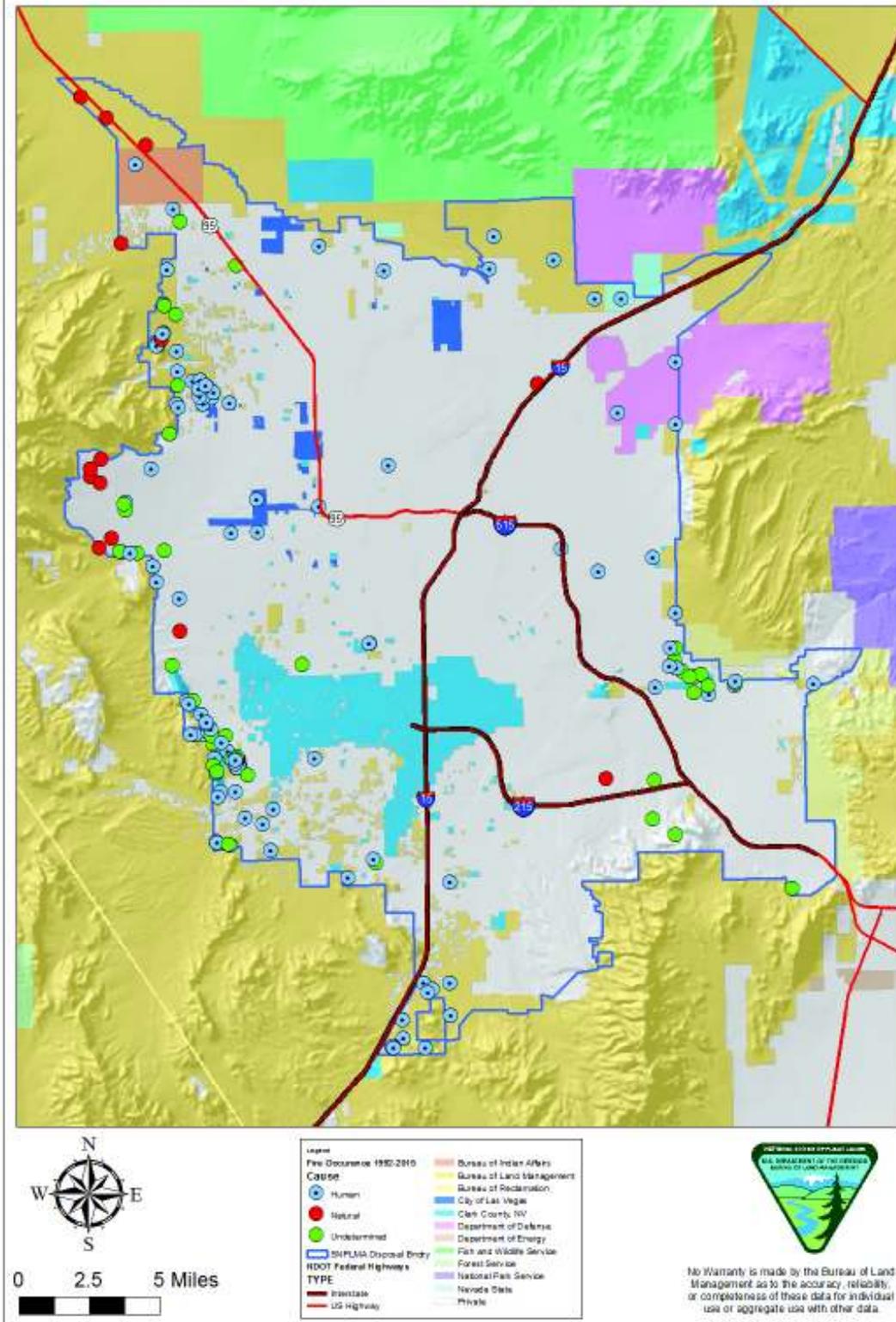


Figure 1 (not to scale)

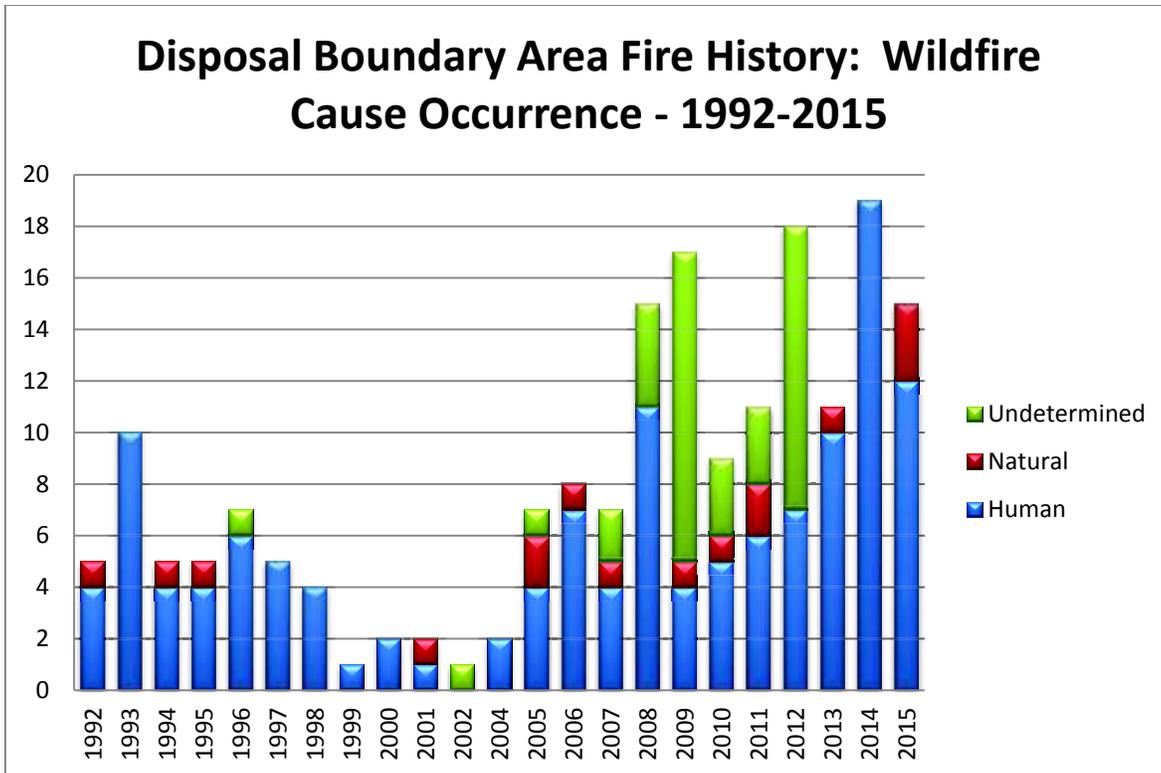


Figure 2

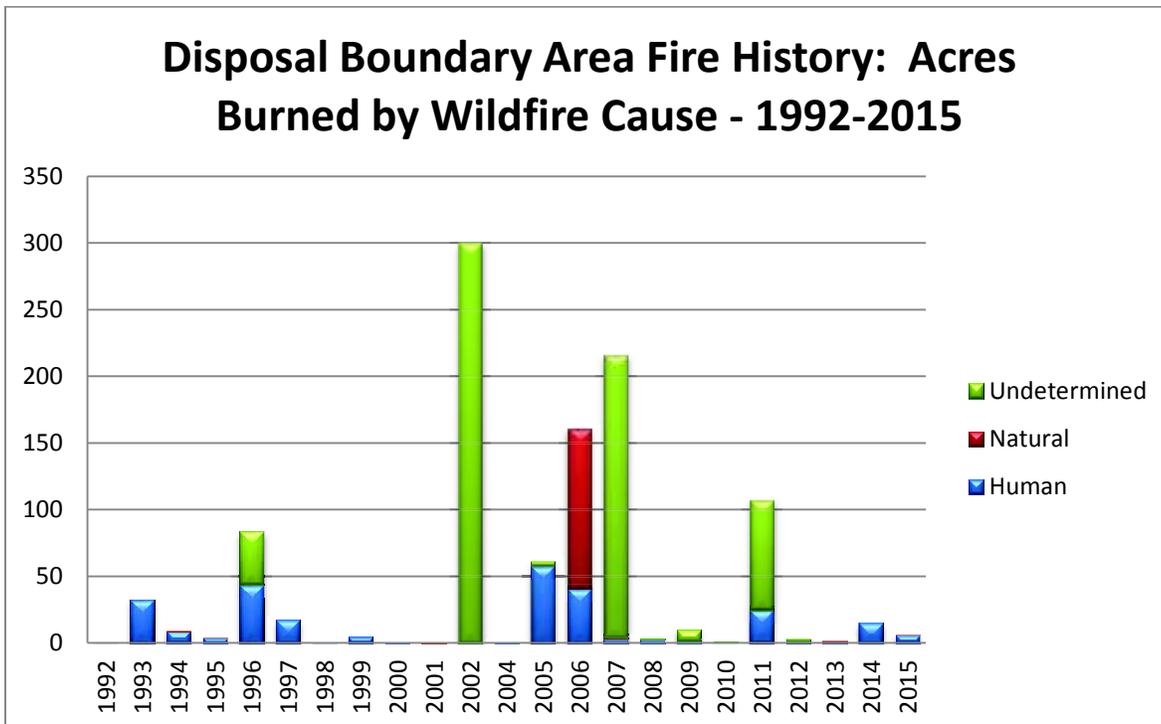


Figure 3

Fires are typically categorized on the basis of period of occurrence, size class, regime, and vegetation condition class. Wildfires can occur year-round in much of the Mojave region. In the Las Vegas In-Valley, the general fire season is usually April through October. The most critical fire conditions correspond with the hot summer period characterized by low moisture and midsummer thunderstorms.

From 1992 to 2015, about 186 wildfires burned approximately 1,040 acres in the Las Vegas In-Valley area, excluding the 2005 lightning-caused Gas Fire that burned a reported 22,000 acres. The average fire occurrence was eight fires per year, and the average fire size was about 45 acres. The median fire size was about 7 acres. An estimated 71% of the fires were human caused, 9% were attributed to natural causes or lightning, and about 20% were attributed to undetermined causes. In comparison, human-caused fires accounted for about 54% of all wildfires occurring in the Las Vegas and Pahrump field offices planning area. Human-caused fires are more frequent within the Las Vegas In-Valley than anywhere else in Southern Nevada.

From 1997 to 2004, there was a decline in human-caused fires. Between 2005 and 2015, the occurrence of human-caused fires within the Las Vegas In-Valley dramatically increased. The rate and frequency of human-caused fires was much higher than all previous years in the period of record. Even though the number of human-caused fires doubled from 2005 to 2015, the amount of acres burned was only slightly greater than what burned from 1992 to 2004. This may be because some of the more fire-prone areas were developed and/or treated for hazardous fuels, noxious and invasive weeds, and/or were restored with less combustible vegetation.

All fires of human or unknown origin that burn BLM land shall be investigated to determine origin, cause and, if possible, the responsible party(s) with the following exception. If a fire is not investigated due to safety, costs, or other considerations, that decision must be recorded, signed by an authorized officer, and maintained at the local unit.

The BLM shall pursue cost recovery for all costs and damages incurred from human-caused fires on BLM lands when the responsible party(s) has been identified and evidence of legal liability or intent exists. Legal liability includes, but is not limited to, negligence and strict liability (including statutory and contractual liability), products liability, and other theories of liability. If cost recovery is not pursued on human-caused fires due to lack of evidence or a responsible party(s), the BLM must document the reasons why cost recovery was not initiated in the fire report and in the fire trespass case file.

The BLM may pursue cost recovery for other lands where BLM responds under a cooperative fire protection agreement where BLM is not reimbursed for suppression actions, as stipulated in the agreement. However, these cases must be pursued in a civil action through the U.S. Attorney's Office (USAO) as BLM regulations require the fire to have burned BLM lands to recover costs through the administrative trespass process. Any effort to pursue cost recovery on wildland fires that occur on non-BLM land should be done in close consultation with the Solicitor's Office and in coordination with the respective jurisdictional agency. For human-caused fires, where cost recovery is pursued, the BLM will pursue cost recovery for suppression activities, emergency stabilization and rehabilitation planning and treatments, and damages to resources and improvements.

The BLM has jurisdictional authority for wildfire response on all BLM-managed public lands. BLM lands that have been conveyed or otherwise disposed of no longer fall within the BLM's jurisdiction.

Therefore, upon conveyance, wildland fire and fuels management and wildfire response will go to the receiving jurisdiction. The receiving jurisdiction will be subject to state and local authorities governing wildfire response and wildland fire and fuels management, where applicable. The BLM may continue to respond to wildfires on lands that have been conveyed or belong to another jurisdiction through state and local cooperative agreements, mutual aid during a wildfire emergency, or where a wildfire originating in an adjacent jurisdiction threatens BLM-managed public lands.

D.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, wildland fire and fuels management would increase. Human-caused fires would likely increase. Acres burned could remain the same or decrease due to increased urbanization and development coupled with the subsequent decrease in areas containing contiguous wildland fuels. However, increases in annual grass fuels could result in increased acres burned. Impacts to adjacent contiguous BLM acres would likely increase under the No Action Alternative.

D.3. Environmental Effects of the Proposed Action

This section analyzes the impacts of the proposed actions on wildland fire and fuel management. Impacts would result from actions that would affect historic fire regimes, vegetation, ecological conditions, fuel loading, desired vegetation structural stages, resilience, hazard/risk, and invasive species. Alterations or changes in fire size, frequency, severity, wildland fuels, ignitions, or ignition sources are likely to impact fire response, hazardous fuel management, mitigation/education, and emergency stabilization and rehabilitation activities.

Wildland fuel conditions fluctuate within the Las Vegas In-Valley and are dependent on seasonal precipitation levels, ephemeral grasses, disturbance levels, vegetation conditions, and the presence of invasive or noxious plant species. As a result, fire hazards or fire risk can also fluctuate. The expansion of invasive plant species can greatly increase the amount of fuel, the intensity and size of fires, and can shorten fire-return intervals. A factor contributing to increased desert wildfires is the establishment of the fire regime altering the invasive annual grass fire cycle.

Conditions favorable to the ignition and spread of wildfires can be present year-round in the Las Vegas In-Valley, peaking during the summer and the monsoon season when lightning is prevalent. Both human-caused and natural wildfire ignitions are exacerbated by invasive plant species that increase fuel continuity and provide a receptive fuel bed for wildfires. Wildfires under these conditions are intense, fast-moving, and resist control efforts.

Historically, large fires were uncommon in Las Vegas In-Valley, but this has changed over the past decade. Large fires generally remain infrequent in comparison to other areas in Nevada; however, wildfire impacts can be severe and long term, resulting in increased impacts and costs over time.

Protecting priority wildlife habitats, watersheds, cultural resources, commercial and mineral developments, infrastructure, and WUI would affect fire suppression priorities by increasing demands on fire suppression resources, mitigation/education, emergency stabilization and rehabilitation, and hazardous fuel or vegetation treatment activities. Conflicts could result when available firefighting resources become overextended or overtaxed. Overextended firefighting resources could also affect

availability of firefighting resources locally, regionally, or nationally if they are diverted from other suppression efforts.

Fuel reduction and vegetation treatments could result in less fire suppression costs and a decrease in smoke impacts. Non-surface-disturbing vegetation treatments and/or effective suppression followed by effective rehabilitation/restoration could reduce impacts. Reactive fire management such as fire suppression and rehabilitation is usually more expensive and damaging than proactive fire, fuels, and vegetation management including prescribed fire, mechanical thinning, chemical treatment, and restoration. In general, fire suppression costs and risks to life and property should be less when wildfires occur where hazardous fuels have been treated compared to areas where fuels have not been treated.

Increased demands and costs for fire suppression resources, mitigation/education or outreach needs, vegetation or fuel treatments, and emergency stabilization and rehabilitation activities are expected for both alternatives due to an increasing population, an expanding WUI footprint on both public and private lands, and the increased need for resource and watershed protection. The natural fire regime would continue to be altered as fire frequency (including human-caused fires), size, intensity, or severity increase where land-use patterns and related disturbances increase. Increased wildfire impacts would increase the risk of losing key ecosystem components. Other factors expected for both alternatives are increased operating costs (fuel, personnel, equipment, and supplies) and additional developments outside the control of BLM managers. Shrinking or declining budgets and changing priorities would further constrain fire management response and related activities.

The proposed actions would increase the WUI footprint through land disposals and development. Between 1992 and 2015, 71% of all fires in the Las Vegas In-Valley were attributed to human causes. Historically, lightning-caused fires account for the majority of the lands burned. However, fire trespass activities are expected to continue, and human-caused fires could increase wildfire impacts. From 1997 to 2004, there was a decline in human-caused fires. Between 2005 and 2015, the occurrence of human-caused fires within the Las Vegas In-Valley dramatically increased. Without mitigation, the occurrence of human-caused fires is expected to increase similar to the increase that occurred from 2005 to 2015. Acres burned are likely to continue correlate to seasonal fire and fuels conditions and will be dependent upon available contiguous combustible wildland fuels. Urbanization and development could result in less available combustible vegetation. Continued use of less combustible materials in development and landscaping will contribute to less wildfire risk.

In the short-term, under the Proposed Alternative, impacts to wildland fire and fuels management could increase because of an increase in human-caused fires. Impacts to adjacent contiguous BLM lands are expected to remain the same or increase. However, through aggressive fire prevention, education, outreach, and the implementation of best management practices, impacts could remain at current levels or decrease.

Over the long term under the Proposed Alternative where BLM lands are conveyed through disposal decisions and/or developed or urbanized, wildfire frequency and size could decrease and could result in an overall decrease in impacts to wildland fire and fuels management in the Las Vegas In-Valley. In addition, impacts to adjacent contiguous BLM lands could decrease where fire prevention measures and fuels and restoration activities are successful. However, increases in annual grass fuels could result in increased acres burned on adjacent BLM lands due to human-caused fires and fire trespass.

D.4. Cumulative Impacts of the Proposed Action

Cumulative effects include loss of ecosystem function, native plant species, and habitats due to repeat natural and human-caused wildland fires. Repeat fires are likely to perpetuate the annual grass fire cycle problem.

There would be cumulative effects on fire management from the increased need to protect WUI and natural and cultural resources from human-caused and naturally occurring wildfires. Fire suppression priorities would be expected to increase and become more complex because WUI areas would expand, including development occurring on BLM lands and adjacent lands.

More commercial and public activities would occur within the Las Vegas In-Valley. Increasing population growth combined with the commensurate growth of recreation, commercial, mineral, and renewable energy development could increase the spread of invasive plant species and increase wildfire potential. Access for fire suppression operations in some areas would improve and, in other areas, access would decrease. Demand for fire suppression resources, fuel treatments, and ESR could increase.

Development would expand WUI and increase fire complexity and, in some cases, the need for a structure fire response. Fully urbanized lands would no longer require a wildland fire response. Expanding WUI could impose an economic burden on rural or municipal fire departments.

Wildfires are grouped into nine cause classes for statistical purposes: lighting, equipment use, smoking, campfire, fire use, railroad, incendiary arson, children, and miscellaneous. Miscellaneous fires include power lines, fireworks, cutting/welding/grinding, firearms use, blasting, structures, spontaneous combustion, flare stack/pit fires, aerial luminaries, and glass refraction/magnification. Many of the human-caused fires that have occurred in the Las Vegas In-Valley have been determined to be “miscellaneous” through origin and cause investigations. Common miscellaneous fires occurring in the Las Vegas In-Valley are shooting, fireworks, and wire burning. Many of the human-caused fires can be addressed through targeted education and outreach, management, or enforcement. However, in some cases, solutions are more problematic.

Fire trespass activities reflect local economic conditions and land uses. Over the past decade, the Greater Metropolitan Las Vegas area has experienced an economic and housing boom, as well as a severe economic downturn and housing crisis. The economic impacts affected people in different ways. When copper prices were high, wire-burning fires on BLM lands were frequent. When the housing bubble burst and people began losing their homes, foreclosures increased and trash dumping on BLM lands increased. Trash or debris fires also increased. As people were displaced or became homeless, the occurrence of escaped campfires increased. Similar direct and indirect impacts would be expected for the foreseeable future, and cumulative impacts to fire management would scale in intensity according to the economic situation or conditions.

Historically, most human-caused fires have been small because initial suppression actions were successful or because fuels were sparse. Lightning or naturally caused fires accounted for most of the acres burned. Some areas burn repeatedly. Repeat fires would cumulatively change local vegetation and would scale by fire size and/or severity. Years where annual grass fuels are continuous or where fires occur in areas with sensitive resources would result in increased impacts to fire management. Fire costs

can escalate quickly, and the cost of suppression and rehabilitation could be high. As a result, because of the need to protect WUI and natural and cultural resources from wildfire, impacts to wildland fire management will vary according to management requirements or prescriptions, fuel loading, and wildfire risk.

Vegetation management (particularly fuel reduction) and ESR on public, privately owned, and other federal lands in and around the Las Vegas In-Valley would help reduce wildfire risk and improve vegetation conditions. Wildfires burning outside historic conditions could result in more severe post-fire effects. Wildfires burning in invasive annual grass could contribute to significant changes to the fire regime and vegetation in many areas.

Climate change results in variability in temperature and precipitation and is known to influence the composition and structure of native and invasive plant communities. Increased temperature could increase wildfires. The increased length of the frost-free season would increase the length of the normal fire season. The annual wildfire season is now occurring one month earlier than in previous decades. Wildfires are already possible year-round, but fire frequency and size would likely increase. Ephemeral grass fuel loading and the annual grass fire cycle are highly dependent on seasonal rainfall and other climatic conditions. The timing and seasonality of precipitation is correlated to wildfire risk where precipitation increases annual grass fuel loading and continuity. Upward trends in fall precipitation would likely increase annual grass fuels. Less fall/winter rainfall and more intense summer monsoon events could result in decreased cool season annual grass fuels.

Changes in climate could shift or change vegetation. Changes in climate would impact vegetation communities. Management direction or response to these changes would emphasize areas resistant to climate change. Specific moderate to major direct and indirect impacts to fire management would be possible for managing fire in these areas. In general, moderate to major cumulative impacts would be expected due to climate change.

Vegetation communities have been changing over the past decade and have been altered by wildfire. Large or severe fires in areas where wildfires had been historically infrequent and small are becoming more frequent. Low to moderate severity fires are also becoming more frequent. Cumulative wildfire impacts would result in the loss of many native plant communities and decreases in plant diversity at the landscape level. However, changes in the vegetation conditions due to changes or varying climatic conditions would be exceeded or would be exacerbated by direct and indirect land-use impacts, such as actions leading to the expansion of invasive plants (or effective treatments) and resultant wildfires, including increases in human-caused fires.

Commercial, mineral, and renewable energy development and increased special designations that would reflect growth and fire response priorities to protect infrastructure would be commensurate. Impacts could be minor to moderate, with specific major impacts possible where wildfire risk is increased because of invasive or noxious plant species. Rehabilitation of lands would increase as the frequency of large fires would increase. Potential for human-caused wildfires would increase because commercial, mineral development, recreation, and renewable energy development would increase access and result in the expansion of invasive and noxious species. Increased population and development would increase the potential for human-caused fires over time. Shifts in plant communities due to disturbance and changing land-use patterns are likely to alter historic fire regimes at the landscape and watershed level.

D.5. Mitigation Measures (also in Appendix D)

The best wildfire mitigation strategy is fire prevention. An active community assistance and education program is needed to create fire-safe communities and prevent catastrophic impacts to sensitive natural and cultural resources. Fire prevention strategies are employed to reduce human-caused fires with special emphasis in the WUI, campgrounds, and transportation corridors. One of the goals of this program is to enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education. Key components are analysis of risks, hazards, and values, as well as the development of specific educational, mitigation, enforcement, and administrative actions.

Hazardous fuel projects and treatments can be used to reduce wildfire risk and potential smoke impacts by protecting and creating fire-adapted communities and to meet resource goals and objectives such as restoring and maintaining resilient landscapes. Fuel treatment projects require activity-level plans and environmental analysis. A common fuel project objective is to reduce wildfire risk to communities and resources by reducing hazardous fuels.

Industry standard fire prevention measures and best management practices to prevent fires may be acceptable in many cases. Proposed best management practices, fire prevention measures, and/or other minimization measures will be considered on a case-by-case basis and can be incorporated into a fire management plan or safety or hazard management plan as needed or when required by a BLM agency administrator. Standard fire prevention best management practices developed by the BLM may be adopted, incorporated, or updated at any time at the agency administrator's discretion. The required mitigation measures are:

- Fire restrictions are generally enacted May through October. Compliance with fire restrictions is mandatory while fire restrictions are in effect. Specific non-compliant activities may be permitted in writing on a case-by-case basis by a line officer after review and approval by the Fire Management Officer (43 CFR 9212).
- Conditions that support wildfires can occur any time of the year in Southern Nevada. In general and when fire restrictions are not in effect, use standard fire prevention measures and best management practices to prevent fires (43 CFR 2805.12(d) or subsequent revisions).
- Minimize wildfire risk to assets or infrastructure where needed by maintaining a wildfire defensive or survivable space. Consider using less combustible materials or plant materials to reduce wildfire risk where applicable. Consider implementing *Living with Fire* or *Firewise* strategies.
- The applicant/proponent shall immediately report fires to the BLM, appropriate dispatch center, or 911 and make all accommodations to allow immediate safe entry of firefighting apparatus and personnel.
- In the event of a human-caused wildfire, the applicant/proponent will be held responsible for all costs of suppression and damaged resources pending a wildfire Origin and Cause Investigation. An Origin and Cause Investigation will be carried out on any human-caused fire by BLM law enforcement or their designated representative. To minimize disturbance of potential evidence located at the fire scene, the applicant/proponent shall properly handle and preserve evidence in coordination with the BLM. The applicant/proponent shall report to the fire investigator or BLM incident commander and enter into the fire origin area on BLM fires only when given permission

to do so. The applicant/proponent will cooperate with the BLM in performance of fire investigation to determine wildfire cause.

