

CHAPTER THREE

AFFECTED ENVIRONMENT

Pursuant to FAA Order 1050.1E, Chapter 4, Paragraph 405e, *Affected Environment*, this chapter identifies or highlights any important background material that may help to explain the Proposed Action. This may include, but is not limited to, characteristics of the local setting and surrounding areas, topography, social or socioeconomic profiles, and other such activities that the considered alternative(s) may effect. The discussions are presented under the following categories:

- 3.1 McCarran International Airport
- 3.2 Study Area
- 3.3 Climate and Topography
- 3.4 Public Lands
- 3.5 Biological and Natural Resources
- 3.6 Historic, Architectural, Archaeological, and Cultural Resources
- 3.7 Land Use
- 3.8 Governmental and Political Jurisdictions
- 3.9 Socioeconomic Profile

The impacts of the Proposed Action on these resource categories are described in **Chapter Four, Environmental Consequences**.

3.1 MCCARRAN INTERNATIONAL AIRPORT

McCarran International Airport (LAS) is part of the Clark County Airport System, publicly owned by Clark County, Nevada and is operated under the authority of the Board of County Commissioners.

3.1.1 Airport Setting and Location

McCarran International Airport (LAS) is located in Clark County, Nevada approximately five miles south of the City of Las Vegas at an elevation of 2,181 feet above mean sea level (MSL).¹ See **Exhibit 3.1** for a location and vicinity map.

There are four public access roads into the airport, 1) Paradise Road provides access from the north; 2) Russell Road provides access from the west; 3) Tropicana Blvd, provides access from the east; and 4) I-215 connector and tunnel provides access from the south.

¹ McCarran International Airport Facilities. On-line at:
http://www.mccarran.com/04_01_Whoware.asp/. 2003.

3.1.2 Airport Facilities

McCarran International Airport (LAS) is primarily a commercial-service airport, with approximately 67 percent of its operations in 2004 categorized as air carrier and 19 percent of its 2004 operations categorized as air taxi, for a total of 86 percent of the total operations at LAS in 2004. Itinerant and local general aviation and military operations accounted for the remaining 14 percent of operations in 2004.²

There are 96 aircraft gates at LAS in two separate terminal buildings. Terminal One, the Main Terminal is used exclusively for commercial aviation and has 88 gates spread over four concourses (labeled A through D), while Terminal 2 has eight gates that are used for charter aviation and international travel. The first level of Terminal One is designated for baggage claim, ticketing and ground transportation and the second level provides shopping, restaurants, and access to all gates via concourses A, B, C and D. In Terminal 2, there is the U.S. Customs Service, U.S. Immigration, and the U.S. Department of Agriculture. The west side of the airport is used for general aviation and the east side of the airport is used for cargo operations.³

The airfield property at LAS encompasses 2,800 acres. There are two sets of parallel runways at the airport, for a total of four runways. The runways are oriented northeast-southwest and north-south. Runway 25R/7L measures 14,510 feet, while Runway 25L/7R measures 10,526 feet. Runway 19L/1R measures 9,775 feet, while Runway 19R/1L measures 8,985 feet.⁴

Exhibit 3.2 shows the current Airport Layout Plan (ALP) for McCarran International Airport.

3.1.2.1 Current Airport Development Projects

The following airport development projects are either currently underway at LAS or have recently been approved.⁵

Interior Remodel of Terminal 1, Concourse A and B Gates

The renovation and remodeling of the Concourse A and B Gates in Terminal 1 began in 2002. Ongoing projects include installation of new carpeting and windows, as well as the replacement of aging jet bridges.

² 2004 FAA Control Tower Operations, McCarran International Airport, Clark County Department of Aviation. On-line at: <http://cms.mccarran.com/dsweb/Get/Document-77923/FAA+Tower+Operations+2004.pdf/>. February 10, 2005.

³ McCarran International Airport Guide. On-line at: <http://www.mccarran.com/airportguide.asp/>. 2005.

⁴ McCarran International Airport Facilities. On-line at: http://www.mccarran.com/04_01_Whowere.asp/. 2003.

⁵ Information provided by Clark County Department of Aviation, based on *Airport Capital Improvement Program (ACIP) – 2006-2010*. June 2005.

Northwest Extension of Concourse D

The environmental review process has been completed and construction is scheduled to begin in 2005 on the extension of Concourse D to the northwest. Concourse D is to be extended from the rotunda area. This extension would replace six gates from Concourses A and B in Terminal 1 that have been permanently removed from service in order to accommodate required Transportation Security Administration (TSA) facilities.

Pavement Renovation of Runway 1R/19L and Associated Taxiway and Taxiway D

Runway 1R/19L is being renovated to replace the 1974 concrete. This project also encompasses Taxiway D and will be completed in five phases. Phase 1 began in May 2005. Phase 2 of the project began in Oct. 2005 and is currently underway. The estimated completion date for pavement renovation of the entire runway and taxiway is May 2007.

Ramp and Taxiway/Runway Complex Reconstruction

This airport development project involves maintenance required for the Runway 7L/25R and associated ramp and taxiways to remain in service. In addition, Runway 7L/25R is to be repaved. Reconstruction is anticipated to be complete by 2007. Re-pavement of Runway 7L/25R is scheduled to begin in 2008.

Security Fence Upgrade

Fencing surrounding the Airport Operations Area (AOA) is to be upgraded. Construction is estimated to begin in 2005.

3.1.2.2 Planned Future Airport Development Projects

The following LAS airport development projects are either currently undergoing the environmental review process or are planned to be pursued in the future by the Clark County Department of Aviation (CCDOA).⁶

Concourse B/C Connector and Security Annex

The planned Security Annex project would involve the expansion of existing security checkpoint facilities with the installation of twelve new security processing stations designed to serve Concourses A, B, and C. In conjunction with the Security Annex, the planned construction of a pedestrian connector between Concourses B and C would reduce wait times for passengers passing through Concourse C security facilities and would also allow Southwest Airlines' passengers (at Concourse C) to access Concourse B gates without having to exit the secure area at Concourse C and then be reprocessed through security at the entrance to Concourse B. This

⁶ Information provided by Clark County Department of Aviation, based on *Airport Capital Improvement Program (ACIP) – 2006-2010*. June 2005.

Concourse B/C connector project would also include the construction of one replacement gate and additional concession facilities. If approved, construction would begin in 2005.

Consolidated Rental Car Facility

The Consolidated Rental Car Facility would be a newly-constructed facility designed to house all existing and future on-airport car rental companies. Existing car rental facilities at LAS would be converted to remote long-term airport parking areas. The existing remote long-term parking areas would be removed to allow for the construction of Terminal 3.

Maintenance Building

This planned project involves the construction of a maintenance building to house offices for Clark County Department of Aviation maintenance personnel, as well as maintenance equipment. If approved, planning and construction would begin in late 2005.

McCarran Marketplace

The planned development of the McCarran Marketplace would involve the development of 160 acres of vacant land on the east side of LAS near the intersection of Russell Road and Burnham Avenue. Of the 160 total acres, 80 acres would be developed for commercial retail purposes and the remaining 80 acres would be developed for remote overnight aircraft parking. If approved, construction would begin in late 2005.

North Access Road Realignment

This planned project calls for the realignment of the inbound north access road (also known as Paradise Road) in order to provide for a circulation connector from northbound Swenson Street. The purpose of this planned realignment is to improve vehicular traffic flows to and from LAS. If approved, construction would begin in 2006.

Northwest Hangar Area and Remote Overnight Aircraft Parking Development

The planned Northwest Hangar Area would include three main hangar facilities and a ramp area to be constructed at the northwest side of LAS on currently undeveloped land. The purpose of this planned development project would be to accommodate existing general aviation aircraft that are currently parking on existing ramp areas. Parking would be available to aircraft currently serving Terminals 1 and 2, with the exception of Concourse D. If approved, construction is estimated to begin in mid to late 2005.

Parking Garage and Economy Parking Lots

The planned parking garage facility would be constructed on an existing parking lot that currently serves Clark County Department of Aviation employees. In conjunction, a surface lot would be constructed north of the East Side Fuel Farm along Paradise Road and Swenson Street. If approved, construction would begin in late 2006 or early 2007.

Pavement Reconstruction of Runway 1L/19R

The reconstruction of Runway 1L/19R and its associated taxiways (an area of approximately 3 million square feet) is involved in this planned project. If approved, construction would begin in 2010.

Pavement Rehabilitation of Concourse C

This planned project involves the rehabilitation and reconstruction of 1.7 million square feet the terminal apron at Concourse C. The current asphalt pavement of the Concourse C terminal apron would be replaced with cement. If approved, this project would begin construction in 2008.

Relocation of FAA Air Traffic Control Tower

Due to the age, size, height, and location of the existing Air Traffic Control Tower (ATCT), the FAA proposes to replace this tower with a new facility to be built west of Kelly Lane near the proposed site of Terminal 3 at LAS. If approved, construction is estimated to begin in 2006.

South Access Roadway Realignment

Elements of this planned project include using the unutilized center section of the South Access Roadway tunnel for northbound vehicular traffic heading toward Terminal 1, which would enable traffic to the planned Terminal 3 to be separated prior to entering the tunnel, thereby improving traffic flow. This planned realignment would also improve airport egress to the north on Swenson Street. If approved, construction would begin in early 2006.

Taxiway A Pavement Reconstruction

This planned project involves the replacement of asphalt pavement with cement on Taxiway A. If approved, construction would begin in 2007.

Terminal 1 – Baggage Claim Remodel and Expansion

In order to accommodate additional passenger demand, this planned project would remodel and expand the existing baggage claim area in Terminal 1. If approved, this project would begin in late 2006.

Terminal 1 and Cluster Building 2 – Apron Reconstruction

This planned project would rehabilitate the existing aircraft parking apron at Terminal 1 and at Cluster Building 2. If approved, this project would begin in 2008.

Terminal 3 Construction

As part of the Clark County Department of Aviation's overall plan for long-term passenger terminal development at LAS, a second major terminal building that would be designated Terminal 3 would be constructed along Russell Road. The proposed Terminal 3 would provide additional landside passenger processing capability, including ticketing, baggage claim, concessions, passenger services, Federal Inspection Services facilities, access and curbside roadways, and vehicular parking facilities for 14 new frontal aircraft gates. In addition, Terminal 3 would be able to provide redundant landside support for up to 26 gates located in Concourse D via a new underground automated transportation service connecting the two facilities. The proposed Terminal 3 would be approximately 2,750 feet long and 350 feet wide at the baggage claim level and would contain a total of approximately 2,200,000 square feet of new floor area on four levels, including approximately 190,000 square yards of adjacent new aircraft parking and taxiing apron. The proposed Terminal 3 would be accessed via a two-level curbside roadway. A new parking garage would also be developed, with provisions for long-term and short-term passenger parking, as well as airport employee parking. A pedestrian bridge would be developed to allow both arriving and departing passengers to access the parking facilities without having to traverse vehicular roadways.⁷

3.1.3 Air Traffic Control Environment

The *Federal Aviation Administration Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the United States. The Air Traffic Organization (ATO) of the FAA was created in February 2004 through the combination of the once separate FAA Divisions of Research and Acquisitions, Air Traffic Services, and Free Flight.⁸ The primary service of the ATO is to ensure the safe movement of commercial, general aviation, and military air traffic safely and efficiently through the National Airspace System (NAS). The employees of the ATO are the service providers (i.e. controllers, technicians, engineers, and support personnel) who comprise the following 10 service units:

- Safety
- Communications
- Operations Planning
- Finance

⁷ *Draft Environmental Assessment for the Construction of Terminal 3 at McCarran International Airport*. Prepared by Ricondo and Associates. March 2003.

⁸ *The Air Traffic Organization*, Federal Aviation Administration. On-line at <http://ato.faa.gov/>. Retrieved November 18, 2004.

- Acquisition and Business Services
- En Route and Oceanic Services
- Terminal Services
- Flight Services
- System Operations Services
- Technical Operations Services

The ATO manages civil and military air traffic in the navigable airspace through the development and recommendation of national policies and the establishment of national programs, regulations, standards, and procedures for management of the airspace, operation of air navigation and communications systems and facilities, and separation and control of, and flight assistance to, air traffic. The following air traffic facilities are managed by the Air Traffic Organization:

- Air Traffic Control System Command Center (ATCSCC)
- Air Route Traffic Control Centers (ARTCC)
- Terminal Radar Approach Control (TRACON) facilities
- Flight Service Stations (FSS) and Automated Flight Service Stations (AFSS), including Alaskan Rotational Flight Service Stations
- Airport Traffic Control Towers (ATCT)
- Radar Approach Control (RAPCON) facilities
- Combined Center/Radar Approach Control (CERAP) facilities.

Aircraft operating at LAS are managed by the Las Vegas Terminal Area Control Center (TRACON), the Las Vegas Air Traffic Control Tower, and the Los Angeles Air Route Traffic Control Center (ARTCC). See **Sections 3.1.3.1 through 3.1.3.4** for descriptions of these facilities.

3.1.3.1 Air Route Traffic Control Center (ARTCC)

ARTCC facilities are established primarily to provide air traffic service to aircraft operating on Instrument Flight Rules (IFR) flight plans within controlled airspace, and principally during the enroute phase of flight. Each ARTCC manages traffic within all sectors of its airspace except for TRACON airspace and local-airport airspace.

Airspace in the United States is divided into twenty-one ARTCCs that control air traffic from the surface to the highest altitudes of aircraft operation. The airspace area delegated to an ARTCC may encompass an entire state or portions of several states. Within the ARTCC boundary are smaller geographical and vertical blocks of airspace identified as sectors. The size and shape of a sector is dependant on the type of operations conducted within the sector airspace. It may include arrivals and departures from one or more airports, or it may include predominantly enroute operations. The Los Angeles ARTCC (ZLA) is the ARTCC serving the Las Vegas Valley. **Exhibit 3.3** depicts the general division of ARTCC airspace in the United States.

3.1.3.2 Terminal Area Control Center (TRACON)

A TRACON handles departing and approaching aircraft within its airspace, which typically covers a 30-mile radius from an airport. A TRACON's airspace may contain a number of airports, each of which also has its own airspace. Similar to an ARTCC, the TRACON's airspace is divided into sectors. Sectors within the TRACON may be dedicated to providing service to arriving aircraft, departing aircraft at one or more airports, as well as aircraft flying through the TRACON airspace.

The movement of aircraft through the various TRACON sectors of U.S. airspace is much like players moving through a "zone" defense that a basketball or football team might use. As an aircraft travels through a given sector, it is monitored by one or more air traffic controllers responsible for that sector. The controllers monitor this flight and give instructions to the pilot. As the flight exits one airspace sector and enters another, the air traffic controller hands the pilot off to the controllers responsible for the new sector.

Likewise, as a pilot approaches the intended airport destination, the ARTCC will hand off the pilot to the airport's Approach Control, as appropriate. Similarly, at airports with Departure Control, such controllers will hand off the pilot to the TRACON as the departing aircraft leaves that airport's airspace. The Las Vegas TRACON controllers provide air traffic control services to aircraft operating at LAS, Henderson Executive, and North Las Vegas Airports, as well as coordinating operations within their airspace with the Nellis Air Force Base control facility directly to the north (see **Section 1.4.2.1, Proximity to Nellis Air Force Base**, for additional information).

3.1.3.3 Airport Traffic Control Tower (ATCT)

Air traffic controllers, stationed at an ATCT, coordinate all takeoffs, landings, and ground operations that occur at the airport, providing a safe, orderly, and expeditious traffic flow on the airport and in the immediate vicinity of the airport. The LAS ATCT authorizes aircraft to land or takeoff and is responsible for aircraft as they taxi to and from runways. The LAS ATCT is also responsible for controlling vehicles on the airport's taxiways and runways. The ATCT controls aircraft within an approximate five nautical mile (NM) radius around the airport in an area that extends from the surface to approximately 3,000 feet MSL (819 feet AGL at LAS).

3.1.3.4 Flight Service Station (FSS)

Flight Service Stations (FSS) are air traffic facilities that provide pilot briefings, enroute communications, and Visual Flight Rules (VFR) search and rescue services. Personnel at an FSS are also trained to assist lost aircraft and aircraft in emergency situations; relay ATC clearances; originate Notices to Airmen (NOTAMS); broadcast aviation weather and National Airspace System information; receive, process, and close IFR flight plans; and monitor navigational aids (NAVAIDs). In addition select FSS locations provide En Route Flight Advisory Service (Flight Watch), weather observations, issue airport advisories, and advise Customs and Immigration of

trans-border flights.⁹ LAS is served by the Reno Flight Service Station, which is located on the airfield of the Reno-Tahoe International Airport.

3.1.3.5 IFR and VFR Traffic

Pilots of commercial air carrier flights operate under IFR at all times. Although it was specifically designed to allow pilots to operate in low visibility conditions, the positive ATC control features of an IFR flight plan make it a safe and efficient method of navigation during all weather conditions. General aviation pilots also have the option of flying under IFR if the pilot is instrument-rated and the aircraft is equipped with the proper navigation equipment.

Pilots operating under VFR are not required to file flight plans, although the service is available. Flight Following, a radar service for VFR pilots is available, but is not mandatory for VFR operations. No legal requirements exist for the FAA to track or record the locations of VFR traffic. Therefore, VFR flights are typically not tracked by radar and there is no documentation of their flight patterns.

3.1.4 Airspace

The FAA has established the National Airspace System (NAS) to protect persons and property on the ground and to establish a safe and efficient airspace environment for civil, commercial, and military aviation. The NAS covers the common network of U.S. airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations and procedures; technical information; personnel and material. The system also includes components shared jointly with the military.

There are two categories of airspace or airspace areas in the United States. The first is Regulatory, which includes Class A, B, C, D, and E airspace areas; Restricted Areas; and Prohibited Areas. The second category is Non-Regulatory, which includes Military Operations Areas (MOA), Warning areas, Alert areas, and Controlled Firing areas. Within these two categories of airspace, there are four types of airspace: Controlled, Uncontrolled, Special use, and Other. The categories and types of airspace are dictated by the complexity or density of aircraft movements, the type of the operations conducted within the airspace, the level of safety required for those operations, and national and public interest.¹⁰

⁹ Aeronautical Information Manual, *Section 4-1-3, Flight Service Stations*. U.S. Department of Transportation. 2004.

¹⁰ *Aeronautical Information Manual (AIM). Chapter 3, Airspace*. Federal Aviation Administration. August 5, 2004.

3.1.4.1 Controlled Airspace

Controlled Airspace is a generic term that covers the different classifications of airspace (Class A, Class B, Class C, Class D, and Class E airspace) in the United States. The hierarchy of U.S. controlled airspace begins at Class A and continues through Class E. Airspace classifications define dimensions within which varying degrees of air traffic control services are provided to aircraft, as well as the varying aircraft equipment, pilot experience, and pilot responsibilities required to operate within the airspace. **Figure 3.1** provides a graphic comparison of the shape and size of each airspace classification.

Class A airspace begins at 18,000 feet above mean sea level (MSL) and extends to 60,000 feet MSL throughout the U.S. and 12 nautical miles off the coast. All aircraft must operate under IFR within Class A airspace.

Class B airspace is designated around the nation's busiest airports. It generally begins at the surface and extends to 10,000 feet MSL and covers a 30-nautical mile radius, although the specific configuration is individually tailored to each airport. The airspace at LAS is designated as Class B, as shown on **Exhibit 3.4, Las Vegas Class B Airspace**.

