

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

**Environmental Assessment
DOI-BLM-NV-S010-2014-0002-EA
May 2014**

**Clark County Public Works
Summerlin South Detention Basin**

APPLICANT

Clark County Public Works

GENERAL LOCATION

The proposed action is located in
T. 22 S., R. 59 E., M.D.M. Section 1

BLM CASE FILE SERIAL NUMBER(S)

N-92317
N-93031

PREPARING OFFICE

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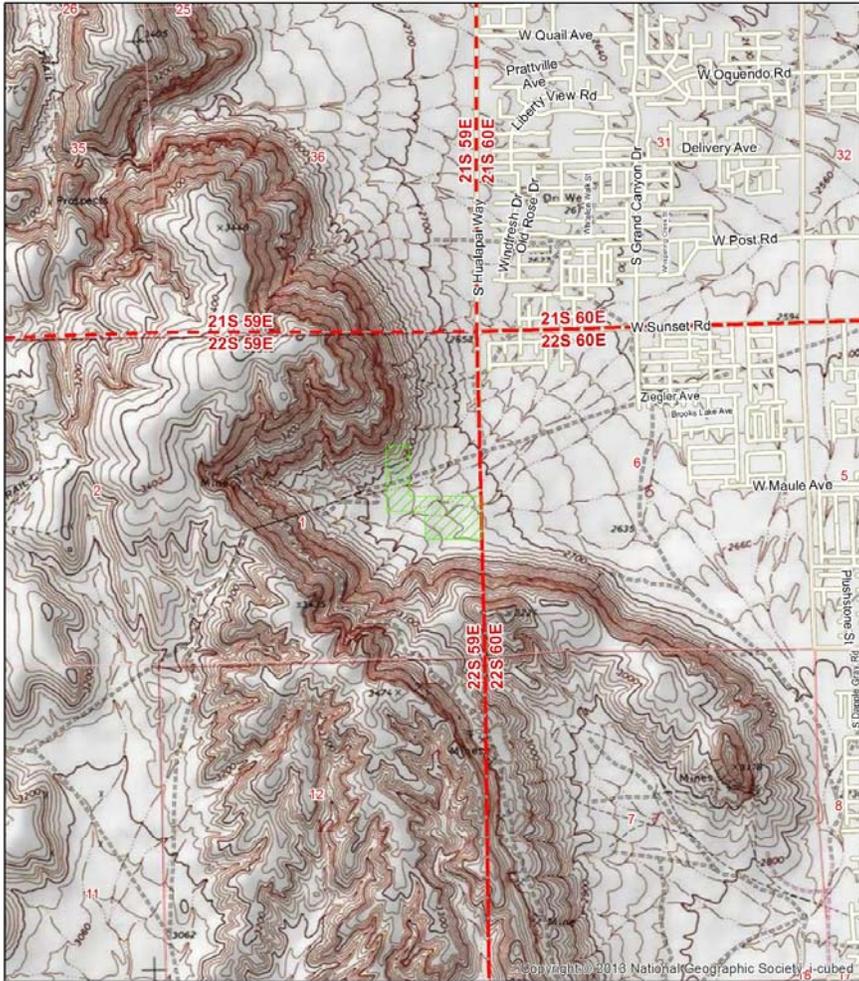
1.0. INTRODUCTION

Clark County Public Works, located in Las Vegas, Nevada, has filed an application with the Bureau of Land Management (BLM) Las Vegas Field Office (LVFO) for the construction, operation, and maintenance of a detention basin to be located near Hualapai Avenue and Maule Avenue in Clark County, Nevada.

The proposed development consists of construction of a flood control facility, including a detention basin and channels, upstream of proposed development, on land administered by the BLM. The proposed facility will be used in perpetuity, providing year round flood protection. The facility will be continuously maintained to obtain the maximum benefits and ensure safe, continued operation.

The BLM has identified the LVFO as the lead federal agency for the proposed project and has determined that an Environmental Assessment (EA) will be prepared in compliance with the National Environmental Policy Act of 1969 (NEPA). The legal description of the project area is Section 1, Lots 11, 13, 14, 23, 24, and 25 within Township 22 South, Range 59 East, M.D.M. Figure 1.0-1 shows the project area and location.

Figure 1.0-1. Project Location and Area.



Map Name Project Area Map		Clark County Public Works Summerlin South Detention Basin	Legend	
Map Datum and Coordinate System: NAD 1983 UTM Zone 11N			 Project Area	
Map Date 5/13/2014	Map Author John Ellis, GISP		Map Number	
USGS 7.5' Series BLUE DIAMOND SE, NV (1972 / 1983)		Main Map Scale: 0 0.15 0.3 0.6 Miles 		

1.1. Purpose and Need for Proposed Action

1.1.1. Purpose and Need for Flood Control Detention Basin

Purpose Statement: The purpose of the project is to construct a flood control detention basin and channels to provide year round flood protection to downstream property and facilities

Need Statement: By temporarily storing rainwater runoff and reducing peak discharge by allowing flow to be discharged at a controlled rate from the detention basin, property and facilities downstream of the basin will be protected. The facility will also reduce debris sediment in the flood control system, ultimately improving water quality in local washes and surface waters.

Decision to be Made: The Bureau of Land Management (BLM) under the authority of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976, as amended (43 U.S.C. 1761 et.seq.) and in accordance with the regulations found at 43 CFR 2800, will decide whether or not to grant the right-of-way (ROW) on BLM administered surface for construction of the flood control detention basin and if so, under what terms and conditions.

1.2. Relationship to Statutes, Regulations, Plans or Other Environmental Analyses

1.2.1. Conformance with Land Use Plan

Las Vegas Resource Management Plan: The Las Vegas Resource Management Plan (LVRMP) (October, 1998) provides management direction for resources contained within the LVFO area. The project is in conformance with LVRMP direction pertaining to construction and operation of flood control detention basins, subject to compliance with project-specific mitigation and monitoring requirements determined through the environmental analysis process. The environmental analysis completed for this project will incorporate appropriate decisions, terms, and conditions of use described in the RMP decisions.

Use authorizations (i.e., ROW, permits, etc.) for roads, the detention basin, and associated facilities would be processed through the BLM rights-of-way permitting process.

1.2.2. Local Land Use Plans

The Proposed Action would comply with all relevant federal, state, and local laws, and the Clark County Master Plan Update (2007).

1.2.3. Authorizing Actions

The project is located in unincorporated Clark County, Nevada. All facets of the project shall comply with the Municipal Code of Clark County. In addition, the

construction of this facility will require review and approval of the Nevada State Dam Safety Division. The proposed federal, county and local actions required to implement the Regional Flood Control Facility Project are listed in Table 1.2-3.

Table 1.2-3. Major Authorizations, Permits, and Approvals.

Action Requiring Permit, Approval, or Review	Responsible Agency	Permit or Approval	Statutory Reference
Federal			
Flood control detention basin construction and operation on land under federal management	Bureau of Land Management (BLM)	ROW Grant	Federal Land Policy Management Act of 1976 (FLPMA); Public Law (PL) 94-579
	BLM	Finding of No Significant Impact or Record of Decision	National Environmental Policy Act (NEPA); Council on Environmental Quality; 40 Code of Federal Regulation (CFR)Part 1500 et seq.
	U.S. Army Corps of Engineers	Letter of Permission	Clean Water Act Section 404 (b) (1) 33 CFR 325.2(e)(1)(ii)
	U.S. Fish and Wildlife Service (FWS)	May Affect, Likely to Adversely Affect Determination	Endangered Species Act (ESA) Section 7 Section 7 consultation covered under the Programmatic Biological Opinion (84320-2010-F-0365.R001)
Local			
Dust control permit for construction within the PM10 non-attainment boundary	Clark County	Dept. of Air Quality and Environmental Management	

1.3. Scoping, Public Involvement, and Issues

The requested right-of-way (ROW) for the project is located partially within and also immediately adjacent to the disposal boundary identified in the Southern Nevada Public Lands Management Act (SNPLMA). Resource impacts and environmental concerns were previously evaluated in the 2004 Environmental Impact Statement (EIS) for the Las Vegas Valley.

Internal scoping was conducted by an interdisciplinary (ID) team at the BLM LVFO that analyzed the potential consequences of the proposed action. Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed above to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain

requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Southern Nevada District BLM in particular.

Table 1.3-1. presents a list of resources and specifies if these elements are present in the proposed project area, and if they are present if they potentially would be affected by the proposed project or not affected by the proposed project and the rationale for that conclusion.

Table 1.3-1. Resources Concerns for Summerlin Detention Basin.

Resource	Not Present	Present/Not Affected	Present/Maybe Affected	Rationale
Air Resources		X		Discussed in Section 3.1.
Areas of Critical Environmental Concern	X			The proposed project area is not within an ACEC or any critical desert tortoise habitat. No additional discussion needed.
BLM Natural Areas	X			There are no such designations within the Field office. No additional discussion needed.
Cultural Resources	X			A field inspection on 2/7/2014 of the undertaking which revealed that there are not any historic properties present; no further Section 106 review required. If any archaeological remains are encountered during construction, the BLM Archaeologist should be notified prior to work resuming within 15 meters of any find.
Green house Gas Emissions		X		Discussed in Section 3.1.
Environmental Justice	X			No minority or low-income communities are present in project area. No additional discussion needed.
Farmlands (Prime or Unique)	X			There are no prime or unique farmland designations in the District. No additional discussion needed.
Fish and Wildlife		X		Discussed in Section 3.2.
Floodplains		X		Discussed in Section 3.3.
Fuels/Fire Management		X		Discussed in Section 3.4.
Geology/ Mineral Resources/ Energy Production		X		Discussed in Section 3.5.
Hydrologic Conditions		X		Discussed in Section 3.6.
Invasive Species/ Noxious Weeds		X		Discussed in Section 3.7.
Lands/Access		X		Discussed in Section 3.8.
Livestock Grazing	X			The proposed action area is not located in any authorized grazing allotments. No additional discussion needed.
Migratory Birds			X	Discussed in Section 3.9.
Native American Religious Concerns				

Paleontology				
Rangeland Health Standards		X		Discussed in Section 3.6.
Recreation		X		Minimal recreation is present in this location and would not be affected. Discussed in Section 3.10.
Socio-Economics		X		This project will not disproportionately impact social or economic values. Discussed in Section 3.11.
Soils		X		No new issues as this project is located in the valley disposal boundary and the general area is already disturbed. Discussed in Section 3.12.
Threatened, Endangered or Candidate Plant Species	X			No additional discussion needed.
Threatened, Endangered or Candidate Animal Species			X	Discussed in Section 3.13.
Wastes (hazardous or solid)	X			The standard stipulations can be found in grant document.
Water Resources/Quality (drinking/surface/ground)		X		No new issues as this project is located in the valley disposal boundary and the general hydrology is already disturbed. Discussed in 3.14.
Wetlands/Riparian Zones	X			No permanent surface waters or wetlands exist in or near the project area. No additional discussion needed.
Wild and Scenic Rivers	X			No additional discussion needed.
Wilderness/WSA	X			Not within designated Wilderness or WSAs/ISAs. No additional discussion needed.
Woodland/ Forestry		X		Discussed in Section 3.15.
Vegetation Excluding Federally Listed Species			X	Discussed in Section 3.16.
Visual Resources				Discussed in Section 4.0.
Wild Horses and Burros	X			The proposed retention basin is not located in an active herd management area; there will be no impacts to wild horses or burros. No additional discussion needed.
Lands with Wilderness Characteristics	X			No additional discussion needed.