- The holder, applicant or proponent shall be liable for damage or injury to the United States to the extent provided by 43 CFR 2807.12. The holder, applicant, or proponent shall be held to a standard of strict liability for damage or injury to the United States caused or substantially aggravated by any of the following within the right-of-way or permit area:
 - Activities of the holder, applicant, or proponent, including but not limited to construction, operation, maintenance, and termination of the facility.
 - Activities of other parties including but not limited to:
 - Land clearing and vegetation removal.
 - Earth-disturbing and earth-moving work.
 - Blasting.
 - Vandalism and sabotage.
- The maximum limitation for such strict liability damages shall not exceed two million dollars (\$2,000,000.00) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which damage or injury occurred. This section shall not impose strict liability for damage or injury resulting primarily from negligent acts or omissions of the United States.

D.6. Residual Impacts

Residual impacts would be similar to residual impacts to vegetation and weeds where wildfire impacts would contribute to the fragmentation of plant populations due to the increased incidence of combustible invasive and noxious plant species. Development within the Las Vegas In-Valley would likely lead to edge effects and disturbance outside of the Las Vegas In-Valley and potential increases in human-caused fires. However, these impacts would be similar if proposed actions were continued to be reviewed individually.

Wildfires originating on adjacent lands from human- or lightning-caused fires could threaten values at risk including human safety, infrastructure, or developments. Protecting priority wildlife habitats, watersheds, cultural resources, commercial and mineral developments, infrastructure, and WUI would affect fire suppression priorities by increasing demands on fire suppression resources, mitigation/education, emergency stabilization and rehabilitation (ESR), and hazardous fuel or vegetation treatment activities. Conflicts could result when available firefighting resources become overextended or overtaxed. Overextended firefighting resources could also affect availability of firefighting resources locally, regionally, or nationally if they are diverted from other suppression efforts.

Limiting or prohibiting fuels reduction and vegetation treatments could result in increases in wildfire smoke impacts and fire suppression costs, as well as losses in habitat value as vegetation types shift from the desired future condition. In general, fire suppression costs and risks to life and property should be less when wildfires occur where hazardous fuels have been treated compared to areas where fuels have not been treated.

Increased demands and costs for fire suppression resources, mitigation/education or outreach needs, vegetation or fuel treatments, and emergency stabilization and rehabilitation activities are expected for

both alternatives due to an increasing population, an expanding WUI footprint on both public and private lands, and the increased need for resource and watershed protection.

The natural fire regime would continue to be altered as fire frequency (including human-caused fires), size, intensity, or severity increase where land-use patterns and related disturbances increase. Increased wildfire impacts would increase the risk of losing key ecosystem components. Other factors expected for all alternatives include increased operating costs (fuel, personnel, equipment, and supplies). Shrinking or declining budgets and changing priorities would further constrain fire management response and related activities.

E. Mineral Resources

E.1. Affected Environment

Mineral materials within the Las Vegas In-Valley are public property and administered by the BLM under the regulations at 43 CFR 3600 (Mineral Materials Disposal) and the Federal Aid to Highway Act. Mineral materials are authorized for disposal by the 1998 Las Vegas RMP. The regulations at 43 CFR 3600 establish procedures for the exploration, development, and disposal of mineral material resources on public lands, and for the protection of the resources and the environment. The regulations apply to free-use permits and contracts for sale of mineral materials. The sale, free use, or issuance of a material site right-of-way for mineral materials must be in conformance with the 1998 Las Vegas RMP, Minerals Management Section (Code MN), the Federal Aid to Highway Act and/or the regulations found at 43 CFR 3600. Any mineral materials extracted, severed, or removed from public lands without written authorization, contract, free-use permit or material site right-of-way constitutes unauthorized use. Unauthorized users are liable for damages to the United States and are subject to prosecution for such unlawful acts.

There are 52 mining claims located within the Las Vegas In-Valley (see map in Appendix A and legal descriptions in Appendix B). Mining claims establish a possessory right to the claimant to develop and extract minerals from the lands contained within their mining claims boundary provided they are in compliance with applicable law.

E.2. Environmental Effects of the No Action Alternative

The No Action Alternative would result in mineral material disposal actions being analyzed on a case-by-case basis as they currently are. This alternative would have a negligible effect on the resource.

E.3. Environmental Effects of the Proposed Action

The Proposed Action allows for the disposal of mineral materials from within the Las Vegas In-Valley as identified in the Proposed Action. The effects on saleable mineral materials will be negligible as the resource is widely available in large quantities throughout Southern Nevada. Mineral materials must be obtained in accordance with the regulations found at 43 CFR 3600 in the form of a contract, free-use permit, or concurrence letter before they can be removed from a site or utilized beyond minimal personal use. If a contract, free-use permit, or concurrence letter is needed, the BLM will issue the required contract, free-use permit, or concurrence letter so long as it falls within the analyzed area.

Due to ongoing mineral operations throughout the Las Vegas Valley, any action that will require new construction, temporary road closures, traffic detours, etc. should be reviewed by a geologist to identify any potential conflicts that could occur. Administrative actions, such as renewals of existing rights-of-ways, that are already constructed, will not need to be reviewed by a geologist.

There are 52 mining claims located within the Las Vegas In-Valley. Any action being proposed on these lands must be reviewed by a geologist to identify any potential conflicts that could occur.

E.4. Cumulative Impacts of the Proposed Action

The cumulative impacts on saleable mineral materials will be negligible as the resource is widely available in large quantities throughout Southern Nevada. The cumulative impacts on locatable minerals will be negligible as internal reviews will be completed where mining claims are located to ensure conflicts are avoided.

E.5. Mitigation Measures (also in Appendix D)

For ROWs and R&PP Leases:

- If construction activities produce excess mineral materials from within the boundaries of the Proposed Action, the mineral materials must be used within the boundaries of the Proposed Action or stockpiled within the boundaries of the Proposed Action for future disposal by the BLM.
- If construction activities require that excess mineral materials be exported from within the boundaries of the Proposed Action as they are generated, written authorization, a mineral material sales contract, a free-use permit, etc., must be obtained from the BLM prior to exporting the excess mineral materials from within the boundaries of the Proposed Action.
- If mineral materials are to be stockpiled on site for a future disposal, specific BLM use authorization in the form of a written authorization, mineral material sales contract, free-use permit, etc., must be obtained from the BLM prior to exporting the excess mineral materials from within the boundaries of the Proposed Action.

For all others:

- If mineral materials will be used beyond minimal personal use or exported from within the boundaries of the Proposed Action, written authorization, a mineral material sales contract, a free-use permit, etc., must be obtained from the BLM prior to using or exporting the mineral materials.

E.6. Residual Impacts

None anticipated.

F. Soils

F.1. Affected Environment

Soils in the Las Vegas In-Valley are generally composed of gravel, windblown sand, fine-grained silts, and clays. The degree of soil development in the Las Vegas In-Valley ranges from thin, poorly developed soils overlying competent bedrock to stratified soils with well-developed subsoils and caliche horizons. Soils on alluvial fans along the valley margins are typically deep, gravelly fine sandy soils. Fine sandy soil horizons are typically present in broad, flat areas along the flanks of alluvial fans known as sand sheets. Desert pavement consists of closely spaced pebbles and rock fragments and covers large area of the valley, especially in upland portions of alluvial fans and along ephemeral washes.

Cryptobiotic soils (also referred to as biological soil crusts or cryptogamic soils) are formed by living organisms (algae, bacteria, mosses, and lichens) and their byproducts over geologic time. These soils are valuable to desert ecosystems because they stabilize loose desert soil types, minimize erosion and dust generation, and enhance soil fertility and water capture. Due to their low rate of formation, these biotic soil crusts are extremely vulnerable to environmental disturbances, such as fire, and anthropogenic impacts, such as grazing, hiking, biking, OHV use, and development.

Most soils in the valley can be eroded by wind action. The susceptibility of soils to wind erosion is significantly greater where desert pavement or biological soil crusts at the ground surface are disturbed. Once soils have been disturbed or vegetation is lost due to surface disturbance or drought, vegetation may not be easily re-established because of the salinity and alkalinity of the soils.

F.2. Environmental Effects of the No Action Alternative

Under this alternative, each action would be evaluated individually. Otherwise, impacts will be as described below.

F.3. Environmental Effects of the Proposed Action

Project applicant/proponents are more likely to have to implement more generic and potentially more mitigation measures for their projects than under individually evaluated projects. Further, the Proposed Action would allow for development to occur at a faster rate, potentially increasing the rate at which soils are lost and altered throughout the Las Vegas In-Valley.

Construction activities change the character of soils and could result in loss of desert pavement, desert soils, biocrust, and soil stability. Developed areas typically experience less soil erosion from wind than undeveloped areas. Therefore, soil erosion from wind would be minimal.

F.4. Cumulative Impacts of the Proposed Action

The cumulative effects of the Proposed Action would be that development could occur at a faster rate, potentially increasing the rate of soil disturbance. Cumulative impacts to soils, including biological soil crusts, can result from the effects of past, present, or other future reasonably foreseeable construction activities occurring at, or near, the same time and location as the individual projects covered under this

Las Vegas In-Valley EA. The incremental removal of undisturbed soils by such projects and activities would have long-term impacts because soils and biological soil crusts of arid and semi-arid regions are very slow to recover. In addition, future authorized and/or unauthorized activities in or adjacent to the action area may lead to long-term loss of soils, including biological soil crusts.

F.5. Mitigation Measures (also in Appendix D)

- Follow all Clark County BMPs for soils.
- Mitigation measures may include, but are not limited to, the following:
 - Watering the site.
 - Applying soil stabilizers.
 - Installing a construction entrance with trackout control devices.
 - The stabilization of disturbed surfaces after construction is completed.
- Should biological soil crusts be detected during pre-construction surveys, appropriate measures would be taken to minimize disturbance of soil crusts.
- Should desert pavement be detected during pre-construction surveys, appropriate measures would be taken to minimize disturbance of desert pavement. Suggested measures might include:
 - Limiting surface disturbance in desert pavement.
- Land surface treatment for areas previously disturbed: Following excavation, trenches will be backfilled with the excavated soil. The soil will be distributed and contoured evenly over the surface of the disturbed area. The soil surface will be left rough to help reduce potential wind erosion.
- Land surface treatment for areas previously undisturbed: Strip the top three to six inches of soil material with associated plant material from all surfaces to be disturbed by construction. Material stockpiled along the course of construction will be salvaged and transplanted out of harm's way but still within the right-of-way. At the conclusion, including trench backfilling and compaction, replace the stockpiled soil with plant debris uniformly back on the surface of the disturbed area.

F.6. Residual Impacts

Residual impacts include continued erosion and soil loss, as well as loss of potential desert pavement, biocrust, nutrients, and soil moisture within the Las Vegas In-Valley.

G. Floodplains

G.1. Affected Environment

The Clark County Regional Flood Control District (CCRFCD) is responsible for developing and implementing a comprehensive flood control master plan for the Las Vegas In-Valley. CCRFCD completed its most recent Master Plan Update (MPU) in 2015, assuming all available land in the valley had been fully developed. The 2013 MPU serves as a planning tool for the implementation of the flood control system in the valley and the design and construction of the master plan facilities. The CCRFCD's Master Plan Supplemental EIS addressed the environmental impacts from the construction and operation of these flood control facilities. The proposed and existing flood control facilities in the Las Vegas In-Valley are shown in Appendix A. CCRFCD's 2013 MPU. Appendix A of the 2013 MPU also contains detailed information, maps, and drawings of the proposed and existing flood control facilities in the Las Vegas In-Valley.

G.2. Environmental Effects of the No Action Alternative

Under this alternative, each action would be evaluated individually. Otherwise, impacts will be as described below.

G.3. Environmental Effects of the Proposed Action

Project applicant/proponents are more likely to have to implement more generic and potentially more mitigation measures for their projects than under individually evaluated projects. Further, the Proposed Action would allow for development to occur at a faster rate, potentially increasing the rate of change of the hydrologic condition and consequently speeding up the need for flood control infrastructure. CCRFCD has analyzed potential impacts associated with flood control facilities in the Flood Control Mater Plan Supplemental EIS. Action to avoid impacts involves a site-specific analysis based on the programmatic method established in the SEIS.

G.4. Cumulative Impacts of the Proposed Action

The cumulative impacts of the proposed action would be the same as those for the No Action Alternative.

G.5. Mitigation Measures (also in Appendix D)

- All applicant/proponents would be required to comply with any Federal Emergency Management Agency (FEMA) and Clark County Regional Flood Control District requirements for construction in floodplains, and thus any impacts from these activities would be reduced to a level of insignificance.

G.6. Residual Impacts

None anticipated.

H. Hydrologic Conditions

H.1. Affected Environment

The hydrologic condition refers to the infiltration and surface water runoff within a watershed. Changes in impervious surfaces and landscaped areas influence hydrologic conditions. The Las Vegas In-Valley watershed drains about 91,720 acres, of which 30,200 are public lands available for disposal. The hydrology of the valley has been extensively modified to provide drainage and flood control for urban development in the Las Vegas metropolitan area. Drainage improvements have included construction of flow channels, culverts, and detention basins. Flow channels and culverts divert channel flow and flood waters from developed areas and roadways. Detention basins provide temporary storage capacity for peak flow from storm events and control the release of flows to protect downstream infrastructure from flooding. The basins promote infiltration of impounded water into the shallow groundwater, contributing to the groundwater system and allowing gradual discharge back into the drainage system.

Available analysis of recharge in the Las Vegas In-Valley indicates that most of the recharge occurs at elevations greater than 5,000 feet in the mountains adjacent to the valley where rainfall and snowmelt directly infiltrate into rock outcrops or mountain runoff infiltrates into alluvial fan deposits. However, as the climate continues to change, more of the precipitation in Southern Nevada will occur during extreme summer storm events in lower elevation and less during the winter precipitation events in higher elevation, as it has in the past. In the 1980s, only a small amount of runoff infiltrated through ephemeral washes and precipitation on the valley floor and resulted in net infiltration, with less than 15 percent of rainfall contributing to recharge in areas below 5,000 feet.

H.2. Environmental Effects of the No Action Alternative

Under this alternative, each action would be evaluated individually. Otherwise, impacts will be as described below.

H.3. Environmental Effects of the Proposed Action

Project applicant/proponents are more likely to have to implement more generic and potentially more mitigation measures for their projects than under individually evaluated projects. Further, the Proposed Action would allow for development to occur at a faster rate, potentially increasing the rate of change of the hydrologic condition.

The development of lands would change the existing hydrologic condition by increasing impervious surfaces and landscaped areas. The change in hydrologic conditions would increase surface water runoff and reduce groundwater infiltration in the developed areas as compared to predevelopment conditions. In combination with the continued shift in precipitation patterns from winter precipitation in the mountains to extreme summer storm events in lower elevation, there is likely to be an even faster increase in surface water runoff and potential for increased flooding. While now an increasing percentage of rainfall occurs in lower elevations, the increase in impervious surfaces and flood control infrastructure may lead to overall lower recharge rate because of increased evaporation.

H.4. Cumulative Impacts of the Proposed Action

The cumulative impacts of the Proposed Action would be the same as those for the No Action Alternative.

H.5. Mitigation Measures (also in Appendix D)

- All applicant/proponents would be required to comply with any CCRFCD requirements for construction, and thus any impacts from these activities would be reduced to a level of insignificance.

H.6. Residual Impacts

Residual impacts include lower groundwater recharge rates for the Las Vegas In-Valley basin.

I. Water Resources

I.1. Affected Environment

The Las Vegas In-Valley is drained by the Las Vegas Wash, which is a tributary to the Colorado River. The watersheds that cross the Las Vegas In-Valley all contribute flow to the Las Vegas Wash and are shown in Appendix A. Each of the watersheds has been impacted to varying degrees by the amount of urban development in the drainage area. In its natural state, the Las Vegas Wash was an intermittent stream that flowed only during and immediately after storm events. Urban development, including channelization of stream courses, installation of storm drains, increasing impervious land cover, and increasing treated wastewater discharges, has altered the hydrology of the Las Vegas Wash, which now has permanent flows.

Ephemeral washes are located throughout the Las Vegas In-Valley. Washes that naturally convey storm flows to the Las Vegas Wash and Lake Mead may be considered waters of the United States as defined by 33 CFR Part 328.

I.2. Environmental Effects of the No Action Alternative

Under this alternative, each action would be evaluated individually. Otherwise, impacts will be as described below.

I.3. Environmental Effects of the Proposed Action

Project applicant/proponents are more likely to have to implement more generic and potentially more mitigation measures for their projects than under individually evaluated projects.

Potential impacts to surface water are mostly associated with construction activities. The impacts would be temporary, and the extent of the impacts would depend on the amount of surface disturbance at any given time.

There is the potential for accidental spills during construction activities or storage or transport of contaminants. Such spills could lead contaminants to travel off site during storm events if required response measures are not implemented. The potential sources are associated with leakages and spill of fuels and lubricants from vehicles and other machinery or the transport or storage of otherwise hazardous materials. In addition to accidental spills, disturbance of surface soils by construction activities could increase the potential for erosion and transport of soil (sediment) during rainfall events where surface water runoff crosses construction areas. Spills of hazardous materials/contaminants and/or erosion of disturbed soils with subsequent transport by surface water runoff could create adverse impacts to water quality.

Construction of underground utilities including water, gas, and sewer lines would involve trenching. Open trenching and the associated disturbance of existing desert soil and vegetation may impact surface water drainage during construction if a major rainfall/runoff event occurs.

There is the potential that groundwater would be encountered and intercepted during excavation of trenches for underground pipelines and utilities or other infrastructure projects within some areas in the Las Vegas In-Valley. A range of temporary and permanent impacts to the groundwater environment may result from construction activities if groundwater is encountered. Dewatering operations and discharges would be conducted in compliance with the applicable dewatering and discharge permits.

I.4. Cumulative Impacts of the Proposed Action

The cumulative impacts of the Proposed Action would be the same as those for the No Action Alternative.

I.5. Mitigation Measures (also in Appendix D)

- The Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control is responsible for setting requirements and enforcing the state's water pollution requirements and enforcing the state's water pollution control laws and regulations under Section 401 of the CWA and the National Pollutant Discharge Elimination System permitting program (Section 402 of the CWA). Therefore, the potential impacts on water quality from discharges and corresponding mitigation measures would be based on regulatory decisions made by NDEP at the time a new discharge (including storm water discharge) is proposed.
- Implementation of Clark County best management practices required by stormwater construction permitting ensures that runoff during construction does not adversely impact water quality. Any construction of underground utilities would require a stormwater pollution prevention plan that addresses mitigation measures resulting from discharge during storm events, thereby minimizing potential adverse impacts to surface drainage and water quality.
- Dewatering operations and discharges would be conducted in compliance with the applicable dewatering and discharge permits. The discharge of pollutants to the groundwater system from dewatering operations would be prevented or reduced by using sediment controls and by testing the groundwater for pollutants. The use of a sediment trap or basin in conjunction with a filtration system to remove sediment from the trap or basin would minimize chances of sediment entering the groundwater system. Monitoring of groundwater levels in the vicinity of dewatering operations should be conducted to avoid harmful groundwater lowering.
- If drilling boreholes, the applicant/proponent needs to follow Nevada Administrative Code (NAC) protocols for drilling and consult with ACOE to make sure a 404 permit is not needed. All holes should be drilled according to the Nevada Regulations for Water Well and Related Drilling, per NRS Statutes 534. All holes should be reclaimed according to NRS and NAC regulations and reclaimed immediately after drilling. If groundwater is intercepted, holes will need to be reclaimed appropriately. Additionally, applicant/proponent is responsible for obtaining any CWA permits from NDEP that may be necessary.

I.6. Residual Impacts

There would be no residual impacts if mitigation measures and Clark County's BMPs are employed.

J. Riparian Areas/Wetlands

J.1. Affected Environment

Wetland and riparian communities are considered valuable natural resources that provide habitat for a variety of common and special status plant and wildlife species. Riparian communities are vegetative zones associated with rivers and streams, especially in arid or semi-arid habitats where vegetation and wildlife reach far greater levels of diversity and abundance than in nearby habitats. The riparian community is uncommon in the Las Vegas In-Valley because it is restricted to areas of perennial and ephemeral streams, stormwater run-off channels, and emergent shallow groundwater.

J.2. Environmental Effects of the No Action Alternative

Under this alternative, each action would be evaluated individually. Otherwise, impacts will be as described below.

J.3. Environmental Effects of the Proposed Action

Project applicant/proponents are more likely to have to implement more generic and potentially more mitigation measures for their projects than under individually evaluated projects. Further, the Proposed Action would allow for development to occur at a faster rate, potentially increasing the rate at which riparian areas and wetlands are lost and altered throughout the Las Vegas In-Valley.

J.4. Cumulative Impacts of the Proposed Action

The cumulative impacts of the Proposed Action would be the same as those for the No Action Alternative.

J.5. Mitigation Measures (also in Appendix D)

- An applicant/proponent would be required to comply with Section 404 of the Clean Water Act (CWA). The U.S. Army Corps of Engineers (USACE) issues permits for filling and developing wetlands and waters of the U.S. on BLM and private lands, as defined in 33 CFR 328.3. The would be required to determine if their actions would cause fill or developments of the waters of the U.S. and wetlands and if so, obtain a CWA Section 404 Permit from the USACE. Therefore, the potential impacts, avoidance, and mitigation requirements for wetlands and waters of the U.S. would be based on regulatory decisions made by the USACE at the time a specific action is proposed. In addition, the action must comply with Section 401 of the CWA. Most applications also require a plan to mitigate project impacts and a monitoring plan to ensure the mitigation is completed and sustained. Thus any impacts from these activities would be reduced to a level of insignificance.

J.6. Residual Impacts

No residual impacts are anticipated.

K. Fish and Wildlife Excluding USFWS Federally Listed Species

K.1. Affected Environment

This action has the potential to affect wildlife species that reside within and immediately adjacent to the Las Vegas In-Valley and habitat that may exist on BLM-administered lands within this boundary that are subject to development or utilization through ROW grants/renewals, R&PP leases, permits, or any other land-use authorization.

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

BLM Sensitive Wildlife Species

BLM sensitive species are species that require special management consideration to avoid potential future listing under the Endangered Species Act (ESA) and that have been identified in accordance with procedures set forth in BLM Manual 6840 – Special Status Species Management (BLM 1988). A complete list of BLM sensitive species within the area can be found in the 1998 Las Vegas RMP. Many of these species, as well as other wildlife species of concern, are also discussed in the Nevada State Wildlife Action Plan (NDOW 2012) and the Clark County Multiple Species Habitat Conservation Plan (2000). Sensitive bird species are also provided protection by the Migratory Bird Treaty Act and are discussed in the Migratory Bird Section. The following sensitive species could potentially be impacted by the proposed action:

Chuckwalla (*Sauromalus obesus*)

Chuckwalla occur in rocky desert, lava flows, hillsides, talus slopes, and rock outcrops mostly below 5,000 feet, where creosote bush is typically the dominant plant species. Chuckwalla will seek shelter in rock crevices and bask on rocks during the day. They are herbivorous, preferring annuals, but they will also eat perennial vegetation. Chuckwallas are relatively common throughout their Nevada range and likely occur within the project area, but would be localized on rock outcroppings.

Banded Gila monster (*Heloderma suspectum*)

Gila monsters occur in desert washes and rocky upland desert scrub at elevations below 5,000 feet. Banded Gila monsters frequently utilize lower slopes of mountains and nearby plains. They will use and are occasionally encountered out in the gentler terrain of alluvial fans. Hence, Gila monster habitat overlaps habitats of both the desert tortoise and chuckwalla. Threats to this reptile include illegal collection, traffic fatalities, and habitat destruction from urban and agricultural development.

Mojave Desert Sidewinder (*Crotalus cerastes cerastes*)

The Mojave Desert sidewinder is a nocturnal snake hiding in the day in animal burrows or coiled camouflaged in a shallow self-made pit at the base of a shrub. This species is most common where there are sand hummocks topped with creosote bushes, mesquite, or other desert plants but may also occur on flats, barren dunes, hardpan, and rocky hillsides.

Desert bighorn sheep (*Ovis canadensis*)

Bighorn sheep habitat preference includes open, usually treeless vegetation types with plant communities containing grasses, sedges, and forbs for foraging, typically in close proximity to steep, rocky terrain for predator escape where they exhibit remarkable agility. Moisture is primarily derived through their diet of a variety of desert plants, however, surface waters are a vital component of their survival and important to population health. Desert bighorns have a lengthy lambing season that can begin in December and end in June.

There is NDOW-identified potential year-round habitat in the west and southeast edges of the proposed boundary, in the Spring Mountains and McCullough Range, respectively.

Bats

There are 16 BLM sensitive bat species (Revised Nevada Bat Conservation Plan, 2006) that are known to occur within or adjacent to the action area. Day roosts include caves, trees, mines, buildings, and bridges. Little population information is known for most bat species within the area, therefore; most trends are unknown with the exception of six species (cave myotis, Townsend's big-eared bat, canyon bat, fringed myotis, long-eared myotis, and long-legged myotis) that are experiencing downward trends. In general, the long-term persistence of North American bat species is threatened by the loss of clean, open water; modification or destruction of roosting and foraging habitat; disturbance or destruction of hibernacula; and white nose syndrome (currently not documented in Nevada). Chemicals in the environment that affect bats or their prey are also threats.

K.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, land-use authorizations (LUAs) within the Las Vegas In-Valley would continue to occur. Impacts to wildlife would continue to be analyzed separately for each individual action. Impacts to wildlife from the No Action Alternative would be similar or the same as the Proposed Action.

K.3. Environmental Effects of the Proposed Action

The disposal of BLM lands and the transfer of title would not have a direct impact on wildlife species, but the subsequent development and change in land use would be an indirect impact. This development will occur under the purview of the Clark County Multiple Species Habitat Conservation Plan. Direct impacts would result from continued issuance of R&PP leases, ROW grants, or other authorizations within the Proposed Action area.