Class C airspace is generally defined around airports with an airport traffic control tower. Class D airspace is generally defined around smaller airports with airport traffic control towers. Class E airspace is controlled airspace that is not designated as Class A, B, C, or D.

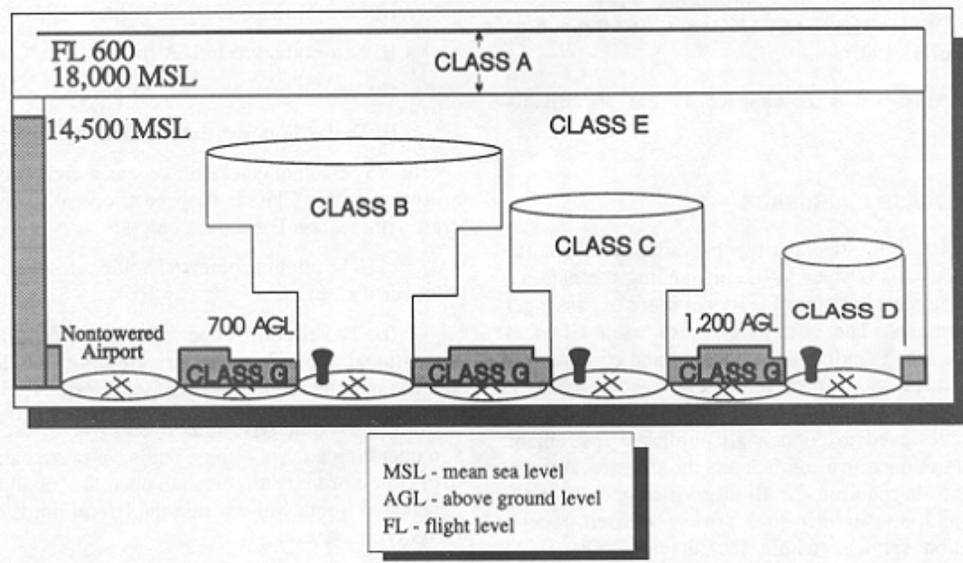


FIGURE 3.1
AIRSPACE CLASSIFICATIONS

3.1.4.2 Uncontrolled Airspace

Uncontrolled airspace is designated as Class G and includes all airspace not otherwise designated as controlled airspace (i.e. Class A, Class B, Class C, Class D, or Class E). Although there are no official communication requirements or minimum aircraft equipment requirements for operation in Class G airspace, VFR pilots must maintain minimum cloud clearances as described in Federal Aviation Regulations.

3.1.5 Area Airports

There are five additional airports located within the boundary of the LAS Class B airspace. These surrounding airports include four civilian airports, 1) Henderson Executive Airport, 2) North Las Vegas Airport, 3) Boulder City Airport, 4) Jean Airport; and one military facility, 1) Nellis Air Force Base. Two of these facilities, North Las Vegas Airport and Nellis Air Force Base, are located within the Study Area for the Proposed Action and are further described in **Sections 3.1.5.1 and 3.1.5.2** of this chapter. See **Exhibit 1.1, Study Area**, for the location of these surrounding airports and their proximity to LAS.

3.1.5.1 North Las Vegas Airport (VGT)

North Las Vegas Airport, located approximately six miles northwest of downtown Las Vegas at an elevation of 2,205 feet, caters primarily to the general aviation community. North Las Vegas is the second busiest airport in Nevada with more than 230,000 operations annually. The airport has three runways. Runway 7/25 is 5,004 feet in length, Runway 12R/30L is 5,000 feet in length, and Runway 12L/30R is 4,000 feet in length. Global Positioning System (GPS) approaches are available to Runways 12R and 30L. The Airport Traffic Control Tower is manned from 6:00 AM through 9:00 PM., daily. There are 604 aircraft based at the field and an average of 617 operations per day.^{11, 12}

3.1.5.2 Nellis Air Force Base, NV (LSV)

Nellis Air Force Base is the centerpiece of air combat training for the United States Air Force (USAF) and is home to the Air Warfare Center, the largest and most advanced air combat training center in the world. It is an integral part of the USAF's Air Combat Command Center and is known as the "Home of the Fighter Pilot." Aircraft in operation at the base include the A-10, F-15, F-16, RQ-1A Predator UAV, and HH-60 helicopters.¹³

Approximately 10,000 military and civilian personnel are included in the work force at Nellis Air Force Base, making it one of the largest employers in southern Nevada. Nellis Air Force Base is located in Clark County, Nevada, eight miles northeast of Las Vegas at an estimated elevation of 1,867 feet. The base itself covers 11,000 acres.

¹¹ North Las Vegas Airport. On-line at: <http://www.mccarran.com/>. 2003.

¹² North Las Vegas Airport. On-line at: <http://www.airnav.com/airport/KVGT/>. July 7, 2005.

¹³ Nellis Air Force Base. On-line at: <http://www.nellis.af.mil/home.htm/>. August 16, 2005.

The restricted ranges used and managed by the base total over 5,000 square miles.¹⁴ An airspace area spanning 7,700 square miles north and east of the restricted ranges is available for military flight operations. Two parallel runways are located at Nellis Air Force Base. Runway 3L/21R measures 10,123 feet in length and Runway 3R/21L measures 10,055 feet. An Instrument Landing System approach to Runway 21L and Tactical Air Navigation approaches to Runways 21L and 3R are available.¹⁵

3.2 STUDY AREA

As previously described in **Section 1.3.1, Study Area for the Proposed Action**, for the purpose of this Supplemental Environmental Assessment, the Study Area (or Area of Potential Effect), that encompasses the modification to the STAAV RNAV SID for Runway 25 departures, begins at the western end of Runway 25 of McCarran International Airport and continues on a five mile radius through the west, northwest, and northeast quadrants encompassing airspace also currently used for aircraft operations from North Las Vegas Airport and Nellis Air Force Base. The Study Area encompasses airspace beginning at ground level and extending upward to 10,000 feet Above Ground Level (AGL). The STAAV RNAV departure from Runway 25 currently departs and continues to a point approximately four miles west of the airport, and then turns right. To account for any aircraft navigational equipment that might facilitate a slightly wider turn radius, the width of the Study Area as extended to consist of a five mile radius. See **Exhibit 1.1** for the Study Area associated with the Proposed Action.

During this projects scoping process, several Federal agencies requested that the study area be expanded to include public lands beyond the original identified Study Area. Therefore, the document has been prepared to include an Expanded Area that extends from the 10,000 foot AGL point to the outer limits of the Las Vegas Terminal Radar Approach Control (TRACON), a distance of approximately 40 Nautical Miles (NM). This Expanded Area is shown as a dashed line to indicate the flight paths for the Proposed Action. For the purposes of this document, a full environmental analysis will only be conducted within the Study Area, beginning at ground level and extending up to 10,000 feet Above Ground Level (AGL). The Expanded Area (dashed-line areas) will only analyze potential environmental impacts upon public lands. See **Exhibit 1.1** for the Expanded Area associated with the Proposed Action.

¹⁴ Nellis Air Force Base. On-line at: <http://www.nellis.af.mil/home.htm/>. August 16, 2005.

¹⁵ Nellis Air Force Base. On-line at: <http://www.nellis.af.mil/home.htm/>. August 16, 2005.

3.3 CLIMATE AND TOPOGRAPHY

3.3.1 Climate in the Las Vegas Area

The four seasons are well defined in Las Vegas, although they differ from the traditional view of seasonal variation. Summers display classic desert southwest characteristics with daily high temperatures typically exceeding 100 degrees and lows in the 70 to 80 degree range. Relative humidity in the summer is typically low, but it is not uncommon for humidity to increase markedly for several weeks each summer in association with a moist monsoonal flow from the south, typically during July and August, which is frequently associated with thunderstorms, significant flash flooding, and/or strong downburst winds.¹⁶

Winters are typically mild with average afternoon temperatures near 60 degrees and mostly-clear skies. Pacific storms occasionally produce rainfall in Las Vegas, but in general, the Sierra Nevada Mountains of eastern California and the Spring Mountains immediately west of the Las Vegas Valley act as effective barriers to moisture. While snowfall is rather common in the mountains surrounding Las Vegas (the Spring Mountains receive 5 to 10 feet annually), snow accumulation is rare in the City of Las Vegas. An inch or more of accumulation occurs only once every four to five years. Freezing temperatures, however, do occur regularly each year with a 30-year average of 24 days with low temperatures at or below 32 degrees.¹⁷ The spring and fall seasons are generally considered ideal, despite the rather sharp temperature changes and persistent strong winds that can occur during these months. Such wind events often generate widespread areas of blowing dust and sand. The prevailing wind direction in the Las Vegas area is typically either southwest or north, unless associated with a thunderstorm outflow.¹⁸

3.3.2 Topography in the Las Vegas Area

The prehistoric landscape of what is now the Las Vegas Valley and most of Southern Nevada was a virtual marsh of abundant water and vegetation. Over the course of hundreds of thousands of years, rivers that were present sank into the ground and the marsh receded. The valley evolved into a parched, arid landscape that only supported the hardiest of animals and plants. At some point in the valley's geologic history, the water that had been submerged below the terrain sporadically resurfaced and flowed into what is now the Colorado River. This helped support plant life, creating a wetland oasis in the Mojave Desert landscape.¹⁹ As shown in

¹⁶ *Climate of Las Vegas, Nevada*. National Oceanic and Atmospheric Administration, National Weather Service Forecast Office. On-line at <http://www.wrh.noaa.gov/vef/climate/page1.php/>. February 26, 2005.

¹⁷ *Climate of Las Vegas, Nevada*. National Oceanic and Atmospheric Administration, National Weather Service Forecast Office. On-line at <http://www.wrh.noaa.gov/vef/climate/page1.php/>. February 26, 2005.

¹⁸ *Climate of Las Vegas, Nevada*. National Oceanic and Atmospheric Administration, National Weather Service Forecast Office. On-line at <http://www.wrh.noaa.gov/vef/climate/page1.php/>. February 26, 2005.

¹⁹ *Las Vegas History*. Wikipedia Encyclopedia. On-line at

Exhibit 3.5, Topography in the Las Vegas Area, the area in which the City of Las Vegas is located is a broad desert valley in extreme southern Nevada. The mountains that surround the valley extend 2,000 to 10,000 feet above the valley floor. The Las Vegas valley comprises about 600 square miles and runs from northwest to southeast. The valley is bounded on the north by the Sheep Range, while Boulder City and the Lake Mead National Recreation Area are generally considered its southern extent. To the west are the Spring Mountains, which include Mt. Charleston, the region's highest peak at 11,918 feet. Several smaller ranges line the eastern rim of the valley, including the Sunrise Mountains, the Muddy Mountains, the Black Mountains, and the Frenchman Mountains.²⁰

3.4 PUBLIC LANDS

Public lands in the United States fall under several different designations and are managed by various lead agencies. There are 107 public lands located partially or wholly within the Study Area for the Proposed Action, as listed in **Table 3.1** and shown on **Exhibit 3.6, Public Lands**. Of these 107 public lands, one is a National Recreation Area, one is a National Historic Trail, three are Wilderness Areas, one is an Instant Study Area, one is a Native American Reservation, one is a Nevada State Park, 47 are Clark County Parks (including a wetlands park and nature preserve), and 52 are City Parks. Lead agencies for these properties include the Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), the National Park Service (NPS), the State of Nevada, Clark County, Nevada, and the Nevada cities of Las Vegas and North Las Vegas.

Public lands are protected for the conservation of natural resources, the protection of historic sites, and the provision of outdoor recreational opportunities. Most public lands are protected to provide for public enjoyment in such a way that will leave resources unimpaired for the enjoyment of future generations. Some public lands are also set aside for economic uses and can be administered under the concept of multiple use management, which balances economic activities such as grazing, logging, and mining with recreational uses of the land. This is also true of both national and state-level public lands.

Some state-owned public lands are managed to produce revenue that supports specific governmental services. In Nevada, the Division of State Lands manages state trust lands. Trust lands in Nevada generate revenue for beneficiaries by being sold or leased for long-term uses such as mining, telecommunication towers, commercial and industrial enterprises, cabin sites, farming, the establishment of residential developments, roads, pipelines, power-lines, and other types of

http://en.wikipedia.org/wiki/Las_Vegas_history/. August 26, 2005.

²⁰ *Climate of Las Vegas, Nevada*. National Oceanic and Atmospheric Administration, National Weather Service Forecast Office. On-line at <http://www.wrh.noaa.gov/vef/climate/page1.php/>. February 26, 2005.

transmission lines, and short-term uses such as filming movies and commercials and other organized events such cross-country races.²¹

**TABLE 3.1
PUBLIC LANDS IN THE STUDY AREA FOR THE PROPOSED ACTION**

Type of Public Land	Name	Lead Agency	Location ID on Exhibit 3.6, Public Lands
Wilderness Area ^{1/}	Jimbilnan Wilderness Area	National Park Service	Labeled by name
	Muddy Mountains Wilderness Area	Bureau of Land Management	Labeled by name
	Pinto Valley Wilderness Area	National Park Service	Labeled by name
Instant Study Area ^{1/}	Sunrise Mountain Instant Study Area (ISA)	Bureau of Land Management	Labeled by name
National Recreation Area ^{2/}	Lake Mead National Recreation Area	National Park Service	Labeled by name
National Historic Trail ^{3/}	Old Spanish National Historic Trail	National Park Service	Labeled by name
Native American Reservation ^{4/}	Las Vegas Paiute Reservation	Bureau of Indian Affairs	Labeled by name
Nevada State Park ^{5/}	Old Las Vegas Mormon State Historic Park	State of Nevada	Labeled by name
Clark County Wetlands Park and Nature Preserve ^{6/}	Clark County Wetlands Park and Nature Preserve	Clark County, Nevada	Labeled by name
Clark County Parks and Recreational Facilities ^{7/}	Alexander Villas Park	Clark County, Nevada	1 (blue)
	Cambridge Recreation Center		2 (blue)
	Casar E. Chavez Park		3 (blue)
	Cashman School Park		4 (blue)
	Clark County Amphitheater		5 (blue)
	Community Park		6 (blue)
	Cora Coleman Senior Center		7 (blue)
	Davis Park		8 (blue)
	Desert Breeze Park & Center		9 (blue)
	Desert Inn Mobile Estates Park		10 (blue)
	Dog Fancier's/Horseman's Park		11 (blue)

²¹ Nevada Division of State Lands. On-line at <http://www.lands.nv.gov/>. October 2004.

TABLE 3.1, Continued
PUBLIC LANDS IN THE STUDY AREA FOR THE PROPOSED ACTION

Type of Public Land	Name	Lead Agency	Location ID on Exhibit 3.6, Public Lands
Clark County Parks and Recreational Facilities, Continued ^{7/}	Durango School Park	Clark County, Nevada	12 (blue)
	Eldorado School Park		13 (blue)
	Gardens Park		14 (blue)
	Harmony Park		15 (blue)
	Harney School Park		16 (blue)
	Hollywood Center & Park		17 (blue)
	Joe Shoong Park		18 (blue)
	Laurelwood Park		19 (blue)
	Lewis Family Park		20 (blue)
	Lynnwood Park		21 (blue)
	Magdalena's Family Park		22 (blue)
	Martin Luther King Park		23 (blue)
	Maslow Park		24 (blue)
	Meyer Park & Center		25 (blue)
	Molasky Family Park		26 (blue)
	Mountain View Park		27 (blue)
	Nellis Meadows Park		28 (blue)
	Nevada Trails Park		29 (blue)
	Orr School Park		30 (blue)
	Paradise Park & Center		31 (blue)
	Parkdale Park & Center		32 (blue)
	Potosi Park		33 (blue)
	Prosperity Park		34 (blue)
	Ridge Park		35 (blue)
	Shadow Rock Park		36 (blue)
	Spotted Leaf Park		37 (blue)
Spring Valley Park	38 (blue)		
Sunrise Park & Center	39 (blue)		
Tate School Park	40 (blue)		
Von Tobel Park	41 (blue)		
Walnut Recreation Center	42 (blue)		
West Flamingo Park & Center	43 (blue)		
Willows Park	44 (blue)		
Winchester Park Center Theater	45 (blue)		
Winterwood/Wengert Park	46 (blue)		
City Parks and Recreational Facilities ^{8/}	All American Park	Las Vegas, Nevada	1 (green)
	Angel Park		2 (green)
	AnSan Sister City Park		3 (green)
	Baker Park		4 (green)
	Bob Baskin Park		5 (green)
	Bruce Trent Park		6 (green)
	Centennial Plaza Park		7 (green)

TABLE 3.1, Continued
PUBLIC LANDS IN THE STUDY AREA FOR THE PROPOSED ACTION

Type of Public Land	Name	Lead Agency	Location ID on Exhibit 3.6, Public Lands
City Parks and Recreational Facilities, Continued ^{8/}	Charleston Lion Park	Las Vegas, Nevada	8 (green)
	Chester A. Stupak Park		9 (green)
	Children's Memorial Park		11 (green)
	Coleman Park		13 (green)
	Cragin Park		15 (green)
	Dexter Park		16 (green)
	Doolittle Park		17 (green)
	Ethel Pearson Park		18 (green)
	Fantasy Park		19 (green)
	Firefighters Memorial Park		20 (green)
	Fitzgerald Tot Lot		21 (green)
	Fountain Park		22 (green)
	Frank Wright Plaza		23 (green)
	Freedom Park		24 (green)
	Hadland Park		25 (green)
	Heers Park		27 (green)
	Heritage Park		29 (green)
	Hills Park		30 (green)
	Huntridge Circle Park		31 (green)
	James Gay III Park		32 (green)
	Jaycee Park		33 (green)
	Lions Memorial Park		34 (green)
	Lorenzi Park		35 (green)
	Lubertha Johnson Park		36 (green)
	Mary Dutton Park		37 (green)
	Mike Morgan Family Park		38 (green)
	Pueblo Park		40 (green)
	Rafael Rivera Park		41 (green)
	Rainbow Family Park		42 (green)
	Rotary Park	43 (green)	
	Stewart Place Park	44 (green)	
	Veteran's Memorial Ball Fields	47 (green)	
	Washington/Buffalo Park	49 (green)	
	Wildwood Park	50 (green)	
	Woofter Family Park	52 (green)	
	Cheyenne Ridge Park	North Las Vegas, Nevada	10 (green)
	City View Park		12 (green)
	College Park		14 (green)
	Hartke Park		26 (green)
Herbert Memorial Park	28 (green)		
Pettiti Park		39 (green)	

TABLE 3.1, Continued
PUBLIC LANDS IN THE STUDY AREA FOR THE PROPOSED ACTION

Type of Public Land	Name	Lead Agency	Location ID on Exhibit 3.6, Public Lands
City Parks and Recreational Facilities, Continued ^{8/}	Tom Williams Park	North Las Vegas, Nevada	45 (green)
	Valley View Park		46 (green)
	Walker Park		48 (green)
	Windsor Park		51 (green)

Sources:

- ^{1/} Correspondence from Lisa Christianson, Acting Assistant Field Manager, BLM Las Vegas Field Office, to Landrum & Brown in response to Agency Coordination Letter. August 31, 2005.
Correspondence from William K. Dickson, Superintendent, Lake Mead National Recreation Area, National Park Service, to FAA in response to Draft Supplemental Environmental Assessment. January 13, 2006
Clark County Wilderness Areas, GIS Information. Provided by BLM Las Vegas Field Office. September 2005.
The National Wilderness Preservation System. On-line at: <http://www.wilderness.net/>. Retrieved May 18, 2006.
- ^{2/} Lake Mead National Recreation Area, National Park Service. On-line at: <http://www.nps.gov/lame/index.htm/>. Retrieved September 8, 2005.
- ^{3/} *Old Spanish National Historic Trail*, National Park Service. On-line at: <http://www.nps.gov/olsp/index.htm/>. Retrieved September 8, 2005.
- ^{4/} *Las Vegas Paiute Tribe*. Inter Tribal Council of Nevada. On-line at: <http://www.itcn.org/tribes/lasvegas.html/>. 1996.
- ^{5/} Old Las Vegas Mormon State Historic Park. Nevada Division of State Parks. On-line at: <http://parks.nv.gov/olvmf.htm/>. Retrieved August 10, 2005.
- ^{6/} Clark County Wetlands Park, Clark County Parks and Recreation. On-line at http://www.co.clark.nv.us/parks/Wetlands/Wetland's_Homepage.htm/. Retrieved September 12, 2005.
Clark County Wetlands Park, GIS Information. Provided by Clark County Parks and Recreation. September 2005.
- ^{7/} Clark County Parks and Recreation. On-line at <http://www.co.clark.nv.us/parks/homepage.htm/>. Retrieved September 12, 2005.
- ^{8/} City of Las Vegas Department of Leisure Services. On-line at: <http://www.lasvegasnevada.gov/Government/departments.asp#/>. 2005.
City of North Las Vegas Parks and Recreation Department. On-line at: <http://www.ci.north-las-vegas.nv.us/Departments/ParksAndRecreation/ParksAndRecreation.cfm/>. Retrieved September 12, 2005.

