FINAL ENVIRONMENTAL ASSESSMENT

AIRPORT TRAFFIC CONTROL TOWER (ATCT)
AND BASE BUILDING
CONSTRUCTION AND OPERATION

McCARRAN INTERNATIONAL AIRPORT
LAS VEGAS, NEVADA

June 30, 2009

Prepared for:

U.S. Department of Transportation
Federal Aviation Administration
Western Service Area, Engineering Services Group
Seattle, Washington

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This Environmental Assessment becomes a Federal document when evaluated, signed and dated by the responsible FAA official.

Janelle M Cross
Responsible FAA Official

30 Jun 2009
Date

U.S. Department of Transportation
Federal Aviation Administration
Western Service Area
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Final Environmental Assessment
and
Finding of No Significant Impact (FONSI)

Airport Traffic Control Tower (ATCT) and Base Building Construction and Operation
McCarran International Airport, Las Vegas, Nevada

June 30, 2009

I. Introduction

This FONSI is being issued in association with the attached Final Environmental Assessment – *Airport Traffic Control Tower and Base Building Construction and Operation, McCarran International Airport, Las Vegas, Nevada* dated June 30, 2009. It has been prepared in compliance with the National Environmental Policy Act of 1969, as amended; implementing regulations issued by the Council on Environmental Quality (40 CFR parts 1500-1508); and FAA Order 1050.1E CHG 1, *Environmental Impacts: Policies and Procedures*, effective March 20, 2006.

II. Proposed Federal Action

The FAA is proposing to construct and operate a new Airport Traffic Control Tower (ATCT), Administrative Base Building and Parking Structure to serve McCarran International Airport in Las Vegas, NV (LAS). The proposed ATCT will be a 372-foot high, concrete and steel octagonal tower with glass cab windows on a concrete pile foundation. The base building will be an approximately 40,000 square foot, multi-story cast-in-place concrete structure. The multi-story parking structure will contain approximately 190 parking spaces totaling 48,750 square feet. The new tower will replace an existing tower built in the early 1980s which will be demolished as part of the proposed action. The existing base building may be demolished or continue to be used by the Clark County Department of Aviation (CCDOA).

III. Purpose and Need

The proposed new ATCT at LAS will ensure proper separation of aircraft and improve the functional efficiency of aircraft operations at and in the vicinity of the airport. The existing ATCT at LAS is inadequate for current airport traffic control needs due to the insufficient height and size of the tower cab. Visibility of some operational areas is blocked due to structures constructed since the existing ATCT was built. The number of air traffic controller positions has also increased from 6 to 14 since 1983, resulting in extremely crowded working

conditions. In general, the airport has outgrown the existing ATCT as airport facilities have expanded and aircraft operations have increased.

IV. Alternatives

An ATCT Siting Study conducted by the FAA utilizing the Airport Facilities Terminal Integration Laboratory (AFTIL) considered seven alternative sites for the proposed ATCT at LAS. After comparing the attributes of each site against the siting requirements, the preferred site (Terminal 3 Site) was ultimately carried forward for further evaluation of environmental impacts because it best meets the purpose and need of the project. A brief summary of each of the seven sites is described below. A no action alternative was also considered, under which a new ATCT facility would not be constructed and the existing ATCT facility would continue to be used.

Site A is located on the current ATCT site approximately 750 feet southeast of Terminal 1 in the northwest corner of the parking lot. Construction at this site would result in severe shadowing from the new ATCT of the final approach and touchdown areas of Runways 19R and 19L as viewed from the existing ATCT. While this shadowing would only be an issue after construction of the new tower progressed above the existing cab until the new ATCT was commissioned, the impact to air traffic controllers was deemed too severe even temporarily.

Site B is located on the current ATCT site approximately 750 feet southeast of Terminal 1 in the center of the parking lot near the base building loading dock access drive. This site has similar shadowing concerns as Site A (see above).

Site C is located on the current ATCT site approximately 750 feet southeast of Terminal 1 in the northeast corner of the parking lot. This site has significant construction challenges, does not meet security setbacks and has conflicting seismic and blast construction requirements. The small size of the site would result in extra construction costs resulting from accommodation of equipment, supplies and traffic; meeting security requirements; and protecting the existing ATCT and the elevated passenger tram, which crosses the site, during construction.

The *Sunset Road Site* is located approximately 2,500 feet south-southeast of the threshold of Runway 7R, south of Sunset Road on private land. The landowner was unwilling to sell the land to the CCDOA or the FAA.

The *Terminal B Site* is located between Terminal 1 and the B Gates. This site has inherent safety risks due to its proximity to a Transportation Security Administration (TSA) baggage screening facility. It is also located within the Aircraft Operations Area (AOA) which would expose the facility to noise and fumes from aircraft as well as limit construction and delivery access to the ATCT and restrict employee parking. Buried jet fuel lines around the B Gates may have to be relocated at this site. A sky bridge planned to connect the B and C Concourses at the time of the Siting Study was completed in 2008 making this site unfeasible.

The *Russell Road Site* is located near the intersection of Paradise Road and the relocated Russell Road. This site was eliminated from further consideration at the request of CCDOA

because they determined that due to the relocation of Russell Road and future construction in the area that no viable parcel of land would be available for an ATCT facility.

The *Terminal 3 Site* is the preferred new ATCT location. It is located at the southwest corner of Flight Path Avenue and Kelly Lane, approximately 4,000 feet north of the centerline of Runway 7L/25R and 5,500 feet east of the centerline of Runway 1R/19L. This site was chosen as the preferred new ATCT site from among the alternatives considered based on the results of the FAA airspace and TERPS evaluations, modeling information obtained from AFTIL, and a comparison of the advantages and disadvantages of all of the primary siting options. Please see Section 4.1 of the Final EA (p. 11) for a summary of the evaluation of the Terminal 3 Site against the siting criteria.

V. Environmental Impacts for the Preferred Alternative

Based on the Environmental Assessment conducted for the proposed action (attached), no significant environmental impacts, as defined in FAA Order 1050.1E, CHG 1, are expected to result from the proposed action. Although no significant impacts are anticipated, in compliance with Nevada State and Clark County regulations, several measures have been identified to protect environmental resources during the construction and operation of the ATCT. Summaries of these measures are included below. Refer to the appropriate resource heading in Chapter 6, Environmental Consequences, of the EA for the full discussion of impacts and protective measures.

Air Quality *(EA Sections 5.1 and 6.1)*
The installation of the new ATCT would not increase the number of aircraft operations and would not change the arrival/departure schedule or the mix of aircraft use at LAS. Therefore, there would be no change in aircraft emissions. The proposed action would result in impacts to air quality from construction of the new ATCT, demolition (by dismantling) of the existing ATCT and from subsequent operation of the new ATCT. Pollutant emissions from the proposed action were estimated using the air emissions modeling software URBEMIS 2007 and were found to conform with the Nevada State Implementation Plan.

In order to minimize construction impacts to air quality, the following control measures will be implemented:

- Diesel particulate filters will be used on all construction equipment (dozers, tractors, loaders, backhoes, water trucks) to reduce particulate matter (PM) emissions.
- Exposed soils will be watered three times daily to control dust and reduce PM emissions.
- Low volatile organic compound (VOC) interior and exterior architectural coatings will be used.

Construction Impacts *(EA Sections 5.4 and 6.3)*
Because the construction of the ATCT and base building would not have significant impacts to other resources (air quality, water quality, fish, wildlife and plants, etc.), there would be no significant impacts from construction activities associated with the proposed action.

In order to minimize construction impacts, the following control measures will be implemented:

- The existing ATCT is known to contain asbestos in various materials throughout the building. A Demolition Notification Form, Notification of Asbestos Abatement and a Dust Control Permit for Construction Activities would be filed with the Clark County Department of Air Quality & Environmental Management (CCDAQEM) prior to commencement of demolition of the ATCT (See Appendix I). The National Emission Standards for Hazardous Air Pollutants at 40CFR Part 63, as adopted by the CCDAQEM, and all permit stipulations will be complied with in regard to proper survey, abatement, containment and disposal of all asbestos containing materials prior to and during the demolition of the ATCT.
- To minimize impacts to surface and ground water, construction best management practices which address waste disposal, storage of petroleum products and hazardous materials, dust control, etc. as outlined in the EA (p. 48), will be followed to reduce potential construction impacts.
- An Application for an Authority to Construct Certificate and Supplemental Information Sheet with Emission Unit Information will be filed with the CCDAQEM as required by the county to permit emissions from the facility's two emergency power generators (See Appendix I).

Hazardous Materials, Pollution Prevention and Solid Waste *(EA Sections 5.9 and 6.6)*
The Environmental Due Diligence Audit conducted for the proposed ATCT site identified a recognized environmental condition for the site based on up-gradient releases of jet fuel from pipelines. These releases are located approximately 1,500 feet to 2,000 feet west and southwest of the proposed ATCT site and represent a low to moderate potential to degrade shallow ground water at a depth of approximately 20 to 30 feet below grade. The extent of these releases has not yet been investigated and hydrogeologic conditions in the airport vicinity appear to be consistent with significant ground water plume migration. However, if during excavation, in the unlikely event that contamination is discovered, or a spill occurs during construction, work would stop until the appropriate agencies are notified.

Typical construction debris will be generated during both the construction and demolition phases of the proposed action. The general contractor will be required to dispose of solid waste at an offsite facility. Handling, storage and disposal of all fuels, hazardous materials and solid waste during demolition and construction activities will conform to federal, state and local regulations.

In order to prevent pollution and minimize impacts from hazardous materials, the following control measures will be implemented:

- As stated above under *Construction Impacts*, the existing ATCT is known to contain asbestos in various materials throughout the building. Notification of appropriate State agencies and adherence to regulations and permit stipulations will occur as stated above.
- Spill prevention and control safeguards including secondary containment and double walled tanks will be installed for the ATCT emergency generator fuel tanks to prevent any potential releases from entering the subsurface at the site. A Spill Prevention Control and Countermeasures Plan will be prepared for any combination of fuel storage tanks greater than 1,320 gallons in accordance with the EPA's Oil Pollution Prevention Rule.

Historical, Architectural, Archaeological, and Cultural Resources *(EA Sections 5.10 and 6.7)*
Based on the lack of historical, architectural, archaeological or cultural resources in the area of potential effect, a finding of "no historic properties affected" for the proposed action was made by the FAA and concurred with by the Nevada State Historic Preservation Officer (NVSHPO) and the Indian Tribes with interest in the area (See EA, Appendix E). If potential historical, archaeological, or culturally important materials are discovered during construction, work will stop, the area will be secured, and the NVSHPO and the seven Tribes (as appropriate) will be notified within 48 hours of discovery to determine appropriate actions.

Water Quality *(EA Sections 5.16 and 6.13)*
The proposed action will not affect any streams or surface water bodies, and there will be no impoundment or diversion of water. Construction of the proposed ATCT would not affect the integrity or operation of the underground water reservoir located immediately south of the new ATCT site. The proposed action may affect ground water, which is expected at depths of 25 feet below grade at the site. The following measures would be implemented to protect water quality:

- A Temporary Groundwater Discharge Permit Application would be filed with the Nevada Division of Environmental Protection (NDEP) Bureau of Water Pollution Control to regulate discharge of any ground water encountered during construction activities. This permit includes requirements for water quality lab analysis to determine appropriate discharge method (See Appendix I).
- Construction best management practices which address erosion, surface runoff and ground water protection as outlined in the EA (p. 48) will be followed to reduce potential impacts to water quality.
- A Notice of Intent for Stormwater Discharge Permit Application will be filed online with NDEP, Bureau of Water Pollution Control at http://ndep.nv.gov/bwpc/storm_cont03.htm along with a Storm Water Pollution Prevention Plan (See Appendix I).

VI. Consistency with Community Planning and Tribal Lands

The Nevada Department of Transportation's (NDOT) mission is, "Providing a better transportation system for Nevada through our unified and dedicated efforts." (NDOT 2008, p. I-2). NDOT is committed to ensuring an effective system of airports through its involvement with airport planning (NDOT 2008, p. III-2). NDOT's strategy to support air transportation includes making needed improvements to address airport safety issues (NDOT 2008, p. III-5). The current Nevada Airport Systems Plan (NASP) was prepared to "develop a system of airports that will meet the air transportation needs of Nevada until 2020" and "looks at where improvements or expansions are needed, establishes investment priorities, defines policies and process for implementation, and serves as the basis for continuing statewide aviation system planning." (NDOT 2008, p. I-8).

The purpose and need of the proposed action supports the NDOT Statewide Transportation Plan and the NASP by improving functional efficiency and meeting the current and future airport traffic control needs at the airport. Based on its compatibility with these plans, the proposed action was found to be consistent with State of Nevada planning.

As detailed in the EA (p. 45-46), local planning documents for land usage at and around LAS, including the plans for the unincorporated communities of Paradise, Winchester, Spring Valley and Enterprise prevent land use which is incompatible with the airport and include policies which protect most existing and potential future developments from excessive noise. As stated in the EA (p. 66-69), noise impacts from the proposed action will be minor and would only occur during construction and occasional operation of the facility's emergency generator. The closest sensitive noise receptor to the proposed ATCT site is a residential area located approximately 1,700 feet north. Based on compatible land use in the vicinity of the airport and the distance to any sensitive noise receptors, the proposed action was found to be consistent with local community planning efforts.

The proposed action will not affect any Indian Tribal Reservations therefore consistency with Tribal plans is not applicable.

VII. Public and Agency Participation

Consultation with local, State and Federal agencies, and the appropriate Indian Tribes was conducted to determine the potential for impacts to specific resources. Consultation documentation for historic, architectural, archaeological and cultural resources and fish, wildlife and plants is available in Appendices E and F of the EA, respectively.

The Draft EA for the proposed action was made available to the public for a 30 day public review and comment period, from May 6, 2009 to June 4, 2009. Notice of the availability of the Draft EA was published in the Las Vegas Review-Journal, a newspaper of local circulation in the Las Vegas area (see p. 78 of the EA). Digital copies of the Draft EA were also sent to the Nevada State Clearinghouse and the Southern Nevada Regional Planning Coalition for review by local, regional and State agencies. The Nevada Department of Air Quality & Environmental Management responded with a request to review future documents relating to the project. The Nevada State Clearinghouse declined to distribute the EA to State agencies because "the project is on previously disturbed land in an urban area and replaces existing infrastructure with similar structures" and "the project has already been extensively reviewed and commented upon by both state and federal agencies regarding environmental and cultural impacts." Copies of these comment letters are included as pages 79-80 of the attached Final EA. No other comments were received on the Draft EA.

VIII. Applicability with Environmental Laws and Requirements

The proposed action will be in compliance with all applicable federal, state and local laws and requirements, including interagency and intergovernmental coordination and consultation, public involvement, and documentation requirements as presented in the attached Environmental Assessment.

IX. Finding of No Significant Impact and Decision

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 of the National Environmental Policy Act (NEPA) and other applicable environmental requirements and will not significantly affect the quality

of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

Submitted by: _____ Date: 30 Jun 2009

Janelle M. Cass, Environmental Engineer
Engineering Services, Western Service Area

Approved by: _____ Date: 30 Jun 2009

Edward P. Moy, Director FOR
Technical Operations, Western Service Area

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APPENDICES

ACRONYMS

AEOD	Airport Environs Overlay District
AFTIL	Airport Facilities Terminal Integration Laboratory
APE	Area of Potential Effect
AQI	Air Quality Index
ASR	Airport Surveillance Radar
ASTM	American Society for Testing and Materials
ATCT	Airport Traffic Control Tower
ATS	Automated Transit System
CAA	Clean Air Act
CCDOA	Clark County Department of Aviation
CDP	Census Designated Place
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CUP	Conditional Use Permit
DAQEM	Department of Air Quality & Environmental Management
dB	Decibel
DNL	Day Night Average Sound Levels
DOT	Department of Transportation
EA	Environmental Assessment
EDDA	Environmental Due Diligence Audit
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FBO	Fixed Base Operator
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
FHWA	Federal Highway Administration

FIRM	Flood Insurance Rate Map
FONSI	Finding Of No Significant Impact
FPPA	Farmland Protection Policy Act
LAS	McCarran International Airport
LVVWD	Las Vegas Valley Water District
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NEM	Noise Exposure Map
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRIS	National Register Information System
NVSHPO	Nevada State Historic Preservation Office
PM	Particulate Matter
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RPZ	Runway Protection Zone
SIP	State Implementation Plan
TERPS	Terminal Instrument Procedures
TSA	Transportation Security Administration
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
WHMP	Wildlife Hazard Management Plan

GLOSSARY

AIRCRAFT OPERATION. An aircraft arrival (landing) or an aircraft departure (takeoff) represents one aircraft operation.

AIRPORT FACILITIES TERMINAL INTEGRATION LABORATORY. An FAA facility that provides a simulation platform to support and evaluate the interior design and layout, control tower site selection and orientation, height determination studies, and transition of equipment into the airport traffic control tower environment.

AIRPORT INFLUENCE AREA. The defined space surrounding an airport that can be affected by airport operations.

AIRPORT OPERATIONS AREA. The AOA includes all areas inside airport fencing designated for landing, takeoff, or surface maneuvering of aircraft.

AIRPORT SURVEILLANCE RADAR. Approach control radar used to detect and display an aircraft's position in the terminal area. Coverage of the ASR can extend up to 60 miles.

AIRPORT TRAFFIC CONTROL TOWER. An airport observation facility that visually and electronically monitors aircraft take-offs and landings and ground traffic within the airport. The purpose of an ATCT is to ensure proper separation of aircraft and enhance the safety of aircraft operations at and in the vicinity of an airport.

AIR TRAFFIC CONTROLLER. People who utilize the air traffic control system to maintain a safe and orderly flow of aircraft traffic both in the air and within the airport environment.

BASE BUILDING. A building located adjacent to an airport traffic control tower (ATCT) that houses electrical, mechanical, and communications equipment and administrative offices associated with the operation of the ATCT.

CAB. The operational area of an ATCT where the air traffic controllers and relevant equipment are located.

CARBON MONOXIDE CLASSIFICATIONS. As defined by the Environmental Protection Agency, areas in non-attainment status of the carbon monoxide standard under the Clean Air Act are classified according to the severity of the pollution. These classifications are defined as follows (from lowest to highest):

Not Classified	An area designated as a carbon monoxide non-attainment area as of the date of enactment of the Clean Air Act Amendments of 1990 and did not have sufficient data to determine if it is meeting or is not meeting the carbon monoxide standard.
Moderate	Area has a design value of 9.1 up to 16.4 ppm.
Serious	Area has a design value of 16.5 ppm and above.

CENSUS DESIGNATED PLACE. A geographic entity that serves as the statistical counterpart of an incorporated place for the purpose of presenting census data for an area with a concentration of population, housing, and commercial structures that is identifiable by name, but is not within an incorporated place.

DAY NIGHT AVERAGE SOUND LEVELS. The 24-hour average sound level obtained after the addition of 10 decibels to sound levels for the periods between 10 p.m. and 7 a.m as averaged over a span of one year. These levels are the FAA standard metric for determining the cumulative exposure of individuals to noise.

ENPLANEMENT. Refers to the act of a passenger boarding an aircraft.

FIXED BASE OPERATOR. An airport service center that may offer many types of services such as aircraft fuel or repair, parking, tie-down, flight training, baggage handling, car rental, food services, etc.

GENERAL AVIATION. All flights other than military and scheduled airline flights, both private and commercial.

HYDROGEOLOGY. The branch of geology that deals with the occurrence, distribution, and effect of ground water.

JURISDICTIONAL WETLAND. A wetland under the jurisdiction of a federal wetland program, such as the permit program administered by the Army Corps of Engineers under Section 404 of the Clean Water Act.

MEDIAN INCOME. This measure represents the middle value (if the total number of entries in the list is odd) or the average of the two middle values (if the total number of entries in the list is even) in an ordered list of income values.

MESIC. An ecological term referring to a type of habitat with a moderate amount of moisture.

METROPOLITAN STATISTICAL AREA. A geographic area defined by the U.S. Office of Management and Budget for use by federal agencies in collecting, tabulating and publishing federal statistics. An MSA contains a core urban area with at least a population of 50,000, and consists of one or more counties (including the one containing the core urban area) as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.

MISSED APPROACH. An instrument flight approach not completed by a landing. This may be due to visual contact not established at authorized minimums, instructions from air traffic control or other reasons.

NATIONAL PRIORITIES LIST. As defined by the U.S. Environmental Protection Agency, the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The list is intended primarily to guide the EPA in determining which sites warrant further investigation.

NOISE IMPACT MAP. Also referred to as a noise exposure map, it refers to a scaled, geographic depiction of an airport, its noise contours and the surrounding area, including accompanying descriptions of forecast aircraft operations at that airport, and the ways, if any, those operations will affect the map (including noise contours and the forecast land uses).

NON-ATTAINMENT. As used in reference to National Ambient Air Quality Standards, non-attainment refers to the condition of having higher levels of a particular pollutant than set by the standards.

OPERATION. See Aircraft Operation.

OZONE CLASSIFICATIONS (8-HOUR STANDARD). As defined by the Environmental Protection Agency, areas in non-attainment status of the 8-hour ozone standard under the Clean Air Act are classified according to the severity of the pollution. These classifications are defined as follows (from lowest to highest):

Marginal	Area has a design value of 0.085 up to but not including 0.092 ppm.
Moderate	Area has a design value of 0.092 up to but not including 0.107 ppm.
Serious	Area has a design value of 0.107 up to but not including 0.120 ppm.
Severe 15	Area has a design value of 0.120 up to but not including 0.127 ppm
Severe 17	Area has a design value of 0.127 up to but not including 0.187 ppm
Extreme	Area has a design value of 0.187 ppm and above.

$PM_{2.5.}$ Particulate matter smaller than 2.5 micrometers in size.

$PM_{10.}$ Particulate matter larger than 2.5 and smaller than 10 micrometers in size.

PRIME FARMLAND. Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary (of Agriculture). Prime farmland includes land that possesses the above characteristics but is being used currently to produce live stock and timber. It does not include land already in or committed to urban development or water storage (FPPA Section 1540(c)(1)).

RECOGNIZED ENVIRONMENAL CONDITION. As defined by the American Society for Testing and Materials (ASTM), a recognized environmental condition is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing, past, or a material threat of a release of these substances or products into structures, the ground, ground water or surface water of the property.

RUNWAY PROTECTION ZONE. An area off the runway end used to enhance the protection of people and property on the ground. This is achieved by clearing the area of incompatible objects and activities.

SHADOWING. As used in the context of evaluating a site for an ATCT, shadowing refers to visual obstruction of the aircraft movement area from the air traffic controller's viewpoint in the tower.

STATE IMPLEMENTATION PLAN. Plan required by the Environmental Protection Agency to achieve the National Ambient Air Quality Standards for each pollutant and within the timeframes established by the Clean Air Act.

TERMINAL INSTRUMENT PROCEDURES. Depict specific procedures for a particular type of approach to a given runway, as well as missed approach procedures. They define prescribed altitudes and headings, and identify terrain, obstacles and potentially conflicting airspace for approaching aircraft.

UNIQUE FARMLAND. Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary (of Agriculture). It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables (FPPA Section 1540(c)(1)).

WETLAND. Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

WILDLIFE HAZARD MANAGEMENT PLAN. A plan developed by an airport to manage wildlife that may be hazardous to the safe operation of aircraft.

1.0 INTRODUCTION

The Federal Aviation Administration (FAA) is proposing to construct and operate a new Airport Traffic Control Tower (ATCT), Base Building and Parking Structure to serve McCarran International Airport (LAS), Las Vegas, Nevada. The proposed federal action is described in detail in Section 2.0 of this document. Implementation of the proposed action is expected to begin by early 2011.

This Environmental Assessment (EA) has been conducted in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; implementing regulations issued by the Council on Environmental Quality (40 CFR parts 1500-1508); and FAA Order 1050.1E CHG 1, *Environmental Impacts: Policies and Procedures* (FAA 2006a); and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (FAA 2006b), to provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

The National Environmental Policy Act of 1969 (NEPA) requires that a statement of environmental impacts be prepared as part of the development process for projects requiring a federal action such as funding or approval. FAA Order 1050.1E CHG 1 paragraph 401g states that the "establishment or relocation of facilities such as air route traffic control centers (ARTCCs), airport traffic control towers (ATCTs), off airport air route surveillance radars (ARSRs), air traffic control beacons (ATCBs), and next generation radar (NexRad)" are actions that normally require an Environmental Assessment. The purpose of an EA under NEPA is to describe a proposed action's anticipated environmental impacts. The FAA is the lead federal agency for the proposed action.

2.0 PROPOSED FEDERAL ACTION

The FAA is proposing to construct and operate a new Airport Traffic Control Tower, Base Building and Parking Structure to serve McCarran International Airport, Las Vegas, Nevada. The construction phase of the proposed action is expected to begin in early-2011 and proceed until late-2012. The new tower would be commissioned in early-2014 and demolition of the existing ATCT would occur in early-2015. The proposed ATCT would be located at the southwest corner of Flight Path Avenue and Kelly Lane, east of Terminal 1 and southwest of the new Terminal 3 site on the northeast side of the airport. Site access would be from Kelly Lane. The existing ATCT would be vacated and demolished after the new ATCT is constructed and operational. The existing ATCT is located approximately 750 feet southeast of Terminal 1, adjacent to the airport's elevated light rail transit line. Figures 1- 3 and Appendix A show the location of the proposed action and Appendix B contains preliminary elevation drawings for the proposed ATCT.

The proposed action consists of construction and operation of an approximately 372-foot high ATCT, a 40,000 square foot multi-story Administrative Base Building and a multi-story parking structure with approximately 190 parking spaces totaling about 48,750 square feet. The existing ATCT would be demolished (by dismantling) after the new ATCT is operational. This would include removal and proper disposal of the existing buildings and above ground fuel storage tank (for the emergency generator) and repaving the former ATCT site. The existing base building would also be demolished if the Clark County Department of Aviation (CCDOA) did not want to continue to use the building.

The site for the proposed ATCT, Base Building and Parking Structure would encompass an approximately 3.57-acre area. The proposed ATCT would be a 372-foot high concrete and steel octagonal tower with glass cab windows on a concrete pile foundation. The shaft of the ATCT would be unoccupied with two interior access stairways and an elevator. The control cab, electrical and mechanical equipment rooms, and sanitary and rest facilities for attending personnel would be located above the shaft. The control cab would contain communications and surveillance equipment used by air traffic controllers to monitor air traffic at LAS, and would have a glass panel exterior to allow vision of airport runways and taxiways. Exterior walkways with railings would be located at the cab level and on the cab roof.

A short, ground level corridor would connect the proposed ATCT to a multi-story base building which would likely be located west of the tower. The base building would be a rectangular shaped, approximately 40,000 square foot, cast-in-place concrete structure on a concrete footing foundation. It would house electrical, mechanical, and communications equipment and administrative offices associated with the operation of the proposed ATCT. A multi-story parking structure with approximately 190 parking spaces and pedestrian sidewalks would likely be located north of the ATCT and base building. Landscaping may be placed around the parking lot and buildings.

Subsurface water, electrical, fiber optic, telephone and sanitary sewer service lines would be installed from the ATCT and base building to existing lines which lie along Kelly Lane east of the proposed site (See Figure 3). Sections of new subsurface concrete duct bank would be installed where necessary to connect the proposed new ATCT to existing airport equipment.

Two 750 kilowatt (approximately 1000 horse power) emergency diesel engine powered electrical generator would be housed within the base building. Diesel fuel for the generator would be stored in two 100-gallon day tanks within the generator room and two 4,000-gallon above ground storage tanks located outside the base building.

3.0 PURPOSE AND NEED

An ATCT is an airport observation facility that visually and electronically monitors aircraft take-offs and landings and ground traffic within the airport. The purpose of an ATCT is to ensure proper separation of aircraft and enhance the safety of aircraft operations at and in the vicinity of an airport. The proposed ATCT facility would serve to monitor and communicate with aircraft in the vicinity of McCarran International Airport.

The existing ATCT facility at LAS is comprised of a 185-foot tower (cab floor height) and an approximately 16,000 square foot base building. The tower was originally constructed in the early 1980s, and consists of a unoccupied shaft supporting the tower cab. The facility is located approximately 750 feet southeast of Terminal 1 and 1,500 feet north of Taxiway C, adjacent to the airport's elevated light rail transit line.

The purpose and need for a new ATCT at LAS is to improve functional efficiency at the airport by constructing a facility that meets the current and future airport traffic control needs at the airport. The existing ATCT is inadequate for current airport traffic control needs due primarily to the insufficient height of the tower and size of the tower cab. According to the FAA's Siting Study for the proposed new ATCT, visibility of some operational areas from the existing tower has been blocked due to airport construction since the existing ATCT was built. The study also found that planned airport projects will further impair visibility from the existing tower (FAA 2005). Also, as aircraft operations have increased 89% since construction of the existing tower from 297,202 in 1983 to 562,715 in 2004 (FAA 2007), air traffic controller positions in the tower cab have increased from 6 to 14, resulting in extremely crowded working conditions (FAA 2005). The existing small cab also does not allow for a further increase in controllers which will be necessary as aircraft operations at LAS are forecasted to increase to 922,316 by 2025 (CCDOA 2005). In general, the airport has outgrown the existing ATCT as airport facilities have expanded and aircraft operations have increased. The construction and operation of the proposed tower will not cause any increase in operations at the airport.

4.0 ALTERNATIVES

Federal and state regulations concerning the environmental review process require that all reasonable alternatives which might accomplish the objectives of a proposed action be identified and evaluated. The examination of alternatives is of critical importance to the environmental review process, ensuring that all alternatives which address the project's purpose and need, including those which may enhance environmental quality or result in a less detrimental effect, are considered.

The Council on Environmental Quality (CEQ) implementing regulations for the National Environmental Policy Act state that the responsible agency shall "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (§1502.14). In accordance with these regulations, a range of reasonable alternatives has been identified that may accomplish the objectives of the proposed action. A "no action" alternative will also be considered as required by CEQ regulations. As stated in *Chapter 3.0 Purpose and Need,* the proposed action is intended to improve functional efficiency at the airport by constructing a facility that meets the current and future airport traffic control needs at LAS.

The FAA Orders, regulations, and policies used to guide the siting of ATCTs are listed below together with a summary of their relevant siting criteria.

1. **FAA Order 6480.4A, *Airport Traffic Control Tower Siting Process*:** This Order identifies the requirements concerning the site and height selection of ATCTs.

    a. The ATCT shall be constructed at the minimum height required to satisfy all siting criteria.
    b. Visibility from the ATCT cab shall allow an unobstructed view of all controlled movement areas of the airport and of all air traffic in the vicinity of the airport.
    c. ATCT distance from critical airport locations and ATCT height shall support requirements for object visibility and discrimination from the ATCT cab.
    d. ATCT distance from critical airport locations and ATCT height shall support requirements for viewing objects on the airport movement areas, taxiways, and non-movement areas from the ATCT cab.
    e. The ATCT shall be sited such that it does not degrade any current or planned terminal instrument procedures.
    f. Ensure that ATCT location and height enhance visibility performance as much as possible.
    g. Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace, must be complied with.
    h. The tower must not be sited where it will have a derogatory effect on the performance of existing or planned electronic facilities.
    i. The tower cab should be oriented to face north or alternatively east, west, or south in order of preference.

j. Visibility should not be impaired by sunlight, indirect external light sources, or thermal distortion.
k. Consideration should be given to local weather phenomena such as fog or ground haze.
l. Site access should not require crossing areas of aircraft operations.
m. Consideration shall be given to economic factors.
n. The recommended ATCT location shall be subject to an Environmental Due Diligence Audit review to identify any environmental conditions, including physical contamination resulting from past or present uses. The site shall also be subject to the NEPA process as outlined in FAA Order 1050.1E CHG 1.

2. **FAA Order 6480.7E*, Airport Traffic Control Tower and Terminal Radar Approach Control Facility Design Guidelines*:** This Order addresses the size, orientation, and design requirements for ATCTs.

3. **Federal Aviation Regulation (FAR) Part 77:** This Regulation specifies an imaginary surface above airports that should not be penetrated in order to maintain optimum aircraft safety. Although a waiver may be obtained to penetrate this surface (and often is for an ATCT), it is still desirable to locate a new ATCT with as little penetration as possible.

4. **FAA Order 1600.69B, *FAA Facility Security Management Program*:** This Order addresses the siting and design of various air traffic control facilities to reduce or mitigate the threat of physical attack. The most important criterion related to siting is the definition of minimum setback distances. In order to avoid any special design restrictions, major activity level facilities must have an interior setback of 100 feet from the building to the parking area and an exterior setback of 300 feet from the building to the nearest street. Setbacks less than these minimum requirements would require the review and approval of FAA Security.

5. **Terminal Instrument Procedures (TERPS):** TERPS depict specific procedures for a particular type of approach to a given runway, as well as missed approach procedures. They define prescribed altitudes and headings, and identify terrain, obstacles and potentially conflicting airspace for approaching aircraft. ATCTs shall be sited such that they do not degrade any current or planned terminal instrument procedures. Particular emphasis shall be made to protect for approaches with vertical guidance according to the current approved Airport Layout Plan. Non-precision approach and circling minimums may only be adjusted to accommodate a proposed ATCT if the impacts of such adjustments are understood and agreed to by all stakeholders.

6. **Miscellaneous:** Other siting factors to consider are site access, utility availability, and access to existing field cabling.

4.1 ATCT ALTERNATIVE SITES CONSIDERED

As required by FAA Orders and Federal Aviation Regulations, the FAA must complete an iterative site selection and screening analysis to identify potential sites and analyze them in accordance with the aforementioned selection criteria. An ATCT Siting Study conducted by the FAA utilizing the Airport Facilities Terminal Integration Laboratory (AFTIL) considered seven sites for the proposed ATCT at McCarran International Airport (FAA 2005). Alternative sites were evaluated at AFTIL during two meetings attended by representatives from the FAA and the Clark County Department of Aviation (CCDOA). The proposed new ATCT site was selected after comparing the attributes of each site against the siting requirements. Each alternative site considered for the proposed action is described below by its location with a brief summary of the results of the site evaluation from the Siting Study Report (FAA 2005). An aerial photograph showing the locations of the sites considered for the proposed new ATCT is included in the Appendices as Figure 4.

4.1.1 Site Discussion

Site A

Location: Site A is located on the current ATCT site approximately 750 feet southeast of Terminal 1 in the northwest corner of the parking lot.

Siting Summary: Site A was eliminated from further consideration due to severe shadowing from the new ATCT of the final approach and touchdown areas of Runways 19R and 19L as viewed from the existing ATCT. While this shadowing would only be an issue after construction of the new tower progressed above the existing cab until the new ATCT was commissioned, the impact to air traffic controllers was deemed too severe even temporarily.

Site B

Location: Site B is located on the current ATCT site approximately 750 feet southeast of Terminal 1 in the center of the parking lot near the Base Building loading dock access drive.

Siting Summary: Site B was eliminated from further consideration due to the same reason as Site A (see above).

Site C

Location: Site C is located on the current ATCT site approximately 750 feet southeast of Terminal 1 in the northeast corner of the parking lot.

Siting Summary: Site C was eliminated from further consideration due to construction site challenges, inability to meet security setbacks and a conflict between seismic and blast construction requirements. The small size of the site would result in extra construction costs resulting from accommodation of equipment, supplies and traffic; meeting security requirements; and protecting the existing ATCT and the elevated passenger tram, which

crosses the site, during construction. A tower of functional height at this site would also penetrate the FAR Part 77 horizontal surface.

Sunset Road Site

Location: The Sunset Road Site is located approximately 2,500 feet south-southeast of the threshold of Runway 7R, south of Sunset Road on private land.

Siting Summary: The Sunset Road Site was eliminated from further consideration due to the landowner's unwillingness to sell the land to the CCDOA or the FAA (Darren Brinker, Civil Engineer, FAA, personal communication 4/15/09).

Terminal B Site

Location: The Terminal B Site is located between Terminal 1 and the B Gates.

Siting Summary: The Terminal B Site was eliminated from further consideration due to its proximity to a Transportation Security Administration (TSA) baggage screening facility which has inherent safety risks, the location of the site within the Aircraft Operations Area (AOA) which would expose the facility to noise and fumes from aircraft as well as limit construction and delivery access to the ATCT, lack of employee parking within the AOA, and buried jet fuel lines around the B Gates which may have to be relocated. The airport also had plans to build a sky bridge between the B and C Concourses at the time of the Siting Study, which would have eliminated this as a viable site. This bridge is currently in place (Darren Brinker, Civil Engineer, FAA, personal communication 4/15/09).

Russell Road Site

Location: The Russell Road Site is located near the intersection of Paradise Road and the relocated Russell Road.

Siting Summary: Based on discussions with CCDOA, FAA eliminated the Russell Road Site from further consideration because they determined that due to the relocation of Russell Road and future construction in the area that no viable parcel of land would be available for an ATCT.

Terminal 3 Site (Preferred Alternative)

Location: The Terminal 3 Site is the preferred new ATCT location. It is located at the southwest corner of Flight Path Avenue and Kelly Lane, approximately 4,000 feet north of the centerline of Runway 7L/25R and 5,500 feet east of the centerline of Runway 1R/19L.

Siting Summary: The Terminal 3 Site was chosen as the preferred new ATCT site from among the alternatives considered based on the results of the FAA airspace and TERPS evaluations, modeling information obtained from AFTIL, and a comparison of the advantages and disadvantages of all of the primary siting options. The following list is a summary of the evaluation of the Terminal 3 Site against the Siting criteria:

1. The site provides an unobstructed line of sight to all runways and taxiways (ramp areas at LAS are controlled from another tower) and full visibility of all airborne traffic patterns.
2. The site is large enough to accommodate the ATCT, support structures and equipment.
3. The site is not located within the airport operations area.
4. The site does not meet minimum exterior setback requirements, but hardening measures would be used to increase blast protection.
5. The tower would extend above the FAR Part 77 horizontal surface, but lighting would be placed on the tower to identify it as an obstruction to aircraft.
6. The tower would not derogate any existing or planned electronic facilities.
7. Utilities are available in the vicinity of the site.
8. Employee access to the site would be from public streets.
9. Site development costs would not be prohibitive.
10. The tower would not impact any terminal instrument procedures.

4.1.2 No Action Alternative

Under the No Action Alternative, a new ATCT facility would not be constructed at McCarran International Airport, and the purpose and need, as set forth in Section 3.0, would not be met for the proposed action. The existing ATCT facility would continue to be used.

Only the *No Action Alternative* and the *Preferred Alternative* are further evaluated in this EA. The *Preferred Alternative* is the construction of the proposed new ATCT approximately 3,000 feet northwest of the Runway 31L threshold (Terminal 3 Site as described in section 4.1). The *Preferred Alternative* best meets the purpose and need of the project.

5.0 AFFECTED ENVIRONMENT

This section of the Environmental Assessment describes the existing environmental conditions of the geographic area that may potentially be affected by the proposed action. The purpose of these descriptions is to provide a baseline from which to analyze the impacts of the proposed action in *Chapter 6, Environmental Consequences*. Therefore the same 18 impact categories specified by FAA Order 1050.1E CHG 1 and guidance from the Council on Environmental Quality are used in both Chapters 5 and 6. A brief description of the general characteristics of the geographic area and the airport environment is provided in the introduction to Chapter 5. The descriptions of each of the affected environment categories begins with a brief synopsis of the federal, state and local laws, regulations, and ordinances which guide the content of the discussions. For more detailed information about these laws, regulations and ordinances please refer to the full text of the appropriate document as cited.

The site of the proposed action is McCarran International Airport (LAS), which is located within unincorporated Clark County, Nevada south of the City of Las Vegas and northwest of the City of Henderson (See Figure 1). LAS is located in the Las Vegas Valley, a northwest trending valley in southern Nevada bounded by the Spring Mountains to the west, Frenchman Mountain to the east, the McCullough Range to the south, and the Las Vegas and Sheep Ranges to the north. The airport is located approximately two and one-half miles south of the City of Las Vegas and one-half mile east of the Las Vegas "Strip." LAS lies adjacent to the local streets South Las Vegas Boulevard to the west, Sunset Road to the south, South Eastern Avenue to the east and West Tropicana Avenue to the north. Paradise Road crosses the airport from north to south. The airport is accessible via Russell Road from the east, from Paradise Road from the north, and from I-215 from the south. The site is located within Section 34, Township 21 South, Range 61 East, Mt. Diablo Baseline and Meridian as shown on the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984 (See Figure 1). The airnav.com internet site lists the airport location as approximately Latitude 36 04' North, Longitude 115 09' West and the airport elevation as 2181 feet above mean sea level (AirNav 2008).

McCarran International Airport comprises approximately 3,000 acres of land (CCDOA 2005) and is owned and operated by the Clark County Department of Aviation (CCDOA). There are several general aviation airports within the vicinity of LAS including North Las Vegas Airport (8.1 nautical miles [nm] N), Henderson Executive Airport (6.5 nm S), and Jean Sport Aviation Center (20.6 nm SW) (AirNav 2008). Nellis Air Force Base is located 11 nm E of LAS. The closest commercial airport is the St. George Municipal Airport located 96.5 nm NE of LAS in St. George, Utah (AirNav 2008). LAS is generally bordered by commercial development to the west (the Las Vegas Strip), commercial development, multi- and single-family residences and the University of Las Vegas to the north, commercial and industrial development with some residential use to the east, and commercial and industrial uses to the south.

As of December 2007, LAS was served by 19 domestic and 29 international scheduled commercial airlines (CCDOA 2008) and had nearly 23 million total enplanements in 2007 (FAA 2007). In 2007, there were 609,472 total operations at LAS, with 90% of flights being

commercial operations (CCDOA 2008). LAS contains four paved bi-directional runways with paved taxiways (See Figure 2). Runway 7L/25R is 14,505 feet long and 150 feet wide and oriented in an east-west direction. Runway 7R/25L is 10,525 feet long and 150 feet wide and oriented in an east-west direction. Runway 1L/19R is 8,985 feet long and 150 feet wide and oriented in a northeast-southwest direction. Runway 1R/19L is 9,770 feet long and 150 feet wide and oriented in a northeast-southwest direction. Most of the airport facilities, including the commercial flight terminals, public parking, air cargo facilities, commercial facilities, and aircraft rescue and fire fighting facilities are located north and east of the runways. General aviation facilities are located to the west of the Runway 1L/19R. There were 115 aircraft based out of LAS in 2007 (FAA 2007). The airport passenger terminal complex includes two passenger terminal buildings containing approximately two million square feet of space. Terminal 1 primarily serves domestic passengers and Terminal 2 primarily serves passengers on charter or international flights. Concourses C and D are connected to Terminal 1 by two separate automated transit systems (ATSs) (CCDOA 2005).

McCarran International Airport is underlain by Quaternary age consolidated sediments and alluvium (Matti and Bachhuber 1985). According to information published by the Natural Resources Conservation Service (NRCS 2008a), soils at the airport and in the surrounding areas consist mostly of fine sands and fine sandy loams (Appendix C). Ground water could be expected at depths of approximately 25 feet below ground surface in the vicinity of the proposed ATCT site, based on ground water data which was obtained for the Environmental Due Diligence Audit for the proposed ATCT site (FAA 2008), and information published by the Southern Nevada Water Authority (SNWA 2008).

According to information obtained from the Western Regional Climate Center (WRCC 2008) temperatures in Las Vegas range from an average minimum January temperature of 34.3˚F to an average maximum July temperature of 104.5˚F. The average annual precipitation is 4.19 inches with an average annual snowfall of 0.9 inch. The annual average wind speed is 9.3 miles per hour at the airport.

Area of Potential Effect (APE)

The term APE is used throughout this document to refer to the area which has been studied for potential direct or indirect effects of the proposed action, where physical disturbance or visual impacts from the project would result. This does not necessarily refer to the APE as it relates to historic properties under Section 106 of the National Historic Preservation Act, except in Sections 5.10 and 6.7.

1. The APE for the construction of the proposed ATCT includes an approximately 3.57-acre area around the proposed ATCT, Base Building, Parking Structure, utility lines and driveways where construction, maintenance, and usage effects may occur (See Figure 3). New utilities would be connected to existing lines located along Kelly Lane from the southeast corner of the site. Existing public access roads would be used for construction and maintenance traffic.
2. The APE for the demolition of the existing ATCT includes an approximately 2.3-acre area around the current structure.
3. The indirect APE used for visual effects of the proposed ATCT includes an approximately 0.75 mile radius around the new tower.

Each aspect of the affected environment that will be analyzed for environmental impacts is described below. These aspects are represented by 18 impact categories, as specified by FAA Order 1050.1E CHG 1. The descriptions are intended to be "baseline" descriptions of the affected environment as it exists prior to the proposed action. Discussions of the possible effects of the proposed action are included in Section 6.0, Environmental Consequences.

5.1 AIR QUALITY

The Clean Air Act (CAA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants, termed "criteria pollutants" (ground-level ozone, particulate matter [equal to or less than 10 microns in size (PM_{10}) and equal to or less than 2.5 microns in size ($PM_{2.5}$)], carbon monoxide, sulfur dioxide, lead, and nitrogen dioxide). The CAA requires each state to adopt a plan to achieve the NAAQS for each pollutant within specific timeframes. These air quality plans, known as State Implementation Plans (SIPs), are subject to Environmental Protection Agency (EPA) approval. In default of an approved SIP, the EPA is required to promulgate a Federal Implementation Plan (FIP).

According to a 2007 Air Quality Index Report produced for the Las Vegas-Paradise Metropolitan Statistical Area (MSA) by the Environmental Protection Agency (EPA), air quality in the MSA for 365 indexed days was defined as good on 142 days, moderate on 194 days, unhealthy for sensitive groups on 26 days and unhealthy on 3 days (USEPA 2008b). The main criteria pollutants measured for the Las Vegas-Paradise MSA during the aforementioned indexed days were ozone (214 days), PM_{10} (96 days), $PM_{2.5}$ (53 days) and carbon monoxide (2 days). The Air Quality Index (AQI) is an index for reporting daily air quality which focuses on health effects that may be experienced within a few hours or days after breathing polluted air. There were a total of 9 reported exceedances of EPA Air Quality Standards for the eight-hour ozone value listed in the 2007 Air Quality Index Report for Clark County from two monitoring stations located within 10 miles of LAS. These stations are located at 545 Lake Mead Drive in Henderson, NV (9.5 miles E/SE of LAS) and 1562 East Katie Avenue, Las Vegas, NV (2.5 miles N/NE of LAS). There were no reported exceedances of the 24-hour average PM_{10} EPA Air Quality Standard from air quality monitors within 10 miles of LAS in 2007. There were no exceedances of EPA air quality standards for carbon monoxide at any of the Clark County monitoring stations in 2007. The Las Vegas Valley, which includes McCarran International Airport, is in non-attainment status for carbon monoxide, ozone and PM_{10} (USEPA 2008a).

The Las Vegas Valley was designated as a moderate non-attainment area for the 8-hour carbon monoxide NAAQS in November 1990 under the CAA Amendments of 1990. Due to non-attainment of the standard by the required date, the Valley was reclassified as a serious non-attainment area on November 3, 1997. A carbon monoxide SIP was submitted to the EPA in August 2000 which demonstrated attainment of the standard by December 31, 2000 (CCDAQEM 2000). The EPA found that the Las Vegas Valley had attained the carbon monoxide NAAQS in a Final Rule published June 1, 2005, but redesignation of the area is subject to CAA criteria, including submittal of a carbon monoxide maintenance plan (USEPA 2005). The Clark County Department of Air Quality & Environmental Management (CCDAQEM) submitted a redesignation request and maintenance plan to the EPA in September 2008 (CCDAQEM 2008b).

The Las Vegas Valley was designated as a basic non-attainment area for the 8-hour ozone NAAQS under Subpart 1 of the CAA on April 30, 2004. As a result of the findings of a U.S. Court of Appeals for the District of Columbia Circuit court case decided on December 22, 2006 (USCOA 2006), the classification determinations under this Subpart were vacated (set aside) and all areas designated under Subpart 1 were not subject to the June 15, 2007 submission date established for attainment demonstration. Consequently, no criteria for preparation of a SIP for ozone for these areas exists, therefore a SIP has not been prepared for the Las Vegas Valley. The CCDAQEM submitted a request for determination of Clark County's attainment of the 8-hour ozone standard to the EPA on June 12, 2007 based on data collected at air quality monitoring stations during the preceding three years (CCDAQEM 2007a). The EPA did not issue a determination and in August 2007 Clark County had an exceedance of the standard at one of their monitoring stations (Dennis Ransel, Planning Manager, Clark County DAQEM, personal communication 10/9/08). Since then, Clark County has submitted an Early Progress Plan to the EPA to establish early transportation conformity budgets which address the ozone standard prior to demonstration of complete attainment of the standard (CCDAQEM 2008a).

The Las Vegas Valley was designated as a moderate non-attainment area for the PM_{10} NAAQS on November 15, 1990 under the CAA Amendments of 1990. This designation required preparation of a SIP by November 15, 1991 and attainment of the standards by December 1994. Because the SIP did not demonstrate attainment of the standards by 1994, the Las Vegas Valley was reclassified as a serious non-attainment area on January 8, 1993. Since then a number of SIPs have been prepared which did not demonstrate attainment of the standards. Modeling for the 2001 SIP showed attainment of the annual standard in 2001 and the 24-hour standard by 2006 (CCDAQEM 2001). In June 2007, Clark County submitted a PM_{10} SIP Milestone Achievement Report which documented the County's attainment of the 24-hour standard and its maintenance of the annual standard (CCDAQEM 2007b). Clark County is currently gathering data and performing research to support preparation of a PM_{10} maintenance plan (Dennis Ransel, Planning Manager, Clark County DAQEM, personal communication 10/9/08).

Greenhouse Gas Emissions

Of growing concern is the impact of proposed projects on climate change. Greenhouse gases trap heat in the earth's atmosphere and include both naturally occurring and anthropogenic (man-made) water vapor (H_2O), carbon dioxide (CO_2),[1] methane (CH4), nitrous oxide (N_2O), and ozone (O_3).[2]

[1] All greenhouse gas inventories measure carbon dioxide emissions, but beyond carbon dioxide different inventories include different greenhouse gases (GHGs).

[2] Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. For example, chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons) or sulfur (sulfur hexafluoride: SF_6).

Research has shown that there is a direct link between fuel combustion and greenhouse gas emissions. Therefore, sources that generate greenhouse gases at an airport are those that require fuel or power Aircraft jet engines, like many other vehicle engines, produce carbon dioxide (CO_2), water vapor (H_2O), nitrogen oxides (NO_x), carbon monoxide (CO), oxides of sulfur (SO_x), unburned or partially combusted hydrocarbons (also known as volatile organic compounds (VOCs)), particulates, and other trace compounds.

According to most international reviews, aviation emissions comprise a small but potentially important percentage of anthropogenic greenhouse gases and other emissions that contribute to global warming. The Intergovernmental Panel on Climate Change (IPCC) estimates that global aircraft emissions account for about 3.5 percent of the total quantity of greenhouse gas from human activities (USGAO 2000, p.4). In terms of U.S. contribution, the U.S. General Accounting Office (GAO) reports (USGAO 2000, p. 14) that aviation accounts "for about 3 percent of total U.S. greenhouse gas emissions from human sources" compared with other industrial sources, including the remainder of the transportation sector (23 percent) and industry (41 percent).

The scientific community is developing areas of further study to enable them to more precisely estimate aviation's effects on the global atmosphere. The FAA is currently leading or participating in several efforts intended to clarify the role that commercial aviation plays in greenhouse gas emissions and climate change. The most comprehensive multi-year program geared towards quantifying the climate change effects of aviation is the Aviation Climate Change Research Initiative (ACCRI) funded by FAA and NASA. ACCRI will reduce key scientific uncertainties in quantifying aviation-related climate impacts and provide timely scientific input to inform policy-making decisions. FAA also funds Project 12 of the Partnership for Air Transportation Noise & Emissions Reduction Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. Finally, the Transportation Research Board's Airport Cooperative Research Program project 02-06 is preparing a guidebook on preparing airport greenhouse gas emission inventories. The results of this effort are expected to be out in late 2008.

5.2 COASTAL RESOURCES

Federal activities involving or affecting coastal resources are governed by the Coastal Barriers Resources Act (CBRA), the Coastal Zone Management Act (CZMA), and Executive Order 13089, Coral Reef Protection. The CBRA prohibits, with some exceptions, Federal financial assistance for development within the Coastal Barrier Resources System that contains undeveloped coastal barriers along the Atlantic and Gulf coasts and Great Lakes. The CZMA and the National Oceanic and Atmospheric Administration (NOAA) implementation regulations (15 CFR Part 930) provide procedures for ensuring that a proposed action is consistent with approved coastal zone management programs. Executive Order 13089 requires Federal agencies to ensure that any actions that they authorize, fund, or carry out will not degrade the conditions of coral reef ecosystems.

According to maps of coastal resources governed by the Coastal Barrier Resources Act found on the USFWS Coastal Barrier Resource System (USFWS 2008a), there are no coastal barrier resources in Nevada.

According to information published by the National Oceanic and Atmospheric Administration regarding the Coastal Zone Management Act (NOAA 2008), there is no coastal management program for the State of Nevada.

5.3 COMPATIBLE LAND USE

The compatibility of existing and planned land uses in the vicinity of an airport is typically related to the extent of the airport's noise impacts. The Aviation Safety and Noise Abatement Act of 1979 established a noise measuring system, as well as noise standards for air carriers and methods to reduce noise impacts in the vicinity of airports. Under the Act, noise exposure maps may be produced by an airport to show the noise level contours around an airport and the types of land use they overlap. Land uses which may be incompatible with certain noise levels include residential, office, schools, hospitals, day care facilities and other non-industrial uses. Noise level compatibility with specific land uses is usually set by the county or municipal authority and varies by location.

LAS is located within the unincorporated community of Paradise in Clark County, Nevada south of the City of Las Vegas. Surrounding areas for which compatible land use with the airport may be important include the unincorporated communities of Winchester to the north, Spring Valley to the west, Enterprise to the southwest and the City of Henderson to the southeast. The area to the north of the airport is about 90% developed and contains commercial development, multi- and single-family residences and the University of Las Vegas. The area to the east of the airport is about 90% developed and includes commercial and industrial development with some residential use. The area to the south of the airport is about 75% developed with commercial businesses and warehouse/industrial buildings. Interstate-215 is located approximately one-half mile south of the airport. The area west of the airport is about 90% developed primarily with the businesses and hotels associated with the Las Vegas Strip. A privately operated public golf course, the Bali Hai Golf Club, is located on the west side of Las Vegas Boulevard south of Russell Road, on land leased from the CCDOA. Interstate-15 is located approximately one-half mile west of the airport.

The airport is zoned by Clark County. According to the Clark County zoning map, the entire airport is in the Public Facility Zone (P-F). A Land Use Application would need to be filed with the Clark County Department of Comprehensive Planning and design review of the ATCT plans would be required to determine the compatibility of the plans with zoning requirements (See Appendix D; Ron Smith, Planner, Clark County Department of Comprehensive Planning, personal communication 10/14/08).

All of the area surrounding the airport is zoned by the Clark County. The area to the north of the airport is zoned for limited resort and apartment use (H-1) with some single- and multi-family residential use (R-1, R-3, R-4) and commercial use (C-2) along arterial streets. The area to the west of the airport is zoned primarily for limited resort and apartment use (H-1) and light manufacturing (M-1). The area to the south of the airport is zoned for limited resort

and apartment use (H-1), light manufacturing (M-1) and designed manufacturing (M-D), with a small amount of general commercial use (C-1). The area to the east of the airport is zoned for light manufacturing (M-1) and designed manufacturing (M-D), single-family residential (R-1) and rural estates residential (R-E) with some general commercial use (C-1). (Appendix D; CCDIT 2008.)

The Clark County Unified Development Code (Title 30.48) defines an Airport Environs Overlay District (AEOD) with 13 sub-districts around Nellis Air Force Base, Creech Air Force Base, McCarran International Airport, Henderson Executive Airport and North Las Vegas Airport for the purpose of guiding compatible development within the airports' influence areas. Title 30.48 defines development zones within the AEOD based on day/night average sound levels (DNL) and requires noise attenuation construction techniques for sensitive uses permitted within the AEOD. The Title also requires noise disclosure forms to be recorded against any new development within the McCarran, Henderson Executive or North Las Vegas AEODs. (Clark County 2008).

5.4 CONSTRUCTION IMPACTS

Local, State, Tribal, or Federal ordinances and regulations address impacts of construction activities, including dust and noise from heavy equipment traffic, disposal of construction debris, and air and water pollution.

The proposed action includes the construction of an ATCT, base building, parking structure, and placement of new utility lines and subsurface duct bank to connect the ATCT to airport equipment via existing duct banks. The proposed ATCT and base building site is located within the developed airport area at the southwest corner of Flight Path Avenue and Kelly Lane. The existing ATCT would be demolished and disposed of as part of the proposed action. The ATCT was inspected for asbestos containing materials on February 10, 1993 and asbestos was detected in various materials throughout the building. The existing ATCT was also inspected for lead-based paint and other lead-containing coatings on November 4, 1998 and both were detected on various surfaces throughout the building. The total area being impacted by construction and demolition activities would be approximately 5.87-acres, which includes 3.57 acres for construction and 2.3 acres for demolition.

Construction traffic would likely use Flight Path Avenue via Russell Road to access the proposed ATCT site and Wright Brothers Lane via Wayne Newton Blvd. to access the existing ATCT site. The nearest residential neighborhood to the proposed and existing ATCT sites lies north of Russell Road, approximately 1,700 feet from the ATCT site. The nearest non-airport commercial businesses are located on Eastern Avenue more than one mile east of the proposed ATCT site.

5.5 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(F)

The Federal statute that governs impacts in this category is commonly known as the Department of Transportation (DOT) Act, section 4(f) provisions. Section 4(f) of the DOT Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or

wildlife and waterfowl refuge of national, State, or local significance or land from an historic site of national, State or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use.

Based on a review of the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984; information published by Clark County (CCDPR 2008), the Nevada Division of State Parks (Nevada Division of State Parks 2008), and the USFWS (USFWS 2008b); and consultation with the Nevada Department of Conservation and Natural Resources (included in Appendix F) and the Nevada State Historic Preservation Office (Appendix E), there are no publicly owned lands used as public parks, recreation areas, wildlife or waterfowl refuges, or historic sites located within the area of potential effect for the proposed action at LAS. The closest public land to the airport is the Clark County Paradise Vista Park at 5582 Stirrup Street, approximately one mile northeast of the new ATCT site (CCDPR 2008). Bali Hai Golf Club, located on the airport property at 5160 Las Vegas Blvd. South, is a privately run course on land leased from Clark County nearly two miles west of the new ATCT site.

5.6 FARMLANDS

The Farmland Protection Policy Act (FPPA) requires that federal agencies identify and consider the adverse effects of their programs on the preservation of farmlands. The FPPA applies to farmland defined as "prime" or "unique" in Section 1540(c)(1) of the Act, or to farmland of statewide or local importance as defined by the appropriate state or local agency.

The proposed action would affect land within the existing airport property. This land has been used as an airport since 1941 and the existing ATCT was commissioned in 1983. The proposed site for the replacement ATCT and Base Building would be located at the southwest corner of Flight Path Avenue and Kelly Lane. Based on information published by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS), the soils where the ATCT, base building, parking structure and utility lines would be placed are all rated as "not prime farmland" as defined by the Farmland Protection Policy Act (Appendix C; NRCS 2008a).

5.7 FISH, WILDLIFE AND PLANTS

Federal agencies are required to assess potential impacts from agency actions to fish, wildlife and plants and their habitats under several federal and state laws, Executive Orders and regulations. These include the Endangered Species Act (ESA), the Sikes Act, the Fish and Wildlife Coordination Act, the Fish and Wildlife Conservation Act, the Migratory Bird Treaty Act, and Executive Order 13112 (Invasive Species). Definitions of the requirements under these Acts and Executive Order are provided in Section 6.7 of this document.

The proposed action APEs were inspected by Plant/Wetland Ecologist Cindy Johnson and Botanist/Biologist Frank Smith on August 1, 2008. Information from the Nevada Natural Heritage Program (NNHP), the U.S. Fish and Wildlife Service (USFWS) and other sources

was evaluated for information relevant to the habitat quality for fish and wildlife characteristic of the proposed action APEs.

The APE for the existing ATCT consists of parking lots, associated buildings, and a segment of the airport monorail (see Appendix A). A few ornamental trees and palm trees growing in concrete planters in close proximity to the ATCT may be within the area to be directly affected by demolition of the ATCT. Other planters and roadside strips in the vicinity of the APE for the existing ATCT that support landscape plantings of oleanders, cacti, yucca, and flowering forbs are likely outside of the area to be directly affected by ATCT demolition.

The APE for the proposed ATCT is currently being used as a staging area, concrete batch plant, and contractor yard for other construction projects in the vicinity. Except for a few weedy grasses and forbs along the perimeter of the site, the APE is bare of vegetation. Plant species observed along the perimeter of the site include sixweeks (*Festuca octoflora*), foxtail brome (*Bromus rubens*), flatcrown buckwheat (*Eriogonum deflexum*), sweetbush (*Bebbia juncea*), globemallow (*Sphaeralcea* spp.), and ceanothus (*Ceanothus* spp.). Across Flight Path Avenue to the north of the APE, mature landscape plantings occur between the sidewalk and the parking lot. These plantings include palm trees and ornamental shrubs surrounded by a gravel surface with no herbaceous vegetation.

The APEs for the proposed and existing ATCTs do not include any perennial or seasonal surface waters that support fish populations or other aquatic species. The nearest perennial surface water consists of water hazards on Bali Hai golf course, located on the west side of the airport more than 1.5 miles from either APE. The proposed APEs were also inspected for areas qualifying as wetlands or waters of the United States according to criteria specified in the Corps of Engineers Wetland Delineation Manual (USACE 1987). None were identified.

Wildlife species observed within the proposed ATCT APE during the site visit include one rock dove (*Columba livia*). In addition, McCarran Airport personnel report that Mexican free-tailed bats (*Tadarida brasiliensis*) roost in the parking garage at the airport, located 0.21 mile from the APE for the existing ATCT and 0.33 mile from the APE for the proposed ATCT (Sydney Nitschke, Environmental Quality Specialist, McCarran International Airport, personal communication 2008).

The NNHP has identified sixteen endangered, threatened, candidate, and/or at risk plant and animal taxa that have been recorded within a five mile radius of the proposed action APEs or for which habitat may be available within that area (see Appendix F). Each of the species of concern and their conservation status is indicated in Table 5.7-1 below.

Table 5.7-1. Conservation status of At Risk Taxa Recorded Near the McCarran Airport Project Area.