Implementing surface-disturbing actions authorized under LUAs would result in direct impacts to wildlife. Surface-disturbing activities occurring during installation of utilities; maintenance and operational activities; construction of facilities, parks for public purposes, and/or structures; and decommissioning of projects could result in killing or maiming of ground-dwelling animals, displacement of individuals, the permanent loss and fragmentation of habitat, and increased potential for harassment of wildlife. Additionally, non-surface disturbance activities such as recreational events or projects authorized under special recreation permits may result in similar impacts to wildlife.

Indirect impacts could include increased noise, introduction and spread of weeds, increased erosion potential, and increased human or predator activity (predation, harassment, collection, vehicle traffic/collisions). These impacts may lead to an increase in wildlife mortalities or cause wildlife to abandon intact habitats that are immediately adjacent to construction sites or disturbed sites.

Permanent and temporary loss and/or fragmentation of habitats resulting from the activities covered under this analysis could affect some species with limited home ranges and mobility, such as small mammals and reptiles. However, wildlife species in the general area are common and widely distributed throughout the area, and the loss of some individuals and/or their habitat should have a negligible impact on populations of the species throughout the region.

Impacts from specific projects covered under this analysis would depend on conditions such as the type and duration of the disturbance; scope and/or size of the disturbance; the species present; and the time of year. When habitat disturbance cannot be avoided, adverse impacts to many species may be minimized through desert tortoise stipulations.

BLM Sensitive Wildlife Species

Impacts to BLM sensitive species are not anticipated to lead to further decline of the species range-wide.

Chuckwalla, Gila monster, and desert sidewinder

Potential impacts to these species from the proposed action would be similar to those discussed above for general wildlife. Mitigation measures proposed for desert tortoise may also mitigate impacts to these species.

Desert bighorn sheep

In addition to the potential of direct loss of foraging habitat along the eastern slopes of the Spring Mountains and the northern slopes of the McCullough Range, desert bighorn sheep may be disturbed by noise generated by projects in or adjacent to their habitat. Animals may seek cover on steep slopes and ridges to avoid project activities and associated noise pollution. Increased impacts may occur if activities occur during lambing season. Solitude-dependent species, such as the desert bighorn sheep, may abandon the areas where human activities have reduced the quality of their habitat.

Bats

Loss of habitat due to urban development removes natural foraging and roosting habitat for bat species. In addition, artificial water sources can injure or kill bats if not properly designed and maintained. Actions and/or projects covered under this analysis may lead to a decline in bat populations, including BLM sensitive bat species, within the action area or range wide depending on the specific bat species. However, bridges, buildings, and other structures may provide analog roosting habitats for bats within urban areas.

K.4. Cumulative Impacts of the Proposed Action

Cumulative impacts to wildlife species, including BLM sensitive species and their habitats, can result from the effects of past, present, or other future reasonably foreseeable construction activities occurring at, or near, the same time and location as the individual projects covered under this analysis. The incremental removal of undisturbed habitats by such projects and activities would have long-term impacts because vegetation/wildlife habitats of arid and semi-arid regions are slow to recover. In

addition, future authorized and/or unauthorized activities in or adjacent to the action area may lead to long-term loss of potential habitats for wildlife, including BLM sensitive species.

K.5. Mitigation Measures (also in Appendix D)

- Ensure that all artificial water sources have a properly installed and designed escape ramp and avoid the use of any obstacles to bats' flight paths, such as wooden or wire braces, whenever possible.
- Project supplies or equipment where wildlife could temporarily hide will be inspected prior to moving them, to reduce the potential for injury to wildlife. Supplies and equipment that cannot be inspected or from which wildlife cannot escape or be removed, will be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each work day.
- Concurrent with the desert tortoise clearance surveys, and where Gila monster habitat exists, a biologist will conduct a preconstruction survey for Gila monsters in the project area. Any Gila monster encounters during project construction must be reported immediately to the Nevada Division of Wildlife at (702) 486-5127.
- Live Gila monsters found in harm's way on the construction site will be captured and detained in a cool, shaded environment (<85°F) by the project biologist trained in handling venomous reptiles until a NDOW biologist can arrive for documentation purposes. A clean 5-gallon plastic bucket with a secure, ventilated lid or similar container may be used for safe containment. Written information identifying mapped capture location, date, time, and circumstances and habitat description will also be provided to NDOW.
- Injuries to Gila monsters may occur during excavation, road-grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses will not be covered by NDOW. However, NDOW will be immediately notified during normal business hours. If an animal is killed or found dead, the carcass will be immediately frozen and transferred to NDOW with a complete written description of situation circumstances, habitat, and mapped location.
- Should NDOW be delayed to assist, biological personnel on site may be requested to remove and release the Gila monster out of harm's way. Should NDOW not be immediately available to respond for photo-documentation, a camera will be used to take good quality photographs of the Gila monster in situ at the location of live encounter or dead salvage. The pictures will be provided to NDOW and will include:
 - Encounter location (landscape overview with Gila monster in clear view).
 - A clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view). A clear, overhead close-up of the head (head should fill camera's field of view).

K.6. Residual Impacts

Residual effects may be contingent on adherence to mitigation measures/stipulations stated above.

L. Migratory Birds

L.1. Affected Environment

This action has the potential to affect migratory bird species that reside within and immediately adjacent to the Las Vegas In-Valley and any habitats that may exist on BLM-administered lands within this boundary that are subject to development or utilization through ROW grants/renewals, R&PP leases, permits, or any other land-use authorization.

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

Western burrowing owl (*Athene cunicularia hypugaea*)

The Western burrowing owl is a diurnal bird of prey specialized for shrub-steppe habitats. Burrowing owl habitat in the Mojave Desert typically consists of open, dry, treeless areas on the desert floor. Burrowing owls most frequently use mammal burrows created by other animals such as ground squirrels (*Spermophilus* spp.), coyotes (*Canis latrans*), or desert tortoises (*Gopherus agassizii*). The burrows are used for nesting, roosting, cover, and catching prey. In recent decades, the range and species count have been declining primarily due to agricultural, industrial, and urban development that reduce burrow availability. Within the Las Vegas In-Valley, they can often be found on vacant lots adjacent to urbanized areas. Burrowing owls can also be found near or in construction sites.

Bendire's thrasher (*Toxostoma bendirei*)

In Southern Nevada, Bendire's thrashers occur mostly in Joshua tree woodlands with dense grass, but they can also occur in desert scrub habitats with cholla or mesquite or in sagebrush with scattered junipers. They normally avoid dense woodlands and areas with very sparse vegetation. They typically nest in mesquite, cholla, juniper, Joshua trees, and other yucca species. Their population trend in Southern Nevada is unknown, but they are declining in other parts of their range.

LeConte's thrasher (*Toxostoma lecontei*)

LeConte's thrasher is a year-round resident in the Mojave Desert of Southern Nevada. In Nevada, they are associated with saltbush flats and wash systems and nest in cholla cactus, sagebrush, small trees, or shrubs. This thrasher prefers open habitats for foraging with sparse vegetation for cover and is a good indicator of habitat quality. Their population trend in Southern Nevada is unknown.

Loggerhead shrike (*Lanius ludovicianus*)

This species prefers open country with nesting habitat preference toward scattered trees and shrubs. They are commonly found in shrub habitat types comprising savanna, desert scrub, and, occasionally, open woodland. Perches are an important habitat component used for hunting. If natural perches are unavailable, they will perch on poles, wires, or fence posts. Population trend data in Nevada has shown an unexplained 5 percent decline per year since 1966 and an ongoing decline range-wide (NDOW 2013).

L.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, land-use authorizations (LUAs) within the Las Vegas In-Valley would continue to occur. Impacts to migratory birds would continue to be analyzed separately for each individual action. Impacts to migratory birds from the No Action Alternative would be similar or the same as from the Proposed Action.

L.3. Environmental Effects of the Proposed Action

The disposal of BLM lands and the transfer of title would not have a direct impact on migratory bird species but the subsequent development and change in land use would be an indirect impact. This development will occur under the purview of the Clark County Multiple Species Habitat Conservation Plan. Direct impacts would result from continued issuance of R&PP leases, ROW grants, or other authorizations within the proposed action area.

Implementing surface-disturbing actions authorized under LUAs would result in direct impacts to migratory birds. Surface-disturbing activities occurring during installation of utilities; maintenance and operational activities; construction of facilities, parks for public purposes, and/or structures; and decommissioning of projects could result in habitat removal and the disturbance or displacement of individuals. Depending on the time of year, project-related activities may disturb nesting birds within or immediately adjacent to the proposed project areas. Additionally, non-surface disturbance activities such as recreational events or projects authorized under special recreation permits may result in similar impacts to migratory birds.

Western burrowing owl

The direct impacts of the proposed action on western burrowing owls would be loss of nesting habitat and forage, mortality and harassment of individual animals, and decrease in habitat value of adjacent remaining “wildland” areas due to increased human activity in the area. Indirect impacts would be similar to those discussed for general migratory bird species. The species is protected by the Migratory Bird Treaty Act, and the applicant/proponent will be required to adhere to below mentioned mitigation measures.

Loggerhead shrike, LeConte’s thrasher, Bendire’s thrasher

The direct impacts of the proposed action on these bird species would be loss of nesting habitat and forage, mortality and harassment of individual animals, displacement from noise, potential for collision or electrocution by power lines, and decrease in habitat value of adjacent remaining “wildland” areas due to increased human activity in the area. Indirect impacts would be similar to those discussed for general migratory bird species. The species are protected by the Migratory Bird Treaty Act, and the applicant/proponent will be required to adhere to mitigation measures for migratory birds.

L.4. Cumulative Impacts of the Proposed Action

Cumulative impacts to desert tortoises and their habitat can result from the effects of past, present, or other future reasonably foreseeable construction or project activities occurring within or adjacent to the proposed boundary. The incremental removal of undisturbed desert tortoise habitat by activities that may be covered under this analysis would have long-term impacts because vegetation/wildlife habitats of arid

and semi-arid regions are slow to recover. In addition, future authorized and/or unauthorized activities in or adjacent to the action area may lead to long-term loss of habitat for migratory birds.

L.5. Mitigation Measures (also in Appendix D)

- The applicant/proponent must comply with the MBTA and avoid potential impacts to protected birds within the project area.
- Habitat-altering projects or portions of projects should be scheduled outside of the bird breeding season, which generally occurs between February 15th and August 31st. If a project has to occur during the breeding season, then a qualified biologist must survey the area for nests immediately prior to commencement of construction activities. This shall include burrowing and ground-nesting species in addition to those nesting in vegetation. If any active nests are found, an appropriately sized buffer area must be established and maintained until the young birds fledge. The buffer area must connect to suitable, undisturbed habitat. As the above dates are a general guideline, if active nests are observed outside this range, they are to be avoided as described above.
- Migratory birds are known to collide with lighted structures, including buildings. Any lighting on facilities and associated infrastructure should be down-shielded to keep light within the boundaries of the site and the minimum amount and intensity allowable. The minimum amount of lighting required by the FAA should be used.
- Due to potential for electrocution, collision, and nesting/perching by migratory birds on overhead power lines, projects involving power lines and/or power line posts should follow Avian Power Line Interaction Committee (APLIC) guidelines (Suggested Practices for Avian Protection on Power Lines (2006) and Reducing Avian Collisions with Power Lines (2012)) to reduce this risk through facility design and to comply with MBTA and other federal wildlife laws.
- If applicable, all guy wires on all structures (including power line posts and communication towers) must be marked so they are visible to prevent injury/mortality to birds through collision. BLM requires that every guy wire (not just external wires) should be clearly marked for the length of the wire. Following APLIC (1994) and USFWS (2000) guidelines, all guy wires should be marked with either spiral vibration dampers (30 spirals per 150 meters of wire) or bird/swan flight diverters (spaced every 5 meters along the wire).
- All infrastructures for projects will be designed and constructed in a manner that does not allow open pipes that birds or other wildlife could be trapped in. This includes fencing, gates, or other materials with open holes. All open pipes will be capped or secured so that wildlife cannot access the pipe.
- Burrowing owl pre-construction surveys with the USFWS-recommended protocol (California Burrowing Owl Consortium, 1993) should be implemented by a qualified biologist. The biologist will identify suitable sites on adjacent BLM lands for creation or enhancement of burrows prior to passive relocation efforts and to provide for the creation of at least two artificial burrows per relocated owl.

L.6. Residual Impacts

Residual effects may be contingent on adherence to mitigation measures/stipulations stated above.

M. Threatened, Endangered, or Candidate Animal Species and Critical Habitat

M.1. Affected Environment

This action has the potential to affect desert tortoises that reside within and immediately adjacent to the Las Vegas In-Valley and habitat that may exist on BLM-administered lands within this boundary that are subject to development or utilization through ROW grants/renewals, R&PP leases, permits, or any other land-use authorization.

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

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

Generally, lands adjacent to, or surrounded by, urban development have retained marginal to no suitable desert tortoise habitat. However, in areas with limited or minimal development, desert tortoise habitat may remain viable, and individual tortoises may be present within those lands.

Within the boundary of the proposed action, tortoise habitat densities vary from very low to very high. Survey data collected in preparation for the Las Vegas Disposal Boundary EIS (BLM 2004), and subsequent to the disposal boundary expansion (Tule Springs Lands Bill, 2015), indicated that tortoise signs were found throughout the action area. Higher densities were recorded in the north, northwest, south, and southwest edges of the Las Vegas In-Valley where the most suitable desert tortoise habitat exists. Lands in other portions within the boundary exhibited very low densities and are highly fragmented, degraded, or completely disturbed. These surveys were conducted on lands within the Las Vegas In-Valley that contained potential desert tortoise habitat.

M.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, land-use authorizations (LUAs) within the Las Vegas In-Valley would continue to occur. Impacts to desert tortoises would continue to be analyzed separately for each individual action. Impacts to desert tortoises from the No Action Alternative would be similar or the same as impacts from the Proposed Action.

M.3. Environmental Effects of the Proposed Action

The disposal of BLM lands and the transfer of title would not have a direct impact on desert tortoises, but the subsequent development and change in land use would be an indirect impact. This development

will occur under the purview of the Clark County Multiple Species Habitat Conservation Plan and associated Section 10 permit. Direct impacts would result from continued issuance of R&PP leases, ROW grants, or other authorizations within the proposed action area.

Potential impacts to desert tortoise from implementing surface-disturbing actions covered under this analysis would be similar to those described in the Fish and Wildlife section, including loss of habitat. If not noticed and avoided during installation of utilities; maintenance and operational activities; construction of facilities, parks for public purposes, and/or structures; and decommissioning of projects, desert tortoises could be either injured or killed (by crushing) or harassed (by being moved out of harm's way). Additional impacts may include increased noise disturbance, increased predators, increased human presence leading to death or harm to individuals or collection, increased weeds, and increased access to area by general public. Additionally, non-surface disturbance activities such as recreational events or projects authorized under special recreation permits may result in similar impacts to desert tortoise.

The amount of disturbance that may result from actions covered under this Las Vegas In-Valley EA cannot be quantified because the exact locations or intensity of demand for realty or other LUA actions cannot be predicted. However, since the majority of the suitable desert tortoise habitat remaining within the proposed boundary is considered very low density, it is expected that the majority of the actions covered under this EA will occur in this habitat. The most significant impacts to tortoises are expected to occur where higher population densities were recorded (i.e. north, northwest, south, and southwest edges of the Las Vegas In-Valley). It is within these areas that the direct and indirect impacts described above will likely occur.

In 2001, the USFWS determined that the disposal of approximately 121,000 acres of existing habitat within the action area constitutes approximately 4% of the total desert tortoise habitat available in Clark County. If fully developed, suitable habitat within the Las Vegas In-Valley will be drastically reduced, and connectivity and gene flow through the valley will be further restricted or completely severed.

Section 7 consultations for actions covered under this Las Vegas In-Valley EA will be reviewed individually and covered under the most current Programmatic Biological Opinion. Terms and conditions and minimization measures will contain measures to avoid and minimize potential impacts, including take, to desert tortoise. (NV-052-16-115). The proposed project will have no effect on any other federally protected species or designated critical habitat due to absence of the species and/or habitat.

M.4. Cumulative Impacts of the Proposed Action

Cumulative impacts to desert tortoise and their habitat can result from the effects of past, present, or other future reasonably foreseeable construction or project activities occurring within or adjacent to the proposed boundary. The incremental removal of undisturbed desert tortoise habitat by activities that may be covered under this analysis would have long-term impacts because vegetation/wildlife habitats of arid and semi-arid regions are slow to recover. In addition, future authorized and/or unauthorized activities in or adjacent to the action area may lead to long-term loss of potential forage, nesting/burrowing, and cover sites for desert tortoise.

M.5. Mitigation Measures (also in Appendix D)

- All actions covered under this Las Vegas In-Valley EA will require additional review by a BLM wildlife biologist to make project/action-specific Section 7 effects determinations; provide project/action-specific terms and conditions; ensure that seasonal restrictions and measures are adhered to; and comply with tracking and reporting requirements.
- Compliance with the special stipulations below will help ensure that the desert tortoise is not impacted:
 - A speed limit of 25 miles per hour shall be required for all vehicles traveling on existing roads.
 - Should a desert tortoise enter the area of activity, all activity shall cease until such time the animal leaves the area of its own accord.
 - All drivers must check underneath vehicles and equipment before moving to ensure no tortoise has taken cover underneath parked vehicles.

M.6. Residual Impacts

Residual effects may be contingent on adherence to desert tortoise mitigation measures/stipulations.

N. Integrated Vegetation

N.1. Affected Environment

The primary vegetation community that would be impacted as a result of the proposed action is the Sonoran-Mojave creosote bush-white bursage desert scrub habitat type. Dominant species within this vegetation type in the Las Vegas Valley boundary include creosote (*Larrea tridentata*), Mojave yucca (*Yucca schidigera*), white bursage (*Ambrosia dumosa*), Joshua tree (*Yucca brevifolia*), and brittlebush (*Encelia farinosa*). This plant community type is common throughout the Las Vegas In-Valley. Within the Las Vegas In-Valley, much of the remaining vegetation is fragmented and highly disturbed. In the new areas placed into the Las Vegas In-Valley through the Las Vegas In-Valley Public Lands and Tule Springs Lands Bill of 2015, there are higher densities of cacti and yucca. Within these areas, there are still varying degrees of disturbance throughout due to their proximity to urban centers and mixed land ownership within the parcels. Non-native species invasions and disturbances are both factors influencing this plant community type, especially at the wildland-urban interface.

The SNDO manages sensitive plant species. The three sensitive plant species of highest conservation value located within the Las Vegas In-Valley are the Las Vegas buckwheat (*Eriogonum corymbosum*), Las Vegas bearpoppy (*Arctomecon californica*), and yellow two-toned penstemon (*Penstemon bicolor bicolor*). Surveys for sensitive species were completed for the 2004 Las Vegas Valley Disposal Boundary FEIS and for the more recent Tule Springs congressionally designated disposal boundary expansion. These surveys provided 100% coverage where there was good habitat for sensitive plant species, and the majority of these plants were in areas that have since been developed or are now privately owned. The remaining populations of sensitive plants that are still within the Las Vegas In-Valley are at the northwest edge of the disposal boundary (T19S R59E), where there is a large, reproductive population of *Penstemon bicolor bicolor*, and in several small, undeveloped, gypsum-rich areas on the eastern and northeastern edges of the Las Vegas In-Valley (T19S R63E, T21S R62E, and T21S R63E), where there are large populations of *Arctomecon californica*. There are no known populations of *Eriogonum corymbosum nilesii* remaining on BLM lands within the Las Vegas In-Valley.

Cacti and yucca are considered government property and are regulated under the Nevada BLM forestry program. Surveys have shown varying densities of cacti throughout the Las Vegas In-Valley, with the highest densities occurring in the northwest and northeast corners of the Las Vegas In-Valley (Appendix A). The most common cacti and yucca species within the Las Vegas In-Valley include, but are not limited to, Joshua trees (*Yucca brevifolia*), Mojave yucca (*Yucca schidigera*), beavertail cactus (*Opuntia basilaris*), and cholla (*Cylindropuntia* spp.).

There are no known remaining acacia/mesquite woodlands remaining within the Las Vegas In-Valley.

N.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, projects would continue to be reviewed on a case-by-case basis. While this results in a higher scrutiny for each individual project, the mitigation measures would be the same regardless of the way in which the project is reviewed. Development of projects would likely take place over a longer time span, so the rate of removal of vegetation within the Las Vegas In-Valley would be slower under the No Action Alternative.

N.3. Environmental Effects of the Proposed Action

The combined impacts of approved projects within the Las Vegas In-Valley are expected to greatly reduce the quality and quantity of remaining vegetation communities. Land sales, rights-of-way, and other projects will result in disturbance to, or removal of, vegetation. The Southern Nevada District Office assumes that this will lead to the eventual total loss of native vegetation communities within the Las Vegas In-Valley. This makes it difficult to avoid or reduce impacts to vegetation resources. Instead, this loss of vegetation (and habitat) within the Las Vegas In-Valley will be partially mitigated through the mitigation fees for desert tortoise habitat and cacti and yucca.

There are two species of sensitive plants that still grow within the Las Vegas In-Valley. Remnant populations of *Penstemon bicolor bicolor* will be lost over time to development as a result of the proposed actions. The large populations of *P. bicolor bicolor* are currently being seed banked by the SNDO to save the maternal lines of these species. Development of these areas is therefore already considered sufficiently mitigated.

Arctomecon californica would be impacted by all development project activities. *Arctomecon californica* will be seed banked by the SNDO to save the maternal lines of these species. Development of these areas is therefore already considered sufficiently mitigated. Project activities in these areas may also require a state permit for disturbance of *Arctomecon californica* populations. Because potential impacts for this species have been analyzed in the 2004 Las Vegas Valley Disposal Boundary FEIS, environmental impacts of the proposed action on population trends of *Arctomecon californica* will not be further addressed here.

Projects creating new disturbance in T19S R59E and T19S R63E, T21S R62E, or T21S R63E will pay a set fee of \$400/acre to compensate for the loss of these resources. This fee will be used to maintain adjacent rare plant habitat, including fence repair and removal of litter/garbage dumped illegally.

Because there are no known populations of *Eriogonum corymbosum nilesii* remaining on BLM lands within the Las Vegas In-Valley, no new impacts to this species from the proposed activities are anticipated.

With the mitigation measures included here, none of the proposed actions will have an impact on the long-term viability of the regional populations of these sensitive plant species.

Proposed projects have the potential to disturb large numbers of cacti and yucca in the Las Vegas In-Valley. Historically, cacti and yucca salvage has been required for projects located in moderate or high density. In order to reduce process timelines in the future, and to provide a more clear process for project applicant/proponents, the SNDO has developed a per-acre fee to be collected for projects occurring within areas of moderate to high densities of cacti and yucca. This fee will both compensate for the loss of the cacti and yucca themselves as forestry products and for the loss of the potential use of the plants in restoration projects. The SNDO will use the mitigation fees to manage the existing cacti and yucca nurseries, to transplant cacti and yucca to restoration areas, and to salvage cacti and yucca from within the Las Vegas In-Valley for restoration projects (Secretarial Order 3330, IM-WO-2013-142).

There will be a per-acre fee, in lieu of salvage, for Las Vegas In-Valley projects in areas with medium (26 to 50 cacti/yucca per acre) and high (51 to 200 cacti/yucca per acre) cacti and yucca densities. Projects in low (0 to 25 cacti/yucca per acre) density areas will not be required to pay any fees (Table N.3-1). The majority of BLM land (approximately 85%) remaining within the Las Vegas In-Valley contains low densities of these plants and will not require cacti and yucca fees. There is some acreage in the newly expanded Las Vegas In-Valley that needs to be surveyed for cacti and yucca densities. These surveys will occur prior to issuance of ROWs or land sales in those areas.

Cacti and yucca can cost anywhere from \$3.00 to \$25.00 per plant, according to forestry program standards, depending on the height of the plant (IM-NV-2010-055). These fees were minimized to the extent possible within the Las Vegas In-Valley to expedite ROWs and land sales. This method results in faster project review time, lower costs for applicant/proponents within the Las Vegas In-Valley, a standardized approach to cacti and yucca within the Las Vegas In-Valley, and a positive impact on cacti and yucca populations outside of the Las Vegas In-Valley. Projects within the Las Vegas In-Valley in medium and high cacti and yucca densities will pay the minimum cost for the median number of cacti in medium and high density habitats, as mapped for that township, range, and section (Appendix A). This cost has been calculated to be \$204 per acre (Table N.3-1).

This brings the total cost per acre for projects in medium and high cacti and yucca densities to \$353 per acre (Table N.3-1), which is significantly less expensive than the cost would be for developers to transplant cacti and yucca under previous guidance for Las Vegas In-Valley activities.

Table N.3-1 Per-Acre Cost of New Disturbance Within the Las Vegas In-Valley

	Per plant (\$)	Forestry program cost/acre (\$)	Restoration ratio	Mitigation fees/acre (\$)	Total cost per acre (\$)
Low cacti/yucca density (0-25 plants/acre)	0	0	0	0	0
Medium-high cacti/yucca density (26-200 plants/acre)	\$3.00	\$153.00	200 to 1	\$200.00	\$353.00

Average cacti salvage cost (for comparison purposes)	\$1.00 per cubic foot	43,560 cubic feet/acre	\$43,560.00 (cost per acre)
Approximate cost per cacti/yucca without Las Vegas In-Valley discount	\$3.00 - \$13.00 per plant	~ 100 plants/ acre	Up to \$1,300 per acre

N.4. **Cumulative Impacts of the Proposed Action**

The major cumulative impact to vegetation, sensitive plant species, and cacti and yucca as a result of the proposed streamlining of the review process for projects within the Las Vegas In-Valley is an increased rate of disturbance. The same long-term impacts would be expected with or without this action, but because this process would expedite the permitting and land sale process for BLM lands within the Las Vegas In-Valley, vegetation and cacti and yucca are likely to be destroyed more quickly than without this action.