3.4.1 Bureau of Land Management

The Bureau of Land Management (BLM), an agency within the U.S. Department of the Interior, operates under the mission of sustaining the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.²² The BLM was created in 1946 by the merger of the U.S. Grazing Service with the General Land Office. When the BLM was initially created, there were over 2,000 unrelated and often conflicting laws for managing public lands in the U.S. The BLM had no unified legislative mandate until Congress enacted the Federal Land Policy and Management Act of 1976 (FLPMA), declaring that public lands would remain in public ownership. In so doing, Congress also established multiple use management of public lands, which allows for public lands to be leased or occasionally sold for government revenue production and development. The BLM identifies parcels of land for potential sale that fall into one of the following categories:²³

- Scattered and isolated tracts that are difficult or uneconomical to manage;
- Tracts acquired by the BLM for a specific purpose that are no longer needed for that purpose; or
- Land where disposal will serve important public objectives, such as community expansion and economic development.

Today, the BLM administers over 260 million surface acres of America's public lands (11 percent of U.S. acreage, the most of any federal agency), which are primarily located in 12 western states and are dominated by extensive grasslands, forests, high mountains, deserts, and arctic tundra in Alaska. The BLM also manages a wide variety of resources and uses on those public lands, including:

- Recreational activities, including fishing, hiking, off-road vehicle use, and camping
- Commercial activities, including energy development, timber sales, mining, grazing, forestry, power transmission rights-of ways, scenery for advertising, and motion picture filming (commercial uses of the public lands managed by the BLM generate over \$1 billion in revenue for state and local governments annually)
- Wild free-roaming horses and burros
- Paleontological, archaeological, and historical sites
- Fish and wildlife habitats
- Transportation systems, including roads, trails, and bridges

²² U.S. Department of the Interior Bureau of Land Management. On-line at <http://www.blm.gov/>. October 6, 2004.

²³ U.S. Department of the Interior Bureau of Land Management, *Frequently Asked Questions, How does the BLM select land that might be sold?* On-line at: <http://www.blm.gov/nhp/faqs/>. June 21, 2001.

- Wilderness areas and wild and scenic rivers
- Rare and vulnerable plant communities
- Public land survey system

The *Southern Nevada Public Land Management Act* (Public Law 105-263) became law in October 1998. The Act provides for the disposal of public land within a specific area in the Las Vegas Valley and creates a Special Account into which 85 percent of the revenue generated by land sales is deposited. The remaining 15 percent goes to local governments. The Special Account is not allocated as a part of the Federal Budget Process, so any revenue in the account remains available until expended.

Under the *1998 Southern Nevada Public Land Management Act* (Public Law 105-263), the BLM transferred ownership of approximately 5,230 acres of land within the Cooperative Management Area (CMA) to Clark County, Nevada. The County retains 10 percent of gross proceeds from the sale of the land for airport development and for the Noise Compatibility Program. The Cooperative Management Area (CMA) is a mutually beneficial agreement between the BLM and Clark County Department of Aviation (CCDOA) that helps to promote compatible land use planning around LAS; to provide proper land use planning and management to protect against the encroachment of incompatible land uses on federal land under the airspace used for LAS; to facilitate the efficient management and protect against unlawful use of public land in these areas; to ensure that the affect areas are regularly patrolled and monitored to reduce unlawful disposal of trash, litter and hazardous materials; and to prevent the transfer of public lands to private ownership without the concurrence of Clark County.²⁴

Exhibit 3.6, shows the locations of BLM-managed lands within the Study Area for the Proposed Action.

3.4.2 Wilderness Areas

In 1964, President Lyndon B. Johnson signed into law the *Wilderness Act*, which declared the United States policy "to secure for the American people of present and future generations the benefits of an enduring resource of wilderness." Section 2(c) of the *Wilderness Act* provides the following definition of *Wilderness*, or what are today known as Wilderness Areas:

"A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1)

²⁴ *History of Noise Complaints and Reduction Measures at McCarran*, presented by Clark County Department of Aviation at FAR Part 150 Update Public Working Group. September 27, 2005.

generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."²⁵

There are three Wilderness Areas located within the Study Area for the Proposed Action, as listed on **Table 3.1** and shown on **Exhibit 3.6**. These three Wilderness Areas are described in the **Sections 3.4.2.1 through 3.4.2.3** of this chapter.

3.4.2.1 Jimbilnan Wilderness Area

Jimbilnan Wilderness Area encompasses 18,879 acres. Its northern portion is primarily a volcanic mountain range orientated northeast-southwest, with peak elevations of approximately 3,000 feet and deep canyons and washes that cut across the mountains and flow southeast into the Overton Arm of Lake Mead. In the southern portion, the land is gentler and slopes south towards the Virgin Basin section of Lake Mead.²⁶ The Wilderness Area was designated by the *Clark County Conservation of Public Land and Natural Resources Act of 2002*. It is managed by the National Park Service.²⁷

3.4.2.2 Muddy Mountains Wilderness Area

The Muddy Mountains Wilderness Area encompasses 48,019 acres.²⁸ Approximately 300 million years ago, the land occupied today by the Muddy Mountain Wilderness Area was sediment at the bottom of the sea. Today, the area consists of limestone peaks at elevations of nearly 6,000 feet, limestone cliffs, and sandstone formations.²⁹ Muddy Mountains Wilderness was designated by the *Clark County Conservation of Public Land and Natural Resources Act of 2002*. It is managed by the Bureau of Land Management (Las Vegas Field Office).³⁰

²⁵ *The Wilderness Act of 1964*. Public Law 88-577, 88th Congress, S. 4. September 3, 1964.

²⁶ *Jimbilnan Wilderness Area*. Southern Nevada Wilderness Areas. On-line at: <http://www.birdandhike.com/>. Retrieved May 16, 2006.

²⁷ *Jimbilnan Wilderness*. National Wilderness Preservation System. On-line at: <http://www.wilderness.net/>. Retrieved May 18, 2006.

²⁸ *Muddy Mountains Wilderness*. National Wilderness Preservation System. On-line at: <http://www.wilderness.net/>. Retrieved September 8, 2005.

²⁹ *Muddy Mountains Wilderness*. Friends of Nevada Wilderness. On-line at: <http://www.nevadawilderness.org/southern/muddy.htm/>. Retrieved September 21, 2005.

³⁰ Correspondence from Lisa Christianson, Acting Assistant Field Manager, BLM Las Vegas Field Office to Landrum & Brown in response to Agency Coordination Letter. August 31, 2005.

3.4.2.3 Pinto Valley Wilderness Area

The Pinto Valley Wilderness Area was designated by the *Clark County Conservation of Public Land and Natural Resources Act of 2002* and encompasses 39,173 acres. It is managed by the National Park Service.³¹ In the southern part of the Wilderness Area, the volcanic Black Mountains border Lake Mead with peak elevations of approximately 3,300 feet. In the northern part of the Wilderness Area, the mountains are titled carbonate ridges with sandstone outcrops at peak elevations or approximately 3,000 feet.³²

3.4.3 Instant Study Areas

An Instant Study Area (ISA) is a type of Wilderness Study Area (WSA) that has been identified specifically because it is an outstanding natural resource as identified by the Bureau of Land Management (BLM) in the Interim Management Policy (IMP) for lands under wilderness review. An ISA will not become a WSA and vice versa. ISAs and WSAs are managed the same.

A Wilderness Study Area (WSA) typically contains ecological, geological, or other features of scientific, scenic, or historical value in addition to the following criteria:³³

- Contain at least 5,000 acres of Federal land (or are large enough to be managed as Wilderness);
- Are in a generally natural condition;
- Have outstanding opportunities for solitude, or a primitive or unconfined type of recreation in at least part of the area.

The Bureau of Land Management (BLM) and the United States Forest Service (USFS) are responsible for maintaining the wilderness characteristics of designated WSAs within their respective lands until Congress makes a final decision as to whether the WSA becomes part of the National Wilderness Preservation Service (NWPS) or is released for other uses. The general management standard is that the suitability of these lands for preservation as wilderness must not be impaired.^{34,}
³⁵

³¹ *Pinto Valley Wilderness*. National Wilderness Preservation System. On-line at: <http://www.wilderness.net/>. Retrieved May 18, 2006.

³² *Pinto Valley Wilderness Area*. Southern Nevada Wilderness Areas. On-line at: <http://www.birdandhike.com/>. Retrieved May 16, 2006.

³³ Bureau of Land Management. On-line at: <http://www.blm.gov/nlcs/wsa/faq.htm/>. March 18, 2005.

³⁴ Bureau of Land Management. On-line at: <http://www.blm.gov/nlcs/wsa/faq.htm/>. March 18, 2005.

³⁵ Bureau of Land Management. On-line at: <http://www.blm.gov/nlcs/wsa/faq.htm/>. March 18, 2005.

3.4.3.1 Sunrise Mountain Instant Study Area

As listed on **Table 3.1** and shown on **Exhibit 3.6**, Sunrise Mountain Instant Study Area (ISA) is the only ISA located within the Study Area for the Proposed Action. Sunrise Mountain ISA measures approximately 10,240 acres and is managed by the Bureau of Land Management (Las Vegas Field Office).³⁶

3.4.4 National Recreation Areas

A National Recreation Area is a designated protected area in the United States usually centered on large reservoirs and emphasizing water-based recreation for a large number of people. National recreation areas are part of the National Park System and are administered by the National Park Service (NPS), the Bureau of Land Management (BLM), or the United States Forest Service (USFS).

To be eligible for favorable consideration as a unit of the National Park System, an area must possess national, natural, cultural, and recreational significance (as explained below), be a suitable and feasible addition to the National Park System, and require direct management by the National Park Service instead of protection by some other governmental agency or by the private sector.³⁷

- **National Significance:** A proposed unit will be considered nationally significant if it meets all four of the following standards:
 - It is an outstanding example of a particular type of resource.
 - It possesses exceptional value of quality illustrating or interpreting the natural or cultural themes of our Nation's heritage.
 - It offers superlative opportunities for recreation for public use and enjoyment, or for scientific study.
 - It retains a high degree of integrity as a true, accurate, and relatively unspoiled example of the resource.
- **Natural Significance:** Examples of areas of natural significance include:
 - An outstanding site that illustrates the characteristics of a landform or biotic area that is still widespread;
 - A rare remnant natural landscape or biotic area of a type that was once widespread but is now vanishing due to human settlement and development;
 - A landform or biotic area that has always been extremely uncommon in the region or Nation;
 - A site that possesses exceptional diversity of ecological components (species, communities, or habitats) or geological features (landforms, observable manifestations of geologic processes);

³⁶ *Sunrise Mountains Instant Study Area*. Friends of Nevada Wilderness. On-line at: <http://www.nevadawilderness.org/southern/sunrisemtn.htm/>. Retrieved September 21, 2005.

³⁷ National Park Service. On-line at <http://www.nps.gov/>. January 2003.

- A site that contains biotic species or communities whose natural distribution at that location makes them unusual (for example, a relatively large population at the limit of its range or an isolated population);
 - A site that harbors a concentrated population of a rare plant or animal species, particularly one officially recognized as threatened or endangered;
 - A critical refuge that is necessary for the continued survival of a species;
 - A site that contains rare or unusually abundant fossil deposits;
 - An area that has outstanding scenic qualities such as dramatic topographic features, unusual contrasts in landforms or vegetation, spectacular vistas, or other special landscape features;
 - A site that is an invaluable ecological or geological benchmark due to an extensive and long-term record of research and scientific discovery.
 - An area that is nationally significant also must meet criteria for suitability and feasibility to qualify as a potential addition to the National Park System. To be suitable for inclusion in the System, an area must represent a natural or cultural theme or type of recreational resource that is not already adequately represented in the National Park System or is not comparably represented and protected for public enjoyment by another land-managing entity. Adequacy of representation is determined on a case-by-case basis by comparing the proposed area to other units in the National Park System for differences or similarities in the character, quality, quantity, or combination of resources, and opportunities for public enjoyment. To be feasible as a new unit of the National Park System an area's natural systems and/or historic settings must be of sufficient size and appropriate configuration to ensure long-term protection of the resources and to accommodate public use. It must have potential for efficient administration at a reasonable cost. Important feasibility factors include landownership, acquisition costs, access, threats to the resource, and staff or development requirements.
- **Cultural Significance:** Cultural areas may be districts, sites, structures, or objects that possess exceptional value or quality in illustrating or interpreting our heritage and that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association. Examples include:
 - A resource that is associated with events that have made a significant contribution to and are identified with, or that outstandingly represent the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained;

- A resource that is importantly associated with the lives of persons nationally significant in the history of the United States;
 - A resource that embodies distinguishing characteristics of an architectural type specimen, exceptionally valuable for study of a period, style, or method of construction, or represents a significant, distinctive and exceptional entity whose components may lack individual distinction;
 - A resource that is composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively composes an entity of exceptional historical or artistic significance, or outstandingly commemorates or illustrates a way of life or culture;
 - A resource that has yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States.
- **Recreational Significance:** Many units of the National Park System have been established to recognize their important role in providing recreational opportunities. The potential for public use and enjoyment is an important consideration in evaluating potential new additions to the National Park System. However, recreational values are not evaluated independently from the natural and cultural resources that provide the settings for recreational activities.

3.4.4.1 Lake Mead National Recreation Area

Lake Mead National Recreation Area is located east of Las Vegas, partially within the Study Area for the Proposed Action. As shown on **Exhibit 3.6**, approximately 24,650 acres, or 1.7 percent, of the entire 1,501,216-acre Lake Mead National Recreation Area is included in the Study Area. Lake Mead National Recreation Area includes two reservoirs (Lakes Mead and Mohave) along 140 miles of the former Colorado River from the southern tip of Nevada to the northwest corner of Arizona and contains portions of Clark County, Nevada, and Mohave County, Arizona. Federal acreage divided by state reflects 60 percent of the park is located in Arizona and 40 percent is located in Nevada. The area surrounding Lakes Mead is rugged with deep canyons, dry washes, sheer cliffs, and mountains.³⁸

Of the total 1,501,216 acres included in the Lake Mead National Recreation Area, 1,484,159 acres are in federal ownership administered by the National Park Service (NPS) and 12,568 are non-federal lands. An additional 4,488 acres surrounding Hoover and Davis Dams are administered by the Bureau of Reclamation (BOR). Lake Mead National Recreation Area is the fourth largest unit of the National Park

³⁸ Draft Environmental Impact Statement for the Lake Mead National Recreation Area Lake Management Plan. April 2002. On-Line At: <http://www.nps.gov/lame/Impdraft/toc.htm/>.

System outside the state of Alaska.³⁹ NPS records indicate that 7,757,823 people visited the Lake Mead National Recreation Area in fiscal year 2004.⁴⁰

3.4.5 National Historic Trails

The National Trails System was established by the *National Trails System Act of 1968* "...to provide for the ever-increasing outdoor recreation needs of an expanding population and to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open air, outdoor areas, and historic resources of the Nation."⁴¹

National Historic Trails are "extended trails that follow as closely as possible and practicable, the original route or routes of travel of national historical significance." The purpose of National Historic Trails is "the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment." The designation of such trails or routes is to be continuous, but established or developed trails are not necessarily continuous land areas; they may include portions or sections of land areas, land and water segments, or other specific sites. Together, these qualifying entities form a chain or network of areas that may be included as components of a National Historic Trail.^{42, 43}

National trails are managed through cooperative partnerships among public agencies, non-profit organizations, and landowners. The federal role is one of setting and maintaining standards, providing incentives such as technical and limited financial assistance to partners, helping to ensure consistent preservation, education, and public use programs, as well as managing the use of the official trail logo for marking and other appropriate purposes.⁴⁴

3.4.5.1 Old Spanish National Historic Trail

Antonio Armijo, a Mexican trader, led the first commercial caravan from Abiquiú, New Mexico, to Los Angeles late in 1829. Over the next 20 years, Mexican and American traders continued to ply variants of the route that Armijo pioneered, frequently trading with Native American tribes along the way. Today, the trail network formed by Armijo's route, indigenous footpaths, early trade and exploration routes, and horse and mule routes are known collectively as the Old Spanish Trail, which because of its rich history and national significance, was designated as a

³⁹ *Draft Environmental Impact Statement for the Lake Mead National Recreation Area Lake Management Plan*. April 2002. On-Line At: <http://www.nps.gov/lame/Impdraft/toc.htm/>.

⁴⁰ *Lake Mead National Recreation Area Facts*. National Park Service. On-line at: <http://www.nps.gov/lame/pphtml/facts.html/>. Retrieved September 8, 2005.

⁴¹ *National Trails System Act of 1968*. P.L. 90-543, as amended through P.L. 108-342, October 18, 2004.

⁴² *National Trails System Act of 1968*. P.L. 90-543, as amended through P.L. 108-342, October 18, 2004.

⁴³ *Old Spanish Trail Draft National Historic Trail Feasibility Study and Environmental Assessment*. On-line at: <http://data2.itc.nps.gov/parks/olsp/ppdocuments/ACF2FB0.pdf/>. July 2000.

⁴⁴ *Old Spanish Trail Draft National Historic Trail Feasibility Study and Environmental Assessment*. On-line at: <http://data2.itc.nps.gov/parks/olsp/ppdocuments/ACF2FB0.pdf/>. July 2000.

National Historic Trail in December 2002. Measuring 2,700 miles, the Old Spanish National Historic Trail begins in New Mexico and passes through portions of Colorado, Arizona, Utah, and Nevada before ending in California.⁴⁵

The NPS is the lead agency responsible for administering the Old Spanish National Historic Trail. The NPS and the BLM are currently working with the Old Spanish Trail Association and a variety of federal, state, and local agencies, non-profit organizations, landowners, and tribal entities, to develop a draft Comprehensive Management Plan and Environmental Impact Statement. Once planning is completed, the NPS and the BLM will jointly administer the Old Spanish National Historic Trail.⁴⁶

As shown in **Exhibit 3.6**, the Study Area for the Proposed Action contains three segments of the Old Spanish National Historic Trail. The largest section measures 22.2 miles and traverses the Study Area from northeast to southwest. The two smaller portions located within the Study Area measure 3.4 miles near Nellis Air Force and 1.6 miles near Lake Mead, respectively.