2.0. DESCRIPTION OF PROPOSED ACTIONS AND ALTERNATIVES

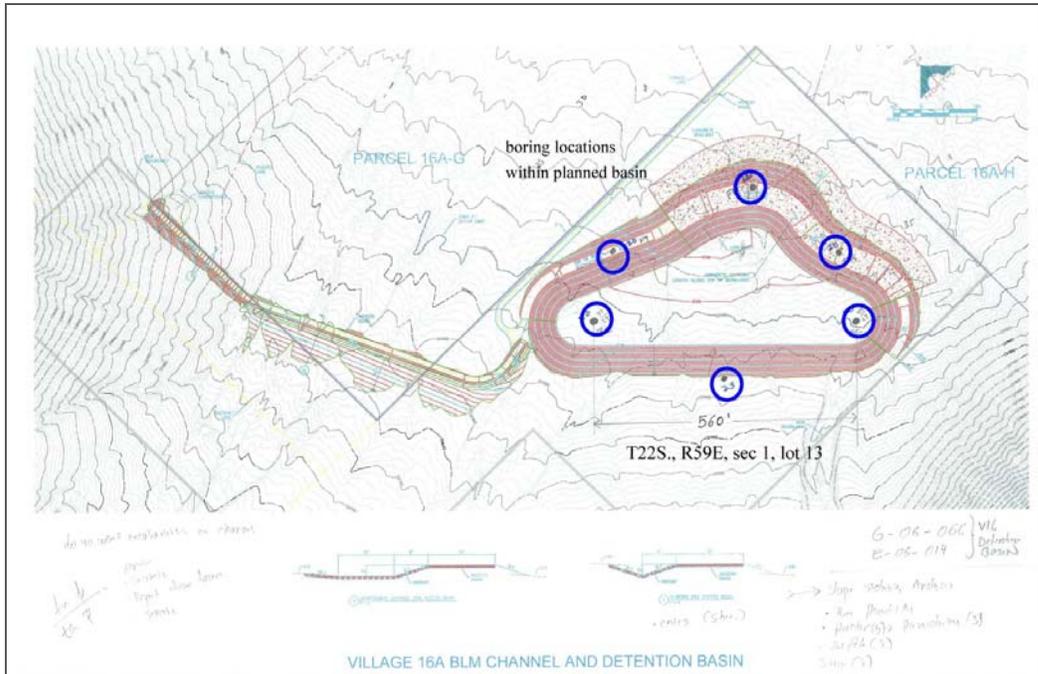
2.1. Description of the Proposed Actions

The Clark County Public Works Detention Basin is designed to temporarily store rainwater runoff in the detention basin to allow release at a controlled rate by reducing the outfall discharge rate from 900 cubic feet per second (cfs) to 125 cfs. The proposed detention basin and channel facilities were identified in the May 2013 Conceptual Drainage Study for the Amendment to the 2008 Las Vegas Valley Master Plan Update (MPU) and identified as Facilities I.D. #'s FLF3 0185, 0198, 0184, and 0134.

The flood control detention basin and channels would be constructed to protect downstream property and facilities. The detention basin would not only temporarily store rainwater runoff and reduce peak discharge by allowing flow to be discharged at a controlled rate; the facility would also reduce debris sediment in the flood control system, leading to an improvement in water quality in local washes and surface waters.

The project proponent has a need to test soils at the site of the titled detention basin prior to construction. The purpose is to collect soil properties data to aid in the design and future construction of the basin. The applicant proposes to bore test at six locations within the planned basin site. There are no encumbrances of record affecting the planned locations. Bore site locations are shown on the drawing below in Figure 2.1-1. Five borings will be 20 feet in depth and one boring 25 feet deep. All borings will be 8 inches in diameter.

Figure 2.1-1. Bore site locations.



The Regional Flood Control Facility would consist of a 10 acre detention basin with a depth of approximately 14 feet, 500 linear feet of spillway, 1,500 linear feet of 100 foot wide collection channels and 250 linear feet of 66 inch outfall pipeline. The 100-year computed peak storm water inflow to the basin is approximately 900 cfs reduced to 125 cfs in the outlet pipe. Total design sediment storage volume is 4.2 ac-ft. Table 2.1-1. below outlines pertinent data for the detention basin, inlet channel and outlet pipe.

Table 2.1-1. Summerlin Detention Basin Pertinent Data.

Channel Information	
Length of Channel	1,500 feet
Channel Width	10 to 40 feet
Height of Channel	3 to 10 feet
Design Discharge	900 to 125 cfs
Design Velocity	10fps (max calculated)
Debris Basin Information	
Drainage Area	0.59 so mi
Embankment	
Top of Reservoir Elevation	2,749 feet
Embankment Length	1,000 feet
Top of Embankment Width	15 feet
Max. Height Above Downstream Fill	18 feet
Freeboard Above Max. Water Surface (PMF)	1 foot (min)
Spillway	
Crest Elevation	2,746 feet
Crest Length	500 feet
Design Discharge (100 year)	125 cfs
Design Discharge (PMF)	9,000 cfs
Outlet Works	
Size of Conduit	66 inch RCP
Length of Conduit	250 feet
Intake Elevation	2,729 feet
Reservoir	
Area at Spillway Crest	3.6 acres
Reservoir Capacity at Spillway Crest Elevation	
Storage Allocation Below Spillway Crest	
Sediment Storage	4.2 ac-ft

The detention basin will consist of an earthen dam embankment, excavation and grading within the basin. The embankment will be constructed from materials excavated for the basin. The outlet system will consist of a 66 inch reinforced concrete pipe. The inlet channel will be constructed as a riprap lined, open channel. No fencing will be installed around the basin or inlet channel. A disposal site will be located on the southwest portion of the ROW or other approved site for maintenance and cleanout of the detention basins. Maintenance roads will be constructed with gravel excavated from the channel to connect the project to the existing ROW.

There is a total of 25.4 acres of impacted land for the Proposed Action, of which 0.8 is existing disturbance. Of the 25.4 acres, 10 acres will consist of the detention basin and there will be a total of 15 acres of permanent constructed facilities. The total surface disturbance for the soil borings is less than 1/10 acre. The facility would be designed in accordance with the *Hydrologic Criteria and Drainage Design Manual* (HCDDM) and Nevada Division of Water Resources Dam Safety Division Criteria.

2.1.1. Construction Activities

For the soil borings, a ten-wheel rubber tire truck-mounted drill rig and one pickup truck will be used utilizing a three person crew. A biologist will also accompany the crew to monitor for desert tortoise and other sensitive flora and fauna. Access to the planned basin will be via an existing road from the intersection of Hualapai Avenue and Maule Avenue. Overland drive and crush disturbance will occur during the boring activities, while avoiding sensitive flora and fauna.

Drill cuttings will be used to backfill the borings and any excess material will be scattered in place. The excess material is estimated to be less than one cubic foot per boring. Reclamation will consist of contouring of excess material to approximate existing terrain. The drilling is expected to take a maximum of two days on BLM land, and soil testing will be done off-site.

Construction of the detention basin project is expected to begin upon issuance of the lease by BLM, and is expected to take approximately 365 days to complete. The construction sequence of events is as follows:

- Staking of ROW limits and placement of grade stakes.
- The area is cleared, grubbed, over-excavated, re-compacted and rough graded to specific densities.
- Excavation of detention basin, inlet channel and outfall pipe location. Installation of riprap in inlet channel and detention basin is installed.
- Outfall pipe is installed and backfilled.
- Final grading of the site is completed with a gravel access to the inlet channel and detention basin.
- Plant material and soils removed from undisturbed ROW is disbursed in accordance with federal reclamation requirements.

The work force is anticipated to include survey crews, construction crews, inspectors, laborers and equipment operators. Equipment to be used during these construction activities includes backhoes, cranes, a mechanical compactor, water trucks and material delivery trucks.

Equipment to be used during operation and maintenance includes backhoes, vector trucks, and other specialty equipment. The equipment would be necessary for periodic inspections, removal of sediment and debris, repair of eroded areas and the repair of damages to structures.

2.2. Description of the No Action Alternative

Under the No Action Alternative, the flood control facility would not be built and the outfall discharge rate would continue to be 900 cubic feet per second (cfs) and there would be no protection for facilities and structures downstream.

2.3. Alternatives Considered and Dropped

During the initial planning stages, there were other locations proposed for the detention basin within Section 1 of Township 22 South, Range 59 East, but the topography and hydrology led to the preferred location. Both larger and smaller project footprints were also considered, but the proposed location was deemed best to capture predicted storm events and protect the surrounding properties.