N.5. **Mitigation Measures (also in Appendix D)**

- Projects creating new disturbance in T19S R59E and T19S R63E, T21S R62E, or T21S R63E will pay a set fee of \$400/acre to compensate for the loss of the Las Vegas bearpoppy (*Arctomecon californica*) and yellow two-toned penstemon (*Penstemon bicolor bicolor*).
- Projects creating new disturbance in areas with “medium” or “high” densities of cacti and yucca will pay a set fee (see Table N.3-1). Projects in medium-high density cacti/yucca habitat will pay \$353/acre to compensate for loss of these resources. Mapped densities of cacti and yucca per township and range will be used to determine this fee. These densities will be updated for the Tule Springs Bill disposal boundaries. Applicant/proponents creating temporary disturbance will incorporate salvaged cacti and yucca into their restoration plans. When at all possible, projects will attempt to avoid vegetation, especially cacti and yucca.

N.6. **Residual Impacts**

Residual impacts for vegetation, sensitive plant species, and cacti and yucca would be the fragmentation of plant populations due to the development of areas within the Las Vegas In-Valley. Development within the Las Vegas In-Valley would likely lead to gradual edge effects and disturbance outside of the Las Vegas In-Valley on the surrounding plant communities. However, these impacts would be similar if proposed actions were continued to be reviewed individually.

O. Invasive Species and Noxious Weeds

O.1. Affected Environment

Federal agencies are directed by Executive Order 13112, Invasive Species, to expand and coordinate efforts to prevent the introduction and spread of invasive plant species (noxious weeds) and to minimize the economic, ecological, and human health impacts that may be caused by invasive species. The management of weeds is further guided by the 1998 Las Vegas RMP which identifies two objectives for resource management involving weeds. 1) RP-1-f., which states: “Use integrated weed management techniques to control and eradicate tamarisk, such as burning, chemical, biological or mechanical treatments, where potential for treatment is good. Rehabilitate the area with native species to help reduce the potential for tamarisk re-establishment and improve ecosystem health.” 2) VG1, which states; “Maintain or improve the condition of the vegetation on public lands to a Desired Plant Community or to a Potential Natural Community.” The LVFO Noxious Weed Plan was approved on December 18, 2006.

Weed management is an integral part of maintaining ecosystem health. A noxious weed is generally destructive and difficult to control and eradicate. A list of noxious weed species that are known to occur within the Las Vegas In-Valley area is included in Appendix C. Saltcedar (*Tamarisk* spp.) was one of the most dominant invasive plants found in the Las Vegas In-Valley during field surveys. Saltcedar has a long tap root that allows it to intercept deep water tables and interfere with natural aquatic systems. Saltcedar and malta starthistle (*Centaurea melitensis*) are present throughout the Las Vegas Wash and related tributaries.

Crimson fountaingrass (*Pennisetum setaceum*) and Sahara mustard (*Brassica tournefortii*) are also abundant throughout the Las Vegas In-Valley. Crimson fountaingrass occurs frequently in landscaping and throughout the Las Vegas In-Valley. Crimson fountaingrass can form thick, mono-culture stands that out-compete native vegetation and provide a thick and continuous fuel layer. Sahara mustard can establish quickly in high-precipitation years, and following soil disturbance, and can rapidly form mono-culture stands that spread into undisturbed areas and reduce native annual vegetation production by 80% to 90% (Barrows et al. 2009). Sahara mustard leaves are high in oxalic contents and may be toxic to the desert tortoise (Jacobson et al. 2009). Seeds are plentiful and sticky and may adhere to equipment utilized in infested areas and easily spread to uninvaded areas (Trader et al. 2006).

Russian olive (*Elaeagnus angustifolia*) and fan palms (*Washingtonia filifera*) are species frequently used in landscaping that have spread into undisturbed land, changing species composition and resource availability for native species. Although fan palms are native to the Mojave Desert, their natural range does not extend as far north as Las Vegas.

Non-native Mediterranean grass (*Schismus* spp), filaree (*Erodium cicutarium*), and red brome (*Bromus rubens*) are now the most abundant winter annual plants in the Mojave Desert, far outnumbering all native species combined (Brooks 2009). These introduced, invasive annuals can result in direct reductions to native plant communities through competition (Brooks 2000, DeFalco et al. 2003) and indirect reductions by altering fire regimes to the detriment of native plant communities (Brooks 1999, Brooks and Pike 2001).

Upon land conveyance, responsibility for weed management and compliance will transfer with the lands and be subject to applicable municipal, county, state, and federal regulatory requirements.

O.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, applications received for Las Vegas In-Valley actions would require individual NEPA analysis.

O.3. Environmental Effects of the Proposed Action

Under the Proposed Action, the project applicant/proponent will receive a standardized set of mitigation stipulations. Because project-assigned mitigation stipulations are based on the invasive plant species present on a site, the likelihood of weed species vectoring into contiguous BLM land as a result of project activities and the level of disturbance, the Proposed Action may increase the level of mitigation for some applicant/proponents. This will have a positive effect on reducing weed establishment and spread within the Las Vegas In-Valley.

The Proposed Action would potentially increase the number of and speed at which Las Vegas In-Valley projects are approved, potentially increasing the rate of disturbance and therefore increasing the risk of weed spread to nearby BLM lands. Because human-caused fire has increased in the Las Vegas In-Valley, accelerated development may result in increased conversion to invasive, introduced annual grass communities and reductions to native plant communities.

O.4. Cumulative Impacts of the Proposed Action

The cumulative effects of the proposed action would be that development could occur at a faster rate, potentially increasing the rate of soil disturbance and vectoring of weeds. Cumulative impacts to invasive plants and noxious weeds can result from the effects of past, present, or other future reasonably foreseeable construction or project activities occurring within or adjacent to the proposed boundary. The incremental disturbance to desert ecosystems by activities that may be covered under this EA could have long-term impacts because vegetation/wildlife habitats of arid and semi-arid regions are slow to recover and can be rapidly converted to non-native ecosystems that are difficult and expensive to restore. In addition, activities in or adjacent to the action area may lead to expansion of non-native, invasive plant species.

O.5. Mitigation Measures (also in Appendix D)

Any soil-disturbing activity has the potential to introduce or exacerbate noxious and invasive plants. The project applicant/proponent shall continue to follow existing mitigation measures and stipulations for weed prevention and control as established. If no measures exist, then follow the SNDO noxious weed compliance requirements as shown below. The project applicant/proponent shall coordinate weed management activities with the district weed management specialist.

To avoid spreading noxious and/or invasive weeds, project activities shall include the following stipulations:

- Before ground-disturbing activities begin, the project applicant/proponent shall inventory and prioritize weed infestations for treatment within the project footprint. Should the weed spread beyond the project footprint, then these weeds will be treated as a part of the project. This will include access routes.
- The project applicant/proponent shall avoid or minimize all types of travel through weed-infested areas. If a problem is identified and avoidance or removal is not possible, the project applicant/proponent shall set up inspection and equipment cleaning sites to prevent the spread of weeds.
- The project applicant/proponent shall limit ground disturbance to the absolute minimum necessary to safely construct and operate the proposed project. The applicant/proponent will avoid creating soil conditions that promote weed germination and establishment.
- Project-related equipment (i.e. undercarriages and wheel wells) will be cleaned of all mud, dirt, and plant parts before moving into relatively weed-free areas or out of relatively weed-infested areas. Project workers shall inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment, bag the product, and dispose of it in a dumpster. If you have questions, consult with the SNDO noxious weed coordinator.
- The project applicant/proponent will perform an annual check for invasive/noxious weeds present within the ROW or leased area. If noxious weeds are present, coordinate weed management activities with the district weed management specialist.
- The project applicant/proponent will ensure that landscaping does not contain state-listed noxious weeds.
- The project applicant/proponent shall coordinate with the BLM weed coordinator (702-515-5000) regarding any proposed herbicide treatment. The project applicant/proponent shall prepare, submit, obtain, and maintain a pesticide use proposal (PUP) to utilize herbicides for project activities.

O.6. Residual Impacts

Residual impacts will be dependent on the existing seed bank, surrounding vegetation, climate, and on vectors of invasive species spread including animal, human, and vehicle transport of plant seeds and plant parts. Development within the Las Vegas In-Valley would likely lead to gradual edge effects and spread of invasive species outside the Las Vegas In-Valley into the surrounding plant communities. However, the residual impacts will be similar regardless of whether NEPA analysis is performed according to the procedure in the Proposed Action or whether the analysis is performed individually.

P. Transmission Corridors

P.1. Affected Environment

Transmission corridors (or ROW corridors) are designated to minimize adverse impacts and the proliferation of separate use authorizations while providing an orderly system for energy and transportation and utility purposes. Designation of transmission corridors is also based on interest in having land uses such as major pipelines, highways, and utility routes to be confined to corridors to protect other resources in adjacent areas. The designation of specific corridors does not approve projects within the corridors, nor would it require future energy transport projects to be located within these designated corridors, although the preference is to utilize designated corridors to avoid and/or minimize adverse impacts to other resources. Energy transport projects, on a case-by-case basis, may be proposed to cross federal lands in ROWs that are outside of any designated corridor. Projects crossing non-BLM administrative lands (e.g., other federal agencies, state/local governments, and private properties) would be subject to those respective lands regulations and authorities. Any requested use of BLM-administered corridors must demonstrate compliance with all applicable federal, state, and local regulations. Such compliance would be considered during the project-level approval process and required prior to use of the BLM-administered corridor (see corridor map in Appendix A).

There are six transmission corridors administered by the BLM within the Las Vegas In-Valley, as itemized below. The corridors were designated through land-use planning pursuant to Section 503 of FLPMA, unless direction by Congress established the corridor. Corridors asterisked below were congressionally mandated for specific purposes.

- US-95–Crater Flat-Red Rock
- Interstate Route 15 South*
- Lincoln-Clark Corridor*
- Renewable Energy Transmission*
- Water Conveyance Facilities (or North Lateral)*
- Section 368 Corridor

P.1.2 *US-95–Crater Flat-Red Rock*

This corridor was established through the 1998 Las Vegas RMP, pursuant to the Federal Land Policy Management Act (FLPMA, Public Law 94-579). The corridor is approximately 2,640 feet wide and located northwest of the Las Vegas Valley. The corridor extends northwest, south of the US-95 highway right-of-way corridor from the Las Vegas Paiute Indian Reservation, further extending northwest between the boundaries of the Red Rock Canyon National Conservation Area and the National Park Service Tule Springs Fossil Beds National Monument. Within the Las Vegas In-Valley, the US-95–Crater Flat-Red Rock corridor is generally located within MDM, T.18S., R.59E., secs. 8, 16, 17, 21 and 22, extending approximately 18,554 feet and encompassing approximately 575 acres. The corridor is designated for multi-modal uses that can accommodate electric transmission facilities and other utility purposes such as natural gas pipelines, fiber-optics, and water lines. Existing rights-of-way utilizing the US-95–Crater Flat-Red Rock corridor are annotated in the below table, which may not be exclusive. The corridor's southern boundary is overlapped by the congressionally mandated 400-foot-wide Renewable Energy Corridor.

Serial No.	Applicant/proponent	Project	Status
N-77664	Kemp Communications	Communication site – Rainbow Springs	Authorized
N-62861	Valley Electric Association	138kV TL (Pahrump-Mercury)	Authorized
N-54351	United States Air Force	Nellis AFB fiber-optic cable	Authorized
N-76432	Nevada Energy	500kV TL w/ fiber-optics	Renewal in process
N-73706	Nevada Bell Telephone Co.	Fiber-optic (Defense Bypass Line) – underground and aerial	Authorized
CC-18191	NDOT	Federal aid highway	Authorized
Nev-43546	Nevada Energy	230kV transmission line	Authorized
N-91896	Quest Communications	Underground fiber-optic conduit lines	Authorized

P.1.3 Interstate Route 15 South

Congress established this 2,640-foot-wide corridor pursuant to the Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282). The corridor extends south of the Las Vegas Valley following east of the Interstate 15 highway right-of-way corridor to the northern part of lands conveyed to Clark County for the Ivanpah airport. This corridor was established for the placement, on a non-exclusive basis, of utilities and transportation. Subject to valid existing rights, the corridor is withdrawn from location and entry under the mining laws and from operation under the mineral leasing and geothermal leasing laws until the Secretary terminates the withdrawal or the corridor or land, respectively, is patented. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.23S., R.60E., sec. 36; and T.23S., R.61E., secs. 29, 30 and 31, extending approximately 12,235 feet and encompassing approximately 621 acres. Existing rights-of-way utilizing the Interstate Route 15 South corridor are annotated in the below table, which may not be an exclusive list. Corridor constraints include private land (i.e., homestead entry patent and small tracts patents) where there is no corridor connectivity.

Serial No.	Applicant/proponent	Project	Status
N-47888	Sprint Communications	Communication line	Authorized
Nev-46362	NDOT	Federal aid highway	Authorized
CC-19435	NDOT	Federal aid highway	Authorized
N-43923	MCI Worldcom Network Service	Communication line	Authorized
N-77754	Las Vegas Valley Water District	Water facility	Authorized
N-87887	Las Vegas Valley Water District	Water facility	Authorized

P.1.4 Lincoln-Clark corridor

Congress established this 2,640-foot-wide corridor pursuant to the Lincoln County Conservation, Recreation, and Development Act of 2004 (Public Law 108-424). BLM labeled this corridor as Lincoln-Clark (also referred to as the SNWA corridor). This is a non-exclusive ROW corridor for the Southern Nevada Water Authority and the Lincoln County Water District for roads, wells, well fields, pipes, pipelines, pump stations, storage facilities, or other facilities and systems that are necessary for the construction and operation of a water conveyance system. Within the Las Vegas In-Valley, the corridor

is generally located within MDM, T.19S., R.61E., sec. 24; T.19S., R.62E., secs. 13, 14, 19 and 20; and T.19S., R.63E., sec. 18, extending approximately 28,003 feet and encompassing approximately 1,592 acres. Existing rights-of-way utilizing the corridor are annotated in the below table, which may not be an exclusive list.

Serial No.	Applicant/proponent	Project	Status
N-39815	Nevada Energy	345kV Pecos-Harrisburg TL	Authorized
N-42592	Nevada Energy	230kV Pecos-Westside TL	Authorized
N-54351	U.S. Air Force	Fiber-optic cable	Authorized
N-61323	Clark County Department of Public Works	Road, public utilities, and flood control	Authorized
N-61956	Nevada Energy	138kV TL	Authorized
N-62093	FTV Comm c/o Level 3	Fiber-optic line	Authorized

P.1.5 Renewable Energy Transmission

Congress established this 400-foot-wide corridor pursuant to the National Defense Authorization Act for Fiscal Year 2015 (NDDA Act), Public Law 113. This corridor extends from the Dry Lake SEZ, through the Apex corridors, south of withdrawn lands for the Nellis Small Arms Range. The corridor then traverses south of the USFWS Desert National Wildlife Refuge along the Moccasin alignment toward the Las Vegas Paiute Reservation. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.18S., R.60E., sec. 5; and T.19S., R.61E., secs. 1-4, extending approximately 74,774 feet and encompassing approximately 687 acres. Consistent with Section 3092(a)(4) of the NDDA Act, NEPA, and BLM rights-of-way regulations, BLM will issue to a qualified electric utility, a 400-foot-wide right-of-way for the construction and maintenance of high-voltage transmission facilities. These facilities must be used primarily for renewable energy resources and meet reliability standards set by the North American Electric Reliability Corporation (NERC), the Western Electricity Coordinating Council (WECC), or the public utilities regulator of the state. The right-of-way will expire on December 9, 2029, if construction of the high-voltage transmission facilities has not been initiated by that date, unless it is in the public interest to continue the right-of-way.

P.1.6 Water Conveyance Facilities (or North Lateral)

Congress established this 100-foot-wide corridor pursuant to the NDDA Act, Public Law 113-291. This corridor extends west of the Renewable Energy Transmission Corridor, following the Grand Teton Drive alignment west to Aliante Parkway, then west along Horse Drive. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.19S., R.61E., secs. 7, 10, 11, and 12, extending approximately 20,927 feet and encompassing approximately 48 acres. Consistent with Section 3092(a)(5)(A) of the NDDA Act, NEPA, and BLM’s rights-of-way regulations, BLM will issue to a public water agency a 100-foot-wide water conveyance facilities right-of-way for the construction, maintenance, repair, and replacement of a buried water conveyance pipeline and associated facilities within the Water Conveyance Facilities Corridor and Renewable Energy Transmission Corridor. No right-of-way for the water conveyance facilities will be granted within the portion of the Renewable Energy Transmission Corridor that is located along the Moccasin Drive alignment, which is generally located between T.18S., and T.19S, M.D.M. Consistent with Section 3092(a)(5)(B) of the NDDA Act, NEPA, and BLM’s rights-of-way regulations, BLM will issue to a unit of local government or public

water agency, a 100-foot-wide right-of-way for the construction, operation, maintenance, repair, and replacement of a buried water conveyance pipeline to access the existing buried water pipeline turnout facility and surge tank located in T.19S., R.61E., sec. 16, NE¼. The water conveyance facilities within the Renewable Energy Transmission Corridor will be sited in consultation with the qualified electric utility to limit the impacts of the water conveyance facilities on the high-voltage transmission facilities.

P.1.1.7 Section 368 Corridor – 39-231

Consistent with Section 368(a) of the 2005 Energy Policy Act (P.L. 109-58), the 2009 Record of Decision for the West-wide Energy Corridor Programmatic Environmental Impact Statement (WEC PEIS), and the 2012 settlement agreement, BLM established an energy corridor of concern (COC) labeled 39-231 along the east side of the Las Vegas Valley. Federally designated portions of this corridor are on BLM-administered land, with a 3,500-foot width over most of its extent. It is designated as a multi-modal corridor that can accommodate both electrical transmission and pipeline projects. COC 39-231 traverses through the Las Vegas In-Valley within T.21S., R.63E., sec. 33, and T.22S., R.63E., sec. 9, extending approximately 1,454 feet and encompassing approximately 66 acres. Section 368 corridors are sited to avoid, to the maximum extent possible, significant known resource and environmental conflicts. Corridors are also sited to the maximum extent possible to promote renewable energy development in the West, which is currently constrained in part by a lack of transmission capacity. Interagency Operating Procedures (IOPs), found in Appendix E of this document, developed and evaluated in the WEC PEIS are expected to foster long-term, systematic planning for energy transport development in the West, provide industry with a coordinated and consistent interagency permitting process, and provide practicable measures to avoid or minimize environmental harm from future development within the corridors. Such corridors are designed to be compatible with the management goals of the areas through which they pass. Expansion, as well as other actions, would not be approved if they did not meet these requirements. Use of Section 368 corridors that are considered to be corridors of concern will require an extensive review and analysis consistent with the July 2012 settlement agreement during project-level implementation. Use of IOPs as defined in the 2009 Record of Decision for the WEC PEIS for projects sited/proposed within Section 368 corridors is required. The IOPs are intended to expedite the permitting process by reducing duplication, increasing coordination, and ensuring consistency among federal agencies. The IOPs provide uniform processing and performance criteria for energy transportation rights-of-way during project planning, construction, operation, and decommissioning.

Serial No.	Applicant/proponent	Project	Status
N-75813	Southern Nevada Water Authority	Water pipeline	Authorized
N-10683	Los Angeles Department of Water and Power	500kV TL	Authorized
N-62125	City of Henderson	Water pipeline	Authorized
N-75957	City of Henderson	Road, drainage	Authorized
N-88223	Southwest Gas	Natural gas line	Authorized
Nev-60319	Clark County School District	R&PP – school classification	Authorized
N-78712	CenturyLink	Communication line	Authorized
Nev-31175	Small Tract Patent No. 1188411	Disposal	Authorized
N-55411	Nevada Energy	15kV TL	Authorized
N-56362	CenturyLink	Communication line	Authorized

P.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, projects would continue to be reviewed on a case-by-case basis. Project stipulations, including use of IOPs for use of a Section 368 corridor and mitigation measures, would be the same regardless of the way in which the project is reviewed. The approval of potential incompatible uses within transmission corridors would be less likely under the No Action Alternative.

P.3. Environmental Effects of the Proposed Action

Depending on location and use, there may be an impact from the proposed action should incompatible uses or inefficient use of space be authorized within transmission corridors. Transmission corridors are managed for specific purposes based on corridor designation through land-use planning and/or the respective legislation that established the corridor. Co-location and/or alternate routes may be required including the reservation of the corridor to the United States in conveyance documents (i.e., patent, deed). Case-by-case review for any proposed action within and/or adjacent to a transmission corridor would still be required.

P.4. Cumulative Impacts of the Proposed Action

Cumulative impacts from transmission corridors can provide the BLM and public with greater certainty as to the location of future infrastructure, but could disallow future ROW development if development within the corridor is not compatible with the purpose and future use of the corridor. Land disposal actions that do not reserve to the United States an affected transmission corridor within a conveyance document, or the authorization of incompatible uses within transmission corridors, may have major impacts on the viability and future use of the corridor.

P.5. Mitigation Measures (also in Appendix D)

A applicant/proponent would be required to comply with applicable federal, state, and local laws and regulations for development, construction, operations, maintenance, decommissioning, restoration, and/or termination of actions and thus any impacts from these activities would be reduced to a level of insignificance. Co-location and/or alternate routes may be required. Construction that exceeds 199 feet in height from surface requires coordination with FAA, and potentially Nellis Air Force Base. Standard stipulations including IOPs for use of Section 368 corridors and mitigation measures would apply (Appendix E).

P.6. Residual Impacts

No residual impacts are anticipated.

Q. Environmental Justice and Socioeconomics

Q.1. Affected Environment

The Las Vegas In-Valley is made up of federal public land parcels interspersed among private land in the Las Vegas metropolitan area and federal land holdings surrounding the Las Vegas Valley. The Southern Nevada Public Land Management Act, Public Law 105-263, as amended, designated the lands within the Las Vegas In-Valley for disposal. It was found that the extensive amount of small and large parcels interspersed with or adjacent to private land made it difficult for the BLM to manage. Therefore, it is more appropriate for the BLM to dispose of these lands to promote responsible and orderly development of the Las Vegas Valley. Disposal, in this case, includes land sales or the issuance of rights-of-way grants, mineral material disposal actions, or other permits or leases for the use, development, construction, operation, maintenance, decommissioning, restoration, and/or termination of a range of actions within the Las Vegas In-Valley. The following chart indicates key demographic, income, and social indicators in the Las Vegas Valley:

Indicators		Las Vegas city, NV	U.S.
Demographics	Population Growth (% change, 2000-2014*)	24.9%	11.6%
	Median Age (2014*)	36.8	37.4
	Percent Population White Alone (2014*)	65.7%	73.8%
	Percent Population Hispanic or Latino (2014*)	32.2%	16.9%
	Percent Population American Indian or Alaska Native (2014*)	0.7%	0.8%
	Percent of Population 'Baby Boomers' (2014*)	22.4%	23.9%
Income	Median Household Income (2014*)	\$50,903	\$53,482
	Per Capita Income (2014*)	\$26,555	\$28,555
	Percent Individuals Below Poverty (2014*)	17.7%	15.6%
	Percent Families Below Poverty (2014*)	13.2%	11.5%
	Percent of Households with Retirement and Social Security Income (2014*)	46.3%	47.2%
	Percent of Households with Public Assistance Income (2014*)	22.1%	21.1%
Structure	Percent Population 25 Years or Older without High School Degree (2014*)	17.0%	13.7%
	Percent Population 25 Years or Older with Bachelor's Degree or Higher (2014*)	21.6%	29.3%
	Percent Population That Speak English Less Than 'Very Well' (2014*)	14.6%	8.6%
	Percent of Houses that are Seasonal Homes (2014*)	2.8%	4.0%
	Owner-Occupied Homes where Greater than 30% of Household Income Spent on Mortgage (2014*)	39.7%	34.0%
	Renter-Occupied Homes where Greater than 30% of Household Income Spent on Gross Rent (2014*)	49.8%	48.3%

Data Sources: U.S. Department of Commerce, 2015. Census Bureau, American Community Survey Office, Washington, D.C.

A minority population, for purposes of environmental justice, is identified when the minority population of the potentially affected area is greater than 50 percent of the total population or meaningfully greater than the percentage of the minority population in the general population or other appropriate unit of geographical analysis.

The data above shows the majority of the population of the Las Vegas Valley to be approximately 65% white alone. The median household income was \$50,903 in 2014 with approximately 30% of combined individuals and families living below poverty. These numbers are comparable to the national averages, and the census tract as a whole is not considered a low-income or minority area.

Q.2. Environmental Effects of the No Action Alternative

Under the No Action Alternative, projects would continue to be reviewed on a case-by-case basis, and the impacts on the socioeconomics and environmental justice would be analyzed at that time.

Q.3. Environmental Effects of the Proposed Action

The actions that are proposed to occur within the Las Vegas In-Valley would not have a disproportionately high or adverse effect that would place socioeconomic burdens on the citizens of Clark County and nearby cities due to the limited context and intensity of the individual proposals. The development of the Las Vegas Valley may provide a social and economic benefit to the individuals within these demographics with the creation of jobs and opportunities for affordable housing and access to resources in the form of goods and services retailers. The Proposed Action would not displace any residents or businesses or result in impacts that are appreciably more severe in magnitude or area predominately borne by any segment of the population, such as household population with low income or a minority population.

Q.4. Cumulative Impacts of the Proposed Action

Cumulatively, the development of the Las Vegas Valley will not adversely or disproportionately impact minority populations, low-income communities, or tribes. No group of people, including racial, ethnic, or socioeconomic groups, would bear a disproportionate share of any negative environmental consequences resulting from the proposed actions.

Q.5. Mitigation Measures (also in Appendix D)

No specific mitigation measures for environmental justice or socioeconomics are required, however, when the mitigation measures for all resources as defined in Appendix D are fulfilled, the resulting positive influence will impact all populations within the Las Vegas In-Valley.

Q.6. Residual Impacts

No residual impacts are anticipated.