3.4.6 Native American Lands

Created in 1824, the Bureau of Indian Affairs (BIA) administers and manages 55.7 million acres of land held in trust by the United States for American Indians, Indian Tribes, and Alaska Natives. Of the land held in trust by the BIA, tribal governments manage 46 million acres, while individual Native Americans own the remaining 9.7 million acres. There are currently 562 federally-recognized Native American Tribes in 32 states. Within protected reservation lands, the BIA is responsible for developing forestlands, leasing assets on these lands, directing agricultural programs, protecting water and land rights, developing and maintaining infrastructure, as well as providing for health and human services, economic development, and education services for residents.⁴⁷ In 1998, President Clinton issued Executive Order 13084, *Consultation and Coordination with Indian Tribal Governments*, which includes provisions for tribal consultation. The Executive Order recognized relationships among the federal, state, and tribal governments, requiring federal agencies to consult with tribal officials in the development of regulations that have tribal implications.⁴⁸

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, issued in 2000, expands the provisions of the 1998 Executive Order 13084 by stating that it "...reaffirms the commitment to tribal sovereignty, self-determination, and self government within the framework of federalism. Federally-

⁴⁵ *Old Spanish National Historic Trail*, National Park Service. On-line at: <http://www.nps.gov/olsp/index.htm/>. Retrieved September 8, 2005.

⁴⁶ *Old Spanish National Historic Trail*, National Park Service. On-line at: <http://www.nps.gov/olsp/index.htm/>. Retrieved September 8, 2005.

⁴⁷ Bureau of Indian Affairs. On-line at www.doi.gov/bureau-indian-affairs.html/. Retrieved June 2, 2004.

⁴⁸ *Executive Order 13084*. May 14, 1998. U.S. Senate Committee on Indian Affairs. On-line at: <http://www.indian.senate.gov/13084.htm>.

recognized Native American tribes possess certain inherent rights of self-government and are entitled to certain federal benefits, services, and protections as a result of the special trust relationship.”⁴⁹

The FAA is committed to ensuring that local tribal governments are consulted with regarding the Proposed Action and are provided the opportunity to identify their related concerns. See **Appendix D, Agency Coordination and Public Involvement**, for documentation of tribal coordination as related to the development of this Supplemental Environmental Assessment.

3.4.6.1 Las Vegas Paiute Reservation/Las Vegas Indian Colony

As shown on **Exhibit 3.6** and **Figure 3.2**, approximately ten acres of the reservation lands of the Las Vegas Paiute Tribe are located within the Study Area for the Proposed Action. These ten acres are located within the city limits of Las Vegas, on the west side of Main Street, one mile north of downtown Las Vegas. Additional reservation lands are located outside of the Study Area, north of Las Vegas along the Reno-Tonopah Highway, which brings total tribal lands to approximately 3,850 acres.⁵⁰

The Las Vegas Paiutes are descendants of a nomadic band that once migrated across the Las Vegas Valley, returning to the same areas each year in proper season to harvest wild plants or hunt small game. This way of life continued largely unchanged until 1905, when the newly constructed railroad brought settlers who claimed the majority of water sources and fertile lands in the Las Vegas Valley. In 1910, Helen J. Stewart, a local rancher sold all but 10 acres of her ranch to the railroad for the development of a town-site (the present-day City of Las Vegas). Ms. Stewart sold that remaining 10-acre parcel of her land to the federal government for the perpetual use of the Paiutes. The plot of land became known as the Las Vegas Indian Colony. The City of Las Vegas quickly expanded to surround the Las Vegas Paiute Reservation, which is now located one mile north of the downtown area.⁵¹

⁴⁹ *Executive Order 13175*. November 6, 2000. U.S. General Services Administration. On-line at: <http://www.gsa.gov/Portal/gsa/ep/indexView.do?pageTypeId=8199&channelId=-13339/>.

⁵⁰ *Las Vegas Paiute Tribe*. Inter Tribal Council of Nevada. On-line at: <http://www.itcn.org/tribes/lasvegas.html/>. 1996

⁵¹ *The First 100 Persons Who Shaped Southern Nevada: Alfreda Mitre, former Chair of the Las Vegas Paiute Tribe*. Las Vegas Review-Journal. On-line at: <http://www.1st100.com/part3/mitre.html/>. 1999.

The Las Vegas Paiute Tribe was recognized as an independent body in 1934. In order to generate income for its members (totaling 54 adult members in 1999), the Tribe has been successful in establishing business enterprises on its land. The first of several successful tribal smoke-shops was established on the original 10-acre reservation in 1983. The Las Vegas Paiute Tribe was also successful in lobbying Congress to recover additional acreage from their original territory. In 1983, Congress authorized additional reservation lands for the Las Vegas Paiute Tribe, totaling just over 3,800 acres, located at the foot of Mount Charleston, approximately 15 miles northwest of the original 10-acre reservation. This newest portion of reservation land has been partially developed into the Las Vegas Paiute Golf Resort, which includes four golf courses, a residential area, and a resort hotel.⁵²



FIGURE 3.2
LOCATION OF 10-ACRE PORTION OF LAS VEGAS PAIUTE RESERVATION
WITHIN THE CITY OF LAS VEGAS, NEVADA

⁵² *The First 100 Persons Who Shaped Southern Nevada: Alfreda Mitre, former Chair of the Las Vegas Paiute Tribe.* Las Vegas Review-Journal. On-line at: <http://www.1st100.com/part3/mitre.html/>. 1999.

3.4.7 Nevada State Parks

The Nevada Department of Conservation and Natural Resources is responsible for the establishment and administration of goals, objectives, and priorities for the preservation of the State of Nevada's natural resources.⁵³

3.4.7.1 Old Las Vegas Mormon State Historic Park

The Old Las Vegas Mormon State Historic Park is a Nevada State Park that contains the Old Mormon Fort, which was the first structure built by Europeans in what would become the City of Las Vegas, fifty years later. This is the only U.S. state park located in a city that actually houses the first building ever built in that city. The fort is listed on both the State of Nevada and National Registers of Historic Places.⁵⁴

Old Vegas Mormon State Historic Park is located in downtown Las Vegas, at the intersection of Las Vegas Boulevard and Washington Avenue. The first permanent non-native settlers in the Las Vegas Valley were a group of Mormon missionaries who built an adobe fort along Las Vegas Creek in 1855. They successfully farmed the area by diverting water from the creek. Today, the park includes a remnant of the original adobe fort, which serves as a visitor center with interpretive displays. Future development will include the re-creation of many historic features and a full-scale visitor center. The park is open year-round.⁵⁵ **Exhibit 3.6** shows the location of the Old Las Vegas Mormon State Historic Park within the Study Area.

3.4.8 Clark County Parks and Recreation Facilities

As shown on **Exhibit 3.6**, there are 47 facilities managed by the Clark County Parks and Recreation Department located within the Study Area for the Proposed Action. The Clark County Parks and Recreation Department's Mission Statement is to help create community through people, parks, and programs. The goals of the Department are to promote quality parks and open spaces for public enjoyment and to deliver quality cultural and recreational facilities, services, and opportunities for public use. Facilities managed by the Clark County Parks and Recreation Department include parks, recreation centers, senior centers, outdoor amphitheatres, indoor theaters, and cultural centers. Each of these types of facilities is located within the Study Area, as listed on **Table 3.1**.⁵⁶

⁵³ Nevada Department of Conservation and Natural Resources. On-line at <http://www.dcnr.nv.gov/>. September 2004.

⁵⁴ Old Las Vegas Mormon State Historic Park. Wikipedia On-line Encyclopedia. On-line at: http://en.wikipedia.org/wiki/Old_Las_Vegas_Mormon_State_Historic_Park/. Retrieved September 9, 2005.

⁵⁵ Old Las Vegas Mormon State Historic Park. Nevada Division of State Parks. On-line at: <http://parks.nv.gov/olvmf.htm/>. Retrieved August 10, 2005.

⁵⁶ Clark County Parks and Recreation. On-line at <http://www.co.clark.nv.us/parks/homepage.htm/>. Retrieved September 12, 2005.

3.4.8.1 Clark County Wetlands Park and Nature Preserve

The Clark County Wetlands Park and Nature Preserve is located within the City of Las Vegas and covers approximately 2,900 total acres. Of the Park's total 2,900 acres, approximately 568 acres (or 20 percent of the Park's total area) are included in the Study Area for the Proposed Action. The Clark County Wetlands Park is an interpretive park that allows visitors to explore the many facets of a dynamic wash environment that has formed as a result of water runoff from the Las Vegas Valley. The Wetlands Park is designed to enhance the wetlands habitat, restore the larger wetlands environment, and provide recreation and educational opportunities for the Las Vegas area. The adjacent Nature Preserve covers approximately 160 acres in the northwest corner of the Wetlands Parks and features two miles of walking trails, a bird viewing blind, ponds, and views of the nearby natural scenery.^{57, 58}

3.4.9 City Parks and Recreation Facilities

Within the Study Area for the Proposed Action, there are 52 parks and recreation facilities managed by local communities, as shown on **Exhibit 3.6** and listed on **Table 3.1**. Of these 52 parks, 42 are managed by the City of Las Vegas and 10 are managed by the City of North Las Vegas. The Department of Leisure Services is responsible for managing the City of Las Vegas' parks by providing quality cultural and recreational experiences for all ages and abilities.⁵⁹ Parks in the City of North Las Vegas are managed by the North Las Vegas Parks and Recreation Department; the mission of which is to enhance the quality of life of the citizens of North Las Vegas by providing a diversity of open spaces, parks, and leisure opportunities.⁶⁰

3.5 BIOLOGICAL AND NATURAL RESOURCES

3.5.1 Threatened and Endangered Species

Coordination with the U.S. Fish and Wildlife Service and the Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program (NNHP) (refer to **Appendix D**) provided a list of State of Nevada protected, sensitive, at-risk, and watch-list species with known habitats located within the Study Area for the Proposed Action. There are no federal or state-listed threatened or endangered species with known habitats located within the Study Area for the Proposed Action. These species are listed in **Table 3.2** and the known locations of their habitats within the Study Area are shown on **Exhibit 3.7, Biological Resources**.

⁵⁷ Clark County Wetlands Park, Clark County Parks and Recreation. On-line at http://www.co.clark.nv.us/parks/Wetlands/Wetland's_Homepage.htm/. Retrieved September 12, 2005.

⁵⁸ Clark County Wetlands Park, GIS Information. Provided by Clark County Parks and Recreation. September 2005.

⁵⁹ City of Las Vegas Department of Leisure Services. On-line at: <http://www.lasvegasnevada.gov/Government/departments.asp#/>. 2005.

⁶⁰ City of North Las Vegas Parks and Recreation Department. On-line at: <http://www.ci.north-las-vegas.nv.us/Departments/ParksAndRecreation/ParksAndRecreation.cfm/>. Retrieved September 12, 2005.

TABLE 3.2
STATE-LISTED THREATENED, SENSITIVE, AT-RISK, AND WATCH-LIST
SPECIES WITH KNOWN HABITATS IN THE STUDY AREA

Species Type	Name	Status
Invertebrate Animal	Mojave Gypsum Bee	State-listed At-Risk
Vertebrate Animal	Arizona Toad	State-listed Sensitive Species (dependent upon aquatic or wetland habitats)
	Spotted Bat	State-listed At-Risk
	Desert Tortoise	State-listed At-Risk
Vascular Plant	Las Vegas Bear Poppy	State-listed Protected
	White Bear Poppy	State-listed At-Risk
	Little Field Milkvetch	State Watch-List
	Alkali Mariposa Lily	State-listed At-Risk
	Las Vegas Catseye	State-listed Protected
	Las Vegas Buckwheat	State-listed At-Risk
	Yellow Two-tone Beardtongue	State-listed At-Risk
	Rosy Two-tone Beardtongue	State-listed At-Risk
Parish Phacelia	State-listed At-Risk	

Source: Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program (NNHP), GIS data provided September 2005. Additional data from NNHP retrieved September 27, 2005, on-line at <http://www.heritage.nv.gov/>.

As shown in **Table 3.2**, the known habitats of state-listed species located within the Study Area for the Proposed Action include one invertebrate animal, three vertebrate animals, and nine vascular plant species, for a total of thirteen species types. The status of each species listed in **Table 3.2** falls into one of the following categories.⁶¹

⁶¹ Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program. On-line at <http://www.heritage.nv.gov/>. Retrieved September 27, 2005.

State-listed At-Risk ^{62, 63}

Species considered At-Risk and actively inventoried by the Nevada Natural Heritage Program typically include those with federal or other Nevada agency status of Endangered, Threatened, or Sensitive or declining trends indicating some level of range-wide imperilment. In general, an At-Risk species is any whose long-term viability has been identified as a concern. Of the thirteen species types listed on **Table 3.2**, nine are categorized as At-Risk by the State of Nevada.

State-listed Protected ⁶⁴

Such species have been declared by the State Forester Firewarden to be threatened with extinction pursuant to Nevada Revised Statutes (N.R.S. 527.260-.300), and are on the State of Nevada Critically Endangered Species List (N.A.C. 527.010). For each of these species, no member of its kind may be removed or destroyed at any time by any means except under special permit issued by the state forester firewarden (N.R.S. 527.270). Of the thirteen species types listed on **Table 3.2**, two species of plants - the Las Vegas Bear Poppy and the Las Vegas Catseye - are categorized as Protected by the State of Nevada.

State-listed Sensitive Species (dependent upon aquatic or wetland habitats) ⁶⁵

Such species are considered to be Sensitive Species dependent upon aquatic or wetland habitats in Nevada for their survival, which means that either they are found only in such habitats or that the habitats in which they are found exist only because of close proximity to, or other influence from, aquatic or wetland habitats. Of the thirteen species types listed on **Table 3.2**, one species – the Arizona toad - is categorized as a Sensitive Species (dependent upon the presence of aquatic or wetland habitats) by the State of Nevada.

State Watch-List ⁶⁶

Species included on the Nevada Watch List include those that may become categorized as At-Risk in the future, or that recently have been removed from the At-Risk tracking lists. Not included on this list are extinct or extirpated species,

⁶² *Nevada At-Risk Animal Tracking List, March 18, 2004.* Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program. On-line at <http://www.heritage.nv.gov/sensanim.htm/>.

⁶³ *Nevada At-Risk Plant and Lichen Tracking List, March 18, 2004.* Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program. On-line at <http://www.heritage.nv.gov/sensplnt.htm/>.

⁶⁴ *State of Nevada List of Fully Protected Plant Species, March 10, 2005.* Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program. On-line at <http://www.heritage.nv.gov/stplants.htm/>.

⁶⁵ *Sensitive Species Dependent Upon Aquatic or Wetland Habitats, September 2, 1999.* Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program. On-line at <http://www.heritage.nv.gov/lists/wetlan99.htm/>.

⁶⁶ *Plant and Animal Watch List, March 18, 2004.* Nevada Department of Conservation and Natural Resources, Nevada Natural Heritage Program. On-line at <http://www.heritage.nv.gov/watch.htm/>.

which are maintained on a separate list, and which would be added to the At-Risk or Watch Lists if they were ever re-discovered in Nevada. The Watch List may include those species not yet documented conclusively from within the borders of Nevada, but with a high likelihood of occurring here. Watch List species are usually not actively inventoried by the Nevada Natural Heritage Program, although conservation concerns remain and data are passively accumulated and sometimes processed for possible future needs. Of the thirteen species types listed on **Table 3.2**, one species – the Little Field Milkvetch - is categorized as a Watch-List species by the State of Nevada.

3.5.2 Water Resources

3.5.2.1 Water Quality

Nevada is a water poor state, which means that the available water is under great demand and is heavily used. The major water users in Nevada are agriculture, municipal, and industrial sources. Impacts on water quality from municipal and industrial sources have been greatly reduced over the years with the elimination of most point source, direct discharge pollutants and stringent controls. Most exceedances are seasonal and are the result of a natural condition. Agriculture has the greatest impact on the waters of Nevada, which is mainly due to non-point source pollution, such as the causes directly related to irrigation, grazing, and flow regulation practices. Temperature, pH, dissolved oxygen (DO), nutrients, and suspended solids are the main pollutants of concern and are being targeted in the State of Nevada's Non-point Source Program. The State of Nevada's Non-point Source Program is designed to further improve water quality by promoting public awareness, monitoring grazing and irrigation practices, requiring and monitoring erosion control measures, and requiring the implementation of Best Management Practices.⁶⁷

3.5.2.2 Wild and Scenic Rivers

There are no rivers designated as Wild and Scenic within the Study Area for the Proposed Action, or within the entire State of Nevada.⁶⁸ In addition to providing for the designation of national wild and scenic rivers, the *Wild and Scenic Rivers Act* (P.L. 90-542) provides for the study of river segments as potential components of the national wild and scenic river system.⁶⁹ There are no study river segments located within the Study Area for the Proposed Action.⁷⁰

⁶⁷ Nevada Clean Water Act 305(b) Report, Executive Summary. 2004 Reporting Cycle. On-line at: <http://ndep.nv.gov/bwqp/305brpt.htm/>.

⁶⁸ National Park Service. On-line at <http://www.nps.gov/rivers/>. November 23, 2004.

⁶⁹ *Wild & Scenic Rivers Study Status (as of January 2003)*, National Park Service. On-line at: <http://www.nps.gov/rivers/study.html/>.

⁷⁰ National Rivers Inventory, Nevada Segments. National Park Service, National Center for Recreation and Conservation. On-line at: <http://www.nps.gov/ncrc/programs/rtca/nri/>. November 24, 2004.

3.5.2.3 Watersheds and Washes

A watershed is that area of land that drains water to a particular stream, river, or lake. It is a land feature that can be identified by tracing a line along the highest elevations between two areas on a map, often a ridge. Large watersheds, like the Mississippi River basin, for example, contain thousands of smaller watersheds. Watersheds cross county, state, and national boundaries and are found in both small and large shapes and sizes.⁷¹ As shown in **Exhibit 3.8, Water Resources**, there are seven watersheds that are located either partially or wholly within the Study Area and several associated major washes.

Las Vegas Wash

The Las Vegas Wash is the primary channel through which the Las Vegas Valley's excess water returns to Lake Mead. The water flowing through the Las Vegas Wash comprises less than two percent of the water in Lake Mead and consists of water contributed from urban runoff, shallow groundwater, stormwater flow, and releases from the Las Vegas Valley's three water reclamation facilities. The Las Vegas Wash stretches 12 miles from the southeast part of the Las Vegas Valley to Lake Mead, entering the lake at Las Vegas Bay. **Exhibit 3.8** shows the portions of the Las Vegas Wash that are located within the Study Area for the Proposed Action. The once-plentiful wetlands of the Las Vegas Wash helped filter urban flows on their way to Lake Mead. However, erosion in the Las Vegas Wash has reduced wetland acreages from a peak of approximately 2,000 acres to about 200 acres today.⁷²

3.5.2.4 Wetlands

As stated in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, activities in wetlands are addressed by Executive Order (E.O.) 11990, *Protection of Wetlands*, Department of Transportation (DOT) Order 5660.1A, *Preservation of the Nation's Wetlands*, the *Rivers and Harbors Act of 1899*, and the *Clean Water Act*. E.O. 11990 requires federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. It also assures the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects. DOT Order 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to assure protection and enhancement of wetlands.