3.0. AFFECTED ENVIRONMENT

3.1. Air Quality and Greenhouse Gas Emissions

3.1.1. Proposed Actions

The National Ambient Air Quality Standards (NAAQS) are health-based standards which define the maximum concentration of air pollutants allowed at all locations to which the public has access. Environmental Protection Agency (EPA) criteria air pollutants for which standards exist are carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter less than 10 microns in effective diameter (PM₁₀), particulate matter less than 2.5 microns in effective diameter (PM_{2.5}), and sulfur dioxide (SO₂). Table 3.1-1. shows the state and federal ambient standards for criteria air pollutants.

Table 3.1-1. State and Federal Ambient Standards for Criteria Air Pollutants

Pollutant	Averaging Period	Federal Primary Standard	Nevada State Standard
Ozone	8-hour	0.075 ppm	Same as Federal
	1-hour (daily max.)	0.12 ppm	Same as Federal
PM _{2.5}	Annual (arithmetic mean)	15.0 µg/m ³	Same as Federal
	24-hour	35 µg/m ³	Same as Federal
PM ₁₀	Annual (arithmetic mean)	NA	Same as Federal
	24-hour	150 µg/m ³	Same as Federal
Carbon Monoxide	8-hour (less than 5,000' above mean sea level (MSL))	9 ppm	Same as Federal
	8-hour (greater than 5,000' above mean sea level (MSL))	9 ppm	6 ppm
	1-hour	35 ppm	Same as Federal
Nitrogen Dioxide	Annual (arithmetic mean)	0.053 ppm	Same as Federal
	1-hour	0.100 ppm	Same as Federal
Sulfur Dioxide	Annual (arithmetic mean)	0.03 ppm	Same as Federal
	24-hour	0.14 ppm	Same as Federal
	3-hour	NA	0.50 ppm
Lead	Rolling 3-month average	0.15 µg/m ³	Same as Federal
	Quarterly average	1.5 µg/m ³	Same as Federal
Sources: USEPA, 2011; NDEP, 2010. ppm = parts per million µg/m ³ = micrograms per cubic meter			

Air quality monitoring for O₃, CO, SO₂, NO₂, PM_{2.5}/PM₁₀, and Pb is conducted by Clark County Department of Air Quality and Environmental Management (DAQEM) within the Greater Las Vegas Metropolitan Area, Nevada. Clark County previously had been designated non-attainment for CO, PM₁₀, and O₃. However, Clark County was redesignated to attainment for carbon monoxide in 2010 (Federal Register Vol. 75, No. 145, July 29, 2010). Clark County was also redesignated to attainment for PM₁₀ in 2010 (Federal Register Vol. 75, No. 148, August 3, 2010), and was redesignated to attainment for O₃ in 2011 (Federal Register Vol. 76, No. 60, March 29, 2011).

Currently, Clark County meets the O₃, PM_{2.5}, CO and NO₂ NAAQS and is unclassifiable for SO₂ and Pb. The county is a Maintenance Area for O₃ and CO. The Las Vegas Valley (Hydrographic Area 212) within Clark County is classified as a serious non-attainment area for PM₁₀. The area cannot be formally designated as an attainment area until the EPA approves the *Request for Redesignation and Maintenance of PM₁₀*, submitted by DAQEM in August 2012 and EPA action on this request is still pending.

There are 14 air quality monitoring stations within the Las Vegas Valley and one in Boulder City. The closest monitoring station near the proposed project area is Paul Meyer located at Tropicana Avenue and Rainbow Boulevard. The station is located approximately 7,500 meters northeast of the proposed project area and monitors PM₁₀.

and O₃. Two other stations within the Las Vegas Valley that measure NO₂, CO, and PM_{2.5} are JD Smith and Jerome Mack. Jerome Mack also measures SO₂ whereas JD Smith does not.

The monitored concentrations described in Table 3.1-1. are considered ambient air background concentration standards. These concentrations are assumed to include emissions from industrial sources in operation and from mobile, urban, biogenic, and other non-industrial emissions sources. These concentrations can be compared to the annual concentrations measured within the Las Vegas Valley outlined in Table 3.1-2.

Table 3.1-2. Monitored Air Pollutant Background Concentrations in Las Vegas Valley 2013.

Pollutant	Monitoring Site	Measured Background Concentration (yearly average)
CO	Las Vegas JD Smith Site 2013	0.514 ppm
NO ₂	Las Vegas JD Smith Site 2013	13.6 ppb
O ₃	Las Vegas Paul Meyer Site 2013	34 ppb
PM ₁₀	Las Vegas Paul Meyer Site 2013	19.14 ug/cu
PM _{2.5}	Las Vegas JD Smith Site 2013	9.53 ug/cu
SO ₂	Las Vegas Jerome Mack 2013	1.6 ppb
Sources: Clark County DAQEM 2014 ppm = parts per million ppb=parts per billion µg/cu = micrograms per cubic foot		

The Clark County DAQEM, through authority given by the Nevada Department of Environmental Protection (NDEP) in its EPA-approved State Implementation Plan, is the primary air quality regulatory agency responsible for determining potential impacts once detailed industrial development plans have been made, and those development plans are subject to applicable air quality laws, regulations, standards, control measures, and management practices. Therefore, the Clark County DAQEM has the ultimate responsibility for reviewing and permitting the project prior to its operation. Unlike the conceptual ‘reasonable, but conservative’ engineering designs used in NEPA analyses, any air quality preconstruction permitting demonstrations required would be based on site-specific, detailed engineering values which would be assessed in the permit application review. Any facility developed under the Proposed Action which meets the requirements set forth under Clark County air quality regulations would be subject to DAQEM permitting and compliance processes, including requirements for fugitive dust sources set forth in Sections 41 and 94 of the Clark County Air Quality Regulations.

In 1977, Congress amended the Clean Air Act establishing a national goal to protect visibility in Class I federal areas such as national parks, forests and wilderness areas. The amendments called for the “prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas which impairment results from manmade air pollution.” In Nevada, there is one designated Class I area, the Jarbidge Wilderness Area in the northeast corner of the state. The U.S. Environmental Protection Agency announced a major effort to improve air quality in national parks and wilderness areas in 1999. The Regional Haze Rule calls for state and federal agencies to work together to improve visibility in 156 national parks and wilderness areas.

Visibility conditions can be measured as standard visual range (SVR). SVR is the farthest distance at which an observer can just see a black object viewed against the horizon sky; the larger the SVR, the cleaner the air. Continuous visibility-related optical background data, representative of the project area, have been collected at Meadview Arizona as part of the Interagency Monitoring of Protected Visual Environments (IMPROVE) program. Monitoring data from Meadview indicates that visibility conditions for the region are good, with a mean SVR from 152-215 km during the best, middle and worst visibility days (IMPROVE 2013).

Currently there are no emission limits for suspected Greenhous Gas (GHG) emissions, and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and will continue to be, several efforts to address GHG emissions from federal activities, including the proposed project.

3.1.2. No Action Alternative

Under this Alternative there would be no impacts.

3.2. Fish and Wildlife

3.2.1. Proposed Actions

General wildlife species within the Proposed Action includes small mammals, rodents, birds, and reptiles. According to data from Nevada Department of Wildlife (NDOW), there are no known big game (e.g. mule deer, bighorn sheep) distributions within a 4 mile buffer of the Proposed Action (NDOW 2014). The Proposed Action is also habitat for BLM sensitive species such as the western burrowing owl, chuckwalla, banded Gila monster, Mojave shovel nosed snake, desert glossy snake, and Mojave desert sidewinder. The Proposed Action also contains habitat for Migratory Birds and raptors, see Chapter 3.9 for a discussion on these species. NDOW also identified 50 other wildlife species observed near the project area (Appendix A). General wildlife and BLM Sensitive species may be impacted by the Proposed Action.

3.2.2. No Action Alternative

Under this Alternative there would be no impacts.

3.3. Floodplains

3.3.1. Proposed Actions

The Proposed Action does not contain any surface waters and there are no navigable waters within 10 miles of the project area. Some half dozen wash channels run down the slopes and through the lower portions of the project site. Based on the Clark County Regional Flood Control District (CCRFCD) Flood Zone maps for the area, the Proposed Action is located outside the Federal Emergency Management Agency (FEMA) designated floodplain. The Proposed Action is also located within the Las Vegas Valley Disposal Boundary and the CCRFCD is responsible for flood control. The Proposed Action will serve as flood control for downstream property and facilities.

3.3.2. No Action Alternative

Under this Alternative there would be no impacts.

3.4. Fuels and Fire Management

3.4.1. Proposed Actions

Vegetation in the project area consists primarily of creosote bush scrub with spacing between shrubs being too high to carry a large fire. There are no noxious weeds or invasive species such as Mediterranean grass or red brome within the inter-shrub spaces to provide fuel loads sufficient to carry a potentially destructive fire.

There was evidence of fire within the project area from the recreating public. During construction there will be a risk of fire due to the use of machinery and equipment that uses fuel in addition to other fuel sources (i.e. trash, rags) for a fire which can be minimized by following fire restrictions.

3.4.2. No Action Alternative

Under this Alternative there would be no impacts.

3.5. Geology/Mineral Resources/Energy Production

3.5.1. Proposed Actions

Identification of the environmental properties of soils and geologic hazard constraints with potential to affect the project location were identified using geologic maps, and information available from the Nevada Bureau of Mines and Geology and U.S. Geological Survey (Stewart and Carlson 1978).

The eastern portion of the proposed detention basin project is located within the Las Vegas Valley on Quaternary alluvium. Alluvium is a term for clay, silt, sand, gravel, or similar unconsolidated detrital material, deposited during comparatively recent geologic time by a stream or other body of running water. The alluvium is derived from the foothills of the Spring Mountains which are composed of high peaks and ridges with steep slopes relative to surrounding valleys. Primary landforms within the Spring Mountains include slopes and ridges, rolling uplands, colluvial and alluvial fans, floodplains, ephemeral and perennial streams, riparian areas, and springs (Nachlinger and Reese 1996).