R. Recreation

R.1. Affected Environment

The Proposed Action area supports and is adjacent to lands that support a diverse variety of recreation activities including but not limited to walking for pleasure, walking pets, bike riding, exercising, playing games with family, competing in sports both structured and unstructured, wildlife viewing, and picnicking. These activities are occurring in developed parks under R&PP leases, as well as on undeveloped parcels of BLM-administered land.

R.2. Environmental Effects of the No Action Alternative

Under this alternative, each action would be evaluated individually. Otherwise, impacts will be as described below.

R.3. Environmental Effects of the Proposed Action

The Proposed Action would allow for development to occur at a faster rate, potentially impacting undeveloped parcels of BLM-administered land and changing where the recreation activities are occurring. This potential increase in the rate of development would increase the number and location of developed parks on private property and on R&PP-leased lands.

R.4. Cumulative Impacts of the Proposed Action

There may be a temporary impact to casual recreationists during construction activities, but no long-term cumulative negative impacts to recreation are anticipated.

R.5. Mitigation Measures (also in Appendix D)

Any new development would need to consider the recreational activities that are being displaced, if any, and, when possible, provide in the development plan for these activities to resume in a similar manner and location.

R.6. Residual Impacts

There would be no residual impacts if mitigation measures are employed.

Chapter 4 List of Preparers

The following individuals were involved in the preparation, analysis, and finalizing of the Las Vegas In-Valley Area Multi-Action Geographic Environmental Assessment:

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Jimmy Linares	Natural Resource Specialist
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Michelle Leiber	Realty Specialist
Nicollee Gaddis-Wyatt	Planning and Environmental Coordinator
Sean McEldery	Fuels Program Manager and Fire Planner
Stanley Plum	Archaeologist
Stephen Leslie	Wilderness

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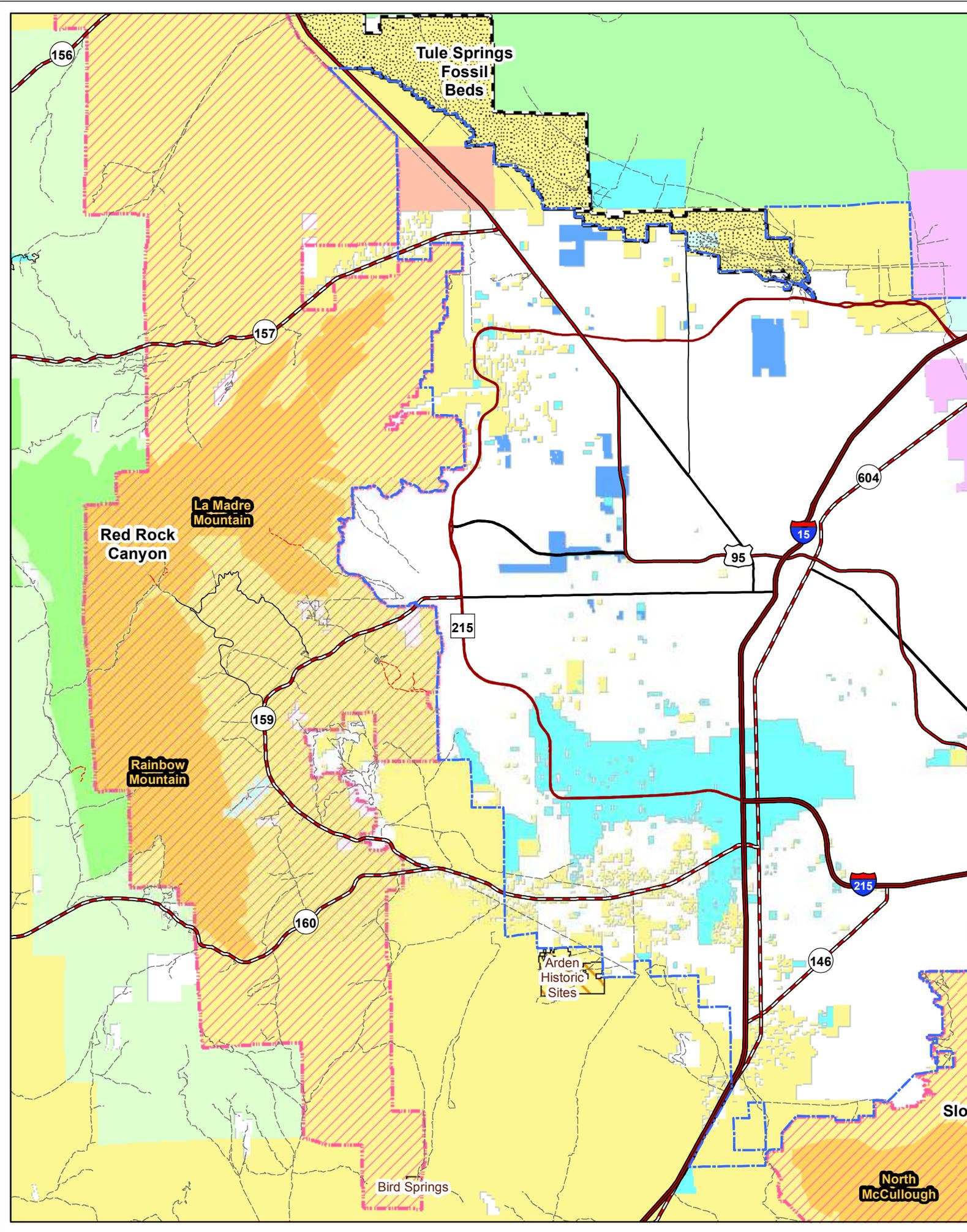
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Appendix A: Maps

- Overview of the Las Vegas In-Valley
- Mining Claim Locations
- Clark County Flood Control Area
- FEMA Flood Hazard Area
- Watershed Locations
- Sensitive Plant Locations
- Cactus and Yucca Densities
- Transmission Corridor Locations



Tule Springs
Fossil
Beds

156

157

Red Rock
Canyon

La Madre
Mountain

95

604

15

215

159

Rainbow
Mountain

215

160

Arden
Historic
Sites

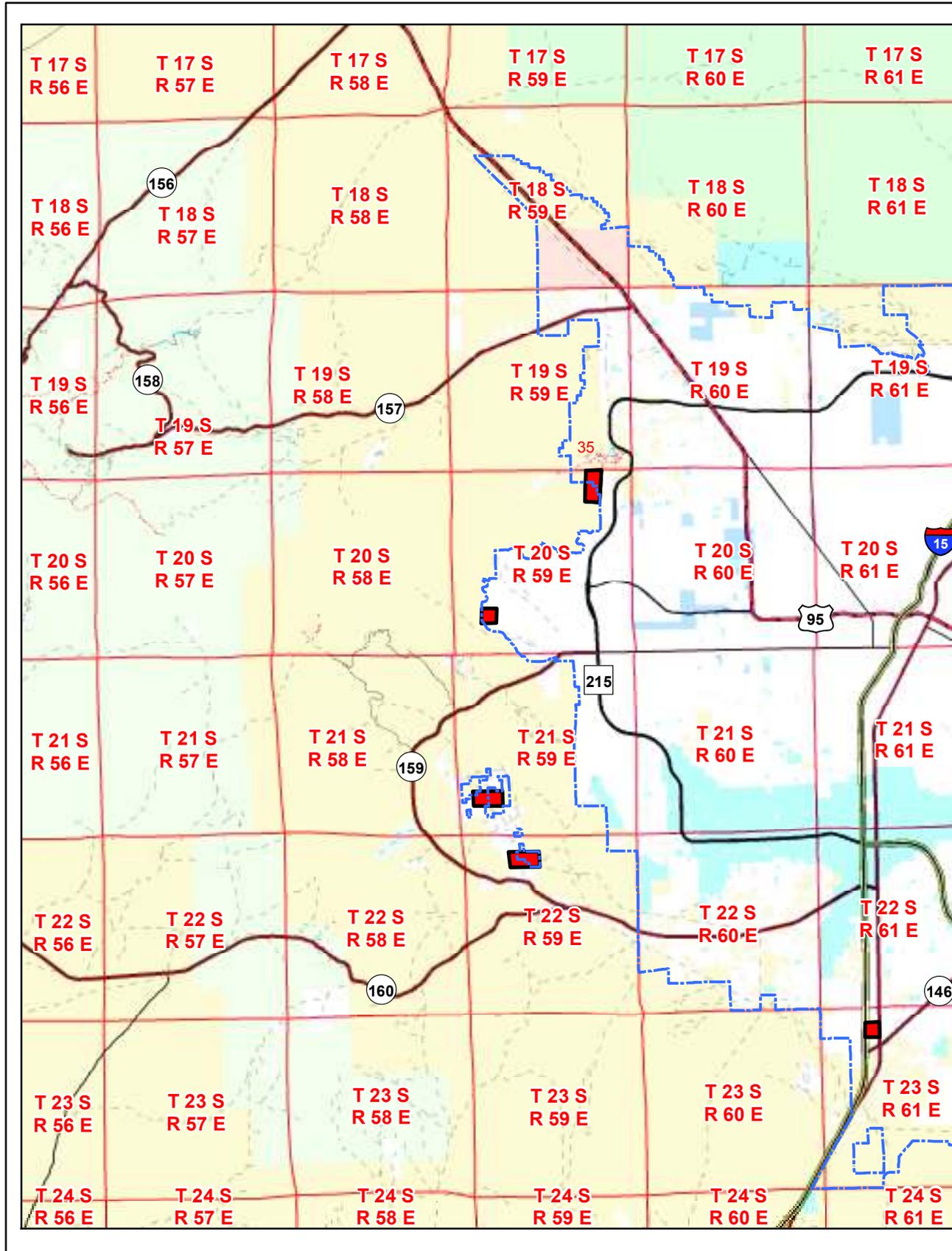
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Bird Springs

North
McCullough

Slo

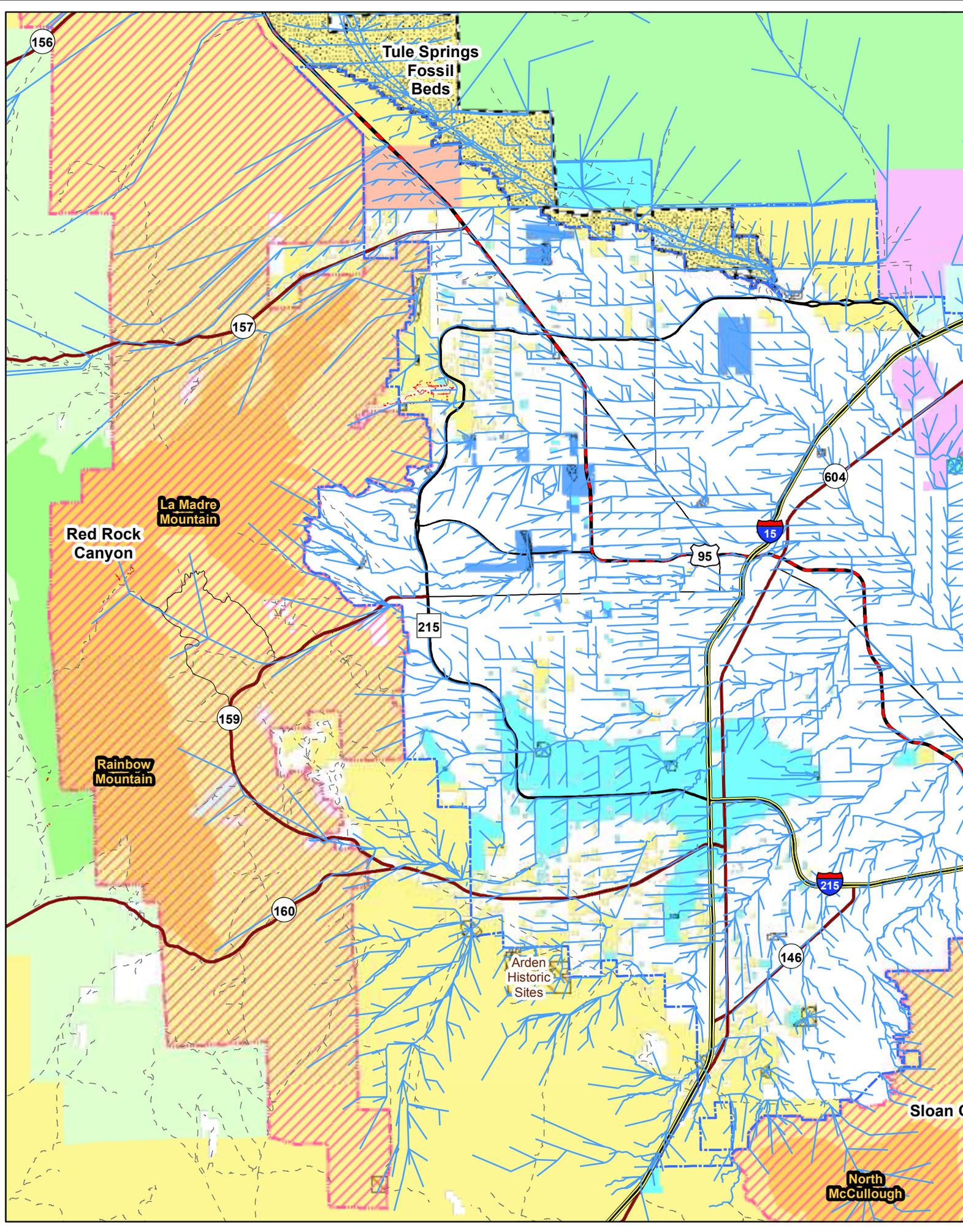
Mining Claims within the SNF

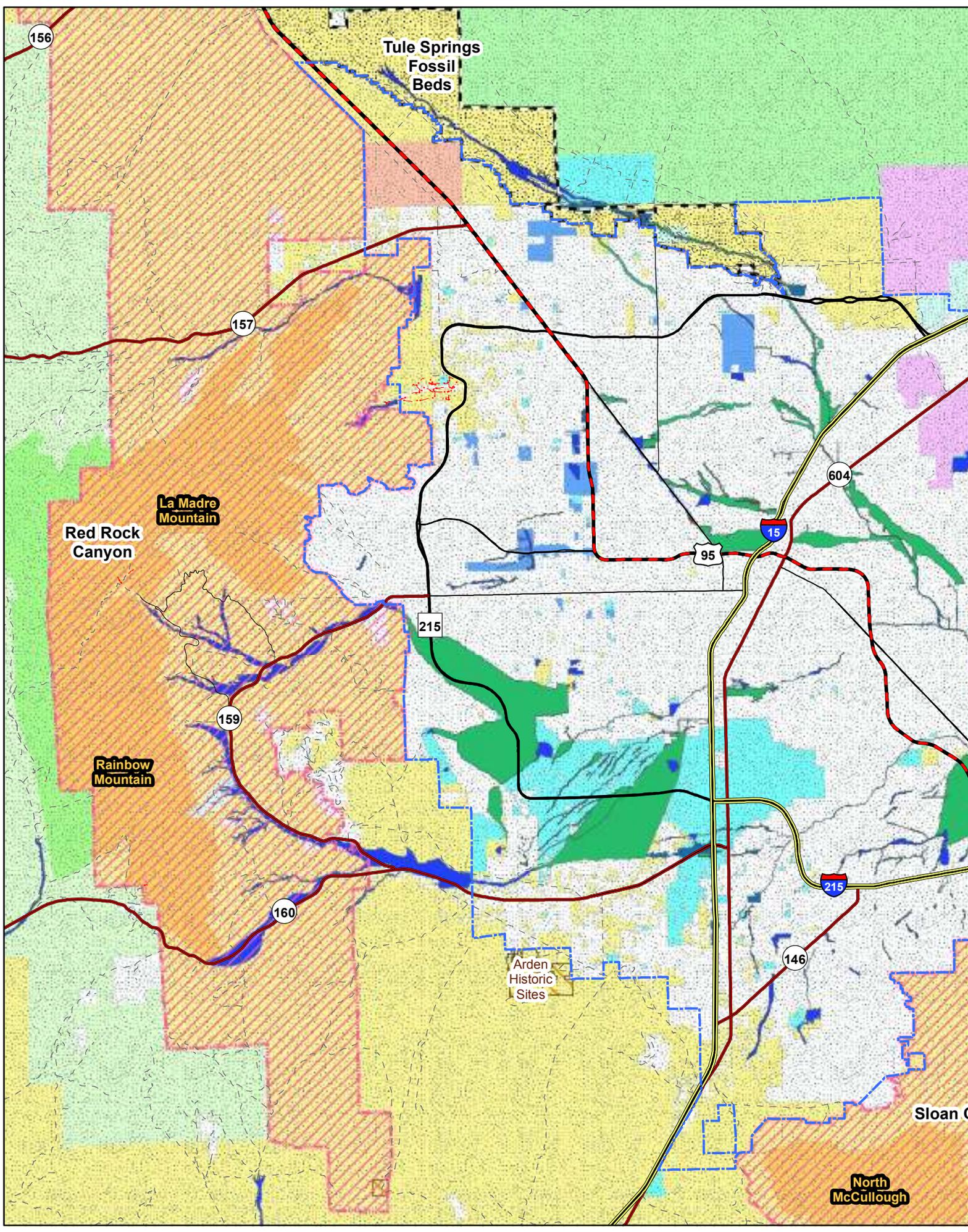


No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

Legend

-  SNDO Disposal B
-  Mining Claim quar





156

Tule Springs
Fossil
Beds

157

Red Rock
Canyon

La Madre
Mountain

604

95

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Rainbow
Mountain

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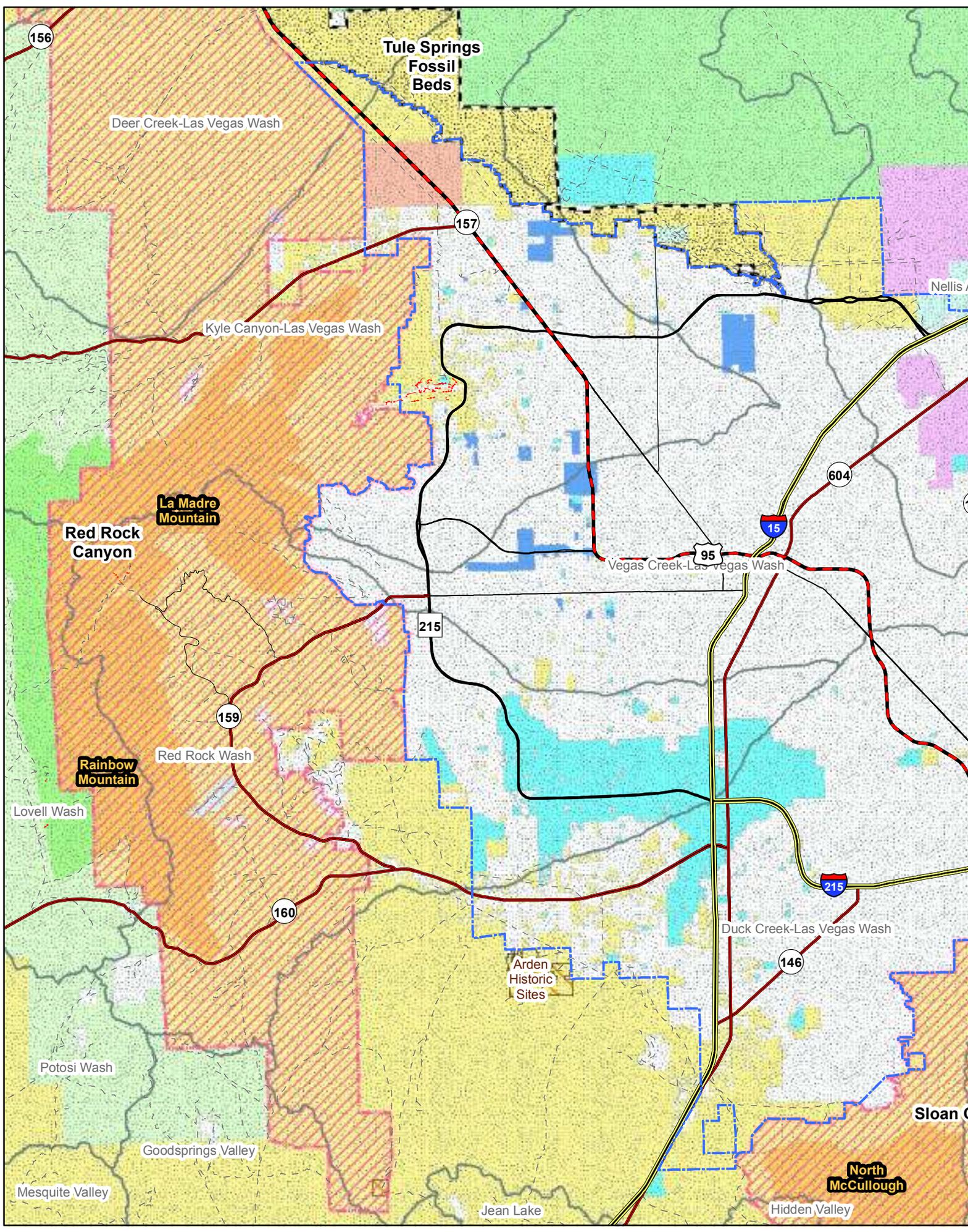
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Arden
Historic
Sites