Species	Scientific Name	USFWS Category	NV Classification	NNHP State Rank
Peregrine falcon	*Falco peregrinus*		YES	S2

Species	Scientific Name	USFWS Category	NV Classification	NNHP State Rank
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	C	YES	S1B
Mexican long-tongued bat	*Choeronycteris mexicanus*			SNA
Spotted bat	*Euderma maculatum*	xC2	YES	S2
Silver-haired bat	*Lasionycteris noctivagans*			S3
Hoary bat	*Lasiurus cinereus*			S3
Mexican free-tailed bat	*Tadarida brasiliensis*		YES	S3S4
Western mastiff bat	*Eumops perotis*	xC2	YES	S1
Banded Gila monster	*Heloderma suspectum cinctum*	xC2NL	YES	S2
Desert tortoise	*Gopherus agassizii*	T	YES	S2
Mojave gypsum bee	*Anderna balsamorhizae*			S2
Las Vegas bearpoppy	*Arctomecon californica*	xC2	CE	S3
Las Vegas buckwheat	*Eriogonum corymbosum nilesii*	C		S1S2
Yellow two-tone beardtongue	*Penstemon bicolor bicolor*			S2
Parish phacelia	*Phacelia parishii*			S2S3
Littlefield milkvetch	*Astragalus preussii laxiflorus*			S1

USFWS Categories for Listing under the Endangered Species Act:

T = Threatened
C = Candidate
xC2 = Former Category 2 Candidate; now species of concern
NL = Not Listed (no status) in a portion of the species' range

Nevada State Protected Species Classification:

YES = fauna protected under NRS 501
CE = critically endangered plant species whose survival requires assistance because of overexploitation, disease, or other factors, or because their habitat is threatened with destruction, drastic modification, or severe curtailment

Nevada Natural Heritage Program Global and State Ranks for Threats and/or Vulnerability:

S = State rank indicator, based on distribution within Nevada at the lowest taxonomic level
1 = critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
2 = imperiled due to rarity or other demonstrable factors
3 = vulnerable to decline because rare and local throughout its range, or with very restricted range
4 = long-term concern, though now apparently secure, usually rare in parts of its range, especially at its periphery
5 = demonstrably secure, widespread, and abundant
A = accidental within Nevada
N = non-breeding status within Nevada (excludes resident taxa)

Peregrine falcons are known to nest on various man-made structures in the Las Vegas Valley (CCDAQEM 2008c). According to the Nevada Department of Wildlife, peregrine falcons inhabit tall buildings in the Las Vegas urbanized area, including some of the casinos along the Strip within two miles of LAS (Christy Klinger, Diversity Biologist, Las Vegas Office, Nevada Department of Wildlife, personal communication 11/17/2008). The one occurrence of peregrine falcons recorded by the NNHP in the vicinity of LAS was in 1990 in the vicinity of the Las Vegas Hilton, located within 4 miles of the proposed action APEs. Although peregrine falcons are naturally a cliff-nesting species, their nests are being discovered with increasing frequency on manmade structures (Defenders of Wildlife 2008; NDOW 2008). It is possible that manmade structures in the vicinity of the APEs, including the existing ATCT, could provide nesting and perching habitat for peregrine falcons, although none have been reported by airport personnel. The prey base for the species in and around the APEs is likely to be minimal since the occurrence of pigeons and other birds in the vicinity of the airport is uncommon enough that there is no need for a Wildlife Hazard Management Plan to reduce the potential hazard of bird strikes by aircraft (Darren Then, Senior Civil Engineer, McCarran International Airport, personal communication 2008). In addition, the history of disturbance of the project area, continuing until the present, further reduces the potential for the site to provide foraging opportunities for the species. A large number of tall buildings less than two miles from the APEs provides abundant similar habitat for peregrine falcons, with more extensive vegetated areas to support a prey base for the birds than exists in the vicinity of the existing ATCT or the site for the proposed ATCT. No peregrine falcons were observed during the site inspection in August 2008.

In the western United States, the western yellow-billed cuckoo occurs primarily in desert riparian habitat in mature cottonwood and willow stands close to moving water (CCDAQEM 2008c). Western yellow-billed cuckoos are rarely observed as transients in xeric desert or urban settings (AZGFD 2002), which are unsuitably dry environments for the species. Most of the cuckoo habitat in Nevada occurs in low-lying river forest below 4,500 feet in elevation (NDOW, *et al.* 2008). Within Clark County, Nevada, cuckoos have been observed along the Virgin, Muddy, and Colorado Rivers, and in the Las Vegas Wash (CCDAQEM 2008c). The APEs for the proposed action do not include any suitable habitat for western yellow-billed cuckoos. The NNHP list of At Risk Taxa Near the McCarran Airport Project Area includes only one observation of the species from the general vicinity of the APEs in 1984 (see Appendix F).

In the United States, the Mexican long-tongued bat occurs primarily in southern California, southern Arizona, southwestern New Mexico, and the southern tip of Texas, although this species has been recorded in the Las Vegas area. The NNHP list of At Risk Taxa Near the McCarran Airport Project Area includes only one observation of the species from the general vicinity of the airport in 1983 (see Appendix F). Within its normal range, this bat species occurs in a variety of habitats, including thorn scrub, Palo Verde-saguaro desert, semi-desert grassland, oak woodland, and tropical deciduous forests, with oak-conifer woodlands and semi-desert grasslands being the most common habitats for the bat in the southwestern U.S. (WBWG 2008). None of the habitat types or food resources that support the Mexican long-tongued bat occurs in the vicinity of the APEs for the proposed action. The extent of human activity in the vicinity of the APEs also greatly decreases the potential for the bats to use any

buildings in the area for roosting. No individuals were observed during the site inspection in early August 2008.

In Nevada, the spotted bat is primarily found over mesquite shrubland habitat, secondarily over riparian marsh habitat, infrequently over riparian shrubland habitat, and the species avoids palm grove habitat. Observations of spotted bats in Nevada are highly associated with prominent rock features and the species is considered to be dependent on the availability of rock-faced cliff roosting habitat. Secondary roosting habitat for spotted bats includes caves or abandoned mines, and the species has been observed using buildings and other man-made structures in other States, primarily during winter hibernation (Bradley, et al. 2006). The NNHP list of At Risk Taxa Recorded Near the McCarran Airport Project Area (see Appendix F) includes four observations of spotted bats, all of which occurred more than 15 years ago and more than a mile from the airport. None of the habitat types with which spotted bats have been found to be associated in Nevada are characteristic of the project area or its vicinity. In addition, the history of disturbance of the project area further reduces the potential for the site to provide even foraging opportunities for the species and greatly reduces the potential value of the existing ATCT as a roosting site. No spotted bats were observed during the site inspection in early August 2008.

Both the silver-haired bat and the hoary bat are associated with coniferous or mixed coniferous and deciduous forest habitats at higher elevations and they rely on desert riparian corridors at lower elevations and during migration (Bradley, et al. 2006). They roost almost exclusively in tree canopies during the summer (Bradley, et al. 2006; NatureServe 2008; BCI 2008), but silver-haired bats have been documented using alternative roosting habitat, including caves, mines, cliffs, talus, and rarely houses during winter hibernation (Bradley, et al. 2006). Hoary bats are not attracted to structures, but may use parks and garden settings for roosting in urban areas (Bradley, et al. 2006; BCI 2008; UMMZ 2008). The NNHP list of At Risk Taxa Recorded Near the McCarran Airport Project Area includes one occurrence each for these two species (see Appendix F). Both occurrences were recorded in the mid-1960s less than two miles from the proposed action APEs, with no sightings since then. No individuals of these species were observed during the site visit. The lack of forested habitat, history of disturbance of the project area and the ongoing level of human activity greatly reduces the potential value of the APEs for foraging opportunities and the existing ATCT as a roosting site for these species.

Mexican or Brazilian free-tailed bats occupy a wide variety of habitats, including urban areas. They roost in caves, crevices, hollow trees, abandoned mines, buildings, culverts, and under bridges in colonies that are segregated by sex and may number in the millions (Bradley, et al. 2006; BCI 2008; NatureServe 2008). They feed on insects and may travel considerable distances to productive feeding areas (NatureServe 2008). Six occurrences of Mexican free-tailed bats were recorded in the vicinity of the airport between 1959 and 1969 and airport personnel report that a colony of this species roosts in the airport parking garage at the present time (Sydney Nitszche, Environmental Quality Specialist, McCarran International Airport, personal communication 2008). The parking garage is located less than 0.25 mile from both APEs for the proposed action. No Mexican free-tailed bats are known to roost in the existing ATCT but such use of the structure is possible. No roosting opportunities are available within the APE for the proposed ATCT. It is reasonable to

assume that Mexican free-tailed bats occasionally fly over both of the APEs during foraging flights, but the paved and disturbed condition of these areas make it unlikely that insect prey concentrations are abundant in these locations. No Mexican free-tailed bats were observed within or in the vicinity of either APE during the site visit in early August 2008.

Western mastiff bats live in arid and semiarid, rocky canyons in the southwestern U.S. They roost in cracks in boulders and crevices or shallow caves on cliffs and rock walls, but may also use similar crevices in buildings (Bradley, et al. 2006; National Museum of Natural History 2008; NatureServe 2008c). The bats are most frequently encountered in open areas and they use a variety of habitats, including dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas. Until recently, the only recorded occurrence of western mastiff bats near the proposed action project area was in 1966 and almost six miles away. Since 2001, the species has been recorded acoustically in other locations in southern Nevada, including the Las Vegas Wash (Bradley, et al. 2006). Western mastiff bats are generally only present in areas where there are significant rock features that provide suitable roosting habitat and large open-water drinking sites are a necessary habitat feature for the species (Texas Parks and Wildlife 2008). Although buildings in the vicinity of the proposed action APEs represent potential roosting habitat for western mastiff bats, including the existing ATCT, none of the habitat types in which the species is generally found occur within or near the APEs. Most of the area within and in the vicinity of the APEs is either paved or subject to frequent disturbance and the amount of vegetation present is not adequate to support the large insects that comprise most of their diet (NSRL 2008). The poor quality of habitat for western mastiff bats within the proposed action APEs minimizes the probability that these bats are using the existing ATCT for roosting.

The Gila monster occurs in the Mojave, Sonoran, and Chihuahuan deserts of the southwestern U.S., including in southern Nevada (DesertUSA 1997). Gila monsters prefer rocky areas in desert scrub, semi-desert grassland, oak or juniper woodlands, and desert riparian habitat, and are often found on lower mountain slopes, rocky alluvial fans, canyon bottoms, washes, and mesic flats vegetated with grasses and succulents (CCDCP 2008b). They spend most of their life underground (over 96% of the time) in mammal burrows, under rocks, in crevices, packrat nests, thickets, and other natural cavities (Californiaherps 2008). One occurrence of this species was recorded in 1965 in the general vicinity of LAS (see Appendix F). Neither of the APEs for the proposed action qualify as suitable habitat for Gila monsters, however, due to their paved and disturbed condition. Burrowing would be impossible at either site, and prey for Gila monsters, in the form of small mammals, reptiles and their eggs, insects, bird eggs and nestlings, is not available.

The desert tortoise lives in a variety of habitats, from sandy flats to rocky foothills, including alluvial fans, washes, rocky hills, and canyons where suitable soils for den construction may be found. They depend on shrub cover for shade and protection from predators (CCDAQEM 2008c; USFWS 2008d). Shrub species that distinguish tortoise habitat include creosote bush, burrobush, Mojave yucca, blackbrush, and Joshua trees (USGS 2004). The presence of soil suitable for burrowing is a limiting factor to desert tortoise distribution (DesertUSA 1996). The current level of disturbance in the project area for the proposed ATCT and its vicinity is such that it does not include any suitable habitat for the desert tortoise. No individuals of the

species were observed in the vicinity of the existing ATCT and the NNHP list of At Risk Taxa Recorded Near the McCarran Airport Project Area includes no occurrences of the desert tortoise (see Appendix F).

Little information is available regarding the habitat preferences and requirements of the Mojave gypsum bee. In general, bees in this family nest on the ground or in natural cavities (CCDAQEM 2008c). Mojave gypsum bees collect pollen from a single plant species, the sunray (*Enceliopsis argophylla*), and are restricted to the habitat of this host plant. Although sunray habitat requires gypsum soils (CCDAQEM 2008c) and the McCarran Series on which the airport is located qualifies as gypsiferous (NRCS 2008b), no individuals or populations of this host plant were observed within the proposed action APEs or in their vicinity during a site inspection on August 1, 2008. Additionally, the current level of disturbance in the project area for the proposed ATCT and its vicinity is such that it likely does not include any suitable habitat for the Mojave gypsum bee. The NNHP list of At Risk Taxa Recorded Near the McCarran Airport Project Area includes no occurrences of the Mojave gypsum bee (see Appendix F).

In Nevada, the Las Vegas bearpoppy grows in open areas characterized by dry, spongy or powdery, often dissected or hummocky soils with high gypsum content. It occurs in areas of generally low relief on all aspects and slopes, often with a well-developed soil crust. The Las Vegas buckwheat also grows on gypsiferous soils and outcrops in areas of low relief and often occurs in washes and drainages (NNHP 2004a). The range of Las Vegas buckwheat is extremely limited within Clark and Lincoln Counties, Nevada (CBD 2008; USFWS 2007). The NNHP list of At Risk Taxa Recorded Near the McCarran Airport Project Area includes several observations of Las Vegas bearpoppy, only one of which occurred within the last decade (see Appendix F). This most recent observation of the bearpoppy occurred more than five miles from LAS, but earlier occurrences were as little as 0.4 mile from the APE for the proposed ATCT. Seven occurrences of Las Vegas buckwheat have been recorded within five miles of the proposed action APEs between 1974 and 2006, with two of those occurrences less than two miles from the APEs and one approximately 0.5 mile from both APEs. The project area for the proposed ATCT at LAS is located on gypsiferous soils of the McCarran Series (see Appendix C); however, the soils are described as sandy loams (NRCS 2008b) rather than the clay and shale-derived soils that are usually characteristic of suitable Las Vegas bearpoppy habitat (Flora of North America 2008). In addition, the current level of disturbance in the proposed action APEs and their vicinity is such that it does not include any suitable habitat for the either species. No Las Vegas bearpoppy or Las Vegas buckwheat plants were observed in the vicinity of the APEs during a field visit in August 2008.

In Nevada, yellow two-tone beardtongue is generally restricted to naturally or artificially disturbed calcareous or carbonate soils in washes, roadsides, rock crevices, outcrops, talus, and similar places receiving enhanced runoff. The occurrences within 5 miles of LAS have all been located at elevations between 2500 and 5480 feet (see Appendix F). The APEs for the proposed and existing ATCTs are located on the valley floor, relatively distant from the foothills and slopes where yellow two-tone beardtongue is likely to occur. No individuals of yellow two-tone beardtongue were observed within or in the vicinity of either APE during a field visit in early August, 2008. The current level of disturbance within the APE for the

proposed ATCT and the current level of urbanization characteristic of the APE for the existing ATCT do not constitute suitable habitat for yellow two-tone beardtongue.

In the Mojave Desert, Parish phacelia occurs on alkaline flats, playas, lakebeds and margins, and valley floors. To provide suitable habitat for this species, these areas are typically sparsely vegetated, generally dry, and they fill with water as seasonal pools in years of high rainfall (TNC 2007). Parish phacelia often occurs near seepage areas and sometimes on gypsum deposits, surrounded by greasewood or saltbush scrub vegetation. This species is considered to be restricted to wetland areas in Nevada (NNHP 2001c). The two known populations of Parish phacelia in Clark County, Nevada, are located in Indian Spring Valley and Three Lakes Valley on the Nellis Air Force Base northwest of Las Vegas (TNC 2007). Little information is available regarding the habitat requirements for Littlefield milkvetch, but the Nevada Natural Heritage Program considers this species to be dependent upon dune or deep sand habitats (NNHP 2004b). Neither of the APEs for the proposed action includes either wetland/playa habitat or dune/deep sand habitat, required for these two species. No Parish phacelia or Littlefield milkvetch plants were observed within or in the vicinity of the proposed action APEs during the site inspection in early August 2008.

5.8 FLOODPLAINS

Executive Order 11988, *Floodplain Management,* directs federal agencies to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in any of its actions. DOT Order 5650.2 implements Executive Order 11988 by requiring agencies to evaluate the potential effects of any actions they may take in a 100-year floodplain.

Based on a review of the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program, Flood Insurance Rate Maps (FIRM) 32003C2556E, 32003C2557E, 32003C2560E and 32003C2580E, for Clark County, Nevada and Unincorporated Areas, dated September 27, 2002, the proposed action would occur in areas that are designated as Zone X, which is defined as "areas determined to be outside the 0.2% annual chance of flooding" (See Appendix G).

McCarran International Airport lies in an area of relatively flat topography in the Las Vegas Valley, a 50 mile long valley which slopes gradually to the southeast. The valley is drained by numerous washes all of which are tributary to Lake Mead via Las Vegas Wash which runs along the east side of the valley, more than five miles east of LAS. Storm water at LAS is drained by a series of detention ponds and storm water culverts to three major outlets: the Bermuda Flood Control Channel; the Rawhide Flood Channel; and the Hacienda Avenue Storm Drain. The general flow of the system is from west to east.

5.9 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

Executive Order 12088, as amended, directs federal agencies to: comply with "applicable pollution control standards," in the prevention, control, and abatement of environmental pollution; and consult with the EPA, State, interstate, and local agencies concerning the best

techniques and methods available for the prevention, control, and abatement of environmental pollution. The two statutes of most importance to the FAA in proposing actions to construct and operate facilities and navigational aids are the Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund) and the Community Environmental Response Facilitation Act of 1992. RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

The proposed action would involve the construction of an ATCT, base building and parking structure and demolition of the existing ATCT on land located within the current airport property. The McCarran International Airport site was originally established as Alamo Airport in 1941 on North Las Vegas Boulevard and was subsequently purchased by Clark County in 1948 and renamed McCarran Field. The existing ATCT was commissioned in 1983. A Phase 1 Environmental Due Diligence Audit (EDDA; FAA 2009) performed for the proposed ATCT site stated that the site was undeveloped in the mid-1950s, graded sometime before the early-1970s and used for materials storage until the late-1990s when a compressed natural gas (CNG) fueling station was established on the site by Clark County. This station was removed in 2007 and the site was used briefly as a concrete batch plant for an airport construction project in 2008. The proposed site currently contains no permanent development.

There are no National Priorities List (NPL) or candidate NPL sites or other active CERCLA sites at or adjacent to the APE for the proposed action (USEPA 2008d).

According to information published by the EPA (USEPA 2008c) McCarran International Airport is listed as an active Resource Conservation and Recovery Act (RCRA) Small Quantity Waste generator (SQG), Large Quantity Waste generator (LQG) and Universal Waste Handler. SQGs are defined as hazardous waste generators that generate between 100 kg and 1,000 kg of hazardous waste per month. LQGs are defined as hazardous waste generators that generate 1,000 kilograms per month or more of hazardous waste, more than 1 kilogram per month of acutely hazardous waste, or more than 100 kilograms per month of acute spill residue or soil. Universal wastes include batteries, pesticides, mercury-containing equipment and lamps. The Phase I EDDA conducted for the proposed ATCT site identified one Conditionally Exempt Small Quantity Generator (CESQG) within a 0.375 mile radius of the proposed site, American West Ground Support (FAA 2008). CESQGs generate 100 kilograms or less per month of hazardous waste, or 1 kilogram or less per month of acutely hazardous waste, or less than 100 kilograms per month of acute spill residue or soil. The Phase I EDDA did not find any reported or listed RCRA violations for American West Ground Support. A search of the EPA's RCRAInfo database did not find any additional RCRA waste generators in the vicinity of the existing ATCT site (USEPA 2008c).

The Phase 1 EDDA (FAA 2009) identified numerous pipeline-related jet fuel releases in the vicinity of the main terminal located upgradient of and approximately 1,500 to 2,000 feet west and southwest of the proposed ATCT site. The extent of these releases has not yet

been investigated and hydrogeologic conditions in the airport vicinity appear to be consistent with significant ground water plume migration. Therefore, these releases were collectively interpreted as a recognized environmental condition (REC) for the proposed ATCT site, representing a low to moderate potential to degrade shallow ground water at a depth of approximately 20 to 30 feet below grade.

The existing ATCT was inspected for asbestos containing materials on February 10, 1993 and asbestos was detected in various materials throughout the building. The existing ATCT was also inspected for lead-based paint and other lead-containing coatings on November 4, 1998 and both were detected on various surfaces throughout the building.

5.10 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their actions on properties included, or eligible for inclusion, in the National Register of Historic Places. Compliance requires consultation with the Advisory Council on Historic Preservation, the State Historic Preservation Officer, and/or the Tribal Historic Preservation Officer.

According to information published on historic properties for Clark County on the National Park Service's (NPS) National Register Information System (NRIS) and from the Nevada State Historic Preservation Office's (SHPO) Register of Historic Places (NPS 2008a, Nevada SHPO, Appendix E), there are no historic properties listed in or determined eligible for the National Register of Historic Places (NRHP) located within the area of potential effect of the proposed action. The closest registered national historic place to the proposed ATCT site is the Little Church of the West, located at 3960 Las Vegas Boulevard South. The church is adjacent to the airport on the west side and is located more than one mile from both the construction and demolition APEs for the proposed action. All of the sites listed on the Nevada State Register of Historic Places in the Las Vegas area are located at least six miles north of McCarran International Airport.

The existing ATCT, which was built in the early 1980s, is not eligible for the NRHP because it is less than 50 years old, is not within a historic district and has no architectural or exceptional historic significance.

The FAA delineated an area of indirect effect to determine the possibility for visual impacts to potential historic properties in the surrounding neighborhoods. The FAA used a 0.75 mile radius around the tower to define this indirect APE. The Federal Communications Commission uses this distance for their evaluation of visual impacts from communication towers that are 200-400 feet tall (FCC 2004). The indirect APE consists largely of areas within the airport, but also includes some residential neighborhoods to the north and northeast of the proposed ATCT site (see Figure 5). According to the Clark County Assessor's Office, the earliest construction date for any of the homes within these neighborhoods is 1962 (see Appendix E).

According to information published by the NPS on the Native American Graves Protection and Repatriation Act (NAGPRA) database (NPS 2008b) seven federally recognized Indian

Tribes are identified as having interests in Clark County, Nevada. Tribes with interests in Clark County include the Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California; Fort Mojave Indian Tribe of Arizona, California & Nevada; Hualapai Indian Tribe of the Hualapai Indian Reservation, Arizona; Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona; Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada; Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada; and the Paiute Indian Tribe of Utah (See Appendix E).

5.11 LIGHT EMISSIONS AND VISUAL IMPACTS

Order 1050.1E CHG 1 directs the FAA to consider the extent to which lighting associated with a proposed action creates an annoyance or interferes with normal activities among people in the vicinity. The Order also directs FAA to consider the extent to which the proposed development contrasts with the existing environment and whether the agency considers this contrast objectionable, based on public input.

McCarran International Airport is located approximately two and one-half miles south of the City of Las Vegas and one-half mile east of the Las Vegas "Strip." LAS lies adjacent to the arterial roads South Las Vegas Boulevard to the west, Sunset Road to the south, South Eastern Avenue to the east and West Tropicana Avenue to the north. Paradise Road crosses the airport from north to south. Interstate-215 is located approximately one-half mile south of the airport and Interstate-15 is approximately one-half mile west of the airport. The area to the northeast of the airport is largely residential with a small amount of commercial development, and the University of Las Vegas. The area to the northwest of the airport and east of I-15 is densely developed with the hotels and gaming establishments on the Las Vegas Strip. The area to the west of the airport and east of I-15 includes resorts associated with the Strip, a golf course and a small amount of manufacturing use. The area to the south of the airport is comprised of a mix of development including commercial resorts associated with the Strip, light manufacturing and other commercial businesses. The area to the east of the airport consists primarily of light manufacturing and residential development with some commercial use.

Lighting in the area includes existing airport lights, street lighting for the surrounding roads, lights from local businesses and residences, and general ambient light from the Las Vegas Strip and the cities of Las Vegas and Henderson.

5.12 NATURAL RESOURCES AND ENERGY SUPPLY

Executive Order 13123, Greening the Government Through Efficiency Management (64 FR 30851, June 8, 1999) encourages federal agencies to expand the use of renewable energy within their facilities and activities and requires a reduction of petroleum use, total energy use, air emissions, and water consumption by federal agencies in their facilities. It is also the policy of the FAA to encourage the development of facilities that exemplify the highest standards of design including principles of sustainability.

The energy supply for LAS consists of electricity supplied by Nevada Energy and natural gas by the Southwest Gas Corporation (CCDOA 2005, p. III-59). Jet fuel is used for aircraft

taxiing and operations, while gasoline, other fuels and small batteries are used for vehicles, on-site combustion engines, and other various equipment used for routine airport facility operations and maintenance. Potable water at LAS is supplied by the Las Vegas Valley Water District.

5.13 NOISE

Noise in the vicinity of airports and its impacts on people and communities has been addressed by several federal laws including the Aviation and Noise Abatement Act, the Federal Aviation Act, the Control and Abatement of Aircraft Noise and Sonic Boom Act, the Airport and Airway Improvement Act, the Airport Noise and Capacity Act and the Noise Control Act. Aviation-related noise impacts are regulated by the FAA under 14 CFR Part 150 and Advisory Circular 150/5020, *Noise Control and Compatibility Planning for Airports.* As stated in FAA Order 1050.1E CHG 1, "For aviation noise analysis, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound level (DNL) as FAA's primary metric."

As part of the 2006 FAR Part 150 Noise Compatibility Study Update for McCarran International Airport, Noise Exposure Maps (NEM) were produced showing existing (2004) and forecast 2011 noise exposure levels due to aircraft operations at LAS as required by Part 150. Although not required, a NEM was also produced for 2017 forecast noise exposure levels to facilitate long-term land use compatibility planning in the vicinity of the airport. In 2004 total annual operations at the airport were 544,679, forecast 2011 annual operations were estimated at 643,947 and 2017 annual operations were estimated at 746,641 (CCDOA 2006a). Total aircraft operations for the year ending December 31, 2007 were 609,472 (CCDOA 2008).

NEMs produced for the 2006 Noise Compatibility Study Update depict noise exposure level contours in five decibel increments including the 75, 70, 65 and 60 DNLs. The existing (2004) 75 decibel DNL contour is contained almost entirely within the airport property, but includes a small amount of commercial and industrial land use to the east of the airport and a small amount of recreational land use (the Sport Center of Las Vegas) at the southwest corner of the airport. The 2004 70 decibel DNL contour includes a small amount of vacant land at the southwest corner of the airport; commercial and industrial land use east of the airport; commercial, industrial, vacant, recreational (the Sport Center of Las Vegas) and a small amount of multi-family residential land use south of the airport; and commercial, industrial, vacant and the Bali Hai Golf Course (a privately managed course located on CCDOA land) west of the airport. The 2004 65 decibel DNL contour includes commercial, multi-family residential, vacant and public (University of Las Vegas) land use to the north of the airport; commercial, industrial, multi-family residential, vacant and recreational land use to the east of the airport; commercial, industrial, multi-family residential, vacant and park land use south of the airport; and commercial, industrial, vacant, public and single-family residential land use to the west of the airport. The 2004 60 decibel DNL contour includes commercial, multi-family residential, public (University of Las Vegas) and vacant land use north of the airport; single- and multi-family residential, commercial, industrial, recreational and vacant land use east of the airport; single- and multi-family residential, public, park/open

space, commercial, industrial, public and vacant land south of the airport; and commercial, industrial, public, single- and multi-family residential and vacant land use west of the airport. Both the 65 and 60 DNL contours include land within the City of Henderson. Table 5.13-1 includes details of the noise exposure in the vicinity of the airport, including estimates of the total area affected by each exposure level, and the total number of households, schools, religious centers, hospitals, and other sensitive land uses within each exposure level. The proposed action is not expected to change airport operations, and hence noise exposure levels. (CCDOA 2006a, pp. V-2 and V-9).

Table 5-13-1. Noise Exposure in the LAS Vicinity

	DNL Exposure	Area (Mile^2)	Households	Schools	Religious Centers	Hospitals	Other[1]
2004	DNL 75+	2.2	0	0	0	0	0
	DNL 70-75	4.28	93	0	1	0	0
	DNL 65-70	5.27	2,096	0	2	0	3
	DNL 60-65	11.02	13,993	8	8	0	7
2011	DNL 75+	2.11	0	0	0	0	0
	DNL 70-75	4.11	81	0	2	0	0
	DNL 65-70	5.3	2,331	2	0	0	3
	DNL 60-65	11.15	14,834	9	9	3	10
2017	DNL 75+	2.15	0	0	0	0	0
	DNL 70-75	4.24	136	0	2	0	0
	DNL 65-70	5.66	2,747	3	0	0	3
	DNL 60-65	12.25	16,642	8	10	3	11

[1] Includes day care centers and structures listed on the NRHP.
Source: CCDOA 2006a.

FAA regulations and local planning documents provide guidance for compatible development surrounding the airport with regard to noise levels. FAA Advisory Circular 150/5020-1, *Noise Control and Compatibility Planning for Airports* states that, "(a)lthough all land uses may be considered as normally compatible with noise levels less than 65 (DNL), local needs and values may dictate further delineation based on specific local requirements or determinations as well as low ambient levels." (FAA 1983) The Clark County Unified Development Code (Title 30.48) defines an Airport Environs Overlay District (AEOD) which includes McCarran International Airport for the purpose of guiding compatible development within the airport's influence area (Clark County 2008). Title 30.48 allows incompatible uses within the AEOD that were present at the time of the establishment of the District, but requires noise attenuation construction techniques for any new construction of habitable buildings within the AEOD. Title 30.48 requires a 25 dB noise reduction for any permanent residential development within the DNL 60 or 65 zones and only allows low-density residential use within the 70 DNL zone with a 30 dB noise reduction. The Title also requires noise reductions of 25 and 30 dB within DNL 65 and 70 zones respectively for new construction of medical, educational or religious facilities. The Title also requires noise disclosure forms to be recorded against any new development within the McCarran AEOD. The City of Henderson Comprehensive Plan does not address noise from McCarran International Airport (City of Henderson 2006).

5.14 SECONDARY (INDUCED) IMPACTS

FAA Order 1050.1E CHG 1 requires the FAA to identify any induced impacts to surrounding communities which may result from a proposed action. Examples of induced impacts as defined by the Order include, "shifts in patterns of population movement and growth; public service demands; and changes in business and economic activity to the extent influenced by the airport development."

LAS is owned and operated by the Clark County Department of Aviation. It serves as primarily a commercial airport with some general aviation and military usage. As of December 2007, LAS was served by 19 domestic and 29 international scheduled commercial airlines (CCDOA 2008) and had nearly 23 million total enplanements in 2007 (FAA 2007). There were 609,472 total operations at LAS in 2007, with 90% of flights being commercial operations (CCDOA 2008).

The airport property includes a limited amount of commercial businesses and non-airport related facilities including two fixed-base flight services operators, a retail/office center, day care center, Nevada Energy substation and a golf course which is privately run on land leased from the CCDOA west of Las Vegas Boulevard. Both terminal buildings include various concessions including restaurants, retail stores and electronic gambling machines. The Howard Cannon Aviation Museum, which focuses on the history of aviation in southern Nevada, is also located in Terminal 1. Most of the airport facilities, including the commercial flight terminals, public parking, air cargo facilities, commercial facilities, and aircraft rescue and fire fighting facilities are located between the runways, north of Runway 7L/25R and east of Runway 1R/19L. General aviation facilities are located to the west of Runway 1L/19R. Runways and passenger services facilities occupy the remaining airport property (CCDOA 2006b; Philip Detmer, Business/Facilities Mgmt. CCDOA, personal communication 10/27/08).

LAS is generally bordered by commercial development to the west (the Las Vegas Strip); commercial development, multi- and single-family residences and the University of Las Vegas to the north; commercial and industrial development with some residential use to the east; and commercial and industrial uses to the south. Construction of the new ATCT and Base Building and demolition of the existing ATCT would occur within the developed airport property at the southwest corner of Flight Path Avenue and Kelly Lane.

5.15 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

FAA Order 5100.37B implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act requires fair, consistent and equitable treatment of owners of real property to be acquired for federal and federally-assisted projects, and persons displaced as a direct result of federal projects. Executive Orders 12898 and 13045 require federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on children, minority and low-income populations.

McCarran International Airport is located within unincorporated Clark County, Nevada in the community of Paradise. Paradise is bordered by the other unincorporated communities of Winchester (north), Spring Valley (west), Enterprise (south), and Sunrise Manor and Whitney (east). The airport is located approximately two and one-half miles south of the City of Las Vegas, one-half mile east of the Las Vegas "Strip," and about two miles west of the City of Henderson. All of these communities are located in the Las Vegas Valley, the only major population center in Clark County. The airport is owned and operated by the Clark County Department of Aviation.

As indicated in Table 5.15-1 below, the population of the unincorporated community of Paradise in 2007 was estimated at 189,958, compared to 603,093 in the City of Las Vegas and 1,996,542 in Clark County (CCDCP 2008). According to Clark County, in 2007 Paradise ranked as the fifth largest population center in the County after the Cities of Las Vegas, Henderson and North Las Vegas and the unincorporated community of Sunrise Manor (CCDCP 2008). Population growth rates in Paradise are well below rates for other communities in the Las Vegas Valley.

Table 5.15-1. Area Population Comparisons 2000-2007

Area	2000	2007	% Change
Paradise	172,656	189,958	10.0%
City of Las Vegas	484,454	603,093	24.5%
Las Vegas Valley	1,366,916	1,925,261	40.8%
Clark County	1,428,916	1,996,542	39.7%
Nevada	1,998,257	2,495,529	24.9%

Source: CCDCP 2008; U.S. Census Bureau 2008

The largest employment sector in the Las Vegas-Paradise Metropolitan Statistical Area (MSA) is leisure and hospitality (22.02%), followed by casino hotels and gaming (14.46%), trade, transportation and utilities (12.77%), professional and business services (9.43%), construction (9.33%), retail (8.05%), government (7.64%), with the remaining 16.28% in education, health services, financial, manufacturing, wholesale and other services (CCDCP 2008). The Las Vegas-Paradise MSA includes all of Clark County. Major employers in Clark County include the Clark County School District, Clark County Government, Venetian Hotel & Resorts, Bellagio Hotel & Casino, MGM Grand Hotel, Inc., Wynn Las Vegas, Mandalay Bay Resort & Casino, Caesars Palace Hotel & Casino, Mirage Hotel & Casino and the Las Vegas Metropolitan Police (CCDCP 2008).

Employment in the Las Vegas-Paradise MSA is projected to remain stable with a predicted 3.3% annual growth rate through 2016, slightly more than the Nevada predicted annual growth rate of 2.9%. Comparatively, the national employment annual growth rate over the same period is expected to be around 1% (Nevada DETR 2008; U.S. Bureau of Labor Statistics 2008).

The 2006 median household income in the Paradise census designated place (CDP) ($44,563) was significantly lower than the City of Las Vegas ($53,000), Clark County ($53,536) and State of Nevada ($52,998) median incomes during the same period. The percentage of persons below the federal poverty level in 2000 in the Paradise CDP was

11.8%, as compared to 11.9% in Las Vegas, 10.8% in Clark County and 10.5% in Nevada. According to U.S. Census Bureau (2008) information, in 2006 70.2% of the Paradise CDP was White, 28.6% Hispanic (which may also be included in other races), 8.2% Black, 7.7% Asian, 1.2% American Indian, 0.4% Native Hawaiian or other Pacific Islander and 9.6% other. These numbers correspond very closely to those from Clark County. (U.S. Census Bureau 2008).

5.16 WATER QUALITY

Federal agencies are required to comply with provisions of the Clean Water Act in any action that may affect water quality, including the control of any discharge into surface or ground water and the prevention or minimization of loss of wetlands. Agencies must also comply with the Fish and Wildlife Coordination Act if the proposed action impounds, diverts, drains, controls, or otherwise modifies the waters of any stream or other water body. Section 1424(e) of the Safe Drinking Water Act requires consultation with the EPA if a proposed action has the potential to contaminate an aquifer designated by the EPA as a sole or principal source of drinking water for the area.

No perennial surface water drainages exist within the airport property. LAS lies in an area of relatively flat topography in the Las Vegas Valley, a 50 mile long valley which slopes gradually to the southeast. The valley is drained by numerous washes all of which are tributary to Lake Mead via Las Vegas Wash which runs along the east side of the valley, more than five miles east of the airport. Storm water at LAS is drained by a series of detention ponds and storm water culverts to three major outlets: the Bermuda Flood Control Channel; the Rawhide Flood Channel; and the Hacienda Avenue Storm Drain. The general flow of the system is from west to east.

Ground water could be expected at depths of approximately 25 feet below ground surface in the vicinity of the proposed ATCT site, based on ground water data which was obtained for the EDDA for the proposed ATCT site (FAA 2008), and information published by the Southern Nevada Water Authority (SNWA 2008).

A large underground water reservoir is located immediately south of the new ATCT site. The reservoir was constructed in the late 1980s and its surface has been paved for use as a parking lot. The reservoir is supplied with water from Lake Mead and is maintained as a potable public water supply by the Las Vegas Valley Water District (LVVWD). According to LVVWD personnel, the reservoir is approximately 20 feet deep with no reported leaks which could influence local ground water gradients. Storm water drains, valves, vent pipes and a 54 inch water line associated with the reservoir are located on the adjacent property immediately to the west of the new ATCT site.

5.17 WETLANDS

Executive Order 11990 requires Federal agencies to ensure their actions minimize the destruction, loss, or degradation of wetlands. Executive Order 11990 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. Order DOT 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to assure protection and enhancement of wetlands. The Rivers and Harbors Act of 1899, and the Clean Water Act also address wetlands issues. Section 404 of the Clean Water Act requires a permit from the U.S. Army Corps of Engineers to authorize the discharge of dredged or fill material into wetlands.

The United States Fish and Wildlife Service's Mapper showed no wetlands within the APE for the proposed action (See Appendix H) (USFWS 2008c). The APE for the project was inspected for the presence of areas qualifying as wetlands in August 2008 by Wetland Scientist Cynthia Johnson in accordance with the Wetlands Delineation Manual issued by the U.S. Army Corps of Engineers (USACE 1987). No wetland areas were identified.

According to the National Wetlands Inventory (USFWS 2008c), the nearest wetland areas to LAS include two unnamed seasonal drainages located approximately one-half mile to the south and one mile to the north of the APE (See Appendix H).

5.18 WILD AND SCENIC RIVERS

Section 7 of the Wild and Scenic Rivers Act requires all federal agencies to consult with the appropriate land management agency if a proposed action may affect a designated or study river in the Wild and Scenic Rivers System. CEQ guidance also requires federal agencies to consult with the NPS when a proposed action may affect a river included in the Nationwide Rivers Inventory. This inventory identifies rivers which have the potential for designation under the Wild and Scenic Rivers Act.

According to information published by the NPS (NPS 2008c), there are no Wild and Scenic River segments currently designated in the State of Nevada. A 30 mile segment of the Virgin River from the Arizona-Nevada state border to Lake Mead in Clark County is included in the Nationwide Rivers Inventory (NPS 2008d). This segment of the Virgin River is more than 50 miles from LAS.

6.0 ENVIRONMENTAL CONSEQUENCES

This section of the Environmental Assessment examines the possible impacts to the environment, as described in Section 5.0, for both the preferred and the no action alternatives. The analysis is divided into 18 impact categories. All impacts of the proposed action are examined for each resource category as specified by FAA Order 1050.1E CHG 1, FAA Order 5050.4B and guidance from the Council on Environmental Quality. Additionally, cumulative impacts of the proposed action and any past, present, and reasonably foreseeable future actions (as listed below) are evaluated for each of the impact categories following the Preferred and No Action analyses. The analysis of impacts to individual resources takes into account compliance with relevant federal, state, and local laws, regulations, and ordinances, where applicable. Brief descriptions of the applicable sections of these directives are provided. For more detailed information, please refer to the full text of the appropriate document as cited.

CUMULATIVE IMPACTS

Cumulative impacts, as defined by 40 CFR 1508.7 are "…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

Past Actions

The McCarran International Airport site was originally established as Alamo Airport in 1941 on North Las Vegas Boulevard and was subsequently purchased by Clark County in 1948 and renamed McCarran Field. Airport improvements in the ensuing years have improved safety and the airport's capacity to serve its community. Major airport development highlights in the last 20 years are included in Table 6.1.

Table 6-1. LAS Airport Development Timeline

Year Completed	Airport Improvement
1985	• new Terminal 1 ticketing and baggage claim buildings
1987	• Concourse C construction – 16 gates
1991	• Terminal 2 rehabilitation
1994	• Concourse C expansion – 4 gates
1996	• construction of long-term parking garage – 6,000 spaces
1998	• Terminal 1 ticketing building expansion • Terminal 1 baggage claim expansion • Concourse D construction – 26 gates
2004	• acquisition of 243 dwellings for Terminal 3 construction
2005	• northeast extension of Concourse D – 10 gates • demolition of dwellings for Terminal 3 construction
2007	• Russell Road relocation
2008	• northwest extension of Concourse D – 7 gates • new economy parking lot – Kittyhawk & Paradise • wall and bridge repair, Terminal 1 access road • jet bridges repair, Terminal 1 CB2 gates

Table 6-1. LAS Airport Development Timeline

Year Completed	Airport Improvement
	• jet bridges installation, NW Wing D Gates • sky bridge connecting A,B,C Gates

(CCDOA 2005; Larry Silver, Project Coordinator Clark County Department of Aviation, personal communication 1/23/09)

Historical Las Vegas Area Development

The name Las Vegas, which means "The Meadows" in Spanish, was given to the area where the city now lies in 1829 by a young scout named Rafael Rivera due to the abundant grasses he found in the valley supplied with plentiful spring water. In 1844 John Fremont noted the name in his journal describing the springs he found there during expeditions on the Old Spanish Trail. Mormons were the first white settlers in the valley, building a fort in 1855 but abandoning it two years later. The railway linking southern California and Salt Lake City was completed in the early 1900s establishing Las Vegas as a railroad town. Las Vegas was founded as a city in 1905 and incorporated in 1911. In 1931 gambling was legalized in Nevada, divorce laws were liberalized in the State, and construction of Hoover Dam also began that year, bringing an influx of people and money to the area. The Las Vegas Army Airfield (now Nellis Air Force Base) was built in 1941 and construction of the Basic Magnesium plant began to supply raw materials for WWII; the town of Henderson was founded to house plant workers. After the war, lavish hotel and gambling resorts with big name entertainers proliferated and tourism and entertainment emerged as the largest employers in the area. A 1960s State law allowed public corporations to acquire gambling licenses, which further facilitated the now legitimized gaming industry to flourish. With its feet firmly planted in the desert sands, between 1985-95 the population of Las Vegas and Clark County nearly doubled while the area experienced a nearly 7% annual growth rate. Las Vegas and Clark County continue to grow with 3% and 5% annual growth rates respectively from 2000-2007 (CCDCP 2008; U.S. Census Bureau 2008). Famous as the "Entertainment Capitol of the World," Las Vegas celebrated its centennial on May 15, 2005. (Las Vegas Centennial 2008; City of Las Vegas 2008).

Present and Reasonably Foreseeable Future Actions

In addition to the proposed installation of a new ATCT and Base Building and the demolition of the existing ATCT (the proposed action), Table 6-2 includes the currently planned improvement projects at LAS with their expected completion dates for the foreseeable future. Many of the planned developments at LAS would occur in the same general area of the airport and during the same timeframe as the proposed action, including the new Terminal 3 building which will be located less than 1,000 feet east of the proposed new ATCT site.

Table 6-2. LAS Current and Planned Airport Development

Expected Completion	Airport Improvement
2009	• rehab Runway 7R/25L (asphalt to concrete) • relocation of Clark County Fire Station No. 19
2010	• construction of 20-acre Siegfried & Roy Park north of Russell Road between Swenson Street and Maryland Parkway • replace Terminal 1 roof

Table 6-2. LAS Current and Planned Airport Development

Expected Completion	Airport Improvement
	• install noise barrier walls north side of Russell Road between Maryland Parkway and Swenson Street
2011	• construct Terminal 3 central utility plant (heating and cooling facility) • rehab airport center tunnel access from I-215 to Terminal 3 • airspace changes to include some modified routes and expanded terminal airspace to accommodate forecasted increased traffic at LAS.
2012	• construct Terminal 3 4-level parking garage, taxicab, limousine and bus staging • construction of Terminal 3 access roadways • construct Terminal 3 terminal building, 14 aircraft gates and associated apron, and ATS station for existing tunnel to Concourse D • installation of ATS guideways, controls and cars within existing tunnel to Concourse D, and completion of Concourse D ATS station • construction of detention basins east of Terminal 3 building and parking area

LAS Vicinity Present and Reasonably Foreseeable Actions

Plans for current and future development in the vicinity of McCarran International Airport consist primarily of various casino remodel projects on the Las Vegas Strip, an addition to the Las Vegas Convention Center and highway improvements to I-15, I-215 and SR 160 (Blue Diamond Road)(CCDS 2008). Given the amount of development in the area, it is impossible to predict which private projects may proceed concurrently with the proposed action. Renovations at the Las Vegas Convention Center (located three miles north of LAS) commenced in September 2008 and are expected to take approximately two years to complete. Two additions to the Center and other renovations are also planned, but have not been scheduled yet (personal communication, Jeremy Handel, Public Affairs, Las Vegas Convention Center, 11/26/08). Highway projects in the vicinity of LAS include the addition of one lane in each direction and widening of bridges of the Bruce Woodbury Beltway between Decatur Blvd. and I-15. This project is expected to be complete in January 2009 (personal communication, Bobby Shelton, Public Information Coordinator, Clark County Dept. of Public Works 11/26/08). Clark County will also be improving the I-215/Airport Connector interchange located south of Sunset Road. A firm schedule for this project has not been established, but the environmental documentation is complete and it may proceed in early 2009 and is expected to take about three years to complete (personal communication, Harold Elliot, Principal Civil Engineer, Clark County Public Works, 11/26/08). Major Nevada Department of Transportation (NDOT) projects include I-15 capacity improvements, new ramps and collector/distributor roads from SR 160 (Blue Diamond Road) to Tropicana Avenue (construction is planned to begin Summer 2009 and continue for two years); and I-15 express lane construction between Russell Road and Sahara Avenue (expected completion of Fall 2009).

IMPACT ANALYSIS

Analysis of the impacts of the No Action and Preferred Alternatives, as well as the cumulative impacts of the proposed action and any past, present, and reasonably foreseeable

future actions (as listed above) are evaluated below for each of the impact categories except Coastal Resources, Farmlands, Floodplains, Wetlands and Wild and Scenic Rivers. The alternatives would have no impact on five resource categories for the reasons stated below and will not be discussed in detail in this chapter. Please see *Chapter 5.0, Affected Environment*, for details regarding these resources.

- **Coastal Resources** – There are no coastal resources, as defined by the Coastal Barriers Resources Act and Coastal Zone Management Act, in Nevada.
- **Farmlands** – Land within the APE is defined as "not prime farmland" by the Farmland Protection Policy Act, therefore farmland would not be affected.
- **Floodplains** – The proposed actions occur in areas defined in FEMA Flood Insurance Rate Maps as Zone X, "areas determined to be outside the 0.2% chance of flooding" which are outside of the 100-year floodplain, therefore the proposed actions would not impact base floodplains.
- **Wetlands** – No areas qualifying as wetlands were identified within the APE for the project.
- **Wild and Scenic Rivers** – There are no designated, eligible or study Wild and Scenic River segments or rivers included in the Nationwide Rivers Inventory within or near the project area.

6.1 AIR QUALITY

The air quality assessment conducted for this EA is intended to show the potential impacts that may result from construction and operation of the ATCT. Potential effects on air quality associated with the proposed action must be analyzed for compliance with the National Environmental Policy Act (NEPA) and the Clean Air Act (CAA), as amended.

The Clean Air Act (CAA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants, termed "criteria pollutants" (ground-level ozone, particulate matter [equal to or less than 10 microns in size (PM10) and equal to or less than 2.5 microns in size (PM2.5)], carbon monoxide, sulfur dioxide, lead, and nitrogen dioxide). The CAA requires each state to adopt a plan to achieve the NAAQS for each pollutant within specific timeframes. These air quality plans, known as State Implementation Plans (SIPs), are subject to Environmental Protection Agency (EPA) approval. In default of an approved SIP, EPA is required to promulgate a Federal Implementation Plan (FIP).

In addition, the General Conformity Rule establishes the procedures and criteria for determining whether certain federal actions conform to State or Federal (EPA) air quality implementation plans. The General Conformity Rule only applies in areas where the EPA has designated non-attainment or maintenance status and where project emissions would exceed the *de minimis* threshold levels established in 40 CFR 93.153(b)(1) and (2). Furthermore, even if a federal action does not exceed the threshold levels, it may still be subject to a general conformity determination if it has regional significance. Regional significance is defined as when the total direct and indirect emissions of any pollutant from a federal action represents 10% or more of a maintenance or non-attainment area's total emissions of that pollutant (40 CFR 93.153(i)).

6.1.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 2.3) defines significant air quality impacts as those where the agency project or action would result in exceedance of one or more of the NAAQS or any State or local standards for any of the time periods analyzed. Table 6.1-1 below presents the Federal and Nevada ambient air quality standards.

Table 6.1-1 Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard[1]	Nevada Standard
O_3	1 Hour	0.12 ppm (235 μg/m^3)	0.12 ppm (235 μg/m^3)
	8 Hour	0.075 ppm (147 μg/m^3)	0.075 ppm (147 μg/m^3)
PM_{10}	24 Hour	150 μg/m^3	150 μg/m^3
	Annual Arithmetic Mean	–	50 μg/m^3
$PM_{2.5}$	24 Hour	35 μg/m^3	–
	Annual Arithmetic Mean	15.0 μg/m^3	–
CO	8 Hour	9 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
NO_2	Annual Arithmetic Mean	0.053 ppm (100 μg/m^3)	0.053 ppm (100 μg/m^3)
SO_2	Annual Arithmetic Mean	0.030 ppm (80 μg/m^3)	0.030 ppm (80 μg/m^3)
	24 Hour	0.04 ppm (105 μg/m^3)	0.04 ppm (105 μg/m^3)
	3 Hour	–	0.5 ppm (1,300 μg/m^3)
Pb	30 Day Average	–	–
	Calendar Quarter	1.5 μg/m^3	1.5 μg/m^3
	Rolling 3-Month Average	0.15 μg/m^3	–

1 Only the Federal Primary Standards, set to protect public health, are included.
Note: Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m^3), and micrograms per cubic meter of air (μg/m^3).
Source: Nevada Department of Environmental Protection, Bureau of Air Quality Planning website http://ndep.nv.gov/BAQP/monitoring/aaqstd.html and Environmental Protection Agency website http://www.epa.gov/air/criteria.html. For more information regarding attainment criteria for the standards, please visit these websites.

Preferred Alternative

The proposed action would result in impacts to air quality from construction of the new ATCT, demolition (by dismantling) of the existing ATCT and from subsequent operation of the new ATCT. The construction phase of the proposed action would disturb approximately 3.57-acres of land. Construction would include clearing and grading the site, building the ATCT, Base Building and parking area and trenching to connect new facilities to utilities and fiber optic lines. The demolition phase of the proposed action would affect approximately 2.3-acres of land and would include the destruction and disposal of the existing ATCT.

Construction would begin in 2011 and take approximately 18 months to complete and demolition would occur during three months in 2015.

Minor impacts to air quality that would result from the proposed action during construction and demolition activities would include temporary emissions of PM_{10}, CO, volatile organic compounds (VOC) and nitrogen oxides (NOx) (ozone precursors) from dust, construction vehicle exhaust and materials off-gassing. Demolition of the existing ATCT is also a potential source for airborne asbestos fibers due to the presence of asbestos in various materials throughout the building. Pre-demolition asbestos inspection and abatement would be performed in order to minimize the potential for release of asbestos fibers. The CCDAQEM has adopted the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40CFR Part 63 to regulate asbestos in Clark County. NESHAP and all permit stipulations would be complied with in regard to proper survey, abatement, containment and disposal of all asbestos containing materials prior to and during the demolition of the ATCT.

Following transfer of ATCT operations, the principal sources of emissions at the new facility would be from the vehicles used by ATCT personnel to commute to and from work and the occasional operation of two 750 kilowatt (approximately 1000 horse power) emergency diesel engine powered electrical generators. Emissions from the generators would be only occasional, during primary power supply failure or for maintenance purposes. The generators would operate less than 100 hours per year unless required to be used in an emergency situation to ensure aviation safety.

Pollutant emissions from the proposed action (including construction, demolition and operation) were estimated using the air emissions modeling software URBEMIS 2007 v9.2.4. URBEMIS ("Urban Emissions Model") was originally developed by the California Air Resources Board (CARB) as a modeling tool to assist local public agencies with estimating air quality impacts from land use projects. The model estimates construction, area source, and operational air pollution emissions from a wide variety of land use development projects such as residential neighborhoods, shopping centers, office buildings, etc. The model also identifies mitigation measures and associated emission reductions. While URBEMIS was designed for use in California, the model is appropriate for estimating emissions from the proposed action because the construction equipment emissions factors are the same for California and Nevada, and the magnitude of the on-road mobile equipment emissions is such that the California-Nevada differences are not significant. The URBEMIS modeling for the proposed action utilized emissions factors data from Kern County, California which was the closest area to the proposed action for which this data was available.

Project specific information for the proposed action (for use in URBEMIS) was obtained from engineering estimations. Emissions data was generated for both summer and winter months. The emissions were also calculated and presented for comparison as annual emission rates (see Appendix K for complete URBEMIS emissions data). Annual emissions data from URBEMIS is summarized in Table 6.1-2 for comparison to applicable regional and federal thresholds.

The Las Vegas Valley, which includes McCarran International Airport, is designated by the EPA as a serious non-attainment area for both the PM_{10} and 8-hour carbon monoxide

NAAQS and as a basic non-attainment area for the 8-hour ozone; it is in attainment for all of the other criteria pollutants (USEPA 2008a). The federal general conformity *de minimis* thresholds for $PM_{10,}$ carbon monoxide and ozone precursors (VOCs and NOx) are included in Table 6.1-2 in order to determine whether the proposed action conforms to the SIP as defined by 40 CFR 93.153. As stated above, federal actions are exempt from conformity determination if the projected emission rates would be less than the *de minimis* levels, and are not regionally significant. Total pollutant levels used for the regional significance determination were obtained for Clark County from the 2008 Clark County Ozone Early Progress Plan, Consolidated Emissions Inventory (CCDAQEM 2008a, Appendix A).

Table 6.1-2 Air Emissions Inventory and Regulatory Significance Thresholds for LAS ATCT Construction and Operation

	Estimated Emissions and Thresholds of Significance (tons per year)					
URBEMIS Estimated Emissions for the Proposed Action	***Carbon Monoxide (CO)***	***Volatile Organic Compounds (VOC)***	***Oxides of Nitrogen (NO_X)***	***Particulate Matter less than 2.5 microns ($PM_{2.5}$)***	***Particulate Matter less than 10 micron (PM_{10})***	***Oxides of Sulfur (SO_X)***
Annual Unmitigated Construction 2010	**0.48**	**0.10**	**0.85**	**0.08**	**0.24**	**0.00**
(mitigated)	*(0.48)*	*(0.10)*	*(0.85)*	*(0.03)*	*(0.10)*	*(0.00)*
Annual Unmitigated Construction 2011	**2.85**	**0.54**	**4.06**	**0.22**	**0.25**	**0.00**
(mitigated)	*(2.85)*	*(0.54)*	*(4.06)*	*(0.18)*	*(0.20)*	*(0.00)*
Annual Unmitigated Construction 2012	**1.38**	**1.33**	**1.85**	**0.10**	**0.11**	**0.00**
(mitigated)	*(1.38)*	*(1.22)*	*(1.85)*	*(0.08)*	*(0.09)*	*(0.00)*
Annual Unmitigated Construction 2015	**0.33**	**0.06**	**0.46**	**0.02**	**0.02**	**0.00**
(mitigated)	*(0.33)*	*(0.06)*	*(0.46)*	*(0.01)*	*(0.01)*	*(0.00)*
Annual Unmitigated Facility Operation	**23.31**	**2.04**	**4.85**	**0.40**	**1.50**	**0.02**
Regulatory Emissions Thresholds[1]						
Federal General Conformity Threshold[2]	*100*	*100*	*100*	*N/A*	*70*	*N/A*
Exceed Threshold?	N	N	N	*N/A*	N	*N/A*
2003 Clark County Total Emissions (regional emissions inventory)[3]	382,489	54,774	89,148	N/A[4]	79,680[5]	41,803
Regionally Significant? (≥ 10% of regional emissions inventory)	N	N	N	*N/A*	N	*N/A*

[1] Rounded to the nearest integer.
[2] Source: 40 CFR 93.153(b)(1)
[3] Source: Clark County Ozone Early Progress Plan, Consolidated Emissions Inventory (CCDAQEM 2008a, Appendix A)
[4] Data not available.
[5] 2006 emissions from Clark County PM_{10} State Implementation Plan Milestone Achievement Report (CCDAQEM 2007b, Table 4-27).

Permits and Control Measures

While the proposed action would impact air quality due to dust, vehicle and emergency generator exhaust and materials off-gassing, the FAA would adhere to permit stipulations required by the CCDAQEM and implement control measures in order to minimize air emissions. The following permits would be filed and control measures employed for the proposed action (see Appendix I for permit examples):

Permits

- Application for Dust Control Permit for Construction Activities
- Application for an Authority to Construct Certificate
- Supplemental Information Sheet with Emission Unit Information
- Demolition Notification Form
- Notification of Asbestos Abatement

Control Measures

- Diesel particulate filters would be used on all construction equipment (dozers, tractors, loaders, backhoes, water trucks) to reduce PM emissions.
- Exposed soils would be watered three times daily to control dust and reduce PM emissions.
- Low VOC interior and exterior architectural coatings would be used.

Greenhouse Gas Emissions

Based on FAA data, operations activity at McCarran International Airport represents less than 2.4% of U.S. aviation activity. Therefore, assuming that greenhouse gases occur in proportion to the level of activity, greenhouse gas emissions associated with existing and future aviation activity at McCarran International Airport would be expected to represent less than .072% of U.S.-based greenhouse gases. Therefore, we would not expect the emissions of greenhouse gases from this project to be significant.

Conclusions

Based on the estimated emissions calculated using URBEMIS, the proposed action would not equal or exceed the federal *de minimis* levels for any of the criteria pollutants in the Las Vegas Valley non-attainment area and would not equal or exceed 10% of regional emissions. The analysis also demonstrates that emissions from the proposed action are below the presumed to conform limits established by the FAA for airport projects (72 FR 41565). Therefore the proposed action is presumed to conform with the SIP and a conformity determination is not required. Consequently, the construction and operation of the proposed ATCT and base building at LAS would not significantly affect air quality.

No Action Alternative

Under this alternative the ATCT and base building would not be installed, the existing ATCT would remain in service, and air quality conditions would not be affected beyond those described in Section 5.1 of the Affected Environment.

Cumulative Impacts

The planned improvements within the airport would produce some occasional extra dust in the air and vehicle equipment emissions during construction phases. Planned construction projects in the LAS vicinity would also produce similar effects to air quality from dust and vehicle emissions. The cumulative effects of all construction in the vicinity of LAS would depend on the timing of the various projects. All construction projects would be required to obtain required permits from the CCDAQEM and adhere to any permit stipulations intended to minimize effects to air quality.

Development both within the airport and in the LAS vicinity may facilitate increased ground traffic and air traffic around the airport and subsequently increase emissions. Increased traffic and emissions are likely to occur due to the general trend of growth and development in the area. However, the incremental increase in emissions from the proposed action, when added to the emission sources in the vicinity, would not produce a significant cumulative impact on air quality.

Because aviation activity at McCarran International Airport represents such as small amount of U.S. and global emissions, and the related uncertainties involving the assessment of such emissions regionally and globally, the incremental contribution of this proposed action cannot be adequately assessed given the current state of the science and assessment methodology.[3]

6.2 COMPATIBLE LAND USE

Order 1050.1E CHG 1 states that "the compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts." It goes on to say that if the noise analysis "concludes that there is no significant impact, a similar conclusion usually may be drawn with respect to compatible land use. However, if the proposal would result in other impacts exceeding thresholds of significance which have land use ramifications, for example, disruption of communities, relocation, and induced socioeconomic impacts, the effects on land use shall be analyzed in this context and described accordingly under the appropriate impact category with any necessary cross references to the Compatible Land Use section to avoid duplication."

6.2.1 Significant Impact Threshold

The FAA has not established specific impact thresholds for compatible land use. However, FAA Order 1050.1E, CHG 1 (Appendix A, Section 4.3) states that if the noise analysis indicates a significant noise impact will occur over noise sensitive areas within the day night average sound level (DNL) 65dB contour, that these impacts should be discussed. Therefore the significant impact threshold for compatible land use would be the same as for the noise category. That threshold is defined in FAA Order 1050.1E, CHG 1 (Appendix A, Section 14.3) as when the proposed action will cause noise sensitive areas to experience an increase

[3] NEPA Regulations, Council on Environmental Quality, 40 CFR 1502.22.

in noise of DNL1.5dB or more at or above DNL 65dB noise exposure when compared to the no action alternative for the same timeframe.

Preferred Alternative

LAS is located within the unincorporated community of Paradise in Clark County, Nevada south of the City of Las Vegas. The Clark County Unified Development Code (Title 30.48) defines an Airport Environs Overlay District (AEOD) including McCarran International Airport for the purpose of guiding compatible development within the airport's influence areas (Clark County 2008; See Appendix D for the McCarran AEOD Map). Title 30.48 defines development zones within the AEOD based on day/night average sound levels (DNL) and requires noise attenuation construction techniques for sensitive uses permitted within the AEOD. Noise reduction amounts required within the AEOD depend on the specific zoned use and noise contour that the use falls within. In general, most residential use is allowed within the DNL 60 and 65dB contours with a 25dB noise reduction and some low density single family residential use is allowed within the DNL 70dB contour with a 30dB reduction. The Title also requires noise disclosure forms to be recorded against any new development within the McCarran AEOD. The Title also provides for review of the McCarran AEOD maps by the CCDOA every five years to evaluate the need for updates to reflect current noise contours.

The Land Use Plans of the unincorporated communities of Winchester, Spring Valley and Enterprise, which are affected by noise from LAS, incorporate the AEOD and encourage compatible new development in the vicinity of the airport (CCDCP 2205 p. 51, 99; CCDCP 2004a p. 28; CCDCP 2004b p. 40, 80). The City of Henderson Comprehensive Plan does not include any compatible land use policies relative to LAS (City of Henderson 2006). General planned land uses within the AEOD for the affected communities are described below.

Planned land uses within the AEOD in the Spring Valley planning area are primarily business and design research park, commercial, rural neighborhood preservation (up to 2 dwelling units per acre), open space and professional office, with small amounts of public facilities and residential suburban use (up to 8 dwelling units per acre) (CCDCP 2004a). Planned land uses within the AEOD in the Enterprise planning area are primarily commercial tourist, business and design research park, rural neighborhood preservation (up to 2 dwelling units per acre) and industrial with smaller amounts of public facility, professional office and other residential uses (CCDCP 2004b). Planned land uses within the AEOD in the Winchester/Paradise planning area consist of primarily public facility (including the airport), commercial tourist, industrial, commercial, business and design research park, with small amounts of residential use (CCDCP 2005). Planned land uses within the AEOD in the City of Henderson includes commercial, industrial, and medium and low density residential uses (City of Henderson 2006).

LAS had 544,679 total operations in 2004 (CCDOA 2005, p. III-14). Based on a 2.6% predicted annual growth rate between 2004 and 2025, total operations at LAS are expected to increase to 922,316 by 2025 (CCDOA 2005, p. III-14). Total enplanements are expected to grow at a similar annual rate of 2.7% from 18,443,481 enplaned passengers in 2000 to 35,927,981 in 2025 (CCDOA 2005, p. III-13). Based on the predicted growth rates, the

airport plans to upgrade existing and provide appropriate new facilities and services in order to safely meet aviation needs while ensuring the compatibility of the airport with the surrounding communities.