The western portion of the Proposed Action is within late Permian Kaibab, Toroweap, Coconino Formation, red beds. The Kaibab Limestone and Toroweap Formation are a diverse assemblage of sedimentary rock types that average about 250-255 million years old. They are composed primarily of a sandy limestone with a layer of sandstone below, which in some places sandstone and shale also exists as their upper layers. The color of Kaibab Limestone ranges from cream to a grayish-white, while Toroweap is darker ranging from yellow to grey. Coconino Sandstone averages 260 million years old and is composed of pure quartz sand, which is basically petrified sand dunes. Wedge-shaped cross bedding can be seen where traverse-type dunes have been petrified. The color of this layer ranges from white to cream colored. Red beds are also sedimentary rocks, which typically consist of sandstone, siltstone, and shale that are predominantly red in color due to the presence of ferric oxides.

3.5.2. No Action Alternative

Under this Alternative there would be no impacts.

3.6. Hydrologic Conditions

3.6.1. Proposed Actions

Hydrologic resources include groundwater, surface water, and wetlands. Clark County is within the Colorado River Basin hydrographic region #13. This region covers 12,376 square miles including parts of Clark, Lincoln, Nye, and White Pine counties and is divided into 27 hydrographic areas (State of Nevada Division of Water Resources, 2013). The Las Vegas Valley is located within hydrographic basin #212, one of the 27 hydrographic areas within the Colorado River Basin. According to the Nevada Division of Water Resources, the Proposed Action is within the Las Vegas Valley Groundwater Basin. Groundwater generally flows towards the east and then continues towards the Las Vegas Wash and Lake Mead.

The Proposed Action is not located within any 100 year flood zones. The nearest rain gauge to the project area is the CCRFCD's Upper Flamingo 1, located 3 miles southwest of the Spanish Trails housing community (CCRFCD 2014). According to the Upper Flamingo 1 rain gauge annual average precipitation over the last 10 years (2004-present) has been 14 inches and originates in the Spring Mountains to the west. Precipitation generally flows to the East.

There are no permanent surface waters within the Proposed Action. Various dry washes intersect the project location. General hydrology in the area is already disturbed and it is located in the Las Vegas Valley disposal boundary. The proposed project will not impact existing hydrologic conditions. Since no adverse impacts to surface hydrology are expected, rangeland health will also not be negatively affected by the proposed project.

3.6.2. No Action Alternative

Under this Alternative there would be no impacts.

3.7. Invasive Species/Noxious Weeds

3.7.1. Proposed Actions

Weeds are species listed under Nevada Revised Statutes (NRS) 555.005.201 that have been defined as pests by law or regulation. Noxious weeds are typically plants considered to be detrimental to agriculture, wildlife, or public health that are listed on the State of Nevada Noxious Weed List (Nevada Department of Agriculture, 2006).

Deleted:

During a botanical survey of the project area in March 2014, no noxious weeds or other invasive plant species were observed within the Proposed Action. Although noxious weeds were not present during a survey of the Proposed Action, standard weed Best Management Practices (BMPs) should be implemented during construction and maintenance of the project to prevent their spread into native habitat.

3.7.2. No Action Alternative

Under this Alternative there would be no impacts.

3.8. Lands/Access

3.8.1. Proposed Actions

The Proposed Action would occur on BLM administered land. There are two existing right of way (ROW) grants authorized within the Proposed Action (N-60844 and N-60726), but no impacts to either of these facilities will occur. Access to the detention

basin will be by the maintenance and access road from the intersection of Hualapai Way and Maule Avenue to the basin along the inlet channel. The Proposed Action would also require a disposal site within the southwest portion of the ROW or at a BLM approved site. The disposal site is necessary for the maintenance and clean out of the detention basin, no mineral material will be moved off site during construction.

3.8.2. No Action Alternative

Under this Alternative there would be no impacts.

3.9. Migratory Birds

3.9.1. Proposed Actions

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et. Seq.) protects migratory birds and their nests (nests with eggs or young). A list of MBTA protected birds can be found in 50 C.F.R. 10.13 (<http://www.gpo.gov/fdsys/pkg/CFR-2012-title50-vol1/xml/CFR-2012-title50-vol1-sec10-13.xml>) or a complete list is published at the USFWS web site (USFWS 2010 (a)).

According to NDOW, various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. A few examples include: American kestrel, bald eagle, barn owl, Cooper's hawk, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, northern harrier, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and four-mile buffer area. Furthermore, golden eagle and red-tailed hawk have been directly observed in the vicinity of the project area (NDOW 2014).

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (USFWS 2010(b)) NDOW queried their raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 56 known raptor nest sites within ten miles of the project area (NDOW 2014).

Migratory birds, including the BLM sensitive species, the western burrowing owl (*Athene cunicularia*), and other various raptors may be present during construction of the Proposed Action and experience impacts, especially during the breeding season. The breeding season is when these species are most sensitive to disturbance, and this is generally from February 15th through August 31st for upland desert habitats.

3.9.2. No Action Alternative

Under this Alternative there would be no impacts.

3.10. Recreation

3.10.1. Proposed Actions

The Proposed Action is located near the populated community of Summerlin in Clark County, Nevada, near metropolitan Las Vegas. It is an area of high population density residential, commercial, and recreational land use categories. The main land uses in the project area include off-road vehicle recreation, shooting, hiking, and illegal dumping. Unimproved roads in the project area are used for recreational off-road activities. The recreating public would be permanently displaced from casual recreation within the project area, but the surrounding desert will continue to be utilized for recreational purposes.

The nearest developed recreation opportunities include local urban parks and golf courses or the Red Rock Canyon Conservation Area to the west. The Proposed Action will not impact any proposed developed recreational activities in the area. Some minor casual recreation will be temporarily impacted during construction.

3.10.2. No Action Alternative

Under this Alternative there would be no impacts.

3.11. Socio-Economics

3.11.1. Proposed Actions

The region of influence (ROI) for the proposed action is Las Vegas, Clark County, Nevada. Selected socioeconomic indicators for the ROI and comparative data for the state are presented in Table 3.11-1. The project will not disproportionately impact social or economic values.

Table 3.11-1. Selected Socioeconomic Indicators for the Region of Influence and State of Nevada

Geographic Area	Population (2010)	Population (2000)	Labor Force	Housing Units	Owner-Occupied Housing Units (percent)	Housing Vacancy Rate (percent)	Median Home Price
Las Vegas	583,756	478,434	231,388	190,862	59.1	7.3	\$137,300
Nevada	2,700,551	1,998,257	1,003,293	827,457	60.9	9.2	\$142,000

Source: U.S. Census Bureau 2000, 2014

3.11.2. No Action Alternative

Under this Alternative there would be no impacts.

3.12. Soils

3.12.1. Proposed Actions

The proposed project area is located in the southwest area of the Las Vegas Valley in Clark County, Nevada. The area was previously surveyed by the USDA Natural Resources Conservation Service. The soil type within the project area consists mainly of cave gravelly fine sandy loam. The area is well drained with a slope ranging from 0 to 4 percent. The soil erosion potential for the entire project area is low. The calcium carbonate has a maximum content of 40 percent and gypsum maximum content is 5 percent.

3.12.2. No Action Alternative

Under this Alternative there would be no impacts.

3.13. Threatened, Endangered or Candidate Animal Species

3.13.1. Proposed Actions

Threatened and endangered (T&E) 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 T&E species known to occur in the project area is the threatened desert tortoise (*Gopherus agassizii*).

The proposed action has a may affect, likely to adversely affect determination on the threatened desert tortoise (*Gopherus agassizii*) and a no effect determination for its critical habitat. This project will have no affect on any other federally listed species or designated critical habitat. Section 7 Consultation for this project is covered under the Programmatic Biological Opinion (BO) (File No. 84320-2010-F-0365.R001) contingent on compliance with the terms and conditions. Terms and conditions and minimization measures in the BO contain measures to reduce potential impacts, including take, of desert tortoise.

Historical survey data indicate that the area surrounding the project site is low density tortoise habitat. Desert tortoise survey data collected for the preparation of the Las Vegas Disposal Boundary Environmental Impact Statement (EIS) indicates there are live tortoise and tortoise burrows located within a half mile of the proposed project site. Since tortoises have been found in the vicinity and undisturbed habitat exists in and adjacent to the project site, there is potential for tortoises to wander into the project area. If not noticed and avoided during construction and maintenance activities, desert tortoise could be either injured or killed (by crushing) or harassed (by being moved out of harm's way). The project will disturb a total of 8.0 acres of tortoise habitat.

3.13.2. No Action Alternative

Under this Alternative there would be no impacts.

3.14. Water Resources/Quality (drinking/surface/ground)

3.14.1. Proposed Actions

Hydrologic resources include groundwater, surface water, and wetlands. Groundwater quality and the issuance of permits for the use of both groundwater and surface water are overseen by the State Engineer under authority granted by the Nevada Revised Statutes 533 and 534. Wetlands are managed by the US Army Corps of Engineers.

According to the Nevada Division of Water Resources, the Proposed Action is within the Las Vegas Valley Groundwater Basin. Groundwater generally flows towards the east and then continues towards the Las Vegas Wash and Lake Mead. Records from the Nevada Division of Water Resources lists no wells within Section 1 of Township 22S, Range 59E (State of Nevada Division of Water Resources, 2013).

The Las Vegas Valley Water District (LVVWD) manages and treats the Las Vegas Valley's water in accordance with the Safe Drinking Water Act of 1974 to ensure that the drinking water supplied to the public is safe. The Environmental Protection Agency (EPA) sets national drinking water standards that LVVWD must follow. The Las Vegas Valley's drinking water meets or exceeds all federal Safe Drinking Water Act standards (LVVWD 2014).

In the 2013 LVVWD Water Quality Report for 2012, it is indicated that the U.S. EPA requires water agencies to monitor for 91 regulated contaminants with “primary” standards, therefore they must be listed in the report if they are detected in the water supply. The primary standards are set to protect the public against consuming drinking-water contaminants at levels that present human-health risks. In 2012, LVVWD detected 19 contaminants with primary standards and 15 contaminants with “secondary” standards. The secondary standards are established to help water systems manage aesthetic considerations, such as water taste, color and odor. These contaminants, while regulated, are not considered risks to human health.