146

Sloan C

North
McCullough



156

Tule Springs
Fossil
Beds

Deer Creek-Las Vegas Wash

157

Kyle Canyon-Las Vegas Wash

Nellis

La Madre
Mountain

Red Rock
Canyon

604

15

Vegas Creek-Las Vegas Wash

95

215

159

Red Rock Wash

Rainbow
Mountain

Lovell Wash

215

160

Duck Creek-Las Vegas Wash

146

Arden
Historic
Sites

Potosi Wash

Sloan C

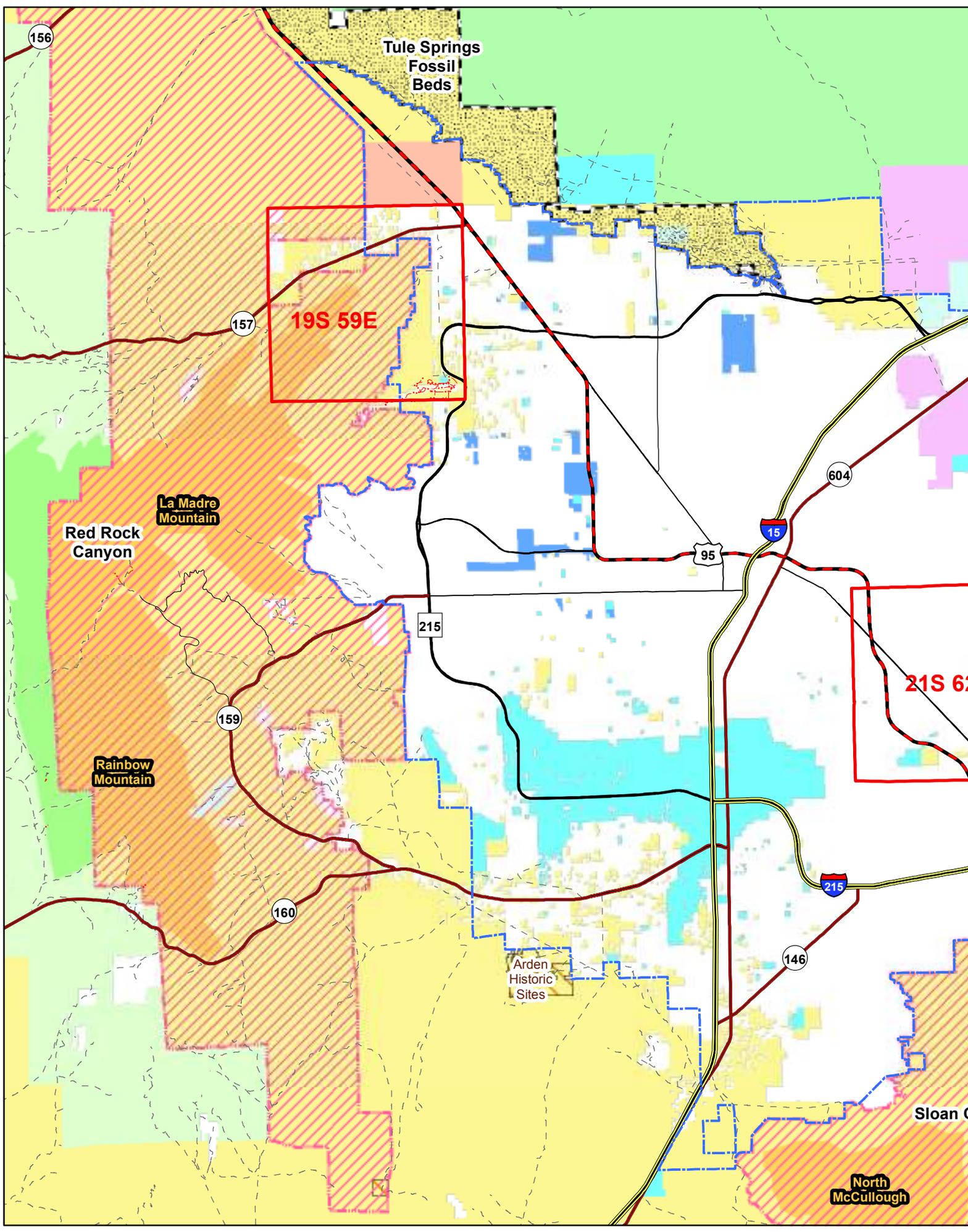
Goodsprings Valley

North
McCullough

Mesquite Valley

Jean Lake

Hidden Valley



Tule Springs
Fossil
Beds

19S 59E

Red Rock
Canyon

La Madre
Mountain

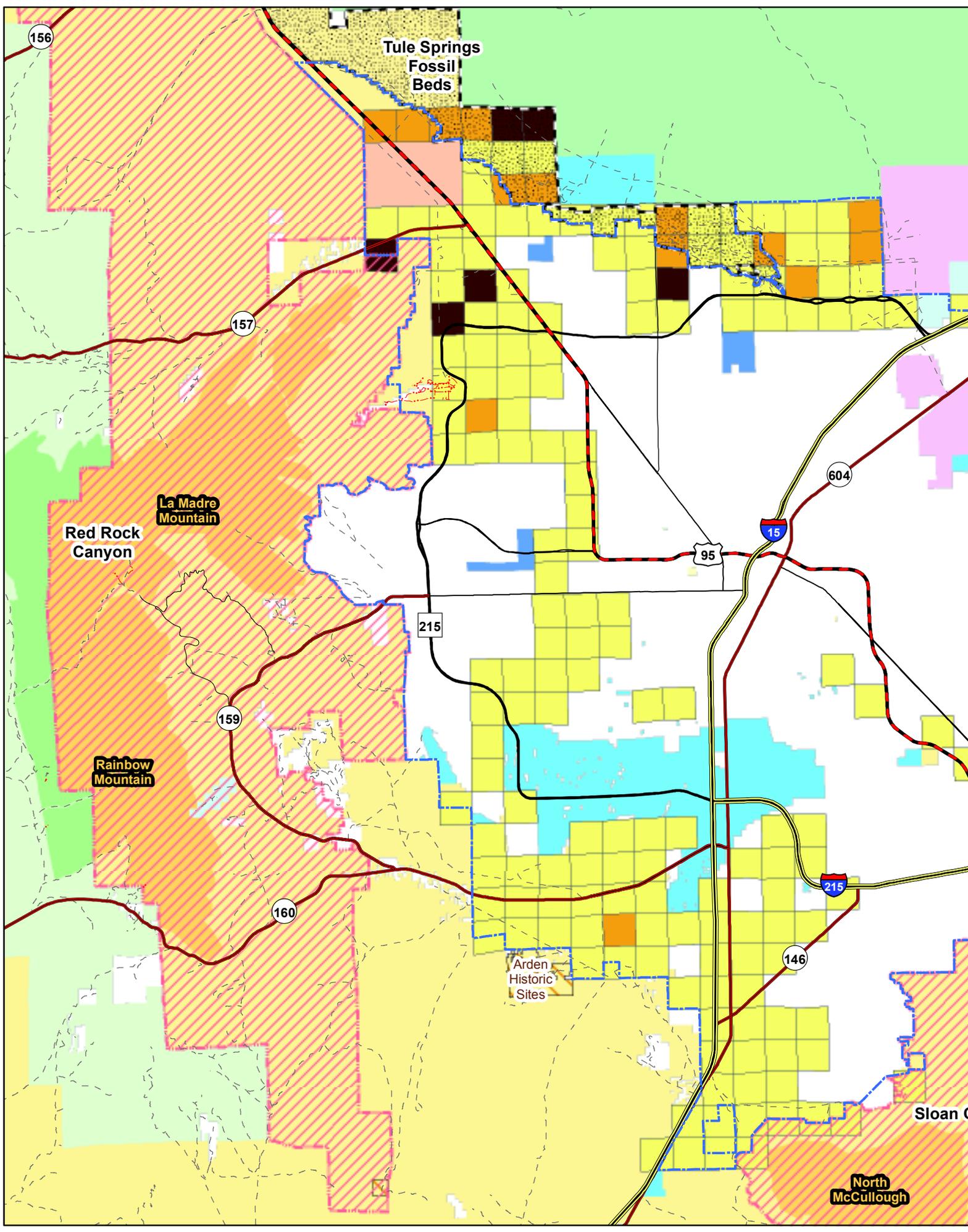
Rainbow
Mountain

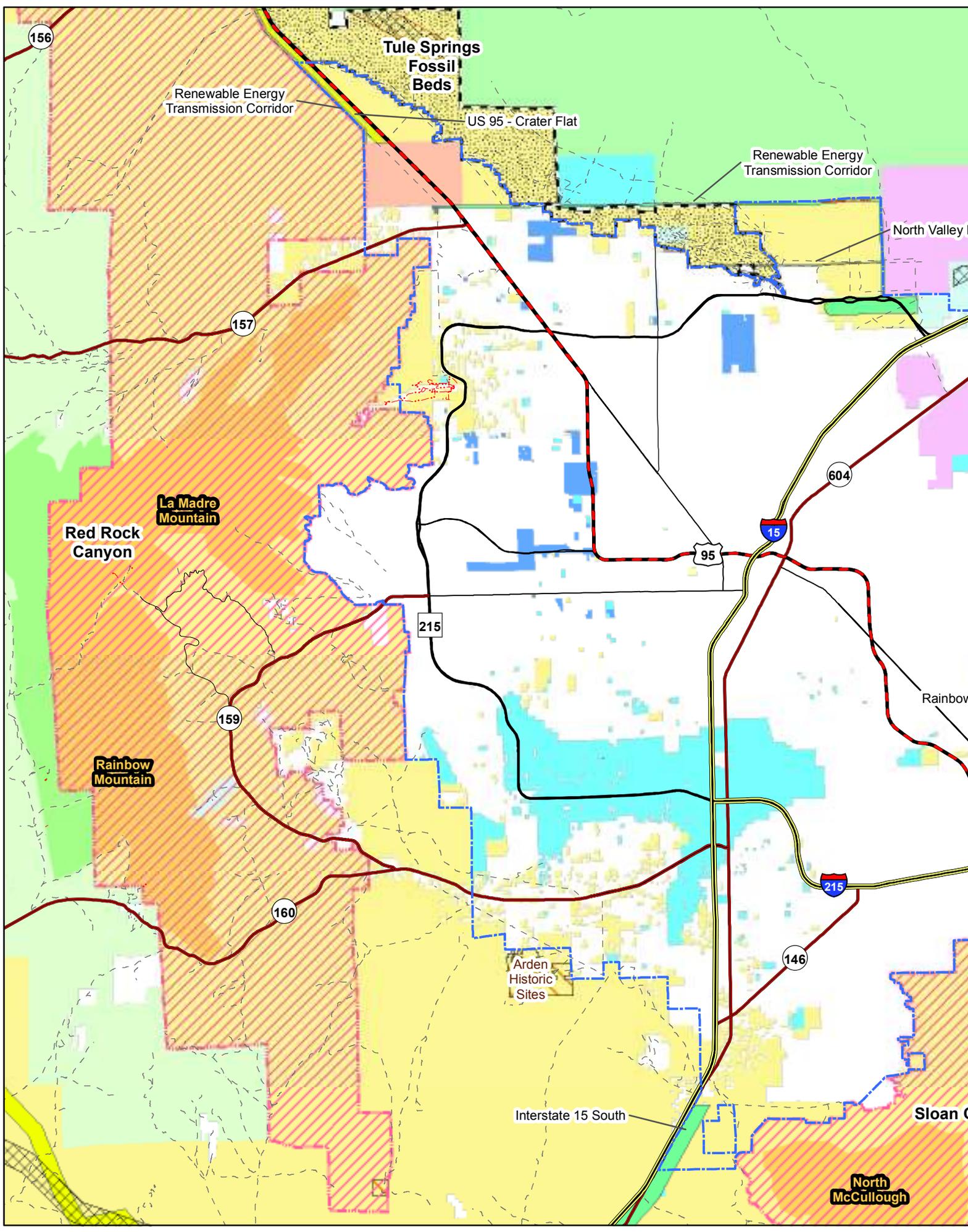
Arden
Historic
Sites

21S 6E

Sloan C.

North
McCullough





Appendix B: Extraordinary Actions

The following specific actions that could occur within select areas of the Las Vegas In-Valley may be subject to additional review by resources specialists. These actions will be reviewed on a case-by-case basis to determine if the action was sufficiently analyzed in this document or if further NEPA review is necessary:

- Formerly used defense sites within specified sections of the Las Vegas In-Valley
- Transmission corridors within the Las Vegas In-Valley
- Commercial drone use within the Las Vegas In-Valley
- Vegetation disturbance within specified sections of the Las Vegas In-Valley
- Disturbance within Mining Claims within specified sections the Las Vegas In-Valley
- Disturbance near Saleable Minerals within the Las Vegas In-Valley

Formerly Used Defense Sites:

The BLM is responsible for managing public lands and resources for multiple use and sustained yield. As part of this management effort, the BLM may find in its inventory lands that were formerly used defense sites (FUDS) by military services such as the Army, Navy, Air Force, and Marine Corps. FUDS are areas that may still have munitions and explosives of concern (MEC). Although BLM is responsible for managing public lands, BLM managers and personnel do not touch, move, or remove MEC on the public lands under their control. The military services retain liability and responsibility for MEC removal and remedial actions on all lands transferred or transferring from the military to the BLM. Through a partnership with the military services, the BLM can ensure that MEC removal and remedial actions are consistent with the intended land use, protect the environment, and reduce the risk to the public and employees. The BLM and U.S. Fish and Wildlife Service, as land managers, provide oversight for actions performed by military services. Areas identified as FUDS will undergo additional NEPA for any action proposed within the known boundary.

The BLM will prevent and reduce risks to public health and the environment where hazards may exist resulting from military defense activities. Munitions and explosives of concern may include unexploded ordnance, discarded military munitions, and munitions constituents when munitions constituents are present in high enough concentrations to pose an explosive hazard. The sites may also be contaminated with munitions constituents that are not present in high enough concentrations to represent an explosive hazard, but in high enough concentrations to be a toxic hazard in soil, groundwater, surface water, and/or air.

The following sites have been identified by the Department of Defense, U.S. Army Corps of Engineers, and other agencies, e.g., Department of Energy, to avoid and/or limit exposure to areas that may contain hazards associated with munitions and explosives of concern:

Mount Diablo Meridian, Nevada

T. 18 S, R. 63 E.,
sec. 19, NW $\frac{1}{4}$, SW $\frac{1}{4}$, and lots 1 thru 4;
sec. 30, NW $\frac{1}{4}$, SW $\frac{1}{4}$, and lots 1 thru 4;
sec. 31, NW $\frac{1}{4}$ NE $\frac{1}{4}$, lots 7 thru 9, 15 and 18.

T. 19 S, R. 61 E.,
sec. 1 thru 3;
sec. 4, lots 5, 6, 11 thru 14, 19, and 20;
sec. 10, lots 1 thru 3, 6 thru 11, 15, and 16;
sec. 11 and 12.

T. 19 S, R. 62 E.,
sec. 6 and 7;
sec. 12, W $\frac{1}{2}$ NE $\frac{1}{4}$;
sec. 13, W $\frac{1}{2}$ NW $\frac{1}{4}$;
sec. 14, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$;
sec. 18;
sec. 19, lots 5, 6, 8 thru 13, 23 and 24;
sec. 20, W $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$.

T. 19 S, R. 63 E.,
sec. 6, lot 9.

Transmission Corridors:

Depending on location and use, there may be an impact to transmission corridors that are managed for specific purposes based on land-use planning and/or the respective legislation that established the corridor. Co-location and/or alternate routes may be required.

Transmission corridors located within the Las Vegas In-Valley:

US-95–Crater Flat-Red Rock - this corridor was established through the 1998 Las Vegas RMP, pursuant to the Federal Land Policy Management Act (FLPMA, Public Law 94-579). The corridor is approximately 2,640 feet wide and located northwest of the Las Vegas In-Valley. The corridor extends northwest, south of the US-95 highway right-of-way corridor from the Las Vegas Paiute Indian Reservation through the City of Las Vegas Job Creation Zone, further extending northwest between the boundaries of the Red Rock Canyon National Conservation Area and Tule Springs Fossil Beds National Monument. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.18S., R.59E., secs. 8, 16, 17, 21, and 22. The corridor is designated as a multi-modal corridor that can accommodate electric transmission facilities and other utility purposes such as gas pipelines and fiber-optic communication lines.

Interstate Route 15 South - Congress established this 2,640-foot-wide corridor pursuant to the Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282). The corridor extends south of the Las Vegas In-Valley following east of the I-15 highway right-of-way corridor to the northern part of lands conveyed to Clark County for the Ivanpah airport. This corridor was established for the placement, on a non-exclusive basis, of utilities and transportation. Subject to valid existing rights, the corridor is withdrawn from location and entry under the mining laws and from operation under the mineral leasing and geothermal leasing laws until the Secretary terminates the withdrawal or the corridor or land, respectively, is patented. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.23S., R.60E., sec. 36; and T.23S., R.61E., secs. 29, 30, and 31.

Lincoln-Clark (or SNWA) - Congress established this 2,640-foot-wide corridor pursuant to the Lincoln County Conservation, Recreation, and Development Act of 2004 (Public Law 108-424). This is a non-exclusive ROW corridor for the Southern Nevada Water Authority and the Lincoln County Water District for roads, wells, well fields, pipes, pipelines, pump stations, storage facilities, or other facilities and systems that are necessary for the construction and operation of a water conveyance system. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.19S., R.61E., sec. 24; T.19S., R.62E., secs. 13, 14, 19 and 20; and T.19S., R.63E., sec. 18.

Renewable Energy Transmission - Congress established this 400-foot-wide corridor pursuant to the National Defense Authorization Act for Fiscal Year 2015 (NDDA Act), Public Law 113. This corridor extends from the Dry Lake SEZ, through the Apex corridors, south of withdrawn lands for the Nellis Small Arms Range. The corridor then traverses south of the USFWS Desert National Wildlife Refuge along the Moccasin alignment toward the Las Vegas Paiute Reservation. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.18S., R.60E., sec. 5; and T.19S., R.61E., secs. 1-4. Refer to Section P.1.5 for additional corridor information.

Water Conveyance Facilities - Congress established this 100-foot-wide corridor pursuant to the NDDA Act, Public Law 113-291. This corridor extends west of the Renewable Energy Transmission Corridor, following the Grand Teton Drive alignment west to Aliante Parkway, then west along Horse Drive. Within the Las Vegas In-Valley, the corridor is generally located within MDM, T.19S., R.61E., secs. 7, 10, 11 and 12. Refer to Section P.1.6 for additional corridor information.

39-231 – consistent with Section 368 Section 368(a) of the 2005 Energy Policy Act (P.L. 109-58), and the 2009 Record of Decision for the West-wide Energy Corridor Programmatic Environmental Impact Statement (WEC PEIS) and the 2012 settlement agreement, BLM established an energy corridor of concern (COC) labeled 39-231 along the east side of the Las Vegas Valley. Federally designated portions of this corridor are on BLM-administered land, with a 3,500-foot width over most of its extent. It is designated as a multi-modal corridor that can accommodate both electrical transmission and pipeline projects. COC 39-231 traverses through the Las Vegas In-Valley within T.21S., R.63E., sec. 33, and T.22S., R.63E., sec. 9, extending approximately 1,454 feet and encompassing approximately 66 acres. Refer to Section P.1.7 for additional corridor information.

Drones:

All commercially used unmanned aircraft systems or those over 55 pounds will be subject to additional NEPA and are required to obtain a Certificate of Authorization from the Federal Aviation Administration.

Integrated Vegetation

Projects creating new disturbance in T19S R59E and T19S R63E, T21S R62E, or T21S R63E will pay a set fee of \$400/acre to compensate for the loss of the Las Vegas bearpoppy (*Arctomecon californica*), and yellow two-toned penstemon (*Penstemon bicolor bicolor*).

Projects creating new disturbance in areas with “medium” or “high” densities of cacti and yucca will pay a set fee (see Table N.3-1). Projects in medium-high density cacti/yucca habitat will pay \$353/acre to compensate for loss of these resources. Mapped densities of cacti and yucca per township and range will be used to determine this fee. Applicant/proponents creating temporary disturbance will incorporate

salvaged cacti and yucca into their restoration plans. When at all possible, projects will attempt to avoid vegetation, especially cacti and yucca.

Mining Claims

There are 52 mining claims located within the Las Vegas In-Valley. Any action being proposed on these lands in the locations below must be reviewed by a geologist to identify any potential conflicts that may occur.

Mount Diablo Meridian, Nevada

- T. 18 S., R. 63 E.,
 - sec. 13, SW;
 - sec. 14, NE, SW, and SE;
 - sec. 26, SW;
 - sec. 34, NE, NW, and SE;
 - sec. 35, NW;
- T. 19 S., R. 63 E.,
 - sec. 9, NE, SW, and SE;
 - sec. 10, SW;
 - sec. 17, NE;
- T. 20 S., R. 59 E.,
 - sec. 2, NE and SE;
- T. 21 S., R. 59 E.,
 - sec. 29, SW;
 - sec. 30, SE;
- T. 22 S., R. 59 E.,
 - sec. 4, SW;
 - sec. 5, SE;
- T. 23 S., R. 61 E.,
 - sec. 5, SE.

Saleable Minerals

Due to ongoing mineral operations throughout the Las Vegas Valley, any action that will require new construction, temporary road closures, traffic detours, etc. should be reviewed by a geologist to identify any potential conflicts that could occur. Administrative actions, such as renewals of existing rights-of-ways, that are already constructed, will not need to be reviewed by a geologist.

Appendix C: Weeds within the Las Vegas In-Valley

Noxious weeds are designated by the Nevada Department of Agriculture and recognized and managed on public lands by the BLM. Listed plants are categorized into one of three levels depending upon infestation characteristics. The listed weeds are in accordance with Nevada Administrative Code (effective 10-31-05) 555.010, current through 2009.

Category A weeds generally are not found or are limited in distribution throughout the state. Such weeds are subject to:

- 1) Active exclusion from the state and active eradication wherever found.
- 2) Active eradication from the premises of a dealer of nursery stock.

Category A Weeds:

Camelthorn	<i>(Alhagi pseudalhagi)</i>
Giant reed	<i>(Arundo donax)</i>
Green fountain grass	<i>(Pennisetum setaceum)</i>
Malta starthistle	<i>(Centaurea melitensis)</i>

Category B weeds are generally established in scattered populations in some counties of the state. Such weeds are subject to:

- 1) Active exclusion where possible.
- 2) Active eradication from the premises of a dealer of nursery stock.

Category B Weeds:

Diffuse knapweed	<i>(Centaurea diffusa)</i>
Musk thistle	<i>(Carduus nutans)</i>
Russian knapweed	<i>(Acroptilon repens)</i>
Sahara mustard	<i>(Brassica tournefortii)</i>
Scotch thistle	<i>(Onopordum acanthium)</i>

Category C weeds are generally established and widespread in many counties of the state. Such weeds are subject to active eradication from the premises of a dealer of nursery stock.

Category C Weeds:

Puncture vine	<i>(Tribulus terrestris)</i>
Saltcedar (tamarisk)	<i>(Tamarix spp.)</i>
Water hemlock	<i>(Cicuta maculata)</i>

Appendix D: Stipulations and Mitigation Measures

Appendix D includes a complete list of stipulations and mitigation measures carried forward from Chapter 3 of this EA. These stipulations and mitigation measures will apply to all actions analyzed in this document. However, additional measures may be added to the grant, permit, or lease for specific actions.

General Lands and Realty Actions Stipulations

- All rights-of-way (ROW) are issued subject to all valid existing rights. If access to the project area includes crossing over private lands with no public road (ingress/egress), permission should be obtained from the private landowner. ROW holders subject to near and adjacent to the project area need to be notified of the action per 43 CFR 2807.14.
- No signs of advertising devices shall be placed on the premises or on adjacent public lands, except those posted by or at the direction of the Authorized Officer.
- The ROW shall be maintained in a sanitary condition at all times. Waste materials at those sites shall be disposed of promptly at an approved waste disposal site. "Waste," as used in this paragraph, shall mean all discarded matter of any kind.
- The ROW Holder, applicant, or proponent shall ensure that the road has a proper drainage system and should include the best combination of various design elements, such as ditches, culverts, drainage dips, crowns, low-water crossings, subsurface drains, and bridges, per Clark County standards.
- ROW Holder, applicant, or proponent shall mark the exterior boundaries of the ROW with stake and/or lath at 100 to 200 foot intervals. The intervals may be varied at the time of staking at the discretion of the Authorized Officer. The tops of the stakes and/or laths will be painted, and the laths flagged in a distinctive color as determined by the ROW Holder, applicant, or proponent. ROW Holder, applicant, or proponent shall maintain all boundary stakes and/or laths in place until final cleanup and restoration is completed.
- ROW Holder, applicant, or proponent shall conduct all activities associated with construction, operation, maintenance, and termination of this ROW within its authorized limits.
- ROW Holder, applicant, or proponent shall maintain the ROW in a safe, useable condition, as directed by the Authorized Officer. A regular maintenance program shall include, but is not limited to, soil stabilization.
- Pursuant to 43 CFR 2807.17(a) and 43 CFR 2807.17 (3)(c), BLM may suspend or terminate the grant if the Holder does not comply with applicable laws and regulations or any terms, conditions, or stipulations of the grant (such as rent payments), or if the Holder abandons the right-of-way. Failure to use your right-of-way for its authorized purpose for any continuous five-year period creates a presumption of abandonment.

- ROW Holder, applicant, or proponent shall maintain a copy of the authorization, along with stipulations, on construction site at all times. In the event that the public land underlying this ROW, encompassed in this grant, or a portion thereof, is conveyed out of federal ownership and administration of the ROW or the land underlying the ROW is not being reserved to the United States in the patent/deed and/or the ROW is not within a ROW corridor being reserved to the United States in the patent/deed, the United States waives any right it has to administer the ROW, or portion thereof, within the conveyed land under federal laws, statutes, and regulations, including the regulations at 43 CFR Part [2800][2880], including any rights to have the Applicant/proponent apply to BLM for amendments, modifications, or assignments and for BLM to approve or recognize such amendments, modifications, or assignments. At the time of conveyance, the patentee/grantee, and their successors and assigns, shall succeed to the interests of the United States in all matters relating to the ROW, or portion thereof, within the conveyed land and shall be subject to applicable state and local government laws, statutes, and ordinances. After conveyance, any disputes concerning compliance with the use and the terms and conditions of the ROW shall be considered a civil matter between the patentee/grantee and the ROW holder.
- Within 90 days of construction completion, the ROW Holder, applicant, or proponent shall provide the Authorized Officer with data in a format compatible with the BLM's Arc-Info Geographic Information System to accurately locate and identify the ROW:
 - Acceptable data formats are:
 - Corrected Global Positioning System files with sub-meter accuracy or better, in UTM NAD 83; Zone 11;
 - ARCGIS export files on a CD ROM, shapefile, geodatabase.
 - Data may be submitted in any of the following formats:
 - ARCGIS interchange, shapefile, or geodatabase format.
 - CD ROM in compressed or uncompressed format.
 - All data shall include metadata for each coverage, and conform to the Content Standards for Digital Geospatial Metadata Federal Geographic Data Committee standards. Contact the GIS Department at (702) 515-5000.
- To the full extent permissible by law, the Holder agrees to indemnify and hold harmless the United States against any liability caused by the Holder, its agents, contractors, or third parties. The Holder agrees to bear all responsibility (financial or other) for any and all liability or responsibility of any kind or nature assessed against the United States arising from the Holder's use or occupancy of the project area regardless of whether the Holder has actually developed or caused development to occur.

Transmission Corridors

- An applicant/proponent would be required to comply with applicable federal, state, and local laws and regulations for development, construction, operations, maintenance, decommissioning, restoration, and/or termination of actions, and thus any impacts from these activities would be reduced to a level of insignificance. Co-location and/or alternate routes may be required. Construction that exceeds 199 feet in height from surface requires coordination with FAA, and potentially Nellis Air Force Base. Standard stipulations including IOPs for use of Section 368 corridors and mitigation measures would apply (Appendix E).

Air Quality

- The Holder shall comply with all applicable air standards established by or pursuant to applicable federal, state, or local laws or regulations and BLM policy. The Holder shall be responsible for dust abatement within the limits of and/or emanating from the project area if ground disturbance is to occur and is responsible for obtaining all necessary permits from appropriate authorities for acceptable dust abatement and control methods (e.g., water, soil stabilizers). The Holder shall be solely responsible for all violations associated with any air quality law, regulation or air quality permit requirement, as a result of its action, inaction, use or occupancy of the project area.
- Notwithstanding whether a violation of any air law, regulation, or air quality permit requirement occurs, the Holder will cooperate with the Authorized Officer in implementing and maintaining reasonable and appropriate dust control methods at the sole cost of the Holder.
- The Holder will ensure a dust control permit is obtained through the Clark County Department of Air Quality (DAQ) for all soil-disturbing activity of .25 acres or greater, in the aggregate, and all permit stipulations are in compliance for the duration of the activity.
- Prior to relinquishment, abandonment, or termination of a ROW, lease, or permit, the Holder shall apply BLM-authorized dust abatement and control measures to all disturbed areas in accordance with air quality permit stipulations. Dust abatement and control measures shall be designed to be effective over the long-term (e.g., rock, mulch, or other means) and acceptable to the Authorized Officer.
- During excavation, backfilling, and contouring activities, fugitive dust emissions must be effectively reduced in accordance with air quality permit stipulations, including dust control implementation measures, as stipulated, during non-work hours, including weekends.

Cultural and Paleontological Resources

- Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the Holder, or any person working on his behalf on public or federal lands shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder will be responsible for the cost of evaluation. Any decision regarding suitable mitigation measures will be made by the Authorized Officer after consulting with the Holder. Holder shall be responsible for the resultant mitigation costs.
- Any impacts to historic properties will be mitigated through avoidance (preferably) or through other mitigation measures ranging from recordation of historic structures to full excavation when sites are unavoidable. Indirect effects to historic properties such as visual, atmospheric, olfactory, or auditory impacts that alter the setting or feel will be mitigate through design change or through off-site mitigation.

- Tribal consultation for all federal undertakings is mandated under Section 106 and NEPA. No specific mitigation measures are called for when there are effects to Native American concerns. If needed, mitigation would be agreed to through consultation with the affected entities.
- Disturbances to fossil-bearing strata can be mitigated by scientific removal of the fossils and curation in a federally approved facility. In Las Vegas, that facility is the Las Vegas Natural History Museum.

Hazardous Materials

- The Holder shall comply with all applicable local, state, and federal air, water, hazardous substance, solid waste, or other environmental laws and regulations, existing or hereafter enacted or promulgated.
- The Holder shall immediately notify the Authorized Officer of any release (leaks, spills, etc.) of hazardous substances, toxic substances, or hazardous waste on or near the project site.
- As required by law, Holder shall have responsibility for and shall take all action(s) necessary to fully remediate and address the hazardous substance(s) on or emanating from the project area.
- A copy of any report required or requested by any federal, state, or local government agency as a result of a reportable release or spill of any hazardous substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved federal, state, or local government agency.