As stated above, the communities of Paradise, Winchester, Spring Valley and Enterprise have planned for compatible development within the airport influence area based on the most recent DNLs provided by the CCDOA. Since the proposed action is not expected to change predicted airport operations, and hence noise exposure levels, and due to compatible land use planning in most areas surrounding the airport, significant impacts related to compatible land usage are not expected.

No Action Alternative

There would be no effect on compatible land use under the No Action Alternative in the foreseeable future, as current local government policies regarding land usage at and around LAS prevent land use which is incompatible with the airport.

Cumulative Impacts

Current local government policies regarding land usage at and around LAS prevent land use which is incompatible with the airport and include policies which protect existing and potential future developments from excessive noise. Planned developments within the airport influence area are subject to local zoning laws which require sound-reducing construction techniques, deed restrictions and notifications to prospective buyers of noise levels from airport activities. Since the proposed action is not expected to change airport operations, and hence noise exposure levels as stated above, there is not expected to be a significant cumulative impact on compatible land use from the proposed action.

6.3 CONSTRUCTION IMPACTS

Airport construction may cause various environmental effects, primarily due to dust, heavy equipment emissions and noise, disposal of construction debris, or storm water runoff containing sediment and/or spilled or leaking petroleum products. In most cases, these potential effects are subject to Local, State, Tribal, or Federal ordinances and/or regulations. While the long-term impacts of the proposed action are usually greater than construction impacts, construction can cause significant short-term impacts.

6.3.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 does not establish specific impact thresholds for construction impacts. However, the Order offers guidance to refer to the impacts for other resource categories such as air quality, water quality, fish, wildlife and plants to assess the significance of construction impacts. Therefore the significant impact threshold is defined by a significant impact to another resource category from construction activities.

Preferred Alternative

The proposed action includes the construction of an ATCT, base building, parking structure, and placement of new utility lines and subsurface duct banks to connect the ATCT to airport equipment via existing duct banks. Excavations would be required for the ATCT, base building and parking structure concrete foundations, as well as utility line trenches. Much of the area around the buildings would be paved with asphalt and concrete. The existing ATCT would also be demolished (by dismantling) and disposed of as part of the proposed action. Impacts would be restricted to the area immediately around the tower and base building construction area, including the site access road and utility trenches, and around the existing ATCT. These impacts would include minor impacts to air quality during construction (primarily dust from earth moving and demolition and engine exhaust) and minor noise impacts from construction activities but would not be expected to significantly impact these resources. Any potential traffic impacts on public access roads would be reduced by scheduling construction activities for low traffic times.

The existing ATCT was inspected for asbestos containing materials on February 10, 1993 and asbestos was detected in various materials throughout the building. The existing ATCT was also inspected for lead-based paint and other lead-containing coatings on November 4, 1998 and both were detected on various surfaces throughout the building. A Demolition Notification Form, Notification of Asbestos Abatement and a Dust Control Permit for Construction Activities would be filed with the CCDAQEM prior to commencement of demolition of the ATCT (See Appendix I). The CCDAQEM has adopted the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40CFR Part 63 to regulate asbestos in Clark County. NESHAP and all permit stipulations would be complied with in regard to proper survey, abatement, containment and disposal of all asbestos containing materials prior to and during the demolition of the ATCT. According to the Solid Waste Branch of the Nevada Department of Environmental Protection, if construction waste containing lead-containing coatings is disposed of as a single waste stream, then the ratio of lead paint to total waste mass would not likely exceed the lead toxicity standard and would not be considered hazardous waste (NDEP 2004). All other construction debris would be disposed of according to State and local regulations.

Two 750 kilowatt (approximately 1000 horse power) emergency diesel engine powered electrical generators would be housed within the base building for the proposed ATCT. Emissions from the generators would be small and only occasional, during primary power supply failure or for maintenance purposes, and would not be expected to significantly impact air quality. The generators would operate less than 100 hours per year unless required to be used in an emergency situation to ensure aviation safety. An Application for an Authority to Construct Certificate and Supplemental Information Sheet with Emission Unit Information would be filed with the CCDAQEM as required by the County for stationary emission sources (See Appendix I).

Provisions of Advisory Circular 150/5370-10B, *Standards for Specifying Construction of Airports*, would also be incorporated into the project specifications to ensure construction impacts would be insignificant. The following standard "best management practices" (BMPs) would be followed to reduce potential construction impacts:

- Runoff flow directions would be determined and open waters monitored during construction. If signs of erosion are observed, erosion control efforts would be revised and/or increased.
- Drains, culverts, and storm sewer grates adjacent to the construction zone and staging areas would be flagged and measures such as the use of straw bales, silt fences and other appropriate sediment controls, implemented to prevent the entry of sediment and other contaminants into waters downstream.
- Following project construction, all sediment controls would be removed (along with any accumulated sediment) and disposed of in an off-site location.
- The storage of petroleum based fuels and other hazardous materials and the refueling of construction machinery would not occur in the project area outside of approved designated staging/batching areas.
- Construction waste materials would be disposed of off-site. Waste material disposal sites would be identified by the contractor and approved by the appropriate authority.
- Water trucks would be used to control fugitive dust during construction operations.

A Notice of Intent for Stormwater Discharge Permit Application would be filed online with the Nevada Division of Environmental Protection (NDEP) Bureau of Water Pollution Control at http://ndep.nv.gov/bwpc/storm_cont03.htm along with a Storm Water Pollution Prevention Plan (See Appendix I). A Temporary Groundwater Discharge Permit Application would also be filed with the NDEP Bureau of Water Pollution Control to regulate discharge of any ground water encountered during construction activities (See Appendix I).

The use of best management practices and adherence to permit stipulations would help reduce construction impacts. Because the construction of the ATCT, base building and parking structure would not have significant impacts to other resources (air quality, water quality, fish, wildlife and plants, etc.), there would be no significant impacts from construction activities associated with the proposed action

No Action Alternative

There would be no construction impacts under the No Action Alternative.

Cumulative Impacts

There are a number of planned developments and facility expansions at LAS, each of which will cause construction impacts of varying degrees including temporary minor increases in dust and construction equipment exhaust emissions, increase in storm water sediment load, road closures or traffic restrictions. Other planned construction activities in the LAS vicinity would result in similar impacts. The general trend of growth and development in the LAS vicinity would potentially impact air quality, water quality, fish, wildlife and plants, light emissions and visual impacts, and may result in secondary or socioeconomic impacts. However, adherence to permit stipulations and Federal, State and local regulations, and the use of best management practices should ensure that the incremental impacts would be relatively small and would therefore not be cumulatively significant.

6.4 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(F)

Section 4(f) of the Department of Transportation (DOT) Act prohibits the approval of any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from a historic site of national, state, or local significance, unless there is no feasible and prudent alternative to the use of such land and such program and the project includes all possible planning to minimize harm resulting from the use (49USC 303(c)).

6.4.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 6.3) defines significant impacts to Section 4(f) lands as when a proposed action either involves more than a minimal physical use of a 4(f) property or results in a "constructive use" that substantially impairs the property, and for which mitigation measures do not eliminate or reduce the effects of the use below the threshold of significance (e.g., by replacement in kind of a neighborhood park). Substantial impairment is defined as sufficiently serious impact to a 4(f) property where the value of the site in terms of its prior significance or enjoyment would be substantially reduced or lost.

Preferred Alternative

Based on a review of the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984; information published by Clark County (CCDPR 2008), the Nevada Division of State Parks (Nevada Division of State Parks 2008), and the USFWS (USFWS 2008b); and consultation with the Nevada Department of Conservation and Natural Resources (included in Appendix F) and the Nevada State Historic Preservation Office (Appendix E), there are no publicly owned lands used as public parks, recreation areas, wildlife or waterfowl refuges, or historic sites located within the area of potential effect for the proposed action at LAS.

The closest public land outside the airport boundary is the Clark County Paradise Vista Park at 5582 Stirrup Street, near the corner of Russell Road and Eastern Avenue, approximately one mile northeast of the new ATCT site (CCDPR 2008). This park is a neighborhood facility with a playground, picnic areas and tennis courts. There are two facilities used as public parks or recreation areas located on Clark County land within the airport boundaries: 1) McCarran Marketplace Park, a small playground associated with a retail center located at 1845 East Russell Road, approximately three-quarters of a mile east of the new ATCT site; and 2) Bali Hai Golf Club, a privately run course located at 5160 Las Vegas Blvd. South, nearly two miles west of the new ATCT site. Neither of these parks would be affected by the proposed action. Therefore, there would be no significant impact to Section 4(f) lands from the proposed action.

No Action Alternative

There would be no effect on Section 4(f) lands under this alternative.

Cumulative Impacts

As stated above, there would be no significant impact to Section 4(f) lands from the proposed action. Other planned development at the airport would occur within the airport property and would not likely affect Section 4(f) lands. Planned development projects in the LAS vicinity would be subject to local zoning laws and comprehensive planning document direction regarding the use of publicly owned lands used as open space and historic sites. The Clark County zoning ordinance includes an open space designation which includes environmentally sensitive lands and areas used for recreational use (CCDCP 2007). The Clark County Comprehensive Plan also includes both open space and historic preservation elements which promote the conservation of open space and historical and cultural resources within the County (CCDCP 2006). The Winchester/Paradise Land Use Plan provides for the integration of urban and suburban open space planning with regional planning in order to protect and promote the enjoyment of open space by its citizens (DDCDP 2005). Based on the County's policies to protect open space and historic resources and the finding of no significant impact to Section 4(f) properties from the proposed action, there is not expected to be a significant cumulative impact to Section 4(f) properties.

6.5 FISH, WILDLIFE, AND PLANTS

Section 7 of the Endangered Species Act requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) in order to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of such species' designated critical habitat. Informal consultation is designed to determine whether formal consultation under Section 7 is required for the proposed action. Formal consultation is required for all actions that are likely to adversely affect a listed species or its designated critical habitat.

FAA Order 1050.1E CHG 1 requires that FAA proposed actions be checked for consistency with State Wildlife Conservation Plans and Department of Defense plans as authorized by the *Sikes Act*.

FAA Advisory Circular 150/5200-33, *Hazardous Wildlife Attractants on or Near Airports,* describes common hazardous wildlife species and wildlife attractants. It also provides guidance on locating specific land uses that may attract wildlife to or in the vicinity of airports and provides guidance regarding the placement of new airport development pertaining to aircraft movement in the vicinity of hazardous wildlife attractants. A *National Memorandum of Agreement (MOA)* was signed in 2003 between the FAA, the U.S. Air Force, U.S. Army, U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service and the U.S. Department of Agriculture to address aircraft-wildlife strikes. This MOA established procedures to coordinate the agencies' missions to address environmental conditions contributing to aircraft-wildlife strikes in order to minimize threats to aviation and human safety while protecting environmental resources. The MOA includes an agreement to cooperate with airport operators to develop a location-specific wildlife hazard management plan when a potential wildlife hazard is identified.

The Fish and Wildlife Coordination Act requires that federal agencies consult with State wildlife agencies and USFWS concerning the conservation of wildlife resources where the water of any stream or other water body is proposed to be controlled or modified by a Federal agency or any entity operating under a Federal permit (50CFR10.21).

The Fish and Wildlife Conservation Act encourages Federal departments and agencies to utilize their statutory and administrative authority to conserve and to promote conservation of non-game fish and wildlife and their habitats.

Federal agencies must also comply with the *Migratory Bird Treaty Act* (MBTA) which prohibits the intentional "take" of any migratory bird, their eggs, or nests without a permit pursuant to 50CFR21. Take is defined by the MBTA as "pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50CFR10.21).

Pursuant to *Executive Order 13112*, Federal agencies whose actions may affect the status of invasive species are directed to relevant programs and authorities to prevent the introduction of invasive species and provide for restoration of native species and habitat conditions in ecosystems that have been invaded when practicable, unless the benefits of the actions clearly outweigh the potential harm. The *Presidential Memorandum on Economically and Environmentally Beneficial Landscaping* encourages the use of native plants at Federal facilities and in federally funded landscaping projects.

6.5.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 8.3) defines significant impacts to federally-listed species as when the USFWS or NMFS determines that the proposed action would be likely to jeopardize the continued existence of a listed species or would result in the destruction or adverse modification of its designated critical habitat. Impacts to non-listed species could also constitute a significant impact where they affect reproductive success rates, natural mortality rates, non-natural mortality or population dynamics and sustainability of the affected species. Significant impacts for non-federally-listed species should be determined in consultation with the appropriate State and local wildlife management agencies.

Preferred Alternative

The APE for the existing ATCT consists of parking lots, associated buildings, and a segment of the airport monorail (see Figure 3). A few ornamental trees and palm trees growing in concrete planters in close proximity to the ATCT may be within the area to be directly affected by demolition of the ATCT. Other planters and roadside strips in the vicinity of the APE for the existing ATCT that support landscape plantings of oleanders, cacti, yucca, and flowering forbs are likely outside of the area to be directly affected by ATCT demolition.

The APE for the proposed replacement ATCT was being used as a staging area, concrete batch plant, and contractor yard for other airport construction projects at the time of a site visit on August 1, 2008. Except for a few weedy grasses and forbs along the perimeter of the site, the APE was bare of vegetation. Plant species observed along the perimeter of the site

included primarily weedy annual grasses and forbs. Across Flight Path Avenue to the north of the APE, mature landscape plantings occurred between the sidewalk and the parking lot. These plantings included palm trees and ornamental shrubs surrounded by a gravel surface with no herbaceous vegetation.

Endangered Species Act

Section 7 consultation with the USFWS occurred in September 2008. As discussed in Section 5.7, no suitable habitat for the threatened reptile species desert tortoise (*Gopherus agassizii*); the candidate bird species western yellow-billed cuckoo (*Coccyzus americanus occidentalis*); and the candidate plant species Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*) occurs within either of the APEs or their vicinities nor do any individuals of these species occur within the APEs. Based on these findings, in a letter from the FAA to the USFWS dated September 4, 2008, the FAA recommended a finding of no Threatened, Endangered, or Candidate species affected for the proposed action (included in Appendix F). The USFWS concurred with this finding in a letter dated October 27, 2008 (included in Appendix F).

Sikes Act – State Conservation Plans and Department of Defense Plans

The Nevada Natural Heritage Program (NNHP) has identified sixteen endangered, threatened, candidate, and/or at risk plant and animal taxa that have been recorded within a 5 mile radius of the proposed action APEs or for which habitat may be available within that area (see Appendix F). The species of concern include the peregrine falcon (*Falco peregrinus*), western yellow-billed cuckoo, Mexican long-tongued bat (*Choeronycteris mexicanus*), spotted bat (*Euderma maculatum*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), Mexican or Brazilian free-tailed bat (*Tadarida brasiliensis*), western mastiff bat (*Eumops perotis*), banded Gila monster (*Heloderma suspectum cinctum*), desert tortoise, Mojave gypsum bee (*Anderna balsamorhizae*), Las Vegas bearpoppy (*Arctomecon californica)*, Las Vegas buckwheat, yellow twotone beardtongue (*Penstemon bicolor* ssp. *bicolor*), Parish phacelia (*Phacelia parishii*), and the Littlefield milkvetch (*Astragalus preussii* var. *laxiflorus*).

As stated above, no suitable habitat is available within the APE or its vicinity for any of the Federally listed species, including the desert tortoise, the western yellow-billed cuckoo, or the Las Vegas buckwheat (see Appendix F).

Three of the species of concern have been observed within LAS: Las Vegas buckwheat, Las Vegas bearpoppy and Mexican or Brazilian free-tailed bats. Historic records of the Las Vegas buckwheat and the Las Vegas bearpoppy indicate that individuals of these two plant species were observed on the airport property to the east of the existing and proposed ATCTs on sites that have since been developed into airport facilities. The current level of disturbance in the project area for the proposed ATCT and its vicinity, as described in Section 5.7, is such that it does not include any suitable habitat for either of these species. The APE for the existing ATCT is entirely covered with asphalt, concrete, buildings, and landscaped gardens which also do not constitute suitable habitat for either species. No Las Vegas bearpoppy or Las Vegas buckwheat plants were observed in the vicinity of either APE

during a site inspection on August 1, 2008. As a result, no effects on these species from implementation of the proposed action would be anticipated.

Mexican or Brazilian free-tailed bats are known to roost in the parking garage at LAS, which is located 0.21 mile from the APE for the existing ATCT and 0.33 mile from the APE for the proposed ATCT. Although Mexican free-tailed bats are not known to roost in the existing ATCT and no roosting opportunities are available within the APE for the proposed ATCT, it is likely that individuals of this species fly over both of the proposed action APEs during foraging flights and possible that they opportunistically use the existing ATCT for roosting. Due to low habitat quality and level of disturbance, no significant adverse effects to this species would be anticipated from construction of the proposed ATCT. It is recommended, however, that the existing ATCT be surveyed prior to demolition to determine whether it is being used for roosting by this or other species of bats and if so, what type of roosting activity is occurring (Christy Klinger, Diversity Biologist, Las Vegas Office, Nevada Department of Wildlife, personal communication 11/17/2008; Jennifer Newmark, Administrator, Nevada Natural Heritage Program, personal communication 11/22/2008). Results of pre-demolition surveys would be evaluated to determine the effects of implementation of the proposed demolition of the existing ATCT on this species. Any requirements for mitigation would be developed in consultation with the Nevada Department of Wildlife (NDOW) and the NNHP.

Other species of bats for which records exist within foraging distance of LAS include the Mexican long-tongued bat, spotted bat, silver-haired bat, hoary bat, and western mastiff bat. Similar to the Mexican or Brazilian free-tailed bat, habitat quality for all of these species is very low within the proposed action APEs and in their vicinities, but it is possible that they use the APEs for foraging or opportunistically roost in the existing ATCT. No significant adverse effects to bat species would be anticipated from the construction of the proposed ATCT. As described for the Mexican or Brazilian free-tailed bat, it is recommended that the existing ATCT be surveyed prior to demolition to determine whether it is being used for roosting by any species of bats.

The same recommendations for pre-demolition surveys of the existing ATCT should be implemented to minimize effects of the proposed action on peregrine falcons. No peregrine falcons have been reported hunting, roosting, or nesting within LAS, but the proximity of nests recorded on casinos within two miles of the APEs suggests that it is possible that this species hunts in the vicinity of the APEs and may use the existing ATCT as at least a temporary perch or roost. If demolition of the existing ATCT were to be scheduled for the time period between March and July inclusive, the structure should be surveyed for nesting activity by peregrine falcons in order to avoid adversely impacting the species. If an active nest were to be found within the APE or its immediate vicinity prior to demolition, impacts to nesting activity would be avoided through modification of the construction schedule or alternative mitigative measures, in consultation with the NDOW and the USFWS. No significant adverse effects on peregrine falcons from construction activities within the APE for the proposed ATCT would be anticipated due to the very low quality of habitat represented by the site and the availability of higher quality hunting opportunities elsewhere in the vicinity.

No suitable habitat occurs within the proposed action APEs or in their vicinities for the yellow two-tone beardtongue, Parish phacelia or the Littlefield milkvetch. The level of disturbance that is characteristic of both of the APEs and their vicinities has eliminated any potential suitable habitat for the rest of the species of concern, including the Gila monster, the desert tortoise, the Mojave gypsum bee, the Las Vegas bearpoppy, and the Las Vegas buckwheat. None of these species is mobile enough to be present opportunistically within the vicinity of either APE. As a result, no adverse effect from implementation of the proposed action on any of the remaining species of concern would be anticipated.

No Department of Defense plans were identified for the proposed action APEs.

Fish and Wildlife Coordination Act – streams or other bodies of water

The APEs for the proposed action does not include any perennial or seasonal surface waters or wetland habitats. No such waters or wetland habitat would be affected by the implementation of the proposed action.

Fish and Wildlife Conservation Act

No high value wildlife habitat exists within the APEs for the proposed action. The APE for the existing ATCT consists of parking lots, associated buildings, and a segment of the airport monorail. A few ornamental trees and palm trees growing in concrete planters in close proximity to the ATCT may be within the area to be directly affected by demolition of the ATCT. The APE for the proposed replacement ATCT has been used recently as a staging area, concrete batch plant, and contractor yard for other airport construction projects. Except for a few weedy grasses and forbs along the perimeter of the site, the APE is bare of vegetation. As a result of past and present levels of disturbance, the value of the habitat loss due to implementation of the proposed action would be negligible.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the intentional "take" of any migratory bird, their eggs, or nests without a permit pursuant to 50CFR21. Take is defined by the MBTA as "pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50CFR10.21). Disturbance during the breeding season, resulting in abandonment by these birds of an active nest containing eggs or baby birds, would be considered a "take". No nests for raptors or other migratory birds have been observed or are known to be on or within a one-half mile spatial buffer around the APEs. It is recommended, however, that the existing ATCT be surveyed for nesting activity by peregrine falcons or other migratory birds if demolition were to be scheduled for the time period between March and July, inclusive. If an active nest were to be found within the APE or its immediate vicinity prior to construction, impacts to nesting activity would be avoided through modification of the construction schedule or alternative mitigative measures, in consultation with the NDOW and USFWS.

Invasive Species and Landscaping

The vegetation within the APE for the proposed ATCT is minimal and currently dominated by introduced and weedy plant species. Construction of the proposed ATCT would result in the conversion of all of the disturbed upland vegetation that occurs on the perimeter of the APE to buildings, parking lot, roadways, and sidewalk. A minimal amount of landscaping may be included on the new ATCT site. The vegetation in the vicinity of the APE for the existing ATCT consists of landscaping in concrete planters. If this vegetation were to be disturbed by demolition activities, it would probably be replaced with similar ornamental plant species that would be unlikely to attract birds or other wildlife that could represent a hazard to air traffic. Post-construction maintenance of landscaping in the vicinity of the proposed action APEs would be expected to eliminate any invasive species from those locations.

Biodiversity and Ecosystem Management

Minimal, low-quality habitat for foraging or hunting by raptors and bats would be eliminated due to implementation of the proposed action. In addition, a few potential roosting opportunities for bat species may be eliminated due to the demolition of the existing ATCT. No other impacts to wildlife species, habitat, or biodiversity would be anticipated. No ecosystem management efforts were found for the APE.

Conclusion

Due to the minimal vegetated area and the absence of suitable habitat for most wildlife species within the APE, the implementation of the proposed action is expected to have no impact on fish and minimal impact, at most, on wildlife and vegetation.

No Action Alternative

Under the No Action Alternative, vegetation and wildlife habitat conditions characteristic of the APEs would remain in their current conditions. The limited foraging, hunting, and nesting or roosting opportunities provided by the vegetated portions of the APEs and the existing ATCT would remain.

Cumulative Impacts

Over the past several decades much of the habitat for native and rare species in Clark County, including the area within and around LAS, has been converted to buildings, roadways, and other disturbed or paved surfaces. Except for parks, golf courses and landscaped areas along roadways, most of the airport property and its vicinity are occupied by buildings or pavement. Those areas that remain open and unpaved have been disturbed by other urban and industrial uses. As described for the proposed action APEs, little or no suitable habitat for rare species remains available except for possible hunting and roosting opportunities for bats and raptors.

Planned development at LAS and in the vicinity would result in the conversion of already disturbed areas into buildings and paved areas including the Terminal 3 building and supporting facilities, parking garages, aircraft aprons, detention basins, etc. The impacts of this conversion on the species of concern would not be significantly adverse, since little or no habitat for most of the species currently remains available to be lost. The impacts of the conversion could be somewhat favorable to bats and raptors by providing more potential hunting and roosting opportunities similar to those currently available. The construction of the 20-acre Siegfried & Roy Park, which will replace an area formerly occupied by residences as well as previously undeveloped but disturbed land, may also provide more potential hunting and roosting opportunities for bats and raptors.

Overall, essentially all of the potential significant adverse impacts to most of the species of concern and their habitat have already occurred due to rapid development and urbanization at LAS and its vicinity. With the implementation of surveys for roosting bats and raptors prior to demolition of the existing ATCT, the proposed action is anticipated to result in minimal, if any, adverse effects to the species of concern. As a result, the proposed action is not anticipated to contribute to cumulative impacts to the species of concern.

6.6 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

Executive Order 12088, as amended, directs federal agencies to: comply with "applicable pollution control standards," in the prevention, control, and abatement of environmental pollution; and consult with the EPA, State, interstate, and local agencies concerning the best techniques and methods available for the prevention, control, and abatement of environmental pollution. The two statutes of most importance to the FAA in proposing actions to construct and operate facilities and navigational aids are the Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund) and the Community Environmental Response Facilitation Act of 1992. RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

6.6.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 10.3b) defines significant impacts for hazardous materials, pollution prevention and solid waste as those actions which involve property listed (or potentially listed) on the National Priorities List (NPL). The Order also states that actions occurring on mitigated ("clean") areas within a NPL site may not be considered significant. Actions that would have difficulty meeting applicable local, state or federal laws and regulations on hazardous materials or actions affecting sites known or suspected to be contaminated would also constitute a significant impact.

Preferred Alternative

The proposed action includes the construction, operation, and maintenance of an airport traffic control tower and associated base building and demolition (by dismantling) of the existing ATCT. Hazardous waste will not be generated or handled on the new ATCT site. Hazardous materials such as diesel fuel and other automotive fluids for construction equipment will be handled on the site during construction activities. Best management practices including secondary containment of any fuels or hazardous materials would allow the construction and demolition to occur without significant impact from these materials.

The proposed construction of the ATCT base building and associated ancillary features would affect the ground surface and shallow soils within the defined APE due to construction excavation (See Figures 2 and 3). The proposed action may affect ground water depending on the excavation depth for the proposed structures' foundations. Ground water could be expected at depths of approximately 25 feet below ground surface in the vicinity of the proposed ATCT site, based on ground water data which was obtained for a Phase I Environmental Due Diligence Audit (EDDA) prepared for the proposed ATCT site (FAA 2009), and information published by the Southern Nevada Water Authority (SNWA 2008).

The EDDA conducted for the proposed ATCT site identified a recognized environmental condition (REC) for the site based on up-gradient releases of jet fuel from pipelines that were recently reported to the Nevada Division of Environmental Protection (NDEP). These releases are located approximately 1,500 feet to 2,000 feet west and southwest of the proposed ATCT site and represent a low to moderate potential to degrade shallow ground water at a depth of approximately 20 to 30 feet below grade. The extent of these releases has not yet been investigated and hydrogeologic conditions in the airport vicinity appear to be consistent with significant ground water plume migration. However, if during excavation, in the unlikely event that contamination is discovered, or a spill occurs during construction, work would stop until the appropriate agencies are notified.

Two diesel fuel day tanks not exceeding 100 gallons each would be located within the generator room of the proposed base building and two diesel above ground storage tanks (AST) not exceeding 4,000 gallons each would be located outside the base building. These tanks would be used to store fuel for the emergency electrical generators located in the proposed base building. Spill prevention and control safeguards including secondary containment and double walled tanks would be installed with these tanks to prevent any potential releases from entering the subsurface at the site. A Spill Prevention Control and Countermeasures (SPCC) Plan would be required for any combination of fuel storage tanks greater than 1,320 gallons in accordance with the EPA's Oil Pollution Prevention Rule.

No other storage or usage of hazardous substances or petroleum products, other than small amounts of materials used for routine building and equipment maintenance (such as cleaning materials) is expected at the proposed site.

The existing ATCT is known to contain asbestos and lead-based coatings in various materials throughout the building. A Demolition Notification Form, Notification of Asbestos Abatement and a Dust Control Permit for Construction Activities would be filed with the

CCDAQEM prior to commencement of demolition of the ATCT (See Appendix I). The CCDAQEM has adopted the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40CFR Part 63 to regulate asbestos in Clark County. NESHAP and all permit stipulations would be complied with in regard to proper survey, abatement, containment and disposal of all asbestos containing materials prior to and during the demolition of the ATCT. According to the Solid Waste Branch of the Nevada Department of Environmental Protection, if construction waste containing lead-containing coatings is disposed of as a single waste stream, then the ratio of lead paint to total waste mass would not likely exceed the lead toxicity standard and would not be considered hazardous waste (NDEP 2004). All other construction debris would be disposed of according to State and local regulations.

Because there are no National Priorities List (NPL) or candidate NPL sites or other active CERCLA sites at or adjacent to the proposed ATCT site, the proposed action will not significantly impact NPL sites (FAA 2008).

Spill prevention and control techniques for hazardous substances and petroleum products and appropriate containment and disposal techniques for asbestos, as well as commitments to monitor for and remediate any potential soil contamination would help to ensure no significant impacts from hazardous materials or hazardous or solid wastes would result from the proposed action.

No Action Alternative

There would be no impact under the No Action Alternative from hazardous materials, pollution, or solid waste other than that already posed by the existing airport.

Cumulative Impacts

As stated above, hazardous materials associated with the proposed action would be limited to those required for construction and maintenance of the proposed ATCT facility, the storage of petroleum fuel for emergency power generation and the abatement and disposal of asbestos containing materials from the demolition of the existing ATCT. LAS contains many above ground and underground tanks containing fuel and vehicle maintenance fluids and areas where various hazardous materials are handled. There have been past releases from underground tanks at LAS (FAA 2009). Expansion of the airport facilities will likely result in more petroleum products and hazardous materials handled and more potential for releases of these materials. Planned development in the vicinity of LAS would also introduce hazardous materials associated with construction activities to the area, but adherence to Federal and State waste regulations coupled with best management practices would be expected to prevent any significant impacts from these projects. Therefore, based on the adherence to relevant hazardous waste regulations and use of best management practices, there would likely be no significant cumulative impacts resulting from the proposed action.

6.7 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) of 1966, as amended, establishes the Advisory Council on Historic Preservation (ACHP) and the National Register of Historic

Places (NRHP) within the National Park Service (NPS). Section 110 of the NHPA governs Federal agencies responsibilities to preserve and use historic buildings; designate an agency Federal Preservation Officer; and identify, evaluate, and nominate eligible properties under the control or jurisdiction of the agency to the National Register. Section 106 of the NHPA requires federal agencies to consider the effects of their actions on properties included, or eligible for inclusion, in the National Register of Historic Places. Compliance requires consultation with the Advisory Council on Historic Preservation, the State Historic Preservation Officer (SHPO), and/or the Tribal Historic Preservation Officer (THPO). Other applicable statutes include:

- The Archaeological and Historic Preservation Act of 1974
- The Archeological Resources Protection Act
- The Native American Graves Protection and Repatriation Act (NAGPRA)
- The Antiquities Act of 1906
- The Historic Sites Act of 1935
- The American Indian Religious Freedom Act of 1978
- The Public Buildings Cooperative Use Act of 1976
- Executive Order 13006, Locating Federal Facilities on Historic Properties in Our Nation's Central Cities
- Executive Order 13007, Indian Sacred Sites

6.7.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 11.3) states that based on regulations at 36 CFR 800.8(a), a finding of adverse effect to historic, architectural, archaeological or cultural resources does not necessarily constitute a significant impact. The Section 106 process includes consideration of alternatives to avoid adverse impacts, consideration of mitigation measures and acceptance of adverse effects in some cases. In all cases, the FAA makes the final determination on level of effect in consultation with the ACHP, SHPO or THPO.

Preferred Alternative

As stated in Section 5.10, there are no historic properties listed as or determined eligible for the National Register of Historic Places (NRHP) located within the area of potential effect of the proposed action or in the airport area. The closest registered national historic place to the proposed ATCT site is the Little Church of the West, located at 3960 Las Vegas Boulevard South. The church is adjacent to the airport's western boundary, more than one mile from both the construction and demolition APEs for the proposed action. All of the sites listed on the Nevada State Register of Historic Places in the Las Vegas area are located at least six miles north of LAS (SHPO 2008; Appendix E).

The Nevada SHPO requested the FAA to delineate an area of indirect effect to determine the possibility for visual impacts to potential historic properties in the surrounding neighborhoods. The FAA used a 0.75 mile radius around the tower to define this indirect APE. The Federal Communications Commission uses this distance for their evaluation of

visual impacts from communication towers that are 200-400 feet tall (FCC 2004). The indirect APE consists largely of areas within the airport, but also includes some residential neighborhoods to the north and northeast of the proposed ATCT site (see Figure 5). According to the Clark County Assessor's Office, the earliest construction date for any of the homes within these neighborhoods is 1962 (see Appendix E).

In order to qualify for the NRHP, a property must be associated with an important historic context and retain the historic integrity of those features necessary to convey its significance. Historic context may be established by significance in American history, architecture, archeology, engineering, or culture when evaluated within the historic context of a relevant geographic area. Typically properties must also be at least 50 years old to be considered for placement on the NRHP (NPS 2002). The homes with the earliest construction dates within the indirect APE would be 49 years old at the projected construction start date of 2011. The setting of these homes has included the existing airport viewscape, where passenger terminals, large hangars, auxiliary buildings, and control towers are necessary and expected features. FAA determined that even if any of these homes were eligible for the NRHP with an architectural historic context, that due to their location adjacent to LAS, which has been operating at its current location since the 1940s, the proposed action would not significantly change the setting of the homes and therefore their eligibility for the NRHP, should they qualify. A finding of "no historic properties affected" for the proposed action was made by the FAA and concurred with by the NVSHPO (Appendix E).

The Native American Consultation Database (NACD) maintained by the National Park Service identifies seven federally recognized Indian Tribes as having interests in Clark County, Nevada (NPS 2008b; Appendix E). Section 106 consultation regarding the proposed action was conducted between the FAA and the seven Tribes identified by the NACD as well as the Nevada State Historic Preservation Office (NVSHPO) on September 4, 2008 (Appendix E).

The Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada and the Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona responded to the FAA in letters dated September 25, 2008 and February 9, 2009, respectively (Appendix E). The Tribal Representatives indicated that they do not object to the proposed action, but would like to be notified if any cultural items are discovered during construction and all work halted until they can be identified (Appendix E). A representative for the Hualapai Indian Tribe of the Hualapai Indian Reservation, Arizona gave the FAA a verbal determination of no adverse effect (Dawn Hubs, Hualapai Tribe, personal communication 1/7/09). As of March 20, 2009, none of the other Tribes had responded to the FAA's consultation request dated September 4, 2008. In accordance with 36 CFR 800.5(c)(1), which states that the agency may proceed after 30 days of notification if the SHPO or Tribes have either agreed with the finding or have not responded, FAA has assumed that the unresponsive Tribes agreed with the "no adverse effect" finding.

Discovery Clause

If potential historical, archaeological, or culturally important materials are discovered during construction, work would stop, the area would be secured, and the NVSHPO and the seven

Tribes (as appropriate) would be notified within 48 hours of discovery to determine appropriate actions.

Based on the above findings, it is not expected that any significant impact would occur to historical, architectural, archaeological, or cultural resources due to the proposed action.

No Action Alternative

There would be no impact to historical, architectural, archaeological, or cultural resources under the No Action Alternative other than that already posed by the existing airport.

Cumulative Impacts

As part of the realignment of Russell Road necessitated by the proposed construction of Terminal 3, the CCDOA prepared and began implementation of a Land Acquisition and Relocation Plan in 2000. This Plan included the acquisition of 233 parcels of land including 362 dwelling units located on East Russell Road and Gold Dust Avenue between Swenson Street and Surrey Street, the demolition of the dwelling units, and the relocation of affected residents (CCDOA 2005). The NVSHPO concurred with the FAA's determination that the properties affected by the Clark County Land Acquisition and Relocation Plan were not eligible for the National Register. Consultation with the NVSHPO for the Terminal 3 construction also resulted in a "no historic properties affected" determination (CCDOA 2005).

There are no historic properties listed in or determined eligible for the NRHP or the Nevada State Register of Historic Places located less than one mile from the proposed action APEs. As stated above, the NVSHPO concurred with the FAA's finding of "no historic properties affected" from the proposed action and only the Moapa Band of Paiute Indians, the Kaibab Band of Paiute Indians and the Hualapai Indian Tribe responded to requests for consultation. Although the presence of archaeological or cultural resources within the entire airport may not have been determined, it is likely that the planned development within the airport will consider and protect such resources if they are found. Planned development projects in the vicinity of LAS would be subject to the local zoning laws and comprehensive planning document direction regarding historic, archaeological and cultural sites. The Clark County Comprehensive Plan contains a Historic planning element which promotes the conservation of historical and cultural resources within the County in compliance with local, state and federal laws and regulations (CCDCP 2006). Based on the County's policies to preserve important historic and cultural resources it is likely that plans for private development would be required to consider and protect any historic, cultural or archaeological resources that may be present.

Based on the lack of historic properties within the airport property and the commitment of the FAA to consult with the NVSHPO and Tribes should any historic, cultural or archaeological resources be discovered, it is unlikely that significant cumulative impacts to historical, architectural, archaeological, or cultural resources would occur due to the proposed action.

6.8 LIGHT EMISSIONS AND VISUAL IMPACTS

The following discussion is a consideration of potential impacts to people and properties due to light emissions or visual impacts. Order 1050.1E CHG 1 directs the FAA to consider the extent to which lighting associated with a proposed action creates an annoyance or interferes with normal activities among people in the vicinity. The Order also directs FAA to consider the extent to which the proposed development contrasts with the existing environment and whether the agency considers this contrast objectionable, based on public input.

6.8.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 does not establish specific impact thresholds for light emissions and visual impacts. FAA Order 5050.4B includes the following factors to consider as significant impacts to light emissions and visual resources: 1) the light emissions from the proposed action would create annoyance to or interfere with normal activities; and 2) consultation with federal, state or local agencies, tribes or the public shows that the visual effects from the proposed action contrast with existing environments and are objectionable.

Preferred Alternative

The proposed ATCT and base building would have surface mounted security lighting around the buildings and parking lot. The ATCT would also have obstruction lighting on the cab roof. The lighting associated with the new ATCT would be essentially the same as that on the existing ATCT. The impact of light emissions from the ATCT facility on the surrounding community is expected to be insignificant due to its presence within the existing airport environment and its distance of approximately one-third of a mile from any existing residential or other sensitive public areas.

The proposed new ATCT would be approximately 372 feet high, twice as tall as the existing 185 foot tower. The proposed ATCT would be the tallest structure in the immediate vicinity, and would be visible from a large portion of the surrounding area. The closest residential areas to the proposed ATCT site are located approximately one-third mile north of the site, north of Russell Road. The homes in these neighborhoods which face south without anything blocking their view of the tower could be expected to incur some visual effect from the new tower. However, given that their current view to the south is of the airport, and likely includes the current tower, the placement of the new tower is not likely to produce a significant visual effect. CCDOA is planning to construct a park (Siegfried and Roy Park) on the north side of Russell Road between Maryland Parkway and Swenson Road (see Table 6-2) which may provide some screening of the airport and tower for these homes. Due to screening or distance from the proposed tower, it is unlikely that there would be significant visual effects to other residential neighborhoods in the vicinity of the airport.

The design intention for the proposed ATCT and base building is to create an efficient, low maintenance facility which meets the operational requirements of the airport, harmonizes with the surrounding environment, and is consistent in character with the existing and proposed airport facilities. Special attention will be given to the aesthetic appearance of the ATCT to provide a dynamic contemporary image that clearly expresses its functional role,

and yet establishes a progressive architectural direction. Although there will be a visual impact on the surrounding area, it is the intention of the FAA to design the building in a way that will be considered positive by the community.

No Action Alternative

There would be no impact from light emissions and no visual impact under the No Action Alternative.

Cumulative Impacts

Light sources at the airport and in the vicinity have increased with time along with the growth of area. Many of the foreseeable future developments at LAS involve rehabilitation of current facilities and would not increase light or visual impacts. The replacement of residences with landscaping north of Russell Road would likely reduce the amount of lighting in that area and provide a buffer between the remaining residences and the lighting from Terminal 3. The installation of a noise barrier on the north side of Russell Road would also likely provide visual screening of the airport for the homes between Maryland Parkway and Swenson Street. Construction of the Terminal 3 building and associated parking areas, aircraft ramps, and roadways would replace an existing airport parking lot, residential area and undeveloped land. This development would likely increase lighting in the area, but placement of the six story parking garage north of the terminal building was designed to block the light from Terminal 3 from the residential areas north of the Russell Road (CCDOA 2005). New roadways associated with Terminal 3 have also been designed to minimize light intrusion into the surrounding residential communities (CCDOA 2005). Based on these efforts to minimize the effects to the adjacent residential neighborhoods, planned developments at LAS are unlikely to result in significant light or visual effects.

The foreseeable future non-airport development in the vicinity of LAS primarily involves remodel projects on the Las Vegas Strip, an addition to the Las Vegas Convention Center, and various highway improvements. These projects are unlikely to introduce a significant amount of increased lighting or visual impact to the area, given that they would not significantly alter existing conditions and would occur in urbanized areas. All planned development would also be subject to the County's zoning ordinance and requires approval from the Planning Commission to assure its compatibility with the appropriate Clark County Land Use Plan. While visual impacts would be expected to increase under the proposed action, and visual impacts and light emissions would increase due to other projects at the airport and surrounding area, the cumulative impacts of these increases to the surrounding communities would not be expected to significantly impact residences or other sensitive public areas based on the above discussion.

6.9 NATURAL RESOURCES AND ENERGY SUPPLY

Executive Order 13123 encourages each federal agency to expand the use of renewable energy within its facilities and in its activities and requires each federal agency to reduce petroleum use, total energy use and associated air emissions, and water consumption in its

facilities. It is also the policy of the FAA to encourage the development of facilities that exemplify the highest standards of design including principles of sustainability.

6.9.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 13.2b) defines specific impact thresholds for natural resources and energy supply as those actions in which demand would exceed the available supply of these resources. Factors to consider are: when the action would cause a substantial demand on available energy or natural resource supplies; when compared to future no impact conditions, changes in aircraft movement or ground vehicle use would cause a statistically significant increase in fuel consumption; when consumable natural resources for construction are rare; and when the action would not be consistent with smart growth requirements of the agency having jurisdiction over the area where the airport is located.

Preferred Alternative

Construction materials for the proposed new ATCT facility would consist primarily of concrete, sand and gravel, steel, asphalt, and glass. None of these materials are unusual or in short supply and all are available locally. The proposed ATCT facility would utilize commercial electricity. Electricity consumption may increase incrementally under the Preferred Alternative, but not significantly relative to total airport consumption. In the case of commercial electrical power supply failure, diesel burning backup generators will be used as a power supply. These generators would be used intermittently and temporarily for short durations and would not likely significantly impact natural resources or energy supply.

No large volume of water is expected to be used during construction and the electrical power and fuel that will be consumed for construction will be insignificant in comparison to electricity and fuel already used at the airport. There would be no effect on the current aircraft fuel consumption.

Pollution prevention principles would be included as part of construction BMPs; minimal waste will be produced during the construction of the ATCT and base building; and no significant amounts or unusual natural resources will be used for the proposed action. Approximately 4,000 tons of concrete and demolition rubble would be generated from the demolition of the existing ATCT; about 10-15 tons of that would be recyclable steel components. If the base building is demolished (if CCDOA doesn't want to continue use of the building), approximately 3,000-3,500 tons of concrete and other rubble would be generated with about 3-5 tons of recyclable steel components. Other materials which may be recycled would include approximately 3 tons of copper wire and piping and approximately 5 tons of metal studs and roof decking. Construction waste would likely be disposed of at multiple sites with adequate capacity within close proximity to the airport. All waste would be disposed of according to State and local regulations. Recycling would be taken to the most convenient site in proximity to the airport.

The proposed action would incorporate the following construction materials and design aspects which would minimize energy and water use in many areas of the ATCT and base building. High efficiency mechanical equipment would be used to heat and cool the

buildings. Day-lighting would be used to reduce the need for electrical lighting where practicable and the use of LED lighting would reduce electricity usage. Solar power generation would be considered as an alternate source of power for some lighting loads. Low-emissivity (low-E) coatings would be used on windows to reduce solar heat gain. Building roofs would be insulated to R30+ and walls would be insulated to R15+.[4] Roofs would also have a white membrane to reduce heat gain. Low water usage plumbing fixtures would be used throughout the facility.

Based on the above analysis, the proposed action would not significantly impact natural resources and energy supply.

No Action Alternative

There would be no impact to natural resources and energy supply under the No Action Alternative.

Cumulative Impacts

Cumulatively the planned facility expansion and new development, including the proposed action, at LAS will increase airport facilities and energy consumption at the airport. Planned developments in the LAS vicinity would increase the cumulative impacts to energy and natural resource consumption such as asphalt, concrete, steel, wood, gravel and rock fill materials and petroleum fuels in the area. However, the cumulative impact from the proposed action and past, present and reasonably foreseeable actions in the vicinity of the airport are not likely to exceed the available supply of natural resources or energy supply and so would not significantly impact natural resources or energy supply.

6.10 NOISE

Noise in the vicinity of airports and its impacts on people and communities is addressed by several federal laws including the Aviation and Noise Abatement Act, the Federal Aviation Act, the Control and Abatement of Aircraft Noise and Sonic Boom Act, the Airport and Airway Improvement Act, the Airport Noise and Capacity Act and the Noise Control Act. Aviation-related noise impacts are regulated by the FAA under 14 CFR Part 150 and Advisory Circular 150/5020, Noise Control and Compatibility Planning for Airports. As stated in FAA Order 1050.1E CHG 1, "For aviation noise analysis, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound level (DNL) as FAA's primary metric."

[4] The "R" value of a material refers to its ability to resist heat flow. R-values are defined per inch of material. For example, the R-value of an inch of fiberglass batting insulation is about R-3 to R-4. The use of multiple inches of a material increases its R-value by that multiplier.

6.10.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 14.3) defines significant impacts to noise as when the analysis shows that the proposed action will cause noise sensitive areas to experience an increase in noise of DNL 1.5dB or more at or above the DNL 65dB noise exposure when compared to the no action alternative for the same timeframe. Special consideration needs to be given to evaluation of noise in sensitive areas such as national parks, national wildlife refuges and historic sites, including traditional cultural properties. In areas where ambient noise is very low and a quiet setting is a generally recognized purpose and attribute, the DNL 65dB threshold does not adequately address noise effects and a supplemental noise analysis may be appropriate.

Preferred Alternative

Title 30.48 of the Clark County Unified Development Code provides primary guidance for compatible development within the McCarran International Airport AEOD (Clark County 2008; See Appendix D for the McCarran AEOD Map). Title 30.48 defines development zones within the AEOD based on day/night average sound levels (DNL) and requires noise attenuation construction techniques for sensitive uses permitted within the AEOD. Noise reduction amounts required within the AEOD depend on the specific zoned use and noise contour that the use falls within. In general, most residential use is allowed within the DNL 60 and 65dB contours with a 25dB noise reduction and some low density single family residential use is allowed within the DNL 70dB contour with a 30dB reduction. The Land Use Plans of the unincorporated communities of Winchester, Spring Valley and Enterprise, which are affected by noise from LAS, incorporate the AEOD and encourage compatible new development in the vicinity of the airport (CCDCP 2205 p. 51, 99; CCDCP 2004a p. 28; CCDCP 2004b p. 40, 80). The City of Henderson Comprehensive Plan does not include any compatible land use policies relative to LAS (City of Henderson 2006).

The construction and operation of the new ATCT would not affect the arrival/departure paths, runway use, fleet mix, or number of aircraft operations currently using or forecast to use the airport in the future. The new ATCT, therefore, would not alter the current or predicted noise contours at LAS.

As stated above, the communities of Winchester, Spring Valley and Enterprise have planned for compatible development within the airport influence area based on DNLs that reflect the airport's predicted growth rate. Since the proposed action is not expected to change airport operations, and hence noise exposure levels, as predicted in the 2006 FAR Part 150 Noise Compatibility Study Update (CCDOA 2006a), and due to compatible land use planning surrounding the airport, significant impacts related to compatible land use and noise are not expected.

Construction Noise

Based on the noise exposure maps from the Noise Compatibility Study (CCDOA 2006a), the existing ATCT is within the 65 DNL contour line and the proposed ATCT site is within the 60 DNL contour line. Noise associated with the proposed action would be generated

primarily during construction and demolition activities. Construction would be expected to occur over about an 18-month period starting in early-2011 and proceeding until late-2012. Demolition of the existing ATCT would occur over an approximately 2-month period in early-2015.

Construction noise would be generated by internal combustion engines and other equipment. Table 6.10-1 shows construction equipment noise ranges in dB(A) at 50 feet from the source. Impact equipment (pile drivers, jack hammers, etc.) have the highest noise levels, which range from the low 80s to more than 100 dB(A). Noise from equipment powered by internal combustion engines (backhoes, tractors, graders, etc.) ranged from below 70 to the mid 90s dB(A). As shown in Table 6.10-2, doubling the distance from the noise source reduces the noise level by 6 dB.

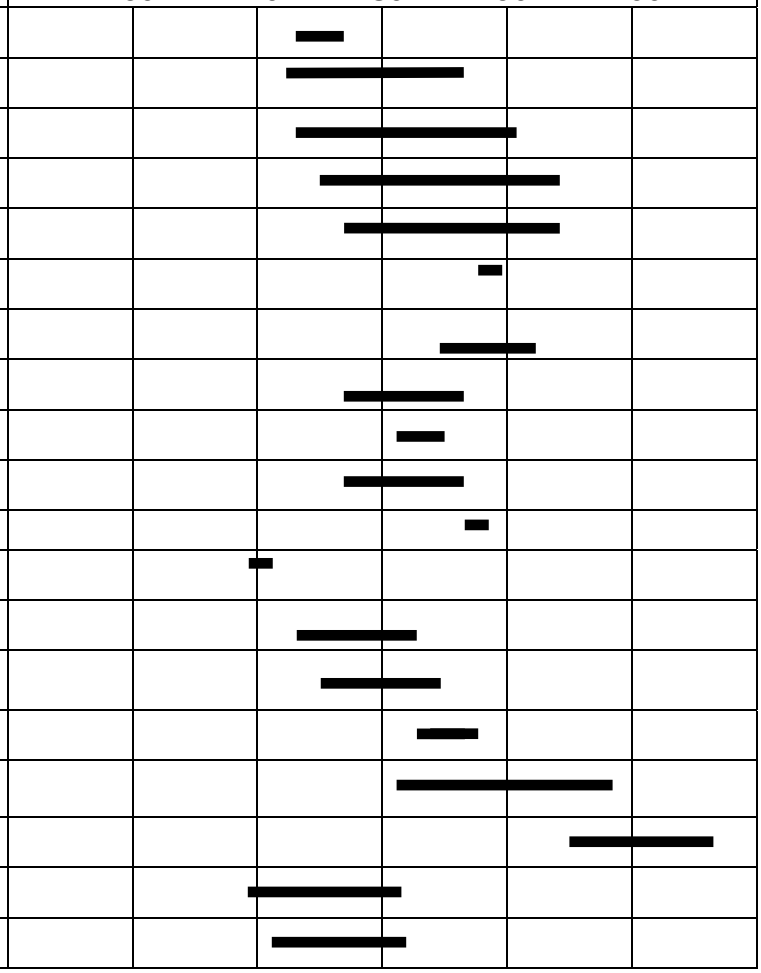
The proposed action APE does not include any sensitive noise receptors (schools, churches, residences, parks, etc.). LAS is bordered by commercial and residential development as well as the University of Las Vegas to the north; commercial and industrial development with some residential use to the east; commercial and warehouse/industrial development to the south; and commercial development associated with the Las Vegas Strip to the west. Interstate-215 is located approximately one-half mile south of the airport and Interstate-15 is located approximately one-half mile west of the airport. The closest public park to the APE is the Clark County Paradise Vista Park at 5582 Stirrup Street, near the corner of Russell Road and Eastern Avenue, approximately one mile northeast of the new ATCT site (CCDPR 2008). The closest residential area to the proposed ATCT site is located approximately one-third mile north of the site, north of Russell Road between Swenson Street and South Maryland Parkway. The closest schools are Handprints Learning Center and Gene Ward Elementary School, both located approximately 4,000 feet northeast of the APE on Hacienda Avenue. The nearest church is the Family Church of God at 5006 South Maryland Parkway, approximately one mile northeast of the APE. Given the distance from the APE to any sensitive noise receptors, no significant impacts from construction noise are expected.

Operational Noise

Normal operational noise from the ATCT facility would be similar to a commercial or light industrial site. The loudest potential operational noise source would be the emergency generator. The FAA conducted noise exposure monitoring at a number of FAA facilities in the Alaskan region which consisted of sound level surveys of various equipment and work areas (FAA 2004). Measurements from a number of generator models with outputs varying from 20-675 kilowatt (27-905 horsepower) produced noise levels from 85-107dBA. These measurements were taken inside the emergency generator building. Exterior noise levels would be reduced by the building walls, as well as distance from the source (see Table 6.10-2). The emergency generator at LAS would typically be used for a few hours each month for testing but could be used for a longer duration in the event of a commercial power outage. Based on the distance from the emergency generator to any sensitive noise receptors (see discussion above under *Construction Noise*), there would be no significant impacts from operational noise.

Table 6.10-1. Noise Levels of Construction Equipment

Equipment			Noise Level [dB(A)] at 50 feet (60 70 80 90 100)
Equipment Powered by Internal Combustion Engines	Earth Moving	Compacters (Rollers)	
		Front Loaders	
		Backhoes	
		Tractors	
		Scrapers, Graders	
		Pavers	
		Trucks	
	Materials Handling	Concrete Mixers	
		Concrete Pumps	
		Cranes (Movable)	
		Cranes (Derrick)	
	Stationary	Pumps	
		Generators	
		Compressors	
Impact Equipment		Pneumatic Wrenches	
		Jack Hammers & Rock Drills	
		Pile Drivers (Peaks)	
Other		Vibrator	
		Saws	



Note: Based on limited available data samples.
Source: EPA 1971

Table 6.10-2. Noise Levels at Distance from Source

Decibel level at noise source (dB)	Distance from noise receiver to noise source (ft)	Decibel level at noise receiver (dB)
105	5	102
105	10	96
105	20	90
105	40	84

Source: sengpielaudio.com 2008

No Action Alternative

There would be no effect on compatible land use and noise in the foreseeable future, as current local government policies regarding land usage at and around McCarran International

Airport (including the APEs for the proposed actions) prevent land use which is incompatible with the airport.

Cumulative Impacts

Current local government policies regarding land usage at and around LAS prevent land use which is incompatible with the airport and include policies which protect existing and potential future developments from excessive noise. Planned developments within the airport influence area are subject to local zoning laws which require sound-reducing construction techniques, deed restrictions and notifications to prospective buyers of noise levels from airport activities. There are no sensitive noise receptors in the immediate vicinity of the APE. The planned expansion of terminal airspace and modified routes at LAS is not projected to significantly change DNLs in the airport vicinity. An EA is being prepared by the FAA to evaluate the impacts of this proposal. Since the proposed action is not expected to change airport operations, and hence noise exposure levels as stated above, and no sensitive noise receptors would be affected by construction or operational noise, there is not expected to be a significant cumulative impact from noise.

6.11 SECONDARY (INDUCED) IMPACTS

FAA Order 1050.1E CHG 1 requires the FAA to identify any induced impacts to surrounding communities which may result from a proposed action. Examples of induced impacts as defined by the Order include, "shifts in patterns of population movement and growth; public service demands; and changes in business and economic activity to the extent influenced by the airport development."

6.11.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 15) defines impact thresholds for secondary (induced) impacts as those actions which would cause significant impacts in other categories such as noise, compatible land use or direct socioeconomic impacts.

Preferred Alternative

Construction of the proposed ATCT and Base Building and demolition of the existing ATCT would occur within the currently developed area of LAS. No commercial businesses, residences, or other developed properties would likely be directly impacted by the proposed actions except for a small positive impact to those business services and suppliers employed for construction of the ATCT, Base Building and parking structure and demolition of the existing ATCT. The proposed action is not expected to increase the demand for aviation services at the airport and therefore no secondary impacts are expected. Based on the above analysis, the proposed action would not produce significant secondary (induced) impacts.

No Action Alternative

There would be no noise or secondary impacts under the No Action Alternative.

Cumulative Impacts

As part of the realignment of Russell Road necessitated by the proposed construction of Terminal 3, the CCDOA prepared and began implementation of a Land Acquisition and Relocation Plan in 2000. This Plan included the acquisition of 233 parcels of land including 362 dwelling units located on East Russell Road and Gold Dust Avenue between Swenson Street and Surrey Street, the demolition of the dwelling units, and the relocation of affected residents (CCDOA 2005). The relocation of families and small businesses located within the land acquisition area was completed in accordance with appropriate mandates, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act and resulted in no significant secondary impacts. The present and foreseeable future development and facility expansion at LAS have been planned to avoid compatible land use and noise issues and appears to be in conformance with local government planning. No dislocation of commercial or industrial facilities or residential populations is expected due to planned development at LAS. Planned development in the vicinity of LAS would support the area's tourist industry and predicted population growth and is not expected to result in any significant shifts in population movement, public service demands or changes in economic activity. Therefore, no significant cumulative secondary impacts are expected.

6.12 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

FAA Order 5100.37B provides guidance to comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act). The Uniform Act ensures that owners of real property to be acquired for federal and federally-assisted projects are treated fairly and consistently, and that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently, and equitably.

Executive Order 12898 requires federal agencies to make achieving environmental justice part of their missions, "by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

Executive Order 13045 requires that "each federal agency make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."

6.12.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 16.3) defines significant impacts to environmental justice as disproportionately high and adverse human health or environmental effects on minority or low income populations and significant impacts to children's environmental health as disproportionate health and safety risks to children resulting from the proposed action.

The Order provides examples of significant socioeconomic impacts that include but are not limited to: 1) extensive relocation of residents is required, but sufficient replacement housing is unavailable; 2) extensive relocation of community business that would create severe economic hardship for the affected communities; 3) disruptions of local traffic patterns that substantially reduce the service levels of roads serving the airport and surrounding communities; and 4) a substantial loss in community tax base.

Preferred Alternative

Since no significant human health or environmental effects would result from implementation of the proposed action, none will occur disproportionately to minority or low-income populations, or children. Title 30.48 of the Clark County Development Code and the land use plans of the surrounding communities include policies which protect noise sensitive properties and ensure compatible land use within the airport influence area. No real property would be acquired and no persons would be displaced as a result of the proposed action, as defined in Section 4601 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. No relocation of commercial businesses would occur as a result of the proposed action. Also, there would not be a substantial disruption of local traffic patterns that would reduce the levels of service of roads serving the airport or its surrounding communities.

The proposed action is not likely to have any significant impacts to socioeconomics, environmental justice, or children's environmental health and safety risks.

No Action Alternative

There would be no impacts to socioeconomics, environmental justice, or children's environmental health and safety risks under the No Action Alternative.

Cumulative Impacts

As stated above, the proposed action would not produce any significant socioeconomic, environmental justice, or children's environmental health and safety risks. As part of the realignment of Russell Road necessitated by the proposed construction of Terminal 3, the CCDOA prepared and began implementation of a Land Acquisition and Relocation Plan in 2000. This Plan included the acquisition of 233 parcels of land including 362 dwelling units located on East Russell Road and Gold Dust Avenue between Swenson Street and Surrey Street, the demolition of the dwelling units, and the relocation of affected residents (CCDOA 2005). The relocation of families and small businesses located within the land acquisition area was completed in accordance with appropriate mandates, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act, the Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Projects, and FAA Advisory Circular 150/5100-17 and resulted in no significant socioeconomic or environmental justice, or children's environmental health and safety risks impacts. The ongoing facility expansion and new development at LAS has been planned to avoid compatible land use and noise issues in conformance with local jurisdiction land use planning. No dislocation of commercial or industrial facilities or residential population is

expected due to planned development and expansion at LAS. Planned development in the vicinity of LAS would be subject to approval under the County's zoning ordinance and appropriate Land Use Plan and would be expected to be compatible with existing and future land uses. Therefore, no significant cumulative socioeconomic, environmental justice, or children's environmental health and safety risks impacts are expected.

6.13 WATER QUALITY

Federal agencies are required to comply with provisions of the Clean Water Act in any action that may affect water quality, including the control of any discharge into surface or ground water and the prevention or minimization of loss of wetlands. Agencies must also comply with the Fish and Wildlife Coordination Act if the proposed action impounds, diverts, drains, controls, or otherwise modifies the waters of any stream or other water body. Section 1424(e) of the Safe Drinking Water Act requires consultation with the EPA if a proposed action has the potential to contaminate an aquifer designated by the EPA as a sole or principal source of drinking water for the area.

6.13.1 Significant Impact Threshold

FAA Order 1050.1E, CHG 1 (Appendix A, Section 17.3) defines significant impacts to water quality as those which would result in exceedance of water quality standards or violate water quality regulations. Water quality regulations and issuance of permits will normally identify any deficiencies in the proposed action with regard to water quality.

Preferred Alternative

The proposed action will not affect any streams or surface water bodies, and there will be no impoundment or diversion of water, therefore the Fish and Wildlife Coordination Act does not apply to the proposed action. The proposed action would not affect any sole source aquifers, therefore consultation with the EPA does not apply to the proposed action (USEPA 2008e). Construction of the proposed ATCT would not affect the integrity or operation of the underground water reservoir located immediately south of the new ATCT site. The presence of the ATCT facility adjacent to the reservoir may provide increased security for this water supply. Post-construction surface drainage across the proposed site would be directed via a system of culverts and detention basins to three major outlets: the Bermuda Flood Control Channel; the Rawhide Flood Channel; and the Hacienda Avenue Storm Drain. A Notice of Intent for Stormwater Discharge Permit Application would be filed online with the Nevada Division of Environmental Protection (NDEP) Bureau of Water Pollution Control at http://ndep.nv.gov/bwpc/storm_cont03.htm along with a Storm Water Pollution Prevention Plan (See Appendix I).

Ground water could be expected at depths of approximately 25 feet below ground surface in the vicinity of the proposed ATCT site, based on ground water data which was obtained for a Phase I EDDA prepared for the proposed ATCT site (FAA 2008), and information published by the Southern Nevada Water Authority (SNWA 2008). A Temporary Groundwater Discharge Permit Application would be filed with the NDEP Bureau of Water Pollution Control to regulate discharge of any ground water encountered during construction activities.

This permit includes requirements for water quality lab analysis to determine appropriate discharge method (See Appendix I for permit and analysis requirements). Construction BMPs to protect water quality would be implemented (see Section 6.3). In addition, no impacts to wetlands from the proposed action are expected because none were identified within the proposed action APE or its vicinity as discussed in Section 5.17.

No Action Alternative

There would be no impacts to water quality under the No Action Alternative other than those already posed by the existing airport.

Cumulative Impacts

As stated above, the proposed action would not produce any significant impacts to water quality. No perennial surface water drainages exist within the airport property or within the immediate vicinity of LAS. Planned development in the vicinity of LAS could potentially affect water quality in the area due to erosion or contaminant exposure from construction areas. However, storm water pollution prevention practices and best management practices implemented during construction would likely prevent any significant impacts to surface or ground water quality. Therefore, no significant cumulative impacts to water quality are expected.

6.14 SUMMARY OF ENVIRONMENTAL IMPACTS, COMMITMENTS AND REQUIRED PERMITS

The following table (Table 6.14-1) summarizes environmental consequences of the Preferred and No Action Alternatives and commitments and environmental permits required for the Preferred Alternative.