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency define wetlands as: *"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for*

⁷¹ *What is a watershed?* Watershed Information Network, U.S. Environmental Protection Agency. On-line at: <http://www.epa.gov/win/what.html/>. Retrieved October 5, 2005.

⁷² *Las Vegas Wash*. Southern Nevada Water Authority. On-line at: http://www.snwa.com/html/env_lv_wash.html/. 2005.

life in saturate soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.⁷³

Wetland areas in Nevada are classified as Palustrine-Forested, Palustrine Scrub-shrub, Palustrine-Emergent and Lacustrine. Within these classifications, riparian wetlands are included in the Palustrine-Forested and Palustrine Scrub-shrub types. The riparian zones are characteristically flooded on a seasonal or intermittent basis. Riparian wetlands are estimated to cover less than 1 percent of the land in Nevada. Riparian wetlands are most common on floodplains along rivers and streams, in isolated depressions surrounded by dry land such as basins.^{74,75}

Exhibit 3.8 depicts the one designated wetland area located within the Study Area for the Proposed Action. As shown in **Exhibit 3.8**, this wetland area is part of the Lower Las Vegas Wash and Watershed. The Clark County Wetlands Park and Nature Preserve is also located at this wetland area.

Clark County Wetlands Park and Nature Preserve

As previously described in **Section 3.4.7.1, Clark County Wetlands Park and Nature Preserve**, of this chapter, the Clark County Wetlands Park and Nature Preserve is located within the City of Las Vegas and covers approximately 2,900 total acres. Of the Park's total 2,900 acres, approximately 568 acres (or 20 percent of the Park's total area) are included in the Study Area for the Proposed Action. The Clark County Wetlands Park is an interpretive park that allows visitors to explore the many facets of a dynamic wash environment that has formed as a result of water runoff from the Las Vegas Valley. The Wetlands Park is designed to enhance the wetlands habitat, restore the larger wetlands environment, and provide recreation and educational opportunities for the Las Vegas area. The adjacent Nature Preserve covers approximately 160 acres in the northwest corner of the Wetlands Parks and features two miles of walking trails, a bird viewing blind, ponds, and views of the nearby natural scenery.^{76, 77}

⁷³ U.S. Army Corps of Engineers, Environmental Laboratory. 1987. *Wetland Delineation Manual, Technical Report Y-87-1*. Vicksburg, Mississippi, Waterways Experiment Station.

⁷⁴ *Nevada Clean Water Act 305(b) Report, Wetlands*. 2004 Reporting Cycle. On-line at: <http://ndep.nv.gov/bwgp/305brpt.htm/>.

⁷⁵ *What are wetlands?* U.S. Environmental Protection Agency. On-line at: <http://www.epa.gov/owow/wetlands/vital/what.html/>. March 23, 2005.

⁷⁶ Clark County Wetlands Park, Clark County Parks and Recreation. On-line at http://www.co.clark.nv.us/parks/Wetlands/Wetland's_Homepage.htm/. Retrieved September 12, 2005.

⁷⁷ Clark County Wetlands Park, GIS Information. Provided by Clark County Parks and Recreation. September 2005.

3.5.2.5 Floodplains

Floods come in many sizes with varying degrees of magnitude and frequency. Rivers and coastlines are expected to flood, as all bodies of water have floodplains. But each river and coastline is different and has its own probability of flooding. For each river in the United States, engineers assign statistical probabilities to different size floods in order to understand what might be a common or ordinary flood for a particular river versus a less likely or a severe flood for that same river.⁷⁸

In order to have common standards, the National Flood Insurance Program (NFIP) adopted a baseline probability called the base flood. The base flood is the national standard used by the NFIP and all federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. The base flood is also informally referred to as the 100-year flood or the 500-year flood, depending on the probability of flooding for a particular area. The 100-year base flood is the one-percent annual chance flood, which means that it has a one out of one-hundred chance of occurring in any given year (it is not a flood that has the probability to occur once every one-hundred years, which is a common misnomer). The 500-year base flood has a one in five-hundred chance of occurring in any given year. The computed elevation to which floodwater is anticipated to rise during the base flood is the Base Flood Elevation (BFE).⁷⁹

The classifications of floodplains located within the Study Area for the Proposed Action are depicted on **Exhibit 3.9, Flood Hazard Zones**. As shown on **Exhibit 3.9**, the majority of the Study Area is determined to be outside of the 500-year floodplain. Other portions of the Study Area are designated as having the potential for flooding both with and without the determination of a base flood elevation. Some portions of the Study Area are designated to have the potential to flood at an estimated annual percentage rate of 0.2 percent. Still other portions of the Study Area for the Proposed Action are designated as floodways. The designated floodway is the stream channel and that portion of the adjacent floodplain that must remain open to permit passage of the base flood. Floodwaters generally are deepest and swiftest in the floodway, and anything in this area is in the greatest danger during a flood.⁸⁰

⁷⁸ *Managing Floodplain Development Through the National Flood Insurance Program (NFIP)*. Emergency Management Institute. August 1999. On-line at: <http://www.fema.gov/nfip/nfipsg.shtm/>.

⁷⁹ *Managing Floodplain Development Through the National Flood Insurance Program (NFIP)*. Emergency Management Institute. August 1999. On-line at: <http://www.fema.gov/nfip/nfipsg.shtm/>.

⁸⁰ *Managing Floodplain Development through the National Flood Insurance Program (NFIP)*. Emergency Management Institute. August 1999. On-line at: <http://www.fema.gov/nfip/nfipsg.shtm/>.

3.6 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Federal, state, and local laws have been enacted to preserve cultural resources throughout the United States. The *National Historic Preservation Act (NHPA) of 1966* requires that projects that occur on federal lands, are funded by federal monies, or that require a federally-issued permit be evaluated for their impacts to historic properties.⁸¹ Other applicable federal laws include the *National Environmental Policy Act of 1969 (NEPA)*,⁸² the *American Indian Religious Freedom Act of 1978*,⁸³ the *Archaeological Resources Protection Act of 1979*,⁸⁴ the *Native American Graves Protection and Repatriation Act of 1990*,⁸⁵ and Section 4(f)/303(c) of the *Department of Transportation Act of 1966*.⁸⁶ Section 106 of the NHPA defines the consultation process that agencies must follow to evaluate direct, indirect, and cumulative impacts that undertakings could potentially have on historic properties and identifies options to mitigate or avoid adverse effects.

Historic properties include prehistoric and historic districts, sites, buildings, structures, or objects included in, or considered eligible for inclusion in, the National Register of Historic Places (NRHP). Historic properties may be eligible for nomination to the NRHP if they possess integrity of location, design, setting, materials, workmanship, feeling, and association; and if these resources are associated with any of the following criteria:

- Significant themes in our nation's history
- Significant persons in our nation's history
- Embody distinctive construction characteristics or works of a master
- Have the potential to contribute information significant to history or prehistory

3.6.1 Sites Listed on the National and/or State of Nevada Registers of Historic Places

Table 3.3 lists the sites and properties that are listed on the National and State of Nevada Registers of Historic Places that are located either partially or wholly within the Study Area for the Proposed Action; **Exhibit 3.10, Historic Properties**, shows the location of these properties within the Study Area for the Proposed Action. As shown in **Table 3.3**, there are twenty-two historic sites in the Study Area for the Proposed Action that are listed on the National and/or State of Nevada Registers of Historic Places. Of these twenty-two sites, twenty-one are located within the City of Las Vegas. The remaining site, the Morelli House, is located within the City of North Las Vegas.

⁸¹ 16 United States Code [U.S.C.] 470 et seq., as amended

⁸² 42 U.S.C. 4321

⁸³ 42 U.S.C. 1996, P.L. 95-341

⁸⁴ 16 U.S.C. 470aa-mm

⁸⁵ 25 U.S.C. 3001–3013

⁸⁶ 23 U.S.C. 138

The listings in **Table 3.3** contain each site's National Register Information System (NRIS) identification number. The NRIS is a database that contains information on places listed in or determined eligible for the National Register of Historic Places. Established under the *National Historic Preservation Act of 1966*, the National Register has identified and documented, in partnership with state, federal, and tribal preservation programs nearly 79,000 districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. Over 1 million contributing resources are included in the boundaries of National Register listings. Recognizing a vast and diverse array of historic properties throughout the United States and its territories, the National Register has been a catalyst for preserving communities, maintaining cultural traditions, recognizing community history, and revitalizing cities across the United States. The Register includes landmarks of American achievement as well as properties that reflect the everyday lives of ordinary people in communities across the nation.⁸⁷

⁸⁷ Using the National Register Information System (NRIS). On-line at:
<http://www.cr.nps.gov/nr/research/nris.htm/>. Retrieved October 13, 2005.

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Table 3.3
PROPERTIES LISTED ON THE NATIONAL AND STATE OF NEVADA REGISTERS OF HISTORIC PLACES,
LOCATED WITHIN THE STUDY AREA

NRIS Number	Resource Name and Address	Historic Significance	Date Listed	Registry (National, State of Nevada, or Both)	Location ID on Exhibit 3.10, Historic Properties
03001509	Clark Avenue Railroad Underpass (aka Bonanza Road Underpass) Bonanza Road and Union Pacific Railroad Tracks, Las Vegas	Historic Significance: Event Historic Function: Transportation Historic Sub-Function: Rail-Related	Jan. 28, 2004	National	1
94000552	Green Shack 2504 E. Fremont Street, Las Vegas	Historic Significance: Event Historic Function: Commerce/Trade Historic Sub-Function: Restaurant	Jun. 3, 1994	National	2
87001890	Hanson Hall (aka Union Pacific Storehouse) 700 Dividend Drive, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Commerce/Trade, Social, Transportation Historic Sub-Function: Meeting Hall, Rail-Related, Warehouse	1994	National	3
93000686	Huntridge Theater 1208 E. Charleston Boulevard, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Recreation and Culture Historic Sub-Function: Theater	Jul. 22, 1993	Both	4
87001891	Ice Plant (Pacific Fruit Express Company Ice Plant) 612 S. Main Street, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Industry, Processing, Extraction, Transportation Historic Sub-Function: Manufacturing, Rail-Related	1987	National	5

Table 3.3, Continued
PROPERTIES LISTED ON THE NATIONAL AND STATE OF NEVADA REGISTERS OF HISTORIC PLACES,
LOCATED WITHIN THE STUDY AREA

NRIS Number	Resource Name and Address	Historic Significance	Date Listed	Registry (National, State of Nevada, or Both)	Location ID on Exhibit 3.10, Historic Properties
03000412	John S. Park Historic Park (aka Park Place Addition) Roughly bounded by Charleston Blvd., Las Vegas Blvd., Franklin Ave., & 9th St., Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Domestic Historic Sub-Function: Single Dwelling	2003	National	6
79001460	Las Vegas Grammar School (aka Westside School) Washington and D Streets, Las Vegas	Historic Significance: Event Historic Function: Education Historic Sub-Function: School	Apr. 2, 1979	Both	7
88000549	Las Vegas Grammar School (aka 5th Street School) 400 S. Las Vegas Boulevard, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Education Historic Sub-Function: School	May 20, 1998	National	8
86002293	Las Vegas High School Academic/Administration Building and Gym 315 S. Seventh Street, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Education Historic Sub-Function: School	Sep. 24, 1986	National	9
90002204	Las Vegas High School Neighborhood Historic District Bounded by Bridger, 9 th , Gass, and 6th Streets, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Domestic, Education Historic Sub-Function: Multiple Dwelling, School, Secondary Structure, Single Dwelling	Jan. 30, 1991	National	10
87001340	Las Vegas Hospital 201 N. 8th Street, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Health Care Historic Sub-Function: Hospital	2000	National	11

Table 3.3, Continued
PROPERTIES LISTED ON THE NATIONAL AND STATE OF NEVADA REGISTERS OF HISTORIC PLACES,
LOCATED WITHIN THE STUDY AREA

NRIS Number	Resource Name and Address	Historic Significance	Date Listed	Registry (National, State of Nevada, or Both)	Location ID on Exhibit 3.10, Historic Properties
72000764	Las Vegas Mormon Fort 900 N. Las Vegas Boulevard, Las Vegas	Historic Significance: Architecture/Engineering Historic Function: Defense Historic Sub-Function: Fortification	Feb. 1, 1972	Both	12
78001719	Las Vegas Springs Address Restricted, Las Vegas	Historic Significance: Event, Information Potential Historic Function: Agriculture/Subsistence, Domestic, Transportation Historic Sub-Function: Animal Facility, Camp, Road-Related	Dec. 14, 1978	Both	13
87001892	Lincoln Hotel (aka Victory Hotel- Motel) 307 S. Main Street, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Domestic Historic Sub-Function: Hotel	1987	National	14
92001701	Moulin Rouge Hotel 900 W. Bonanza Road, Las Vegas	Historic Significance: Event Historic Function: Domestic, Recreation and Culture Historic Sub-Function: Hotel, Theater	Dec. 22, 1992	National	15
87001622	Railroad Cottage Historic District 601-629 S. Casino Center, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Domestic Historic Sub-Function: Single Dwelling	Dec. 22, 1987	National	16
87000077	Jay Dayton Smith House 624 S. Sixth Street, Las Vegas	Historic Significance: Architecture/Engineering Historic Function: Domestic Historic Sub-Function: Secondary Structure, Single Dwelling	Feb. 20, 1987	National	17

Table 3.3, Continued
PROPERTIES LISTED ON THE NATIONAL AND STATE OF NEVADA REGISTERS OF HISTORIC PLACES,
LOCATED WITHIN THE STUDY AREA

NRIS Number	Resource Name and Address	Historic Significance	Date Listed	Registry (National, State of Nevada, or Both)	Location ID on Exhibit 3.10, Historic Properties
26CK3848	Old Spanish National Historic Trail Passes through Las Vegas	Historic Significance: Event, Information Potential Historic Function: Transportation Historic Sub-Function: Pedestrian Related	2001	National	18
Unknown	U.S. Post Office and Courthouse 301 E. Stewart Avenue, Las Vegas	Historic Significance: Building	Feb. 10, 1983	National	19
75001107	Kyle Ranch Losee Street and Carey Avenue, Las Vegas	Historic Significance: Event, Architecture/Engineering Historic Function: Domestic Historic Sub-Function: Multiple Dwelling, Single Dwelling	Oct. 6, 1975	Both	20
Unknown	Washington School 1901 N. White Street, Las Vegas	Historic Significance: School Building	Mar. 10, 1992	National	21
N/A	Morelli House 814 Bridger Avenue, North Las Vegas	Historic Significance: Building	Oct. 1, 2001	State	22

NRIS: National Register Information System
N/A: Not Applicable

Sources:

National Register of Historic Places, Nevada, Clark County. On-line at <http://www.nationalregisterofhistoricplaces.com/NV/Clark/state.html>. Retrieved September 20, 2005.
National Register of Historic Places, Index by State and County, Clark County, Nevada. On-line at <http://www.nr.nps.gov/>. Retrieved September 20, 2005.
Nevada State Register of Historic Places. Nevada Department of Cultural Affairs, State Historic Preservation Office. On-line at: <http://dmla.clan.lib.nv.us/>. Retrieved September 20, 2005.

3.6.2 Native American Lands

As previously discussed in **Section 3.4.5**, a 10-acre portion of the Las Vegas Paiute Tribe's total 3,850 acres of reservation lands are located within the Study Area for the Proposed Action. These ten acres are located within the city limits of Las Vegas, on the west side of Main Street, one mile north of downtown Las Vegas. The location of the Las Vegas Paiute Reservation within the Study Area is shown on **Exhibit 3.6, Public Lands**.

3.7 LAND USE

3.7.1 Existing Land Use in the Study Area

The existing land use in the Study Area for the Proposed Action (see **Exhibit 3.11**) is categorized as residential, commercial use, manufacturing and production, recreational, and public use. As shown on **Exhibit 3.11**, residential and commercial land uses account for the majority of land in the central and western portions of the Study Area, which are the most heavily developed areas. A relatively small residential and commercial use area is also located in the southeastern corner of the Study Area, near Lake Mead.

The eastern portion and far-western edge of the Study Area is predominantly designated as recreational. Public use areas, such as parks and community facilities, are concentrated in the developed central and western portions of the Study Area. Manufacturing and production areas are located on the outer edges of the Study Area, along major roadways, with the exception of a large manufacturing and production area located in the eastern portion of the Study Area to the east of Nellis Air Force Base.

3.7.1.1 Cooperative Management Area (CMA)

The Cooperative Management Agreement (CMA) between the Bureau of Land Management (BLM) and Clark County, Nevada was established 1992 as a means to allow the Clark County Department of Aviation (CCDOA) to provide continual property patrol and management services of federal public lands that lie underneath the departure flight tracks from runways at LAS.

As stated in **Section 3.4.1, Bureau of Land Management**, the Federal Land Policy and Management Act of 1976 (FLPMA) established multiple use management of public lands, which allows for the BLM to lease or occasionally sell certain public lands for government revenue production and development.⁸⁸ The Cooperative Management Agreement between BLM and CCDOA allows CCDOA the opportunity to review and comment on the proposed sale of federal lands under the LAS departure

⁸⁸ U.S. Department of the Interior Bureau of Land Management, *Frequently Asked Questions, How does the BLM select land that might be sold?* On-line at: <http://www.blm.gov/nhp/faqs/>. June 21, 2001.

flight tracks in an effort to ensure that the land is not developed into uses that are incompatible with CCDOA's efforts to reduce the effects of aircraft noise on people living and working in the airport environs. In exchange, CCDOA uses its resources to provide continual property patrol and management services of the land within an area that ultimately became known as the CMA.

The objectives of the Cooperative Management Agreement (CMA) are as follows:

- To provide proper land use planning and management to protect against the encroachment of incompatible land uses on federal land under the airspace used for aircraft departing to the west and southwest of McCarran International Airport;
- To facilitate the efficient management and protect against unlawful use of public land in these areas;
- To ensure that the affected areas are regularly patrolled and monitored to reduce unlawful disposal of trash, litter and hazardous materials;
- To prevent the transfer of public lands to private ownership without the concurrence of Clark County.

Because a great deal of this federal land (approximately 5,230 acres) underlies the primary departure flight tracks from LAS and since most of this public land is intermixed with undeveloped private land, the opportunity for some innovative, compatible land use planning existed. Refer to **Appendix B** for a discussion of Compatible Land Use (see **Section B.3.3.1, Compatible Land Use Planning**). Since its enactment, the CMA has given local planners and administrators a tool to somewhat control haphazard growth and also maintain airport land use compatibility.

3.7.1.2 Airport Environs Overlay District/FAR Part 150 Noise Compatibility Program

In January of 1985, as an outgrowth of the Aviation Safety and Noise Abatement Act, the FAA issued regulations for airports on how to conduct aircraft noise compatibility studies. A noise compatibility study is commonly referred to as a "Part 150 Study" and consists of two products: 1) A Noise Exposure Map and (2) a document setting forth the measures that the airport operator has taken or proposes to take to reduce existing non-compatible land uses and the prevention of the introduction of additional non-compatible land uses within the area covered by the noise exposure map.⁸⁹

Clark County began a Part 150 Study for LAS in June of 1987 and completed an update to the Study in June of 1994. Currently, a second update to the Study is ongoing. As part of the 1994 update, Clark County included the Cooperative Management Agreement (CMA) with the BLM as a new preventive noise mitigation measure (see also **Section 3.7.1.1, Cooperative Management Agreement**).