“Waters of the United States,” defined in 33 CFR 328.3(a) to include navigable waters as well as intermittent streams, are not present near the Proposed Action. The project area does not contain hydric soils and habitat in the area does not meet the definition of a wetland. It does not contain: (1) wetlands, wetland fringes or adjacent wetlands, or (2) spawning, feeding, or nesting areas for fish or other important aquatic species. No permanent surface waters or wetlands exist in the project area. Narrow and shallow ephemeral drainages flow from west to east toward the city of Las Vegas. General hydrology in the area is already disturbed since the Proposed Action is located in the Las Vegas Valley Disposal Boundary.

3.14.2. No Action Alternative

Under this Alternative there would be no impacts.

3.15. Woodland/Forestry

3.15.1. Proposed Actions

The Proposed Action was identified during internal preliminary scoping as an area known to contain high densities of cactus and yucca. Cacti and yucca are protected by the State of Nevada under Nevada Revised Statute (NRS) 527.260-300. On BLM lands, cacti and yucca are considered government property and are regulated under the BLM Forestry Program. Additionally, the sale and transport of cacti and yucca are regulated by the Nevada Division of Forestry under NRS 527.060-527.120.

During a botanical survey of the Proposed Action, the following cacti occurred as scattered individuals within the project area: *Cylindropuntia echinocarpa* (Silver Cholla), *Cylindropuntia ramosissima* (Diamond Cholla), *Echinocactus polycephala* (Cottontop Cactus), *Echinocereus engelmannia* (Hedgehog Cactus), and *Opuntia basilaris* ssp *basilaris* (Beavertail Cactus). Scattered individual *Yucca schidigera* (Mojave Yucca) plants occurred within the project area.

The Proposed Action will incur new disturbance and temporary disturbance will occur during geotechnical drilling activities. The scattered individuals of cacti and yucca documented during the survey may be impacted by the proposed action. A restoration plan will be approved by BLM prior to the lease. Cacti and yucca that may be impacted will need to be salvaged and replanted in temporary impact areas or undisturbed portions of the project area in accordance with BLM guidelines.

3.15.2. No Action Alternative

Under this Alternative there would be no impacts.

3.16. Vegetation Excluding Federally Listed Species

3.16.1. Proposed Actions

The Proposed Action was identified as known habitat range of four BLM sensitive plant species. These species were: *Penstemon biocolor* spp. *bicolor* (yellow two toned beardtongue), *Eriogonum corymbosum* (Las Vegas Buckwheat), *Arctomecon californica* (Las Vegas bearpoppy) and *Arctomecon merriamii* (white bearpoppy). Of the four species, yellow two toned beardtongue, was previously documented on the western edge of the project boundary according to the Nevada Natural Heritage Program (NNHP). There were no historical observations of the other three species near the proposed project.

A botanical survey was conducted on March 31, 2014 during the appropriate growing season of the four BLM sensitive species. None of the target plant species were observed. Based on this spring survey, the project area contains potential habitat for the target species, but does not contain sensitive plant species, and the proposed action is not anticipated to affect any sensitive or rare plant species.

3.16.2. No Action Alternative

Under this Alternative there would be no impacts.

4.0. VISUAL RESOURCES

4.1. Proposed Actions

The proposed action, the construction and maintenance of a flood control detention basin is located in a Class IV Visual Resource Management (VRM) objective area. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made

to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

4.2. No Action Alternative

Under this Alternative there would be no impacts.

5.0. ENVIRONMENTAL EFFECTS

5.1. Air Quality

5.1.1. Proposed Actions

It is anticipated that there would be short-term emissions associated with the proposed project. Short-term air emissions associated with the proposed project would mainly be from fugitive dust that occurs when ground disturbing activities take place during construction, maintenance, and transportation of goods and workers on and off site. Construction activities associated with the proposed actions would result in short-term increases in construction equipment emissions, vehicle exhaust, and PM₁₀. The proposed project will result in added emissions of pollutants during construction due to workers vehicles, heavy equipment working, and traffic on site.

The proposed project is located in Las Vegas Hydrographic Basin 212 which is designated attainment for CO, and O₃. A permit will be obtained from Department of Air Quality and Environmental Management (DAQEM) and all stipulations of the permit will be followed. To comply with Clark County dust control requirements, while construction and travel occur onsite contractors will use water to manage fugitive dust. No violations of applicable state or federal air quality regulations or standards would be expected to occur as a result of direct or indirect project air-pollutant emissions from building of detention basin. Once the facility is completed the amount of air emissions being produced from maintenance will be minimal and not significant to the NAAQS. The proposed project is not anticipated to have an impact on increased GHG emissions.

5.1.2. No Action Alternative

Under this Alternative there would be no impacts.

5.2. Fish and Wildlife

5.2.1. Proposed Actions

The Proposed Action would displace general wildlife and sensitive species as lands are disturbed from soil removal, grading, and excavation within the project area. The direct impacts of the Proposed Action on wildlife would be killing or maiming of ground dwelling animals and less mobile species during construction, displacement of individuals, the loss and fragmentation of habitat and increased potential for mortality

and harassments of wildlife. Some species that are particularly mobile might be able to avoid injury or mortality by fleeing the immediate area. However, some wildlife, such as nocturnal species, reptiles or species that use burrows, might be more susceptible to injury or mortality. Although temporary in nature, noise and activity associated with construction could cause animals to avoid the area, thus altering their normal behavior patterns. Upon completion of construction and continued maintenance of the project area, additional impacts associated with mortality from vehicular traffic may also occur. The Proposed Action would have negligible impacts on populations of wildlife species in the general area because they are common and widely distributed. The loss of some individuals and/or their habitat would have a negligible impact on populations of the species throughout the region. Impacts to BLM sensitive species are not anticipated to lead to further decline of the species range wide as the total disturbance for this project is relatively small (25.4 acres).

To reduce impacts on wildlife, the applicant would implement the following mitigation measures:

- Applicant shall limit the size of any vegetation and/or ground disturbance to the minimum necessary to perform the activity safely and as designed.
- Applicant will avoid creating soil conditions that promote weed germination and establishment.

With these mitigation measures in place for management of habitat impacts wildlife would be reduced to a level of non-significance.

5.2.2. No Action Alternative

Under this Alternative there would be no impacts.

5.3. Fuels and Fire Management

5.3.1. Proposed Actions

Any wildfire has the potential to impact natural and human-made resources and activities in the project area and vicinity. The lands within and surrounding the project area do not contain fire-adapted habitats; however, the majority of the project area is in creosote-bursage habitat which generally has minimal fuel loads capable of sustaining a significant fire. Potential impacts from wildfires within the project area are expected to be low.

Compliance with fire restrictions current at the time of implementation would significantly reduce the potential for a fire and/or insure timely suppression if a human-caused fire were to ensue. Specific non-compliant activities may be waived on a case by case basis by a BLM line officer after review and approval by the Fire Management Officer.

Mitigation methods to minimize fuel loading and prevent fire on the project site include the following:

- Smoking or discarding of cigarettes outside of vehicles will not be permitted.
- Open flames of any kind will not be permitted on the job site.
- The use of all welding equipment will be restricted to specified areas as necessary to complete the proposed project.
- All project vehicles must carry and maintain fire suppression equipment (fire extinguishers) at all times.
- The Proponent and contractor(s) shall maintain a readily available source of water (such as would also be used for dust control) near all working construction equipment.

5.3.2. No Action Alternative

Under this Alternative there would be no impacts.

5.4. Geology/Mineral Resources/Energy Production

5.4.1. Proposed Actions

Overall, the impacts to geology from the Proposed Action would be minimal, since construction activity would be limited to surface and near-surface deposits, however the detention basin would result in sub-surface excavation for a basin with a volume of 42 acre feet, a depth of approximately 15 feet and a land area of approximately 25 acres. It is possible that the Proposed Action could increase the likelihood of erosion by the clearing of vegetation over soils and excavation of subsurface soils. However, the soils within the basin after excavation will be compacted and stabilized to prevent erosion and the design of the facility is intended to reduce runoff during flood events so no erosion should occur.

Mineral materials produced within the Proposed Action during construction will be used within the right of way or stockpiled on site for disposal by BLM. The future sale and delivery of stockpiled materials would use existing roads in the project. Therefore, no future environmental effects are anticipated; therefore, no further analysis would be warranted.

There are no active mining claims within the project area, and therefore no claims would be affected. The Proposed Action would not hinder future access to mineral resources.

No indirect impacts to the geology and minerals have been identified. Impacts to geological resources in the area are expected to be minimal.

5.4.2. No Action Alternative

Under this Alternative there would be no impacts.

5.5. Invasive Species/Noxious Weeds

5.5.1. Proposed Actions

The Proposed Action is within the Las Vegas Valley Disposal Boundary and was analyzed under the associated EIS. Standard Best Management Practices (BMPs) must be implemented during construction and maintenance of the project. A list of BMPs for Noxious Weeds is included Chapter 7.0 Mitigation. If noxious weed infestations are found on site, they should be reported to the BLM Weed Coordinator.

5.5.2. No Action Alternative

Under this Alternative there would be no impacts.

5.6. Migratory Birds

5.6.1. Proposed Actions

Migratory birds could be injured or killed during vegetation removal and grading activities. Adult birds may be able to flee the area; however, during migratory bird nesting season, eggs and juvenile birds that are confined to nests may be killed. Some native plant communities that provide habitat to nesting migratory birds would be eliminated (15 acres) as a result of the proposed project.

The project proponent must comply with the MBTA to avoid potential impacts to protected birds within the Proposed Action. The projects proponent should:

- 1) Schedule habitat altering projects or portions of projects outside bird breeding season. In upland desert habitats and ephemeral washes containing upland species, the season generally occurs between February 15th through August 31st.
- 2) If a project that may alter any breeding habitat has to occur during breeding season, a qualified biologist must survey the area for nests prior to commencement of construction activities. The survey will include burrowing and ground nesting species, in addition to those nesting in vegetation. If any active nests (containing eggs or young) are found, an appropriately sized buffer area must be avoided until the young birds fledge. The dates of February 15th through August 31st are a general guideline for breeding season, however if active nests are observed outside this range they are to be avoided as described above.