Table 6.14-1. Summary of Environmental Impacts, Commitments and Permits Required for the Preferred Alternative and Environmental Impacts for the No Action Alternative

Category	Environmental Impacts of the Preferred Alternative	Cumulative Impacts of the Preferred Alternative	Commitments and Permits Required for the Preferred Alternative	Environmental Impacts of the No Action Alternative
Air Quality	No significant impact	No significant impact	• Application for an Authority to Construct Certificate and Supplemental Information Sheet with Emission Unit Information as required by CCDAQEM to permit the ATCT's emergency generators. • Application for Dust Control Permit for Construction Activities as required by CCDAQEM).	No impact
Coastal Resources	No impact, no coastal resources near the project	No impact	None	No impact
Compatible Land Use	No significant impact	No significant impact	None	No impact
Construction Impacts	No significant impact	No significant impact	• Implementation of construction BMPs, scheduling of construction for low-traffic times. • Demolition Notification Form, Notification of Asbestos Abatement and a Dust Control Permit for Construction Activities as required by CCDAQEM for demolition activities.	No impact
Department of Transportation Act: Section 4(f)	No significant impact	No significant impact	None	No impact
Farmlands	No impact, soils within project area are considered "not prime farmland"	No impact	None	No impact
Fish, Wildlife, and Plants	No significant impact	No significant impact	None	No impact

Category	Environmental Impacts of the Preferred Alternative	Cumulative Impacts of the Preferred Alternative	Commitments and Permits Required for the Preferred Alternative	Environmental Impacts of the No Action Alternative
Floodplains	No impact, the APEs are within FEMA FIRMs Zone X, "areas determined to be outside the 0.2% chance of flooding" which are outside of the 100-year floodplain	No impact	None	No impact
Hazardous Materials, Pollution Prevention, and Solid Waste	No significant impact	No significant impact	• Construction BMPs will be implemented. • If contaminants are discovered or a spill occurs during construction, work will stop until the appropriate agencies are notified. • A SPCC Plan would be required for any combination of fuel storage tanks greater than 1,320 gallons in accordance with the EPA's Oil Pollution Prevention Rule. • Construction waste containing lead-containing coatings would be disposed of as a single waste stream to prevent exceedance of the State lead toxicity standard.	No impact
Historical, Architectural, Archaeological, and Cultural Resources	No significant impact	No significant impact	Work will be stopped and NVSHPO and Tribes will be notified if resources are discovered during construction.	No impact
Light Emissions and Visual Impacts	No significant impact	No significant impact	None	No impact
Natural Resources and Energy Supply	No significant impact	No significant impact	None	No impact
Noise	No significant impact	No significant impact	None	No impact
Secondary (Induced) Impacts	No significant impact	No significant impact	None	No impact

Category	Environmental Impacts of the Preferred Alternative	Cumulative Impacts of the Preferred Alternative	Commitments and Permits Required for the Preferred Alternative	Environmental Impacts of the No Action Alternative
Socioeconomics and Environmental Justice	No significant impact	No significant impact	None	No impact
Water Quality	No significant impact	No significant impact	• Construction BMPs will be implemented. • Notice of Intent for Stormwater Discharge Permit Application with Storm Water Pollution Prevention Plan as required by NDEP at http://ndep.nv.gov/bwpc/storm_cont03.htm. • Temporary Groundwater Discharge Permit Application as required by NDEP Bureau of Water Pollution Control.	No impact
Wetlands	No impact, no wetlands in the project area	No impact	None	No impact
Wild and Scenic Rivers	No impact, no wild and scenic rivers in the project area	No impact	None	No impact

7.0 PUBLIC PARTICIPATION

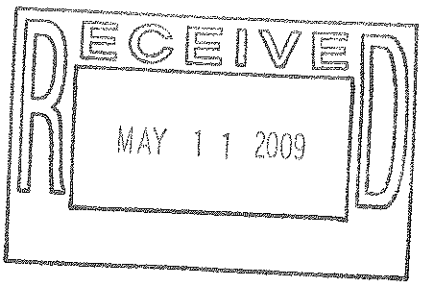
Scoping is an early process wherein the affected Federal, State and local agencies, Indian Tribes, the proponent of the action (if different from the lead agency), and other interested persons are invited to participate in the identification of the significant issues of a proposed action and the determination of their scope. Scoping was not conducted for this EA as per Section 404a of FAA Order 1050.1E CHG 1, which states that, "scoping, as described in 40 CFR 1501.7, is not required for an EA but is optional at the discretion of the responsible FAA official."

The Draft Environmental Assessment for the proposed action was made available for a 30 day public review and comment period from May 6, 2009 to June 4, 2009. Notice of the availability of the Draft EA was published in the Las Vegas Review-Journal, a newspaper of local circulation in the Las Vegas area (see p. 78). Digital copies of the Draft EA were also sent to the Nevada State Clearinghouse and the Southern Nevada Regional Planning Coalition for review by local, regional and State agencies. The Nevada Department of Air Quality & Environmental Management responded with a request to review future documents relating to the project. The Nevada State Clearinghouse declined to distribute the EA to State agencies because "the project is on previously disturbed land in an urban area and replaces existing infrastructure with similar structures" and "the project has already been extensively reviewed and commented upon by both state and federal agencies regarding environmental and cultural impacts." Copies of these comment letters are included as pages 80-82 of this document. No other comments were received on the Draft EA. As per Section 406g of FAA Order 1050.1E CHG 1, a Notice of Public Availability of the Final EA will be published in a newspaper of local circulation; however, no further comments will be accepted.

AFFP DISTRICT COURT
Clark County, Nevada

AFFIDAVIT OF PUBLICATION

STATE OF NEVADA)
COUNTY OF CLARK) SS:



STACEY M. LEWIS, being 1st duly sworn, deposes and says: That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for,

SAGE ENVIRONMENTAL, LLC 3222050SAG 5237779

was continuously published in said Las Vegas Review-Journal and / or Las Vegas Sun in 1 edition(s) of said newspaper issued from 05/06/2009 to 05/06/2009, on the following days:

05/06/2009

PUBLIC NOTICE
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Draft Environmental Assessment, McCarran International Airport, Airport Traffic Control Tower (ATCT) and Base Building Construction and Operation

SUMMARY: The Federal Aviation Administration (FAA) announces the release of the Draft Environmental Assessment (EA) for the proposed McCarran International Airport ATCT and Base Building Construction and Operation project located in Las Vegas, NV. The Draft EA will be available for public review for 30 days starting May 6, 2009. The document is available on-line at www.faa.gov/airports_air traffic/environmental_issues/. A hard copy of the EA can be viewed or copies made at the Clark County Library, 1401 East Flamingo Road, Las Vegas, NV or at the Clark County Department of Aviation Planning Section, 1845 East Russell Road, 3rd Floor, Las Vegas, NV. The document is also available on CD by request to SAGE Environmental, Attn: Joelle Dickson, 807 E. South Temple, Suite 100, Salt Lake City, UT 84102 or jdickson@sage-env.com.
DATES: In order to be considered, written comments must be received by 5:00pm June 4, 2009, by Joelle Dickson, SAGE Environmental, 807 E. South Temple, Suite 100, Salt Lake City, UT 84102 or jdickson@sage-env.com. Questions concerning the EA or the process being applied by the FAA in connection with this project should be directed to Ms. Joelle Dickson at (801) 322-2050.
SUPPLEMENTARY INFORMATION: The project involves the construction and operation of an ATCT and base building on the existing airport property. An ATCT is an airport observation facility that visually and electronically monitors aircraft takeoffs and landings and ground traffic within the airport. The base building would house electrical, mechanical, and communications equipment and administrative offices associated with the operation of the proposed ATCT. The purpose of this notice is to inform the public, and state, local, and federal agencies that a draft EA has been prepared, and to provide those interested in doing so with an opportunity to present their views, comments, information, data, or other relevant observations concerning the environmental effects related to implementation of this proposal. Issued in Las Vegas, NV on May 6, 2009 by Joelle Dickson, Environmental Analyst, SAGE Environmental, 807 E. South Temple, Suite 100, Salt Lake City, UT 84102, (801) 322-2050 and Janelle Cass, Environmental Engineer, Federal Aviation Administration, Air Traffic Organization, Engineering Services, 1601 Lind Avenue, S.W., Renton, WA 98055-4056, (425) 227-1343.

PUB: May 6, 2009
LV Review-Journal

EMILY GONZALEZ
Notary Public State of Nevada
No. 09-8940-1
My appt. exp. Nov. 13, 2012

Signed: Stacey M. Lewis

SUBSCRIBED AND SWORN BEFORE ME THIS, THE
7th day of May, 2009.

Emily Gonzalez
Notary Public

JIM GIBBONS
Governor

STATE OF NEVADA

ANDREW K. CLINGER
Director

DEPARTMENT OF ADMINISTRATION
209 E. Musser Street, Room 200
Carson City, Nevada 89701-4298
(775) 684-0222
Fax (775) 684-0260
http://www.budget.state.nv.us/

May 19, 2009

Janelle Cass
Federal Aviation Administration
Western Service Area, Engineering Services Group
Seattle, Washington

RE: Draft Environmental Assessment for Proposed Replacement Airport Traffic Control Tower and Administrative Base Building Construction at McCarran International Airport, Las Vegas Nevada.

The Nevada State Clearinghouse has declined to distribute this document for comment by state agencies for the following reasons:

- The project is on previously disturbed land in a major urban area and replaces existing infrastructure with similar structures.
- The project has already been extensively reviewed and commented upon by both state and federal agencies regarding environmental and cultural impacts and the essential nature of the project has not been substantially altered since those comments were made.

As such, the Nevada State Clearinghouse has no additional comment on this project at this time. Please advise this office of any further publications regarding this project. This constitutes the State Clearinghouse review of this proposal as per Executive Order 12372. If you have questions, please contact me at (775) 684-0213.

Sincerely,

R. Tietje
Nevada State Clearinghouse

DAQEM

DEPARTMENT OF AIR QUALITY & ENVIRONMENTAL MANAGEMENT

500 S Grand Central Parkway 1st Floor · Box 555210 · Las Vegas, NV 89155-5210
(702) 455-5942 · Fax (702) 383-9994
Lewis Wallenmeyer Director · Alan Pinkerton Assistant Director · Tina Gingras Assistant Director

June 4, 2009

Ms. Joelle Dickson
SAGE Environmental
807 E. South Temple, Ste. 100
Salt Lake City, UT 84102
jdickson@sage-env.com

Draft Environmental Assessment Airport Traffic Control Tower and Base Building Construction and Operation

Dear Ms. Dickson:

The Clark County Department of Air Quality and Environmental Management has reviewed the draft environmental assessment for compliance with air quality and storm water quality regulations. We understand that the project entails demolishing the existing airport traffic control tower and constructing a new tower and base building. We do not have any comments or suggestions at this time. However, we would appreciate the opportunity to review future documents regarding this project.

Thank you for your consideration. If you have questions, please contact me at 702-455-1600.

Sincerely,

for Lewis Wallenmeyer
Director

8.0 LIST OF PREPARERS

This section of the Environmental Assessment lists the people responsible for its preparation, as well as persons consulted from other agencies and Tribes who provided information included in the EA.

PREPARERS

Joelle Dickson, B.S., Environmental Analyst, SAGE Environmental, L.L.C.

Darren Brinker, P.E., Civil Engineer, Federal Aviation Administration

Cindy Johnson, M.S., Plant Ecologist, SAGE Environmental, L.L.C.

John Rezac, Professional Geologist, SAGE Environmental, L.L.C.

Buddy Smith, Botanist, Western Ecological Services

Janelle Cass, Environmental Engineer, Federal Aviation Administration

PERSONS CONSULTED

Janet Bair, Assistant Field Supervisor, U.S. Fish & Wildlife Service

Carmen Bradley, Kaibab Paiute Tribal Council

Patricia Brisbin, Environmental Services Division, NV Department of Transportation

Elda Butler, Fort Mojave Indian Tribe

Betty Cornelius, Colorado River Indian Tribes

Tom Dalton, Moapa Business Council

Phillip Detmer, Business & Facilities Mgmt, Clark County Department of Aviation

Harold Elliot, Principal Civil Engineer, Clark County Department of Public Works

Ronald M. James, State Historic Preservation Officer, NV State Historic Preservation Office

Maureen Merry-Lamoureaux, Planning, Clark County Department of Aviation

Alfreda L. Mitre, Las Vegas Tribal Council

Dennis Ransel, Clark County Department of Air Quality & Environmental Management

Bobby Shelton, Public Information Coordinator, Clark County Department of Public Works

Ron Smith, Clark County Department of Comprehensive Planning

Lora Tom, Paiute Indian Tribe of Utah

Charles Vaughn, Hualapai Tribal Council

9.0 REFERENCES

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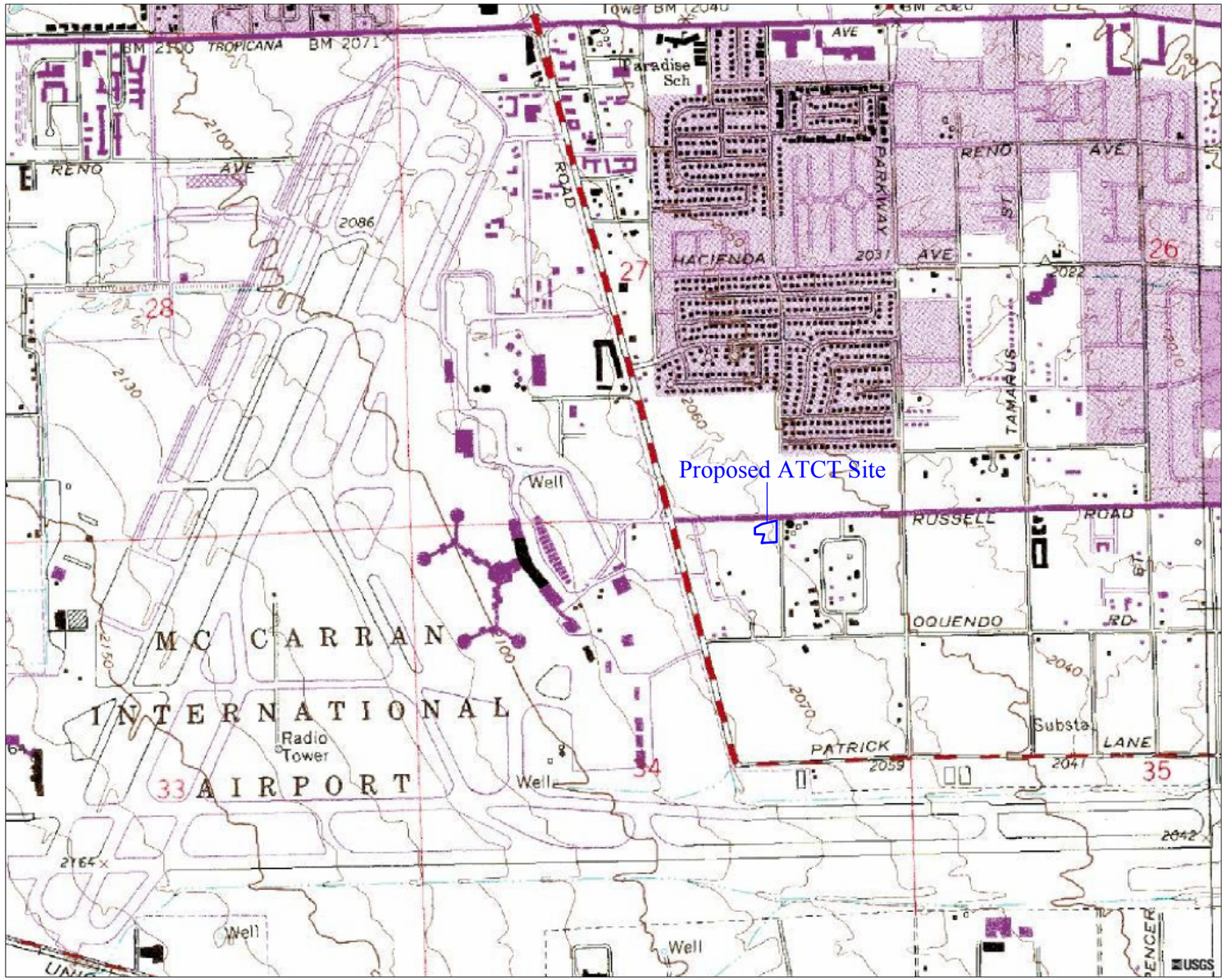
FIGURES 1-5

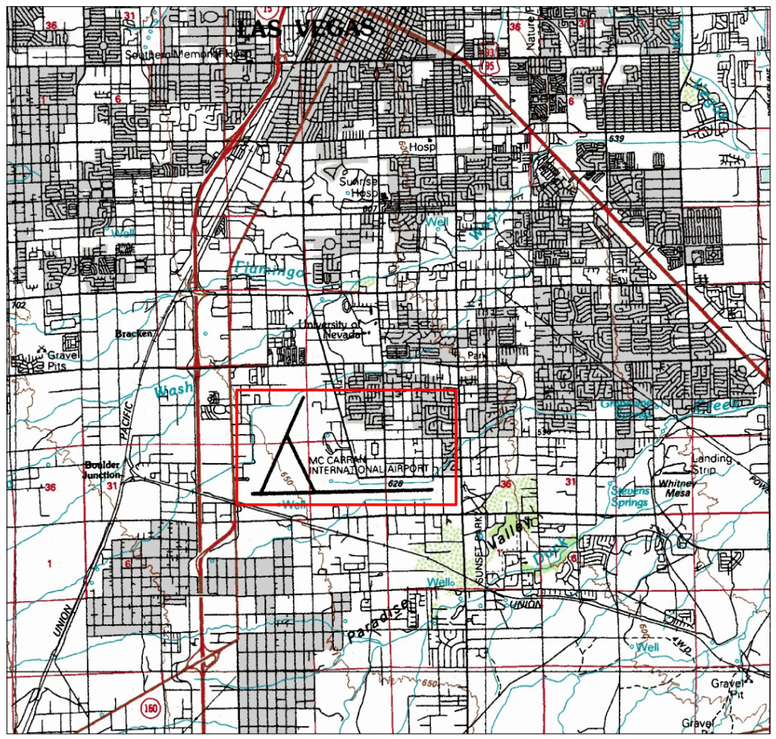


Proposed ATCT Site

0 660' 1,320'

1 Inch = 1,320 Feet (approximate)

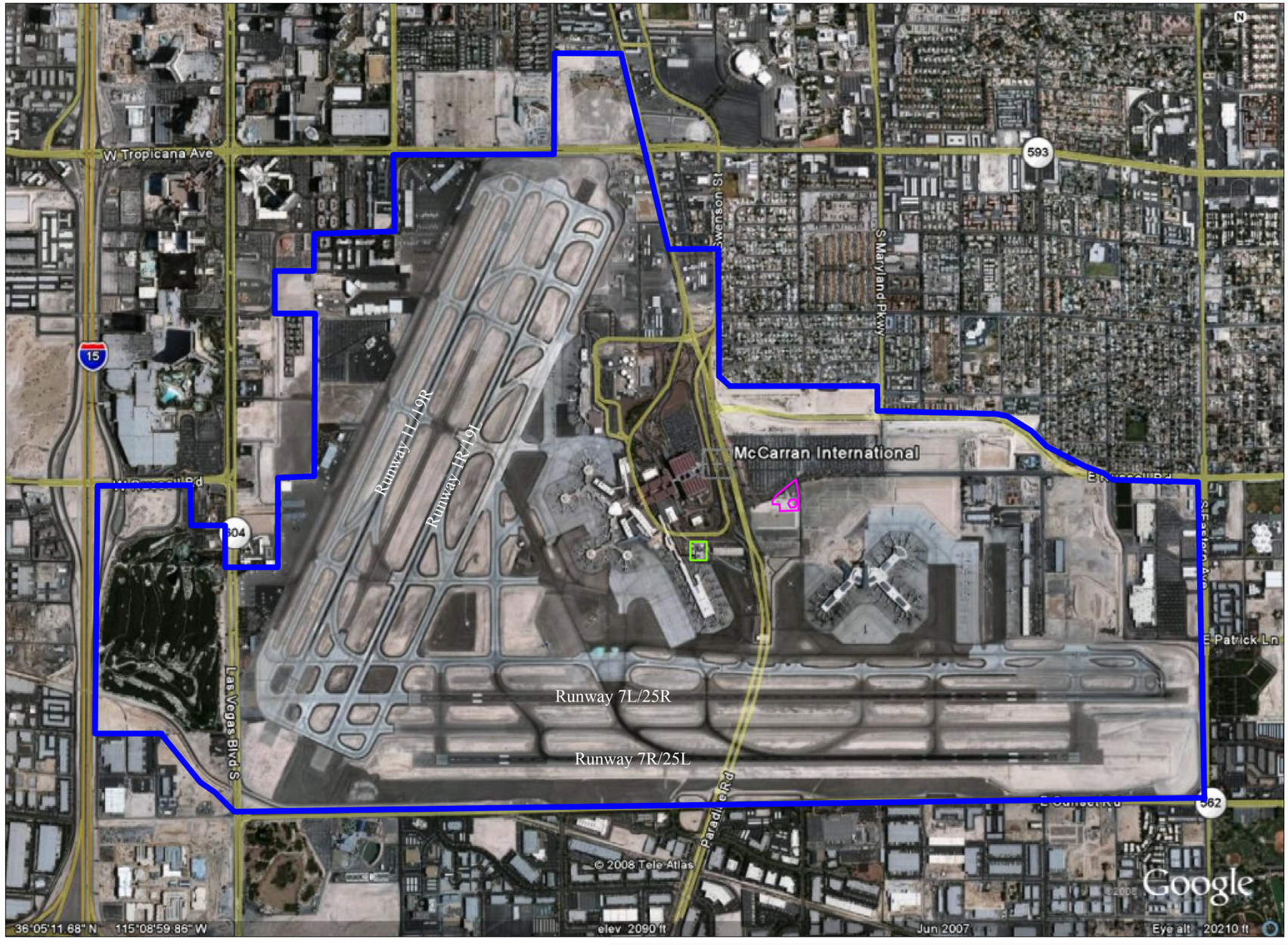
From: USGS Las Vegas SW, NV Quadrangle, 1:24,000 series topographic map, 1984.



From: USGS Las Vegas, NV-CA Quadrangle, 1:100,000 series topographic map, 1986.

N
W E
S

McCarran International Airport Airport Traffic Control Tower Environmental Assessment	**Figure 1** USGS Topographic Map showing McCarran Internernational Airport and Proposed New ATCT Location	drafted by JD 8/26/08	S•A•G•E ENVIRONMENTAL, L.L.C.



LEGEND:

McCarran International Airport Boundary

Proposed New Air Traffic Control Tower (ATCT) and Base Building Area of Potential Effect

Proposed New Air Traffic Control Tower (ATCT)

Existing ATCT Removal Area of Potential Effect

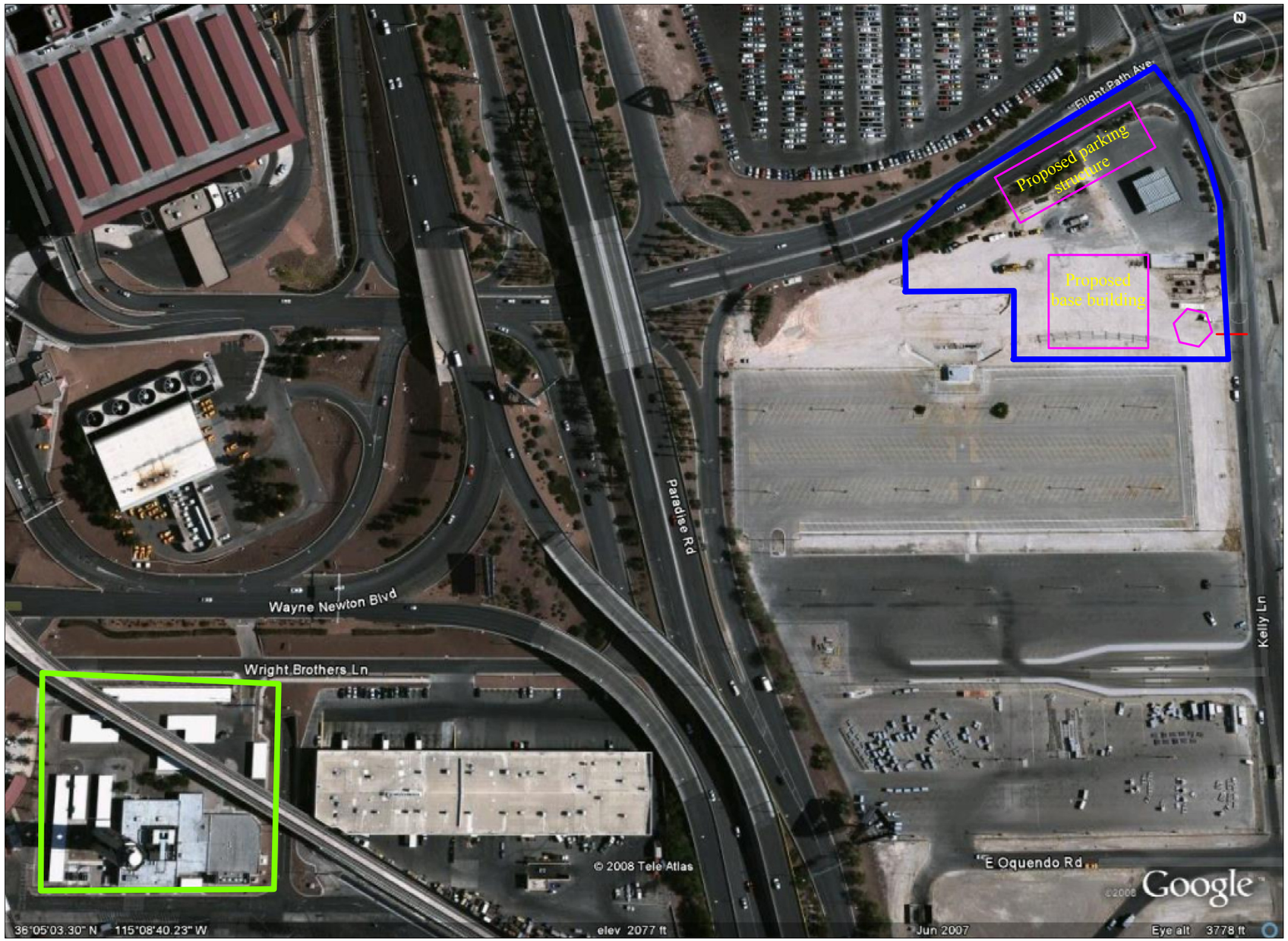
N W E S

McCarran International Airport
Airport Traffic Control Tower
Environmental Assessment

Figure 2
Aerial Photograph showing McCarran International Airport and Proposed New ATCT Location

drafted by JD
8/28/08

S • A • G • E ENVIRONMENTAL, L.L.C.



LEGEND:

- Proposed New Air Traffic Control Tower (ATCT) and Base Building Area of Potential Effect
- Removal of Existing ATCT and Base Building Area of Potential Effect
- Proposed New ATCT
- Proposed Utility Lines

Drawing not to scale

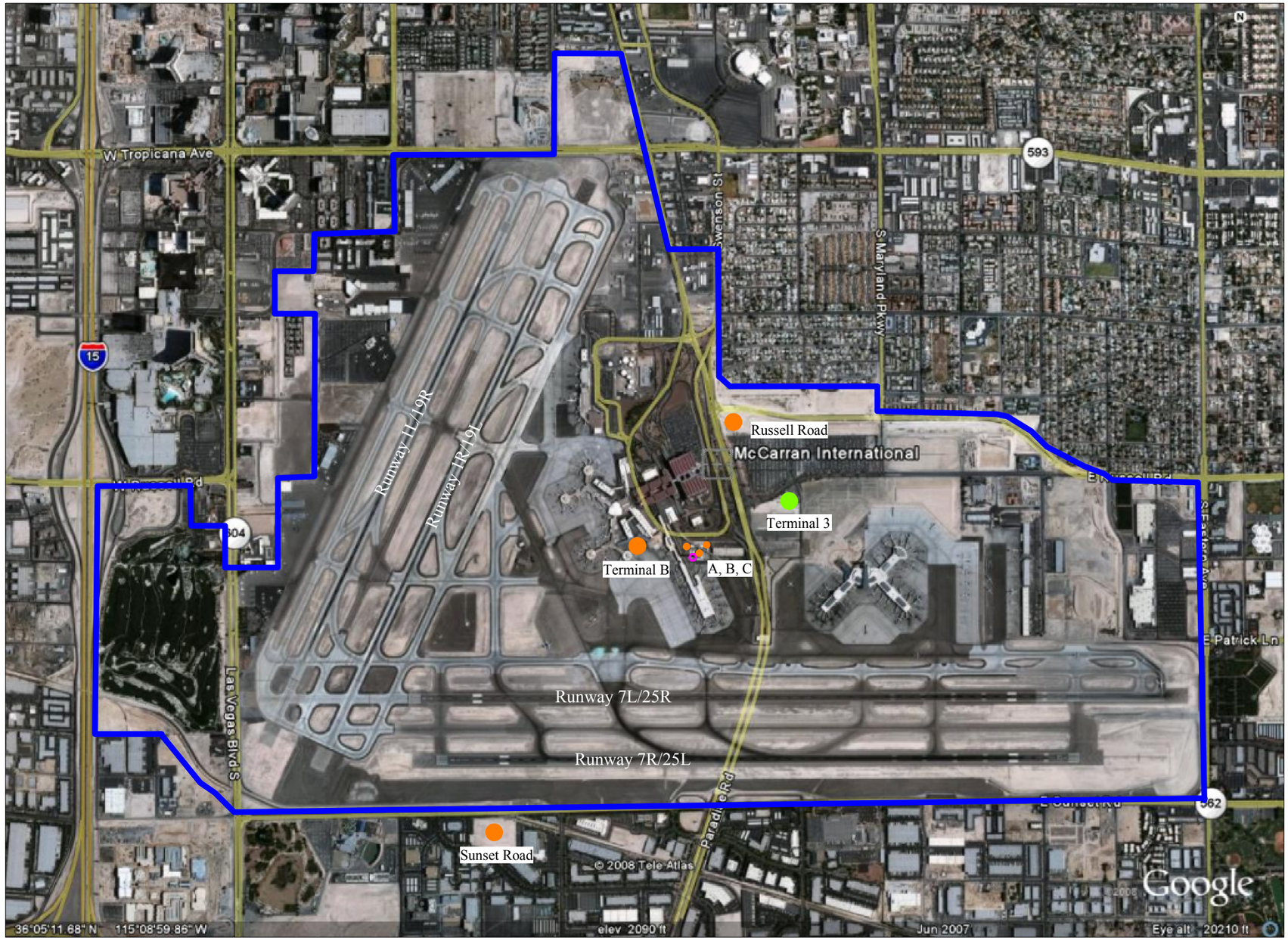
N W E S

McCarran International Airport
Airport Traffic Control Tower
Environmental Assessment

Figure 3
Aerial Photograph
showing Existing and Proposed
New ATCT Locations

drafted by JD
8/28/08

S•A•G•E ENVIRONMENTAL, L.L.C.



LEGEND:

- McCarran International Airport Boundary
- Proposed ATCT Site
- Sites that were considered but not chosen for the new ATCT
- Existing ATCT

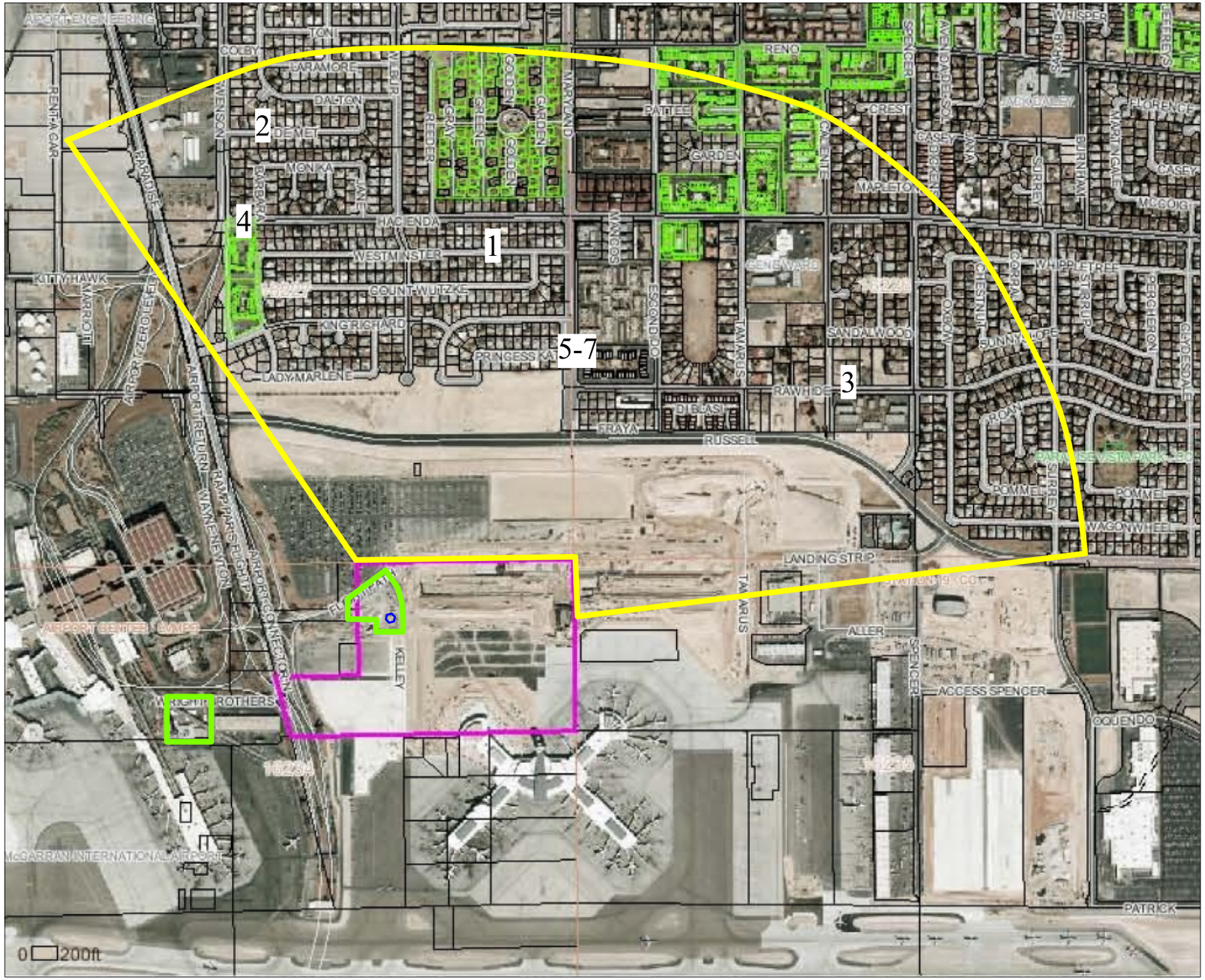
N W E S

McCarran International Airport
Airport Traffic Control Tower
Environmental Assessment

Figure 4
Aerial Photograph Showing Sites Considered for the Proposed New ATCT

drafted by JD
9/24/08

S•A•G•E ENVIRONMENTAL, L.L.C.



LEGEND:

- Indirect Effect APE
- Assessor's Parcel 162-34-502-010
- Proposed New Air Traffic Control Tower (ATCT)
- Direct Effect APEs
- 1 Photograph locations

N W E S

McCarran International Airport
Airport Traffic Control Tower
Environmental Assessment

Figure 5
Assessor's Parcel Map
showing direct and indirect
APEs for proposed ATCT project

drafted by JD
1/22/09

S • A • G • E ENVIRONMENTAL, L.L.C.

APPENDIX A
Site Photographs

Photo 1: Site overview looking northwest from the southeast property corner.

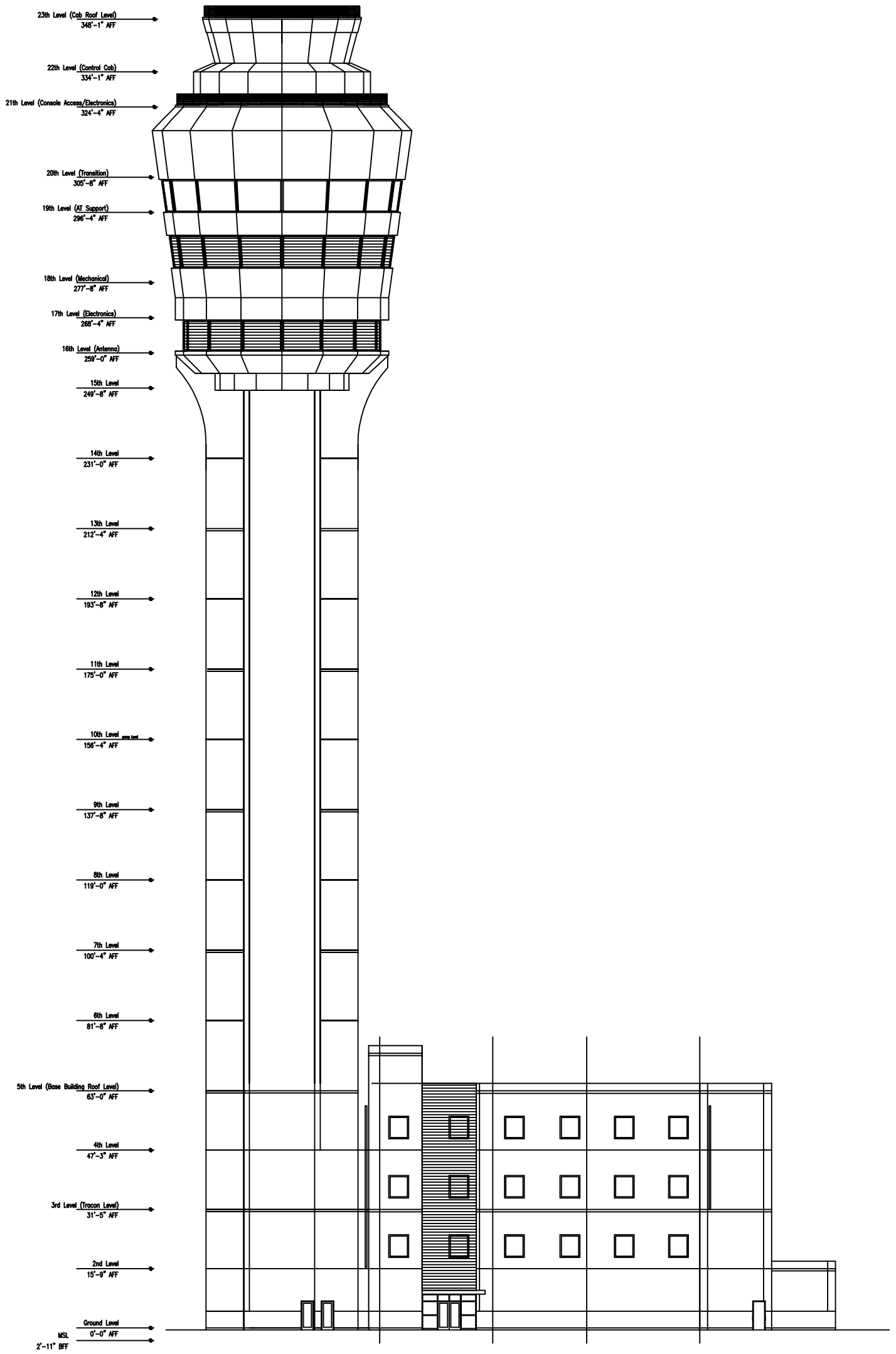
Photo 2: Site overview looking northwest from the southeast property corner with concrete batch plant at left.

Photo 3: looking northwest from the southwest property corner.

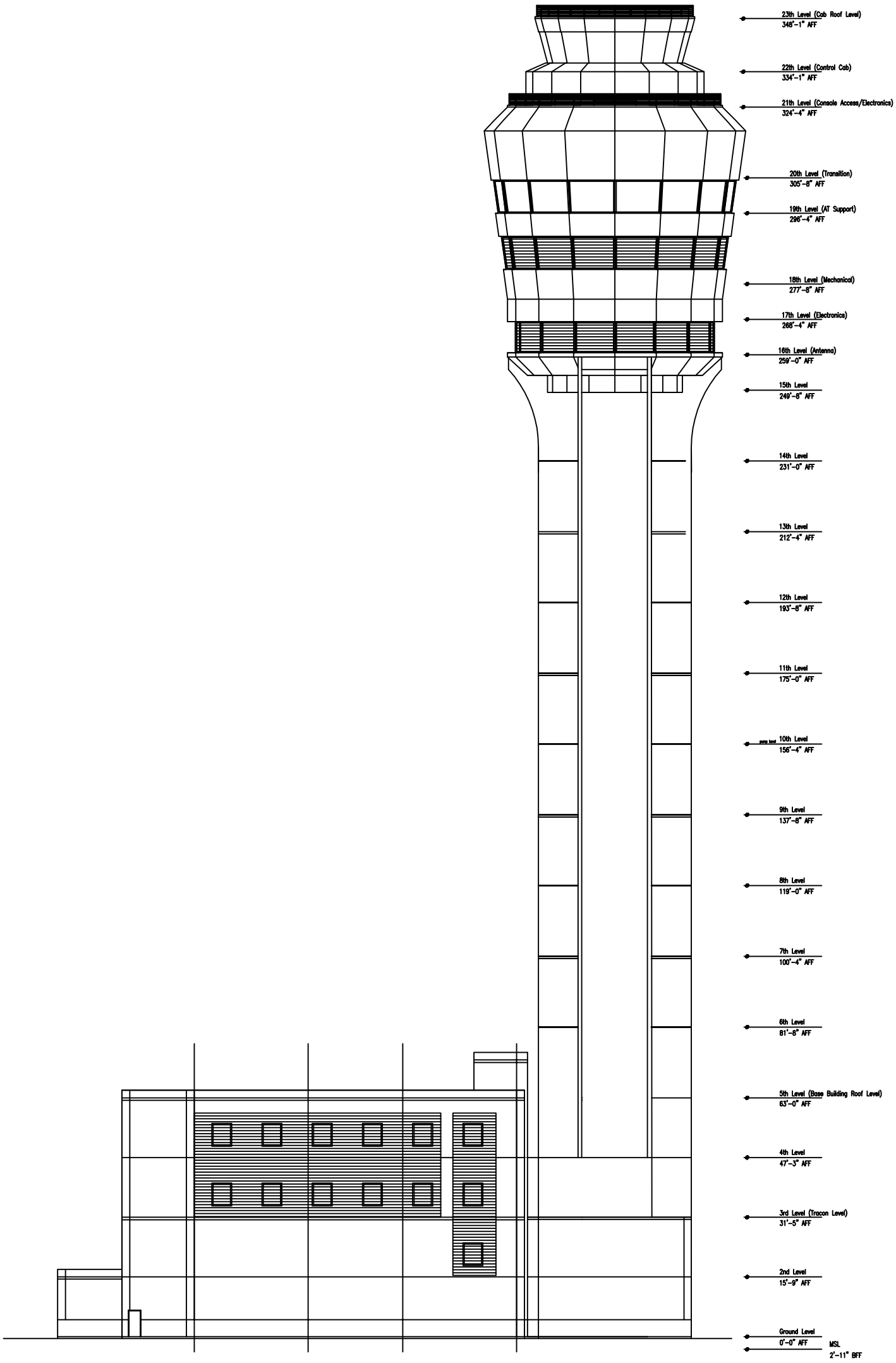
Photo 4: site overview looking southwest from Kelly Lane with existing ATCT in background.

Photo 5: existing ATCT site overview with tower, base building, parking and airport aerial tram.

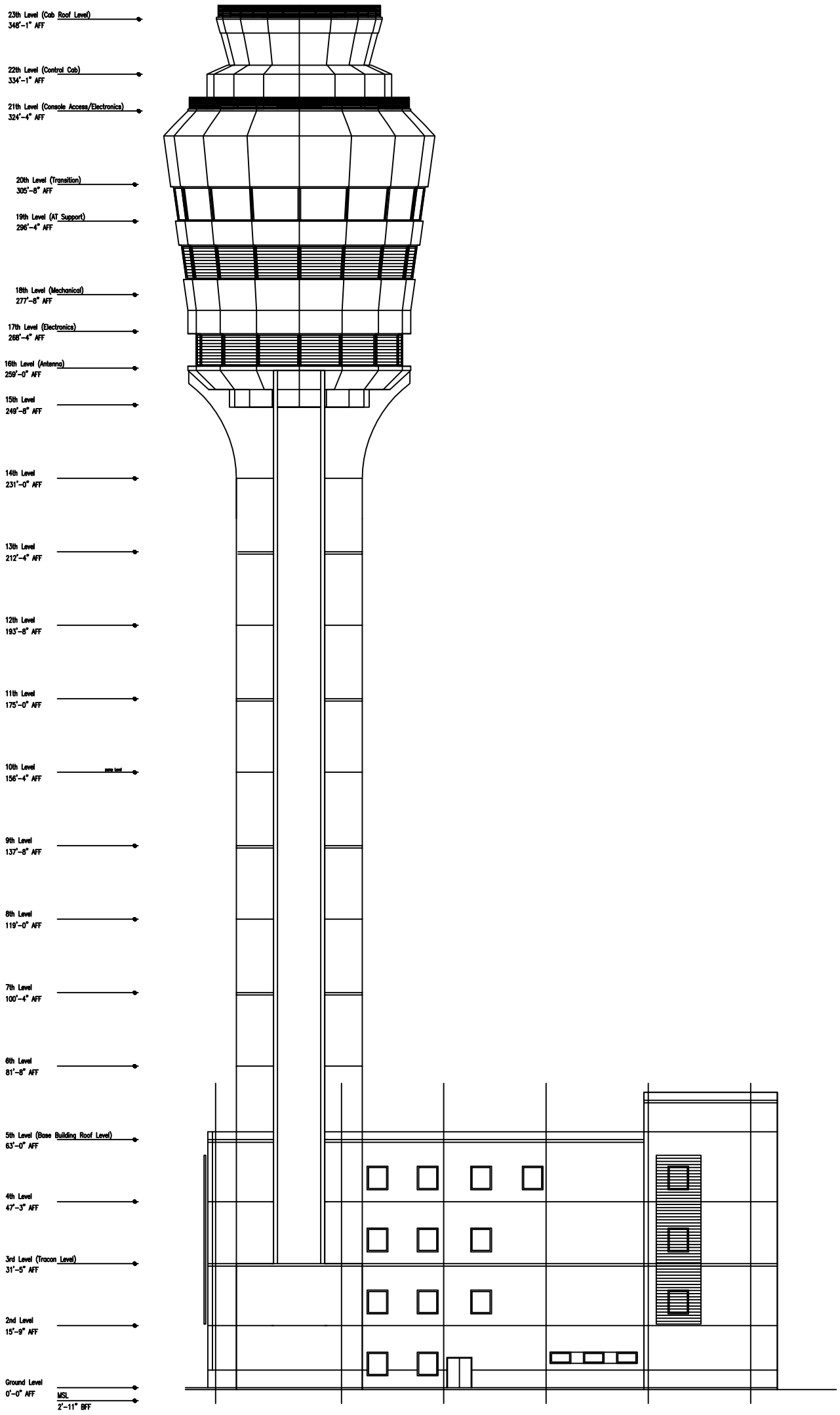
APPENDIX B
Preliminary Elevation Drawings



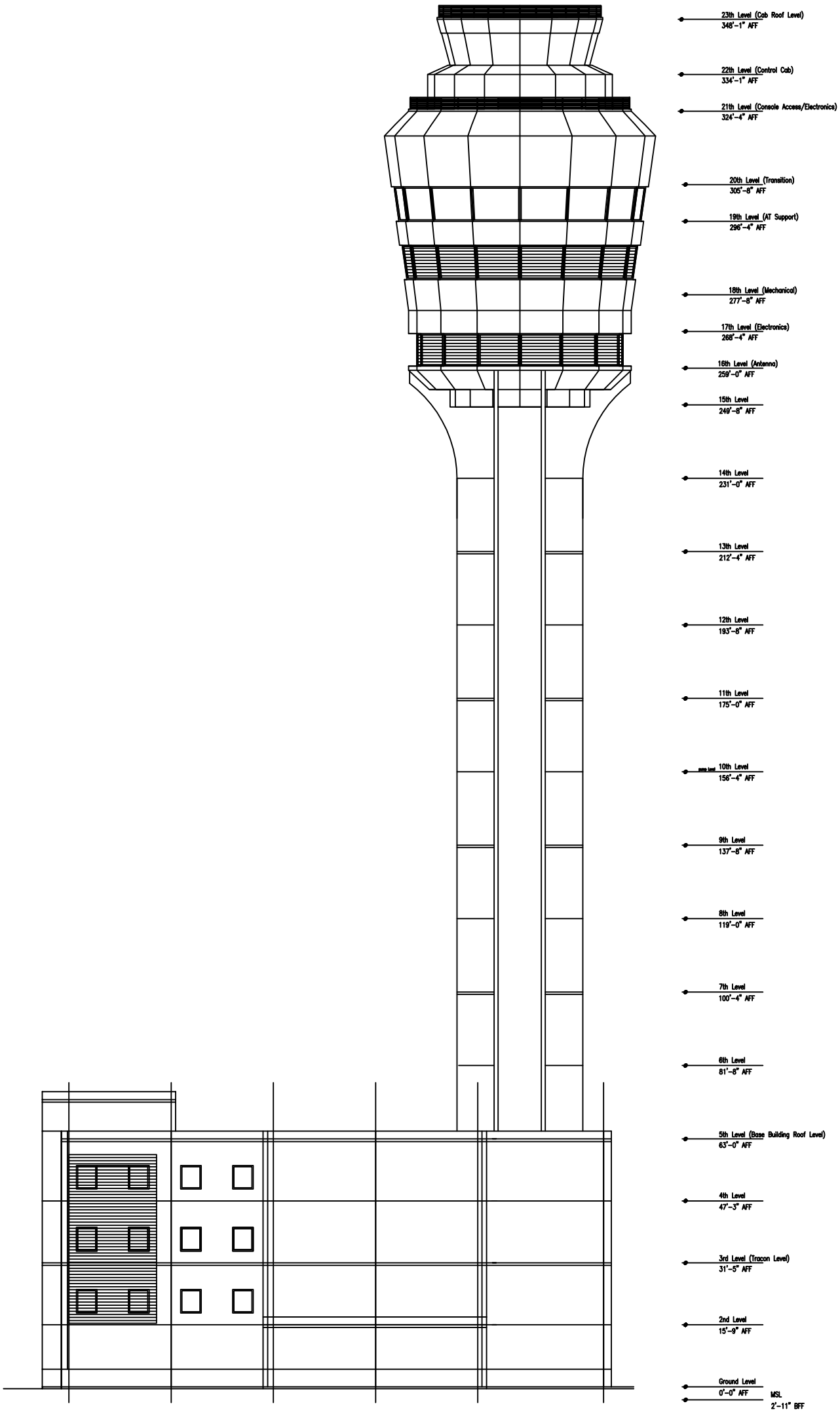
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

APPENDIX C
NRCS Soil Map

Farmland Classification–Las Vegas Valley Area, Nevada, Part of Clark County
(McCarran International Airport ATCT Site)

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Political Features

Municipalities

- Cities
- Urban Areas

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails

Roads

- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 11N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Las Vegas Valley Area, Nevada, Part of Clark County
Survey Area Data: Version 3, Apr 24, 2007

Date(s) aerial images were photographed: 4/25/1990; 6/3/1994; 6/10/1994

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Las Vegas Valley Area, Nevada, Part of Clark County				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
105	McCullough-Jean-Bluepoint complex, 0 to 4 percent slopes	Not prime farmland	246.2	3.7%
129	Bluepoint loamy fine sand, 4 to 15 percent slopes	Not prime farmland	256.5	3.9%
236	Glencarb very fine sandy loam, saline	Not prime farmland	114.4	1.7%
255	Grapevine loamy fine sand, 2 to 4 percent slopes	Not prime farmland	1,505.5	22.9%
260	Jean gravelly loamy fine sand, 2 to 4 percent slopes	Not prime farmland	335.7	5.1%
270	Land silt loam, drained	Not prime farmland	12.1	0.2%
282	Land silty clay loam	Not prime farmland	16.4	0.2%
302	Las Vegas-McCarran-Grapevine complex, 0 to 4 percent slopes	Not prime farmland	84.9	1.3%
325	McCarran fine sandy loam, 0 to 4 percent slopes	Not prime farmland	2,817.1	42.9%
615	Urban land	Not prime farmland	1,184.8	18.0%
Totals for Area of Interest (AOI)			6,573.6	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

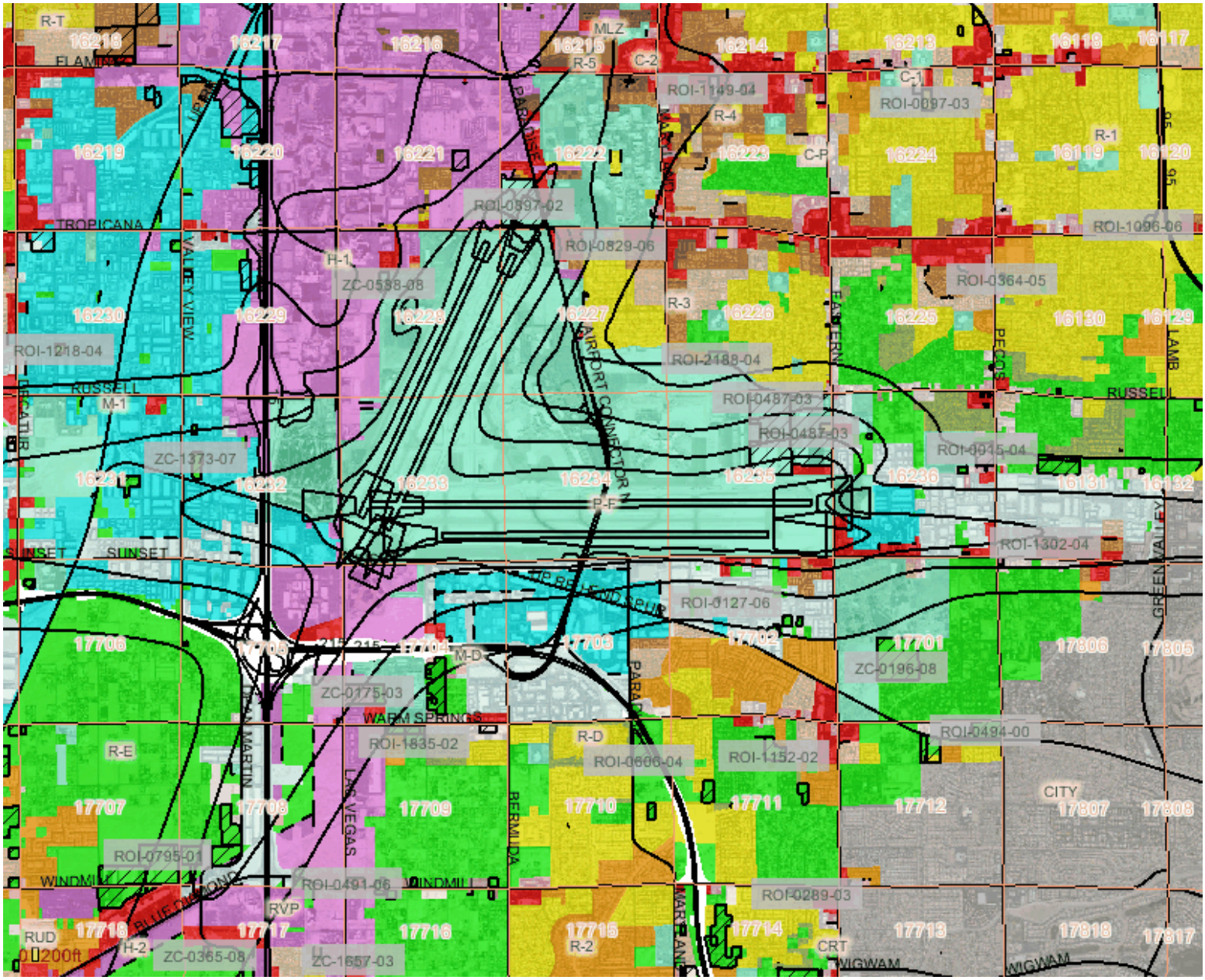
Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

APPENDIX D
LAS Area Zoning Map and
Airport Environs Overlay District

Southern Nevada GIS ~ OpenWeb Info Mapper



The MAPS and DATA are provided without warranty of any kind, expressed or implied.

Date created: 10/11/2008

Property Information

Parcel Number:	16227401001
Owner Name(s):	COUNTY OF CLARK(AVIATION)
Site Address:	5757 WAYNE NEWTON BLVD
Jurisdiction:	CC Paradise - 89119
Zoning Classification:	Public Facility (P-F)
Overlay District:	Airport Environs (AE-65)
Planned Landuse:	PF - Public Facility

Miscellaneous Information

Subdivision Name: PT GOV LOTS 1,8 LOTS 2-7,9-16

Construction Year: 1998

Last Sales Date:	00/0000	**T-R-S:**	21-61-27
Last Sales Price:	$0	**Census Tract:**	2702
Recorded Doc Number:	0000550281076	**Estimated Lot Size:**	76.93 acres

Elected Officials

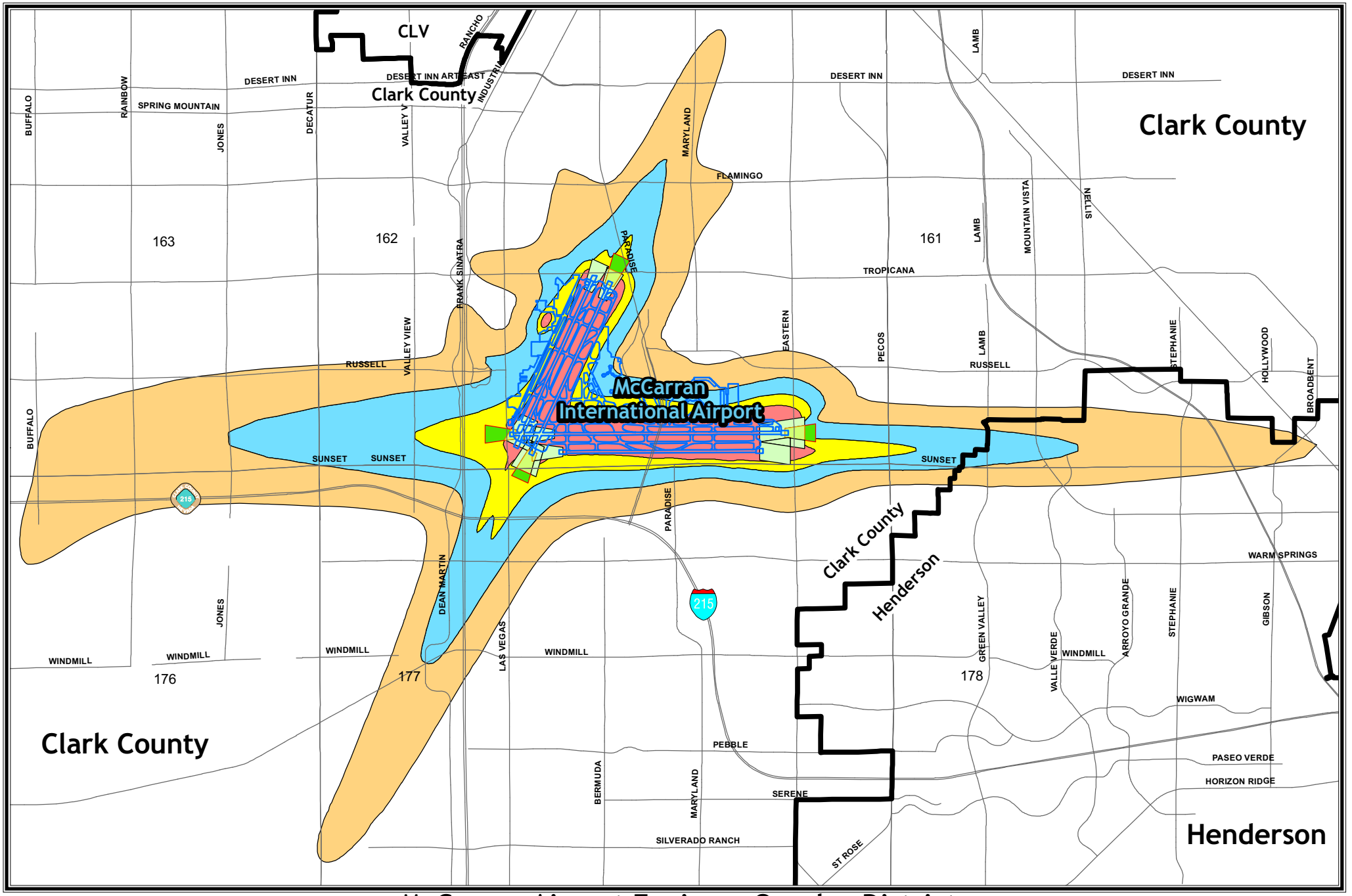
LEGEND

CC Zoning

- C-1
- C-2
- C-3
- C-C
- C-P
- CITY
- CRT
- H-1
- H-2
- M-1
- M-2
- M-3
- M-D
- MLZ
- O-S
- P-F
- R-1
- R-1a
- R-2
- R-3
- R-4
- R-5
- R-A
- R-D
- R-E
- R-T
- R-U
- RUD
- RVP
- T-C
- U-V
- Other
- CC Multizone Lines
- CC ROWOverlay
- CC ZNOverlay

- C-1
- C-2
- C-3
- C-C
- C-P
- CITY
- CRT
- H-1
- H-2
- M-1
- M-2
- M-3
- M-D
- MLZ
- O-S
- P-F
- R-1
- R-1a
- R-2
- R-3
- R-4
- R-5
- R-A
- R-D
- R-E
- R-T
- R-U
- RUD
- RVP
- T-C
- U-V
- Other

- CC PCOverlay
- CC ROIS
- Major Streets
- ClarkTRS
- Colorado River
- CC AEZones



McCarran Airport Environs Overlay District

Las Vegas Valley

(Appendix G - Map 18 A)

Noise Subzones

- AE-60
- AE-65
- AE-70
- AE-75

Runway Protection Zones

- Runway Protection Zone (Arrival)
- Runway Protection Zone (Arrival / Departure)
- Runway Protection Zone (Departure)

- Airport
- Major Streets
- Book
- Jurisdictional Boundaries

CLV is City of Las Vegas.

0 0.5 1 Miles

This information is for display purposes only.
No liabilitiy is assumed as to the accuracy
of the data delineated hereon.

Latest amendment: June 30, 2008 - Ord 3658
History: 2458 - 4/00; 1198 - 5/90; 975 - 5/86

Plot Created on : April 4, 2008 Modified: 6/11/2008
\\ccgis1\gisdata\prds\ds\projects\ds0801\mccarran8x11land-2.mxd

APPENDIX E
Section 106 Consultation

STATE OF NEVADA
DEPARTMENT OF CULTURAL AFFAIRS
State Historic Preservation Office
100 N. Stewart Street
Carson City, Nevada 89701
(775) 684-3448 • Fax (775) 684-3442
www.nvshpo.org

JIM GIBBONS
Governor

MICHAEL E. FISCHER
Department Director

RONALD M. JAMES
State Historic Preservation Officer

March 6, 2009

Janelle Cass
Environmental Engineer
Federal Aviation Administration (FAA)
1601 Lind Ave., SW
Renton, WA 98055

Re: Proposed FAA Replacement Air Traffic Control Tower (ATCT), Administrative Base Building, and Parking Structure at McCarran International Airport (LAS), Las Vegas, Clark County, Nevada.