⁸⁹ Federal Aviation Regulation (FAR) Part 150, *Airport Noise Compatibility Planning*.

This measure was subsequently approved by the FAA in March of 1995.⁹⁰

The FAA continues to press local airport operators to restrict their consideration of remedial land use measures (buyout, soundproofing, easements, purchase assurance, etc.) to existing non-compatible development and to focus on preventive land use measures such as comprehensive planning, zoning, subdivision regulations, building codes, real estate disclosure, and acquisition of vacant land, for potentially new non-compatible development. Clark County has responded to this new focus by partnering with the BLM to prevent new non-compatible development within the CMA. Additionally, CCDOA has established an Airport Environs Overlay District, developed agreements with surrounding communities for promotion of land use compatibility, and has provided local real estate professionals and land developers with information regarding civilian aircraft operation and aircraft noise issues. In November 2003, CCDOA disseminated a letter to more than 15,000 licensed real estate agents, brokers and developers in order to provide the real estate professionals involved with the development and/or selling transactions of residential property information regarding civilian aircraft operations in Clark County.⁹¹ **Exhibit 3.12** displays the areas within the Las Vegas Valley that received this information.

As shown on **Exhibit 3.12**, within the areas labeled as "Forewarned and Noise Disclosure Conditioned," Clark County conditioned the project as part of the approval process with the issuance of a noise disclosure statement. This means that each buyer or renter located within these areas was given a noise disclosure statement to review and sign. Likewise, within these areas, builders are required to meet 25 decibel or higher sound attenuation construction techniques. Within the areas labeled as "Forewarned about Noise Impacts," the Airport forewarned the developer of the potential noise impacts. The determination of how to achieve sound attenuation was the responsibility of the developer/builder. Within the areas labeled as "Forewarned and Recommended Noise Disclosure," the Airport forewarned the developer of the area's close proximity to arrivals/departure corridors and recommended disclosure of such potential issues to buyers and renters within these areas. The determination of how to achieve sound attenuation was the responsibility of the developer/builder.⁹²

⁹⁰ McCarran Airport Noise Study. On-line at: <http://www.mccarrannoisestudy.com/>. 2005.

⁹¹ McCarran International Airport, *Current Projects, Realtor Information*. On-line at: http://www.mccarran.com/04_05_CurProjects.asp/. Retrieved January 11, 2006.

⁹² Clark County Department of Aviation, 2006.

3.7.2 Planned Future Land Uses in the Study Area

Exhibit 3.13 shows the planned future land use in the Study Area for the Proposed Action, which, like existing land use, is categorized as residential, commercial use, manufacturing and production, recreational, and public use.

As shown on **Exhibit 3.13**, it is planned that residential and commercial land uses would continue to account for the majority of land in the central and western portions of the Study Area, which are the most heavily developed areas. The amount of public use land areas in the developed areas of the Study Area would decrease in the future, while the amount of recreational land uses would increase. The eastern portion and far-western edge of the Study Area would continue to be predominantly designated as recreational in the future. Manufacturing and production areas would continue to be located on the outer edges of the Study Area, along major roadways.

One change planned for the future is that an existing area of manufacturing and production land use along Interstate 215 in the northern section of Enterprise, would be commercial use in the future. A large manufacturing and production area located in the eastern portion of the Study Area to the east of Nellis Air Force Base would continue unchanged in the future.

3.7.2.1 Planned Future Developments in Downtown Las Vegas

Table 3.4 lists and **Exhibit 3.14** shows the planned future developments in the downtown area of the City of Las Vegas.

**Table 3.4
PLANNED FUTURE DEVELOPMENTS IN DOWNTOWN LAS VEGAS**

Location ID on Exhibit 3.14	Name	Type of Development	Description	Status
1	World Market Center Furniture Mart (Phases I & II)	Private and Commercial	UA	Proposed
2	Union Park	Government and Public	61 Acres	Approved
3	Tavern at 511 Fremont	Private and Commercial	UA	Under Construction
4	Huntridge Theater Restaurant and Tavern	Private and Commercial	UA	Proposed
5	Clark County Detention Center Expansion	Government and Public	UA	Under Construction
6	Stanhi Condos	Residential	425 Units , 65 Stories	Under Construction
7	Police Protective Association Building	Government and Public	UA	Completed
8	Offices	Private and Commercial	12,100 sq. ft.	Under Construction
9	Regional Justice Center	Government and Public	UA	Permitting
10	Downtown Senior Service Center	Government and Public	UA	Approved
11	Office Building	Private and Commercial	2 Stories , 9,805 sq. ft.	Under Construction
12	Neon Museum	Government and Public	UA	Under Construction
13	L'Octaine Apartments	Residential	51 Units , 4 Stories	Approved
14	Mixed-Use Developments	Residential	296 Units , 7 Stories , 20,000 sq. ft.	Under Construction
15	Soho Lofts (w/ Retail)	Residential	120 Units , 15 Stories , 4,000 sq. ft.	Under Construction
16	Historic Post Office Renovation	Government and Public	UA	Under Construction
17	Lady Luck Pedestrian Mall Expansion	Private and Commercial	UA	Approved

Table 3.4, Continued
PLANNED FUTURE DEVELOPMENTS IN DOWNTOWN LAS VEGAS

Location ID on Exhibit 3.14	Name	Type of Development	Description	Status
18	Assisted Living Apartments	Residential	165 Units , 6 Stories	Approved
19	LV Academy Performing Arts Theater	Government and Public	UA	Approved
20	Retail & Parking Garage	Private and Commercial	18,000 sq. ft., 423 Parking Spaces	Approved
21	Deli	Private and Commercial	1,500 sq. ft.	Under Construction
22	Tavern	Private and Commercial	1,500 sq. ft.	Under Construction
23	Apartment Complex	Residential	32 Units , 3 Stories	Under Construction
24	Commercial & Parking Garage	Private and Commercial	3 Story Parking Structure	Proposed
25	Wedding Chapel	Private and Commercial	3,125 sq. ft.	Proposed
26	2 Taverns (Suite 110 & 120)	Private and Commercial	UA	Approved
27	Office Conversion	Private and Commercial	1,495 sq. ft.	Proposed
28	Retail	Private and Commercial	3,170 sq. ft.	Approved
29	Main Street Tower	Residential	411 Units , 39 Stories	Permitting
30	Coffee Shop and Copy Center	Private and Commercial	14,525 sq. ft.	Under Construction
31	Church	Private and Commercial	28,849 sq. ft.	Approved
32	Law Office Conversion	Private and Commercial	3,354 sq. ft.	Approved
33	City Hall Tower 2	Government and Public	UA	Approved
34	Tavern	Private and Commercial	3,040 sq. ft.	Under Construction
35	Arts Garage	Private and Commercial	UA	Approved
36	Retail & Parking Garage	Private and Commercial	150,000 sq. ft. , 8 Stories	Under Construction

Table 3.4, Continued
PLANNED FUTURE DEVELOPMENTS IN DOWNTOWN LAS VEGAS

Location ID on Exhibit 3.14	Name	Type of Development	Description	Status
37	Live / Work Multi-Family Residential Complex	Residential	30 Units , 3 Stories	Permitting
38	Callister Office Building	Private and Commercial	40,000 sq. ft.	Approved
39	Liberty Tower	Residential	134 Unit Mixed-Use Building , 21 Story	Permitting
40	Allure Condos	Residential	808 Units (2 Towers) , 41 Story	Approved
41	Exceed Condos	Residential	84 Units , 8 Stories	Approved
42	Apartment Building	Residential	8 Units	Approved
43	Newport Lofts	Residential	168 Units , 23 Stories	Approved
44	Professional Office Building	Private and Commercial	1,388 sq. ft.	Proposed
45	Eighty on 4th	Residential	89 Units , 39 Stories / 514 feet tall	Approved
46	930 @ Third	Residential	86 Unit Mixed-Use Building , 5 Stories	Approved
47	Apartment Complex	Residential	108 Units , 6 Buildings	Permitting
48	Single Family Home Development	Residential	92 Units	Approved
49	The Ivana	Residential	951 Units , 73 Stories / 923 feet tall	Permitting
50	Sandhurst Las Vegas	Residential	413 Units , 35 Stories / 367 ft. , 29,810 sq. ft.	Permitting
51	Grandview Towers	Residential	1,445 Units , 20 Stories	Approved
52	Scandia Site (Opus)	Residential	2,350 Unit Towers , 50 Stories	Approved
53	Condo Building	Residential	4 Units , 3 Stories	Under Construction
54	Wedding Chapel	Private and Commercial	3,676 sq. ft.	Approved

Table 3.4, Continued
PLANNED FUTURE DEVELOPMENTS IN DOWNTOWN LAS VEGAS

Location ID on Exhibit 3.14	Name	Type of Development	Description	Status
55	Home Conversion to Office	Private and Commercial	2,432 sq. ft.	Approved
56	Live / Work Development	Residential	71 Units , 3 Stories	Approved
57	Building Site	Government and Public	UA	Permitting
58	Fremont Village	Residential	152 Units , 4 Stories , 21,000 sq. ft.	Approved
59	Historic 5th Street School Site (Re-use)	Private and Commercial	UA	Approved
60	Citymark (juhl) Mixed-Use Project	Residential	355 Units , 15 Stories	Approved
61	The Right Hook Tavern	Private and Commercial	UA	Proposed
62	Loa Thai Cuisine / Tavern	Private and Commercial	UA	Approved
63	Flatiron	Residential	319 Units , 50 Stories	Approved
64	Medical Office Development	Private and Commercial	UA	Proposed
65	Condo Tower (Evolution I)	Residential	98 Units , 21 Stories	Approved
66	Ogden Pines II	Residential	60 Units , 5 Stories	Approved
67	Streamline Condos	Residential	251 Units , 22 Stories	Approved
68	Home Conversion to Office	Private and Commercial	5,362 sq. ft.	Proposed
69	Restaurant Service Bar	Private and Commercial	UA	Approved
70	Condo Tower (Evolution II)	Residential	159 Units , 28 Stories , 6,200 sq. ft.	Approved
71	Residence Hotel	Residential	120 Units , 4 Stories	Approved
72	Cielo Vista "Sky View" Condos	Residential	373 Units , 23 Stories , 22,825 sq. ft.	Approved
73	Simayof Tower	Residential	460 Units , 24 Stories , 20,000 sq. ft. Retail	Approved

Table 3.4, Continued
PLANNED FUTURE DEVELOPMENTS IN DOWNTOWN LAS VEGAS

Location ID on Exhibit 3.14	Name	Type of Development	Description	Status
74	H.U.E. Lofts	Residential	270 Units , 38 Stories	Proposed
75	Club Renaissance	Residential	912 Units , 60 Stories	Proposed
76	Condo Tower	Residential	664 Units , 5-9 Stories , 24,970 sq. ft.	Approved
77	Building Addition (Medical District)	Private and Commercial	104,000 sq. ft.	Proposed
78	Car Wash / Drive-Thru / Deli / Coffee Shop	Private and Commercial	3,209 sq. ft.	Proposed
79	Live / Work Las Vegas Condos	Residential	280 Units , 25 Stories , 20,000 sq. ft.	Proposed
80	Hotel Tower w/ Rooftop Wedding Chapel	Residential	204 Units	Proposed
81	The View	Residential	471 Units , 25 Story Tower	Approved
82	Grand Central Center	Residential	816 Units , 16/24/32 Story Towers , 73,464 sq. ft.	Proposed
83	Wall Street Towers	Residential	3,012 Units, 500/2-950ft. Towers , 190,000 sq. ft.	Proposed
84	Office Building	Private and Commercial	6,111 sq. ft.	Proposed
85	Office Building Addition	Private and Commercial	3,300 sq. ft	Proposed
86	Residential Hotel	Residential	20 Units	Proposed
87	SNWA Building (Office & Retail)	Government and Public	350,000 sq. ft. , 17 Stories	Proposed
88	French Quarter Lofts	Residential	34 Units , 11 Stories	Proposed
89	Condo Tower (w/ Commercial)	Residential	349 Units , 45 Stories	Proposed

Table 3.4, Continued
PLANNED FUTURE DEVELOPMENTS IN DOWNTOWN LAS VEGAS

Location ID on Exhibit 3.14	Name	Type of Development	Description	Status
90	Live / Work Block C	Residential	296 Units , 311,654 sq. ft.	Proposed
91	Office Building	Private and Commercial	12,876 sq. ft.	Under Construction
92	Tavern	Private and Commercial	UA	Completed

UA – Data Unavailable

Source: Las Vegas, Nevada, Planned Future Development GIS data. Provided by the City of Las Vegas. October 2005.

As shown on **Table 3.4** and on **Exhibit 3.14**, 92 new developments are proposed, planned, or have recently been completed in the downtown Las Vegas area. Of the 92 developments, 11 are classified as government and public, 36 are private and commercial, and 45 are residential. Of the 45 residential developments, 15 are at or above 25 stories in height, the tallest of which is the Wall Street Towers Complex, which proposes two residential towers, each at 950 feet in height.⁹³

3.8 GOVERNMENTAL AND POLITICAL JURISDICTIONS

As shown on **Exhibit 1.1**, the Study Area for the Proposed Action lies entirely within Clark County, Nevada. The following cities and unincorporated communities are located either partially or wholly within the Study Area.

- Enterprise
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Paradise
- Spring Valley
- Summerlin South
- Sunrise Manor
- Whitney
- Winchester

⁹³ Las Vegas, Nevada, Planned Future Development GIS data. Provided by the City of Las Vegas. October 2005.

The political and governmental jurisdictions that fall within the Study Area for the Proposed Action are delineated by the United States Federal Government, the State of Nevada, Clark County, Nevada, and the cities of Henderson, North Las Vegas, and Las Vegas. See **Exhibits C.1 through C.5** in **Appendix C, Supporting Data for Analysis of Affected Environment**, for graphic representations of the federal, state, county, and local governmental and political jurisdictions that fall within the Study Area.

3.8.1 Federal Government

Two U.S. Senators, John Ensign and Harry Reid, and three U.S. Representatives, Shelley Berkley, Jim Gibbons, and Jon Porter, represent the State of Nevada in the Legislative Branch of the Federal Government.^{94,95} Portions of their respective Senate and Congressional boundaries lie within the Study Area, as shown in **Exhibit C.1**, found in **Appendix C** of this document. In addition, a portion of Nellis Air Force Base, owned and operated by the Federal Government, is also located within the Study Area for the Proposed Action.

3.8.2 Nevada State Government

Nevada entered statehood in 1864 and modeled its government after the U.S. Federal Government with the establishment of Executive, Legislative, and Judicial Branches.⁹⁶ The Nevada State Legislature consists of 21 State Senators and 42 Assemblymen and Assemblywomen, each representing legislative districts that are located either partially or wholly within the Study Area for the Proposed Action. Of the 21 State Senators in Nevada, 14 represent districts that fall within the Study Area; of the 42 Assemblymen and Assemblywomen in Nevada, 26 represent districts that fall within the Study Area, as shown in **Exhibits C.2 and C.3**, found in **Appendix C** of this document.⁹⁷

3.8.3 Clark County, Nevada

Clark County, Nevada is run by its Board of Commissioners, elected from seven geographic districts for staggered four-year terms. The Board of Commissioners serves as the governing body of five boards/districts within Clark County. These include the Las Vegas Valley Water District, the Clark County Sanitation District, the University Medical Center of Southern Nevada, the Big Bend and Kyle Canyon Water Districts, and the Clark County Liquor and Gaming Board. Additionally, the Clark

⁹⁴ United States Senate. On-line at: http://www.senate.gov/general/contact_information/senators_cfm.cfm?State=NV/. Retrieved September 26, 2005.

⁹⁵ Office of the Clerk of the United States House of Representatives. On-line at: <http://clerk.house.gov/members/index.html/>. Retrieved September 26, 2005.

⁹⁶ Department of Cultural Affairs, Nevada State Library and Archives. On-line at: <http://dmla.clan.lib.nv.us/does/nsla/services/nvfacts.htm/>. Retrieved October 3, 2005.

⁹⁷ Nevada Legislature. On-line at: http://www.leg.state.nv.us/General/General_Short.cfm/. Retrieved September 27, 2005.

County Board of Commissioners hires a County Manager who oversees administrative operation of County Government.⁹⁸ See **Exhibit C.4**, found in **Appendix C** of this document, for the Clark County Board of Commissioners' districts that are located either partially or wholly within the Study Area.

3.8.4 City Governments and Unincorporated Communities

Three incorporated cities (Henderson, North Las Vegas, and Las Vegas) and seven unincorporated communities are located either partially or wholly within the Study Area for the Proposed Action. **Exhibit C.5**, found in **Appendix C** of this document, shows the City Council Wards for the Cities of Henderson, North Las Vegas, and Las Vegas that are located either partially or wholly within the Study Area.

3.8.4.1 City Governments

The City of Henderson operates as a Council Government. The City itself is divided into four wards and the City Council and Mayor are elected at large. The City Council appoints a City Manager who is responsible for the operations of the City of Henderson.⁹⁹ The City of Las Vegas also operates as a Council Government. The City is divided into six wards, from which the City Council and the mayor are elected. The City Council appoints a City Manager who is responsible for the operation of all municipal services for the City of Las Vegas.¹⁰⁰ Likewise, the City of North Las Vegas also operates as a Council Government with the City divided into four wards, from which the City Council and Mayor are elected at large to serve a specific ward. The City Council appoints a City Manager that is responsible for the administrative operations of the City of North Las Vegas.¹⁰¹ See **Exhibit C.5** for the City Council Wards that fall within the Study Area.

3.8.4.2 Unincorporated Communities

As shown in **Exhibit C.5**, the seven unincorporated communities of Enterprise, Paradise, Spring Valley, Summerlin South, Sunrise Manor, Whitney, and Winchester are located either partially or wholly within the Study Area for the Proposed Action. Each of these communities is run by its own local Town Advisory Board. In addition, the Clark County Administrative Services Department and the Board of County Commissioners oversee town and liaison services for the unincorporated communities in Clark County. Staff members of the Town and Liaison Services are responsible for responding to neighborhood concerns through facilitation,

⁹⁸ Clark County Commission. On-line at: <http://www.co.clark.nv.us/Commission/Commission.htm/>. Retrieved September 26, 2005.

⁹⁹ The City of Henderson, Nevada. On-line at: <http://www.cityofhenderson.com/mayour/php/mayorbody.php/>. Retrieved October 3, 2005.

¹⁰⁰ The City of Las Vegas, Nevada. On-line at: http://www.lasvegasnevada.gov/Government/city_govt.htm/. Retrieved October 3, 2005.

¹⁰¹ The City of North Las Vegas, Nevada. New Resident Guide. On-line at: <http://www.cityofnorthlasvegas.com/Departments/PIO/PDFs/CNLVNewResidentGuide.pdf/>. Retrieved October 3, 2005.

coordination, networking, and problem-solving with various community organizations, advisory boards, and government agencies.¹⁰²

3.9 SOCIOECONOMIC PROFILE

This section provides an overview of the socioeconomic conditions within the Study Area for the Proposed Action, which is entirely within the boundary of Clark County, Nevada.

3.9.1 Historic and Current Population

As previously stated in **Section 3.9, Governmental and Political Jurisdictions**, of this chapter, the Study Area for the Proposed Action includes either the entire area or portions of the following eleven communities, which are located entirely within the boundary of Clark County, Nevada.