5.6.2. No Action Alternative

Under this Alternative there would be no impacts.

5.7. Soils

5.7.1. Proposed Actions

The proposed work area is located in the Las Vegas Valley Disposal Boundary and the general area is pre-disturbed. The proposed project would disturb 25.4 acres of top soil within the project area; also it will cause up to 10 feet of ground disturbance where excavation will occur to remove and install the new channel. The removal or disturbance of soil would result in a permanent modification to the soil structure. With the occurrence of ground disturbance within the project area there is potential for wind and water erosion to occur. To minimize erosion from storm water runoff, access roads and work areas would be maintained consistent with best management practices such as ensuring work only occurs within the designated work areas, restoring temporary disturbance areas up project completion. See Chapter 7.2 for mitigation measures relevant to soils and geology.

5.7.1. No Action Alternative

Under this Alternative there would be no impacts.

5.8. Threatened, Endangered or Candidate Animal Species

5.8.1. Proposed Actions

Tortoises may be injured or killed during construction activities such as soil testing, clearing, grubbing, excavation and grading. Direct habitat loss from vegetation clearing and crushing of burrows in which tortoises dwell may also occur during these activities.

Increased human activity and construction vehicle traffic may also result in tortoise/vehicle collisions that result in tortoise injury or death. Tortoises may take shelter under parked vehicles and be killed, injured, or harassed. Minimization measures such as having an Authorized Biologist onsite during construction activities to conduct clearance surveys for desert tortoise, monitor for desert tortoise during construction, and present a desert tortoise education program would reduce or eliminate these effects.

The biologist would escort vehicles and conduct clearance surveys for all areas of new disturbance, including access that requires overland travel (land survey, soil testing), and any operation/maintenance activity utilizing a grader or any other heavy equipment on the ROW during the active tortoise season (March 1 to October 31) and would be on call during the inactive season. For overland travel, the biologist would walk in front of

vehicles while traveling over undisturbed habitat and ensure the same route is to be used for ingress and egress to the site. Additional terms and conditions and minimization measures contained in the Programmatic Biological Opinion (84320-2010-F-0365.R001) can be found in Chapter 7.0. Mitigation.

Indirect effects could be caused by the detention basin include increased predation. Predators such as ravens, coyotes, or other raptors may be attracted to the construction site due to an increase in food opportunities including construction site litter and voluntary feeding from construction staff; or increased water sources due to dust control protocols. An increased presence of predators could lead to a predation increase on smaller, more vulnerable tortoises.

Upon completion of the project, the recreating public will continue to use the area for off road vehicle recreation increasing the chances that new off highway vehicle (OHV) roads and trails will be created. Continued OHV use could result in risk of injury or death to tortoises and/or disturbance to habitat. It is likely the recreating public will also leave trash behind attracting scavengers and predators or they will illegally dump trash and other unwanted items in the desert areas near the project, further degrading habitat for desert tortoises. These activities could be lessened by limiting access to the recreating public with barriers such as barricades or gates and also placement of signs warning against trespassing and dumping in the area.

Ground disturbing activities during construction may result in an increase of noxious and invasive plant species in the area. Construction machinery may facilitate the spread of existing noxious or invasive species throughout the site, or may facilitate the introduction of new noxious weeds or invasive species. Noxious and invasive plants may displace native species that provide forage for tortoises and also contribute to increased risk for wildlife in the area.

5.8.2. No Action Alternative

Under this Alternative there would be no impacts.

5.9. Woodland/Forestry

5.9.1. Proposed Actions

State protected cacti and yucca within the Proposed Action may be crushed and killed by vehicles and equipment during construction activities or demolished during clearing and grubbing of the site. Avoidance of cacti and yucca during site access and soil testing is possible. However, if cacti and yucca cannot be avoided during construction, all cacti and yucca within permanent and temporary impact areas must be salvaged and replanted in temporary impact areas or undisturbed portions of the project area. Unless otherwise directed by the BLM Botanist, all replanted cacti and yucca must be watered and otherwise maintained for a period of one year. To ensure successful salvage and

transplant, all cactus and yucca must be salvaged using a contractor (or other approved by the BLM Botanist) with at least three years' experience salvaging and maintaining plant materials in the Mojave or Sonoran deserts.

Any or all plants not to be replanted in the ROW may be taken to the Ann Road stockpile or the BLM office to hold a public salvage sale depending on staff availability. A potential salvage sale must be coordinated with the BLM Botanist.

5.9.2. No Action Alternative

Under this Alternative there would be no impacts.

5.10. Vegetation Excluding Federally Listed Species

5.10.1. Proposed Actions

No rare or sensitive plants were observed during a survey of the Proposed Action, however habitat is present for the four target sensitive species. Should these species be observed during construction of the proposed project, the BLM Botanist will be contacted for further instruction on minimization and mitigation measures to protect them. Any short term or temporary use areas will need to be restored which will require the development of a restoration plan that must be approved by the BLM Botanist.

5.10.2. No Action Alternative

Under this Alternative there would be no impacts.

5.11 Visual Resources

5.11.1. Proposed Actions

The proposed action would meet the objectives of VRM Class IV, the proposed project will require major modification of the landscape, but within a highly developed area that has already experienced major changes to the landscape from development. The level of change to the characteristics of the landscape would be low to moderate, and the proposed facilities would repeat the basic elements of development in the local area.

This action will have an impact on visuals to the extent that it will add a horizontal and slight vertical element to the characteristics of the landscape, however, there are other horizontal lines nearby created by the residential and commercial development to the East. Construction of the detention basin would create a permanent visual change, but would be minor in nature since the area is already highly developed. The incremental impacts of the proposed action consists of low to moderate contrast with the existing landscape and no further mitigation is warranted.

6.0. CUMULATIVE IMPACTS

Cumulative impacts consist of past, present and future actions that could have a cumulative effect when combined with the Proposed Action. Past actions are those that are presently existing, present actions are considered to be those occurring at the time of this evaluation, and future actions are those that are in planning stages with a reasonable expectation of occurring in the near future.

Potential cumulative impacts associated with the proposed action are expected to be mostly associated with current/future management concerns. Management concerns relevant to the proposed action are associated with current BLM objectives as identified in current planning/compliance documents.

The geographic area for the cumulative effects analysis is the area within a one mile radius of the proposed action. The geographic area was chosen to capture the majority of cumulative uses in the nearby area. Existing and pending uses within the geographic area include residential and commercial development, and utilities.

Currently there are two ROW's which overlap or are contiguous with the proposed project. These include a 100 foot wide ROW grant to Las Vegas Valley Water District for underground 42" diameter water pipeline purposes (N-60844), and a 150 foot wide ROW grant to Clark County for roadway purposes. These potential future actions would overlap or be adjacent to the proposed project area, but would result in no impact to the Proposed Action and vice versa however, would result in the development of lands near the project area. Any past, current, or future projects within the vicinity of the proposed action, would be required to comply with all Federal, State, and local regulations. Additionally, it is anticipated that one or more of the following list of conservation/protection requirements and existing NEPA documentation for public lands in Clark County would be applicable:

- 1) Nevada Revised Statute 527.060-1.20 protects all cacti and yucca.
- 2) Las Vegas RMP EIS.
- 3) Clark County MSHCP EIS

6.1. Proposed Actions

The proposed detention basin is necessary to provide year round flood protection to downstream property and facilities and reduce debris sediment in the flood control system, ultimately improving water quality in local washes and surface waters.

6.1.1. Air Quality and Greenhouse Gas Emissions

Past and present actions in the area that contribute to the existing air quality conditions include the construction and maintenance of residential and commercial development, streets and above ground or underground utilities.

The proposed action and all of the past, and future actions included in the cumulative impacts area, are within Hydrographic Basin 212. This hydrographic basin is currently subject to compliance with DAQEM requirements for fugitive dust sources set forth in Sections 41 and 94 of the Clark County Air Quality Regulations. Since the Sections 41 and 94 rules are designed to achieve air quality attainment with Clark County Air Quality Regulations, no cumulative impacts are expected. Additionally, it is not anticipated that all of the present and future actions would be occurring simultaneously thereby reducing potential additive effects.

6.1.2. Fish and Wildlife

Past, present and future actions near the Proposed Action have or will result in the death or displacement of wildlife and disturbed habitat for these species. While the Proposed Action would have negligible impacts on populations of wildlife species in the general area because they are common and widely distributed, the Proposed Action combined with other actions will result in cumulative loss of wildlife and habitat. However, since these species are common, the cumulative effects are negligible compared to populations of the species throughout the region. These impacts are not expected result in further decline of the species range wide as all of these actions will be mitigated to minimize the impacts on these species.

6.1.3. Geology

When added to existing and reasonably foreseeable actions, the cumulative impacts to geology and minerals would be minimal and would include increased potential for erosion.

6.1.4. Invasive Species/Noxious Weeds

Best management practices and recommended mitigation measures for controlling the establishment and spread of invasive, non-native species would lessen the impacts of invasive species and noxious weeds as a result of this project combined with past, present and future projects. The projects would have the potential to introduce weeds via transport on vehicles and equipment and contribute to the removal of native vegetation increasing the susceptibility of the area to establishment of noxious weeds and non-native plant species. Past actions in this area have not caused the introduction of noxious or non native species of weeds to infiltrate the project area. Mitigation measures will be taken to prevent the spread of weeds at present time and future actions will be assessed on a case-by-case basis.

6.1.5. Migratory Birds

The Proposed Action combined with past, present and future actions will continue to have an impact on Migratory birds. Migratory birds could be injured or killed during vegetation removal and grading activities. Adult birds may be able to flee the area;

however, during migratory bird nesting season, eggs and juvenile birds that are confined to nests may be killed. Some native plant communities that provide habitat to nesting migratory birds would be eliminated. These impacts could be minimized by employing a biologist to survey for nests and young prior to ground disturbance during bird breeding season or avoiding ground disturbing activities during the nesting season.