Dear Ms. Cass:

Thank you for submitting the items requested in our email/fax. The Nevada State Historic Preservation Office has reviewed the subject undertaking for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. Based on information in FAA correspondence dated January 28, 2009 (received February 6th), the project consists of the following:

- Construction to begin in 2011 of a 400 foot tall ATCT, an administrative and parking building to be no higher than 50 feet in height and whose designs have not been finalized; and
- Multiple activities as noted on Exhibit I-3 'Proposed Action-Construction of Terminal 3 and Land Acquisition Depicted on Aerial Photograph from 2001.

The ¾ mile Area of Potential Effect (APE) radius for the project includes buildings constructed between 1963 and 2002. The SHPO concurs with the FAA's determination of 'No Historic Properties Affected' for the subject undertaking. Please be advised that if buried or previously unidentified resources are located at the proposed site during project activities, the SHPO recommends that all work in the vicinity of the find cease and this office be contacted for additional consultation.

Additionally, should there be future FAA projects in Nevada, please contact the SHPO to initiate the Section 106 consultation process as outlined in 36 CFR 800 and to discuss submission requirements.

If you have any questions regarding this correspondence, please contact me at 775-684-3441 or via e-mail at: rrossa@clan.lib.nv.us.

Sincerely,

Rebecca R. Ossa
Architectural Historian

U.S. Department
of Transportation
Federal Aviation Administration

Jan 28, 2009

Ms. Rebecca Ossa
State Historic Preservation Office
100N. Stewart Street
Carson City, Nevada 89701

RE: Section 106 Consultation for proposed Replacement Airport Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

Dear Ms. Ossa:

This letter is in response to your request of October 8, 2008 for additional items in regard to the FAA's Section 106 consultation packet sent to your office on September 4, 2008. Thank you for your explanation of the additional items you are requesting during our phone conversation on January 13, 2009.

I have gathered together some data that hopefully will answer your questions. For the purposes of preliminary analysis, I have assumed a similar indirect APE size to that used by the FCC for a tower height of 200 to 400 feet. This equates to a circular area with a radius of .75 miles (or 1131 acres). I overlaid this circle on a map and was able to eliminate approximately 270 degrees of that circle because the airport property itself takes up most of that land. In my attached satellite and assessor's map view you will see the remaining 282 acre arc. Since I do not have on-site personnel to take photos, I used Google "Street View" to generate the enclosed pictures. These show a sampling of the neighborhood architecture and existing setting characteristics.

Attached is a report generated by the Clark County Assessor's office that lists all of the parcel numbers within the indirect effects APE and their corresponding construction dates. This data revealed some homes built in 1962 and 1963 facing the proposed construction site located about .4 miles away in a subdivision called "Paradise Valleys Southgate". Construction of the ATCT is expected to start in 2011 so these homes would be 49 and 48 years old, respectively, at that time.

In performing this analysis we found the existing environmental characteristics to include airport surrounds (including two towers) as well as casinos and hotels. According to the Terminal 3 Environmental Assessment, the setting will change to include the green space buffer described below, a six story parking facility, elevated roadways and the Terminal 3 building (please see attached Terminal 3 facilities rendering). This will all be built between the proposed ATCT and the neighborhoods north of Russell Road. The addition of a new ATCT to this viewshed would likely pose little to no effect to the existing or future landscape view. Please also note that 326 homes between Swenson and Surrey Streets north of Russell Road to approximately Rawhide Street were demolished in conjunction with the current construction of Terminal 3 at McCarran Airport. These homes were constructed between 1963 and 2002. Effects of the acquisition of these properties and their inhabitants' relocation were evaluated in the 2005 Supplemental Environmental Assessment for the Construction of Terminal 3 at McCarran Airport. A 40 acre landscape buffer is planned to be built as part of the Terminal 3 project on part of the property formerly occupied by these homes. The buffer will be located between Maryland Parkway and Swenson Street north of Russell Road, just south of the homes in the Paradise Valleys Southgate subdivision mentioned above. This green space buffer will most likely enhance the aesthetic

surroundings of these homes and may offer some screening of their view of the airport (please see attached rendering).

In response to your other questions regarding the proposed ATCT, the existing ATCT at McCarran is 185 feet tall and the maximum height for the proposed base building and parking structure would be about 50 feet (4 stories). As I mentioned during our phone conversation, the FAA does not have planning documents for the proposed project so design drawings and architectural renderings of the tower are not available at this time.

I hope this information assists you with the evaluation of the effects of FAA's proposed action to historic properties. Please feel free to contact me if you wish to discuss anything.

Sincerely,

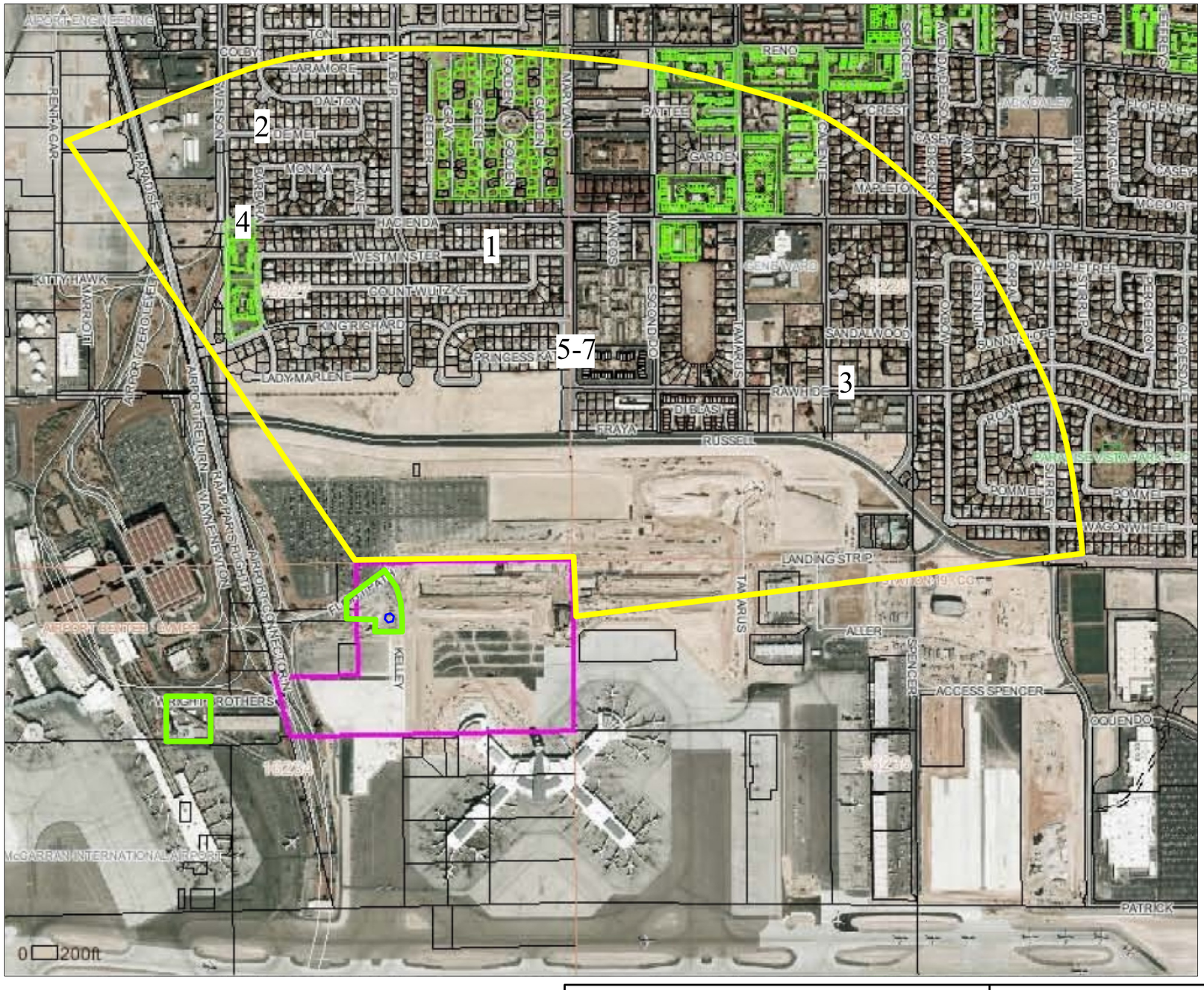
Janelle Cass
Environmental Engineer
Federal Aviation Administration
1601 Lind Ave SW
Renton, WA 98055
(425)227-1343

Enclosures:

1. Assessor's Map depicting both the direct APE for the proposed project and the extended .75 mile radius APE for indirect effects and Street View photos
2. Assessor's inventory of structures within the indirect effects APE
3. Assessor's inventory map with year constructed data
4. Satellite maps depicting APE relative to airport and Las Vegas Blvd.
5. Rendering of green space buffer
6. Rendering of proposed Terminal 3 construction

ATTACHMENT 1

ATTACHMENT 1



LEGEND:

Indirect Effect APE

Assessor's Parcel 162-34-502-010

Proposed New Air Traffic Control Tower (ATCT)

Direct Effect APEs

1 Photograph locations

N W E S

McCarran International Airport
Airport Traffic Control Tower
Environmental Assessment

Assessor's Parcel Map
showing direct and indirect
APEs for proposed ATCT project
McCarran International Airport

drafted by JD
1/22/09

S•A•G•E ENVIRONMENTAL, L.L.C.

Address **1108 Westminster Ave**

Address is approximate

Approximately .75 miles from proposed ATCT site looking slightly SW towards site.

PHOTO #1

Address **840 De Met Dr**

Address is approximate

Facing slightly SE towards proposed site.

PHOTO #2

Address **1676 Rawhide St**

Address is approximate

Facing SW towards proposed ATCT site.

PHOTO #3

Address **818 E Hacienda Ave**

Address is approximate

Looking W to show what eles is visible in this niegborhood. Note the Casinos and billboards.

PHOTO #4

Address **5438 S Maryland Pkwy**

Address is approximate

Facing project area

PHOTO #5

Address **5476 S Maryland Pkwy**

Address is approximate

View of existing towers from 5438 S Maryland. .

PHOTO #6

Address **5484 S Maryland Pkwy**

Address is approximate

Wall between the 1962 homes facing W.

PHOTO #7

ATTACHMENT 2

ATTACHMENT 2

PARCEL	OWNER	ADDRESS1	ZIPCODE	CONST YR
16227617013	PARKWAY VILLAS OWNRS ASSN	1125 CENTURY GARDEN DR	891191704	0
16227610076	BERGMAN MARTIN W LIVING TRUST	P O BOX 15071	891145071	1963
16227617012	PARKWAY VILLAS OWNRS ASSN	1125 CENTURY GARDEN DR	891191704	0
16227610075	SELLERS LIVING TRUST	970 LARAMORE DR	891194811	1963
16227610074	TAYLOR PAUL D	840 S RANCHO DR #4-132	891063837	1963
16227610073	MARCUS ATHENA	P O BOX 19072	891320072	1963
16227610072	MASANGKAY LEONIDA A	3565 CHELSEA GROVE ST	891223636	1963
16227610071	SANTAANA DAVID S & CARMELITA R	930 LARAMORE DR	891194811	1963
16227610070	THOMAS SCOTT G	900 LARAMORE DR	891194810	1963
16227610069	DOMINGUEZ SAUL	898 LARAMORE DR	891194810	1963
16227610068	MENDIOLA PEDRO M	888 LARAMORE DR	891194810	1963
16227612091	LAGASCA PHILIP & MARCY	5109 REEDER CIR	891194820	1974
16227610067	BERGMAN MARTIN W LIVING TRUST	P O BOX 15071	891145071	1963
16227610066	DECORTE FRANCIS C & WANDA G	868 LARAMORE DR	891194810	1963
16227610065	FERNANDEZ ROBERT & LUZVIMINDA	858 LARAMORE DR	891194810	1963
16227610077	BANK NEW YORK TRS	400 COUNTRYWIDE WY SV-35	930656298	1963
16227202002	AIRPORT INN LAS VEGAS	5100 PARADISE RD	891191217	1980
16227617008	MADOSHI ASHA M	1025 BURNHAM DR	945657208	1977
16227201001	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227612090	WELEND ASSOCIATED GROUP L L C	P O BOX 1313	800381313	1974
16227610078	SAMSON LESLIE A	5118 WILBUR ST	891194832	1963
16227610037	MATA MORIS & VICTORIA	5121 DALTON DR	891194805	1963
16227610002	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227610079	WYNN LORI CHANTELL & JOHN E	5128 WILBUR ST	891194832	1963
16227617009	JERICIAU JOHN JOSEPH	701 KENSINGTON RD	904052419	1977
16227612089	AYALA SALVADOR	5129 REEDER CIR	891194820	1974
16227610053	DUENAS RUSTICO MENDOZA	983 LARAMORE DR	891194800	1963
16227610054	SILVA JUAN C	973 LARAMORE DR	891194800	1963
16227610055	LATHAM BROOKE	963 LARAMORE DR	891194800	1963
16227610056	DECORTE FRANCIS & WANDA	868 LARAMORE DR	891194810	1963
16227610057	RASAVAGE FAMILY TRUST	943 LARAMORE DR	891194800	1963
16227610058	LUCKIE GLADYS	3766 GRAYBURN AVE	900184041	1963
16227610059	KETCHUM JANICE K	923 LARAMORE DR	891194800	1963
16227610060	ELLIOTT DORIS G	913 LARAMORE DR	891194800	1963
16227610061	LEFLER MAXINE	903 LARAMORE DR	891194800	1963
16227610062	GLOVER RAE	P O BOX 621938	891621938	1963
16227610063	GARCIA BACILIO V & ESTER C	883 LARAMORE DR	891194809	1963
16227610064	GIL JUAN J	871 LARAMORE	891194809	1963
16227610039	BERGMAN MARTIN W LIVING TRUST	P O BOX 15071	891145071	1963
16227610036	RAMBERG 1999 REV LIV TR	5131 DALTON ST	891194805	1963
16227610003	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227201005	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227610080	COOL-MACRAE ANNA M & VINCENT F	5138 WILBUR ST	891194832	1963
16227610040	BISHOP BRADFORD R	6445 WESTWIND RD	891183442	1963
16227612088	HERNANDEZ JOAQUIN	5139 REEDER CIR	891194820	1974
16227617010	GROSSPOINTE L P	P O BOX 232315	891052315	1977
16227617002	CIRIANO LEO A	5168 GRAY LN #B	891191708	1977
16227610035	HARMAN PAUL	5141 DALTON DR	891194805	1963
16227610041	AKERS ELDRIDGE L & SHIRLEY A TR	3930 N OAKLEY	606183822	1963
16227610004	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227610052	MEJIA-CADENA DIONICIO	982 DALTON DR	891194804	1963
16227610051	CHING RODOLFO	972 DALTON DR	891194804	1963
16227610050	GALOPE JOSE A & MARISSA	962 DALTON DR	891194804	1963
16227610049	RODRIGUEZ JESUS JOSE	952 DALTON DR	891194804	1963

16227610048	TOSCANO HERIBERTO & ROSA	942 DALTON DR	891194804	1963
16227610047	ESPINOZA EFRAIN	3903 SIR PAYNE CT	891045055	1963
16227610046	IZUMIGAWA WALTER M & JOCELYN M	922 DALTON DR	891194804	1963
16227610045	FRANCO VICTORIA N	912 DALTON DR	891194804	1963
16227610043	ESTRADA SALVADOR I & Y M REV TR	5090 SWENSON ST	891191371	1963
16227610044	CASTRO JOSE E	902 DALTON DR	891194804	1963
16227610042	ABRAHAM YEMANE G	882 DALTON DR	891194857	1963
16227610081	NELSON ROBERTA B	5148 WILBUR ST	891194832	1963
16227612087	RODRIGUEZ MIGUEL	5149 REEDER CIR	891194820	1974
16227202014	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1996
16227617006	KOJI STEVE SHIGERU & TAMAYO	1117- W GARDENA BLVD #204	902474830	1977
16227617005	CARLSON LINDA	2065 MAJESTIC PEAK DR	890741508	1977
16227610034	BRAGADO ROSEMARY	%R GREGOREC	890124451	1963
16227610005	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227201007	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227617003	MENDOZA LUIS	550 W 14TH ST	907314122	1977
16227610082	MUSIAL KONRAD D	9127 EDGEWORTH PL	891236020	1963
16227612086	DEMESA ENRICO & LOURDES	5161 REEDER CIR	891194820	1974
16227610031	KAMAE KENNETH K & C REV LIV TRV	859 DALTON DR	891194803	1963
16227617007	JIANG XIHONG	9768 MAPLE SUGAR LEAF PL	891487639	1977
16227610033	BECK RUSSELL	5157 PONCHO CIR	891194821	1963
16227610006	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227617004	BALDWIN DANIEL C	7427 PAGE RANCH CT	891313244	1977
16227610030	GUZMAN RUBEN S	867 DALTON DR	891194803	1963
16227617001	RAMIREZ YOLANDA	5155 GRAY LN	891191743	1977
16227610032	ALPHA TAU OMEGA NV ALUMNI ASSN	P O BOX 60204	891600204	1963
16227610092	VERROCHI MICHAEL J	5165 WILBUR ST	891194855	1963
16227610093	BANK U S NATIONAL ASSN TRS	3815 S W TEMPLE	841154412	1963
16227610022	CASTRO CAROL A	945 DALTON DR	891194803	1963
16227610023	RINEHART CHARLES R & BONNIE L	935 DALTON DR	891194803	1963
16227610024	CORREA EMILIA	925 DALTON DR	891194803	1963
16227610029	MUSIAL KONRAD D & SABINA X	9127 EDGEWORTH PL	891236020	1963
16227610025	PANARELLI EILEEN	915 DALTON DR	891194803	1963
16227610083	LEON AMARANTA & REINA G	5168 WILBUR ST	891194832	1963
16227610026	LACROIX JOHN C & HAZEL L	905 DALTON DR	891194803	1963
16227610027	GONZALEZ JUAN & LINA	895 DALTON DR	891194803	1963
16227610028	ALMENDRALO ALBERTO A & EMILY B	885 DALTON DR	891194803	1963
16227612085	PEREYRA JOSE LUIS V	5171 REEDER CIR	891194820	1974
16227610007	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227617011	LAM KWOCK F & SHUET YIN	98 SUNSET BAY ST	891482768	1977
16227617014	PARKWAY VILLAS OWNRS ASSN	1125 CENTURY GARDEN DR	891191704	1977
16227610094	VALENCIA ROGELIO & LETICIA	5174 MERLE ST	891191327	1963
16227610084	ARSENEAUX ROY E & JO ANN	5178 WILBUR ST	891194832	1963
16227610091	GARCIA MARIA	5177 WILBUR ST	891194855	1963
16227612084	RUIZ MARTHA I ORTEGA	5183 REEDER CIR	891194820	1974
16227610021	RODRIGUEZ IHOVANA GARCIA	944 DE MET DR	891191344	1963
16227610020	ESTRADA SALVADOR & Y REV TR	5090 SWENSON	891191371	1963
16227610019	LOZANO JOSE G & YOLANDA	924 DE MET DR	891191344	1963
16227610018	AYALA ANA R	914 DE MET DR	891191344	1963
16227610017	HARRIS BELAH L	904 DE MET DR	891191344	1963
16227610016	CHIANG ALEJANDRO	7808 TOMICH AVE	891454020	1963
16227610015	AWUAH REBECCA A	884 DE MET DR	891191311	1963
16227610014	SNYDER DOROTHY M	874 DEMET DR	891191311	1963
16227610013	WYNN JOHN E & LORI CHANTELL	864 DE MET DR	891191311	1963
16227610012	POOLEY JAMES K	854 DE MET DR	891191311	1963
16227610011	MARTINEZ RAQUEL	844 DE MET DR	891191311	1963
16227610010	CROMEENES KAY A	834 DE MET DR	891191311	1963
16227610009	CHIO NEILSON G	P O BOX 230145	891050145	1963

16227610008	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227610095	GATES MARICELA	5184 MERLE ST	891191327	1963
16227610085	GARCIA MACARIO MATA	5188 WILBUR ST	891194832	1963
16227610090	KAUPPINEN CHRISTINE M REV TR	111 KAHULUI BEACH RD #C411	967321233	1963
16227612083	ARENAS VICTOR GOMEZ	5193 REEDER CIR	891194820	1974
16227616015	PARKWAY VILLAS OWNRS ASSN	1125 CENTURY GARDEN DR	891191704	0
16227610096	CARRATELLI ELINOR F LIVING TRUST	5192 MERLE ST	891191327	1963
16227610086	DENNIS CYNTHIA L	5198 WILBUR ST	891194832	1963
16227610089	GARCIA MANUEL	5197 WILBUR ST	891194855	1963
16227616005	LONG RICHARD E	P O BOX 60763	891600763	1977
16227612082	KLEIN CARMELA	6222 BANNOCK	926831926	1974
16227610097	GALVEZ JOSE L	951 DE MET DR	891191345	1963
16227610098	GADOL MARY H	943 DE MET AVE	891191345	1963
16227610099	DEDIOS ELIZABETH B & JOEL L	933 DEMET DR	891190000	1963
16227610100	WAGSTAFF LIVING TRUST	923 DE MET DR	891191345	1963
16227610101	FOSTER DAVID C JR & GLENA M	P O BOX 70301	891700301	1963
16227610102	SORBELLO DOMENICK B & JOYCE	903 DE MET DR	891191345	1963
16227610103	MARTINEZ VICTORIANO	893 DE MET DR	891191310	1963
16227610104	FIORENZA RUDOLF & LINDA	P O BOX 72635	891702635	1963
16227610105	BARIKZI AHMED K	873 DE MET DR	891191310	1963
16227610106	ONAKA FAMILY TRUST	863 DEMET DR	891191310	1963
16227610107	SCOTT LAURA	853 DE MET DR	891191310	1963
16227610108	CHIO N C & P G REV LIV TR	581 CURTIN CT	891236233	1963
16227610109	KASTNER JAMES M & LETICIA B	833 DE MET DR	891191310	1963
16227610110	LEYVA MICHERRA R	823 DE MET DR	891191310	1963
16227610111	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1963
16227610087	MULESHKOV ANGEL	5208 WILBUR ST	891194854	1963
16227610088	TYLER SEAN & JENNIFER	5207 WILBUR ST	891194831	1963
16227612081	AMERICAN HOME MTGE SRVCING INC	1270 NORTHLAND DR	551201156	1974
16227616012	GOULD MICHAEL	2809 ASH CIR	847907633	1977
16227612067	RAINS SAMUEL & FLORELA	5218 S WILBUR	891194854	1974
16227612066	BONANNO UMBERTO REV TR 2004	5217 WILBUR ST	891194831	1975
16227612111	WOLF JANA	5230 JANE WY	891191319	1975
16227612110	FIORENZA RUDOLF & LINDA	P O BOX 72635	891702635	1975
16227612052	LINCOLN DAVID A & PAULETTE MARIE	950 MONIKA WY	891191362	1975
16227612051	REYES SOCORRO P LIVING TRUST	940 MONIKA WY	891191362	1975
16227612050	BAFF R RINAY	930 MONIKA WY	891191362	1976
16227616008	TILGHMAN JOHN & DELIA LIVING TR	4921 WEBSTER DR	930337942	1977
16227612049	MINTZ SANDRA H	918 MONIKA WY	891191362	1976
16227612048	G M A C MORTGAGE L L C	1100 VIRGINIA DR	190343204	1976
16227612047	FEDERAL NATIONAL MORTGAGE ASSN	400 COUNTRYWIDE WY #SV-35	930656298	1976
16227612046	FEDERAL NATIONAL MORTGAGE ASSN	%CENTRAL MTGE CO	722056599	1976
16227612045	OLMOS JULIO	876 MONIKA WY	891191387	1976
16227612044	DACUNTO HAE K	866 MONIKA WY	891191387	1976
16227612043	OEHMEN EUGENE F	856 MONIKA WY	891191387	1976
16227612080	VELASQUEZ LYDIA	16717 E GRAGMONT ST	917221116	1974
16227612042	SHANK NANCY L	846 MONIKA WY	891191387	1976
16227612041	FAIRFIELD MARK KEVIN REV TR 2006	%DESERT REALTY	891026096	1976
16227612028	COUNTY OF CLARK (AVIATION)	P O BOX 11005	891111005	1976
16227201008	COUNTY OF CLARK(AVIATION)	%TAX DEPT	076561870	1981
16227612040	JETTER JUDITH ANN	5231 BARBARA WY	891191301	1976
16227612068	WILSHIRE HOLDING GROUP INC	3431 E SUNSET RD #10	891203253	1974
16227612065	TIERRO ANICIA C	5229 WILBUR ST	891194831	1975
16227616006	VELASQUEZ MERCADO FAMILY TRUST	269 DUCK HOLLOW AVE	891484421	1977
16227612079	HINE FRANK G	5235 REEDER CIR	891194856	1974
16227616003	PROSE PROPERTIES L L C	3345 W PEBBLE RD	891397813	1977
16227616001	SAYBE L L C	6352 W PLACER DR	891034529	1977
16227612029	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1976

16227612069	GAITAN ANA	5242 WILBUR ST	891194854	1974
16227612055	AGUIRRE RUBEN M	5242 JANE WY	891191319	1975
16227612064	MIANI FAUSTO & MARIA ALBA	5241 WILBUR ST	891194831	1975
16227612078	VALDEZ JUAN J	5247 REEDER CIR	891194856	1974
16227616013	BANK H S B C USA TRS	425 PHILLIPS BLVD	086181430	1977
16227616009	MACIAS HUGO	4608 GRAND AVE	917636409	1977
16227612024	DELLACALCE FAMILY LIVING TRUST	5245 JANE WY	891191318	1975
16227612030	M F C PROPERTIES L L C	5242 SWENSON ST	891191364	1976
16227612039	BARTON KENNETH	5243 BARBARA WY	891191301	1976
16227612023	EZZEDDINE ALI	5244 CAROL CIR	891191305	1975
16227616004	WYSS LIVING TRUST	1122 E LINCOLN AVE #204	928651909	1977
16227612015	DEAN FAMILY TRUST	304 CANYON DR	891073237	1975
16227612014	HARRISON LAWASA	899 MONIKA WY	891191385	1975
16227612013	GRAVETT REVECCA & ALBERT	925 DEEP SPRINGS DR	917111402	1975
16227612005	GREEN DANIEL L & PADDY J	5243 SARA LEE CIR	891191332	1976
16227612004	GOMEZ DANIEL E JR & DELIA	5244 BARBARA WY	891191302	1976
16227612070	LEON-CASALS LUIS D	5254 WILBUR ST	891194854	1974
16227612077	BANK INDYMAC F S B	155 N LAKE AVE	911015615	1974
16227202013	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227612063	HERNANDEZ ANA B	1957 HALLWOOD DR	891196175	1975
16227612056	PLOTEZKA BRIAN P	5254 JANE WY	891191319	1975
16227616010	CAVALLARO PHILIP	6315 RAYBAL CT	951234943	1977
16227616014	AMERICAN HOME 2007-SD2 REO LLC	4600 REGENT BLVD #200	750632478	1977
16227612031	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1976
16227616007	CAVE ERIC C & MELINDA A	8060 CELINA HILLS	891314336	1977
16227612022	HOYOS OLMEDO	2580 S DECATUR BLVD #K4A	891028595	1975
16227612038	ALEJANDRO GLINCY	5255 BARBARA WY	891191301	1976
16227612006	CORRAL FRANCISCO & ESTHER	99 BROADWAY BLVD	919101424	1975
16227612025	BEESON FAMILY LIVING TRUST	5261 S JANE WY	891191318	1975
16227612003	HEBERT PHYLLIS L	5260 BARBARA WY	891191302	1976
16227612016	GOMEZ JUAN	6 CHURCH LN	070821310	1975
16227612012	BARONE ANDREW R	5260 SARA LEE CIR	891191332	1975
16227612071	SOTOLONGO ANDREA M	5266 WILBUR ST	891194854	1974
16227612076	PARLANTI ROBERT L & DONNA MARIE	5269 REEDER CIR	891194856	1974
16227612062	MILLISOR GREGORY S	5265 WILBUR ST	891194831	1975
16227612057	BERING SAMANTHA	5266 JANE WY	891191319	1975
16227612032	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1976
16227612021	ORTIZ RAFAEL	244 W 81ST ST	900032430	1975
16227616011	SUGITA NORIKO REVOCABLE LIV TR	4446 EMERALD	891202129	1977
16227612037	LEHMAN FAMILY TRUST	5267 BARBARA WY	891191301	1976
16227612007	LONG JUN REVOCABLE TRUST	10925 SAINT RAFAEL ST	891413806	1975
16227616002	NAIMAN LOUIS & SANDRA	3116 SWALLOW LN	891215121	1977
16227612017	SARIOL LORNA	5271 CAROL CIR	891191374	1975
16227612011	REEDOM FAMILY TRUST	3665 E QUAIL AVE	891202527	1975
16227612026	BEESON FAMILY LIVING TRUST	5261 JANE WY	891191318	1975
16227612002	NAVARRO MANUEL & APRILLYN K	5274 BARBARA WY	891191302	1976
16227612072	ZULBARAN JOSE	5278 WILBUR ST	891194854	1974
16227612075	TRUSTEE CLARK COUNTY TREASURER	%AOYAMA TAKASHI	891194856	1974
16227612061	SERPAS CARLOS	5277 WILBUR ST	891194831	1975
16227612058	MILLER HOMER C & BONITA J	5278 JANE WY	891191319	1975
16227612020	ARYON INC	P O BOX 363274	890367274	1975
16227612033	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1976
16227612036	HAYES WANDA	5279 BARBARA WY	891191301	1976
16227612018	DICKEY WILLIAM J	5275 CAROL CIR	891191374	1975
16227612105	PENA-MENDOZA JAVIER J & OSCAR A	1190 E HACIENDA AVE	891191814	1974
16227612104	DULDULAO NEMECIO & MYRNA I	1180 E HACIENDA AVE	891191814	1974
16227612008	KAGOSSIAN ABRAM & NADEJDA	5275 SARA LEE CIR	891191332	1975
16227612103	CRUZ RIZALINO N & EVANGELINE B	1168 E HACIENDA AVE	891191814	1974

16227612102	CRUZ RIZALINO N & EVANGELINE	1834 SKYFLOWER CT	891233959	1974
16227612101	CABRERA JUDITH	1146 E HACIENDA AVE	891191814	1974
16227612010	BANK DEUTSCHE NATIONAL TR CO TRS	P O BOX 11000	927111000	1975
16227612100	G M A C MORTGAGE L L C	1100 VIRGINIA DR	190343204	1974
16227612099	ACKERMAN THOMAS G & DIANE M	1126 E HACIENDA AVE	891191814	1974
16227612098	BERMUDEZ-PANIAGUA CESARIO	1114 E HACIENDA AVE	891191814	1974
16227612097	RIVERA EVELYN	10420 S SCRIPPS WY	906801525	1974
16227612096	RIOS LAZARO RODRIGUEZ	1092 E HACIENDA AVE	891191814	1974
16227612095	GALAZ HERIBERTO	1082 E HACIENDA AVE	891191814	1974
16227612094	ALLYN NORMA J	P O BOX 871	831270871	1974
16227612093	GIANAKOULIAS GEORGE & SMARAGELI	1060 E HACIENDA AVE	891191814	1974
16227612092	GUADARRAMA JAVIER	1050 E HACIENDA AVE	891191814	1974
16227612019	MURRAY ALFRED	5285 CAROL CIR	891191374	1975
16227612009	MCNAIR RAYMOND L & JEANNE KIM	5285 SARA LEE CIR	891191332	1975
16227612027	BARNES PHILLIP L & MARILYN L	5289 JANE WY	891191318	1975
16227612001	PAUTIP TRUST	2181 RED ROCK ST	891463155	1976
16227612073	BROWN FRANCIS X & ELIZABETH S	12 RIDGE DR EAST	115761412	1974
16227612074	CARTER GEROY II & FAYE Y	5289 S REEDER CIR	891194856	1974
16227612060	MORGAN BARRY M	5289 WILBUR ST	891194831	1975
16227612059	VELEBA EDWIN F & VIRGINIA M	6617 S 75TH CIR	681274322	1975
16227612034	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1976
16227612035	INIGO CLAUDIO A & NERISSA SOLIS	CMR 418 BOX 2942	000000000	1976
16227302001	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227301001	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1983
16227712017	BLAS ELIZABETH	1912 WESTWOOD AVE	927063540	1963
16227301004	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227712016	MENDOZA OSCAR ALFONSO PENA	1173 E HACIENDA AVE	891191813	1963
16227712015	LUITHARDT OTTO	1643 CORONADO	891691640	1963
16227712014	ELY JACQUELINE ESTER FAMILY TR	1153 E HACIENDA AVE	891191813	1963
16227712013	FLORMATA LETICIA C	1143 E HACIENDA AVE	891191813	1963
16227712012	BELLO MIGUEL BAZAN	1133 E HACIENDA AVE	891191813	1963
16227712011	LA-FORGE PIERRE JEAN M & EDITH M	1123 E HACIENDA AVE	891191813	1963
16227712010	DAPHNEY IRREVOCABLE TRUST	4769 SPINDLERIDGE CIR	891475272	1963
16227712009	DIAZ ANTONIO	1103 E HACIENDA AVE	891191813	1963
16227712008	LUITHARDT OTTO	1643 CORONADO AVE	891691640	1963
16227712007	RAMIREZ ARTURO G & VERONICA L	1083 E HACIENDA AVE	891191873	1963
16227712006	ORELLANA RAMON	1073 E HACIENDA AVE	891191873	1963
16227712005	CHUA ARLENE N	1063 E HACIENDA AVE	891191873	1963
16227712004	GARCIA JOSE	1053 E HACIENDA AVE	891191873	1963
16227712003	VALDIVIA JOSE LUIS	1043 E HACIENDA	891191873	1963
16227712002	BUNN JOHN & THERESE FAMILY TRUST	1031 HACIENDA	891191873	1963
16227712001	PARRA ERICK	1019 E HACIENDA AVE	891191873	1963
16227711015	REYES BETI	983 E HACIENDA AVE	891191314	1963
16227711014	VARGAS MARIO	971 HACIENDA AVE	891191314	1963
16227711013	KANELLOPOULOS ANDROMAHI	961 E HACIENDA AVE	891191314	1963
16227711012	CARRILLO RICARDO & GLORIA	951 HACIENDA	891191314	1963
16227711011	KETOLA CARMEN S 1998 FAMILY TR	2169 ARGYLE AVE	900682901	1963
16227711010	MENDOZA ROSA P	4718 TERRA LINDA AVE	891201605	1963
16227711009	MALDONADO ALVARO	921 E HACIENDA AVE	891191314	1963
16227711008	ALVAREZ MARIBEL R	911 E HACIENDA AVE	891191314	1963
16227711007	GERARD MARY ANN	901 E HACIENDA AVE	891191314	1963
16227711006	BARRETT MARK B	3707 SEASHORE PALM CT	891217234	1963
16227711005	DIFRANCO NEVELYN M	881 E HACIENDA AVE	891191373	1963
16227711004	ORDUNA FIDEL M & YOLANDA H	871 E HACIENDA AVE	891191373	1963
16227711003	RODRIGUEZ YADIRA C	4813 EL CEBRA WY	891210000	1963
16227711002	CHONG JOSE F	851 E HACIENDA AVE	891191373	1963
16227711001	BERGMAN MARTIN W LIVING TRUST	P O BOX 15071	891145071	1963
16227302002	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0

16227712018	ARNOLDSEN FAMILY TRUST	1184 WESTMINSTER AVE	891191826	1963
16227712019	JARVIS CURTIS L	P O BOX 40938	772400938	1963
16227712020	JOHNSON SHIRLEY A	1164 WESTMINSTER AVE	891191826	1963
16227712021	BANK INDYMAC F S B	6900 BEATRICE DR	490099559	1963
16227712022	BANK LASALLE N A TRS	14523 S W MILLIKAN WY #200	970052352	1963
16227712023	MCBRIDE MAURICE M	1134 WESTMINSTER AVE	891191826	1963
16227712024	CASILLAS HECTOR	1124 WESTMINISTER AVE	891191826	1963
16227712025	ZELAYA EDWIN N	1114 WESTMINSTER AVE	891191826	1963
16227712026	ONATE OSCAR	1104 WESTMINSTER AVE	891191826	1963
16227712027	DIAZ ARNOLDO CORRAL	1094 WESTMINSTER AVE	891191875	1963
16227712028	RAMIREZ RUBEN	1084 WESTMINSTER AVE	891191875	1963
16227712029	PLUMMER CLAIRE	1074 WESTMINSTER AVE	891191875	1963
16227712030	RECINOS KARLA D BARRIENTOS	1064 WESTMINSTER AVE	891191875	1963
16227712031	STREETER DAVID TRUST	1054 WESTMINSTER AVE	891191875	1963
16227712032	LARKEY JUDITH A	1044 WESTMINSTER AVE	891191875	1963
16227712033	DUFFY BOONNUM K	1034 WESTMINSTER AVE	891191875	1963
16227712034	VILLARREAL JOSE	1024 WESTMINSTER	891191875	1963
16227711016	DERAS-GUARDADO MIRNA ELIZABETH	980 WESTMINISTER	891191360	1963
16227711017	CRUZ JULIO C	976 WESTMINSTER AVE	891191360	1963
16227711018	BICA SEBASTIAN D & FERNANDE M	964 WESTMINSTER AVE	891191360	1963
16227711019	URH MARIE SURV TR URH LIV TR	952 WESTMINSTER AVE	891191360	1963
16227711020	DELATORRE OCTAVIO	942 WESTMINSTER AVE	891191360	1963
16227711021	OHATA MIRIAM D	932 WESTMINSTER AVE	891191360	1963
16227711022	RODRIGUEZ MANUEL E	922 WESTMINSTER AVE	891191360	1963
16227711023	BANK U S NATIONAL ASSN TRS	400 COUNTRYWIDE WY SV-35	930656298	1963
16227711024	HITTLE VERNON L & MARCELLA J	902 WESTMINSTER	891191360	1963
16227711025	ROLLER EDWARD DEAN & ELLEN KAY	892 WESTMINSTER AVE	891191376	1963
16227711026	ECHIPARE VICTORIO A	8455 MONDAVI HILL CT	891397166	1963
16227711027	GRAND NATIONAL MORTGAGE INC	%F C DECORTE	891194810	2007
16227711028	MORENO ROSIE	862 WESTMINSTER AVE	891191376	1963
16227711029	GUADARRAMA ARMANDO S	852 WESTMINSTER AVE	891191376	1963
16227711030	DCRUZ CLIFTON J	P O BOX 15176	937025176	1963
16227302003	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227712080	PENA MIGUEL A	5351 S MARYLAND PKWY	891192622	1963
16227712079	5350 PRINCESS JEAN L L C	%R LEVINE	891191824	1963
16227712047	RODRIGUEZ-GARCIA NELSON R	1147 WESTMINSTER AVE	891191874	1963
16227712046	BULAN TEOFILO T & MARTINA G	1137 WESTMINSTER AVE	891191874	1963
16227712045	PETERSEN RYAN J & BRITTANY A	1127 WESTMINSTER AVE	891191874	1963
16227712044	JESPERSEN MARQUERITE F & CURTIS	1068 COUNT WUTZKE	891191862	1963
16227712043	CAOILE JOAN L	1107 WESTMINSTER AVE	891191874	1963
16227712042	ALCARAZ JORGE	1097 WESTMINSTER AVE	891191825	1963
16227712041	ALLEN DAVID A	8084 WINCHESTER BLUFF ST	891312035	1963
16227712040	NAVAS-TORRES VICTORIA	1077 WEST MINISTER AVE	891191825	1963
16227712039	NASH GEORGE E	1067 WESTMINSTER	891191825	1963
16227712038	PETITO KENNETH JOSEPH	1057 WESTMINSTER AVE	891191825	1963
16227712037	KIELHORN RICHARD W & ANNELIESE	1047 WESTMINSTER AVE	891191825	1963
16227712036	COLE CARLA A	10218 MALTESE CROSS CT	891834009	1963
16227712035	COHAN IRENE	1027 WESTMINSTER AVE	891191825	1963
16227711045	VANHATTEM DAVID J	4219 WHIPPOORWILL CIR	891215251	1963
16227711044	VAZQUEZ LETICIA PEREYRA	983 WESTMINSTER AVE	891191359	1963
16227711043	MARTINEZ GERMAN & MARIA T	973 WESTMINSTER AVE	891191359	1963
16227711042	GAETA JOSE RICARDO & MARTHA C	963 WESTMINSTER AVE	891191359	1963
16227711041	ALLEN BOYD M	953 WESTMINSTER AVE	891191359	1963
16227711040	OSTORGA JOSE & OLGA	943 WESTMINSTER AVE	891191359	1963
16227711039	ESTRADA MARIA V	933 WESTMINSTER AVE	891191359	1963
16227711038	OCHOA JAVIER	%J GARCIA	891191359	1963
16227711037	DEISINGER JAMES C & SALLY	913 WESTMINSTER AVE	891191359	1963
16227711036	PEREZ JORGE A & LOURDES Y	903 WESTMINSTER AVE	891191359	1963

16227711035	MENESES LORENA & GENARO	893 WESTMINSTER AVE	891191375	1963
16227711034	OROZCO JUAN T	883 WESTMINSTER AVE	891191375	1963
16227711033	MOLINA MARIA E	873 WESTMINSTER AVE	891191375	1963
16227711032	MONTERO ROBERTO E	863 WESTMINSTER AVE	891191375	1963
16227711031	BYRNE WILLIAM L	5350 PRINCE SCOTTY ST	891191356	1963
16227712078	GORE WILLIAM A	5362 PRINCESS JEAN ST	891191824	1963
16227712081	BANK U S NATIONAL ASSN TRS	400 COUNTRYWIDE WY SV-35	930656298	1963
16227713016	SOTTILE ELIZABETH B	5360 PRINCE SCOTTY	891191356	1963
16227712048	BANK DEUTSCHE NATIONAL TR CO TRS	%DOWNEY SAVINGS & LOAN AS	926602939	1963
16227712049	PINON JEANNE ALICE LOUISE	1138 COUNT WUTZKE AVE	891191820	1963
16227712050	VALDIVIA SERGIO	1128 COUNT WUTZKE DR	891191820	1963
16227712051	LOPEZ JUAN A	1118 COUNT WUTZKE AVE	891191820	1963
16227712052	GONZALEZ ALEJANDRO G	1108 COUNT WUTZKE AVE	891191820	1963
16227712053	CALVO RAMON F	1098 COUNT WUTZKE AVE	891191862	1963
16227712054	ROBLERO ERIKA E	1088 COUNT WUTZKE AVE	891191862	1963
16227712055	VARGAS-MARTINEZ JAVIER	1078 COUNT WUTZKE	891191862	1963
16227712056	JESPERSEN MARQUERITE F	1068 COUNT WUTZKE AVE	891191862	1963
16227712057	SANCHEZ HECTOR	1058 COUNT WUTZKE	891191862	1963
16227712058	YAMAKITA HUGUETTE M & NACHIO	1048 COUNT WUTZKE AVE	891191862	1963
16227712059	CHAVIRA PASCUAL & GABRIELA	1038 COUNT WUTZKE AVE	891191862	1963
16227712060	QUINTERO-PEREZ JOSE	1028 COUNT WUTZKE AVE	891191862	1963
16227713001	MARTINEZ PABLO ALDABA & NOELIA L	994 COUNT WUTZKE AVE	891191306	1963
16227713002	QUINTOS HONORIA MANABAT	982 COUNT WUTZKE AVE	891191306	1963
16227713003	REFUGIO MAGDALENO	%ERI	891072611	1963
16227713004	MARTINEZ CONCEPCION COOP FAM TR	963 COUNT WUTZKE AVE	891191316	1963
16227713005	REED CLARENCE	952 COUNT WUTZKE AVE	891191306	1963
16227713006	FONSECA HECTOR	942 COUNT WUTZKE	891191306	1963
16227713007	DISMOND YOLAINE MALVAL	932 COUNT WUTZKE AVE	891191306	1963
16227713008	HANSELL BRANKO T	922 COUNT WUTZKE AVE	891191306	1963
16227713009	MONROE MILDRED EVELYN TRUST	912 COUNT WUTZKE AVE	891191306	1963
16227713010	PICARDO TREVIS	902 COUNT WUTZKE AVE	891191306	1963
16227713011	RIVERA MARCELINO	892 COUNT WUTZKE AVE	891191349	1963
16227713012	BROWN RICARDO M & NURIA	882 COUNT WUTZKE AVE	891191349	1963
16227713013	VILLAGRAN HECTOR C	872 COUNT WUTZKE AVE	891191349	1963
16227713014	JAY BARRY & CECILIA PERDOMO	2036 GOLDEN ARROW	891692500	1963
16227712077	FLORES SAMUEL & ALICIA M	5372 PRINCESS JEAN ST	891191824	1963
16227712082	ZEPEDA SAMUEL	5373 S MARYLAND PKWY	891192622	1963
16227713015	SCOTT ALVIN L & JENNIFER D	5370 PRINCE SCOTTY ST	891191356	1963
16227712076	LAMY MARGARET E	5381 PRINCESS JEAN AVE	891191871	1963
16227712083	I I C L L P	P O BOX 230666	891050666	1963
16227712075	SILVA ROBERTO J & LEONARD	1157 COUNT WUTZKE AVE	891191823	1963
16227712074	JANSAK PETER P	1149 COUNT WUTZKE AVE	891191823	1963
16227712073	CARIAS JOSE S & MORENA G	1139 COUNT WUTZKE AVE	891191823	1963
16227712072	MYERS NATHAN C & NICOLE C	1129 COUNT WUTZKE AVE	891191823	1963
16227712071	DYRDAHL DANIEL & ANDREA	1119 COUNT WUTZKE AVE	891191823	1963
16227712070	DYRDAHL ANDREA & DANIEL VERNON	1109 COUNT WUTZKE AVE	891191823	1963
16227712069	TERAN REFUGIO & SIMON	1099 COUNT WUTZKE AVE	891191861	1963
16227712068	HOUSE JOHN F & SHERRY F LIV TR	1089 COUNT WUTZKE AVE	891191861	1963
16227712067	MAY MARIA	1077 COUNT WUTZKE AVE	891191861	1963
16227712066	DEWILLIAMS MARIA	1067 COUNT WUTZKE	891191861	1963
16227712065	RAMIREZ MANUEL & MARIA C	1057 COUNT WUTZKE AVE	891191861	1963
16227712064	REYES-CARLOS ANA GUADALUPE	1047 COUNT WUTZKE AVE	891191861	1963
16227712063	MACEO OLGA	1037 COUNT WUTZKE	891191861	1963
16227712062	OLEARY MARY	1027 COUNT WUTZKE AVE	891191861	1963
16227713031	SICAJAN LUIS ALFONSO & GLORIA	995 COUNT WUTZKE AVE	891191316	1963
16227713030	DUNFORD JULIA	973 COUNT WUTZKE AVE	891191316	1963
16227713029	DUNFORD JULIA M	973 COUNT WUTZKE AVE	891191316	1963
16227713028	MARTINEZ CONCEPCION COOP FAM TR	963 COUNT WUTZKE AVE	891191316	1963

16227713027	NUNGARAY ANA	953 COUNT WUTZKE AVE	891191316	1963
16227713026	GONZALEZ-QUINTANILLA JOSE M	943 COUNT WUTZKE	891191316	1963
16227713025	COVARRUBIAS LUIS M & MARIA G	933 COUNT WUTZKE DR	891191316	1963
16227713024	WEST MARSHA	923 COUNT WUTZKE AVE	891191316	1963
16227713023	BLAZO SYLVIA PELFREY	913 COUNT WUTZKE	891191316	1963
16227713022	ASTORGA BEATRIZE	903 COUNT WUTZKE AVE	891191316	1963
16227713021	CALVO DANERY A	893 COUNT WUTZKE AVE	891191348	1963
16227713020	DELEON GUADALUPE	883 COUNT WUTZKE AVE	891191348	1963
16227713019	GARCIA TOMAS	873 COUNTY WUTZKE AVE	891191348	1963
16227712084	BOTTLO KARL & MARIA	5393 S MARYLAND PKWY	891192622	1963
16227713018	LUU RICK	2913 BLACK FOREST DR	891025770	1963
16227713017	FROMHART LISA G	P O BOX 27083	891261083	1963
16227302007	AD AMERICA INC	2310 S HIGHLAND DR	891024809	0
16227714001	MATTHEWS STEVE & EVA	1184 KING RICHARD AVE	891191870	1962
16227714002	CORBETT FREDDA J	1176 KING RICHARD DR	891191870	1962
16227714003	LOPEZ CASILDA	1164 KING RICHARD AVE	891191870	1962
16227714004	EDWARDS CARRIE R	1154 KING RICHARD AVE	891191870	1962
16227714005	ARREGUIN MIGUEL & TERESA	1144 KING RICHARD AVE	891191870	1962
16227714006	CARIAS-PONCE EMMA X	1134 KING RICHARD AVE	891191870	1962
16227714007	LUTZ FRIEDERIKE FAMILY TRUST	2405 23RD ST	904052809	1962
16227714008	CANCHOLA VICTOR	1114 KING RICHARD AVE	891191870	1962
16227714009	TAKUSHI JEFFREY Y	9801 CATHAY CIR	926464817	1962
16227714010	LILLY JOHN T & VERNA E	305 CHASTINE ST	891454761	1962
16227714011	HANLEY THOMASENA J & THOMASENA J	1084 KING RICHARD AVE	891191804	1962
16227714012	MILLER THOMAS H	1074 KING RICHARD	891191804	1962
16227714013	CABRERA JOSE & JUDITH	1064 KING RICHARD AVE	891191804	1962
16227714014	SHIMPOCK PATRICK W	1054 KING RICHARD AVE	891191804	1962
16227714015	NELSON CHARLES P & PENNIE FAM TR	1044 KING RICHARD AVE	891191804	1962
16227712061	HALM MICHAEL T & RENEE GARVEY	1000 KING RICHARD AVE	891191804	1972
16227713032	CARRASCO MOISES	994 KING RICHARD AVE	891191352	1963
16227713033	MAURA MARGIE A	982 KING RICHARD AVE	891191352	1963
16227713034	GOMEZ SANDRA	972 KING RICHARD AVE	891191352	1963
16227713035	ESQUER JORGE M	962 KING RICHARD AVE	891191352	1963
16227713036	HERNANDEZ ALBERTO	952 KING RICHARD AVE	891191352	1963
16227713037	FUNDORA-ESTEVEZ MILAY	942 KING RICHARD DR	891191352	1963
16227713038	BURRIS TIFFANY	932 KING RICHARD DR	891191352	1963
16227713039	MCDOUGAL ARCHIE G & JEAN	922 KING RICHARD AVE	891191352	1963
16227713040	GOMEZ JUAN J	4718 TERRA LINDA AVE	891201605	1963
16227713041	ALEMAN MIRTALINA	902 KING RICHARD AVE	891191352	1963
16227713042	BANK NATIONAL CITY	%HOME LOAN SERV INC	152021402	1963
16227713043	CUZZE RONALD R	882 KING RICHARD AVE	891191372	1963
16227713044	GARCIA JUAN & DALGIS G	875 KING RICHARD AVE	891191350	1963
16227713045	OLSEN R & R TRUST	862 KING RICHARD AVE	891191372	1963
16227302008	ENGELSTAD RALPH & BETTY FAM TR	P O BOX 95818	891935818	2005
16227713046	DEAN REGINE M	3806 FALCON SPRINGS DR	891474276	1963
16227714034	CRUZ JORGE	1179 KING RICHARD AVE	891191822	1962
16227714033	MCGONAGLE VINCENT	1169 KING RICHARD AVE	891191822	1962
16227714032	RODRIGUEZ YIMNEL	1159 KING RICHARD BLVD	891191822	1962
16227714031	GLENN RAY ALFRED & ONANONG M	1149 KING RICHARD AVE	891191822	1962
16227714030	SANCHEZ-PRADO WILLIAM	1139 KING RICHARD AVE	891191822	1962
16227714029	HAMMONS SHERRY LYNN	1129 KING RICHARD AVE	891191822	1962
16227714028	GOMEZ FELIPE ENRIQUE	1119 KING RICHARD AVE	891191822	1962
16227714027	CORRALES JULIO C	1109 KING RICHARD AVE	891191822	1962
16227714026	VASQUEZ JOSE LUIS PEREYRA	1099 KING RICHARD AVE	891191800	1962
16227714025	KWON YUNG DOO & MYUNG HEE	340 VELINO AVE	891237403	1962
16227714016	GINELSA ROLANDO & FE MILLANA	1041 KING RICHARD AVE	891191821	1962
16227716024	BERNARD VERN K	1028 KING RICHARD	891191804	1963
16227714017	MANTOR MICHAEL TIMOTHY	5439 VISCOUNT CARLSON DR	891191811	1962

16227715031	ALVAREZ SALVADOR RUIZ	5431 WILBUR ST	891191817	1963
16227715030	HENRIQUEZ RICARDO & REYNALDA	5430 LONDONDERRY ST	891191354	1963
16227715038	RODRIGUEZ YIMNEL & BELIA	5433 LONDONDERRY ST	891191353	1963
16227715064	SUTTON FUNDING L L C	%HOMEEQ	276075084	1963
16227714024	ORTIZ-GARCIA MA GUADALUPE	1077 KING RICHARD AVE	891191869	1962
16227715059	HERNANDEZ SOLEDAD	5431 BLACK KNIGHT CIR	891191347	1963
16227715058	SMITH MARIE-LOUISE TRS	4727 E WEAVER RD	850506864	1963
16227715054	PEARSON KEITH A & VILACE L	P O BOX 440	890420440	1963
16227715053	ANDERSON VICTOR J	5442 PRINCE SCOTTY	891191358	1963
16227714023	SHEPARD PAUL TRUST	5440 VISCOUNT CARLSON DR	891191812	1962
16227302009	AD AMERICA INC	2310 HIGHLAND DR	891024809	0
16227715032	BENITEZ RENE	5441 WILBUR ST	891191817	1963
16227715029	SHELFER CHRISTINE	5440 LONDONDERRY ST	891191354	1963
16227715063	LAFORGE GEORGES L FAMILY TRUST	5440 BLACK KNIGHT CIR	891191347	1963
16227715004	VILLATORO JOSE VIRGILIO	837 KING RICHARD AVE	891191350	1963
16227715060	WILLIAMS MICHAEL E	5411 BLACK KNIGHT CIR	891191347	1963
16227715057	ESCARATE GLORIA	5440 COUNT CARLSTON CIR	891191367	1963
16227714035	BRENDERABRANDIS BENNY U B	1178 PRINCESS KATY	891191806	1962
16227714036	RODRIGUEZ DELORES C	%E RODRIGUEZ	891191806	1962
16227714037	FLORES LIZETH	164 WYNNTRY CIR	890743339	1962
16227714038	MCDANIEL SHANNON	1148 PRINCESS KATY AVE	891191806	1962
16227714039	VILLATORO GILMA	1138 PRINCESS KATY AVE	891191806	1962
16227715039	QUINTELA EVARISTO & CATALINA	5445 LONDONDERRY ST	891191353	1963
16227714040	PARRA TOMAS MENDEZ	1128 PRINCESS KATY AVE	891191806	1962
16227714041	CASTANEDA JUAN R	1118 PRINCESS KATY AVE	891191806	1962
16227714042	LEKIE DAVID E FAMILY TRUST	P O BOX 35313	891335313	1962
16227714043	MACHADO RAUDEL	1098 PRINCESS KATY	891191806	1962
16227714044	SILVA ROSA Y	1090 PRINCESS KATY AVE	891191806	1962
16227715052	HALIO JUNE TRUST	1413 PTARMIGAN DR #6	945953761	1963
16227714018	ANGULO-SOZA BAYARDO	5447 VISCOUNT CARLSON DR	891191811	1962
16227716023	MCGAUGHEY MORRIS D & ESTELLA M	1780 CARLOS DR	891231410	1963
16227715055	CRAWFORD VERONICA J	2706 HILLGRASS	891233485	1963
16227715003	HIRONAKA MORRIS T	825 KING RICHARD AVE	891191350	1963
16227715062	LERNER NAT & ELVIRA	5446 BLACK KNIGHT CIR	891191347	1963
16227715061	TAPIA MICHAEL	5447 BLACK KNIGHT CIR	891191347	1963
16227715056	DOMINGUEZ SAUL	898 LARAMORE	891194810	1963
16227714022	DELGADO JANELLE R	3904 FULTON PL	891074409	1962
16227715033	TENORIO ROSA M	5451 WILBUR ST	891191817	1963
16227715028	MORENO LYDIA	5450 LONDONDERRY ST	891191354	1963
16227715002	BUENO VERONICA S	815 KING RICHARD AVE	891191350	1963
16227714045	VARGAS JOSE C & JUDITH E	5463 SIR MONAHAN ST	891191808	1962
16227716022	MAYBERRY GERALD L	5456 WILBUR ST	891191818	1963
16227715040	WHITNEY RICHARD K	5457 LONDONDERRY ST	891191353	1963
16227715005	MACIAS ANTONIO & MARIA DEL R	5459 PRINCE SCOTTY ST	891191357	1963
16227715051	HALIO JUNE TRUST	1413 PTARMIGAN DR #6	945953761	1963
16227714019	VALLEJO-ZAVALA MARIO	5457 VISCOUNT CARLSON DR	891191811	1962
16227715001	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227310001	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1964
16227715007	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227715034	HOGUE FAMILY TRUST	5461 WILBUR ST	891191817	1963
16227715027	CHAVIRA DEMETRIO & HORTENCIA	1529 PRICE ST	890114333	1963
16227714021	VALDIVIA JOSE A & JOSEFA	5468 VISCOUNT CARLSON DR	891191812	1962
16227716021	BULLION ANTOINETTE M & BARBARA A	5466 WILBUR DR	891191818	1963
16227714054	VALDES TYRONE	1175 PRINCESS KATY AVE	891191805	1962
16227714053	JOHNSON S R	1165 PRINCESS KATY	891191805	1962
16227714052	HAMMOND MICHAEL	1155 PRINCESS KATY	891191805	1962
16227714051	NORTHROP JAMES	1145 PRINCESS KATY AVE	891191805	1962
16227714020	THOMPSON GUY W JR & JUNE RAQUEL	5469 VISCOUNT CARLSON DR	891191811	1962

16227714050	VILLEGAS SANTIAGO	1135 PRINCESS KATY AVE	891191805	1962
16227715041	BANK U S NATIONAL ASSN TRS	10790 RANCHO BERNARDO DR	921275705	1963
16227714049	CHAVEZ JOSE JESUS & LISVEET N	1125 PRINCESS KATY AVE	891191805	1962
16227715042	MARTINEZ SALVADOR	4077 VENITA CT	891201442	1963
16227714048	PADILLA SALOMON	1115 PRINCESS KATY AVE	891191805	1962
16227715043	SURIYACHOTTAKUL RANGSAN	934 LADY MARLENE AVE	891191383	1963
16227714047	CASTRO ANDREA A	1105 PRINCESS KATY AVE	891191805	1962
16227715044	BALDEMIRA ADA I	924 LADY MARLENE AVE	891191383	1963
16227715045	KUNKLE EDNA	914 LADY MARLENE AVE	891191383	1963
16227715046	ROSA PAUL & CYNDI L LIVING TRUST	7724 FOREDAWN DR	891230756	1963
16227715047	BORROTO JORGE	894 LADY MARLENE AVE	891191363	1963
16227715048	MATTHEW JOSE CHETTIATH	884 LADY MARLENE AVE	891191363	1963
16227715049	CHAREYRON BERNARD R	874 LADY MARLENE	891191363	1963
16227715050	OGALESCO PAUL	862 LADY MARLENE AVE	891191363	1963
16227715065	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227714046	KELLOGG RAYMOND W & ANNELL	5477 SIR MONAHAN ST	891191808	1962
16227715006	CLARK DONALD M & LOUISE	1413 TONOPAH DR	891061908	1963
16227715035	OCONNOR PATRICIA M	5471 WILBUR ST	891191817	1963
16227715026	MORENO LYDIA	5472 LONDONDERRY ST	891191354	1963
16227716025	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16227802003	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1998
16227811036	LAS VEGAS VALLEY WATER DIST	3700 W CHARLESTON BLVD	891530001	0
16226216007	MIJANGOS LUIS	15840 SAN FERNANDO MISSION	913443931	1979
16226221007	DELATORRE RICARDO & ADELITA	5206 CALIENTE ST	891192109	1979
16226221031	PITCHFORD MARC L & ANN M	1693 VALLEY GLEN CT	891192117	1979
16226221030	FEDERAL NATIONAL MORTGAGE ASSN	%FIDELITY NATL FORCLOSURE	787596387	1979
16226221056	KEIHN DAVID M & IVA M	5211 SPENCER ST	891192122	1979
16226221050	DALEY KIRSTIN	57 GREEN HILLS CT	890124457	1979
16226210009	ZAVALA JUAN & ISELA	829 DANCING VINES AVE	891836317	1983
16226216008	AGUILAR JOAQUIN	1417 GARDEN CIR	891191929	1979
16226216009	MALDONADO FRANCISCO A	1427 GARDEN CIR	891191928	1979
16226216010	FODOR FRANK & ROSA	8732 JUMILLA AVE	913243322	1979
16226216011	SOLIS LEOBARDO & GUILLERMINA	77 SUZY CT	891104432	1979
16226216012	NESTOR LILIAN	9509 SPANISH STEP LN	891170842	1979
16226221008	PEREZ CARLOS A & MAYRA	5218 CALIENTE ST	891192109	1979
16226221055	OLIVEY FAMILY TRUST	5225 SPENCER ST	891192122	1979
16226214001	FIVE ACES RENTAL HOUSING L P	%F & A ANDRES	891172581	1980
16226214003	WEHBE BLANCA	1364 PATTEE CIR	891195070	1980
16226214004	MATEVOSYAN SARKIS & KARMEN	735 ARDEN AVE	912022105	1980
16226210011	D L S 3 FAMILY L P	P O BOX 36900	891336900	1979
16226214005	FOX ERLINDA A	1518 OTTERBEIN AVE	917482239	1980
16226214002	DULCE LEONARDO R JR & DORIS P	1286 OLD MANOR PL	951322532	1980
16226214008	HERNANDEZ ARTURO L	P O BOX 14666	891144666	1980
16226214007	ROMERO RODOLFO	1363 PATTEE CIR #A	891191942	1980
16226214006	CRUZ SALVADOR	505 GREASEWOOD DR	891103445	1980
16226221004	DOWLING GERALD & LUCETTE TRUST	5170 CALIENTE ST	891192107	1979
16226214009	AVILA JUAN & JULISA	5188 ESCONDIDO ST	891195064	1980
16226221005	ACOSTA SOCORRO	5182 CALIENTE ST	891192107	1979
16226221033	THOMAS JAMES C LIVING TRUST	1694 VALLEY GLEN CT	891192117	1979
16226210007	SHEMELIGIAN ROBERT	5428 LONGRIDGE AVE	891461336	1983
16226216006	RIOS CLEMENTE JR & TERESA	1416 GARDEN CIR	891191931	1979
16226216005	RAMIREZ CARLOS & YOLANDA	1960 SUNNYSLOPE AVE	891192848	1979
16226216004	GUTIERREZ JOSE & SILVIA	1436 GARDEN CIR	891191933	1979
16226216003	ALVAREZ JOSE	1446 GARDEN CIR	891191934	1979
16226216001	ALVAREZ JOSE	5201 TAMARUS ST	891191936	1979
16226221032	HONG RICKI	1688 VALLEY GLEN CT	891192117	1979
16226221006	ENRIQUEZ EUSEBIO	5194 CALIENTE ST	891192107	1979
16226221049	HADDOCK BETTY JEAN TRUST	5200 VALLEY GLEN ST	891192119	1979