Survey Monuments

- Holder shall protect all survey monuments found within the authorization area. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coast and Geodetic Survey benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. If any of the above are to be disturbed during operations, the Holder shall secure the services of a Professional Land Surveyor or Bureau cadastral surveyor to perpetuate the disturbed monuments and references using surveying procedures found in the Manual of Instructions for the Survey of the Public Lands of the United States and Nevada Revised Statutes, Chapter 329, Perpetuation of Corners. The Holder shall record such survey in the appropriate county and send a copy to the Authorized Officer. If the Bureau cadastral surveyors or other federal surveyors are used to restore the disturbed survey monuments, the Holder shall be responsible for the survey cost.

Fire and Fuels

The best wildfire mitigation strategy is fire prevention. An active community assistance and education program is needed to create fire-safe communities and prevent catastrophic impacts to sensitive natural and cultural resources. Fire prevention strategies are employed to reduce human-caused fires with special emphasis in the wildland urban interface, campgrounds, and transportation corridors. One of the

goals of this program is to enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education. Key components are analysis of risks, hazards, and values, as well as the development of specific educational, mitigation, enforcement, and administrative actions.

Hazardous fuel projects and treatments can be used to reduce wildfire risk and potential smoke impacts by protecting and creating fire-adapted communities and to meet resource goals and objectives such as restoring and maintaining resilient landscapes. Fuel treatment projects require activity-level plans and environmental analysis. A common fuel project objective is to reduce wildfire risk to communities and resources by reducing hazardous fuels.

Industry standard fire prevention measures and best management practices to prevent fires may be acceptable in many cases. Proposed best management practices, fire prevention measures, and/or other minimization measures will be considered on a case-by-case basis and can be incorporated into a fire management plan, safety or hazard management plan as needed, or when required by a BLM agency administrator. Standard fire prevention best management practices developed by the BLM may be adopted, incorporated, or updated at any time at the agency administrator's discretion.

- Fire restrictions are generally enacted May through October. Compliance with fire restrictions is mandatory while fire restrictions are in effect. Specific non-compliant activities may be permitted in writing on a case-by-case basis by a line officer after review and approval by the fire management officer (43 CFR 9212).
- Conditions that support wildfires can occur any time of the year in Southern Nevada. In general and when fire restrictions are not in effect, use standard fire prevention measures and best management practices to prevent fires (43 CFR 2805.12(d) or subsequent revisions).
- Minimize wildfire risk to assets or infrastructure where needed by maintaining a wildfire defensive or survivable space. Consider using less combustible materials or plant materials to reduce wildfire risk where applicable. Consider implementing *Living with Fire* or *Firewise* strategies.
- The ROW Holder shall immediately report fires to the BLM, appropriate dispatch center, or 911 and make all accommodations to allow immediate safe entry of firefighting apparatus and personnel.
- In the event of a human-caused wildfire, the applicant/proponent will be held responsible for all costs of suppression and damaged resources pending a wildfire Origin and Cause Investigation. An Origin and Cause Investigation will be carried out on any human caused fire by BLM law enforcement or their designated representative. To minimize disturbance of potential evidence located at the fire scene, the applicant/proponent shall properly handle and preserve evidence in coordination with the BLM. The applicant/proponent shall report to the fire investigator or BLM incident commander and enter into the fire origin area on BLM fires only when given permission to do so. The applicant/proponent will cooperate with the BLM in performance of fire investigation to determine wildfire cause.

- The holder, applicant, or proponent shall be liable for damage or injury to the United States to the extent provided by 43 CFR 2807.12. The holder, applicant, or proponent shall be held to a standard of strict liability for damage or injury to the United States caused or substantially aggravated by any of the following within the right-of-way or permit area:
 - Activities of the holder, applicant, or proponent, including but not limited to construction, operation, maintenance, and termination of the facility.
 - Activities of other parties including but not limited to:
 - Land clearing and vegetation removal.
 - Earth-disturbing and earth-moving work.
 - Blasting.
 - Vandalism and sabotage.
- The maximum limitation for such strict liability damages shall not exceed two million dollars (\$2,000,000.00) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which damage or injury occurred. This section shall not impose strict liability for damage or injury resulting primarily from negligent acts or omissions of the United States.

Integrated Vegetation

- Projects creating new disturbance in T19S R59E and T19S R63E, T21S R62E, or T21S R63E will pay a set fee of \$400/acre to compensate for the loss of the Las Vegas bearpoppy (*Arctomecon californica*), and yellow two-toned penstemon (*Penstemon bicolor bicolor*).
- Projects creating new disturbance in areas with “medium” or “high” densities of cacti and yucca will pay a set fee. Projects in medium-high density cacti/yucca habitat will pay \$353/acre to compensate for loss of these resources. Mapped densities of cacti and yucca per township and range will be used to determine this fee. Applicant/proponents creating temporary disturbance will incorporate salvaged cacti and yucca into their restoration plans. When at all possible, projects will attempt to avoid vegetation, especially cacti and yucca.

Invasive Species and Noxious Weeds

Any soil-disturbing activity has the potential to introduce or exacerbate noxious and invasive plants. The project applicant/proponent shall continue to follow existing mitigation measures and stipulations for weed prevention and control as established. If no measures exist, then follow the SNDO noxious weed compliance requirements as shown below. The project applicant/proponent shall coordinate weed management activities with the district weed management specialist.

To avoid spreading noxious and/or invasive weeds, project activities shall include the following stipulations:

- Before ground-disturbing activities begin, the project applicant/proponent shall inventory and prioritize weed infestations for treatment within the project foot print. Should the weed spread beyond the project footprint, then these weeds will be treated as a part of the project. This will include access routes.

- The project applicant/proponent shall avoid or minimize all types of travel through weed-infested areas. If a problem is identified and avoidance or removal is not possible, the project applicant/proponent shall set up inspection and equipment cleaning sites to prevent the spread of weeds.
- The project applicant/proponent shall limit ground disturbance to the absolute minimum necessary to safely construct and operate the proposed project. The applicant/proponent will avoid creating soil conditions that promote weed germination and establishment.
- Project-related equipment (i.e. undercarriages and wheel wells) will be cleaned of all mud, dirt, and plant parts before moving into relatively weed-free areas or out of relatively weed-infested areas. Project workers shall inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment, bag the product, and dispose of it in a dumpster. If you have questions, consult with the SNDO noxious weed coordinator.
- The project applicant/proponent will perform an annual check for invasive/noxious weeds present within the ROW or leased area. If noxious weeds are present, coordinate weed management activities with the district weed management specialist.
- The project applicant/proponent will ensure that landscaping does not contain state-listed noxious weeds.
- The project applicant/proponent shall coordinate with the BLM weed coordinator (702-515-5000) regarding any proposed herbicide treatment. The project applicant/proponent shall prepare, submit, obtain, and maintain a pesticide use proposal (PUP) to utilize herbicides for project activities.

Mineral Resources

For ROWs and R&PP Leases:

- If construction activities produce excess mineral materials from within the boundaries of the Proposed Action, the mineral materials must be used within the boundaries of the Proposed Action or stockpiled within the boundaries of the Proposed Action for future disposal by the BLM.
- If construction activities require that excess mineral materials be exported from within the boundaries of the Proposed Action as they are generated, written authorization, a mineral material sales contract, a free-use permit, etc. must be obtained from the BLM by the project applicant/proponent prior to exporting the excess mineral materials from within the boundaries of the Proposed Action.
- If mineral materials are to be stockpiled on site for a future disposal, specific BLM use authorization in the form of a written authorization, mineral material sales contract, free-use permit, etc. must be obtained from the BLM prior to exporting the excess mineral materials from within the boundaries of the Proposed Action.

For all others:

- If mineral materials will be used beyond minimal personal use or exported from within the boundaries of the Proposed Action, written authorization, a mineral material sales contract, a free-use permit, etc. must be obtained from the BLM prior to using or exporting the mineral materials.

Soils

- Follow all Clark County BMPs for soils.
- Mitigation measures may include, but are not limited to, the following:
 - Watering the site.
 - Applying soil stabilizers.
 - Installing a construction entrance with trackout control devices.
 - The stabilization of disturbed surfaces after construction is completed.
- Should biological soil crusts be detected during pre-construction surveys, appropriate measures would be taken to minimize disturbance of soil crusts.
- Should desert pavement be detected during pre-construction surveys, appropriate measures would be taken to minimize disturbance of desert pavement. Suggested measures might include:
 - Limiting surface disturbance in desert pavement.
- Land surface treatment for areas previously disturbed: Following excavation, trenches will be backfilled with the excavated soil. The soil will be distributed and contoured evenly over the surface of the disturbed area. The soil surface will be left rough to help reduce potential wind erosion.
- Land surface treatment for areas previously undisturbed: Strip the top three to six inches of soil material with associated plant material from all surfaces to be disturbed by construction. Material stockpiled along the course of construction will be salvaged and transplanted out of harm's way but still within the right-of-way. At the conclusion, including trench backfilling and compaction, replace the stockpiled soil with plant debris uniformly back on the surface of the disturbed area.

Floodplains

- All applicant/proponents would be required to comply with any Federal Emergency Management Agency (FEMA) and Clark County Regional Flood Control District (CCRFCD) requirements for construction in floodplains.

Hydrologic Conditions

- All applicant/proponents would be required to comply with any CCRFCD requirements for construction.

Water Resources

- The Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control is responsible for setting requirements and enforcing the state's water pollution requirements and enforcing the state's water pollution control laws and regulations under Section 401 of the CWA and the National Pollutant Discharge Elimination System permitting program (Section 402 of the CWA). Therefore, the potential impacts on water quality from discharges and corresponding mitigation measures would be based on regulatory decisions made by NDEP at the time a new discharge (including stormwater discharge) is proposed.
- Implementation of Clark County best management practices (BMPs) required by stormwater construction permitting ensures that runoff during construction does not adversely impact water quality. Any construction of underground utilities would require a Storm Water Pollution Prevention Plan that addresses mitigation measures resulting from discharge during storm events, thereby minimizing potential adverse impacts to surface drainage and water quality.
- Dewatering operations and discharges would be conducted in compliance with the applicable dewatering and discharge permits. The discharge of pollutants to the groundwater system from dewatering operation would be prevented or reduced by using sediment controls and by testing the groundwater for pollutants. The use of a sediment trap or basin in conjunction with a filtration system to remove sediment from the trap or basin would minimize chances of sediment entering the groundwater system. Monitoring of groundwater levels in the vicinity of dewatering operations should be conducted to avoid harmful groundwater lowering.
- If drilling boreholes, holder needs to follow Nevada Administrative Code (NAC) protocols for drilling. The Holder should consult with ACOE to make sure a 404 permit is not needed. All holes should be drilled according to the Nevada Regulations for Water Well and Related Drilling, per NRS Statutes 534. All holes should be reclaimed according to NRS and NAC regulations and reclaimed immediately after drilling. If groundwater is intercepted, holes will need to be reclaimed appropriately. Additionally, applicant/proponent is responsible for obtaining any CWA permits from NDEP that may be necessary.

Riparian Areas and Wetlands

- An applicant/proponent would be required to comply with Section 404 of the Clean Water Act (CWA). The U.S. Army Corps of Engineers (USACE) issues permits for filling and developing wetlands and water of the U.S. on BLM and private lands, as defined in 33 CFR 328.3. The applicant/proponent would be required to determine if their actions would cause fill or developments of the waters of the U.S. and wetlands and, if so, obtain a CWA Section 404 Permit from the USACE. Therefore, the potential impacts, avoidance, and mitigation requirements for wetlands and waters of the U.S. would be based on regulatory decisions made by the USACE at the time a specific action is proposed. In addition, the action must comply with Section 401 of the CWA. Most applications also require a plan to mitigate the project impacts and a monitoring plan to ensure the mitigation is completed and sustained.

Migratory Birds

- The applicant/proponent must comply with the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 *et. seq.*) and avoid potential impacts to protected birds within the project area.
- Habitat-altering projects or portions of projects should be scheduled outside of the bird breeding season, which generally occurs February 15th through August 31st. If a project has to occur during the breeding season, then a qualified biologist must survey the area for nests immediately prior to commencement of construction activities. This shall include burrowing and ground-nesting species in addition to those nesting in vegetation. If any active nests are found, an appropriately sized buffer area must be established and maintained until the young birds fledge. The buffer area must connect to suitable, undisturbed habitat. As the above dates are a general guideline, if active nests are observed outside this range, they are to be avoided as described above.
- Migratory birds are known to collide with lighted structures, including buildings. Any lighting on facilities and associated infrastructure should be down-shielded to keep light within the boundaries of the site and the minimum amount and intensity allowable. The minimum amount of lighting required by the FAA should be used.
- Due to potential for electrocution, collision, and nesting/perching by migratory birds on overhead power lines, projects involving power lines and/or power line posts should follow Avian Power Line Interaction Committee (APLIC) guidelines (Suggested Practices for Avian Protection on Power Lines (2006) and Reducing Avian Collisions with Power Lines (2012)) to reduce this risk through facility design and comply with MBTA and other federal wildlife laws.
- If applicable, all guy wires on all structures (including power line posts and communication towers) must be marked so they are visible to prevent injury/mortality to birds through collision. BLM requires every guy wire (not just external wires) be clearly marked for the length of the wire. Following APLIC (1994) and USFWS (2000) guidelines, all guy wires should be marked with either spiral vibration dampers (30 spirals per 150 meters of wire) or bird/swan flight diverters (spaced every 5 meters along the wire).
- All infrastructure for the projects will be designed and constructed in a manner that does not allow open pipes that birds or other wildlife could be trapped in. This includes fencing, gates, or other materials with open holes. All open pipes will be capped or secured so that wildlife cannot access.
- Burrowing owl pre-construction surveys with the USFWS recommended protocol should be implemented by a qualified biologist. The biologist will identify suitable sites on BLM lands within 1 mile of the project for creation or enhancement of burrows prior to passive relocation efforts and provide for creation of at least two artificial burrows per relocated owl within the project site.

Fish and Wildlife, Excluding Federally Listed Species

- Ensure that all artificial water sources have a properly installed and designed escape ramp and avoid the use of any obstacles to bats flight paths, such as wooden or wire braces, whenever possible.
- Project supplies or equipment where wildlife could temporarily hide will be inspected prior to moving them to reduce the potential for injury to wildlife. Supplies and equipment that cannot be inspected, or from which wildlife cannot escape or be removed, will be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each work day.
- Concurrent with the desert tortoise clearance surveys, and where Gila monster habitat exists, a biologist will conduct a preconstruction survey for Gila monsters in the project area. Any Gila monster encounters during project construction must be reported immediately to the Nevada Division of Wildlife at (702) 486-5127.
- Live Gila monsters found in harm's way on the construction site will be captured and detained in a cool, shaded environment (<85°F) by the project biologist trained in handling venomous reptiles until a NDOW biologist can arrive for documentation purposes. A clean 5-gallon plastic bucket with a secure, ventilated lid or similar container may be used for safe containment. Written information identifying mapped capture location, date, time, and circumstances and habitat description will also be provided to NDOW.
- Injuries to Gila monsters may occur during excavation, road-grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses will not be covered by NDOW. However, NDOW will be immediately notified during normal business hours. If an animal is killed or found dead, the carcass will be immediately frozen and transferred to NDOW with a complete written description of situation circumstances, habitat, and mapped location.
- Should NDOW be delayed to assist, biological personnel on site may be requested to remove and release the Gila monster out of harm's way. Should NDOW not be immediately available to respond for photo-documentation, a camera will be used to take good quality photographs of the Gila monster in situ at the location of live encounter or dead salvage. The pictures will be provided to NDOW and will include:
 - Encounter location (landscape overview with Gila monster in clear view).
 - A clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view). A clear, overhead close-up of the head (head should fill camera's field of view).

Threatened, Endangered or Candidate Animal Species

- All actions covered under this EA will require additional review by a BLM wildlife biologist to make project/action-specific Section 7 effects determinations; provide project/action-specific

terms and conditions; ensure that seasonal restrictions and measures are adhered to; and comply with tracking and reporting requirements.

- The Applicant/proponent will comply with project specific programmatic biological opinion terms and conditions provided by BLM.
- Compliance with the special stipulations below will help to ensure desert tortoises are not impacted:
 - A speed limit of 25 miles per hour shall be required for all vehicles travelling on existing roads.
 - Should a desert tortoise enter the area of activity, all activity shall cease until such time the animal leaves the area of its own accord.
 - All drivers must check underneath vehicles and equipment before moving to ensure no tortoise has taken cover underneath parked vehicles.

Special Stipulations for the use of Drones

- Do not fly within 5 miles of an airport.
- Fly no higher than 400 feet and remain below any surrounding obstacles.
- Always keep the vehicle within eyesight at all times.
- Stay clear of manned aircraft and don't intentionally fly over unprotected persons or moving vehicles, staying at least 25 feet away from people or property.
- Do not fly near sensitive infrastructure, such as power stations, water treatment facilities, correctional facilities, or heavily traveled roadways.
- Do not conduct surveillance or photograph people in places where there's an expectation of privacy without the individual's permission.

Appendix E: Section 368 Corridors Interagency Operating Procedures

These Interagency Operating Procedures (IOPs) are adopted as part of the plan amendments and are mandatory, as appropriate, for projects proposed within the Section 368 corridors. Not all IOPs will be appropriate for all projects; those that apply to pipelines, for instance, are not appropriate to transmission lines. These IOPs are practicable means to avoid or minimize environmental harm from future project development that may occur within the designated corridors.

A.1 PROJECT PLANNING

Regulatory Compliance

- The appropriate agency, assisted by the applicant, must conduct project-specific NEPA analyses in compliance with Section 102 of NEPA. The scope, content, and type of analysis shall be determined on a project-by-project basis by the Agencies and the applicants.
- The appropriate agency, assisted by the project applicant, must comply with Section 106 of the NHPA on a project-by-project basis. Consultation with SHPOs, any federally recognized Tribes, and other appropriate parties as per regulations (36 CFR 800) must begin early in the planning process and continue throughout project development and execution. The ACHP retains the option to comment on all undertakings (36 CFR 800.9).
- The appropriate agency, assisted by the project applicant, must consult with the USFWS and the NMFS as required by Section 7 of ESA. The specific consultation requirements, as set forth in regulations at 50 CFR Part 402, would be applied on a project-by-project basis. Applicants shall identify known occupied sites, such as nest sites, for threatened and endangered species and special status species (BLM 2008).
- The appropriate agency, assisted by the project applicant, must coordinate and consult with NMFS regarding potential impacts to essential fish habitat (EFH) as required by the 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act.

Agency Coordination

- Applicants seeking to develop energy transport projects within corridors located on or near DOD facilities or flight training areas (see Appendix L of the PEIS for applicable corridors) must, early in the planning process and in conjunction with the appropriate agency staff, inform and coordinate with the DOD regarding the characteristics and locations of the anticipated project infrastructure.
- Early in the planning process, applicants seeking a ROW authorization within a Section 368 energy corridor that is located within 5 miles of a unit of the NPS should contact the appropriate Agency staff and work with the NPS regarding the characteristics and locations of anticipated project infrastructure. In those instances where corridors cross lands within the boundaries of a unit of the NPS, the National Park Service Organic Act and other relevant laws and policies shall apply.
- In those instances where projects using energy corridors are proposed to also cross National

Wildlife Refuge System lands, the National Wildlife System Administration Act and other relevant laws and policies pertinent to national wildlife refuges shall apply.

- For electricity transmission projects, the applicant shall notify the Federal Aviation Administration (FAA) as early as practicable in the planning process in order to identify appropriate aircraft safety requirements.
- All project applications must reflect applicable findings, mitigation, and/or standards contained in regional land management plans, such as the Northwest Forest Plan, when such regional plans have been incorporated into agency planning guidelines and requirements. Modification of some standards may be needed to reasonably allow for energy transport within a corridor.

Government-to-Government Consultation

- The appropriate agency, assisted by the project applicant, must initiate government-to-government consultation with affected Tribes at the outset of project planning and shall continue consultation throughout all phases of the project, as necessary. Agencies should determine how to consult in a manner that reflects the cultural values, socioeconomic factors, and administrative structures of the interested Tribes.
- The agency POC may require the project proponent to prepare an ethnographic study when Tribal consultation indicates the need. The study shall be conducted by a qualified professional selected in consultation with the affected Tribe.

General

- Applicants seeking to develop an electricity transmission or pipeline project will develop a project-specific plan of development (POD). The POD should display the location of the project infrastructure (i.e., towers, power lines) and identify areas of short- and long- term land and resource impacts and the mitigation measures for site-specific and resource-specific environmental impacts. The POD should also include notification of project termination and decommissioning to the agencies at a time period specified by the agencies.
- Applicants, working with the appropriate agencies, shall design projects to comply with all appropriate and applicable agency policies and guidance.
- Project planning shall be based on the current state of knowledge. Where corridors are subject to sequential projects, project-related planning (such as the development of spill- response plans, cultural resource management plans, and visual resource management plans) and project-specific mitigation and monitoring should incorporate information and lessons learned from previous projects.
- Applicants shall follow the best management practices for energy transport project siting, construction, and operations of the states in which the proposed project would be located, as well as Federal agency practices.
- Corridors are to be efficiently used. The applicant, assisted by the appropriate agency, shall consolidate the proposed infrastructure, such as access roads, wherever possible and utilize

existing roads to the maximum extent feasible, minimizing the number, lengths, and widths of roads, construction support areas, and borrow areas.

- When concurrent development projects are proposed and implemented within a corridor, the agency POCs shall coordinate the projects to ensure consistency with regard to all regulatory compliance and consultation requirements, and to avoid duplication of effort.
- Applicants, assisted by the appropriate agency, shall prepare a monitoring plan for all project-specific mitigation activities.
- Potential cumulative impacts to resources should be considered during the early stages of the project. Agency POCs must coordinate various development projects to consider and minimize cumulative impacts. A review of resource impacts resulting from other projects in the region should be conducted and any pertinent information be considered during project planning.

Project Design

- Applicants shall locate desired projects within energy corridors to promote effective use of the corridors by subsequent applicants and to avoid the elimination of use or encumbrance of use of the corridors by ROW holders. Proposed projects should be compatible with identified energy transport modes and avoid conflicts with other land uses within a corridor.
- Applicant shall identify and delineate existing underground metallic pipelines in the vicinity of a proposed electricity transmission line project and design the project to avoid accelerating the corrosion of the pipelines and/or pumping wells.

Transportation

- The applicant shall prepare an access road siting and management plan that incorporates relevant agency standards regarding road design, construction, maintenance, and decommissioning. Corridors will be closed to public vehicular access unless determined by the appropriate Federal land manager to be managed as part of an existing travel and transportation network in a land use plan or subsequent travel management plan(s).
- The applicant shall prepare a comprehensive transportation plan for the transport of transmission tower or pipeline components, main assembly cranes, and other large equipment. The plan should address specific sizes, weights, origin, destination, and unique equipment handling requirements. The plan should evaluate alternative transportation routes and should comply with state regulations and all necessary permitting requirements. The plan should address site access roads and eliminate hazards from truck traffic or adverse impacts to normal traffic flow. The plan should include measures such as informational signage and traffic controls that may be necessary during construction or maintenance of facilities.
- Applicants shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) should be identified and addressed in the traffic management plan.

Groundwater

- Applicants must identify and delineate all sole source aquifers in the vicinity of a proposed project and design the project to avoid disturbing these aquifers or to minimize potential risks that the aquifers could be contaminated by spills or leaks of chemicals used in the projects.
- In instances where a project within an energy corridor crosses sole source aquifers, the applicant must notify the U.S. Environmental Protection Agency (EPA) and the agencies that administer the land as early as practicable in the planning process. Section 1424(e) of the Safe Drinking Water Act (42 USC Chapter 6A) and other relevant laws and policies pertinent to the corridors that cross sole source aquifers shall apply.

Surface Water

- Applicants must identify all wild and scenic rivers (designated by act of Congress or by the Secretary of the Interior under Section 3(a) or 2(a)(ii) of the Wild and Scenic Rivers Act (16 USC 1271-1287), respectively), congressionally authorized wild and scenic study rivers, and agency identified (eligible or suitable) wild and scenic study rivers in the vicinity of a proposed project and design the project to avoid the rivers or mitigate the disturbance to the rivers and their vicinity.
- In instances where a project within an energy corridor crosses a wild and scenic river or a wild and scenic study river, the appropriate Federal permitting agency, assisted by the project applicant, must coordinate and consult with the river-administrating agency regarding the protection and enhancement of the river's free-flowing condition, water quality, and outstandingly remarkable natural, cultural, and recreational values.
- Applicants shall identify all streams in the vicinity of proposed project sites that are listed as impaired under Section 303(d) of the Clean Water Act (33 USC Chapter 26) and provide a management plan to avoid or mitigate adverse impacts on those streams.

Paleontological Resources

- The applicant shall conduct an initial scoping assessment to determine whether construction activities would disturb formations that may contain important paleontological resources. Potential impacts to significant paleontological resources should be avoided by moving or rerouting the site of construction or removing or reducing the need for surface disturbance. When avoidance is not possible, a mitigation plan should be prepared to identify physical and administrative protective measures and protocols such as halting work, to be implemented in the event of fossil discoveries. The scoping assessment and mitigation plan should be conducted in accordance with the managing agency's fossil management practices and policies.
- If significant paleontological resources are known to be present in the project area, or if areas with a high potential to contain paleontological material have been identified, the applicant shall prepare a paleontological resources management and mitigation plan. If adverse impacts to paleontological resources cannot be avoided or mitigated within the designated corridors, the

agency may consider alternative development routes to avoid, minimize, or mitigate adverse effects.

- A protocol for unexpected discoveries of significant paleontological resources should be developed. Unexpected discovery during construction should be brought to the immediate attention of the responsible Federal agency's authorized officer. Work should be halted in the vicinity of the discovery to avoid further disturbance of the resource while the resource is being evaluated and appropriate mitigation measures are being developed.