- Enterprise
- City of Henderson
- City of Las Vegas
- Nellis Air Force Base
- City of North Las Vegas
- Paradise
- Spring Valley
- Summerlin South
- Sunrise Manor
- Whitney
- Winchester

Refer to **Sections 3.10.1.1 through 3.10.1.4** of this chapter for detailed information about Clark County and each of the above-listed communities. **Table 3.5, Population Comparison**, compares the populations of the United States as a whole, the State of Nevada, Clark County, the communities within the Study Area for the Proposed Action for the U.S. Census years of 1980, 1990, and 2000.

As shown in **Table 3.5**, the populations of the State of Nevada, Clark County, Nevada, and the communities within the Study Area grew at higher rates than the United States as a whole between 1980 and 2000. The exception is Nellis Air Force Base, which experienced a 19 percent population growth between 1980 and 2000, as compared to 24 percent population growth seen in the United States as a whole during the same time period.

¹⁰² Clark County, Nevada Administrative Services Department. On-line at:
http://www.co.clark.nv.us/Administrative_services/AdministrativeServicesDeptHomepage.htm/.
Retrieved September 12, 2005.

The State of Nevada's population grew by 150 percent and Clark County grew by 197 percent from 1980 to 2000. Of the communities within the Study Area, population growth ranged from 37 percent at Winchester, to a 620 percent population increase at the City of Henderson between 1980 and 2000. Sunrise Manor also saw a large population increase with 254 percent growth between 1980 and 2000. The City of Las Vegas' population increased 191 percent during the same time period. The remaining communities in the Study Area each saw at least a 100 percent population increase between 1980 and 2000.

Table 3.5
POPULATION COMPARISON FOR STUDY AREA
1980-2000

Population Area	Census 1980	Census 1990	Census 2000	Percent Change 1980-2000
United States	226,542,199	248,709,873	281,421,906	24%
Nevada	800,493	1,201,833	1,998,257	150%
Clark County, Nevada	463,087	741,459	1,375,765	197%
Study Area Communities				
Enterprise CDP ^{1/, 2/}	N/A	6,412	14,676	129% ^{4/}
City of Henderson	24,363	64,942	175,381	620%
City of Las Vegas	164,674	258,295	478,434	191%
Nellis Air Force Base CDP ^{1/}	7,476	8,377	8,896	19%
City of North Las Vegas	42,739	47,707	115,488	170%
Paradise CDP ^{1/}	84,818	124,682	186,070	119%
Spring Valley CDP ^{1/, 2/}	N/A	51,726	117,390	127% ^{4/}
Summerlin South CDP ^{1/, 2/, 3/}	N/A	N/A	3,735	N/A
Sunrise Manor CDP ^{1/}	44,155	95,362	156,120	254%
Whitney CDP ^{1/, 2/, 3/}	N/A	N/A	18,273	N/A
Winchester CDP ^{1/}	19,728	23,365	26,958	37%

Notes:

^{1/} A Census Designated Place (CDP) is a statistical entity defined for each decennial census according to Census Bureau guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by state and local officials and the Census Bureau, following Census Bureau guidelines. Beginning with Census 2000, there are no size limits. *U.S. Census Bureau. 2000.*

^{2/} 1980 population information is not reported by the U.S. Census Bureau for this community.

^{3/} 1990 population information is not reported by the U.S. Census Bureau for this community.

^{4/} Percent Change in Population 1990 – 2000.

Sources: U.S. Census Bureau. *Census 2000, Summary File 2 (SF 2), Matrix P1.*

U.S. Census Bureau. *Census 1990. Summary Tape File 1 (STF 1), Matrix P001.*

United States Population, Housing Units, Area Measurements, and Density: 1790 to 1990.

U.S. Census Bureau.

1980 Census of Population, Volume 1: Characteristics of the Population, Chapter A: Number of Inhabitants, Part 30: Nevada. PC80-1-A30. U.S. Census Bureau.

3.9.1.1 Clark County, Nevada

Clark County is a political subdivision of the State of Nevada, formed in 1909 by William Andrews Clark who established the first railroad link between Los Angeles and Salt Lake City. Clark County is operated under the provisions of the general laws of the state. The Clark County seat of government is the City of Las Vegas. Clark County is comprised of 8,012 square miles and includes five incorporated cities: Las Vegas, Henderson, North Las Vegas, Boulder City, and Mesquite. Clark County is the most populous of Nevada's 17 counties, with 1.7 million residents and 70 percent of the state's population in 2004.¹⁰³

Clark County provides the following regional services to all incorporated and unincorporated areas of the county. In addition, Clark County provides general city services, such as public works, building inspections, fire protection, and parks and recreation, to unincorporated areas.¹⁰⁴

- Air quality and environmental management
- Water supply and flood control
- Aviation and surface transportation systems
- Public health, including southern Nevada's only public hospital
- Social services
- Community planning
- Court system
- Tourism promotion

Clark County has grown in population and has developed the Las Vegas area into the biggest city in the state. **Table 3.6, Historic Percentage of State Population**, shows the growth of Clark County and the percentage of Nevada population that Clark County has represented from 1900 through 2000.

As shown in **Table 3.6**, Clark County accounted for 4.1 percent of the State of Nevada's population in 1910, which is one year after the county's formation. In 2000, Clark County accounted for 68.8 percent of the state population, an increase of nearly 65 percent. This increase is largely attributable to the popularity of the City of Las Vegas; a trend that is expected to increase in the future.

¹⁰³ Clark County, Nevada. On-line at: http://www.co.clark.nv.us/Public_communcations/About_clark_county.htm/. Retrieved August 19, 2005.

¹⁰⁴ Clark County, Nevada. On-line at: http://www.co.clark.nv.us/Public_communcations/About_clark_county.htm/. Retrieved August 19, 2005.

Table 3.6
CLARK COUNTY, NEVADA HISTORIC PERCENTAGE OF STATE POPULATION

Census Year	Clark County Population	Nevada Population	Clark County's Percentage of Nevada Population
1900 ^{1/}	1,075	42,335	2.5%
1910	3,321	81,875	4.1%
1920	4,859	77,407	6.3%
1930	8,532	91,058	9.4%
1940	16,414	110,247	14.9%
1950	48,589	160,083	30.4%
1960	127,016	285,278	44.5%
1970	273,288	488,738	55.9%
1980	463,087	800,493	57.9%
1990	741,459	1,201,833	61.7%
2000	1,375,765	1,998,257	68.8%

^{1/} Clark County was formed in 1909. The 1900 census figure is the sum of Lincoln County precincts that are now part of Clark County.

Source: U.S. Census Bureau.

3.9.1.2 Municipalities within the Study Area

City of Henderson

The City of Henderson, Nevada, was officially incorporated on April 16, 1953 with a population of 7,410. Originally 13 square miles in size, Henderson today encompasses more than 94.5 square miles and is the second largest city in Nevada. Ten years prior to its incorporation, the area now known as Henderson was first developed with the building of the Basic Magnesium Plant, which supplied the U.S. War Department with magnesium for munitions and airplane parts. Residential areas and related infrastructure developed in the area to support the plant's 14,000 employees and their families. When magnesium production was deemed no longer necessary for defense in 1947, most of the plant's employees moved away. The efforts of the Nevada Legislature allowed the Colorado River Commission of Nevada the authority to purchase the industrial plants and thereby continue the development of the surrounding infrastructure.¹⁰⁵

City of Las Vegas

The area that is now known as Las Vegas, Nevada was given its name by Spaniards in the Antonio Armijo party, who used the water in the area while heading north and west along the Old Spanish Trail from Texas. In the 1800s, areas of the Las Vegas Valley contained artesian wells that supported extensive green areas, hence

¹⁰⁵ *City History*. City of Henderson, Nevada. On-line at:
<http://www.cityofhenderson.com/mayor/php/history.php/>. 2003.

the name Las Vegas, Spanish for The Meadows. John C. Frémont traveled into the Las Vegas Valley on May 3, 1844 while it was still part of Mexico. He was a leader of a group of scientists, scouts and observers for the U.S. Army Corps of Engineers. On May 10, 1855, following annexation by the United States, Brigham Young assigned 30 Mormon missionaries led by William Bringhamurst to the area to convert the Paiute Indian population. The missionaries built a Fort near the current downtown area, but the site was abandoned in 1857, due to internal disagreements. The skeleton staff that was left behind, mistreated the Paiute Indians. The Paiute retaliated and seized the upcoming harvest, forcing the remaining missionaries back to Salt Lake City. Mormon missionaries did not return to the area until 1895.¹⁰⁶

The State Land Act of 1885 offered land at \$1.25 per acre drawing many, including farmers, to the Las Vegas area. As a result, farming became the primary industry for the next 20 years as farmers used the wells to irrigate their crops. During the 1900s, water from the wells was piped into the town providing a reliable source of fresh water and providing the means for additional growth. The increased availability of water in the town area allowed Las Vegas to become a water stop, first for wagon trains and later railroads, on the trail between Los Angeles, California, and points east such as Albuquerque, New Mexico. In 1905, the railway from Southern California and Salt Lake City was completed. On May 15, 1905, Las Vegas was founded as a city, when 110 acres, in what would later become downtown, were auctioned to ready buyers.¹⁰⁷

In 1909, Las Vegas became the county seat for the newly established Clark County. Until that time, the City was governed as part of Lincoln County. In 1911, Las Vegas became an incorporated city and adopted its first charter. At the time of incorporation, the City of Las Vegas encompassed 19.18 square miles and had approximately 800 inhabitants, which was less than one percent of the State of Nevada's total population at the time. Clark County had a population 3,321 at that time. By 1930, Las Vegas has grown to a population of 5,165. Beginning in 1931, the construction of Hoover Dam brought an influx of construction workers, which gave the Las Vegas Valley's economy a needed boost and started a population boom that continues today.¹⁰⁸

City of North Las Vegas

The City of North Las Vegas was incorporated on May 16, 1946 with a population of 2,875. As of January 2004, the City encompassed approximately 81 square miles with an estimated population of 147,877. North Las Vegas is the fourth largest city in Nevada and is also the second fastest growing large city in America. Since 2000, North Las Vegas' population has grown by 45 percent. Approximately 1,100 new

¹⁰⁶ *City of Las Vegas History*. On-line at: <http://www.lasvegasnevada.gov/>. 2005.

¹⁰⁷ *City of Las Vegas History*. On-line at: <http://www.lasvegasnevada.gov/>. 2005.

¹⁰⁸ *City of Las Vegas History*. On-line at: <http://www.lasvegasnevada.gov/>. 2005.

residents move to North Las Vegas each month. The City estimates that its build-out population in the year 2030 will include nearly 520,000 residents.¹⁰⁹

3.9.1.3 Unincorporated Communities within the Study Area

As previously discussed in **Section 3.9.4, City Governments and Unincorporated Communities**, of this chapter, the following unincorporated communities in Clark County, Nevada are located either partially or wholly within the Study Area for the Proposed Action.

- Enterprise
- Paradise
- Spring Valley
- Summerlin South
- Sunrise Manor
- Whitney
- Winchester

Each of the above-listed communities is run by its own local Town Advisory Board, with the exception of Summerlin South, which does not have a Town Advisory Board. In addition, the Clark County Administrative Services Department and the Board of County Commissioners oversee town and liaison services for the unincorporated communities in Clark County. Town and Liaison Services staff members are responsible for responding to neighborhood concerns through facilitation, coordination, networking, and problem-solving with various community organizations, advisory boards, and government agencies.¹¹⁰

3.9.1.4 Nellis Air Force Base

Nellis Air Force Base was originally established on January 25, 1941 as a flexible gunnery school for the Army Air Corps. Today, it is the centerpiece of air combat training for the United States Air Force (USAF) and is home to the Air Warfare Center, the largest and most advanced air combat training center in the world. It is an integral part of the USAF's Air Combat Command Center and is known as the "Home of the Fighter Pilot." Approximately 10,000 military and civilian personnel are included in the work force at Nellis Air Force Base, making it one of the largest employers in southern Nevada.¹¹¹

¹⁰⁹ *About Our City*. City of North Las Vegas, Nevada. On-line at: <http://www.ci.north-las-vegas.nv.us/About/About.cfm/>. Retrieved September 1, 2005.

¹¹⁰ Clark County, Nevada Administrative Services Department. On-line at: http://www.co.clark.nv.us/Administrative_services/AdministrativeServicesDeptHomepage.htm/. Retrieved September 12, 2005.

¹¹¹ Nellis Air Force Base History and Overview. On-line at: <http://www.nellis.af.mil/history.htm/>. January 28, 2003.

3.9.2 Median Age

Age, as reported by the U.S. Census Bureau, is generally derived from date of birth information and is based on the age of a person in complete years. Median age divides the age distribution in a stated area into two equal parts with one-half of the population falling below the median value and one-half above the median value.¹¹²

Table 3.7 lists the median ages reported by the 2000 Census for the communities located within the Study Area, in comparison to Clark County, the State of Nevada, and the United States as a whole.

Table 3.7
MEDIAN AGE COMPARISON FOR STUDY AREA

Population Area	Median Age Census 2000
United States	35.3
Nevada	35.0
Clark County, Nevada	34.4
Study Area Communities	
Enterprise CDP ^{1/}	38.8
City of Henderson	35.9
City of Las Vegas, Nevada	34.5
Nellis Air Force Base CDP ^{1/}	24.0
City of North Las Vegas	28.8
Paradise CDP ^{1/}	35.3
Spring Valley CDP ^{1/}	36.3
Summerlin South CDP ^{1/}	36.0
Sunrise Manor CDP ^{1/}	31.6
Whitney CDP ^{1/}	35.1
Winchester CDP ^{1/}	39.5

Note:

^{1/} A Census Designated Place (CDP) is a statistical entity defined for each decennial census according to Census Bureau guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by state and local officials and the Census Bureau, following Census Bureau guidelines. Beginning with Census 2000, there are no size limits. U.S. Census Bureau. 2000.

Source: U.S. Census Bureau. *Census 2000, Summary File 1 (SF 1), Matrix P13.*

As shown in **Table 3.7**, the median age for the State of Nevada is 35 years, which is virtually the same as the national median age of 35.3 years. Clark County has a median age of 34.4 years and the City of Las Vegas has a median age of 34.5 years, each of which is approximately one-year younger than the national median age of 35.3 years. Throughout the Study Area, the median age ranges from 24 at Nellis Air Force Base, to 39.5 at Winchester.

¹¹² Glossary. U.S. Census Bureau. On-line at: <http://www.census.gov/>. Retrieved September 12, 2005.

3.9.3 Racial Characteristics

The racial characteristics of residents within the Study Area for the Proposed Action are broken down into categories defined by the U.S. Census Bureau. The concept of race reflects the self-identification of Census respondents according to the race or races with which they most closely identify, including both racial and national-origin or ethnic groups. The Census Bureau recognized the seven race categories listed below with the 2000 Census.¹¹³

1. White
2. Black or African American
3. American Indian or Alaska Native
4. Asian
5. Native Hawaiian or Other Pacific Islander
6. Some Other Race
 - a. This category includes all other responses not included in the race categories listed above. Census respondents providing write-in entries such as multi-racial, mixed, inter-racial, Spanish, Hispanic, or Latino are included in this race category. The Census Bureau categorizes Spanish, Hispanic, and Latino as ethnic origins rather than as race categories. Census respondents who identify their origin and/or ethnicity as Spanish, Hispanic, or Latino may be of any race.
7. Two or more races
 - a. This category includes all respondents who identify themselves as a combination of two or more of the race categories listed above, including the Some Other Race category.

The 1990 Census recognized the five race categories listed below.¹¹⁴

1. White
2. Black
3. American Indian, Eskimo, or Aleut
4. Asian or Pacific Islander
5. Other race
 - a. As with the 2000 Census, this category includes all other responses not included in the race categories listed above.

¹¹³ 2000 Census of Population and Housing, Appendix B, Definitions of Subject Characteristics. Prepared by U.S. Census Bureau. June 2003.

¹¹⁴ 1990 Census of Population and Housing, Appendix B, Subject Characteristics. Prepared by U.S. Census Bureau. 1991.

There are several differences between the 2000 Census and the 1990 Census in the racial identification category. First, respondents to the 2000 Census were allowed to identify themselves as being in the category of Two or More Races, which was not an option with the 1990 Census. Additionally, the three separate identifiers for the American Indian or Alaska Native populations (i.e. American Indian, Eskimo, or Aleut) used with the 1990 Census were combined into one category for the 2000 Census (i.e. American Indian or Alaska Native). Also, the Asian or Pacific Islander category used with the 1990 Census was split into the two categories of 1) Asian and, 2) Native Hawaiian or Other Pacific Islander for the 2000 Census. Finally, the category of Other Race in the 1990 Census was renamed as Some Other Race for the 2000 Census.¹¹⁵

Table C.1, Racial Characteristics, found in **Appendix C, Supporting Data for Analysis of Affected Environment**, lists the racial categories of the residents of each of the communities in the Study Area as documented in the 1990 and 2000 Census reports, in comparison to that of Clark County, the State of Nevada, and the United States as a whole. As reported by the Census Bureau through the 1990 Census and 2000 Census (shown in **Table C.1**), the greatest percentage of residents in the communities within the Study Area are identified as being in the White racial category. This is also true of Clark County, the State of Nevada, and the United States as a whole. In 2000, the percentages of total population categorized as White ranged from 55.9 percent to 84.5 percent throughout the Study Area and ranged from 71.6 percent to 75.2 percent in Clark County, the State of Nevada, and the United States as a whole. Although the percentages of total populations of the communities in the Study Area in the White racial category decreased by ranges of 7.0 percent to 16.7 percent from 1990 to 2000, it is still the predominant racial category in these areas. This is also true of Clark County, the State of Nevada, and the United States as whole, where percentages of total populations in the White racial category decreased by ranges of 5.1 percent to 9.7 percent from 1990 to 2000. The City of North Las Vegas was the only community in the Study Area to see an increase (10.7 percent) in the percentage of total population categorized as White between 1990 and 2000.

According to the 2000 Census, the racial categories that accounted for the next highest percentages of total populations of the communities within the Study Area are Black or African American, Asian, or Some Other Race, which is also true Clark County and the State of Nevada. From 1990 to 2000, the percentages of total populations categorized as Black or African American changed only slightly, ranging from a 1.3 percent decrease to a 3.2 percent increase in the Study Area communities and in Clark County and the State of Nevada. The exception to this is the City of North Las Vegas, which saw an 18.3 percent decrease in the Black or African American population between 1990 and 2000. The United States as a whole saw a 0.3 percent increase in the Black or African American population during the same time period. All communities in the Study Area saw an increase in the Asian

¹¹⁵ *Racial and Ethnic Classifications Used in Census 2000 and Beyond*. U.S. Census Bureau. On-line at <http://www.census.gov/population/www/socdemo/race/racefactcb.html/>. April 12, 2000.

population from 1990 to 2000, ranging from a 0.7 percent increase in Winchester to 6.1 percent increase in Spring Valley. Clark County, the State of Nevada, and the United States as a whole also saw increases in the Asian population during the same time period, with growth ranging from 0.7 percent to 1.8 percent.

Throughout the Study Area communities, the percentage of Census respondents who identified themselves as part of the Some Other Race category increased from 1990 to 2000, ranging from a 0.3 percent increase in the City of Henderson to a 6.6 percent increase in Winchester. Clark County, the State of Nevada, and the United States as a whole also saw increases from 1990 to 2000 in the percentage of Census respondents who identified themselves as part of the Some Other Race category, ranging from 1.5 to 3.8 percent.