16226216002	SAAVEDRA CARMEN	5205 TAMARUS ST	891191935	1979
16226210008	SHEMELIGIAN ROBERT	5428 LONGRIDGE AVE	891461336	1983
16226221051	EDWARDS CHRISTOPHER K	5224 VALLEY GLEN ST	891192119	1979
16226210010	LOPEZ CRUZ	5240 ESCONDIDO ST	891195060	1983
16226221009	SALAZAR TRINI M REV LIV TR	5230 CALIENTE ST	891192109	1979
16226221028	SCOTT MARGARET E	105 MAIN ST	945531518	1979
16226221029	STEVENSON CHI	1708 MAPLETON LN	891192131	1979
16226216013	VASQUEZ RUBEN D	5249 TAMARUS ST	891191924	1979
16226221052	TAYLOR LAVILLA J & JAMES S	1738 MAPLETON LN	891192130	1979
16226221053	LENHARDT VAN E	315 BELLE	620026116	1979
16226221054	JOHNSTON LEO E JR & IRMGARD T A	1784 MAPLETON LN	891192130	1979
16226221027	HADNOT JAMES D	1688 MAPLETON LN	891192131	1979
16226221010	CABALZA LAMBERTO A & SYLVIA R	5242 CALIENTE ST	891192109	1979
16226613007	HERITAGE OAKS #3 HOMEOWNERS ASSI	%COLONIAL PPTY MGT	891202785	1984
16226218002	NAUMAN RONALD ALEX JR & MARIA C	11210 WINDBROOK WY	921312963	1978
16226218003	BANK U S NATIONAL ASSN TRS	%COUNTRYWIDE HOME LOANS	930656298	1978
16226218004	FOGU SALVATORE & DEBORAH STEWAR	2546 W 51ST ST	606321550	1978
16226218005	A J G PROPERTIES II L L C	%A GUIDA SR	891933057	1978
16226218006	A J G PROPERTIES II L L C	%A GUIDA SR	891933057	1978
16226218007	KOISSIAN MICHAEL R & TAMARA L	6768 OSSABAW CT	906305466	1978
16226210012	HACIENDA CALIENTE L L C	1137 S RANCHO DR #120	891022259	1964
16226603001	HARDIE GEORGE G	1920 E HACIENDA AVE	891192804	1968
16226613008	KEISERMAN JANICE E	1887 FAIRFIELD TERR	890740906	1984
16226221011	ASKINS JOHN L & BARBARA L	611 LIDO DR	890051116	1979
16226221026	KONGOI 1987 TRUST	7753 COMANCHE CANYON AVE	891134036	1979
16226613009	GARCIA DAVID D	5261 DICKENS DR	891192292	1984
16226221025	ALFARO ROXANA ELIZABETH	1707 MAPLETON LN	891192129	1979
16226221024	FERRAN ANDREA	23009 KAYWOOD DR	905022522	1979
16226221023	VANDYKE JON M	4191 ROUND TOP	968225039	1979
16226221022	DANGLEIS DONALD L & JACQUELINE R	1753 MAPLETON LN	891192129	1979
16226221021	MORALES JOSE I	2402 CLOVERDALE AVE	900162123	1979
16226221012	O'CONNOR KEVIN	5266 CALIENTE ST	891192109	1979
16226613010	DOROZINSKI MARY OR JOHN J	5267 DICKENS DR	891192292	1984
16226613017	CAMP VALERIE A TRUST	5266 DICKENS DR	891197706	1984
16226218013	HACIENDA L L C	2104 WONDRA DR	891155453	1978
16226218012	A J G PROPERTIES I L L C	%A GUIDA SR	891933057	1978
16226218011	MARYLAND HACIENDAS HOWNERS ASSN	P O BOX 93057	891933057	1979
16226218010	ILARDO ANGEL R & ANGELA L	9526 CORAL WY	891173603	1978
16226218009	A J G PROPERTIES IV L L C	%A GUIDA SR	891933057	1978
16226613011	HENDERSON DENISE P	5273 DICKENS DR	891192292	1984
16226613016	OLIVERA DAVID & PATRICIA	5272 S DICKENS DR	891197706	1984
16226218016	A J G PROPERTIES III L L C	%A GUIDA SR	891933057	1978
16226221013	ORTEGA JOSE E & GABRIELA L	1664 E HACIENDA AVE	891192712	1979
16226221014	ROSA CYNDI & PAUL LIVING TRUST	7724 FOREDAWN DR	891230756	1979
16226221015	PONG JACK	1694 E HACIENDA AVE	891192712	1979
16226221016	NEWHARDT DEBORAH	1708 E HACIENDA AVE	891192712	1979
16226221017	C B HACIENDA L L C	%C BLANCO	891461356	1979
16226221018	POPE FREDERICK D & RICHARD A	1738 E HACIENDA AVE	891192712	1979
16226221019	COLEMANSMITH GARY L	3021 N E 72ND DR #9-152	986617300	1979
16226221020	GEBREHIWOT ROBERT	1784 E HACIENDA AVE	891192712	1979
16226218014	A J G PROPERTIES I L L C	%A GUIDA SR	891933057	1978
16226218015	A J G PROPERTIES IV L L C	%A GUIDA SR	891933057	1978
16226613012	FORSTER JULIA	5279 DICKENS DR	891192292	1984
16226218017	A J G PROPERTIES III L L C	%A GUIDA SR	891933057	1978
16226218018	GOLDEN ROGER S	4315 DON TOMASO DR #2	900085351	1978
16226613015	ROSSI BELINDA	5278 DICKENS DR	891197706	1984
16226613013	HOLT TRISTA	5285 DICKENS DR	891192292	1984
16226613014	MOUNT REVOCABLE FAMILY TRUST	6575 LOWER RIDGE RD	954041265	1984

16226312001	BOND PROPERTIES L L C	%G BOND	890125458	1984
16226310001	SANTANA ISABEL	P O BOX 80701	891800701	1984
16226310008	CORRIGAN JOHN & HELEN	76 IRVING ST	021441804	1984
16226312005	GUPTA NARENDRA K & USHA	160 E SHELBOURNE AVE	891232150	1985
16226312006	SIERRA-NEVADA MULTIFAMILY INVEST	%CAMDEN PPTY TRUST	770460391	1992
16226312007	HANDPRINTS LEARNING CENTER L L C	2961 SAVER CT	891157444	1980
16226312009	SCHOOL BOARD OF TRUSTEES	2832 E FLAMINGO	891215205	1977
16226313005	LANMAN CHARLES T	1655 E HACIENDA AVE	891192711	1978
16226313004	HASTINGS JOEL & MICHELE TRUST	1671 E HACIENDA AVE	891192711	1978
16226313003	RAMSEY JAMES H	1687 E HACIENDA AVE	891192711	1978
16226313002	KAISER ROSALINDA REV LIV TR	1703 E HACIENDA AVE	891192711	1978
16226313001	BAKER DALE G LIVING TRUST	1719 E HACIENDA AVE	891192711	1978
16226312031	KLEINMAN FAMILY TRUST	146-D EVERIT ST	065111345	1980
16226312030	JOHN VALSAMMA	263 SAGE WY	890274145	1980
16226710001	SYDIONGCO ANTONIO & LUZMINDA TR	1819 E HACIENDA AVE	891198001	1973
16226710002	CHAVEZ ELEISIS D & JULIA D	5540 TROOPER ST	891202233	1973
16226710003	BARTHELME MARGOT LIVING TRUST	2299 ROAN AVE	891192840	1973
16226710004	MIRANDA ADRIAN	1867 E HACIENDA AVE	891198001	1973
16226710005	ESTRADA MARIA	5160 TAMARUS ST #12	891191966	1973
16226710006	KLIPFEL RAYMOND & AKIKO LIV TR	1899 E HACIENDA AVE	891198001	1973
16226710007	APONTE JUAN & MARIA	1915 E HACIENDA AVE	891192803	1973
16226310002	WAGENLEITNER JOSEPH F	3310 HORNED LARK CT	891177712	1984
16226310007	RIVAS FLOR L	1931 E HACIENDA AVE	891192803	1984
16226312032	TELFER RICHARD G & NORINNE E	5357 SPENCER ST	891192728	1980
16226312029	NDONGALA KIAKU C	5359 SPENCER ST	891192728	1980
16226710122	BUSSING MICHAEL J & MARGARET	5326 SPENCER ST	891192732	1973
16226710094	GUTIERREZ-GONZALEZ FERMIN	5341 OXBOW ST	891192861	1974
16226710093	WELLS SCOTT D	1864 WHIPPLETREE AVE	891192856	1974
16226313006	SCALA WILLIAM JR & DIANE	1654 CALIENTE CT	891192715	1978
16226313007	MALDONADO FRANCISCO A	1664 CALIENTE CT	891192715	1978
16226313008	DANIEL JOHN & JOHN R FAM TR	1674 CALIENTE CT	891192715	1978
16226313030	ASTALA ARLEEN	5361 LINDERO PL	891192707	1978
16226313031	CHRISTENSEN KIM	5360 LINDERO PL	891192720	1978
16226710092	ROWSON BYRON K	1880 WHIPPLETREE AVE	891192856	1974
16226710091	MAZZA LIVING TRUST	%J MCCOWAN	891455110	1974
16226312002	BOND PROPERTIES L L C	%G BOND	890125458	0
16226710090	SHANDRA JAMES V	1914 WHIPPLETREE AVE	891192856	1974
16226310003	PADILLA JUSTINO	1500 LAVA CIR	891011825	1984
16226310006	OSEGUERA RAFAEL	5336 MANCOS CT #4	891192660	1984
16226312008	SPRINKLE WALTER IRREVOCABLE TR	5343 TAMARUS	891192680	1985
16226710089	ARMSTRONG BONNIE JEAN	1930 WHIPPLETREE AVE	891192856	1974
16226710121	JIMENEZ BEATRIZ	5338 SPENCER ST	891192732	1973
16226312033	RICHARD RICKY P & ALBA	5370 LINDERO PL	891192720	1980
16226312028	BULLOCK JAMES R JR & DEBRA N	5369 SPENCER ST	891192728	1980
16226310004	CORRIGAN JOHN J & HELEN S	76 IRVING ST	021441804	1984
16226312003	BOND PROPERTIES L L C	%G BOND	890125458	0
16226310005	GARDENSWARTZ JAY & SUSAN	P O BOX 6367	907346367	1984
16226313029	ODINAS JOAN	5371 LINDERO PL	891192707	1978
16226710095	DELGADO CARLOS	5351 OXBOW ST	891192861	1975
16226710120	HERNANDEZ IVAN GUERRERO	5350 SPENCER ST	891192732	1973
16226313009	DUVAL JOSEPH R	1673 CALIENTE CT	891192715	1978
16226313032	HALLENBECK KEVIN M & NANCY A	5380 LINDERO PL	891192720	1978
16226312004	COUNTRY HILLS APTS	%PRUDENTIAL ASSET RESOURC	752017907	1981
16226315002	SUSMAN R SCOTT	5300 DURALITE #102	891227315	1971
16226315031	FONTENOT SHARMANE L	5355 TAMARUS ST	891192680	1971
16226315001	VAQUERO RANCHOS HOWNERS ASSN	5025 S EASTERN AVE BOX 273	891192318	0
16226710123	HOOPER SCOTTY	5356 OXBOW ST	891192864	1975
16226313011	ROSOWSKI JEFFREY M	1653 CALIENTE CT	891192715	1978

16226710161	FUNES MAURICIO E & GLORIA R	5353 CHESTNUT ST	891192807	1974
16226313045	REED FAMILY TRUST	5379 SPENCER ST	891192728	1978
16226313010	SALMERON FELIPE	P O BOX 98202	891938202	1978
16226313028	KHAN NAHEED	5381 LINDERO PL	891192707	1978
16226710162	GARCIA MARY A	5354 CHESTNUT ST	891192808	1976
16226710189	BAYVIEW FAMILY TRUST	5353 CORRAL CT	891192885	1973
16226710119	ZARAGOZA MARIA GUADALUPE	5364 S SPENCER ST	891192732	1975
16226710096	WILLIAMS BONITA J	5365 OXBOW ST	891192861	1975
16226315003	POLING THOMAS	5368 ESCONDIDO	891192602	1971
16226315030	KRAHN LORI A	5367 TAMARUS ST	891192680	1971
16226313044	HECHAVARRIA RENE LOPEZ ETAL	5389 SPENCER ST	891192728	1978
16226313033	SPARKS JOYCE M	5390 LINDERO PL	891192720	1978
16226710124	LAU EDWARD TRONG JR REV LIV TR	5370 OXBOW ST	891192864	1975
16226710160	AGNEW SUZANNE D & JAMES R	P O BOX 5340	853595340	1974
16226313027	MILLER BRENDA FAMILY TRUST	5391 LINDERO PL	891192707	1978
16226710163	TU CHUCK	5366 CHESTNUT ST	891192808	1974
16226710188	BRENNAN KERRY R & SUZANNE	5365 CORRAL CT	891192885	1973
16226313014	DUBOIS RAYMOND J & DEE A	1672 PAPAYA CT	891192755	1978
16226313013	MORRIS JAMES E	1662 PAPAYA CT	891192755	1978
16226313012	ZARAGOZA ISIDRO	1652 PAPAYA CT	891192755	1978
16226315004	DIAZ HECTOR & GLORIA	5380 ESCONDIDO ST	891192602	1971
16226315029	MUNOZ SALVADOR & IMELDA P	5379 TAMARUS ST	891192680	1971
16226313043	WEBB DORIS MAY THOMPSON FAM TR	5399 SPENCER ST	891192728	1978
16226710125	CARNWRIGHT WALTER W II	P O BOX 50640	926190640	1975
16226313034	OWEN THOMAS W LIVING TRUST	5400 LINDERO PL	891192713	1978
16226710159	PATCEG MILES M	5375 CHESTNUT ST	891192807	1974
16226313026	DAHLEN JENNIFER M	5401 LINDERO PL	891192714	1978
16226710164	HENRY ORRIS F	5376 CHESTNUT ST	891192808	1974
16226710187	JAMERSON AL F	5375 CORRAL CT	891192885	1973
16226710097	VASQUEZ CRISTOBAL HILARIO	5383 OXBOW ST	891192863	1975
16226710118	BINNS MARY A & CHRISTOPHER J	5384 SPENCER ST	891192731	1975
16226315005	SCHAMBACH LISA A	42A STERLING RD	015411227	1971
16226315028	BOSTICK KATHY	5391 TAMARUS ST	891192680	1971
16226710126	MARTINEZ PATRICIA	5390 OXBOW ST	891192864	1975
16226313042	BOREMAN JANET MARION	P O BOX 4186	890414186	1978
16226313035	JOSEPH JACOB P & CHINNAMMA P	5410 LINDERO PL	891192713	1978
16226710158	PONCE ANTONIO & MARIA G	5385 CHESTNUT ST	891192807	1974
16226313025	WARD ALICE C	5411 LINDERO PL	891192714	1978
16226710165	METZ LUKE & KRISTIN	5386 CHESTNUT ST	891192808	1974
16226710186	ALANIS-ROSALES FIDEL	5383 CORRAL CT	891192885	1973
16226313015	MCDANIEL ARTHUR L & KATHERYN A	1671 PAPAYA CT	891192755	1978
16226710098	JOHNSON JEFFREY F & CAROL A	5395 OXBOW ST	891192863	1975
16226710117	LOPEZ VICTOR M	5396 SPENCER ST	891192731	1975
16226315006	RODRIGUEZ VALERIANO	5404 ESCONDIDO ST	891192602	1971
16226315027	HUERTA JAVIER	5403 TAMARUS ST	891192616	1971
16226313016	GUZMAN ROBINSON	4435 NOBEL DR #42	921221558	1978
16226313017	HOYT ROBERT & LIEING	528 GREEN HAVEN DR	622261801	1978
16226710127	LEUNG EDDIE & SANDRA TRUST	5400 OXBOW ST	891192831	1975
16226313041	CORONA MIQUEL	5419 SPENCER	891192728	1978
16226710157	VARGAS VICENTE	3851 TUBLEWEED	890480000	1974
16226710185	SALVATERRA-HEANEY REVOKABLE TR	5389 CORRAL CT	891192885	1973
16226313036	CARRILLO WALTER & KIRA	5420 LINDERO PL	891192713	1978
16226313024	KWON KYOUNG L L C	5421 LINDERO PL	891192714	1978
16226710166	GARTNER SANDRA KAYE	5396 CHESTNUT ST	891192808	1974
16226710184	MONTANO RAFAEL	5390 CORRAL CT	891192815	1973
16226312010	CHURCH BAPTIST MOUNT SINAI INC	5424 TAMARUS ST	891192617	1980
16226312020	SCHOOL BOARD OF TRUSTEES	2832 E FLAMINGO	891215205	0
16226710099	ARGUETA SONIA B	5405 OXBOW ST	891192863	1975

16226710116	ZITZER VIOLET A REVOCABLE LIV TR	5406 SPENCER ST	891192731	1975
16226315007	MEDINA THOMAS G	5416 ESCONDIDO	891192602	1971
16226315026	DLACK GLORIA KOFAHL	5415 TAMARUS ST	891192616	1971
16226710128	MORENO ROMEO P & MARYGIN L	5410 OXBOW ST	891192831	1975
16226710156	GOE RUSTY & MARIE A	13320 FELLOWSHIP WY	895118669	1974
16226313040	GARCIA-MUNOZ EVERARDO	5429 SPENCER ST	891192728	1978
16226313023	THOMAS FAMILY TRUST	1905 COCHRAN AVE	891043538	1978
16226313037	ODINAS JOAN LIVING TRUST	5371 LINDERO PL	891192707	1978
16226710167	CHAMPANERI PRAMOD & SANGEETA	1401 E CARSON AVE	891015331	1974
16226313018	SINDYLA GARY J & MURIEL K	5432 CALIENTE ST	891192722	1978
16226710100	NOVOA JORGE	5415 OXBOW ST	891192863	1975
16226710115	SCHULTE THOMAS M	2375 E TROPICANA #B 190	891196564	1975
16226315008	MOUNTAIN VIEW REST HOME	%E LEAVITT	891015720	1971
16226710172	WHEELER RICHARD K & LORETTA B	1980 SUNNYSLOPE AVE	891192848	1973
16226315025	MILLHISER JAY & KATHLEEN G	5427 TAMARUS ST	891192616	1971
16226313020	UYEDA STANLEY T	1672 SANDALWOOD LN	891192718	1978
16226313021	DYKAS MARIE	1688 SANDALWOOD LN	891192718	1978
16226710129	FURRER VICTORIA	348 W PA PA AVE	967320000	1973
16226710171	RAMIREZ CARLOS & YOLANDA	1960 SUNNYSLOPE AVE	891192848	1973
16226710155	DENTICE JOE W	5415 CHESTNUT ST	891192879	1974
16226313022	THOMAS FAMILY TRUST	1905 COCHRAN ST	891043538	1978
16226313039	WATERS ERIK & MICHELLE	5439 SPENCER ST	891192728	1978
16226313038	ISEN DOROTHY E	5440 LINDERO ST	891192713	1978
16226710168	LENNOX GEORGE C LIVING TRUST	5416 CHESTNUT ST	891192878	1974
16226710170	DICK ROBERT FORBES JR & TERESA L	1940 SUNNYSLOPE AVE	891192848	1973
16226313019	MORITZ KENDALL D & ARDITH J	5442 CALIENTE ST	891192722	1978
16226710101	SACHS ERICH E & GERDA H FAM TR	5425 OXBOW ST	891192863	1973
16226710114	KERNS JOSHUA D	5426 SPENCER ST	891192731	1973
16226315009	LIVELY RICHARD & PAMELA A	5440 ESCONDIDO ST	891192602	1971
16226315024	MOORE MELISSA L	8038 KINGS RANSOM ST	891396254	1971
16226312019	WOMACK WILLIAM L & DOROTHY J	5445 CALIENTE ST	891192721	1976
16226710130	MATARAZZO FAMILY TRUST	5430 OXBOW ST	891192831	1973
16226710154	GUERRA HECTOR & LOURDES	5425 CHESTNUT ST	891192879	1974
16226710169	GLYNN SHARON L	317 S LINCOLN AVE	656051549	1974
16226710102	AMERICAN HOME MORTGAGE SERV INC	4600 REGENT BLVD #200	750632478	1973
16226710113	EDWARDS PATRICIA	5349 RAILROAD SPIKES ST	891182077	1973
16226315010	RYAN LARRY & ELEONORE-CHARLOTTE	5452 ESCONDIDO ST	891192664	1971
16226315023	STOUT BRENDA J	5451 TAMARUS ST	891192616	1971
16226313053	VERVILLE UNCHALEE	1655 SANDALWOOD LN	891192717	1978
16226313052	LAHR RANDALL C & SANDRA C	10739 BRAMANTE DR	891414297	1978
16226313051	SEMLER MARIA & RONALD	P O BOX 14225	891144225	1978
16226313050	ROSE LYNDA	1703 SANDALWOOD LN	891192717	1978
16226313049	TAPIA SERGIO	1719 SANDALWOOD LN	891192717	1978
16226313048	COTA FRANCISCO JAVIER	1735 SANDALWOOD LN	891192717	1978
16226313047	KELMAN FAMILY TRUST	1751 SANDLEWOOD LN	891192717	1978
16226313046	PENA MIGUEL	1767 SANDALWOOD LN	891192717	1978
16226710131	CANNON CORBETT & MARJIE	5440 OXBOW ST	891192831	1973
16226710146	ARELLANO ARTURO & CHARLENE	2009 SUNNYSLOPE AVE	891192847	1973
16226710153	HALDORSEN OLAF H & DORIS M	5435 CHESTNUT ST	891192879	1974
16226710147	GONZALES ERIC A	1993 SUNNYSLOPE AVE	891192847	1973
16226710148	VANKUREN CHAD & MONIQUE	92-917 WELO ST #108	967071495	1973
16226710103	PADILLA LETICIA & ANGEL	5445 OXBOW ST	891192863	1973
16226710149	TILLEY CHRISTOPHER W	1961 SUNNYSLOPE AVE	891192847	1973
16226710112	CHAVIRA DEMETRIO	5446 SPENCER ST	891192731	1973
16226315011	LUJAN JORGE & SONIA	5464 ESCONDIDO ST	891192664	1971
16226315022	GRONNA PATRICK & AMY	5463 TAMARUS ST	891192616	1971
16226710152	CAMARA BEATRICE	1401 DELIGHT ST	920213525	1974
16226710150	M A D INVESTMENTS L L C	%M ORTIZ	890743332	1973

16226710132	RIVERA RAMON & ROSA E	5450 OXBOW ST	891192831	1973
16226314001	ELDORADO VILLAS HOWNERS ASSN	%TAYLOR MGT	891196150	1982
16226710151	DAVIDOWICZ JOEL	1929 SUNNYSLOPE AVE	891192847	1974
16226312011	BRUNO NICK	5456 TAMARUS	891192617	1976
16226312015	POWERS GARY ROY	1590 E RAWHIDE ST	891192743	1978
16226312016	WOMACK FAMILY TRUST	5445 CALIENTE ST	891192721	0
16226312034	WOMACK FAMILY TRUST	5445 CALIENTE ST	891192721	0
16226312021	YFANTIS EVANGELOS A	1707 CREST AVE	891192132	1967
16226312024	JUNG HAE SOON SONG	1720 RAWHIDE ST	891192742	1966
16226312025	CONTE JOSEPH TRS	7065 W ANN RD #130-420	891303865	0
16226312027	CORCORAN WILLIAM SR SEP PPTY TR	19 HOLSTON HILLS RD	890526643	1978
16226710144	PARDO RAUL	2030 RAWHIDE ST	891192833	1971
16226710143	ROSAS IGNACIO V	2014 RAWHIDE ST	891192833	1973
16226710104	FRANK JOHN P	5455 OXBOW ST	891192863	1973
16226315021	RUCK AL A OR MARY LOUISE	5475 TAMARUS ST	891192616	1971
16226710142	SOSA FAMILY REVOCABLE LIVING TR	133 ARBOR WY	890742796	1973
16226710111	LUJAN VICTOR & ANA	5456 SPENCER ST	891192731	1973
16226315012	ROMERO JOHN I	5476 ESCONDIDO ST	891192672	1971
16226314002	DONIS ELIZABETH	5466 S MARYLAND PKWY	891192662	1980
16226314051	PISCOPO PEANGJAI	5464 S MARYLAND PKWY	891192625	1980
16226314050	ROY BIJAN K & RITA	10481 EL DORADO WY	907202203	1980
16226314045	FOCHT DAVID E	5452 S MARYLAND PKWY	891192625	1980
16226314037	BOSWORTH KENT	10860 JUNEBERRY LN	808316825	1980
16226314049	SHOCK WAYNE E & EVA	5460 S MARYLAND PKWY	891192625	1980
16226314044	ESLER WYVILLE D & SUE REV LIV TR	5451 S ESCONDIDO ST	891192663	1980
16226314046	PETERSEN ANN WALLACE	306 N CANBY ST	932743114	1980
16226314039	SARKISSIAN PENNY L	5461 ESCONDIDO ST	891192663	1980
16226314038	SAITZ HERMAN A	5463 ESCONDIDO ST	891192663	1980
16226314048	MARTINEZ ELVIRA M	5458 S MARYLAND PKWY	891192625	1980
16226314043	BOSWORTH KENT	10860 JUNEBERRY LN	808316825	1980
16226314047	MCARTHUR AARON JAMES & XELA BETH	5456 S MARYLAND PKWY	891192625	1980
16226314040	CUSUMANO HELENA E	5459 ESCONDIDO ST	891192663	1980
16226710141	GOMEZ LETICIA G	1982 RAWHIDE ST	891192833	1973
16226314042	LOZIER SANDRA J	5455 ESCONDIDO ST	891192663	1980
16226314041	MORRISETTE ROBERT & DELIA	P O BOX 298	974960298	1980
16226314003	MOORE CHARLES E & NEVADA A	5468 S MARYLAND PKWY	891192662	1980
16226710133	FLORES LETICIA & HUGO	5460 OXBOW ST	891192831	1973
16226314036	FEDERAL NATIONAL MORTGAGE ASSN	%AURORA LOAN SERV	693613581	1980
16226315020	HARBAUGH JUDITH A & JOHN M	5487 TAMARUS ST	891192616	1971
16226710140	MATUS MERCEDES & HENRY L	1609 N VERDE AVE	923762747	1973
16226315013	ROBERTS REVOCABLE TRUST	5488 ESCONDIDO ST	891192672	1971
16226314004	NOTTKE CHARLES W	5470 S MARYLAND PKWY	891192662	1980
16226314035	SHARON YEHUDA	5469 ESCONDIDO ST	891192665	1980
16226312035	WOMACK FAMILY TRUST	5445 CALIENTE ST	891192721	0
16226710139	DOMINGUEZ EDUARDO	1950 RAWHIDE ST	891192833	1973
16226314005	ORTEGA FAMILY LIVING TRUST	5472 S MARYLAND PKWY	891192662	1980
16226315019	FONTENOT SHARMANE L	1486 RAWHIDE ST	891192635	1971
16226710105	BARTHELME DAVID B	5465 OXBOW ST	891192863	1973
16226710110	BANK U S NATIONAL ASSN TRS	4828 LOOP CENTRAL DR	770812212	1973
16226315014	THOMPSON JUNE R & GUY W	5469 VISCOUNT CARLSON	891191811	1971
16226314034	NESTOR CURT	5471 ESCONDIDO ST	891192665	1980
16226312012	PATANIAN NERSES	5476 TAMARUS ST	891192617	1972
16226312023	CARTO LOUIS A	1700 RAWHIDE ST	891192742	1963
16226312022	ATCHESON ROSE MARIE	5484 CALIENTE ST	891192719	1963
16226312026	NIS-SON ASSET MANAGEMENT TRUST	5475 SPENCER ST	891192757	1978
16226314006	BONNIN R J	5474 S MARYLAND PKWY	891192662	1980
16226314033	BARKIN MICHAEL E & SHARON REV TR	5473 ESCONDIDO ST	891192665	1980
16226315018	WOLVERTON KEN M & GUADALUPE R	1462 RAWHIDE ST	891192635	1971

16226315015	VEDORA ANNE M REVOCABLE TRUST	1390 RAWHIDE ST	891198480	1971
16226312017	SAGER ELINOR TRUST	1610 RAWHIDE ST	891192743	1978
16226710138	MELTON JOHN R & BERTHA	1934 RAWHIDE ST	891192833	1973
16226710134	SALDIVAR IMELDA	5472 OXBOW ST	891192831	1973
16226312014	RAMOS MIREILLE & SERGIO	1580 RAWHIDE ST	891192743	1976
16226315017	SORENSEN ALLEN E & PATRICIA L	1438 E RAWHIDE ST	891192635	1971
16226315016	LUJAN FELIPE C	1414 RAWHIDE ST	891192636	1971
16226314007	OATES JENE ROBERT	5476 S MARYLAND PKWY	891192662	1980
16226314032	CABANAS VICENTE S	5475 ESCONDIDO ST	891198403	1980
16226710137	BERNASEK GEORGIE	3147 RABBIT CREEK DR	891203161	1973
16226312036	WOMACK FAMILY TRUST	5445 CALIENTE ST	891192721	0
16226710106	CORTES LAURA	5475 OXBOW ST	891192863	1973
16226710109	MEIER GERTRUDE B	5476 SPENCER ST	891192731	1973
16226314008	HOHNSTEIN SUSAN J	5478 S MARYLAND PKWY	891192662	1980
16226314031	YATES SHELLEY E & M REV LIV TR	4085 DUSTIN AVE	891202611	1980
16226710315	CHAVIRA LUIS R & DEMETRIO	2029 RAWHIDE ST	891192832	1971
16226710316	WINTHROP KENNETH R JR & ANNMARIE	2011 E RAWHIDE ST	891192832	1976
16226710136	MORET SHARON T	3755 PACIFIC ST	891214153	1973
16226314016	DICOSTANTINO JOHN A	1236 RAWHIDE ST	891192637	1980
16226314015	WOOLCOTT FRANK R	1232 RAWHIDE AVE	891192637	1980
16226314023	PITTMAN J EVERETT JR	P O BOX 33	278020033	1980
16226314014	MORETTI LOUIS & GENEVIEVE	1228 RAWHIDE ST	891192637	1980
16226314024	CHUNG DONG H & HAI Y	13623 RANCHILL DR	907032310	1980
16226314017	WERBICKY ROBERT	1240 RAWHIDE AVE	891192637	1980
16226314022	WASHINGTON ALFRED R & JOYCE ANN	9502 BIG PLANTATION AVE	891430000	1980
16226314012	MADISON EDWARD	1220 RAWHIDE ST	891192637	1980
16226314013	BOSWORTH KENT	10860 JUNEBERRY LN	808316825	1980
16226314018	REY ODALYS HERRERA	1244 RAWHIDE ST	891192637	1980
16226314009	KLINKER ANDY & TERRI L	5480 S MARYLAND PKWY	891192662	1980
16226314025	CAPARROS FERNANDO	1320 RAWHIDE ST	891192681	1980
16226314019	BIDDLE JOHN MARCUS	1248 RAWHIDE ST	891192637	1980
16226314020	VELARDE-CABAGNERO MARCO ANTONIC	1300 RAWHIDE	891192681	1980
16226314021	WHEATLEY VICTOR	1304 RAWHIDE AVE	891192681	1980
16226314026	EQUITY ONE INC	%LITTON LOAN SRVCING INC	772104528	1980
16226314027	JACOB DOUGLAS P SR	8738 BRODY CT	891476025	1980
16226710317	PARROTT CHRISTOPHER P & JANINE M	1995 RAWHIDE ST	891192832	1973
16226314030	GONZALEZ-NAVARRO JESUS	5479 ESCONDIDO ST	891198403	1980
16226710135	FISHER RICHARD K JR	1882 RAWHIDE ST	891198004	1973
16226312013	HUERTA NOEMI	5496 TAMARUS ST	891192617	1994
16226314010	ALEXANDER JAMES L	5482 S MARYLAND PKWY	891192662	1980
16226710318	ALLEN JACQUELYN M	1979 RAWHIDE ST	891192832	1973
16226314029	YUJUICO SHARON G	3505 DOE SPRING RD	928823604	1980
16226314011	TODOROV MIROSLAVA GOJNIC LIV TR	633 ALICE ST	939402001	1980
16226312037	WOMACK FAMILY TRUST	5445 CALIENTE ST	891192721	0
16226710319	PARRA ANA ROSA	3100 KINGSPOINT AVE	891201930	1973
16226314028	SCRANTON JOHN J	5755 SOLEDAD MOUNTAIN RD	920377258	1980
16226710107	MENGUITA JOFRE R & JENNETH J	5487 OXBOW ST	891192863	1973
16226710108	AHLERT DOUG TRUST	5488 SPENCER ST	891192731	1973
16226710320	HAWKINS JAMES A & REBECCA FAM TR	1129 HIDDEN MIST ST	890522951	1973
16226710314	TICK JACK & JEAN	2030 ROAN AVE	891192837	1971
16226710313	LOBOS JOSE RIGOBERTO & SANDRA M	2014 ROAN AVE	891192837	1972
16226810187	MONDRAGON FERNANDO	1931 RAWHIDE ST	891192832	1973
16226710312	POLSON RICKY D & NICOLINE M	1998 ROAN AVE	891192837	1972
16226810141	GIANNETTO FRANK A	3221 DELMAR TERR	810081501	1972
16226810186	TAPIA FLORENTINO & MARIA E	1915 RAWHIDE ST	891192832	1973
16226810142	SOTELO RAMON	1609 VILLA RICA DR	890524152	1972
16226810185	VORPAHL JOHN C	2233 GABRIEL DR	891196132	1973
16226401001	BERGER LYNDEN J	2326 CROOKED CREEK AVE	891231590	1984

16226401002	NAITO ALAN S & ROSE	2446 W 230TH PL	905015205	1984
16226401003	ORTIZ JOSE	6710 CASA LINDA DR	891031020	1984
16226401004	JAMESON JOANNE LIVING TRUST	8001 E NORTH MESA	799320000	1984
16226810184	FREE-MARSHALL MELISSA A & PAUL	5514 OXBOW ST	891192866	1973
16226411001	PARADISE VILLAS HOMEOWNERS ASSN	%ADEPT MGMT SERVICES	891346299	1988
16226401005	NEWMAN JAMES C	1600 WALNUT AVE	902665057	1990
16226402001	BELL REAL ESTATE L L C	%B BELL	891024610	1964
16226402002	BELL REAL ESTATE L L C	%B BELL	891024610	0
16226402003	BELL REAL ESTATE L L C	%B BELL	891024610	1980
16226402004	I I C L L P	188 WELLSPRING AVE	891837616	1971
16226403001	SPENCER STREET MANOR APTS L L C	1031 SEA VILLAGE DR	920071433	1973
16226810143	KASEDY JOYCE M	1950 ROAN AVE	891192837	1972
16226810001	STEFAS MARTHA J	P O BOX 70702	891700702	1973
16226810071	PIERCE MARY ANN	5513 OXBOW ST	891192865	1973
16226411003	LOOKINGBILL KATHERINE M	1380 DI BLASI DR #102	891192692	1988
16226411002	NUNEZ ESTELLA	1380 DI BLASI DR #101	891192692	1988
16226411006	ROSSI JOSEPHINE	1380 DI BLASI DR #105	891192692	1988
16226411007	CLARKE SANDRA F	1380 DI BLASI DR #106	891192692	1988
16226411012	SANDLER HENRY E	1460 DI BLASI DR #103	891198407	1989
16226411004	PETERSEN FAMILY TRUST	10708 LESTERFORD AVE	902413027	1988
16226411005	DIMITROVA DANIELA A	1380 DI BLASI DR #104	891192692	1988
16226411013	ROMAER DAMIEN	1460 DI BLASI DR #104	891198407	1989
16226411008	ASHLEY ELAINE D	1380 DI BLASI DR #107	891192692	1988
16226411017	DOROFACHUK MARY JANE	1460 DI BLASI DR #108	891198407	1989
16226411009	KITOE NANCY W	1380 DI BLASI DR #108	891192692	1988
16226411016	HETH KEVIN L	1460 DI BLASI DR #107	891198407	1989
16226411010	ROSACI WILMARIE	7770 S FAIRFIELD AVE	891231813	1989
16226411011	EDMONSON DAVID A TRUST	1691 E MAIN ST	930013307	1989
16226411014	BANK NEW YORK TRS	400 COUNTRYWIDE WY SV-35	930656298	1989
16226411015	SLAGLE HAROLD D	1460 DI BLASI DR #106	891198407	1989
16226810144	FLORES RAMON VARGAS	1934 ROAN AVE	891192837	1973
16226810145	MACDONALD BARBARA F TRUST	1922 ROAN AVE	891192837	1973
16226810220	NAIDAS JOSE & NERISSA	544 SURREY ST	891190000	1971
16226810207	EMMER DEEANN	1621 WELLINGTON SPRINGS AVE	890526882	1971
16226810183	COSGROVE MICHAEL K & ELIZABETH	22753 VENTURA BLVD	913641334	1973
16226810072	ARREOLA LUZ M & FILOMENO	5525 OXBOW ST	891192865	1973
16226810146	VARGAS BERTHA A	6005 S EASTERN AVE #S5	891193135	1973
16226810002	VILLATORO GLORIA	5520 SPENCER ST	891192730	1973
16226810208	BRIMER GERALD A & JUANITA	5546 CORRAL CIR	891192884	1972
16226411038	GODFREY MARYANN	1391 DI BLASI DR #101	891198402	1988
16226411047	ROBSON LARRY	1050 E CACTUS AVE #1065	891837367	1988
16226411037	DEGUZMAN EDWARD & EDNA	1411 DIBLASI DR #105	891192694	1988
16226411018	PETERS ROBERT D	1471 DI BLASI DR #101	891192600	1989
16226410001	DICHOSA ANTONIO & AURORA	%B & M DICHOSA	917482947	1982
16226411028	MOEN DWAINE S & HAN SUN	1431 DI BLASI DR #101	891192696	1989
16226410002	DICHOSA FAMILY TRUST	%B & M DICHOSA	917482947	1982
16226410003	J D R E TRUST	9246 ARBOR GLEN ST	891232061	1982
16226411027	MAPOY EMELITA C	570 CORNELL ST	945801029	1989
16226410004	LONG ROYCE E	723 E KIRKWALL RD	917405715	1982
16226410005	SAMPSON MARK PETER	1290 FRAYA DR #B	891192653	1982
16226410006	DIAZ VICTOR A	1308 FRAYA DR	891198484	1982
16226410007	RAMIREZ RAUL	8721 GAREDENDALE ST	902420000	1982
16226410008	OROZCO FELIPE & MARIA	5805 TEMPLE CITY BLVD	917802113	1982
16226810206	EATON CYNTHIA D & TYLER	5549 SURREY ST	891192854	1971
16226810182	CHAPMAN-MOSER CHRISTINE ANN	5536 OXBOW ST	891192866	1973
16226810073	DIAZ RAISA	5535 OXBOW ST	891192865	1973
16226810219	TRUSTEE CLARK COUNTY TREASURER	%AUNE FAMILY TRUST	890480702	1972
16226810221	WOOD 2000 TRUST	8208 SPRING ARTS AVE	891296863	1971

16226411039	DICKMAN MARBETH	1391 DI BLASI DR	891198413	1988
16226810003	R F K HOLDING 8 L L C	3746 TERRACE DR	891201227	1973
16226411046	YAMAMOTO MARIA MORICE & LUIS H	P O BOX 19233	891320233	1988
16226411036	KEUTEN GILBERT	1411 DI BLASI DR #104	891192694	1988
16226411019	MCNEILL BEVERLY	921 DURHAM PL	190201247	1989
16226810209	LOPEZ LUIS E SOCORRO & KIRENIA R	5554 CORRAL CIR	891192884	1972
16226411026	HARIANJA BERLIAN	1451 DI BLASI DR #104	891198406	1989
16226411029	ALTMAN SHARON	1431 DI BLASI DR #102	891192696	1989
16226411040	OKRI GODWIN E	37 UPPER PARK RD	000000000	1988
16226411035	BURROUGHS THOMAS	1411 DI BLASI DR #103	891192694	1988
16226411045	REZNICEK AUREA M	1371 DIBLASI AVE #103	891190000	1988
16226411020	GORDAN JACQUELINE TRUST	1471 DI BLASI DR #103	891192600	1989
16226411025	DOBBINS DOROTHY A	1451 DI BLASI DR #103	891198406	1989
16226411030	SPECTOR IRA I & NANETTE	1431 DI BLASI DR #103	891192696	1989
16226810188	TORDIGLIONE VINCENT & MARYANN	5544 CHESTNUT ST	891192810	1973
16226810147	GOODMAN DAVID A	5545 CHESTNUT ST	891192809	1973
16226411041	LITWIN DOUGLAS A	1391 DI BLASI DR #104	891198404	1988
16226411034	DEARIE BRYNNE	1411 DI BLASI DR #102	891192694	1988
16226411044	DANLEY CATHY R & FLOYD	3880 E RUSSELL RD	891203816	1988
16226810205	SANCHEZ DAVID E & EVELYN G	5557 SURREY ST	891192854	1971
16226411021	STANDER RUBY	550 FRONT ST #806	921017093	1989
16226411031	PELLE ALLAN L	1431 DI BLASI DR #104	891192696	1989
16226411024	CASELLA RONALD G & LINDA L	1451 DI BLASI DR #102	891198405	1989
16226810181	KONSTANTIN ARMAN	5546 OXBOW ST	891192866	1973
16226810074	MENDOZA JOSE RAUL PENA	5545 OXBOW ST	891192865	1973
16226810222	CALAHAN NATHAN SR & BARBARA	5562 SURREY ST	891192855	1971
16226810004	YANKEL L L C	%J ROSENBERG	926740157	1973
16226411042	HELLER NATHAN & E JT REV LIV TR	10207 SUNRISE LAKES BLVD	333222065	1988
16226411022	YANCY DAVID L II	9203 S FITZGERALD WY	774590000	1989
16226411033	KELLOGG FAMILY TRUST	1411 DI BLASI DR #101	891192694	1988
16226411043	KRISE DERENE P 2000 TRUST	16609 FOOTHILL BL #308	913421175	1988
16226810210	COX BRYAN	5560 CORAL CIR	891192884	1972
16226810218	GOLD NADEAN	P O BOX 72877	891702877	1972
16226411032	CORBIN VINCENT B & RICHARD B JR	17119 WUNDER HILL DR	773794583	1989
16226411023	BOUCHARD TIMOTHY V & PHYLLIS K	1451 DIBLASI DR #101	891190000	1989
16226810148	LOPEZ NERISSA & LUIS	5555 CHESTNUT ST	891192809	1973
16226810189	STAFFORD JOHN & SHARON	5554 CHESTNUT ST	891192810	1973
16226810204	ALVAREZ NORBERTO A & CARINA	5565 SURREY ST	891192854	1971
16226810180	DIMDIMAN VICTORINA	5556 OXBOW ST	891192866	1973
16226407014	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16226810075	NEGRETTE S C 1990 DECLARATION TR	P O BOX 711	950020711	1973
16226810223	MONTOYA GLORIA E	5570 SURREY ST	891192855	1971
16226810005	JOSEPHS GARY IAN	5556 SPENCER ST	891192730	1973
16226810217	KLIAMOVICH THOMAS M	5567 CORRAL CIR	891192814	1972
16226810211	EDGERTON GERALD J & SHERRY M	5568 CORRAL CIR	891192884	1972
16226810190	HOWARD JOHN E & BARBARA J	6128 W MINERVA DR	891302313	1973
16226810149	FLORES VOLDI	5565 CHESTNUT ST	891192809	1973
16226810203	RESIDENTIAL VENTURES INC	20301 VENTURA BLVD #112	913640928	1971
16226810179	SOLORZANO VICTOR M	5566 OXBOW ST	891192866	1973
16226810076	RACHEL TIFFANY	3900 DEGNAN BLVD	900082616	1973
16226810224	BISCHOFF JOLIE K	5578 SURREY ST	891192855	1971
16226810006	JOHNSON GARY D & MARLENE	5568 SPENCER ST	891192730	1973
16226810216	TUCKER DEVI ANNE	5575 CORRAL CIR	891192814	1972
16226810212	MARKHAM DAVID P & DEBRA	5576 CORRAL CIR	891192884	1972
16226810191	FURLAN MARY E	5574 CHESTNUT ST	891192810	1973
16226810150	BARTHELME MARGOT LIVING TRUST	2299 ROAN AVE	891192840	1973
16226810202	CALDERON OSWALDO N & DORA A	5581 SURREY ST	891192854	1971
16226810178	LEE LORI C	P O BOX 7560	967208946	1973

16226810077	GREEN RAMONA S	8310 N ROSE MARIE LN	857429785	1973
16226810225	SEVENTY THREE INC	%L FREEMAN	891455992	1971
16226810007	REEVE ROBERT C & KAREN C	3111 MONTE ROSA AVE	891203041	1973
16226810215	GRECO RICHARD J	5583 CORRAL CIR	891192814	1972
16226810213	PEART FAMILY TRUST	5584 CORRAL CIR	891192884	1972
16226810192	ROCA ELSIE	5584 CHESTNUT ST	891192810	1973
16226810151	VERNE LORRIN A & EVA	5585 CHESTNUT ST	891192809	1973
16226810201	DUBOIS COURTNAY J	5589 SURREY ST	891192854	1971
16226810214	PERRY DAVID R	5586 CORRAL CIR	891192884	1972
16226810177	NEIGHBORS FAMILY REV LIV TR	5586 OXBOW ST	891192866	1972
16226810078	URREA JORGE & MARIA	5585 OXBOW ST	891192865	1972
16226407015	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16226810226	WOOMER KELLY S & WILLIAM E	5594 SURREY ST	891192855	1971
16226810008	SEALS PATRICIA A	5592 SPENCER ST	891192730	1972
16226810259	WIXOM ROGER	5599 STIRRUP ST	891192845	1971
16226810193	GARCIA ERWIN & EMMA	5594 CHESTNUT ST	891192810	1973
16226810152	LUNA ROBERTO	5595 CHESTNUT ST	891192809	1973
16226810200	RAIANO ROBERT ALAN & GLORIA JEAN	5597 SURREY ST	891192854	1971
16226810176	BLASCO ROGELIO & ELVIRA	9761 GENTLE SPIRIT DR	891484571	1972
16226810079	LOYA-SAENZ SAUL	5595 OXBOW ST	891192865	1972
16226810195	QUINTERO JOSE A	1962 POMMEL AVE	891192830	1972
16226810198	PHIPPS SUZANNE	2010 POMMEL AVE	891192830	1972
16226810227	M E R S	327 S INVERNESS DR	801126012	1971
16226810009	ROSSELL JORGE R SR & GLORIA	5604 SPENCER ST	891192723	1972
16226810258	WILLS WILLA ELIZABETH LIVING TR	5605 STIRRUP ST	891192896	1971
16226810196	SCHAUS WILLIAM	1978 POMMEL AVE	891192830	1972
16226810197	ROBINSON MARY VIRGINIA	1994 POMMEL AVE	891192830	1972
16226810194	CASILLAS ENRIQUE R & ANGELICA	5604 CHESTNUT ST	891192880	1973
16226810153	SALINAS MAXIMO	5605 CHESTNUT ST	891192881	1973
16226810199	ARNETT ROGER & VICTORIA	5605 SURREY ST	891192854	1971
16226810175	GINSBURG ALEC	5606 OXBOW ST	891192838	1972
16226810080	BANK LASALLE N A TRS	14523 SW MILLIKAN WY #200	970052352	1972
16226810228	CALDERON ROMEO	5610 SURREY ST	891192899	1971
16226810010	MENDOZA GUADALUPE & LEOVIGILDA	5616 SPENCER ST	891192723	1972
16226810257	DUKE ANNETTE	2587 LACONIA AVE	891215459	1971
16226810154	ROBINSON LUANNE	5613 CHESTNUT ST	891192881	1973
16226810174	DIGIULIO SHAUN	5616 OXBOW ST	891192838	1972
16226810081	VASQUEZ CRISTOBAL H	3615 OXBOW ST	891190000	1972
16226810229	ELMER MARY LOU	5618 SURREY ST	891192899	1971
16226810256	PARTELL TERRY R & KEVIN F	5617 STIRRUP ST	891192896	1971
16226810286	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16226810155	THEISS HARVEY H	1921 POMMEL AVE	891192827	1973
16226810156	HRUSKA NANCY	1937 POMMEL AVE	891192827	1973
16226810157	GOMEZ JOAN ILEEN	1953 POMMEL AVE	891192827	1972
16226810158	PERALTA LUIS ORTIZ	1969 POMMEL AVE	891192827	1972
16226810159	HANKS SANDRA L	1985 E POMMEL AVE	891192827	1972
16226810160	GRISSETTE ROBERT B III	2001 POMMEL AVE	891192827	1972
16226810161	DELATORRE LEOCADIO	2017 POMMEL AVE	891192827	1972
16226810162	PERO ROBERT & JUDITH	2033 POMMEL AVE	891192827	1971
16226810173	SANTANA JESSE P	5626 OXBOW ST	891192838	1972
16226810082	KONDO PROCESA E	815 KING RICHARD AVE	891191350	1972
16226810230	NAVARRO PEDRO	5626 SURREY ST	891192899	1971
16226810172	ELFGEN RICHARD & K L REV LIV TR	1872 WAGONWHEEL AVE	891192868	1972
16226810171	REEVE ROBERT C & KAREN C	3111 MONTE ROSA AVE	891203041	1972
16226810170	LANE JEFFREY G	1908 WAGONWHEEL AVE	891192857	1972
16226810169	LESPRON BERNARDO & CARMEN	1926 WAGONWHEEL AVE	891192857	1972
16226810168	YANKEL L L C	%J ROSENBERG	926740157	1972
16226810167	MORET SHARON T	3755 PACIFIC ST	891214153	1972

16226810166	NAVARRO ROSA A	1980 WAGONWHEEL AVE	891192857	1972
16226810165	MAGDALENO MANUEL & ANGELICA	1998 WAGONWHEEL AVE	891192857	1972
16226810164	SORIA-LOZANO DIANA	2016 WAGONWHEEL AVE	891192859	1972
16226810163	PEREZ MARIA	%332-346509	891192859	1971
16226810231	USKEN BERYLN G & BEVERLY K	2064 WAGONWHEEL AVE	891192870	1971
16226810232	COUNTRYWIDE HOME LOANS INC	400 COUNTRYWIDE WY SV-35	930656298	1971
16226810233	MEZILSON EVANGELINE ETAL	2102 WAGONWHEEL AVE	891192862	1971
16226407012	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1998
16226407011	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1995
16226407010	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16226407009	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16226810088	SCHNEIDER THELMA R REV LIV TR	1903 WAGONWHEEL AVE	891192873	1972
16226810089	STORMENT DONALD & BETTY	1908 WAGONWHEEL AVE	891192857	1972
16226810090	CARRANZA RAUL & GABRIELA	1935 WAGONWHEEL AVE	891192873	1972
16226810091	LITTLEFIELD JOSEPH J	1951 WAGONWHEEL AVE	891192873	1972
16226810092	DRURY BARBARA	1967 WAGONWHEEL AVE	891192873	1972
16226810093	ROTHWELL LU ANN REVOCABLE LIV TR	1983 WAGONWHEEL AVE	891192873	1972
16226810094	JANIS ANN & DEMOSTHENES C	1999 WAGONWHEEL AVE	891192873	1972
16226810095	GENTILE DOLORES C	2015 WAGONWHEEL AVE	891192874	1972
16226810096	POPPE PATRICK DEAN	2033 WAGONWHEEL AVE	891192874	1972
16226810097	TOREA FAMILY TRUST	2065 WAGONWHEEL AVE	891192869	1971
16226810098	HENAULT PATRICIA R	2085 WAGONWHEEL AVE	891192869	1971
16226810099	FLORES JUAN M & ELVIA C	2103 WAGONWHEEL AVE	891192875	1971
16226810030	DUKE ANNETTE	2587 LACONIA AVE	891215459	1971
16226810031	MILLER FAMILY TRUST	3333 W RAVEN	891398126	1971
16226810032	TOONE JAMES M III & PRISCILLA	2102 E RUSSELL RD	891193034	1971
16226210014	JEWEL HOLDING 1 L L C	8609 GRANDBANK DR	891454814	1994
16226210002	SIERRA-NEVADA MULTIFAMILY INVEST	%CAMDEN PPTY TRUST	770460391	1989
16226210003	A B N A M R O MORTGAGE GROUP	1352 E TOUHY AVE # 280W	600183304	1972
16226210004	B H ESCONDIDO INVESTORS L P	3288 STEINER ST #200	941233385	1982
16226210005	B H ESCONDIDO INVESTORS L P	3288 STEINER ST #200	941233385	1982
16226210006	M W B ASSOCIATES	3990 RUFFIN RD #100	921234805	1978
16226218001	MARRERO GUILLERMO	%J MURPHY	891196194	1978
16226218008	MUZONES TERESITA H	%T MUZONES	600484429	1978
16226210013	JEWEL HOLDING 1 L L C	8609 GRANDBANK DR	891454814	1987
16226210015	HAYES I L L C	2951 N RANCHO DR #7	891303322	2005
16226210016	JEWEL HOLDING 1 L L C	8609 GRANDBANK DR	891454814	0
16234502010	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1999
16234502002	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	0
16235101020	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	2008
16235513016	COUNTY OF CLARK(AVIATION)	P O BOX 11005	891111005	1975
16235101021	COUNTY OF CLARK(AVIATION)	11710 PLAZA AMERICA DR #800	201904794	1990
16227611128	TICE GENE LEE LIVING TRUST	5246 GRAY LN #M	891194841	1977
16227611084	GARCIA GILBERT & ROSA	51 NELLYWOOD CT	890122631	1977
16227611080	PURCELL PRUDENCE & JOSEPH	4319 2ND AVE	900084005	1977
16227611334	SARAZEN RONALD V & LORRAINE	6633 GRAND STAND AVE	891310219	1977
16226211001	NEWPORT COVE EAST L L C	2080 E FLAMINGO RD #306	891195180	1982
16226217012	ASHLEY LORA B	5215 S CALIENTE ST #26	891192009	1984
16226217016	AUTOMOTIVE SERVICE SYSTEM INC	%S ZANKL	334872653	1984
16226217028	KEITH DOROTHY ANN	5203 S CALIENTE ST #56	891192001	1984
16226217022	ALGAZE NELSON & SUSAN	1524 1ST ST	902667002	1984
16227611332	SANDHU SUKHDEV	%S RHIT	902413044	1977
16227611330	JASIULIONIS DONATAS D	7443 LASAINE ST	914062458	1977
16227611240	MAI ANDRIA	7811 13TH ST #B	926834494	1977
16227611168	ASCENCIO SERGIO & CONNIE	3865 HIGUERA RD	951482406	1977
16227611192	SCANDURA JOSEPH & DONNA M	26-05 14TH ST	111023718	1977
16227611340	KEEHAN FAMILY TRUST	823 ARCHER ST	939401217	1977
16227611339	M D C G PROPERTIES L L C	%M DAVILA	891172515	1977

16227611236	GROSSPOINTE L P	P O BOX 232315	891052315	1977
16227611264	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611308	KOJI STEVE S & TOMAYO	1117 W GARDENA BLVD #204	902474830	1977
16227611196	GAFA PAUL	5107 GREENE LN #A	891191744	1977
16227611309	GOODWIN GAIL	12274 SESAME ST	959598934	1977
16227611311	ARIAS MOISES	5105 GOLDEN LN	891191734	1977
16227611338	URENO HUGO	53 NELLYWOOD CT	890122631	1977
16227611322	KOWITT ARNOLD & SUSAN	%KAS-5108 LLC	891334473	1977
16227613013	ANDRES ESCOLASTICA B TR	1325 E EVENING GLOW AVE	936543212	1977
16227613004	RINNA DAVID J	22416 W OUTER DR	481244252	1977
16227614009	ORTIZ-CIFUENTES ELMER ELIO	2400 MARONEY AVE	891043422	1977
16227615004	MCINTYRE CLIFTON	1020 N ASHFORD AVE	923763800	1977
16227710006	DIETRICH KRISTIN R	86 BAYVIEW DR	940701650	1976
16227710016	RUBIN MITCHELL & YONATA	2401 TOMAS RIVER ST	891351155	1976
16227710032	KOBAYASHI KEVIN & SASISOPIN	P O BOX 893452	967890452	1976
16227710024	BANNOURA CHARLY	1110 DARMAK DR	891021808	1976
16227710040	TOPPLE RAYMOND STEVEN	2071 IRWIN CIR	891196020	1976
16227710046	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227710068	TOP NOTCH DEVELOPMENT L L C	%D PERKINS	891145734	1976
16227710052	JANSUY EDILBERTO	8183 BURNT SIENNA ST	891230206	1976
16227710058	PARRISH REBECCA D	840 KING RICHARD AVE #58	891191342	1976
16226217034	BUELIC NENAD & JENNIFER	2540 E COLLEGE PL #26	928313637	1984
16226217038	BRISSETTE JESSIE	5195 CALIENTE ST #74	891192196	1984
16226217042	HEIN LILI & JESSE	303 E 57TH ST #38E	100222947	1984
16226217048	ARVAY DANIEL	5187 CALIENTE ST #96	891192197	1984
16226217062	SOCARRAS PEDRO	5207 CALIENTE #44	891192195	1984
16226217056	BARAJAS ROSARIO MARIA & OSCAR	2 EL GUIRO	926883211	1984
16226217052	ESTRADA MARTHA	5183 CALIENTE ST #104	891192037	1984
16226217068	ALVAREZ ERICK L	9998 CORAL CAMEO CT	891836272	1984
16226217074	SALIGA JOHN M	5159 S CALIENTE ST #166	891192014	1984
16226217078	MELLO FAMILY TRUST	16232 HONOLULU LN	926492308	1984
16226217090	PRESTON ALBERT	5155 CALIENTE ST #176	891192015	1984
16226217084	SALIGA JOHN M	5159 S CALIENTE ST #166	891192014	1984
16226219001	NEWPORT COVE EAST L L C	2080 E FLAMINGO RD #306	891195180	1982
16226220001	NEWPORT COVE EAST L L C	2080 E FLAMINGO RD #306	891195180	1983
16226311036	MENDOZA JOHN A	1321 ROSITA RD	940444337	1990
16226311040	BEPPU CLIFTON F & YOKO	1375 E HACIENDA AVE #211	891191905	1990
16226311030	MARTIN MICHAEL D	1375 E HACIENDA AVE #208	891191905	1990
16226311006	CID-DAVILA ERASMO DEL	1375 E HACIENDA AVE #215	891191905	1990
16226311022	BULLOCK JAMES R & DEBRA N	5369 SPENCER ST	891192728	1990
16226311014	DINARDO ALDO R & HELGA B	1436 KENSINGTON DR	928312026	1990
16226215020	PUGSLEY KATHRYN J	1443 TAMARENO CIR #D	891195037	1984
16226215024	WONG CAROLE K L	1587 ALEWA DR	968171206	1984
16226215032	HARRIS JOHN T	1497 TAMARENO CIR #4	891195034	1984
16226215028	LIVINGSTON FAMILY REVOCABLE TR	1479 TAMARENO CIR	891195035	1984
16226215012	KIVETTE LAURA	4571 GREEN CANYON DR	891034316	1984
16226215016	MOTEGI TAKAYUKI	1498 TAMARENO CIR #D	891195041	1984
16226215008	TAPIA LAURA F	1462 TAMARENO CIR #D	891195039	1984
16226215004	SEFFENS BARNETTE B & WILLIAM H	1444 TAMARENO CIR #D	891195038	1984
16226217006	Z F I INC	21911 ARMINIA ST	913044849	1984
16227611312	AMIRYAN ARTAK	1034 SPAZIER AVE	912014621	1977
16227611349	KEEHAN FAMILY TRUST	823 ARCHER ST	939401217	1977
16227611320	SARFATY SUZANNE	11 VERNDALE	024462415	1977
16227611315	MKHITARIN YEGIA	2800 MELLOW BREEZE ST	891170664	1977
16227611319	KARAMANUKYAN MARINE	12774 LORNE ST	916051156	1977
16227611343	SHURDIM IKRAM	1341 S WEBSTER AVE	928045209	1977
16227611313	MALDONADO ALVARO	921 E HACIENDA	891191314	1977
16227611314	DIAZ HECTOR & GLORIA	P O BOX 13751	891121751	1977

16227611301	L S F 6 MERCURY R E O INVEST TR	715 S METROPOLITAN AVE	731082057	1977
16227611306	BANK H S B C USA TRS	425 PHILLIPS BLVD	086181430	1977
16227611348	ASCENCIO SERGIO & CONNIE	3865 HIGUERA RD	951482406	1977
16227611326	SARFATY SUZANNE	11 VERNDALE	024462415	1977
16227611347	CORONA ALICIA	8610 NATURE SCENE TRL	891397049	1977
16227611298	AURORA LOAN SERVICES L L C	601 FIFTH AVE	693613581	1977
16227611317	ORTIZ-CIFUENTES ELMER	3100 WESTWOOD DR	891091016	1977
16227611297	PACIFIC WOODS RENTALS L L C	3838 RAYMERT DR #309	891213247	1977
16227611064	RUBINSTEIN SAMUEL	1503 FLAG CIR	891021529	1977
16227611040	ORTEGA VIRGINIA	40125 SAN CARLOS PL	945393611	1977
16227611144	LEYDECKER WILLIAM EUGENE	1723 PANDORA DR	891231412	1977
16227611305	THOMPSON BLAKE	14907 EL CAMINO REAL	920149771	1977
16227611307	HERNANDEZ ANGELICA	5197 GREENE LN #A	891191727	1977
16227611310	FEDERAL NATIONAL MORTGAGE ASSN	135 N LOS ROBLES AVE	911011758	1977
16227611032	MORRIS JOAN SEPARATE PROPERTY TR	1 HUGHES CENTER DR #803	891696733	1977
16227611008	FABER RETHA JEAN	5198 GARDEN LN #D	891191717	1977
16227611148	MALINSKAYA ZOYA & YULIA	8550 HOLLOWAY DR #301	900692472	1977
16227611336	SHATACH ARI BEN	7924 FOUNTAIN AVE	900464601	1977
16227611112	EDORA MAXIMA C & DOMMIE E	2335 DONEGAL AVE	940805304	1977
16227611324	ALEXANDER HOLDINGS L L C	%A SWIDERSKI	544550038	1977
16227611323	ALEXANDER HOLDINGS L L C	%A SWIDERSKI	544550038	1977
16227611345	DAVIDSON KEVIN & KAREN	1217 SUNRISE RIDGE DR	945491750	1977
16227611180	ROMANO MOSES I L	5166 GRAY LN #A	891191752	1977
16227611184	CAPLES LOVETTE M SEP PPTY TR	5218 CASEY CT	891192204	1977
16227611216	FISCHER NORMAN REVOCABLE TRUST	5168 GREENE LN #A	891191766	1977
16227611318	WOLDU YONAS	2456 LOTHIAN ST	890441567	1977
16227611176	NICHOLSON HAROLD L TRUST	513 SILVERSMITH PL	895118149	1977
16227611321	CARLSON LINDA S	2065 MAJESTIC PEAK	890741508	1977
16227611256	CZEGLEDI STEVEN	5157 GARDEN LN #H	891191778	1977
16227611341	ALVARADO MARIA BELEN	9509 GREENING	906052814	1977
16227611325	HOFFMAN MARTIN JAMES II & JANE D	12621 NATIVE DANCE PL	208783708	1977
16227611188	RODRIGUEZ SONIA SEPARATE PPTY TR	3540 FIVE PENNIES LN	891202953	1977
16227611248	CLARK ROYDON E & SHIRLEY O	9483 WHEATLAND AVE	910401423	1977
16227611260	WESTPHAL JEFF W	5147 GARDEN LN #H	891191779	1977
16227611342	MANUKYAN ANETA	5850 LEXINGTON #103	900382030	1977
16227611160	MARIN LUCIANO	5135 GRAY LN #B	891191746	1977
16227611212	PETROLEUM MIDWAY COMPANY	511 ORLENA AVE	908141854	1977
16227611302	FINN BARRY	1930 VILLAGE CENTER CIR #9	891346238	1977
16227611333	HUTCHISON LOIDA	7912 IVY HILL WY	958432471	1977
16227611346	ESPARZA RAFAEL & ROSA M	10993 ZAMPINO ST	891413839	1977
16227611344	SERRANO IDALIA	11030 SUNNY BRAE AVE	913111651	1977
16227611316	ODOM CAROL D & GARRY L	2435 COSTA DEL SOL	917501145	1977
16227611335	HALDEMAN DALE	338 BANUELO DR	890145118	1977
16227611136	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611164	LOZA JOSE A JR	5125 GRAY LN #B	891191747	1977
16227611337	GALANG ALLAN PAUL	P O BOX 28707	891262707	1977
16227613014	CIRIANO LEO A	5127 GREENE LN #A	891191757	1977
16227611331	BANK WELLS FARGO N A TRS	400 COUNTRYWIDE WY SV-35	930656298	1977
16227614004	TRAPMAN ANTON I	82-41 257TH ST	110041441	1977
16226217010	DIEBERT BRENT A	36 CHARLESTON AVE	432141166	1984
16226217015	NOLLER GEORGE F & HELEN	105 ST AUGUSTINE RD	530179714	1984
16226217025	PERPETOA JEFFERSON I	8262 SOUTHFIELDS CIR	958284923	1984
16226217019	HUNT LARRY J	5207 S CALIENTE ST #43	891192195	1984
16227611328	LOZA JOSE A	P O BOX 778177	890778177	1977
16227611238	MAI ANDRIA	7811 B 13TH ST	926830000	1977
16227611167	ASCENCIO SERGIO & CONNIE	3865 HIGUERA RD	951482406	1977
16227611191	BOSSOLONO GENO	5117 GREENE LN #A	891191758	1977
16227611234	GROSSPOINTE L P	P O BOX 232315	891052315	1977