6.1.6 Threatened, Endangered or Candidate Animal Species

The only threatened or endangered species known to occur in the general vicinity of the site is the desert tortoise, a threatened species. This project will have no affect on any other federally listed species or designated critical habitat. Previous consultation under Section 7 of the Endangered Species Act was completed with the U.S. Fish and Wildlife Service which resulted in the issuance of a BO file No.84320-2010-F-0365.R001.

By complying with the terms and conditions of the BO, any past, present, or future actions on federal lands within the cumulative impacts area are expected to have minimal impact.

6.1.5. Vegetation

Past, present, and future actions have the potential to impact vegetation within the cumulative impact area. Past actions for development of residential areas and utilities have disturbed the area surrounding the project. The majority of the disturbance associated with the past, present, and future actions has/will result in the permanent loss of vegetation within the cumulative impacts area. However, with the exception of cacti and yucca, the vegetation is comprised of plants which are common in the Mojave Desert, and are not currently sensitive or specifically protected under Federal, state, or local regulations. All cacti and yucca in the state of Nevada are protected under NRS 527.060-1.20. Therefore, the potential past, present and future cumulative impacts associated with the proposed action are expected to be minor.

6.1.6. Visual Resources

Existing visual resources near the proposed project are already highly impacted by residential/commercial and utility development within the Las Vegas city limits. This project combined with other projects will continue to impact visual resources in the area, however the effects will be minor in nature due to the high level of existing visual impacts.

7.0. MITIGATION MEASURES

7.1. Invasive Species/Noxious Weeds

- All employees working in the project area should undergo invasive weed instruction as part of their environmental training.

- Limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform work activities safely and as designed and avoid creating soil conditions that promote weed germination and establishment.
- All vehicles will remain within the designated work areas.
- Any weed found will be removed and disposed of in an approved receptacle.
- Ensure all project-related vehicles and equipment arriving at the site do not transport noxious weeds into the project area. All vehicles and equipment that will be traveling off constructed and maintained roads or parking areas within the project area will be power washed, including the undercarriage, since their last off-road use and prior to off-road use on the project. When beginning off-road use on the project, such vehicles and equipment shall not harbor soil, mud, or plant parts from another locale.
- Any straw or hay bales used during the project, such as for sediment barriers or for mulch will be from state cleared sources that are certified weed free.
- Any required reclamation work will proceed immediately following construction in accordance with BLM guidelines for restoration.
- Wherever possible, vegetation will be left in place. Where vegetation must be removed, the root structure will be preserved as feasible to allow for potential re-sprouting.

7.2. Soils and Geology

Recommendations generally consist of Best Management Practices (BMP)s that minimize the impacts to soils and geology:

- Soils such as hard cemented sand and gravel/bedrock should be excavated with appropriate heavy equipment.
- Obtain a dust control permit from the Clark County Department of Air Quality and Environmental Management (Clark County DAQ 2003), and develop a Dust Control Plan.
- Maintain dust control during construction activities by watering disturbed areas.
- Keep disturbance and excavation to the minimum amount necessary to perform the job safely and as designed. Maintain disturbance and excavation to within the project boundaries.

7.3. Threatened, Endangered and Special Status Species

The terms and conditions identified in the Programmatic Biological Opinion are outlined below.

- An authorized biologist will present an education program for all personnel on site during construction activities. The program shall cover desert tortoise guidelines including: the distribution of desert tortoises, general behavior and ecology of this species, sensitivity to human activities, threats including introduction of exotic plants and animals, legal protection (the definition of “take” will also be explained), penalties for violation of State and Federal laws, reporting requirements, and project measures in the biological opinion.
- A litter control program shall be implemented to reduce the attractiveness of the area to opportunistic predators such as desert kit foxes, coyotes, and common ravens. Trash and food items will be disposed of properly in predator-proof containers with predator-proof lids. Trash containers will be emptied and construction waste will be removed daily from the project area and disposed of in an approved landfill. Vehicles hauling trash to the landfill or transfer facility must be secured to prevent litter from blowing out along the road.
- The project proponent will implement measures to discourage the presence of predators on site (coyotes, ravens, etc.), including elimination of available water sources, designing structures to discourage potential nest sites, and use of hazing to discourage raven presence.
- Cross-country travel outside designated areas shall be prohibited. All equipment, vehicles, and construction materials shall be restricted to the designated areas and new disturbance will be restricted to the minimum necessary to complete the task (*e.g.*, such as construction of one-lane access roads with passing turnouts every mile rather than a wider two-lane road). All work area boundaries shall be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities.
- Vehicles and equipment shall be cleaned with a high pressure washer prior to arrival in desert tortoise habitat to prevent or at least minimize the introduction or spread of noxious and invasive plant species.
- Hazardous and toxic materials such as fuels, solvents, lubricants, and acids used during construction will be controlled to prevent accidental spills. Any leak or accidental release of hazardous and toxic materials will be stopped immediately and cleaned up at the time of occurrence. Contaminated soils will be removed and disposed at an approved landfill site.

- An Authorized Biologist will conduct clearance surveys for all areas of new disturbance including access that requires overland travel (land surveys and soil boring).
- The Authorized Biologist will be onsite during the active season (March 1 to October 31), and on call during the inactive season (November 1 to February 28/29). Any operation or maintenance activity utilizing a grader or other heavy equipment on the ROW will require an Authorized Biologist to escort and clear in front of the equipment if carried out during the desert tortoise active season.
- BLM shall collect remuneration fees to offset residual impacts to desert tortoises from project-related disturbance to desert tortoise habitat. Remuneration fees will be used for management actions expected to promote recovery of the desert tortoise over time, including management and recovery of desert tortoise in Nevada. Fees will be used to fund the highest priority recovery actions for desert tortoises in Nevada
- The deaths and injuries of desert tortoises shall be investigated as thoroughly as possible to determine the cause. The Service (702/515-5230), BLM wildlife staff (702/515-5000) and appropriate state wildlife agency must be verbally informed immediately and within 5 business days in writing (electronic mail is sufficient). The Authorized Desert Tortoise Biologist shall complete the BLM Desert Tortoise Handling and Take Report.
- Rehabilitate, reclaim, or revegetate areas subjected to surface-disturbing activities where feasible to restore habitat.
- All project/event-related individuals shall check underneath stationary vehicles before moving them. All vehicle use will be restricted to existing roads. New access roads will be created only when absolutely necessary and only when approved by BLM.
- Workers shall not drive or park vehicles where catalytic converters can ignite dry vegetation and to exhibit care when smoking in natural areas. Fire protective mats or shields shall be used during grinding or welding.
- Within desert tortoise habitat, any construction pipe, culvert, or similar structure with a diameter greater than 3 inches stored less than 8 inches above the ground will be inspected for tortoises before the material is moved, buried, or capped.

- Any incidence of non-compliance occurring during project activities will be documented by the Authorized Biologist. Documentation shall include photos, GPS coordinates, and details on the circumstances of the event.
- For overland travel, the Authorized Biologist will walk in front of vehicles while traveling over undisturbed habitat and ensure the same route is to be used for ingress and egress to the site.
- Only individuals trained to handle desert tortoises in accordance with Service-approved guidelines shall be authorized to handle desert tortoises, unless they are in imminent danger. Tortoises shall not be placed on private lands or lands under management by an agency other than BLM, without written permission of the landowner or agency.
- The boundaries of project areas shall be flagged or marked and all equipment, vehicles, and construction materials will remain within the project site or authorized areas. Staging areas will be located in previously disturbed areas whenever possible. Cross-country travel and travel outside authorized areas will be prohibited.
- Water applied to for dust control shall not be allowed to pool outside desert-tortoise fenced areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.
- The BLM shall ensure that when possible, the project proponent schedules and conducts construction, operation, and maintenance activities within desert tortoise habitat during the less-active season (generally October 31 to March 1) and during periods of reduced desert tortoise activity (typically when ambient temperatures are less than 60 or greater than 95 °F). All vehicles and equipment that are not in areas enclosed by desert tortoise exclusion fencing will stop activities in desert tortoise habitat during rainfall events in the more-active season (generally March 1 to October 31), and if temperatures are above 60 but below 95 °F for more than 7 consecutive days.

7.4. Vegetation

- All cacti and yucca will be avoided or those that are removed will be salvaged and planted back within the right-of-way boundary.
- A restoration plan will be submitted to the BLM and approved prior to authorization.
- Unless otherwise directed by the BLM Botanist, all replanted cacti and yucca must be watered and otherwise maintained for a period of one year. To ensure

successful salvage and transplant, all cactus and yucca must be salvaged using a contractor (or other approved by the BLM Botanist) with at least three years' experience salvaging and maintaining plant materials in the Mojave or Sonoran deserts.

- Should any rare plant species be observed during construction of the proposed project, the BLM Botanist will be contacted for further instruction on minimization and mitigation measures to protect them.

8.0. LIST OF SPECIALISTS CONSULTED AND PREPARERS

Specialists Consulted

Joseph Varner, BLM, Realty Specialist
Lisa Christianson, BLM, Air Resources Specialist
Mark Slaughter, BLM, Wildlife Biologist
Sendi Kalcic, BLM, Wilderness Specialist
John Evans, BLM, Planning and Environmental Coordinator
Krystal Johnson, BLM, Wild Horse and Burro Specialist
Boris Poff, BLM, Hydrologist
Ben Klink, BLM, Rangeland Management Specialist
Kerri-Anne Thorpe, BLM, Realty Specialist
Lori Dee Dukes, BLM, Geologist
Katie Kleinick, BLM, Natural Resource Specialist
Fred Edwards, BLM, Botanist
Chris Linehan, BLM, Outdoor Recreation Planner

Preparers

Erlinda "Nikki" Cantarero, Knight and Leavitt Associates, Field Biologist
Crystal Cogar, Knight and Leavitt Associates, Supervising Biologist
John Ellis, Knight and Leavitt Associates, GIS Specialist
Marisa Musso, Knight and Leavitt Associates, Field Biologist
Bruce Lund, Knight and Leavitt Associates, Field Biologist

9.0 REFERENCES

Clark County Regional Flood Control District (CCRFCD): *Rain Gauge and Flood Zone Information Maps*. 2014. Accessed April 14, 2014 at:
<http://gustfront.ccrfcd.org/ParcelInFloodZone/FloodInfo.htm> and
<http://www.ccrfcd.org/rainfall.htm>.