Ecological Resources

- Applicants shall identify important, sensitive, or unique habitats and BLM-special status species (BLM 2008), FS-sensitive, and state-listed species in the vicinity of proposed projects and design the project to avoid or mitigate impacts to these habitats and species.
- To restore disturbed habitats, the applicant will prepare a habitat restoration plan that identifies the approach and methods to be used to restore habitats disturbed during project construction activities. The plan will be designed to expedite the recovery to natural habitats supporting native vegetation, and require restoration to be completed as soon as practicable after completion of construction, minimizing the habitat converted at any one time. To ensure rapid and successful restoration efforts, the plan will include restoration success criteria, including time frames, which will be developed in coordination with the appropriate agency and which must be met by the applicant. Bonding to cover the full cost of restoration will be required.
- In consultation with the U.S. Army Corps of Engineers, the appropriate agency, assisted by the project applicant, will identify wetlands (including ephemeral, intermittent, and isolated wetlands), riparian habitats, streams, and other aquatic habitats in the project area and design the project to avoid or mitigate impacts to these habitats.

Vegetation Management

- Applicants shall develop an integrated vegetation management plan consistent with applicable regulations and agency policies for the control of unwanted vegetation, noxious weeds, and invasive species (E.O. 13112). The plan should address monitoring; ROW vegetation management; the use of certified weed-seed-free hay, straw, and/or mulch; the cleaning of vehicles to avoid the introduction of invasive weeds; education of personnel on weed identification, the manner in which weeds spread, and the methods for treating infestations (BLM 2006, 2007a,b, 2008).

Cultural Resources

- Cultural resources management services and individuals providing those services shall meet the Secretary of the Interior's Standards for Archeology and Historic Preservation, 48 FR 44716 (Sept. 29, 1983).
- The project applicant may, with the approval of the agency POC, assign a Cultural Resource Coordinator to ensure an integrated compliance process across administrative and jurisdictional

boundaries. The Cultural Resource Coordinator will facilitate and coordinate compliance with multiple laws, policies, regulations, and existing pertinent agreements (PAs, MOAs, or MOUs) among multiple agencies and other entities, jurisdictions, and federally recognized Tribes. The coordinator may assist with development of pertinent agreements among concerned parties during the course of the project. The coordinator shall be a qualified professional with experience in cultural resource compliance. Where appropriate, the Cultural Resource Coordinator may also serve as the Tribal Coordinator. Alternatively, the agency POC may assign such coordinators, to be paid for through project cost-recovery funds. The agencies, through the POC, remain responsible for consultation.

- The project applicant may, with the approval of the agency POC, assign a Tribal Coordinator to facilitate and coordinate consultation and compliance with multiple laws, agencies, and Tribes in order to ensure effective government-to-government consultation throughout the life of the project. Alternatively, the agency POC may assign such coordinators, to be paid for through project cost-recovery funds. The agencies, through the POC, remain responsible for consultation.
- All historic properties in the Area of Potential Effect (APE) will be identified and evaluated. The APE shall include that area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties and shall include a reasonable construction buffer zone and laydown areas, access roads, and borrow areas, as well as a reasonable assessment of areas subject to effects from visual, auditory, or atmospheric impacts, or impacts from increased access.
- Project proponents must develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resource laws during pre- project planning, management of resources during operation, and consideration of the effect of decommissioning. The CRMPs should meet the specifications of the appropriate agency and address compliance with all appropriate laws. The CRMPs should include the following, as appropriate: identification of the federally recognized Tribes, State Historic Preservation Offices (SHPOs), and consulting parties for the project; identification of long- and short-term management goals for cultural resources within the APE of the project; the definition of the APE; appropriate procedures for inventory, evaluation, and identification of effects to historic properties; evaluation of eligibility for the National Register of Historic Places (NRHP) for all resources in the APE; description of the measures to avoid, minimize, or mitigate adverse effects to historic properties; procedures for inadvertent discovery; procedures for considering Native American Graves Protection and Repatriation Act (NAGPRA) issues, monitoring needs, and plans to be employed during construction; curation procedures; anticipated personnel requirements and qualifications; public outreach and interpretation plans; and discussion of other concerns. The draft CRMP should be reviewed and approved by the agency POC in consultation with historic preservation partners, including appropriate SHPOs, Tribes, and consulting parties. The CRMPs must specify procedures that would be followed for compliance with cultural resource laws should the project change during the course of implementation.

- Project applicants will provide cultural resources training for project personnel regarding the laws protecting cultural resources, appropriate conduct in the field (such as procedures for the inadvertent discovery of human remains), and other project-specific issues identified in the CRMP. Training plans should be part of the CRMP and should be subject to the approval of the POC. When government-to-government consultation identifies the need and the possibility, Tribes may be invited to participate in or contribute to relevant sessions.
- If adverse effects to historic properties will result from a project, a Historic Property Treatment Plan will be developed in consultation with the SHPO, the appropriate federally recognized Tribes, and any consulting parties. The plan will outline how the impacts to the historic properties would be mitigated, minimized, or avoided. Agency officials will give full consideration to the applicable mitigation measures found in Section 3.10.5.2 of the Final PEIS when consulting during the project pre-planning stages to resolve adverse effects on historic properties.
- As directed by the agency POC, project proponents will prepare a public education and outreach component regarding project-related cultural resource issues (e.g., discoveries, impacts) such as a public presentation, a news article, a publication, or a display. Public education and outreach components will be subject to Agency approval and Tribal review and consultation when the content or format is of interest to affected Tribes.
- Cultural resources inventory, evaluation, and mitigation practices should incorporate modeling and sampling strategies to the extent practicable, in concurrence with SHPOs and other relevant parties, and as approved by the agency POC.
- Project applicants shall provide all cultural resources reports and data in an electronic format that is approved by the Agency POC and integrated across jurisdictional boundaries, that meets current standards, and that is compatible with SHPO systems. The Agency will submit this data to the SHPO in a timely fashion. Project proponents should submit cultural resources data on a regular basis to ensure that SHPO systems are kept up to date for reference as the different phases of the project proceed. Paper records may also be required by the agency.
- Cultural resources inventory procedures, specified in the CRMP, will include development of historic contexts based on the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716) sufficient to support the evaluation of cultural resources encountered in the APE.

Tribal Traditional Cultural Resources

- The appropriate agency, assisted by the applicant, must comply with all laws, policies, and regulations pertaining to government-to-government consultation with federally recognized Tribes. Agencies shall initiate consultation with affected Tribes at the outset of project planning and shall continue consultation throughout project planning, construction, operation, and decommissioning. Consultation shall include, but not be limited to, the following: (a) identification of potentially affected Tribes; (b) identification of appropriate Tribal contacts and the preferred means of communication with these Tribes; (c) provision to the Tribes of project-

specific information (e.g., project proponents, maps, design features, proposed ROW routes, construction methods, etc.) at the outset of project planning and throughout the life of the project; (d) identification of issues of concern specific to affected Tribes (e.g., potential impacts to culturally sensitive areas or resources, hazard and safety management plans, treaty reserved rights and trust responsibilities); (e) identification of areas and resources of concern to Tribes; and (f) resolution of concerns (e.g., actions to avoid, minimize, or mitigate impacts to important resources; Memoranda of Agreement stating what actions would be taken to mitigate project effects; or agreements for Tribal participation in monitoring efforts or operator training programs).

- The appropriate agency, assisted by the applicant, must comply with all pertinent laws, policies, and regulations addressing cultural and other resources important to Tribes, including the NHPA, the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection Act (NAGPRA), and other laws and regulations as listed in Table 3.11-2 in Volume I of the PEIS.
- The agencies shall recognize the significance to many Tribes of traditional cultural places, such as sacred sites, sacred landscapes, gathering grounds, and burial areas, and shall seek to identify such areas through consultation with affected Tribes early in the project planning process. Agencies shall seek to avoid, minimize, or mitigate impacts to such places in consultation with the Tribes, project proponents, and other relevant parties. Where confidentiality concerning these areas is important to an affected Tribe, agencies shall honor such confidentiality unless the Tribe agrees to release the information.
- A protocol must be developed for inadvertent discovery of Native American human remains and funerary items to comply with the NAGPRA in consultation with appropriate federally recognized Tribes. Unexpected discovery of such items during construction must be brought to the immediate attention of the responsible Federal agency's authorized officer. Work must be halted in the vicinity of the find of Native American graves and funerary items to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed. The procedures for reporting items covered under NAGPRA must be identified in the CRMP.

Visual Resources

- Applicants shall identify and consider visual resource management (VRM) and scenery management (SMS) issues early in the design process to facilitate integration of VRM and scenery treatments into the overall site development program and construction documents. Visual/scenery management considerations, environmental analyses, mitigation planning, and design shall reference and be in accordance with the land management agency visual/scenery management policies and procedures applicable to the jurisdiction the project lies within. Applicants shall coordinate between multiple agencies on visual/scenery sensitive issues when projects transition from one jurisdiction to another, especially when transitions occur within a shared viewshed.

- Applicants shall prepare a VRM or scenery management plan. The applicant's planning team shall include an appropriately trained specialist, such as a landscape architect with demonstrated VRM and/or scenery management system (SMS) experience. The VRM/SMS specialist shall coordinate with the BLM/FS on the availability of the appropriate visual or scenic inventory data, VRM management class delineations, Scenic Integrity Objectives (SIOs), and Federal agency expectations for preparing project plans and mitigation strategies to comply with RMP or LRMP direction related to scenery and/or visual resources. Applicants shall confirm that a current Visual Resource Inventory and/or Scenic Class inventory is available and that the resource management plan (RMP) or land resource and management plan (LRMP) VRM classifications or SIOs have been designated in the current land management plan. Project plans shall abide by the VRM class designations and SIOs and consider sensitivities defined within the visual or scenic resource inventory. If visual or scenic management objectives are absent, then the proper inventory and classification process shall be followed to develop them in accordance with the BLM VRM manual and handbooks or FS SMS process, depending on the agency. When the VRM management classes or SIOs are absent, then the project alternatives must reflect a range of management options related to scenery and visual resources that reflect the values identified in the visual/scenic inventory. Responsibility for developing an inventory or VRM management classes (or in the case of the FS, Scenic Classes and SIOs) will remain with the respective agency, but how to accomplish these tasks will be determined by the field office manager or forest supervisor, who will consider the applicant's role and financial participation in completing the work.
- Visual and scenic mitigation planning/design and analysis shall be performed through integrated field assessment, applied global positioning system (GPS) technology, field photo documentation, use of computer-aided design and development software, 3-D modeling GIS software, and visual simulation software, as appropriate. Proposed activities, projects, and site development plans shall be analyzed and further developed using these technologies to meet visual and scenic objectives for the project area and surrounding areas sufficient to provide the full context of the viewshed. Visual simulations shall be prepared according to BLM Handbook H-8432-1, or other agency requirements, to create spatially accurate depictions of the appearance of proposed facilities, as reflected in the 3-D design models. Simulations shall depict proposed project appearance from sensitive/scenic locations as well as more typical viewing locations. Transmission towers, roads, compressor stations, valves, and other aboveground infrastructure should be integrated aesthetically with the surrounding landscape in order to minimize contrast with the natural environment.
- Applicants shall develop adequate terrain mapping on a landscape/viewshed scale for site planning/design, visual impact analysis, visual impact mitigation planning/design, and for full assessment and mitigation of cumulative visual impacts through applied, state-of-the-art design practices using the cited software systems. The landscape/viewshed scale mapping shall be georeferenced and at the same Digital Elevation Model (DEM) resolution and contour interval within the margin of error suitable for engineered site design. This level of mapping shall enable

proper placement of proposed developments into the digital viewshed context. Final plans shall be field verified for compliance.

- The full range of visual and scenic best management practices shall be considered, and plans shall incorporate all pertinent best management practices (BMPs). Visual and scenic resource monitoring and compliance strategies shall be included as a part of the project mitigation plans.
- Compliance with VRM/SMS objectives shall be determined through the use of the BLM Contrast Rating procedures defined in BLM Handbook H-8431-1 Visual Contrast Rating, or the FS SMS Handbook 701. Mitigation of visual impacts shall abide by the requirements of these handbooks.

Public Health and Safety

- An electricity transmission project shall be planned by the applicant to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.
- A health and safety program shall be developed by the applicant to protect both workers and the general public during construction, operation, and decommissioning of an energy transport project. The program should identify all applicable Federal and state occupational safety standards, establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses, Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents, measures for reducing occupational electromagnetic field [EMF] exposures), and define safety performance standards (e.g., electrical system standards). The program should include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies should be established.
- The health and safety program shall establish a safety zone or setback from roads and other public access areas that is sufficient to prevent accidents resulting from various hazards. It should identify requirements for temporary fencing around staging areas, storage yards, and excavations during construction or decommissioning activities. It should also identify measures to be taken during the operations phase to limit public access to those components of energy facilities that present health or safety risks.
- Applicants shall develop a comprehensive emergency plan that considers the vulnerabilities of their energy system to all credible events initiated by natural causes (earthquakes, avalanches, floods, high winds, violent storms, etc.), human error, mechanical failure, cyber attack, sabotage, or deliberate destructive acts of both domestic and international origin and the potential for and possible consequences of those events. Vulnerability, threat, and consequence assessment methodologies and criteria in the sector-specific plan (SSP) for energy will be used and appropriate preemptive and mitigative response actions will be identified. The applicant must coordinate emergency planning with state, local, and Tribal emergency and public safety

authorities and with owners and operators of other energy systems collocated in the corridor or in adjacent corridors that could also be impacted.

- In addition to directives contained in other IOPs herein, the applicant must identify all Federal, state, and local regulations pertaining to environmental protection, worker health and safety, public safety, and system reliability that are applicable throughout the construction, operation, and decommissioning phases of their facility's life cycle and must develop appropriate compliance strategies, including securing all necessary permits and approvals.

Hazardous Materials Management

- Applicants for petroleum pipelines and projects involving oil-filled electrical devices shall develop a spill prevention and response plan identifying spill prevention measures to be implemented, training requirements, appropriate spill response actions, and procedures for making timely notifications to authorities. The spill prevention and response plan should include identification of any sensitive biotic resources and locations (such as habitats) that require special measures to provide protection, as well as the measures needed to provide that protection.

Fire Management

- Applicants shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire during project construction, operation, and decommissioning. The strategy should consider the need to reduce hazardous fuels (e.g., native and non-native annual grasses and shrubs) and to prevent the spread of fires started outside or inside a corridor, and clarify who has responsibility for fire suppression and hazardous fuels reduction for the corridor.
- Applicants must work with the local land management agency to identify project areas that may incur heavy fuel buildups, and develop a long-term strategy on vegetation management of these areas. The strategy may include land treatment during project construction, which may extend outside the planned ROW clearing limits.

A.2 PROJECT CONSTRUCTION

General

- To avoid conflict with Federal and non-Federal operations, the applicant shall be aware of liabilities pertaining to environmental hazards, safety standards, and military flying areas.
- The applicant shall locate all stationary construction equipment (i.e., compressors and generators) as far as practicable from nearby residences.
- Applicants shall pay fair market value to the land management agency for any merchantable forest products that will be cut during ROW clearing. The local land management agency will determine the fair market value, which will be paid prior to clearing. The applicant will either remove the forest products from the area or will stack the material at locations determined by the local land management agency. Treatment of unmerchantable products will be determined by the local land management agency.

Soils, Excavation, and Blasting

- Applicants shall salvage, safeguard, and reapply topsoil from all excavations and construction activities during restoration.
- All areas of disturbed soil shall be restored by the applicant using weed-free native grasses, forbs, shrubs, and trees as directed by the agency. Restoration should not be unnecessarily delayed. If native species are not available, noninvasive vegetation recommended by agency specialists may be used.
- The applicant must not create excessive slopes during excavation. Areas of steep slopes, biological soil crusts, erodible soil, and stream channel crossings will often require site- specific and specialized construction techniques by the applicant. These specialized construction techniques should be implemented by adequately trained and experienced employees.
- Blasting activities will be avoided or minimized in the vicinity of sole source aquifer areas to reduce the risk of releasing sediments or particles into the groundwater and inadvertently plugging water supply wells.
- The applicant must backfill foundations and trenches with originally excavated material as much as possible. Excess excavation materials should be disposed of by the applicant only in approved areas.
- The applicant shall obtain borrow (fill) material only from authorized sites. Existing sites should be used in preference to new sites.
- The applicant shall prepare an explosives use plan that specifies the times and meteorological conditions when explosives will be used and specifies minimum distances from sensitive vegetation and wildlife or streams and lakes.
- If blasting or other noisy activities are required during the construction period, the applicant must notify nearby residents in advance.

Mitigation and Monitoring

- All control and mitigation measures established for the project in the POD and other required plans shall be maintained and implemented by the applicant throughout construction. Necessary adjustments may be made with the concurrence of the appropriate agency.

Surface and Groundwater Resources

- The applicant shall safeguard against the possibility of dewatering shallow groundwater and/or wetlands in the vicinity of project sites during foundation excavations or excavations for buried pipelines.
- The applicant shall implement erosion controls complying with county, state, and Federal standards, such as jute netting, silt fences, and check dams, and secure all necessary storm water pollution prevention plan (SWPPP) permits.
- The applicant shall minimize stream crossings by access roads to the extent practicable. All structures crossing intermittent and perennial streams shall be located and constructed so that the structures do not decrease channel stability, increase water velocity, or impede fish passage.

- Applicants shall not alter existing drainage systems and shall give particular care to sensitive areas such as erodible soils or steep slopes. Soil erosion shall be reduced at culvert outlets by appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained.
- Applicants must not create hydrologic conduits between aquifers.

Paleontological Resources

- Project construction activities will follow the protective measures and protocols identified in the paleontological resources mitigation plan.
- All paleontological specimens found on Federal lands remain the property of the U.S. government. Specimens, therefore, shall only be collected by a qualified paleontologist under a permit issued by the managing agency and must be curated in an approved repository.

Ecological Resources

- Areas that are known to support ESA-listed species, BLM-special-status species, FS- sensitive, and state-listed species or their habitats shall be identified and marked with flagging or other appropriate means to avoid direct impacts during construction activities. Construction activities upslope of these areas should be avoided to prevent indirect impacts of surface water and sediment runoff.
- All construction activities that could affect wetlands or waters of the United States shall be conducted in accordance with the requirements identified in permits issued by the U.S. Army Corps of Engineers.

Visual Resources

- A pre-construction meeting with BLM/FS landscape architects or other designated visual/scenic resource specialist shall be held before construction begins to coordinate on the VRM/SMS mitigation strategy and confirm the compliance-checking schedule and procedures. Applicants shall integrate interim/final reclamation VRM/SMS mitigation elements early in the construction, which may include treatments such as thinning and feathering vegetation along project edges, enhanced contour grading, salvaging landscape materials from within construction areas, special revegetation requirements, etc. Applicants shall coordinate with BLM/FS in advance to have BLM/FS landscape architects or other designated visual/scenic resource specialists onsite during construction to work with implementing BMPs.

Cultural Resources

- Project applicants shall provide all cultural resources reports and data in an approved electronic format that is integrated across jurisdictional boundaries, that meets current standards, and that is compatible with SHPO systems. Project proponents shall submit cultural resources data on a regular basis to ensure that SHPO systems are kept up-to-date for reference as the different phases of the project proceed.

- When an area is identified as having a high potential for cultural resources but none are found during a pre-construction field survey, a professionally qualified cultural resources specialist will be required to monitor ground-disturbing activities during project construction, and to complete a report when the activities are finished. The protocol for monitoring should be identified in the CRMP.
- When human remains, funerary objects, sacred objects, or objects of cultural patrimony are inadvertently discovered, the provisions of NAGPRA shall apply and the process identified in the CRMP must be followed.

Hazardous Materials and Wastewater Management

- Any wastewater generated by the applicant in association with temporary, portable sanitary facilities must be periodically removed on a schedule approved by the agency, by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews should be adequate to support expected onsite personnel and should be removed at completion of construction activities.
- All hazardous materials (including vehicle and equipment fuels) brought to the project site will be in appropriate containers and will be stored in designated and properly designed storage areas with appropriate secondary containment features. Excess hazardous materials will be removed from the project site after completion of the activities in which they are used.

Air Emissions

- The applicant shall cover construction materials and stockpiled soils if these are sources of fugitive dust.
- To minimize fugitive dust generation, the applicant shall water land before and during surface clearing or excavation activities. Areas where blasting would occur should be covered with mats.

Noise

- The applicant shall limit noisy construction activities (including blasting) to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.

Fire Safety

- The applicant must ensure that all construction equipment used is adequately muffled and maintained and that spark arrestors are used with construction equipment in areas with, and during periods of, high fire danger.
- Flammable materials (including fuels) will be stored in appropriate containers.

A.3 PROJECT OPERATION

Mitigation and Monitoring

- All control and mitigation measures established for the project shall be maintained and implemented by the applicant throughout the operation of the project. Necessary adjustments

may be made with the concurrence of the appropriate agency.

Ecological Resources

- Applicants shall review existing information regarding plant and animal species and their habitats in the vicinity of the project area and identify potential impacts to the applicable agencies.
- Project developer staff shall avoid harassment or disturbance of wildlife, especially during reproductive courtship, migratory, and nesting seasons.
- Observations by project staff of potential wildlife problems, including wildlife mortality, will be immediately reported to the applicable agency authorized officer.

Pesticide and Herbicide Use

- If pesticides are used, the applicant shall ensure that pesticide applications as specified in the integrated vegetation management plan are conducted within the framework of agency policies and entail only the use of EPA-registered pesticides that are applied in a manner consistent with label directions and state pesticide regulations. Pesticide use shall be limited to non-persistent immobile pesticides and shall be applied only in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications (BLM 2007a).
- Pesticide and herbicide uses shall be avoided in the vicinity of sole source aquifer areas (BLM 2007a).

Visual Resources

- Terms and conditions for VRM/SMS mitigation compliance shall be maintained and monitored for compliance with visual objectives, adaptive management adjustments, and modifications as necessary and approved by the BLM/FS landscape architect or other designated visual/scenic resource specialist.

Hazardous Materials, Wastes, and Wastewater Management

- The applicant shall provide secondary containment for all onsite hazardous materials and waste storage areas.
- The applicant shall ensure that wastes are properly containerized and removed periodically for disposal at appropriate offsite permitted disposal facilities.
- In the event of an accidental release to the environment, the applicant shall initiate spill cleanup procedures and document the event, including a cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the land management agency's authorized officer and other Federal and state agencies, as required.

Air Quality

- Dust abatement techniques (e.g., water spraying) shall be used by the applicant on unpaved,

unvegetated surfaces to minimize airborne dust. Water for dust abatement shall be obtained and used by the applicant under the appropriate state water use permitting system. Used oil will not be used for dust abatement.

Noise

- The applicant shall ensure that all equipment has sound-control devices no less effective than those provided on the original equipment.

A.4 PROJECT DECOMMISSIONING

General

- Where applicable, decommissioning activities will conform to agency standards and guidance for mitigation and reclamation (e.g., BLM's Gold Book).
- Applicants must receive approval for changes to the ROW authorization prior to any modifications to the ROW required for decommissioning.
- Gravel work pads will be removed; gravel and other borrow material brought to the ROW during construction will be disposed of as approved by the agency.
- Any wells constructed on the ROW to support operations shall be removed and properly closed in accordance with applicable local or state regulations.
- All equipment, components, and above-ground structures shall be cleaned and removed from the site for reclamation, salvage, or disposal; all below-ground components shall be removed to a minimum depth of 3 feet to establish a root zone free of obstacles; pipeline segments and other components located at greater depths may be abandoned in place provided they are cleaned (of all residue) and filled with inert material to prevent possible future subsidence.
- Dismantled and cleaned components shall be promptly removed; interim storage of removed components or salvaged materials that is required before final disposition is completed will not occur on Federal land.
- At the close of decommissioning, applicants will provide the Federal land manager with survey data precisely locating all below-grade components that were abandoned in place.

Mitigation and Monitoring

- All control and mitigation measures established for the project in the POD and other required plans shall be incorporated into a decommissioning plan that shall be approved by the Federal land manager(s); the decommissioning plan shall include a site reclamation plan and a monitoring program and shall be coordinated with owners and operators of other systems on the corridor to ensure no disruption to the operation of those systems.

Surface Water

- A SWPPP permit shall be obtained and its provisions implemented for all affected areas before any ground-disturbance activities commence.

Transportation

- Additional access roads needed for decommissioning shall follow the paths of access roads established during construction to the greatest extent possible; all access roads not required for the continued operation and maintenance of other energy systems present in the corridor shall be removed and their footprints reclaimed and restored.

Restoration

- Topsoil removed during decommissioning activities shall be salvaged and reapplied during final reclamation; all areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs or other plant species approved by the land management agency; grades shall be returned to pre-development contours to the greatest extent feasible.
- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting, as approved by the authorizing officer.

Hazardous Materials and Waste Management

- All fuels, hazardous materials, and other chemicals shall be removed from the site and properly disposed of or reused.
- Incidental spills of petroleum products and other chemicals shall be removed and the affected area cleaned to meet applicable standards.
- Solid wastes generated during decommissioning shall be accumulated, transported, and disposed in permitted offsite facilities in accordance with state and local requirements; no solid wastes shall be disposed of within the footprint of the ROW or the corridor.
- Hazardous wastes generated as a result of component cleaning shall be containerized and disposed of in permitted facilities.

REFERENCES

BLM, 2006, BLM Manual 9011-Chemical Pest Control. Available at <http://www.blm.gov/ca/st/en/prog/weeds/9011.print.html>. Accessed October 30, 2008.

BLM, 2007a, Record of Decision for the Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, U.S. Department of the Interior, September.

BLM, 2007b, Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Final Programmatic Environmental Report, U.S. Department of the Interior, June.

BLM, 2008, Integrated Vegetation Management Handbook 1740-2, Programmatic Biological Assessment for Vegetation Management, U.S. Department of the Interior.