16227611263	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611194	DUKHAN VADIM	P O BOX 91624	900091624	1977
16227613002	ZAPATA LEONARD A	5218 GARDEN LN #B	891191834	1977
16227615002	MCINTYRE CLIFTON	1020 N ASHFORD AVE	923763800	1977
16227710003	APINA JOSEPH M	1800 S ROBERTSON BLVD #153	900354359	1976
16227710013	BANNOURA JALAL	1110 DARMAK DR	891021808	1976
16227710030	BRNJOS OGNJEN	5201 S TORREY PINES DR #1222	891180610	1976
16227710022	BANNOURA CHARLY	1110 DARMAK DR	891021808	1976
16227710038	GREENWOOD DARLYNN G	P O BOX 1405	864411405	1976
16227710044	JANSUY ROMULO	P O BOX 231692	891051692	1976
16227710066	ROSEN OREN	P O BOX 777547	890777547	1976
16227710050	TOPPLE RAYMOND STEVEN	2071 IRWIN CIR	891196020	1976
16227710056	NIKOLOVA MAGDA IANKOVA	840 KING RICHARD #56	891191342	1976
16226217030	LOUIS LEROY W	%WASHINGTON MUTUAL BANK	605155564	1984
16226217035	RIVAS LUIS ALBERTO & MARIA I	8389 CHARLTON VALLEY CT	891232420	1984
16226217039	MCCORMICK ELIZABETH J	5191 S CALIENTE ST #81	891192022	1984
16226217044	MENDOZA LOURDES L	5187 CALIENTE ST #92	891192023	1984
16226217058	TAVITIAN MIKE	2080 KAREN AVE #28	891691776	1984
16226217053	ROJAS CARLOS	5179 CALIENTE ST #111	891192038	1984
16226217049	MAPA VICTORINO P & MERECEDES S	5183 CALIENTE #101	891192037	1984
16226217064	BALDI JOSEPH & MARIA T	4557 MINUTEMAN DR	208531263	1984
16226217070	CAMPBELL DELBERT L & DOROTHY J	2881 N ELDORADO AVE	864030000	1984
16226217075	CLARKE DENNIS NEIL & NANCY G	1 WINDOVER TERR	945061911	1984
16226217086	GAYER GERALDINE ANN LIVING TRUST	5155 CALIENTE ST #172	891192015	1984
16226217080	PORTCH LINDA & MICHAEL	624 BONANZA PLAIN AVE	890111806	1984
16226311033	HUERTA HECTOR	1375 E HACIENDA AVE #110	891191904	1990
16226311037	MARTINEZ SIMON S & JOSEPHINE	1375 E HACIENDA AVE #112	891191904	1990
16226311026	TANAKA MICHAEL HIROMU	155 PAOAKALANI AVE #503	968153703	1990
16226311002	BLASKEY FAMILY TRUST 2001	5612 CENTRA AVE	919022822	1990
16226311018	PRICE STANLEY H	23 SILVER SPRING DR	902742312	1990
16226311010	DIFULVIO CARMELA	1375 E HACIENDA AVE #217	891191905	1990
16227611126	ADAMS JAY & MILLER K REV LIV TR	1041 N CALIFORNIA ST	915052506	1977
16227611082	GARCIA GILBERT & ROSA	51 NELLYWOOD CT	890122631	1977
16227611078	REEVES ROBERT	5248 GREENE LN #K	891191849	1977
16226215018	PADILLA SANDOR D	269 E MAULDING AVE	891231128	1984
16226215022	M A N PARTNERS L P	2620 S MARYLAND PKWY #423	891098300	1984
16226215030	ACUNA NELA MARIA	1497 TAMARENO CIR #B2	891195034	1984
16226215026	LIVINGSTON FAMILY REVOCABLE TR	1479 TAMARENO CIR #6	891195035	1984
16226215010	CHRZASZCZEWSKI CZESLAWA S	1480 TAMARENO CIR #26	891195040	1984
16226215014	HOROWITZ PHILIP	1498 TAMARENO CIR #30	891195041	1984
16226215006	BROWN MICHAEL	1462 TAMARENO CIR #B	891195039	1984
16226215002	DREYSKO ROMAN	2682 SPERRING AVE	000000000	1984
16226217003	NOBLE ROSE M	5219 CALIENTE ST #13	891192194	1984
16227611062	BURT BRIAN P	5195 GOLDEN LN #B	891191724	1977
16227611038	CHEN LI	5196 GOLDEN LN #K	891191719	1977
16227611142	LEYDECKER WILLIAM EUGENE	1723 PANDORA DR	891231412	1977
16227611030	MORRIS JOAN SEPARATE PROPERTY TR	1 HUGHES CENTER DR #803	891696733	1977
16227611006	SKY CHANG L L C	P O BOX 92311	917152311	1977
16227611146	HOWELL SHARON R	5185 GRAY LN #K	891191741	1977
16227611110	EDORA MAXIMA C & DOMMIE E	2335 DONEGAL AVE	940805304	1977
16227611178	COOK SHARON I	5166 GRAY LN #K	891191752	1977
16227611182	AMERICAN HOME MTGE SRVCING INC	4600 REGENT BLVD #200	750632478	1977
16227611214	BENITEZ FELIX	5168 GREENE LN #K	891191766	1977
16227611174	BARIKZI FERABA	5156 GRAY LN #F	891191751	1977
16227611254	CALZADA FELIPE	5157 GARDEN LN #F	891191778	1977
16227611186	RODRIGUEZ SONIA SEPARATE PPTY TR	3540 FIVE PENNIES LN	891202953	1977
16227611246	CLARK ROYDON E & SHIRLEY O	9483 WHEATLAND AVE	910401423	1977
16227611258	ALEXANDER IVAR	1451 REDMOND AVE	951204452	1977

16227611158	G M A C MORTGAGE L L C	1100 VIRGINIA DR	190343204	1977
16227611210	PETROLEUM MIDWAY COMPANY	511 ORLENA AVE	908141854	1977
16227611134	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611162	LEBEDOWICZ JERRY	52-47 BROWVALE LN	113621712	1977
16227614002	CIESZKO TASSIE	914 LULU AVE	891194815	1977
16226217009	VENTURA CRISTINA	5215 CALIENTE ST #23	891192009	1984
16226217014	WILLIAMS JEFFREY A	5211 CALIENTE ST #32	891192000	1984
16226217026	TAYLOR KENNETH E	5203 CALIENTE ST #54	891192001	1984
16226217020	BAUZA LUIS A	5207 CALIENTE ST #44	891192195	1984
16227611329	AXBERG CARL R & CARMELITA P	671 W HICKORY ST	890480795	1977
16227611239	MAI ANDRIA	7811 13TH ST #B	926834494	1977
16227611166	ASCENCIO SERGIO & CONNIE	3865 HIGUERA RD	951482406	1977
16227611190	CAPLES LOVETTE M SEP PPTY TR	5218 CASEY CT	891192204	1977
16227611235	GROSSPOINTE L P	P O BOX 232315	891052315	1977
16227611262	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611195	CHAPMAN KENNETH P	8916 TOM NOON AVE	891787206	1977
16227613003	MOLINE MARGARET A	5218 GARDEN LN #C	891191834	1977
16227615003	MCINTYRE CLIFTON	1020 N ASHFORD AVE	923763800	1977
16227710004	FERRO JOHN	6130 SQUILCHUCK CT	891395437	1976
16227710014	EDILBERTO JANSUY	8183 BURNT SIENNA ST	891230206	1976
16227710029	BROUGH DAVID TAYLOR	86 BAYVIEW DR	940701650	1976
16227710021	SAAB HARES SALEM	840 KING RICHARD AVE #21	891191380	1976
16227710037	MUSICARO MICHAEL H & PATRICE	1939 DAVINA ST	890741020	1976
16227710043	TORRES JOSE B	5362 SWENSON ST	891190000	1976
16227710065	BANNOURA JOSEPH	1110 DARMAK DR	891021808	1976
16227710051	JANSUY ROMULO & RAQUEL	P O BOX 231692	891051692	1976
16227710055	SPINA JOSEPH M	1480 S WOSTER ST #4	900353477	1976
16226217031	BARGE-ESPOSITO FELICIA	1934 HIGH MESA DR	890126182	1984
16226217036	CHAVEZ RAUL M & ARCELIA M	8320 ALBIA ST	902422539	1984
16226217040	BRKOVIC VILDANA	5191 CALIENTE ST #82	891192022	1984
16226217045	SCHWAB & MCCORMICK FAMILY TRUST	5187 S CALIENTE ST #93	891192023	1984
16226217060	CRANE RICHARD L & MARY J	5561 LITTLE LAKE AVE	891224733	1984
16226217055	LASKER STANLEY B	3641 LAGUNA DEL SOL DR	891213945	1984
16226217050	PERRETTA ANNETTE & JOSEPHINE	5183 CALIENTE ST #102	891192037	1984
16226217065	MCMANUS JOSEPH & CELIA	5171 CALIENTE ST #133	891192198	1984
16226217072	S B FAMILY TRUST	5181 HARVARD AVE	926832702	1984
16226217076	GARCIA BENJAMIN	5163 CALIENTE ST #152	891192012	1984
16226217088	ZIELKE BRIAN D	5155 CALIENTE ST #174	891192015	1984
16226217082	BIANCONI GIORGIO	2467 VALLARTA CIR	891214035	1984
16226311034	PUNOHU JAMES K	91-1210 MIKOHU ST #43A	967064323	1990
16226311039	LAMB LORI M LIVING TRUST	2578 PORTSMOUTH CREEK AVE	890527157	1990
16226311027	DOMINICK V A	1375 E HACIENDA AVE #107	891191904	1990
16226311004	BURTON MARTHA & JOHN W JR	1375 E HACIENDA AVE #216	891191905	1990
16226311020	PASTOR LINDA J	4773 E MTN VIEW S	921162255	1990
16226311012	BAIC ZELJKO	1375 E HACIENDA AVE #220	891191905	1990
16227611127	BANK U S NATIONAL ASSN TRS	7495 NEW HORIZON WY	217038388	1977
16227611083	GARCIA GILBERT & ROSA	51 NELLYWOOD CT	890122631	1977
16227611079	ZAICHIK LEONTY	1845 STONEGATE ST	913611612	1977
16226215019	TOTAH GARY P & LYNDA	31441 OLD SAN JUAN RD	926752504	1984
16226215023	KAPLAN FRED	4051 W VIKING RD #87	891036007	1984
16226215031	ZAZUETA FIDEL	1497 TAMERENO CIR #C	891195034	1984
16226215027	DINNING DANIEL L	1479 TAMARENO CIR #7	891195035	1984
16226215011	BINGHAM BARRY K	1480 TAMARENO CIR #C	891195040	1984
16226215015	LUNDBERG ANDREW	6624 CELESTE AVE	891072405	1984
16226215007	GARCIA RUSSELL S	1462 TAMARENO CIR #C	891195039	1984
16226215003	L'CHAIM INVESTMENT PPTYS L L C	6130 W FLAMINGO RD #402	891032280	1984
16226217004	GRAVES KEVIN	5219 CALIENTE ST #14	891192194	1984
16227611063	SEPICH MICHAEL	5195 GOLDEN LN #A	891191724	1977

16227611039	GERTS MICHAEL	23407 PARK COLOMBO	913022814	1977
16227611143	LEYDECKER WILLIAM EUGENE	1723 PANDORA DR	891231412	1977
16227611031	MORRIS JOAN SEPARATE PROPERTY TR	1 HUGHES CENTER DR #803	891696733	1977
16227611007	CHANG SAMUEL T	16159 WEDGEWORTH DR	917452939	1977
16227611147	MIREMADI ANTHONY	13714 ALMA AVE	902492514	1977
16227611111	EDORA MAXIMA C & DOMMIE E	2335 DONEGAL AVE	940805304	1977
16227611179	KARVELYTE JUSTE	7443 LASAINE ST	914062458	1977
16227611183	VILLAREAL MARIA	5167 GREENE LN #L	891191753	1977
16227611215	CIRIANO LEO	5168 GREENE LN #L	891191766	1977
16227611175	MARCHIS PAUL & ELENA	4722 POPPY WOOD DR	891475659	1977
16227611255	FEDERAL HOME LOAN MORTGAGE CORF	5151 CORPORATE DR	480982639	1977
16227611187	RODRIGUEZ SONIA SEPARATE PPTY TR	3540 FIVE PENNIES LN	891202953	1977
16227611247	CLARK ROYDON E & SHIRLEY O	9483 WHEATLAND AVE	910401423	1977
16227611259	HARRISON J LEE	1711 LEATHERLEAF DR	891231947	1977
16227611159	FLEENOR DALLAS O & LOLA J	4112 EL JARDIN AVE	891023746	1977
16227611211	PETROLEUM MIDWAY COMPANY	511 ORLENA AVE	908141854	1977
16227611135	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611163	BUSH DEBBIE	2505 ANTHEM VILLAGE DR #E20	890525505	1977
16227614003	ALVARADO EZEQUIEL & ROSALBA	11829 HUGANA PL	891413244	1977
16226217032	DEJACK ARTHUR I	5199 S CALIENTE ST #64	891192190	1984
16226217037	QUINN LINDA K	5195 S CALIENTE ST #73	891192196	1984
16226217041	ULSHAFER RONALD G	5191 CALIENTE ST #83	891192022	1984
16226217046	CORRO HENRY & DIANA	5187 CALIENTE ST #94	891192023	1984
16226217059	DEOTO JOSEPH & MARIE	2418 SABADO ST	891214125	1984
16226217054	ALPUCHE IMELDA	5179 CALIENTE ST #112	891192038	1984
16226217051	BUTLER LOURDES S	5183 CALIENTE ST #103	891192037	1984
16226217066	MCKENZIE WILLIAM R	7330 ABBEYVILLE DR	891231448	1984
16226217071	SMITH CHRISTINE N	5167 CALIENTE ST #143	891192011	1984
16226217077	BOSSE DARRYL W & JACQUELINE	4855 BUTTERFLY DR	863015770	1984
16226217087	HUTTON DONNA R	5155 CALIENTE ST #173	891192015	1984
16226217081	ORMILLA PAULINO SR & CRISPINA	1974 E CLEAR LAKE DR	864266742	1984
16226311035	GARCIA LINA M	3796 LINDELL RD	891032473	1990
16226311038	PRICE TIA M & JOEY M	8940 MINSK CT	891478117	1990
16226311028	KELLY FAMILY TRUST	3645 VISTA DEL LA CANADA	920290000	1990
16226311003	NOLASCO-SANCHEZ AURELIANO	1375 E HACIENDA AVE #116	891191904	1990
16226311019	LEBOEUF RONALD	2808 ATHANIA PKWY	700025906	1990
16226311011	TOME ROBERT K JR & ANNE N	1607 PAUKIKI ST	967344177	1990
16226217008	MACKERACHER CORINE GAIL	5215 CALIENTE ST #22	891192009	1984
16226217013	DYKAS FAMILY TRUST	5211 CALIENTE ST #31	891192000	1984
16226217023	KENDELLEN JAMES P	5203 CALIENTE ST #51	891192001	1984
16226217018	MONZON SOFIA	5207 CALIENTE ST #42	891192195	1984
16227611327	PUNZALAN EMILY L SUCALDITO	1366 FALLING SNOW AVE	891836356	1977
16227611237	MAI ANDRIA	7811 B 13TH ST	926830000	1977
16227611165	ASCENCIO SERGIO & CONNIE	3865 HIGUERA RD	951482406	1977
16227611189	HOLGUIN BENNY	5117 GREENE LN #D	891191758	1977
16227611233	GROSSPOINTE L P	P O BOX 232315	891052315	1977
16227611261	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611193	MOLINE MARGARET A	12131 CULVER BLVD #4	900666290	1977
16227613001	RUIZ TAMMIE	5218 GARDEN LN #A	891191834	1977
16227615001	MCINTYRE CLIFTON	1020 N ASHFORD AVE	923763800	1977
16227710002	LUKOV LUBOMIR	840 KING RICHARD CT #2	891191381	1976
16227710011	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227710027	TOPPLE RAYMOND STEVEN	2071 IRWIN CIR	891196020	1976
16227710020	EDILBERTO JANSUY	P O BOX 231692	891051692	1976
16227710035	THOMPSON GUY & RAQUEL	5469 VISCOUNT CARLSON DR	891191811	1976
16227710041	TOPPLE RAYMOND STEVEN	2071 IRWIN CIR	891196020	1976
16227710063	PERKINS DAVID IRA	1605 MURRAY ST #210	713016876	1976
16227710049	CIAFARDONE LORRETTA	117 BENITA DR	439381325	1976

16227710053	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227611125	PENA RUDOLPH P & YOLANDA R	919 MOREY PEAK	782131720	1977
16227611081	GARCIA GILBERT & ROSA	51 NELLYWOOD CT	890122631	1977
16227611077	BECERRA MARIA G	5248 GREENE LN #J	891191849	1977
16226215017	MITCHELL LANITA F	1443 TAMARENO CIR #A	891195037	1984
16226215021	LONG CECIL V & CHERYL K FAM TR	1461 TAMARENO CIR #9	891195036	1984
16226215029	LEE CALVIN C & VALERIE A ETAL	741 AIPO ST	968252532	1984
16226215025	JOHNSON THERESA	1479 TAMARENO CIR #5	891195035	1984
16226215009	BENETTI AMERICO & MARY ANN	P O BOX 11238	891111238	1984
16226215013	SMITH KEITH	1498 TAMARENO CIR #A	891195041	1984
16226215005	CRAWFORD-WELCH SIMON	1462 TAMARENO CIR #A	891195039	1984
16226215001	EGAN MARY ANN	5773 TEQUESTA DR	483232363	1984
16226217001	ZURFLUEH JENNIFER & MAX	212 GLENDON ST	890745457	1984
16227611061	REXHEPI MUHAMET	5195 GOLDEN LN #J	891191724	1977
16227611037	DEJESUS RAMON & SYLVIA	5196 GOLDEN LN #J	891191719	1977
16227611141	LEYDECKER WILLIAM EUGENE	1723 PANDORA DR	891231412	1977
16227611029	MORRIS JOAN SEPARATE PROPERTY TR	1 HUGHES CENTER DR #803	891696733	1977
16227611005	TIGGEMAN R DEAN	5198 GARDEN LN #C	891191717	1977
16227611145	CARIDEO ANTHONY & JULIE A	5185 GRAY LN #C	891191741	1977
16227611109	EDORA MAXIMA C & DOMMIE E	2335 DONEGAL AVE	940805304	1977
16227611177	SCHOFIELD JACK L JR	1320 JESSICA AVE	891041711	1977
16227611181	GILLEGO EMELDA N	5167 GREEN LN #D	891190000	1977
16227611213	STRUBEL TRUST	5635 VINEYARD LN	891104966	1977
16227611173	WONG ROGER	1256 STANHOPE LN #348	945452686	1977
16227611253	RAMAGE DAVID P	4455 POWELL AVE	891216557	1977
16227611185	RODRIGUEZ SONIA SEPARATE PPTY TR	3540 FIVE PENNIES LN	891202953	1977
16227611245	CLARK ROYDON E & SHIRLEY O	9483 WHEATLAND AVE	910401423	1977
16227611257	HOUSEHOLD FINANCE REALTY CORP NV	%REO DEPT	917682642	1977
16227611157	LEVINE SANDRA	5135 GRAY LN #C	891191746	1977
16227611209	PETROLEUM MIDWAY COMPANY	511 ORLENA AVE	908141854	1977
16226311001	SANDHU GURJIT SINGH & PARAMJIT	1375 E HACIENDA AVE #113	891191904	1990
16226311017	GARDNER PAUL E	1375 E HACIENDA AVE #102	891191904	1990
16226311009	FUJITA MIRIAM MIYOKO REV LIV TR	2533 GARDENIA ST	968163501	1990
16226217002	STAGG FAMILY TRUST	5416 ELDRIDGE CT	921202833	1984
16227611133	MORRIS 1992 TRUST	1 HUGHES CENTER DR #803	891696733	1977
16227611161	SCHLEICH JOHN F & IRENE L	3928 EDGEMOOR WY	891214829	1977
16227614001	KANE ELIZABETH L	5137 GREENE LN #A	891191756	1977
16226217007	GALO JOE	3569 KATMUIR DR	891220000	1984
16226217024	SOCARRAS PEDRO A	5203 CALIENTE ST #52	891192001	1984
16226217017	GEBREHIWOT ROBERT	5207 CALIENTE ST #41	891192195	1984
16227710001	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227710012	RUBIN MITCHELL J & YONATA	2401 TOMS RIVER ST	891351155	1976
16227710028	SPEREN HARRIETT	3477 KATMAI DR	891224046	1976
16227710019	DOW PATRICIA	5370 WALTON HEATH AVE	891422593	1976
16227710036	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227710042	BANNOURA CHARLY	1109 DARMAK DR	891021807	1976
16227710064	PALMER CARDALE	650 TURTLEBACK	890311793	1976
16227710054	RUSSO JOSEPH	11898 GALVANI ST	891835531	1976
16226217029	YIANNOULLOS COSTAS	5199 CALIENTE ST #61	891192190	1984
16226217043	MOORE JEANNIE	3177 E CARDINAL LN	891215103	1984
16226217057	TELLO EUGENIO G & ERNISTINA G	5175 CALIENTE ST #121	891192010	1984
16226217063	COLEMAN ABRAHAM & TOMMIE L	5171 CALIENTE ST #131	891192188	1984
16226217069	FORTNER LORI P	348 CAVALLA	890744949	1984
16226217085	WAJDA ALISHA JO	5155 CALIENTE ST #171	891192015	1984
16226217079	EMMONS AUDREY G	5159 CALIENTE ST #161	891192014	1984
16226311025	MOREIRA ALLAN REVOCABLE LIV TR	7137 KAMILO ST	968251608	1990
16226217011	LAMBRECHT FRANK MICHAEL & LOUISE	5215 CALIENTE DR #25	891192009	1984
16226217027	CONNORS STELLA A & CHARLES J JR	5203 CALIENTE ST #55	891192001	1984

16226217021	ARVAY DANIEL W	5207 CALIENTE ST #45	891192195	1984
16227710005	ROBINSON VIVIAN A	6824 GRANDOLA DR	891032044	1976
16227710015	MURADYAN KARAPET	5439 RUSSELL AVE #11	900273535	1976
16227710031	JANSUY ROMULO D & RAQUEL A	2545 NOBLE CANYON RD	919151521	1976
16227710023	L V J M PROPERTIES TRUST	%J & M BANNOURA	891021808	1976
16227710039	NDOUMBE HENRY G D	840 KING RICHARD AVE #39	891191379	1976
16227710045	GEORGIEVA GALINA	840 KING RICHARD AVE #38	891191379	1976
16227710067	CAMPOS FAMILY LIVING TRUST	9531 LARAMIE AVE	913115420	1976
16227710057	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16226217033	STUTZ CHARLES F	5119 CALIENTE ST #65	891192106	1984
16226217047	CUIZON HERLIDA M	5187 CALIENTE ST #95	891192023	1984
16226217061	GUAN WEI GUANG	5175 CALIENTE #125	891192010	1984
16226217067	PARTYKA STANLEY & SUZANNE	3420 SKYCROFT DR	554181779	1984
16226217073	LYON KRIS A	2434 AVENIDA FLORES AVE	890746357	1984
16226217089	MACEK JOHN J & JOHN JAMES	5155 CALIENTE ST #175	891192015	1984
16226217083	MELLO DAVID E & BRIDGIT L	6511 ABBOTT DR	926474376	1984
16226311029	KOZOHARA TAMMY T	1375 E HACIENDA AVE #E108	891191900	1990
16226311005	BEPPU CLIFTON F & YOKO	1375 E HACIENDA AVE #211	891191905	1990
16226311021	BRUNETTE JOHN F & YON TUK	571 W ARNDT ST #129	549352171	1990
16226311013	GARCIA MICHAEL A & ROXANNE L	1375 E HACIENDA AVE #119	891191904	1990
16226217005	LABRADA EDUARDO	5219 CALIENTE ST #15	891192194	1984
16227710007	MAYDELL BARBARA	1801 LAS VERDES ST	891023866	1976
16227710017	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227710034	JIMENEZ AMADOR P & SALLY B	19251 CALIFA ST	913561100	1976
16227710048	MRYO L L C	2401 TOMS RIVER ST	891351155	1976
16227710069	FENN ADAM	2925 N GREEN VALLEY PKWY	890140417	1976
16226311032	DASWANI POONAM	14 W SYCAMORE AVE	910062354	1990
16226311008	MCMILLIAN FAMILY TRUST 2006	2370 TILDEN WY	890745420	1990
16226311024	BORTMAN OLEG B & JENNIFER M	2035 E GARDENIA AVE	850204722	1990
16226311016	JONES MARY D	1375 E HACIENDA AVE #218	891191905	1990
16227710008	BROUGH DAVID TAYLOR	86 BAYVIEW DR	940701650	1976
16227710018	L V J M PROPERTIES TRUST	1110 DARMAK DR	891021808	1976
16227710033	ALEXANDER IVAR P	1451 REDMOND AVE	951204452	1976
16227710047	ALVAREZ MARIBEL	5370 SWENSON ST #47	891190000	1976
16227710070	GHIGLIOTTI-MANGROBANG CATERINA	%R MANGROBANG	891191336	1976
16226311031	SPLONICK MARIE & DONALD PETER	P O BOX 308	920070308	1990
16226311007	OBERLE JOHN M	1375 E HACIENDA AVE #114	891191904	1990
16226311023	STANELLE ROBERT L	1375 E HACIENDA AVE #101	891191904	1990
16226311015	RICHARDSON KENNETH W & LINDA S	1375 E HACIENDA AVE #118	891191904	1990
16227710009	FAIRWAY INC	2550 E DESERT INN RD #322	891213611	1976
16227710026	5388 SWENSON TRUST	2245 N GREEN VALLEY PKWY #3	890145024	1976
16227710059	SALAZAR MARIA A	5322 SWENSON ST #59	891190000	1976
16227710010	JANSUY ROMULO & RAQUEL	P O BOX 231692	891051692	1976
16227710025	TRINIDAD JAMIR LARA	358 VELINO AVE	891237404	1976
16227710061	VIDAURRI VIRGINIA R	840 KING RICHARD #61	891191343	1976
16227710062	SAAB ABEER H	840 KING RICHARD AVE #62	891191343	1976

ATTACHMENT 3

Construction Data for Specified Area North & East of McCarran International Airport

DISCLAIMER: Assessor data defined in this map is current as of 01/22/08. No liability is assumed for the accuracy of the data deliniated herein.

2

Construction years and supporting data

- 2008
- 2007
- 2005
- 1999
- 1998
- 1996
- 1995
- 1994
- 1992
- 1990
- 1989
- 1988
- 1987
- 1985
- 1984
- 1983
- 1982
- 1981
- 1980
- 1979
- 1978
- 1977
- 1976
- 1975
- 1974
- 1973
- 1972
- 1971
- 1968
- 1967
- 1966
- 1964
- 1963
- 1962
- NO CONSTRUCTION DATE
- AREA DEFINED FOR ANALYSIS
- ASSESSOR PARCELS
- ASSESSOR MAP INDEX
- MAJOR STREETS
- McCARRAN FEATURES

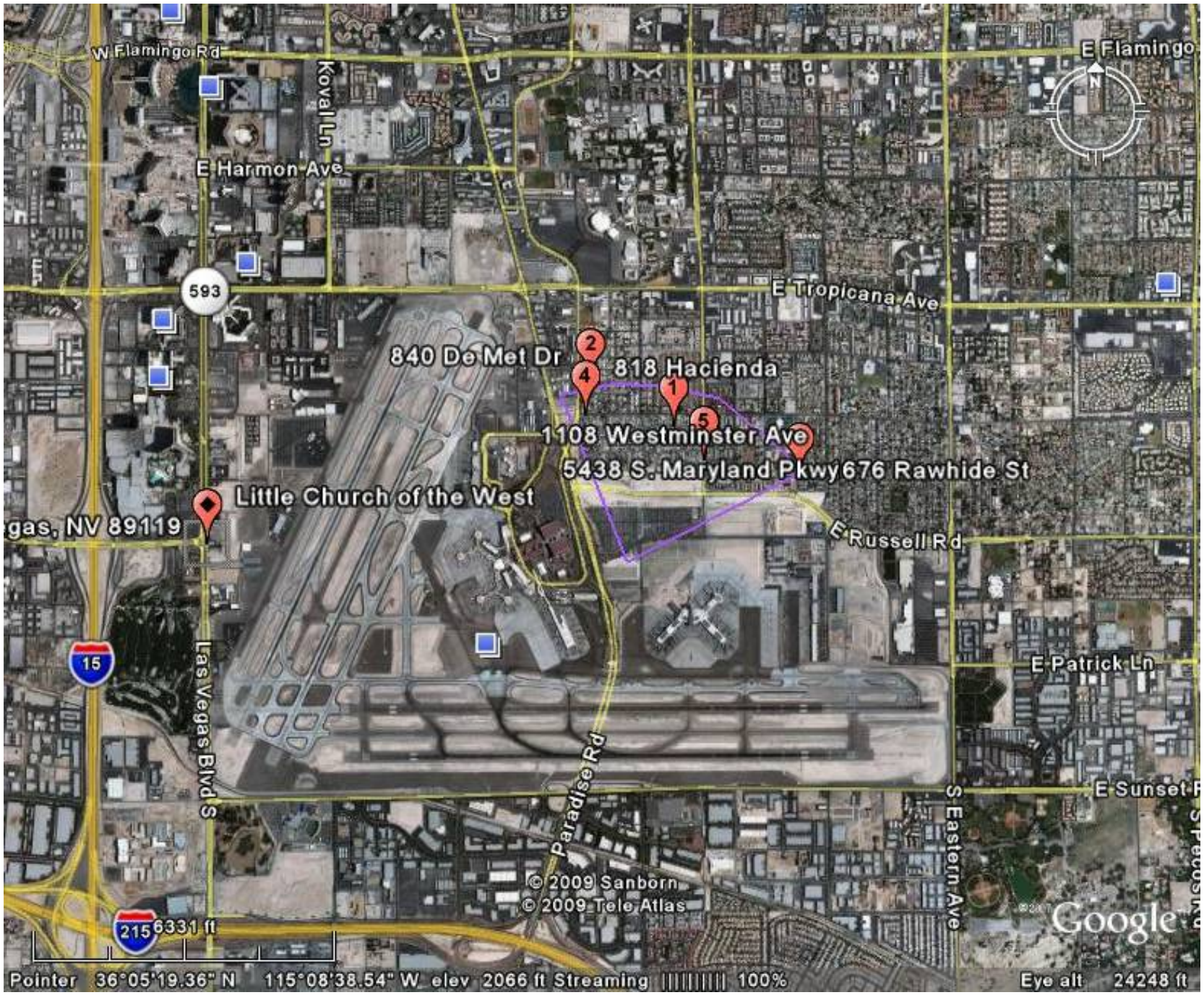
Russell Road Realignment

Approximate location of ATCT

McCARRAN INTERNATIONAL AIRPORT

ATTACHMENT 4

ATTACHMENT #4



ATTACHMENT 5

ATTACHMENT 5

SIEGFRIED AND ROY PARK

ILLUSTRATIVE PLAN

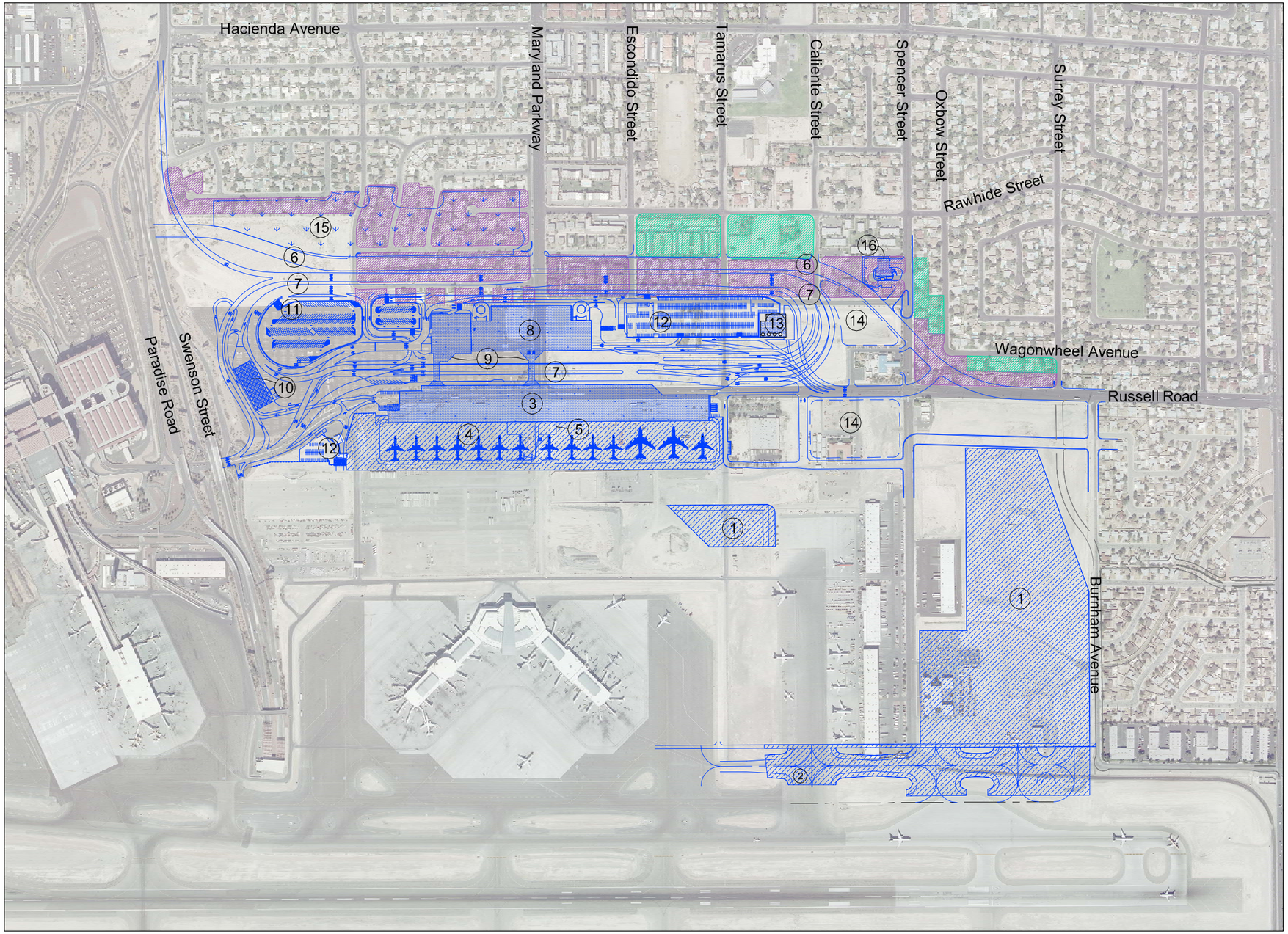
0" 80'-0" 160'-0" 240'-0"

SCALE: 1" = 80'-0"

DATE: 09.24.07

SOUTHWICK LANDSCAPE ARCHITECTS
12 Commerce Center Drive
Henderson, NV 89014
702 597 3108

ATTACHMENT 6



Legend

1. New Remain Overnight Parking Apron
2. New Taxiway and Vehicle Service Road
3. New Terminal 3
4. New Aircraft Ramp at Terminal 3
5. Connection to Underground Tunnel for Automated People-Mover System
6. Relocated Russell Road
7. New Access / Recirculation Roadway
8. New Parking Garage
9. New Pedestrian Bridge
10. New Taxicab Staging with Canopy
11. New Bus / Limousine Staging
12. New Surface Parking
13. New Central Plant
14. New Detention Basin
15. New Landscape Buffer
16. Relocated Clark County Fire Station #19

Property Acquisition (Relocation benefits)

Property Acquisition (No relocation benefits)

Sources: Clark County Department of Aviation; W.D. Schock Company, Inc.; Ricondo & Associates, Inc.; and Landiscor Aerial Photography, 2001
Prepared by: Ricondo & Associates, Inc.

north
0 800 feet

Exhibit I-3

Proposed Action - Construction of Terminal 3 and Land Acquisition Depicted on Aerial Photograph from 2001

STATE OF NEVADA
DEPARTMENT OF CULTURAL AFFAIRS
State Historic Preservation Office
100 N. Stewart Street
Carson City, Nevada 89701
(775) 684-3448 • Fax (775) 684-3442
www.nvshpo.org

JIM GIBBONS
Governor

MICHAEL E. FISCHER
Department Director

RONALD M. JAMES
State Historic Preservation Officer

Fax / EMAIL

October 8, 2008

To:	Janelle Cass FAA Environmental Engineer U. S. Department of Transportation Federal Aviation Administration	**From:**	Rebecca R. Ossa Architectural Historian NV SHPO Carson City, NV
Fax:	Unknown; sent via email 'janelle.cass@faa.gov' due to no return address	**Fax:**	775-684-3442
Phone:	425-2271343	**Phone:**	775-684-3441
Re:	Section 106 Consultation for Replacement ATCT (McCarran Int'l Airport, Las Vegas, Clark Co., NV)	**Pages:**	1

☐ **Urgent** **X For Review** ☐ **Please Comment** **X Please Reply** ☐ **Please Recycle**

Comments:

Ms. Cass,

Thank you for the opportunity to comment regarding the above undertaking. At this time, our office needs additional information to complete the review of the above project. The items are listed below:

1) Please define the proposed APE on a Clark County Assessor's Parcel Map. They are available at: www.accessclarkcounty.com.
2) There appears to be residential subdivisions to the north of the proposed ATCT, between Swenson St. and S. Maryland Parkway. Does the FAA know when these were built?
3) Please forward photos from points along the perimeter of the proposed APE looking *toward* the proposed construction area and key them to the assessor's parcel map. Photos should be labeled with a descriptive caption. These photos will help determine if the APE is adequate.
4) The submission notes a proposed new 372-foot ATCT to replace the existing. How tall is the existing tower?
5) What is the maximum height of the proposed parking garage and base building(s)?
6) If the FAA has architectural drawings for the proposed ATCT and support buildings, the SHPO requests a copy.
7) The SHPO notes that the submitted letterhead did not have a return mailing address.

If you have any questions, please let me know at 775-684-3441 or via email at: rossa@nevadaculture.org.

Sincerely,

Rebecca R. Ossa
Architectural Historian

2/13 09

To: Janelle Cass, FAA

From: Charley Bulletts, Cultural Coordinator
Kaibab Band of Paiute Indians

Comments: McCarran Air Traffic Control Tower, Las Vegas Airport

The Kaibab Paiute Tribe feels the Proposed New Traffic Control Tower for the Las Vegas Airport is important for traffic control and safety. With such a big project on already disturbed land we feel that it would not have any effect on Cultural properties.

All though if the project does come up on anything while construction is on going we would like to be notified immediately we are aware that just, because the area is already disturbed there still is a chance of unearthing something cultural to the Southern Paiutes.

We would like to thank you for this chance to comment on the Traffic Control Tower Project. My contact numbers are: 928-643-8313 or e-mail: cbulletts@kaibabpiute-nsn.gov

Charley Bulletts
Cultural Resource, Coordinator

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
P.O. BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
Fax (702) 865-2875

September 25, 2008

JANELLE CASS, FAA Environmental Engineer
1601 Lin Avenue South West
Kenton, WA 98057

Subject:: Section 106 Consultation for purposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

Dear Ms Janelle Cass:

I have reviewed your consultation Request under Section 106 of the National Historic Prevention Act regarding the proposed collocation of wireless antennas project referenced above and offer the following response as indicated by the box that is checked and my initials

- o The Moapa Business Council does NOT object to the proposed being implemented. However, should any resources or items of interest be discovered during project construction, the Moapa Business Council requests that the Moapa Band of Paiutes be notified and that work be halted until such time that the items or resources can be properly identified.

Phil Swain (Signature of duly authorized Tribal Official)

Phil Swain, Tribal Business Council Chairman (Print Name / Title)

Moapa Band of Paiutes Indian River Reservation (Tribe / Organization)

September 25, 2008 (Date)

S • A • G • E ENVIRONMENTAL, L.L.C.

NOTE TO FILE

Project: Draft Environmental Assessment, Airport Traffic Control Tower (ATCT) and Base Building Construction and Operation, McCarran International Airport, Las Vegas, Nevada

Re: Section 106 Consultation

Date: March 20, 2009

From: Joelle Dickson, Project Manager

To eliminate duplication in this Environmental Assessment, all attachments included with the original consultation packet sent to the Nevada State Historic Preservation Officer (SHPO) and Indian Tribes are not included in this Appendix (E). Please refer to the following table to locate the original attachments listed on the last page of the consultation letter from the FAA to the SHPO and Tribes.

Original Attachment	Location in EA
Figures 1-3	Figures 1-5 Tab
Appendix A – Site Photos	Appendix A Tab
Appendix B – NRIS query results; Nevada State Register of Historic Places query results	Appendix E Tab

Additionally, the following Agency/Tribal Consultation Contact List documents attempts by the FAA to contact agencies and Tribes to inform them of an addition of 0.3 acre to the APE for the proposed new ATCT.

Agency/Tribal Consultation Contact List				
Agency/Tribe	**Contact Name**	**Contact Number**	**Date Contacted**	**Comments**
NV SHPO	Mr. Ronald James	775-684-3448	1/7/09 lft msg	Spoke by phone and email multiple times. Concurrence letter received 3/16/09.
NV USFWS	Ms. Janet Bair	702-515-5230 Janet_bair@fws.gov	1/7/09 lft msg 1/12/09	Emailed figure depicting expanded APE w/ additional 0.3 acre.
Las Vegas Paiutes	Mr. Kenny Anderson	702-645-4826	1/7/09 lft msg	No response
Moapa Band of Paiutes	Ms. Diana Domingo	702-864-0334	1/7/09 lft msg	Ms. Domingo left a vm indicating she would email a concurrence letter on 3/10/09. JC followed up via email 3/17/09. No response.
Paiute Tribe of Utah	Ms. Lora Tom	435-586-1112	1/7/09 lft msg	No response
Kaibab Band of Paiutes	Mr. Charlie Bullets	928-643-7245	1/7/09 lft msg	Concurrence letter received by email 2/18/09.
Ft. Mojave Tribe	Ms. Elda Butler	520-768-4475	Attempted 1/7/09 Wrong number.	
Hualapai Tribe	Ms. Dawn Hubs	928-769-2234 Dawn4light@hotmail.com	1/7/09	Ms. Hubs gave verbal determination of no adverse effect, site location not pertinent to the Tribe.
Colorado River Tribes	Mr. Michael Tsosie	928-669-1272	1/7/09 lft msg	No response

U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Ronald M. James, State Historic Preservation Officer
State Historic Preservation Office
100 North Stewart Street
Carson City, Nevada 89701-4285

RE: Section 106 Consultation for proposed Replacement Airport Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

Dear Mr. James,

The Federal Aviation Administration (FAA), in accordance with Section 106 of the National Historic Preservation Act of 1966 and implementing regulations 36 CFR Part 800 would like to invite you to participate in consultation for the proposed construction of a new Airport Traffic Control Tower (ATCT) at McCarran International Airport (LAS) in Las Vegas, NV. The proposed actions are summarized below:

Site Location and Description

The proposed action (including demolition of the existing ATCT) would occur within LAS in Section 34, Township 21 South, Range 61 East, Mt. Diablo Baseline and Meridian as shown on the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984 (See Figures 1 and 2).

Proposed Action and Area of Potential Effect (APE)

The FAA is proposing to build and operate an ATCT, Base Building and Parking Structure at LAS at the southwest corner of Flight Path Avenue and Kelly Lane, east of Terminal 1 and southwest of the new Terminal 3 site on the northeast side of the airport (See Figures 2 and 3). The proposed ATCT will allow visibility for airport traffic control of all currently existing runways and future planned movement areas both in the air and on the ground at McCarran International Airport.

The proposed action consists of construction and operation of an approximately 372-foot high ATCT, a 40,000 square foot multi-story Administrative Base Building and a multi-story parking structure with approximately 150 parking spaces. Site access would be from Kelly Lane. The current ATCT would be demolished after construction of the new ATCT and Base Building is completed.

The design intention for the proposed ATCT and base building is to create an efficient, low maintenance facility which meets the operational requirements of the airport, harmonizes with the surrounding environment, and is consistent in character with the existing and proposed airport facilities.

The FAA requests concurrence with the following proposed APEs:

1. The APE for the construction of the proposed ATCT includes an approximately 3.5-acre area around the proposed ATCT, Base Building, Parking Structure, utility lines and driveways where construction, maintenance, and usage effects may occur (See Figure 3). New utilities would be connected to existing lines located along Kelly Lane from the southeast corner of the site. Existing public access roads would be used for construction and maintenance traffic.
2. The APE for the demolition of the existing ATCT includes an approximately 2.3-acre area around the current structure.

Historical, Archaeological, and Cultural Resources

Construction of the proposed ATCT and Base Building would occur within the developed airport property on a site currently being used as a concrete batch plant for an airport expansion project. The proposed site is located approximately 1,750 feet northwest of the "D" passenger gates and 2,500 feet north of Taxiway C. The site is bounded by Flight Path Avenue to the north and Kelly Lane to the east. A public airport parking lot is currently located north of Flight Path Avenue. The area east of Kelly Lane is currently vacant but is being used as a construction staging area for an airport expansion project. South of the proposed ATCT site is a large underground water reservoir constructed in the late 1980s that is maintained as a public drinking water supply. The surface of this tank has been paved and is used for parking. West of the proposed ATCT site lies a vacant lot that provides access to the reservoir's pump house and water lines. There are no permanent structures located on the proposed ATCT site.

The McCarran International Airport site was originally established as Alamo Airport in 1941 on North Las Vegas Boulevard and was subsequently purchased by Clark County in 1948 and renamed McCarran Field. The existing ATCT was commissioned in 1983 and is not a historic property. Demolition of the existing ATCT would occur within the developed area of the airport approximately 750 feet southeast of Terminal 1, adjacent to the airport's elevated light rail transit line.

National Register of Historic Places

There are 54 listings for Clark County, Nevada on the National Park Services' (NPS) National Register Information System (NRIS, http://www.nr.nps.gov/, August 19, 2008 query; See Appendix B). The majority of the sites located in the Las Vegas area are located at least six miles north of McCarran International Airport, in the City of Las Vegas. Only one site, the Little Church of the West, located at 3960 Las Vegas Boulevard South, is adjacent to the airport on the west side. This property is located more than one mile from

both the construction and demolition APEs for the proposed action and would not be affected by the project.

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According to the Nevada SHPO website, there are 16 listings for Clark County, Nevada on the State Register of Historic Places, (http://nevadaculture.org/docs/shpo/statereg.htm, August 19, 2008 query; See Appendix B). All of the sites listed in the Las Vegas area are located at least six miles north of McCarran International Airport and would not be affected by the proposed action.

Construction of the proposed ATCT, Base Building and Parking Structure would occur on previously disturbed areas within the developed airport. Therefore it is unlikely that undisturbed artifacts of archaeological interest remain within the APEs. If, however, during construction or maintenance activities any archaeological or historical sites or resources are discovered, construction will cease and the appropriate state, federal and tribal officials will be notified and given the opportunity to survey, determine its significance, and implement any necessary mitigation measures.

An Environmental Assessment (EA) in accordance with the National Environmental Policy Act is currently being prepared. As a first step to consultation with your agency, we would like to request concurrence with the APEs. In addition, based on the above discussion, we would like to recommend a finding of *no historic properties or other archaeological or cultural resources adversely affected* for the proposed action.

Again, the purpose of this letter is to begin communications with the Nevada State Historic Preservation Officer regarding the construction and operation of a new ATCT and Base Building at McCarran International Airport in Las Vegas, NV.

We look forward to a response within 30 days. If you should need any further information or wish to discuss the project, please contact Janelle Cass at (425) 227-1343 or janelle.cass@faa.gov.

Respectfully submitted,

Janelle M Cass

Janelle Cass
FAA Environmental Engineer

Attachments: Figures 1-3
Appendix A – Site Photographs
Appendix B – NRIS query results; Nevada State Register of Historic Places query results

U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Ms. Betty Cornelius
Colorado River Indian Tribes
Route 1, Box 23-B
Parker, AZ 85344

RE: Section 106 Consultation for proposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

The Federal Aviation Administration (FAA), in accordance with Section 106 of the National Historic Preservation Act of 1966 and implementing regulations 36 CFR Part 800 invites you to participate in consultation for the proposed construction of a new Airport Traffic Control Tower (ATCT) at McCarran International Airport (LAS) in Las Vegas, NV. The FAA is also initiating this consultation in accordance with Executive Order 13175, Consultation and Coordination with Indian and Tribal Governments and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures. The FAA is interested in knowing if your tribe attaches religious or cultural significance to the locations shown on the enclosed maps so that we may appropriately consider your interests.

The proposed actions are summarized below:

Site Location and Description

The proposed action (including demolition of the existing ATCT) would occur within LAS in Section 34, Township 21 South, Range 61 East, Mt. Diablo Baseline and Meridian as shown on the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984 (See Figures 1 and 2).

Proposed Action and Area of Potential Effect (APE)

The FAA is proposing to build and operate an ATCT, Base Building and Parking Structure at LAS at the southwest corner of Flight Path Avenue and Kelly Lane, east of Terminal 1 and southwest of the new Terminal 3 site on the northeast side of the airport (See Figures 2 and 3). The proposed ATCT will allow visibility for airport traffic control of all currently existing runways and future planned movement areas both in the air and on the ground at McCarran International Airport.

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The proposed action consists of construction and operation of an approximately 372-foot high ATCT, a 40,000 square foot multi-story Administrative Base Building and a multi-story parking structure with approximately 150 parking spaces. Site access would be from Kelly Lane. The current ATCT would be demolished after construction of the new ATCT and Base Building is completed.

The design intention for the proposed ATCT and base building is to create an efficient, low maintenance facility which meets the operational requirements of the airport, harmonizes with the surrounding environment, and is consistent in character with the existing and proposed airport facilities.

The following descriptions represent the Areas of Potential Effect (APE) for the proposed action:

1. The APE for the construction of the proposed ATCT includes an approximately 3.5-acre area around the proposed ATCT, Base Building, Parking Structure, utility lines and driveways where construction, maintenance, and usage effects may occur (See Figure 3). New utilities would be connected to existing lines located along Kelly Lane from the southeast corner of the site. Existing public access roads would be used for construction and maintenance traffic.
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Respectfully submitted,

Janelle Cass
FAA Environmental Engineer

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Appendix B – NRIS query results; Nevada State Register of Historic Places query results

U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Ms. Elda Butler
Fort Mojave Indian Tribe
P.O. Box 5590
10225 South Harbor Ave., Unit #7
Mojave Valley, AZ 86440

RE: Section 106 Consultation for proposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

The Federal Aviation Administration (FAA), in accordance with Section 106 of the National Historic Preservation Act of 1966 and implementing regulations 36 CFR Part 800 invites you to participate in consultation for the proposed construction of a new Airport Traffic Control Tower (ATCT) at McCarran International Airport (LAS) in Las Vegas, NV. The FAA is also initiating this consultation in accordance with Executive Order 13175, Consultation and Coordination with Indian and Tribal Governments and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures. The FAA is interested in knowing if your tribe attaches religious or cultural significance to the locations shown on the enclosed maps so that we may appropriately consider your interests.

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The FAA is proposing to build and operate an ATCT, Base Building and Parking Structure at LAS at the southwest corner of Flight Path Avenue and Kelly Lane, east of Terminal 1 and southwest of the new Terminal 3 site on the northeast side of the airport (See Figures 2 and 3). The proposed ATCT will allow visibility for airport traffic control of all currently existing runways and future planned movement areas both in the air and on the ground at McCarran International Airport.

story parking structure with approximately 150 parking spaces. Site access would be from Kelly Lane. The current ATCT would be demolished after construction of the new ATCT and Base Building is completed.

The design intention for the proposed ATCT and base building is to create an efficient, low maintenance facility which meets the operational requirements of the airport, harmonizes with the surrounding environment, and is consistent in character with the existing and proposed airport facilities.

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Respectfully submitted,

Janelle Cass
FAA Environmental Engineer

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Appendix A – Site Photographs
Appendix B – NRIS query results; Nevada State Register of Historic Places query results

U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Mr. Charles Vaughn
Hualapai Tribal Council
P.O. Box 179
Peach Springs, AZ 86434

RE: Section 106 Consultation for proposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

The Federal Aviation Administration (FAA), in accordance with Section 106 of the National Historic Preservation Act of 1966 and implementing regulations 36 CFR Part 800 invites you to participate in consultation for the proposed construction of a new Airport Traffic Control Tower (ATCT) at McCarran International Airport (LAS) in Las Vegas, NV. The FAA is also initiating this consultation in accordance with Executive Order 13175, Consultation and Coordination with Indian and Tribal Governments and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures. The FAA is interested in knowing if your tribe attaches religious or cultural significance to the locations shown on the enclosed maps so that we may appropriately consider your interests.

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Respectfully submitted,

Janelle M Cass

Janelle Cass
FAA Environmental Engineer

Attachments: Figures 1-3
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Appendix B – NRIS query results; Nevada State Register of Historic Places query results

U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Ms. Carmen Bradley
Kaibab Paiute Tribal Council
HC65, Box 2
Tribal Affairs Building
Fredonia, AZ 86022

RE: Section 106 Consultation for proposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

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FAA Environmental Engineer

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U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Ms. Alfreda L. Mitre
Las Vegas Tribal Council
One Paiute Drive
Las Vegas, NV 89106

RE: Section 106 Consultation for proposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

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query; See Appendix B). The majority of the sites located in the Las Vegas area are located at least six miles north of McCarran International Airport, in the City of Las Vegas. Only one site, the Little Church of the West, located at 3960 Las Vegas Boulevard South, is adjacent to the airport on the west side. This property is located more than one mile from both the construction and demolition APEs for the proposed action and would not be affected by the project.

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According to the Nevada SHPO website, there are 16 listings for Clark County, Nevada on the State Register of Historic Places, (http://nevadaculture.org/docs/shpo/statereg.htm, August 19, 2008 query; See Appendix B). All of the sites listed in the Las Vegas area are located at least six miles north of McCarran International Airport and would not be affected by the proposed action.

Construction of the proposed ATCT, Base Building and Parking Structure would occur on previously disturbed areas within the developed airport. Therefore it is unlikely that undisturbed artifacts of archaeological interest remain within the APE. If, however, during construction or maintenance activities any archaeological or historical sites or resources are discovered, construction will cease and the appropriate state, federal and tribal officials will be notified and given the opportunity to survey, determine its significance, and implement any necessary mitigation measures.

Again, the purpose of this letter is to determine whether your tribe attaches religious or cultural significance to the locations within the APE so that we may appropriately consider your interests.

We look forward to a response within 30 days. If you should need any further information or wish to discuss the project, please contact Janelle Cass at (425) 227-1343 or janelle.cass@faa.gov.

Respectfully submitted,

Janelle Cass
FAA Environmental Engineer

Attachments: Figures 1-3
Appendix A – Site Photographs
Appendix B – NRIS query results; Nevada State Register of Historic Places query results

U.S. Department
of Transportation
**Federal Aviation
Administration**

September 4, 2008

Ms. Lora Tom
Paiute Indian Tribe of Utah
Tribal Council
440 N. Paiute Drive
Cedar City, UT 84720-2613

RE: Section 106 Consultation for proposed replacement Air Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

The Federal Aviation Administration (FAA), in accordance with Section 106 of the National Historic Preservation Act of 1966 and implementing regulations 36 CFR Part 800 invites you to participate in consultation for the proposed construction of a new Airport Traffic Control Tower (ATCT) at McCarran International Airport (LAS) in Las Vegas, NV. The FAA is also initiating this consultation in accordance with Executive Order 13175, Consultation and Coordination with Indian and Tribal Governments and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures. The FAA is interested in knowing if your tribe attaches religious or cultural significance to the locations shown on the enclosed maps so that we may appropriately consider your interests.

The proposed actions are summarized below:

Site Location and Description

The proposed action (including demolition of the existing ATCT) would occur within LAS in Section 34, Township 21 South, Range 61 East, Mt. Diablo Baseline and Meridian as shown on the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984 (See Figures 1 and 2).

Proposed Action and Area of Potential Effect (APE)

The FAA is proposing to build and operate an ATCT, Base Building and Parking Structure at LAS at the southwest corner of Flight Path Avenue and Kelly Lane, east of Terminal 1 and southwest of the new Terminal 3 site on the northeast side of the airport (See Figures 2 and 3). The proposed ATCT will allow visibility for airport traffic control of all currently existing runways and future planned movement areas both in the air and on the ground at McCarran International Airport.

The proposed action consists of construction and operation of an approximately 372-foot high ATCT, a 40,000 square foot multi-story Administrative Base Building and a multi-story parking structure with approximately 150 parking spaces. Site access would be from Kelly Lane. The current ATCT would be demolished after construction of the new ATCT and Base Building is completed.

The design intention for the proposed ATCT and base building is to create an efficient, low maintenance facility which meets the operational requirements of the airport, harmonizes with the surrounding environment, and is consistent in character with the existing and proposed airport facilities.

The following descriptions represent the Areas of Potential Effect (APE) for the proposed action:

1. The APE for the construction of the proposed ATCT includes an approximately 3.5-acre area around the proposed ATCT, Base Building, Parking Structure, utility lines and driveways where construction, maintenance, and usage effects may occur (See Figure 3). New utilities would be connected to existing lines located along Kelly Lane from the southeast corner of the site. Existing public access roads would be used for construction and maintenance traffic.
2. The APE for the demolition of the existing ATCT includes an approximately 2.3-acre area around the current structure.

Historical, Archaeological, and Cultural Resources

Construction of the proposed ATCT and Base Building would occur within the developed airport property on a site currently being used as a concrete batch plant for an airport expansion project. The proposed site is located approximately 1,750 feet northwest of the "D" passenger gates and 2,500 feet north of Taxiway C. The site is bounded by Flight Path Avenue to the north and Kelly Lane to the east. A public airport parking lot is currently located north of Flight Path Avenue. The area east of Kelly Lane is currently vacant but is being used as a construction staging area for an airport expansion project. South of the proposed ATCT site is a large underground water reservoir constructed in the late 1980s that is maintained as a public drinking water supply. The surface of this tank has been paved and is used for parking. West of the proposed ATCT site lies a vacant lot that provides access to the reservoir's pump house and water lines. There are no permanent structures located on the proposed ATCT site.

The McCarran International Airport site was originally established as Alamo Airport in 1941 on North Las Vegas Boulevard and was subsequently purchased by Clark County in 1948 and renamed McCarran Field. The existing ATCT was commissioned in 1983 and is not a historic property. Demolition of the existing ATCT would occur within the developed area of the airport approximately 750 feet southeast of Terminal 1, adjacent to the airport's elevated light rail transit line.

National Register of Historic Places

There are 54 listings for Clark County, Nevada on the National Park Services' (NPS) National Register Information System (NRIS, http://www.nr.nps.gov/, August 19, 2008 query; See Appendix B). The majority of the sites located in the Las Vegas area are located at least six miles north of McCarran International Airport, in the City of Las Vegas. Only one site, the Little Church of the West, located at 3960 Las Vegas Boulevard South, is adjacent to the airport on the west side. This property is located more than one mile from both the construction and demolition APEs for the proposed action and would not be affected by the project.

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According to the Nevada SHPO website, there are 16 listings for Clark County, Nevada on the State Register of Historic Places, (http://nevadaculture.org/docs/shpo/statereg.htm, August 19, 2008 query; See Appendix B). All of the sites listed in the Las Vegas area are located at least six miles north of McCarran International Airport and would not be affected by the proposed action.

Construction of the proposed ATCT, Base Building and Parking Structure would occur on previously disturbed areas within the developed airport. Therefore it is unlikely that undisturbed artifacts of archaeological interest remain within the APE. If, however, during construction or maintenance activities any archaeological or historical sites or resources are discovered, construction will cease and the appropriate state, federal and tribal officials will be notified and given the opportunity to survey, determine its significance, and implement any necessary mitigation measures.

Again, the purpose of this letter is to determine whether your tribe attaches religious or cultural significance to the locations within the APE so that we may appropriately consider your interests.

We look forward to a response within 30 days. If you should need any further information or wish to discuss the project, please contact Janelle Cass at (425) 227-1343 or janelle.cass@faa.gov.