Interagency Monitoring of Protected Visual Environments (IMPROVE): *IMPROVE and RHR Summary Data*. 2013. Accessed April 17, 2014 at:
http://vista.cira.colostate.edu/improve/Data/IMPROVE/summary_data.htm.

Las Vegas Valley Water District (LVVWD): *2013 Water Quality Report*. 2014. Accessed April 14, 2014 at: <http://www.lvvwd.com/assets/pdf/wqreport.pdf>.

Nachlinger, J. L., and G. A. Reese. 1996. Plant community classification of the Spring Mountains National Recreation Area, Clark and Nye Counties, Nevada. The Nature Conservancy, Northern Nevada Office, Reno. Submitted to USDA Forest Service, Humboldt-Toiyabe National Forest, Spring Mountains National Recreation Area, Las Vegas, Nevada.

Nevada Department of Agriculture. 2006. *Noxious Weed List* at: <http://agri.nv.gov/nwac/PLANT-NoxWeedList.htm>.

Nevada Department of Wildlife. 2014. Response letter to request for information on wildlife resources near Summerlin Detention Basin dated February 27, 2014. On file at K&LA.

State of Nevada Division of Water Resources: *Hydrographic Regions and Basins*. 2013. Access April 14, 2014 at: <http://water.nv.gov/programs/planning/counties/?county=03>.

Stewart, J.H., and Carlson, J.E., 1978, Geologic Map of Nevada: U.S. Geological Survey and Nevada Bureau of Mines and Geology, 1:500,000 (not part of any formal series, printed and distributed by the U.S. Geological Survey, G75163, reprinted, 1981, G81386).

U.S. Census Bureau: State and County QuickFacts. 2014. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, County Business Patterns, Economic Census, Survey of Business Owners, Building Permits, Census of Governments. Last Revised: Thursday, 27-Mar-2014 09:56:22 EDT.

US Fish and Wildlife Service (USFWS). 2010 (a). Birds Protected by the Migratory Bird Treaty Act. List of Migratory Birds. Information available online at: <http://www.fws.gov/migratorybirds/intrnltr/mbta/mbtandx.html>

USFWS. 2010 (b). *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance*.

APPENDIX A: Response letter from NDOW



BRIAN SANDOVAL
Governor

STATE OF NEVADA
DEPARTMENT OF WILDLIFE

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Crystal Cogar
Supervising Biologist
Knight and Leavitt Associates
4105 Wagon Trail Avenue
Las Vegas, Nevada 89118

February 27, 2014

Re: Summerlin South Detention Basin

Dear Ms. Cogar:

I am responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Summerlin South Detention Basin located in Clark County, Nevada. In order to fulfill your request an analysis was performed using the best available data from the NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. No warranty is made by the NDOW as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data. These data should be considered **sensitive** and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

To adequately provide wildlife resource information in the vicinity of the proposed project the NDOW delineated an area of interest that included a four-mile buffer around the project area provided by you (email, February 18, 2014). Wildlife resource data was queried from the NDOW databases based on this area of interest. The results of this analysis are summarized below.

Big Game – There are no known occupied big game distributions in the vicinity of the proposed project area.

Greater Sage-Grouse – There is no known greater sage-grouse habitat in the vicinity of the project area.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, bald eagle, barn owl, burrowing owl, Cooper's hawk, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw-whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and four-mile buffer area. Furthermore, golden eagle and red-tailed hawk have been directly observed in the vicinity of the project area.

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010) we have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are

56 known raptor nest sites within ten miles of the project area. Please refer to Appendix A for further information regarding these nest sites.

Other Wildlife Resources

There have been 50 additional species observed in the vicinity of the project area. Please refer to Appendix B for a list of these species.

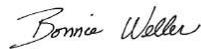
The above information is based on data stored at our Reno Headquarters Office, and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologist at our Southern Region Las Vegas Office (702.486.5127) to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist will facilitate the development of appropriate survey protocols and avoidance or mitigation measures that may be required to address potential impacts to wildlife resources.

Brad Hardenbrook - Southern Region Supervising Habitat Biologist (ext. 3600)

Federally listed Threatened and Endangered species are also under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis please do not hesitate to contact our GIS office at (775) 688-1565.

Sincerely,



Bonnie Weller
GIS Specialist/Biologist III

Appendix A: Raptor Nests

Probable Use	Last Check	Last Active	Township/Range/Section
Accipiter/Buteo	6/26/1993		21 0220S 0580E 003
Accipiter/Buteo	1/1/1998		21 0220S 0590E 007
Accipiter/Buteo	7/18/1981	7/18/1981	21 0220S 0590E 007
Accipiter/Buteo	6/26/1993	6/26/1993	21 0220S 0580E 003
Burrowing Owl	5/22/1997	5/22/1997	21 0220S 0610E 021
Buteo	6/26/1993		21 0220S 0590E 012
Buteo	7/10/1993		21 0210S 0580E 013
Buteo	1/1/1987	1/1/1987	21 0230S 0580E 002
Buteo	1/1/1991	1/1/1991	21 0210S 0590E 036
Buteo	6/27/1993	6/27/1993	21 0220S 0590E 017
Buteo	7/3/1993	7/3/1993	21 0200S 0590E 031
Buteo	5/3/2011	5/3/2011	21 0230S 0600E 007
Buteo/Corvid	5/3/2011		21 0230S 0590E 024
Buteo/Corvid	5/3/2011		21 0210S 0590E 028
Buteo/Corvid	5/3/2011		21 0230S 0590E 024
Buteo/Corvid	5/3/2011		21 0230S 0590E 024
Buteo/Corvid	5/3/2011		21 0230S 0590E 024
Buteo/Corvid	5/3/2011		21 0220S 0590E 017
Buteo/Corvid	5/3/2011		21 0220S 0590E 008
Buteo/Corvid	5/3/2011		21 0230S 0590E 024
Buteo/Corvid	5/3/2011	5/3/2011	21 0210S 0590E 033
Eagle	7/25/1993		21 0220S 0580E 022
Eagle	5/12/2009		21 0230S 0600E 007
Eagle	5/3/2011		21 0230S 0580E 012
Eagle	5/3/2011		21 0230S 0590E 006
Eagle	5/3/2011		21 0230S 0600E 007
Eagle	5/3/2011		21 0230S 0600E 007
Eagle	5/3/2011		21 0230S 0600E 006
Eagle	5/3/2011		21 0220S 0590E 005
Eagle	5/3/2011		21 0230S 0600E 007
Eagle	5/3/2011		21 0230S 0600E 007
Eagle	5/3/2011	5/22/1993	21 0230S 0600E 007
Eagle/Buteo	5/3/2011		21 0230S 0600E 007
Eagle/Buteo	5/3/2011		21 0230S 0590E 020
Eagle/Buteo	5/3/2011		21 0210S 0590E 028
Eagle/Buteo	5/3/2011		21 0230S 0580E 012
Eagle/Buteo	5/3/2011		21 0230S 0600E 007
Falcon	1/1/1977		21 0210S 0590E 012
Falcon	5/23/1982	5/23/1982	21 0230S 0590E 013
Falcon	4/1/1993	1/1/1990	21 0220S 0590E 001
Falcon	5/22/1993	5/22/1993	21 0230S 0600E 006
Falcon	6/26/1993	6/26/1993	21 0220S 0580E 003
Falcon	7/4/2012	7/4/2012	21 0230S 0600E 007
Falcon	7/6/2012	7/6/2012	21 0220S 0590E 008
Falcon	7/7/2012	7/7/2012	21 0200S 0580E 036
Owl	6/26/1993	6/26/1993	21 0220S 0580E 003
Unknown	5/7/2004		21 0220S 0590E 001
Unknown	5/7/2004		21 0230S 0600E 007

Unknown	5/7/2008	21 0220S 0580E 028
Unknown	5/12/2009	21 0230S 0600E 006
Unknown	5/12/2009	21 0230S 0580E 013
Unknown	5/12/2009	21 0230S 0590E 024
Unknown	5/12/2009	21 0230S 0600E 007
Unknown	5/12/2009	21 0230S 0590E 013
Unknown	5/12/2009	21 0230S 0590E 024
Unknown	5/12/2009	21 0230S 0590E 024

Appendix B: Other Wildlife Occurrences

Common Name	ESA	State	SWAP_SoCP
big brown bat			
black-throated gray warbler			
bustit			
California kingsnake			
California myotis			
canyon bat			
chipping sparrow			
common chuckwalla			Yes
common side-blotched lizard			
desert banded gecko			Yes
desert horned lizard			Yes
desert night lizard			Yes
desert pocket mouse			Yes
desert tortoise	Threatened	Threatened	Yes
flycatcher (unknown)			
glossy snake			
golden-crowned kinglet			
gophersnake			
gray flycatcher			
gray vireo			
Great Basin collared lizard			Yes
Great Basin fence lizard			
Great Basin gophersnake			
juniper titmouse			
kit fox			
lesser goldfinch			
Lincoln's sparrow			
long-nosed leopard lizard			Yes
Mojave Desert sidewinder			Yes
Mojave rattlesnake			
Nevada side-blotched lizard			
northern desert iguana			Yes
northern desert nightsnake			
northern sagebrush lizard			
northern zebra-tailed lizard			
Oregon junco			
phainopepla			
plumbeous vireo			
ruby-crowned kinglet			
spotted towhee			
Townsend's solitaire			
Townsend's warbler			
Virginia's warbler			Yes
warbling vireo			
western banded gecko			Yes
western scrub-jay			
white-breasted nuthatch			
Wilson's warbler			

yellow-backed spiny lizard
zebra-tailed lizard

ESA: Endangered Species Act Status
State: State of Nevada Special Status
SWAP_SoCP: Nevada State Wildlife Action Plan (2012) Species of Conservation Priority