As previously stated in this section, the category of Some Other Race includes all other responses not included in the other race categories. Census respondents providing write-in entries such as Multi-Racial, Mixed, Inter-Racial, Spanish, Hispanic, or Latino are included in this race category. Because the Census Bureau categorizes Spanish, Hispanic, and Latino as ethnic origins rather than as racial categories, Census respondents who identify their origin and/or ethnicity as Spanish, Hispanic, or Latino may be of any race.

The 2000 Census included the racial category of Two or More Races, which was not an option for respondents to the 1990 Census. As previously stated in this section, this category includes all respondents who identify themselves as a combination of two or more of the race categories, including the Some Other Race category. Within the Study Area communities, the percentage of respondents to the 2000 Census who identified themselves as part of the Two or More Races category ranged from 3.1 percent in Summerlin South to 5.2 percent at Nellis Air Force Base. Similarly, the percentage of respondents to the 2000 Census who identified themselves as being in the racial category of Two or More Races was 4.2 percent in Clark County, 3.8 percent in the State of Nevada, and 2.4 percent in the United States as a whole.

The lowest percentages of total populations in the Study Area communities are categorized as American Indian or Alaska Native and Native Hawaiian or Other Pacific Islander. Slight changes were seen in the American Indian or Alaska Native populations in the Study Area communities from 1990 to 2000, ranging from a decrease of 0.3 percent decrease in the City of Henderson to a 0.6 percent increase at Nellis Air Force Base. Similarly, the changes in the American Indian or Alaska Native population decreased 0.1 percent in Clark County, decreased 0.3 percent in the State of Nevada, and increased 0.1 percent in the United States as a whole from 1990 to 2000. The 2000 Census included the racial category of Native Hawaiian or Other Pacific Islander, which was not an option for respondents to the 1990 Census. Within the Study Area communities, the percentage of respondents to the 2000 Census who identified themselves as part of the Native Hawaiian or Other Pacific Islander category ranged from 0.4 percent in the City of Henderson, the City of Las Vegas, Summerlin South, Whitney, and Winchester to 0.7 percent at

Nellis Air Force Base. Similarly, the percentage of respondents to the 2000 Census who identified themselves as being in the racial category of Native Hawaiian or Other Pacific Islander was 0.5 percent in Clark County, 0.4 percent in the State of Nevada, and 0.1 percent in the United States as a whole.

3.9.3.1 Minority Populations

The minority populations (i.e. percent Non-White and percent Hispanic or Latino) in the communities located either partially or wholly within the Study Area for the Proposed Action, as compared to Clark County, the State of Nevada, and the United States as a whole are presented in **Table 3.8**.

Table 3.8
MINORITY POPULATIONS

Population Area	Total Population	Percent Non-White Population	Percent Hispanic or Latino Population
United States	281,421,906	24.9%	12.5%
Nevada	1,998,257	24.8%	19.7%
Clark County, Nevada	1,375,765	28.4%	22.0%
Study Area Communities			
Enterprise CDP ^{1/}	14,676	17.7%	12.0%
City of Henderson	175,381	15.5%	10.7%
City of Las Vegas	478,434	30.1%	23.6%
Nellis Air Force Base CDP ^{1/}	8,896	31.5%	11.7%
City of North Las Vegas	115,488	44.1%	37.6%
Paradise CDP ^{1/}	186,070	27.5%	23.5%
Spring Valley CDP ^{1/}	117,390	27.4%	13.8%
Summerlin South CDP ^{1/}	3,735	21.1%	7.8%
Sunrise Manor CDP ^{1/}	156,120	34.5%	26.0%
Whitney CDP ^{1/}	18,273	27.8%	25.3%
Winchester CDP ^{1/}	26,958	28.2%	29.0%
Total for Study Area Communities	1,301,421	29.1%	22.4%

Note:

^{1/} A Census Designated Place (CDP) is a statistical entity defined for each decennial census according to Census Bureau guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by state and local officials and the Census Bureau, following Census Bureau guidelines. Beginning with Census 2000, there are no size limits. U.S. Census Bureau. 2000.

Source: U.S. Census Bureau, 2000 Census, *Summary File 1 (SF 1), Matrices P3 and P4*.

As shown in **Table 3.8**, the percentage of total population that is Non-White in the communities in the Study Area for the Proposed Action range from 15.5 percent in the City of Henderson to 44.1 percent in the City of North Las Vegas. Throughout the Study Area communities, there is an average 29.1 percent Non-White population. Similarly, 28.4 percent of the Clark County population is Non-White, while 24.8 percent of the State of Nevada population and 24.9 percent of the population of the United States as a whole is categorized as Non-White.

The Hispanic or Latino populations of the communities in the Study Area range from 7.8 percent of total population in Summerlin South to 37.6 percent of total population in the City of North Las Vegas, as shown in **Table 3.8**. Throughout the Study Area communities, there is an average 22.4 percent Hispanic or Latino population, which is similar to Clark County with 22.0 percent of the population categorized as Hispanic or Latino. The portion of the State of Nevada population categorized as Hispanic or Latino is slightly lower at 19.7 percent, while the United States as a whole reports 12.5 percent of the total population categorized as Hispanic or Latino.

In order to further define the minority populations within the Study Area for the Proposed Action, an analysis of minority population data by Census Tract was conducted. The U.S. Census Bureau defines a Census Tract as a small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries and other non-visible features in some instances; they always nest within counties. Census Tracts are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment, census tracts average about 4,000 inhabitants. They may be split by any sub-county geographic entity.¹¹⁶

Within Clark County, Nevada, there are 228 Census Tracts located either partially or wholly within the Study Area for the Proposed Action. **Table C.2**, found in **Appendix C, Supporting Data for Analysis of Affected Environment**, lists the minority populations by Census Tract, within the Study Area. **Exhibit 3.15** displays the proportion of the population that is Non-White by Census Tract for the Study Area. **Exhibit 3.16** displays the proportion of the population that is Hispanic or Latino, by Census Tract.

¹¹⁶ Glossary. U.S. Census Bureau. On-line at: <http://www.census.gov/>. Retrieved September 15, 2005.

As reported by the 2000 Census (listed in **Table C.2**), the Non-White population by Census Tract in the Study Area ranges from 0.0 percent to 91.0 percent of total population. Of the total population of the Census Tracts that fall within the Study Area, 32.9 percent is categorized as Non-White. The Hispanic or Latino population by Census Tract in the Study Area ranges from 0.0 percent of total population to 83.3 percent of total population. Of the total population of the Census Tracts that fall within the Study Area, 26.2 percent is categorized as Hispanic or Latino.

3.9.4 Households

The U.S. Census Bureau's definition of a Household includes all the people who occupy a housing unit as their usual place of residence. The Household Size is the total number of people living in a housing unit.¹¹⁷

In 1990, the State of Nevada had 466,297 households. By 2000, the total had grown to 751,165, an increase of 61.1 percent. The growth in Clark County was greater than that of the state as a whole during the same period. The number of households in Clark County was 512,253 in 2000, which is a 78.5 percent increase as compared to 1990. The United States as a whole experienced a 14.7 percent increase in the number of households from 1990, which brought the total to 105,480,101 households in 2000. Each community that is located either partially or wholly within the Study Area also saw an increase in the number of households between 1990 and 2000. The City of Henderson saw the largest increase at 185.5 percent, while Winchester saw the lowest at 5.7 percent. For all Study Area communities combined, there was an 83.2 percent increase in the number of households from 1990 to 2000.¹¹⁸

In 2000, the average household size for the communities in the Study Area ranged from 2.24 in Winchester to 3.36 in the City of North Las Vegas. The average household size for all Study Area communities combined was 2.63, which is virtually the same as Clark County at 2.65, the State of Nevada at 2.62, and the United States as a whole at 2.59.¹¹⁹

3.9.5 Household Income

The U.S. Census Bureau derives Median Household Income by dividing the household income distribution of an area into two equal groups, one having incomes above the median, and other having incomes below the median.¹²⁰ A comparison of the Median Household Incomes for the communities located either partially or wholly within the Study Area for the Proposed Action, as reported by the 1990

¹¹⁷ Glossary. U.S. Census Bureau. On-line at: <http://www.census.gov/>. Retrieved September 15, 2005.

¹¹⁸ U.S. Census Bureau, 2000 Census, *Summary File 2 (SF 2), Matrix P6*. U.S. Census Bureau, 1990 Census, *Summary File 1 (SF 1), Matrix P3*.

¹¹⁹ U.S. Census Bureau, 2000 Census, *Summary File 2 (SF 2), Matrix P8*.

¹²⁰ Glossary. U.S. Census Bureau. On-line at: <http://www.census.gov/>. Retrieved September 16, 2005.

Census and 2000 Census is presented in **Table 3.9**. In addition, **Table 3.9** provides a comparison of Median Household Incomes with Clark County, Nevada, the State of Nevada, and the United States as a whole.

Table 3.9
MEDIAN HOUSEHOLD INCOME

Area	Census 2000 ^{1/}	Census 1990 ^{2/}	Percent Change 1990 - 2000
United States	\$41,994	\$30,056	39.7%
Nevada	\$44,581	\$31,011	43.8%
Clark County, Nevada	\$44,616	\$30,746	45.1%
Study Area Communities			
Enterprise CDP ^{3/}	\$50,667	\$39,861	27.1%
City of Henderson	\$55,949	\$38,802	44.2%
City of Las Vegas	\$44,069	\$30,590	44.1%
Nellis Air Force Base CDP ^{3/}	\$33,118	\$23,865	38.8%
City of North Las Vegas	\$46,057	\$23,917	92.6%
Paradise CDP ^{3/}	\$39,376	\$28,102	40.1%
Spring Valley CDP ^{3/}	\$48,563	\$40,367	20.3%
Summerlin South CDP ^{3/, 4/}	\$64,784	N/A	N/A
Sunrise Manor CDP ^{3/}	\$41,066	\$29,481	39.3%
Whitney CDP ^{3/, 4/}	\$36,536	N/A	N/A
Winchester CDP ^{3/}	\$32,251	\$26,485	21.8%
Average for Study Area Communities	\$44,767	\$31,274	43.1%

Notes:

^{1/} 1999 Dollars

^{2/} 1989 Dollars

^{3/} A Census Designated Place (CDP) is a statistical entity defined for each decennial census according to Census Bureau guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by state and local officials and the Census Bureau, following Census Bureau guidelines. Beginning with Census 2000, there are no size limits. U.S. Census Bureau. 2000.

^{4/} 1990 median household income information is not reported by the U.S. Census Bureau for this community.

Sources: U.S. Census Bureau, 2000 Census, *Summary File 3 (SF 3), Matrix P53*. U.S. Census Bureau, 1990 Census, *Summary File 3 (SF 3), Matrix P80A*.

As shown in **Table 3.9**, all Study Area communities, as well as Clark County, the State of Nevada, and the United States as a whole saw an increase in median household income from 1990 to 2000. Among the Study Area communities, the greatest increase was in the City of North Las Vegas, with a 92.6 percent increase as compared to 1990, while the lowest was at Spring Valley with a 20.3 percent increase in median household income as compared to 1990. For all Study Area

communities combined, there was a 43.1 percent increase in the median household from 1990 to 2000. During the same time period, Clark County and the State of Nevada saw similar increases in median household income at 45.1 percent and 43.8 percent, respectively, while the United States as a whole saw a slightly lower rate of increase at 39.7 percent.

3.9.5.1 Low Income Populations

The U.S. Census Bureau measures poverty based on the pre-tax income of an entire household as compared to the appropriate poverty threshold for that family. Poverty thresholds are based on the size of the family and the number of related children under the age of 18. The same thresholds are used throughout the U.S. and do not vary geographically.¹²¹

A household could consist of one individual person or a family of two or more related persons living together and generating income. The income of non-relatives living in the same home, such as housemates, does not count toward a family's income calculation. The Census Bureau recognizes income that is generated through earnings, unemployment compensation, workers' compensation, Social Security, Supplemental Security Income, public assistance, veterans' payments, survivor benefits, pension or retirement income, interest, dividends, rents, royalties, estates, trusts, educational assistance, alimony, child support, assistance from outside the household, and other miscellaneous sources. Non-cash benefits such as food stamps and housing subsidies do not count toward income calculations.¹²²

If the total family income is less than the applicable threshold, the Census Bureau identifies the family as in poverty. Conversely, if the total family income equals or is greater than the threshold, the family is identified as not in poverty. The poverty status of the family applies to all related members of the family living together, regardless of whether they are individually generating family income. For example, the income of a family of four persons consisting of two parents, aged 34 and 32, who both work, and two children aged five and two, who do not work, falls below the poverty threshold for a family of that size and of those ages, which means that the Census Bureau would identify all four members of the family as being in poverty status, including the two minor children who do not work and therefore, do not generate family income.¹²³

Poverty thresholds used by the Census Bureau are updated annually for inflation using the Consumer Price Index for All Urban Consumers (CPI-U). The thresholds were originally derived in 1963 and 1964, using U.S. Department of Agriculture food

¹²¹ *How the Census Bureau Measures Poverty*. U.S. Census Bureau. On-line at <http://www.census.gov/hhes/povety/povdef.html>. August 26, 2004.

¹²² *How the Census Bureau Measures Poverty*. U.S. Census Bureau. On-line at <http://www.census.gov/hhes/povety/povdef.html>. August 26, 2004.

¹²³ *How the Census Bureau Measures Poverty*. U.S. Census Bureau. On-line at <http://www.census.gov/hhes/povety/povdef.html>. August 26, 2004.

budgets, which were designed for families under economic stress, and data about what portion of a family's income was spent on food. Today, the Census Bureau states that the thresholds are intended for use as a statistical yardstick rather than a complete description of what people and families need to live.¹²⁴

Table 3.10 presents the numbers and percentages of households in poverty status within the communities located either partially or wholly within the Study Area for the Proposed Action, as compared to Clark County, the State of Nevada, and the United States as a whole.

Table 3.10
HOUSEHOLDS FOR WHICH POVERTY STATUS IS DETERMINED

Population Area	Total Number of Households	Households with Income Below Poverty Level in 1999	
		Number	Percentage
United States	105,539,122	12,404,237	11.8%
Nevada	751,977	70,953	9.4%
Clark County, Nevada	512,714	48,851	9.5%
Study Area Communities			
Enterprise CDP ^{1/}	5,856	465	7.9%
City of Henderson	66,555	3,406	5.1%
City of Las Vegas	177,223	18,499	10.4%
Nellis Air Force Base CDP ^{1/}	2,965	229	7.7%
City of North Las Vegas	34,093	4,231	12.4%
Paradise CDP ^{1/}	77,225	8,461	11.0%
Spring Valley CDP ^{1/}	48,016	3,168	6.6%
Summerlin South CDP ^{1/}	1,513	52	3.4%
Sunrise Manor CDP ^{1/}	53,490	6,160	11.5%
Whitney CDP ^{1/}	6,911	674	9.8%
Winchester CDP ^{1/}	12,026	1,491	12.4%
Total for Study Area Communities	485,873	46,836	9.6%

Note:

^{1/} A Census Designated Place (CDP) is a statistical entity defined for each decennial census according to Census Bureau guidelines, comprising a densely settled concentration of population that is not within an incorporated place, but is locally identified by a name. CDPs are delineated cooperatively by state and local officials and the Census Bureau, following Census Bureau guidelines. Beginning with Census 2000, there are no size limits. U.S. Census Bureau. 2000.

Source: U.S. Census Bureau, 2000 Census, *Summary File 3 (SF 3), Matrix P92*.

¹²⁴ *How the Census Bureau Measures Poverty*. U.S. Census Bureau. On-line at <http://www.census.gov/hhes/povety/povdef.html>. August 26, 2004.

As shown in **Table 3.10**, the percentage of households in poverty status within the Study Area communities ranges from 3.4 percent in Summerlin South to 12.4 percent in both the City of North Las Vegas and Winchester. For all Study Area communities combined, 9.6 percent of the households are in poverty status. The percentage of households in poverty status within Clark County and the State of Nevada are virtually the same as the combined Study Area communities, at 9.5 percent and 9.4 percent, respectively. For the United States as a whole, 11.8 percent of households are in poverty status, which is a greater percentage than is seen separately in the State of Nevada, Clark County, and the combined Study Area communities.

In order to further define the low income populations within the Study Area for the Proposed Action, an analysis of low income population data by Census Tract was conducted. As previously discussed in **Section 3.10.3.1, Minority Populations**, the U.S. Census Bureau defines a Census Tract as a small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries and other non-visible features in some instances; they always nest within counties. Census Tracts are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment, census tracts average about 4,000 inhabitants. They may be split by any sub-county geographic entity.¹²⁵

Within Clark County, Nevada, there are 228 Census Tracts are located within the Study Area. **Table C.3**, found in **Appendix C, Supporting Data for Analysis of Affected Environment**, lists the households in poverty status by Census Tract, within the Study Area. **Exhibit 3.17** presents the households in poverty status by Census Tract for the Study Area.

As reported by the 2000 Census, (listed in **Table C.3**), the percent of households in poverty status by Census Tract in the Study Area ranges from 0.0 percent to 37.0 percent. For all 228 Census Tracts that fall within the Study Area, 11.3 percent of households are in poverty status.

¹²⁵ Glossary. U.S. Census Bureau. On-line at: <http://www.census.gov/>. Retrieved September 15, 2005.

3.9.6 Employment Trends

Within Clark County, Nevada, employment is generally divided among the occupational areas of Service (27%), Sales/Office (27%), Management/Professional (25%), Construction (13%), Transportation (8%), and Farming/Fishing/Forestry (0.5%).¹²⁶ As shown in **Table 3.11**, the Local Government, Private (Casino Hotels), and State Government sectors of the economy were the largest employers in Clark County as of the First Quarter of 2005.

Table 3.11
LARGEST EMPLOYERS IN CLARK COUNTY, NEVADA, BY SECTOR
FIRST QUARTER 2005

Sector	Employer	Employment Range
Local Government	Clark County School District	> 10,000
	Clark County	8,500 - 8,999
	Las Vegas Metropolitan Police	4,500 - 4,999
	University Medical Center of Southern Nevada	3,500 - 3,999
	City of Las Vegas	3,000 - 3,499
Private: Casino Hotels	Mandalay Bay Resort & Casino	7,500 - 7,999
	MGM Grand Hotel/Casino	7,500 - 7,999
	Mirage Casino-Hotel	5,500 - 5,999
	Caesars Palace	4,500 - 4,999
	Rio Suite Hotel & Casino	4,000 - 4,499
	Bally's & Paris Casino Hotels	3,500 - 3,999
	Excalibur Hotel & Casino	3,500 - 3,999
	Flamingo Hilton Corporation	3,500 - 3,999
	Luxor Hotel	3,500 - 3,999
	Treasure Island at the Mirage	3,500 - 3,999
	Bally's & Paris Casino Hotels	3,000 - 3,499
	Circus-Circus Casinos, Inc.-Las Vegas	3,000 - 3,499
	Harrah's Las Vegas, Inc	3,000 - 3,499
	Las Vegas Hilton	3,000 - 3,499
State Government	University of Nevada-Las Vegas	5,500 - 5,999

Source: *Largest Employers in Clark County, First Quarter 2005*. Nevada Department of Employment, Training, and Rehabilitation, Workforce Informer. On-line at: <http://www.nevadaworkforce.com/?PAGEID=67&SUBID=169/>. Retrieved September 16, 2005.

¹²⁶ U.S. Census Bureau, 2003 American Community Survey. On-line at <http://www.census.gov/>.