Respectfully submitted,

Janelle Cass
FAA Environmental Engineer

Attachments: Figures 1-3
Appendix A – Site Photographs
Appendix B – NRIS query results; Nevada State Register of Historic Places query results

Index By State County

National Register Information System 08/19/2008 12:14:44

No filter Include filter in navigation ☐

State: NV

County: Clark

Row	Resource Name	Address	City	Listed	Multiple
1	**Boulder City Historic District**	Roughly bounded by Nevada Hwy., Avenue L, Date, and 5th Sts.	Boulder City	1983-08-19	
2	**Boulder Dam Hotel**	1305 Arizona St.	Boulder City	1982-07-13	
3	**Boulder Dam Park Museum**	NV 169, W side	Overton	1996-02-22	
4	**Brownstone Canyon Archeological District**	Address Restricted	Las Vegas	1982-09-22	
5	**Camp Lee Canyon**	NV 156, approximately 50 mi. NW of Las Vegas, Spring Mountains National Recreation Area	Las Vegas	1997-01-16	
6	**Clark Avenue Railroad Underpass**	Jct. of Bonanza Rd. and Union Pacific Railroad Tracks	Las Vegas	2004-01-28	
7	**Corn Creek Campsite**	Address Restricted	Las Vegas	1975-03-04	
8	**Desert Valley Museum**	31 W. Mesquite Blvd.	Mesquite	1991-10-24	
9	**Eureka Locomotive**	Address Restricted	Las Vegas	1995-01-12	
10	**Gold Strike Canyon--Sugarloaf Mountain Traditional Cultural Property**	Address Restricted	Boulder City	2004-09-04	

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Index By State County

National Register Information System 08/19/2008 12:14:37

No filter Include filter in navigation

State: NV

County: Clark

Row	Resource Name	Address	City	Listed	Multiple
11	**Goodsprings Schoolhouse**	San Pedro Ave. E of jct. with Esmeralda St.	Goodsprings	1992-03-10	Historic School Buildings in the Evolution of the Fifth Supervision School District MPS
12	**Grapevine Canyon Petroglyphs (AZ:F:14:98 ASM)**	Address Restricted	Laughlin	1984-12-15	
13	**Green Shack**	2504 E. Fremont	Las Vegas	1994-06-03	
14	**Hidden Forest Cabin**	About 20 mi. N of Las Vegas on Hidden Forest Rd.	Las Vegas	1975-02-20	
15	**Homestake Mine**	Address Restricted	Searchlight	1985-07-17	
16	**Hoover Dam**	E of Las Vegas on U.S. 93	Boulder City	1981-04-08	Vehicular Bridges in Arizona MPS (AD)
17	**Hunt, Parley, House**	Canal St. near jct. with Virgin St.	Bunkerville	1991-11-14	
18	**Huntridge Theater**	1208 E. Charleston Blvd.	Las Vegas	1993-07-22	
19	**John S. Park Historic Park**	Roughly bounded by Charleston Blvd., Las Vegas Blvd., Franklin Ave., and S. Ninth St.	Las Vegas	2003-05-16	
20	**Kyle Ranch**	Losee St. and Carey Ave.	North Las Vegas	1975-10-06	

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Index By State County

National Register Information System 08/19/2008 12:16:03

No filter Include filter in navigation

State: NV

County: Clark

Row	Resource Name	Address	City	Listed	Multiple
21	**Las Vegas Grammar School**	Washington and D Sts.	Las Vegas	1979-04-02	
22	**Las Vegas Grammar School**	400 Las Vegas Blvd. S	Las Vegas	1988-05-20	
23	**Las Vegas High School Academic Building and Gymnasium**	315 S. Seventh St.	Las Vegas	1986-09-24	
24	**Las Vegas High School Neighborhood Historic District**	Roughly bounded by E. Bridger, S. 9th, E. Gass and S. 6th Sts.	Las Vegas	1991-01-30	
25	**Las Vegas Mormon Fort**	900 Las Vegas Blvd., N.	Las Vegas	1972-02-01	
26	**Las Vegas Mormon Fort (Boundary Increase)**	900 Las Vegas Blvd., N	Las Vegas	1978-12-12	
27	**Las Vegas Springs**	Address Restricted .	Las Vegas	1978-12-14	
28	**LDS Moapa Stake Office Building**	161 W. Virginia St.	Overton	2002-07-25	
29	**Leavitt, Thomas, House**	160 S. First West St.	Bunkerville	1991-11-14	
30	**Little Church of the West**	3960 Las Vegas Blvd. S.	Las Vegas	1992-09-14	

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Index By State County

National Register Information System 08/19/2008 12:16:29

No filter Include filter in navigation

State: NV

County: Clark

Row	Resource Name	Address	City	Listed	Multiple
31	**Mesquite High School Gymnasium**	144 E. North 1st St.	Mesquite	1992-03-10	Historic School Buildings in the Evolution of the Fifth Supervision School District MPS
32	**Mormon Well Spring**	N of Las Vegas on Mormon Spring	Las Vegas	1974-12-24	
33	**Moulin Rouge Hotel**	900 W. Bonanza Rd.	Las Vegas	1992-12-22	
34	**Old Boulder City Hospital**	701 Park Pl.	Boulder City	1982-04-01	
35	**Overton Gymnasium**	N. West Thomas St. W of jct. with S. Anderson St.	Overton	1992-03-10	Historic School Buildings in the Evolution of the Fifth Supervision School District MPS
36	**Potosi**	S of Las Vegas off I-15 near Potosi Pass	Las Vegas	1974-11-13	
37	**Pueblo Grande de Nevada**	SE of Overton	Overton	1982-10-08	
38	**Railroad Cottage Historic District**	601--629 S. Casino Center	Las Vegas	1987-12-22	Properties Associated with the San Pedro, Los Angeles, and Salt Lake Railroad TR
39	**Sandstone Ranch**	20 mi. SW of Las Vegas	Las Vegas	1976-04-02	
40	**Sheep Mountain Range Archeological District**	Address Restricted	Las Vegas	1974-12-31	

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Index By State County

National Register Information System 08/19/2008 12:16:57

No filter Include filter in navigation

State: NV

County: Clark

Row	Resource Name	Address	City	Listed	Multiple
41	**Sloan Petroglyph Site**	Address Restricted	Las Vegas	1978-12-19	
42	**Sloan Petroglyph Site (Boundary Increase)**	Address Restricted	Las Vegas	2004-02-05	
43	**Smith, Jay Dayton, House**	624 S. Sixth St.	Las Vegas	1987-02-20	
44	**Spanish Trail, Old,--Mormon Road Historic District**	From California border to Arizona across southern Nevada, through Las Vegas	Las Vegas	2001-08-22	
45	**Spanish Trail, Old,--Mormon Road Historic District (Boundary Increase)**	Near jct. of I 15 & NV 169	Moapa	2008-03-21	
46	**Spirit Mountain**	Address Restricted	Laughlin	1999-09-08	
47	**St. Thomas Memorial Cemetery**	Magnasite Rd. off Moapa Valley Blvd.	Overton	2005-01-20	
48	**Tim Springs Petroglyphs**	Address Restricted	Indian Springs	1974-12-16	
49	**Tule Springs Archeological Site**	Address Restricted	Las Vegas	1979-04-20	
50	**Tule Springs Ranch**	9200 Tule Springs Rd.	Las Vegas	1981-09-23	

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Index By State County

National Register Information System 08/19/2008 12:17:25

No filter Include filter in navigation

State: NV

County: Clark

Row	Resource Name	Address	City	Listed	Multiple
51	**U.S. Post Office and Courthouse**	300 E. Stewart Ave.	Las Vegas	1983-02-10	
52	**Washington School**	1901 N. White St.	North Las Vegas	1992-03-10	Historic School Buildings in the Evolution of the Fifth Supervision School District MPS
53	**Willow Beach Gauging Station**	Lake Mead National Recreation Area	Boulder City	1986-03-21	
54	**Woodlawn Cemetery**	1500 Las Vegas Blvd N	Las Vegas	2006-11-21	

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Department of Cultural Affairs

State Historic Preservation Office

Nevada State Register of Historic Places

Name/Address	Type of Entry	Date Entered
CARSON CITY		
Brougher Mansion (NR) 204 W. Spear Street	Building	03/04/81
Carson Brewing Company (NR) 102 N. Division Street	Building	03/04/81
Carson City Post Office (NR) 401 N. Carson Street	Building	03/04/81
Carson Hot Springs 1500 Hot Springs Road	Building	12/01/04
Governor's Mansion (NR) 606 Mountain Street	Building	03/04/81
Lakeview House (NR) U.S. 395 south of East Lake Boulevard	Building	03/04/81
McKeen Motor Car #70 (NR) 2180 S. Carson Street	Object	12/07/05
Meder, Lew House (NR) 308 N. Nevada Street	Building	03/04/81
Nevada State Capitol (NR) 101 N. Carson Street	Building	03/04/81
Nevada State Printing Office 101 S. Fall Street (NR)	Building	03/04/81
Governor Nye's Mansion (NR) 108 N. Minnesota Street	Building	03/04/81
Ormsby-Rosser House (NR) 304 S. Minnesota Street	Building	03/04/81
Rinckel Mansion (NR) 102 N. Curry Street, Carson City	Building	03/04/81
Roberts, James D., House (NR) 1217 N. Carson Street	Building	03/04/81
St. Charles-Muller Hotel (NR) 302-304-310 S. Carson Street	Building	06/05/81
Sears-Ferris House (NR) 311 West Third Street	Building	03/04/81
U.S. Mint (NR) 600 N. Carson Street	Building	03/04/81
V&T Combination Car #21 (NR) 2180 S. Carson Street	Object	03/04/81
V&T Locomotives (NR) (Dayton & Inyo) 2180 S. Carson Street	Objects	03/04/81
CHURCHILL COUNTY		
Churchill County Courthouse 10 W. Williams Avenue, Fallon	Building	12/11/01
Churchill County Jail 10 W. Williams Avenue, Fallon	Building	12/11/01

Cold Springs (NR)	Site	03/04/81
Douglass, R.L., House 10 S. Carson Street, Fallon	Building	06/12/01
Fallon City Hall 55 West Williams Street, Fallon	Building	09/08/04
Grimes Point (NR)	Site	03/04/81
Harmon School (NR) NW corner of Kirn and N. Harmon Roads, Fallon	Building	02/10/88
Hazen Store 600 Reno Highway, Hazen	Building	12/01/04
Holy Trinity Episcopal Church 507 Churchill Street, Fallon	Building	03/12/03
Overland Hotel 125 E. Center Street, Fallon	Building	11/04/99
Sand Springs Pony Express Station (NR)	Site	03/04/81
U.S. Post Office Building 90 North Maine Street, Fallon (NR)	Building	06/07/06
CLARK COUNTY		
Boulder City Hospital 701 Park Place, Boulder City	Building	06/05/81
Boulder Dam Hotel (NR) 1305 Arizona Street, Boulder City	Building	06/05/81
Huntridge Theater (NR) 1208 E. Charleston Boulevard, Las Vegas	Building	01/15/99
Las Vegas Mormon Fort (NR) 500 E. Washington Boulevard, Las Vegas	Building	03/04/81
Las Vegas Post Office and Courthouse 301 East Stewart Street, Las Vegas	Building	05/15/02
Las Vegas Springs (NR)	Site	03/04/81
LDS Moapa Stake Office Building 161 West Virginia Street, Overton	Building	06/11/02
Logandale Elementary School State Highway 169 at West Gann Road, Logandale	Building	01/15/99
Morelli House 814 Bridger Avenue, Las Vegas	Building	10/01/01
Overton Gymnasium N. Thomas Avenue off S. Anderson, Overton	Building	06/12/01
Pioneer Saloon 310 Spring Avenue, Goodsprings	Building	12/03/07
Sandstone Ranch (NR) 20 miles SW of Las Vegas	District	03/04/81
Sloan Petroglyphs (NR)	Site	03/04/81
Tule Springs (NR)	Site	03/04/81
St. Thomas Memorial Cemetery Magnasite Road off Moapa Valley Blvd., Overton	Site	12/01/04
Westside School (NR) Washington and D Streets, Las Vegas	Building	03/04/81
DOUGLAS COUNTY		
Bliss Boat House 1951 Glenbrook Road, Glenbrook	Building	02/10/88
Brown, George House 1452 Main Street, Gardnerville	Building	06/14/88
Carson Valley Hospital (NR) 1466 U.S. 395, Gardnerville	Building	03/04/81

Dangberg House 1600 Sixth Street, Minden	Building	09/17/87
Farmers' Bank of Carson Valley 1596 Esmeralda Avenue, Minden	Building	02/25/00
Gale, Lena N. (Good Medicine) Cabin 726 Cedar Street, Zephyr Cove	Building	03/20/01
Gardnerville Branch Jail 1440 Courthouse Street, Gardnerville	Building	03/12/03
Genoa Historic District (NR) 7 miles NW of Minden on NV 57	District	03/04/81
Lake Shore House (NR) Glenbrook Road, Glenbrook	Building	06/05/81
Minden Flour Milling Company Sixth Street and U.S. 395, Minden (NR)	Building	03/04/81
Reese-Johnson-Virgin House 193 Genoa Lane, Genoa	Building	06/08/04
Walley's Hot Springs State Route 206, 2 miles S. of Genoa	Building	06/05/81
ELKO COUNTY		
Commercial Hotel 345 Fourth Street, Elko	Building	06/07/84
Henderson Bank Building 401 Railroad Street, Elko	Building	06/07/84
Metropolis Dam 10.5 miles north of Wells	Structure	06/18/82
Midas Schoolhouse Second Street, 2 blocks east of Main Street, Midas	Structure	06/08/04
Ruby Valley Pony Express Station (NR) 1515 Idaho Street, Elko	Building	03/04/81
Skelton Hotel Jiggs	Building	03/04/81
ESMERALDA COUNTY		
Goldfield Hotel S.E. corner of Crook Avenue and Columbus Street, Goldfield	Building	03/04/81
Goldfield Historic District (NR) Roughly bounded by Fifth Street, Elliott, Myers and Crystal Avenues, Miner Avenue, Hall and Sundog Avenues, Goldfield	District	12/07/05
EUREKA COUNTY		
Eureka Historic District (NR)	District	03/04/81
HUMBOLDT COUNTY		
Applegate-Lassen Trail (NR) From Rye Patch NW to state line	District	03/04/81
Golconda School (NR) 55 South Morrison, Golconda	Building	06/07/06
Record, W.C., House (NR) 146 W. Second Street, Winnemucca	Building	03/04/81
Winnemucca Hotel (NR) 95 S. Bridge Street, Winnemucca	Building	04/05/05
LANDER COUNTY		
Austin Historic District (NR)	District	03/04/81
Lander County High School Building 130 Sixth Street, Austin	Building	06/05/00
St. Augustine's Catholic Church 113 Virginia Street, Austin	Building	04/05/05

LINCOLN COUNTY		
Smith (Scott) Hotel Corner of Front and Spring Streets, Caliente	Building	04/05/91
White River Narrows (NR)	Site	03/04/81
LYON COUNTY		
Caples, Robert House 175 Silver Street, Dayton	Building	12/14/06
Chinese Residence 65 E. Silver Street, Dayton	Building	03/16/90
East Walker River Petroglyphs (NR)	Site	03/04/81
Fernley Community Church 80 South Center Street, Fernley	Building	03/12/03
Fernley-Lassen Railway Depot (NR) 675 East Main Street, Fernley	Building	9/18/00
Fort Churchill (NR) U.S. 95A, 8 miles SW of U.S. 50	Site	03/04/81
Stockton Well Station Spruce Avenue, Silver Springs	Site	10/21/94
MINERAL COUNTY		
Hawthorne U.S.O. Building (NR) 950 E Street, Hawthorne	Building	03/03/04
Mineral County Courthouse 551 C Street, Hawthorne (NR)	Building	06/05/81
Sixth Street School Sixth and C Streets, Hawthorne	Building	08/28/99
NYE COUNTY		
Belmont Historic District 46 miles NE of Tonopah, off Nevada 82 (NR)	District	03/04/81
Berlin Historic District (NR) Off Nevada 23	District	03/04/81
El Rancho Gardens 3461A/B N. Barney Street, Pahrump	Building	06/05/98
James Wild Horse Trap (NR) About 5 miles east of Fish Springs	Site	03/04/81
Manhattan School (NR) Gold Avenue, Manhattan	Building	06/07/06
Mizpah Hotel (NR) 100 Main Street, Tonopah	Building	03/04/81
Mizpah Mine Tonopah	Site	06/05/81
Tom Kelly Bottle House Chico Street, Rhyolite	Building	04/05/91
Tybo Charcoal Ovens (NR) About 55 miles NE of Tonopah, off U.S. 6	Structures	03/04/81
PERSHING COUNTY		
Marzen House (NR) South of Lovelock	Building	06/05/81
Rye Patch Archeological Site (NR)	Site	03/04/81
Thunder Mountain Monument Imlay	Structure	09/25/92
STOREY COUNTY		
Virginia City Historic District (NR/NHL)	District	03/04/81
WASHOE COUNTY		
Alamo Ranch House (NR)		

20205 S. Virginia Street, Steamboat	Building	03/04/81
Bank of Sparks Building 948 Victorian Avenue, Sparks	Building	06/14/07
Bowers Mansion (NR) 19 miles S. of Reno, off U.S. 395	Building	03/04/81
Coney Island Bar 2644 Prater Way, Sparks	Building	06/14/07
Derby Dam 19 miles east of Sparks	Structure	03/04/81
Dow House 935 Jones Street, Reno	Building	12/28/82
Emmanuel First Baptist Church 412 12th Street, Sparks	Building	02/10/88
First Church of Christ Scientist 501 Riverside Drive, Reno	Building	12/28/82
Francovich House 708 Center Street, Reno	Building	02/10/88
Luella Garvey House 589-599 California Avenue, Reno	Building	12/12/03
Glendale School (NR) Victorian Square, B Street, Sparks	Building	03/04/81
Hawkins House (NR) 549 Court Street, Reno	Building	03/04/81
HicMc, Inc. 824 Holcomb Avenue, Reno	Building	06/11/87
Knight House 615 Jones Street, Reno	Building	12/28/82
Lake Mansion (NR) 250 Court Street, Reno (moved July 2004)	Building	03/04/81
Landon House 542 Lander Street, Reno	Building	12/28/82
Landrum's Hamburger System No. 1 (NR) 1300 S. Virginia Street, Reno	Building	01/31/84
Lund Apartments 29 E. Ninth Street, Reno	Building	12/28/82
Mill Valley School House Franktown	Building	06/11/81
Miller-Rowe/Holgate House (NR) 18 Winter Street, Reno	Building	04/05/05
Morrill Hall (NR) University of Nevada-Reno campus	Building	03/04/81
Nevada-California-Oregon Railroad Depot (NR) 325 E. Fourth Street, Reno	Building	03/04/81
Nevada-California-Oregon Locomotive and Machine Shop (NR) 401 E. Fourth Street, Reno	Building	06/18/81
Newlands Mansion (NR) 7 Elm Court, Reno	Building	03/04/81
Nystrom Guest House 333 Ralston Street, Reno	Building	02/25/00
Patrick Ranch House 1225 Gordon Avenue, Reno	Building	03/12/03
Phillips Ranch 1907 S. Arlington Avenue, Reno	Building	06/05/81

Pioneer Theater-Auditorium (NR) 100 South Virginia Street, Reno	Building	09/08/04
Postmann House 105 Vine Street, Reno	Building	12/28/82
Rainier Brewing Company Bottling Plant (NR) 310 Spokane Street, Reno	Building	03/04/81
Robison House 409 13th Street, Sparks	Building	06/07/06
Safeway Store Building 440-490 N. Virginia Street, Reno	Building	03/20/01
Sherman, Mary House 847 N. Center Street, Reno	Building	09/18/98
Steamboat Hot Springs 16010 S. Virginia Street, Reno	District	06/05/98
Washoe County Bank Building 195 N. Virginia Street, Reno	Building	12/12/03
Washoe County Courthouse 117 S. Virginia Street, Reno	Building	11/04/99
John Wieland Bottling Works and Beer Depot 251 Ralston Street, Reno	Building	06/18/81
Young House 547 Ralston Street, Reno	Building	12/28/82
WHITE PINE COUNTY		
Areline's (Whore House) 200 13th Street, East Ely	Building	04/07/89
Collins Hotel 612 Aultman Street, Ely	Building	06/11/87
Lehman Orchard/Aqueduct (NR) Lehman Caves National Monument	Site	03/04/81
Rhodes Cabin (NR) Lehman Caves National Monument	Building	03/04/81
Sunshine Locality (NR)	Site	03/04/81
Ward Charcoal Ovens (NR)	Structures	03/04/81

Note:
NR = Listed in the National Register of Historic Places
NHL = National Historic landmark

State of Nevada Go back a page
Department of Cultural Affairs

Modified: 7/31/2008
Location: http://nevadaculture.org/docs/shpo/statereg.htm

National NAGPRA
National Park Service

NACD Query Results

Full Data Report

Query input:

State = Nevada
County = Clark

The following 9 records for Federally recognized Indian tribe(s), Native Hawaiian organization(s), Alaska Native corporation(s), and/or their designated NAGPRA contact(s) have been identified:

- Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California
- Fort Mojave Indian Tribe of Arizona, California & Nevada
- Hualapai Indian Tribe of the Hualapai Indian Reservation, Arizona
- Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona
- Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada
- Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada
- Paiute Indian Tribe of Utah
- Shoshone Tribe of the Wind River Reservation, Wyoming
- Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho

The following 8 related records have been identified:

- Cedar City Band of Paiutes
- Indian Peaks Band of Paiutes
- Kaibab Indians of Arizona
- Kanosh Band of Paiutes
- Koosharem Band of Paiutes
- Mohave Indians who are members of the Colorado River Indian Tribes
- Mohave Tribe of Indians of Arizona, California, & Nevada
- Southern Paiute Nation

There are 17 total records

FULL DATA REPORT

Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):

- Federally Recognized Indian Tribe

AUTHORITY:

- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005

LAST UPDATE TO INFORMATION: 12/20/2005

Contact(s)	Authority
Mr. Daniel Eddy , Jr. Colorado River Indian Tribes, Colorado River Tribal Council Route 1, Box 23-B Parker, AZ 85344 928-669-9211 928-669-1216 fax	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

Contact(s)	Authority
Ms. Betty Cornelius Colorado River Indian Tribes Route 1, Box 23-B Parker, AZ 85344 928-669-9211 928-669-1216 FAX	
NAGPRA Contact	Letter From Tribal Official

RELATED TRIBES/VILLAGES

Used For Mohave (Also Known As)

Used For Chemehuevi (Also Known As)

Used For Mohave Tribe of Indians (Also Known As)

Used For Mohave Indians who are members of the Colorado River Indian Tribes (Also Known As; Plaintiff in Land Claims Case)

Used For Mohave [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
AZ	La Paz	Colorado River Indian Reservation
CA	Riverside	
CA	San Bernardino	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	La Paz	Indian Claims Commission decision	Land Claims Map ID # 144
AZ	Mohave		
CA	San Bernardino		
NV	Clark		
		Indian Claims Commission	

AZ	Mohave	decision	Land Claims Map ID # 145
CA	Riverside		
CA	San Bernardino		
NV	Clark		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Fort Mojave Indian Tribe of Arizona, California & Nevada

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):
- Federally Recognized Indian Tribe

AUTHORITY:
- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005

LAST UPDATE TO INFORMATION: 03/02/2006

Contact(s)	**Authority**
Ms. Elda Butler Fort Mojave Indian Tribe P.O. Box 5590 10225 South Harbor Ave., Unit #7 Mojave Valley, AZ 86440 520-768-4475 520-768-7996 fax	
NAGPRA Contact	Letter From Tribal Official

Contact(s)	**Authority**
Ms. Nora McDowell Fort Mojave Tribal Council 500 Merriman Avenue Needles, CA 92363 760-629-4591 760-629-2468 FAX	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

RELATED TRIBES/VILLAGES
Used For Mohave (Also Known As)
Used For Mohave Tribe of Indians (Also Known As)
Used For Mohave Tribe of Indians of Arizona, California, & Nevada (Also Known As; Plaintiff in Land Claims Case)
Used For Fort Mohave Indian Tribe of Arizona (Also Known As)
Used For Mohave [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
AZ	Mohave	Fort Mohave Indian Reservation
CA	San Bernardino	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	La Paz	Indian Claims Commission decision	Land Claims Map ID # 144
AZ	Mohave		
CA	San Bernardino		
NV	Clark		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Hualapai Indian Tribe of the Hualapai Indian Reservation, Arizona

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):
- Federally Recognized Indian Tribe
- Plaintiff in Land Claims Case

AUTHORITY:
- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 12/20/2005

Contact(s)	Authority
Mr. Charles Vaughn Hualapai Tribal Council P.O. Box 179 Peach Springs, AZ 86434 928-769-2216 928-769-2343 FAX loubenson@ctaz.com	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

RELATED TRIBES/VILLAGES
Used For Hualapai (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
AZ	Coconino	Hualapai Indian Reservation
AZ	Mohave	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 143
AZ	Mohave		
AZ	Yavapai		
NV	Clark		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST

Not provided

FULL DATA REPORT

Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):

- Federally Recognized Indian Tribe

AUTHORITY:

- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005

LAST UPDATE TO INFORMATION: 12/20/2005

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Contact(s)	Authority
Ms. Carmen Bradley Kaibab Paiute Tribal Council HC65, Box 2 Tribal Affairs Building Fredonia, AZ 86022 928-643-7245 928-643-7260 FAX	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

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RELATED TRIBES/VILLAGES

Used For Southern Paiute (Also Known As)
Used For Southern Paiute [generic] (Also Known As)
Used For Kaibab Indians of Arizona (Also Known As; Plaintiff in Land Claims Case)
Used For Southern Paiute Nation (Also Known As; Plaintiff in Land Claims Case)
Used For Paiute [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
AZ	Coconino	Kaibab Indian Reservation
AZ	Mohave	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):
- Federally Recognized Indian Tribe

AUTHORITY:
- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005

LAST UPDATE TO INFORMATION: 12/20/2005

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Contact(s)	Authority
Ms. Alfreda L. Mitre Las Vegas Tribal Council One Paiute Drive Las Vegas, NV 89106 702-386-3926 702-383-4019 Fax	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

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RELATED TRIBES/VILLAGES
Used For Southern Paiute (Also Known As)
Used For Southern Paiute [generic] (Also Known As)

Used For Southern Paiute Nation (Also Known As; Plaintiff in Land Claims Case)
Used For Paiute [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
NV	Clark	Las Vegas Colony Indian Reservation

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):

- Federally Recognized Indian Tribe
- Plaintiff in Land Claims Case

AUTHORITY:

- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005

LAST UPDATE TO INFORMATION: 03/30/2006

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Contact(s)	Authority
Mr. Tom Dalton Moapa Business Council P.O. Box 340 Moapa, NV 89025-0340 702-865-2787	

702-865-2875 FAX
December 2006
Chairperson BIA Tribal Leaders Directory, Jan. 2006

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RELATED TRIBES/VILLAGES

Used For Southern Paiute (Also Known As)
Used For Southern Paiute [generic] (Also Known As)
Used For Southern Paiute Nation (Also Known As; Plaintiff in Land Claims Case)
Used For Paiute [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
NV	Clark	Moapa River Indian Reservation

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Paiute Indian Tribe of Utah

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):
- Federally Recognized Indian Tribe

AUTHORITY:
- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005

LAST UPDATE TO INFORMATION: 12/20/2005
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Contact(s)	Authority
Ms. Lora Tom Paiute Indian Tribe of Utah Tribal Council 440 N. Paiute Drive Cedar City, UT 84720-2613 435-586-1112 435-586-0896 FAX	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

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RELATED TRIBES/VILLAGES

Used For Southern Paiute (Also Known As)
Child Shivwitz Band of Paiute Indians (Constituent Band)
Used For Southern Paiute [generic] (Also Known As)
Used For Southern Paiute Nation (Also Known As; Plaintiff in Land Claims Case)
Child Indian Peaks Band of Paiutes (Constituent Band; Plaintiff in Land Claims Case)
Child Cedar City Band of Paiutes (Constituent Band; Plaintiff in Land Claims Case)
Child Koosharem Band of Paiutes (Constituent Band; Plaintiff in Land Claims Case)
Child Kanosh Band of Paiutes (Constituent Band; Plaintiff in Land Claims Case)
Used For Paiute [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
UT	Iron	Paiute Indian Reservation
UT	Millard	
UT	Sevier	
UT	Washington	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		

UT Washington

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Shoshone Tribe of the Wind River Reservation, Wyoming

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):

- Federally Recognized Indian Tribe
- Plaintiff in Land Claims Case

AUTHORITY:

- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 12/20/2005

Contact(s)	**Authority**
Mr. Ivan D. Posey Shoshone Tribe of Wind River Reservation Shoshone Business Committee P.O. Box 217 Fort Washakie, WY 82514 307-332-3532 307-332-3055 FAX	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

Contact(s)	**Authority**
Shoshone Tribal Cultural Center P.O. Box 1008 Fort Washakie, WY 82514 307-332-9106	
NAGPRA Contact	Tribal Resolution

RELATED TRIBES/VILLAGES

Used For Shoshone (Also Known As)
Used For Shoshone Tribe (Also Known As; Tribally Preferred Name)
Used For Shoshone [generic] (Also Known As)

RESERVATION NAME(S)

State	**County**	**Reservation Name**
WY	Fremont	Wind River Indian Reservation
WY	Hot Springs	
WY	Sublette	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
CO	Moffat	Indian Claims Commission decision	Land Claims Map ID # 111
ID	Bannock		
ID	Bear Lake		
ID	Bingham		
ID	Blaine		
ID	Bonneville		
ID	Butte		
ID	Camas		
ID	Caribou		
ID	Cassia		
ID	Clark		
ID	Custer		
ID	Franklin		
ID	Fremont		
ID	Jefferson		
ID	Jerome		
ID	Lemhi		
ID	Lincoln		
ID	Madison		
ID	Minidoka		
ID	Oneida		
ID	Power		
ID	Teton		
ID	Twin Falls		
MT	Beaverhead		
NV	Elko		
UT	Box Elder		
UT	Cache		
UT	Daggett		
UT	Davis		
UT	Duchesne		
UT	Morgan		
UT	Rich		
UT	Summit		
UT	Uintah		
UT	Weber		
WY	Fremont		
WY	Lincoln		
WY	Park		
WY	Sublette		
WY	Sweetwater		
WY	Teton		
WY	Uinta		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST

Not provided

FULL DATA REPORT

Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho

FEDERALLY APPROVED NAGPRA ENTITY: **Yes**

ENTITY TYPE(S):

- Federally Recognized Indian Tribe
- Plaintiff in Land Claims Case

AUTHORITY:

- BIA Recognized Indian Entities, Federal Register, Nov. 25, 2005
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 12/20/2005

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Contact(s)	Authority
Mr. Blaine Edmo Fort Hall Business Council P.O. Box 306 Fort Hall, ID 83203-0306 208-478-3700 208-237-0797 fax	
Chairperson	BIA Tribal Leaders Directory, Spring/Summer 2005

Contact(s)	Authority
Ms. Diana Yupe Shoshone-Bannock Tribes of Fort Hall, Shoshone-Bannock Heritage Tribal Office P.O. Box 306 Fort Hall, ID 83203 208-238-3706 208-237-0797 FAX	
NAGPRA Contact	Letter From Tribal Official

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RELATED TRIBES/VILLAGES

Used For Lemhi (Also Known As)
Used For Shoshone (Also Known As)
Used For Shoshone [generic] (Also Known As)

RESERVATION NAME(S)

State	County	Reservation Name
ID	Bannock	Fort Hall Indian Reservation
ID	Bingham	
ID	Caribou	
ID	Power	

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
ID	Blaine	Indian Claims Commission decision	Land Claims Map ID # 110
ID	Boise		
ID	Custer		
ID	Elmore		
ID	Lemhi		
ID	Valley		
MT	Beaverhead		
CO	Moffat	Indian Claims Commission decision	Land Claims Map ID # 111
ID	Bannock		
ID	Bear Lake		
ID	Bingham		
ID	Blaine		
ID	Bonneville		
ID	Butte		
ID	Camas		
ID	Caribou		
ID	Cassia		
ID	Clark		
ID	Custer		
ID	Franklin		
ID	Fremont		
ID	Jefferson		
ID	Jerome		
ID	Lemhi		
ID	Lincoln		
ID	Madison		
ID	Minidoka		
ID	Oneida		
ID	Power		
ID	Teton		
ID	Twin Falls		
MT	Beaverhead		
NV	Elko		
UT	Box Elder		
UT	Cache		
UT	Daggett		
UT	Davis		
UT	Duchesne		
UT	Morgan		
UT	Rich		
UT	Summit		
UT	Uintah		
UT	Weber		
WY	Fremont		
WY	Lincoln		
WY	Park		
WY	Sublette		
WY	Sweetwater		

WY Teton
WY Uinta

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Cedar City Band of Paiutes

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):
- Constituent Band
- Plaintiff in Land Claims Case

AUTHORITY:
- BIA Washington Office
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 07/23/2002

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RELATED TRIBES/VILLAGES
Parent Paiute Indian Tribe of Utah (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Indian Peaks Band of Paiutes

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):

- Constituent Band
- Plaintiff in Land Claims Case

AUTHORITY:

- BIA Washington Office
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 07/23/2002

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RELATED TRIBES/VILLAGES

Parent Paiute Indian Tribe of Utah (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST

Not provided

FULL DATA REPORT

Kaibab Indians of Arizona

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):

- Also Known As

- Plaintiff in Land Claims Case

AUTHORITY:
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 02/13/1996
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RELATED TRIBES/VILLAGES
Use Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Kanosh Band of Paiutes

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):
- Constituent Band
- Plaintiff in Land Claims Case

AUTHORITY:
- BIA Washington Office
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 07/23/2002
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RELATED TRIBES/VILLAGES
Parent Paiute Indian Tribe of Utah (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Koosharem Band of Paiutes

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):
- Constituent Band
- Plaintiff in Land Claims Case

AUTHORITY:
- BIA Washington Office
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 07/23/2002
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RELATED TRIBES/VILLAGES
Parent Paiute Indian Tribe of Utah (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Mohave Indians who are members of the Colorado River Indian Tribes

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):

- Also Known As
- Plaintiff in Land Claims Case

AUTHORITY:

- Indian Claims Commission

LAST UPDATE TO INFORMATION: 05/12/1997

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RELATED TRIBES/VILLAGES
Use Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
		Indian Claims Commission	

AZ	La Paz	decision	Land Claims Map ID # 144
AZ	Mohave		
CA	San Bernardino		
NV	Clark		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Mohave Tribe of Indians of Arizona, California, & Nevada

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):
- Also Known As
- Plaintiff in Land Claims Case

AUTHORITY:
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 06/04/1997
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RELATED TRIBES/VILLAGES
Use Fort Mojave Indian Tribe of Arizona, California & Nevada (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	La Paz	Indian Claims Commission decision	Land Claims Map ID # 144
AZ	Mohave		
CA	San Bernardino		
NV	Clark		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST
Not provided

FULL DATA REPORT

Southern Paiute Nation

FEDERALLY APPROVED NAGPRA ENTITY: **No**

ENTITY TYPE(S):
- Also Known As
- Plaintiff in Land Claims Case

AUTHORITY:
- Indian Claims Commission

LAST UPDATE TO INFORMATION: 04/19/1997

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RELATED TRIBES/VILLAGES

Use Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona (Federally Recognized Indian Tribe)

Use Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada (Federally Recognized Indian Tribe; Plaintiff in Land Claims Case)

Use Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada (Federally Recognized Indian Tribe)

Use Paiute Indian Tribe of Utah (Federally Recognized Indian Tribe)

RESERVATION NAME(S)

State	County	Reservation Name

STATE(S) AND COUNTY(IES) INHABITED

State	County

LAND AREA CLAIMS

St	County	Land Claim Authority	Map ID
AZ	Coconino	Indian Claims Commission decision	Land Claims Map ID # 122
AZ	Mohave		
AZ	Navajo		
CA	Inyo		
CA	San Bernardino		
NV	Clark		
NV	Lincoln		
NV	Nye		
UT	Beaver		
UT	Garfield		
UT	Iron		
UT	Kane		
UT	Piute		
UT	San Juan		
UT	Washington		

IDENTIFIED BY TRIBE AS BEING OF PARTICULAR INTEREST

Not provided

Return to top of page

Return to Query Page

APPENDIX F
Section 7 Consultation

NOTE TO FILE

Project: Draft Environmental Assessment, Airport Traffic Control Tower (ATCT) and Base Building Construction and Operation, McCarran International Airport, Las Vegas, Nevada

Re: Section 7 Consultation

Date: March 20, 2009

From: Joelle Dickson, Project Manager

To eliminate duplication in this Environmental Assessment, all attachments included with the original consultation packet sent to the USFWS are not included in this Appendix (F). Please refer to the following table to locate the original attachments listed on the last page of the consultation letter from the FAA to the USFWS.

Original Attachment	Location in EA
Figures 1-3	Figures 1-5 Tab
Appendix A – Site Photos	Appendix A Tab

Additionally, the following Agency/Tribal Consultation Contact List documents attempts by the FAA to contact agencies and Tribes to inform them of an addition of 0.3 acre to the APE for the proposed new ATCT.

Agency/Tribal Consultation Contact List				
Agency/Tribe	**Contact Name**	**Contact Number**	**Date Contacted**	**Comments**
NV SHPO	Mr. Ronald James	775-684-3448	1/7/09 lft msg	Spoke by phone and email multiple times. Concurrence letter received 3/16/09.
NV USFWS	Ms. Janet Bair	702-515-5230 Janet_bair@fws.gov	1/7/09 lft msg 1/12/09	Emailed figure depicting expanded APE w/ additional 0.3 acre.
Las Vegas Paiutes	Mr. Kenny Anderson	702-645-4826	1/7/09 lft msg	No response
Moapa Band of Paiutes	Ms. Diana Domingo	702-864-0334	1/7/09 lft msg	Ms. Domingo left a vm indicating she would email a concurrence letter on 3/10/09. JC followed up via email 3/17/09. No response.
Paiute Tribe of Utah	Ms. Lora Tom	435-586-1112	1/7/09 lft msg	No response
Kaibab Band of Paiutes	Mr. Charlie Bullets	928-643-7245	1/7/09 lft msg	Concurrence letter received by email 2/18/09.
Ft. Mojave Tribe	Ms. Elda Butler	520-768-4475	Attempted 1/7/09 Wrong number.	
Hualapai Tribe	Ms. Dawn Hubs	928-769-2234 Dawn4light@hotmail.com	1/7/09	Ms. Hubs gave verbal determination of no adverse effect, site location not pertinent to the Tribe.
Colorado River Tribes	Mr. Michael Tsosie	928-669-1272	1/7/09 lft msg	No response

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

October 27, 2008
File No. 84320-2009-TA-0013

Ms. Janelle Cass
Environmental Engineer
Federal Aviation Administration
1601 Lind Avenue Southwest
Renton, Washington 98057

Dear Ms. Cass:

Subject: Request for Informal Consultation for the Replacement Air Traffic Control Tower (ATCT), Administrative Base Building and Parking Structure Construction at McCarran International Airport, Las Vegas, Nevada

This responds to your request for informal consultation for the replacement ATCT, administrative base building and parking structure construction at McCarran International Airport, Las Vegas, Nevada. Your letter, dated September 15, 2008, was received by the Fish and Wildlife Service's (Service) Nevada Fish and Wildlife Office in Las Vegas on September 19, 2008. The Federal Aviation Administration (FAA) has requested concurrence for the subject project with the determination of "may affect, not likely to adversely affect" for the candidate Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*), in accordance with section 7(a)(2) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The FAA also requests concurrence with the determination of "no effect" for the threatened desert tortoise (*Gopherus agassizii*) (Mojave population) and candidate yellow-billed cuckoo (*Coccyzus americanus*) (Western U.S. DPS).

Based on project location and information contained in your letter, we believe that no listed or candidate species occur in the project area and agree with the no effect determination for these species. We do no consult on candidate species but provide technical assistance to minimize project impacts on these species. Based on the existing development and previous land clearing activities in the project area, we believe that there should be no impacts to the Las Vegas buckwheat.

We appreciate your correspondence regarding potential impacts to listed and candidate species. In the future we recommend that you first contact the Service for a list of federally listed species that may occur in the project area prior to requesting consultation, pursuant to section 7(c) of the Act. If you have any questions or comments regarding this correspondence, please contact Amy LaVoie in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230.

Sincerely,

For Robert D. Williams
Field Supervisor

U.S. Department
of Transportation
Federal Aviation Administration

September 15, 2008

Nevada Fish & Wildlife Office
Janet Bair, Assistant Field Supervisor
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

RE: Section 7 Consultation for proposed Replacement Airport Traffic Control Tower, Administrative Base Building and Parking Structure Construction at McCarran International Airport (LAS), Las Vegas, Nevada

The FAA, in accordance with the Section 7 consultation process under the Endangered Species Act (ESA) would like to invite you to participate in consultation for the aforementioned project. The proposed actions are summarized below:

Site Location and Description

The proposed action (including demolition of the existing ATCT) would occur within LAS in Section 34, Township 21 South, Range 61 East, Mt. Diablo Baseline and Meridian as shown on the United States Geological Survey (USGS) *Las Vegas SW Quadrangle, Nevada 7.5 Minute Series Topographic* maps, dated 1984 (See Figures 1 and 2).

Proposed Action and Area of Potential Effect (APE)

The FAA is proposing to build and operate an ATCT, Base Building and Parking Structure at LAS at the southwest corner of Flight Path Avenue and Kelly Lane, east of Terminal 1 and southwest of the new Terminal 3 site on the northeast side of the airport (See Figures 2 and 3). The proposed ATCT will allow visibility for airport traffic control of all currently existing runways and future planned movement areas both in the air and on the ground at McCarran International Airport.

The proposed action consists of construction and operation of an approximately 372-foot high ATCT, a 40,000 square foot multi-story Administrative Base Building and a multi-story parking structure with approximately 150 parking spaces. Site access would be from Kelly Lane. The current ATCT would be demolished after construction of the new ATCT and Base Building is completed.

Construction of the proposed ATCT and Base Building would occur within the developed airport property on a site currently being used as a concrete batch plant for an airport expansion project. The proposed site is located approximately 1,750 feet northwest of the "D" passenger gates and 2,500 feet north of Taxiway C. The site is bounded by Flight Path

Avenue to the north and Kelly Lane to the east. A public airport parking lot is currently located north of Flight Path Avenue. The area east of Kelly Lane is currently vacant but is being used as a construction staging area for an airport expansion project. South of the proposed ATCT site is a large underground water reservoir constructed in the late 1980s that is maintained as a public drinking water supply. The surface of this tank has been paved and is used for parking. West of the proposed ATCT site lies a vacant lot that provides access to the reservoir's pump house and water lines. There are no permanent structures located on the proposed ATCT site.

The design intention for the proposed ATCT and base building is to create an efficient, low maintenance facility which meets the operational requirements of the airport, harmonizes with the surrounding environment, and is consistent in character with the existing and proposed airport facilities. Special attention will be given to the aesthetic appearance of the ATCT to provide a dynamic contemporary image that clearly expresses its functional role, and yet establishes a progressive architectural direction.

The FAA requests concurrence with the following proposed Areas of Potential Effect (APE):

1. The APE for the construction of the proposed ATCT includes an approximately 3.5-acre area around the proposed ATCT, Base Building, Parking Structure, utility lines and driveways where construction, maintenance, and usage effects may occur (See Figure 3). New utilities would be connected to existing lines located along Kelly Lane from the southeast corner of the site. Existing public access roads would be used for construction and maintenance traffic.
2. The APE for the demolition of the existing ATCT includes an approximately 2.3-acre area around the current structure.

Threatened, Endangered and Candidate Species

There are three species listed by the United States Fish and Wildlife Service in the vicinity of McCarran International Airport, Las Vegas, Nevada. Listed species include: the threatened amphibian species desert tortoise (*Gopherus agassizii*); the candidate bird species western yellow-billed cuckoo (*Coccyzus americanus occidentalis*); and the candidate plant species Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*).

Desert Tortoise (*Gopherus agassizii*) – Threatened

The desert tortoise lives in a variety of habitats, from sandy flats to rocky foothills, including alluvial fans, washes, and canyons where suitable soils for den construction may be found. They depend on shrub cover for shade and protection from predators (USFWS 2008). Shrub species that distinguish tortoise habitat include creosote bush, burrobush, Mojave yucca, blackbrush, and Joshua trees (USGS 2008). The presence of soil suitable for burrowing is a limiting factor to desert tortoise distribution (DesertUSA 1996).

The current level of disturbance within the APE for the proposed ATCT and its vicinity is such that it does not include any suitable habitat for the desert tortoise. Most of the site is devoid of any vegetation due to its prior use as a compressed natural gas (CNG) fueling station for Clark County vehicles and is subject to frequent truck traffic due to its current use as a concrete batch plant for nearby construction at the airport (see Site Photos). The APE for the existing ATCT is entirely covered with asphalt, concrete, buildings, and landscaped gardens (see Site Photos) which do not constitute suitable habitat for the species. No individuals of the species were observed in the vicinity of the existing ATCT or proposed ATCT site during a site visit on August 1, 2008 and the list of At Risk Taxa Recorded Near the McCarran Airport Project Area includes no occurrences of the desert tortoise (NNHP 2008). Therefore, we recommend a finding of no effect to the desert tortoise for the proposed action.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) – Candidate

In the western United States, the western yellow-billed cuckoo occurs primarily in mature cottonwood and willow stands. To a lesser extent, the species occurs in willows or isolated cottonwood trees within tall mesquite stands. Western yellow-billed cuckoos are rarely observed as transients in xeric desert or urban settings (AZGFD 2002), which are unsuitably dry environments for the species. Western yellow-billed cuckoos are obligate riparian nesters and breed only in streamside forests with dense willow understories in combination with cottonwood overstory for foraging (CBD 1998).

The APEs for the proposed actions at LAS do not include any suitable habitat for western yellow-billed cuckoos. No riparian forest plant communities supporting stands of willows or cottonwoods occur within the project area or in the vicinity of the project area. The list of At Risk Taxa Recorded Near the McCarran Airport Project Area includes only one observation of the species from the general vicinity of the APEs (the location of the occurrence was given as T21S R61E) in 1984 (NNHP 2008). Some documents describe the species as extirpated from the state of Nevada (CBD 1998). Therefore, we recommend a finding of no effect to the western yellow-billed cuckoo for the proposed action.

Las Vegas buckwheat (*Eriogonum corymbosum* var. *nilesii*) – Candidate

Las Vegas buckwheat grows on or near gypsum soils in areas of generally low relief, including low mounds or outcrops in washes and drainages. The species often occurs in association with other gypsum-tolerant plant species, such as the Las Vegas bearpoppy, surrounded by saltbush and creosote bush plant associations (NNHP 2004). The list of At Risk Taxa Recorded Near the McCarran Airport Project Area (NNHP 2008) includes seven occurrences of Las Vegas buckwheat, some of which are located within one mile of the airport.

The McCarran Series soils that are characteristic of the APE for the proposed ATCT are gypsum soils on topography of low relief (USDA-NRCS 2008a;b). Most of the site, however, is devoid of any vegetation due to its prior use as a CNG station for Clark County vehicles and current use of the site as a concrete batch plant for nearby construction at the

airport (see Site Photos). The sparse vegetation that does occur in the vicinity of the APE for the proposed ATCT was inspected during a field visit on August 1, 2008 during the flowering period for the species and no individuals of the species were observed. The current level of disturbance within the APE for the proposed ATCT and its vicinity is such that it does not include any suitable habitat for the Las Vegas buckwheat. The APE for the existing ATCT is entirely covered with asphalt, concrete, buildings, and landscaped gardens (see Site Photos) which do not constitute suitable habitat for the species. No individuals of the species were observed in the vicinity of the existing ATCT during a field visit on August 1, 2008. Therefore, we recommend a finding of not likely to adversely effect due to discountable effects to the Las Vegas buckwheat from the proposed action due to the level of disturbance of any potential habitat for the species on the proposed ATCT site.

Based on the evaluation of the species found in the vicinity of McCarran International Airport which are currently federally listed as Threatened, Endangered, or Candidate species, we recommend a finding of *no effect to the desert tortoise and western yellow-billed cuckoo and not likely to adversely affect to the Las Vegas buckwheat* for the proposed action.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Janelle Cass at (425)227-1340 or janelle.cass@faa.gov.

Respectfully submitted,

Janelle Cass
FAA Environmental Engineer

Attachments: **Figures 1-3**
Appendix A – Site Photographs

References

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Nevada Natural Heritage Program

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Nevada Natural Heritage Program

http://heritage.nv.gov

29 July 2008

Michael Jablon
Natural Resources Consulting
165 E 500S
River Heights, UT 84321

RE: Data request received: 23 July 2008

Dear Mr. Jablon:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or at risk plant and animal taxa recorded within or near the McCarran Airport project area. We searched our database and maps for the following, a ten kilometer radius around:

Township 21S Range 61E Sections All

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for: the yellow twotone beardtongue, *Penstemon bicolor* ssp. *bicolor*, a Nevada Bureau of Land Management (BLM) Sensitive Species; the Parish phacelia, *Phacelia parishii*, a Nevada BLM Sensitive Species; the Littlefield milkvetch, *Astragalus preussii* var. *laxiflorus*, a Taxon determined to be Critically Imperiled by the Nevada Natural Heritage Program; the Mojave gypsum bee, *Andrena balsamorhizae*, a Nevada BLM Sensitive Species; and the desert tortoise, *Gopherus agassizii*, a Federally Threatened Taxon. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist/Data Manager

At Risk Taxa Recorded Near the McCarran Airport Project Area

Compiled by the Nevada Natural Heritage Program for Natural Resource Consulting

29 July 2008

Scientific name	Common name	Usfws	Blm	Usfs	State	Srank	Grank	Lat	Long	Prec	Last observed
Plants											
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	361022N	1151117W	S	2005-06-07
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360435N	1151023W	G	1934-05-03
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360605N	1150820W	S	1968-04-25
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360512N	1150806W	S	1997-04-15
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360532N	1151149W	S	1996-12-17
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360850N	1150705W	S	1938-05-08
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	361000N	1151037W	S	1994-04-21
Arctomecon californica	Las Vegas bearpoppy	xC2	S		CE	S3	G3	360332N	1150737W	S	1963-05-06
Arctomecon merriamii	white bearpoppy	xC2	N	S		S3	G3	360836N	1151312W	M	1978-05-04
Arctomecon merriamii	white bearpoppy	xC2	N	S		S3	G3	361032N	1151124W	S	1998-07-17
Arctomecon merriamii	white bearpoppy	xC2	N	S		S3	G3	360943N	1151247W	S	1980-04-10
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360607N	1151250W	S	2006-11-11
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360520N	1151225W	S	1998-10-06
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360442N	1150528W	S	1998-10-14
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360547N	1151142W	S	2004-05-11
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360539N	1151052W	S	1998-10-06
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360446N	1150810W	S	1998-10-05
Eriogonum corymbosum var. *nilesii*	Las Vegas buckwheat	C	N			S1S2	G5T2	360627N	1150856W	S	1974-10-07
Amphibians											
Bufo microscaphus	Arizona toad		N			S2	G3G4	360810N	1150441W	S	1998-PRE
Bufo microscaphus	Arizona toad		N			S2	G3G4	360810N	1150441W	G	1923-03-23
Reptiles											
Heloderma suspectum cinctum	banded Gila monster	xC2NL	N;C		YES	S2	G4T4	T21S R61E		S	1965-06-14
Mammals											
Choeronycteris mexicana	Mexican long-tongued bat					SNA	G4	T21S R62E		G	1983-09-08
Euderma maculatum	spotted bat	xC2	S	S	YES	S2	G4	360750N	1150958W	S	1977-06
Euderma maculatum	spotted bat	xC2	S	S	YES	S2	G4	360925N	1151319W	G	1964-09-05
Euderma maculatum	spotted bat	xC2	S	S	YES	S2	G4	360637N	1150838W	S	1961-09-15
Euderma maculatum	spotted bat	xC2	S	S	YES	S2	G4	360636N	1150510W	G	1983-08-29
Eumops perotis	western mastiff bat				YES	S1	G5	360922N	1150611W	S	1966-03-01
Lasionycteris noctivagans	silver-haired bat		N			S3	G5	360614N	1150958W	S	1965-01-07
Lasiurus cinereus	hoary bat		N			S3	G5	360559N	1150708W	S	1964-05-12

Scientific name	Common name	Usfws	Blm	Usfs	State	Srank	Grank	Lat	Long	Prec	Last observed
Mammals (cont.)											
Tadarida brasiliensis	Brazilian free-tailed bat		N		YES	S3S4	G5	361023N	1150600W	G	1965-04-22
Tadarida brasiliensis	Brazilian free-tailed bat		N		YES	S3S4	G5	360607N	1151200W	S	1960-04-12
Tadarida brasiliensis	Brazilian free-tailed bat		N		YES	S3S4	G5	360637N	1150838W	S	1963-11-15
Tadarida brasiliensis	Brazilian free-tailed bat		N		YES	S3S4	G5	360930N	1150904W	S	1959-11-15
Tadarida brasiliensis	Brazilian free-tailed bat		N		YES	S3S4	G5	361060N	1151044W	M	1965-04-15
Tadarida brasiliensis	Brazilian free-tailed bat		N		YES	S3S4	G5	360750N	1150958W	S	1969-04-28
Birds											
Coccyzus americanus occidentalis	Western Yellow-billed Cuckoo	C	S	I	YES	S1B	G5T3Q	T21S R61E		G	1984-07-14
Falco peregrinus	Peregrine Falcon		N	E	YES	S2	G4	360810N	1150904W	S	1990-06-15

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

- C — Candidate
- x C2 — Former Category 2 Candidate, now species of concern
- NL — Not Listed (no status) in a portion of the species' range

Bureau of Land Management (Blm) Species Classification:

- S — Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law
- N — Nevada Special Status Species - designated Sensitive by State Office
- C — California Special Status Species (see definition S and N)

United States Forest Service (Usfs) Species Classification:

- S — Region 4 (Humboldt-Toiyabe NF) sensitive species
- I — Region 5 (Inyo NF) sensitive species
- E — Region 4 and/or Region 5 Endangered species

Nevada State Protected (State) Species Classification:

Fauna:
- YES — Species protected under NRS 501.

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

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

- S — Seconds: within a three-second radius
- M — Minutes: within a one-minute radius, approximately 2 km or 1.5 miles
- G — General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (**Grank**) and State (**Srank**) Ranks for Threats and/or Vulnerability:

- G — Global rank indicator, based on worldwide distribution at the species level
- T — Global trinomial rank indicator, based on worldwide distribution at the infraspecific level
- S — State rank indicator, based on distribution within Nevada at the lowest taxonomic level
  - 1 — Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
  - 2 — Imperiled due to rarity or other demonstrable factors
  - 3 — Vulnerable to decline because rare and local throughout its range, or with very restricted range
  - 4 — Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
  - 5 — Demonstrably secure, widespread, and abundant
    - A — Accidental within Nevada
    - B — Breeding status within Nevada (excludes resident taxa)
    - H — Historical; could be rediscovered
    - N — Non-breeding status within Nevada (excludes resident taxa)
    - Q — Taxonomic status uncertain
    - U — Unrankable
    - Z — Enduring occurrences cannot be defined (usually given to migrant or accidental birds)
    - ? — Assigned rank uncertain

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Nevada Fauna Facts — furry, fishy, feathery & fantastically coldblooded

peregrine falcon

SCIENTIFIC NAME:

Falco peregrinus

CLASSIFICATION:

Raptor or bird of prey

SIZE:

The body is 13 inches tall for the male and 19 inches tall for the female. The wingspan is about 40 inches and they weigh approximately one and a half pounds.

DESCRIPTION:

Large short-tailed falcon. The male is slate-gray above, black on head like a helmet, whitish neck, buff underneath with lightly barred breast. The female is browner and juveniles have a dark buff with heavy streaking on the breast and belly.

LIFE SPAN :

They can live up to 18 to 20 years, though the average life span in the wild is much shorter.

HABITAT:

Peregrines live mostly along mountain ranges, river valleys and coastlines.

RANGE:

Historical range is from the arctic tundra through Canada, U.S., Mexico and some birds migrate into South America. It is found on all of the continents of the world except Antarctica.

NATURAL HISTORY:

courtesy of Nova Scotia Department of Natural Resources and Mark Elderkin

Peregrines are territorial during the breeding season and they mate for life, though they don't stay together except during nesting season. It is an incredibly fast bird. They acquire their adult plumage in their second year, but reach sexual maturity until the age of three.

FOOD HABITS:

Its diet consists primarily of birds, though it may eat insects and small mammals.

BREEDING:

Peregrines don't build nests, but lay two to four reddish dark flecked eggs in a hollow or depression on a cliff. They are incubated for approximately 28 days by both parents and leave the nest after five to six weeks after hatching.

STATUS:

It was listed as endangered in North America, but is now delisted due to reintroduction into many areas. They are protected by the International Migratory Bird Treaty Act.

REASON FOR STATUS:

The use of pesticides, such as DDT, caused bio-contaminated birds to either not lay eggs or produce thin shelled eggs that broke during incubation. In 1972 DDT was banned and re-introduction programs have slowly brought their numbers back.

MANAGEMENT & CONSERVATION:

Between 1988 and 1993, NDOW re-introduced 48 birds into the wild. Currently it is estimated that there may be 20 nesting pairs in Nevada, though due to their solitary nature, they are difficult to account for. In the summer of 2003 a nesting pair was discovered in the White Pine Range in eastern Nevada, which is the northernmost nesting pair found in over 30 years. NDOW is monitoring existing nesting pairs and is looking for others.

FUN FACTS:

The peregrine is the fastest bird documented with level sustained flight of over 60 mph. In a dive to capture its prey, it may reach speeds of almost 200 mph. Peregrines have found new homes in cities, like Las Vegas, with high rise buildings which act like cliffs. They nest on building ledges and with an abundance of pigeons associated with cities, they have plenty of food. In Las Vegas, peregrine falcons have been seen hunting bats around the neon lights. Apparently the bats are hunting insects which are attracted to the lights.

nevada department of WILDLIFE

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Nevada Fauna Facts — furry, fishy, feathery & fantastically coldblooded

yellow-billed cuckoo

SCIENTIFIC NAME:

Coccyzus americanus

CLASSIFICATION:

bird

SIZE:

Body length - about 11 inches

Weight - about 65 grams

DESCRIPTION:

The upper parts are grayish brown, lower parts white, and the body is slender with a long tail. The underside of the tail is black with white at the base of each tail feather, forming conspicuous white spots on a black background. Rufous colored shading is visible on the center of the primaries. The lower part of the slightly curved bill is yellow while the upper part is black, and the eye ring is yellow.

LIFE SPAN :

HABITAT:

Yellow-billed cuckoos live in cottonwood and willow riparian and other woodland habitats and prefer dense under-stories in Nevada.

RANGE:

The breeding range extends from southern Canada south to Mexico. The birds winter further south to Argentina. Yellow-billed cuckoos have been found mainly in the western and southern portions of Nevada.

NATURAL HISTORY:

The yellow-billed cuckoo is a diurnal, migratory bird. It is difficult to view yellow-billed cuckoos in the wild due to their generally secretive behavior.

FOOD HABITS:

Yellow-billed cuckoos eat mainly large invertebrates including grasshoppers, caterpillars, cicadas, and other insects. Small frogs and lizards, bird eggs, seeds, and fruits are also sometimes eaten. The cuckoos generally glean from tree parts or catch food in the air.

BREEDING:

Breeding occurs in spring or early summer when food is abundant. The nest is usually well hidden in a tree or shrub at about 3 to 20 feet above ground. 1 to 5 eggs are laid and incubated for 9 to 11 days by both parents (mainly the male at night). The young are cared for by both parents and fledge in about 7 to 9 days. Two and occasionally three clutches may be laid in years with abundant prey.

STATUS:

Yellow-billed cuckoos are very rare in Nevada. They are a candidate species for listing as “Endangered” under the federal Endangered Species Act. Also, the yellow-billed cuckoo receives federal and state protection under the Migratory Bird Treaty Act.

REASON FOR STATUS:

Numbers of yellow-billed cuckoos are declining in western North America due to loss, degradation, and fragmentation of riparian habitat, drought, predation, pesticide accumulation and impacts on prey, and deforestation in their tropical winter habitat.

MANAGEMENT & CONSERVATION:

Preservation, restoration and expansion of riparian habitat supporting large cottonwood and willow trees are essential to the conservation of yellow-billed cuckoos. Biologists are working with landowners regarding land management practices that impact yellow-billed cuckoo habitat, as much of this habitat in Nevada is found on private land. Breeding season surveys are being conducted by the Nevada Department of Wildlife yearly to determine distribution and abundance of yellow-billed cuckoos in southern Nevada. Further surveys are needed in other areas of Nevada, in particular, western Nevada.

FUN FACTS:

Unmated yellow-billed cuckoos will say their own name during their soft, coo call in which they repeat “coo-coo-coo-coo”.

Yellow-billed cuckoos are unique in that they have zygodactyl feet, two toes facing forward and two toes backward.

Western Bat Working Group
http://www.wbwg.org

Species Accounts
Developed For the 1998 Reno Biennial Meeting
Updated at the 2005 Portland Biennial Meeting

Choernycteris mexicana
MEXICAN LONG-TONGUED BAT

2005 Update by: Paul Cryan
Original account by: Debra Noel

I. DISTRIBUTION: Choeronycteris mexicana, a member of the Family Phyllostomidae (leaf-nosed bats), is found in the southwestern United States through Mexico to El Salvador and Honduras. In the United States, it occurs primarily in southern California (the San Diego area), southern Arizona, southwestern New Mexico, and the southern tip of Texas (Figure 1). Extralimital records exist from Grand Canyon National Park in northern Arizona and Las Vegas, Nevada. This bat occurs in a variety of habitats, including thorn scrub, Palo Verde-saguaro desert, semi-desert grassland, oak woodland and tropical deciduous forests. In the southwestern United States, Choeronycteris is typically observed in oak-conifer woodlands and semi desert grasslands. Most of the historical sites occupied by this species in southern Arizona and New Mexico were associated with streams and riparian vegetation.

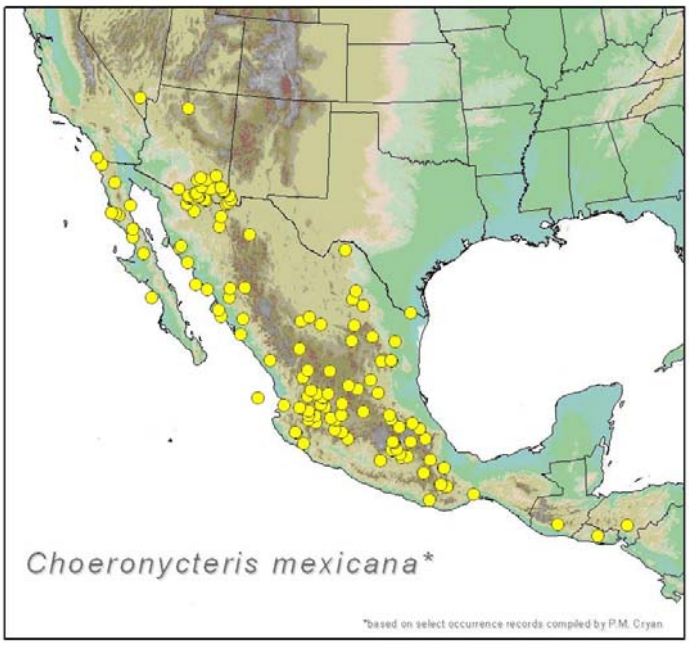

Figure 1: Distribution of C. mexicana.

II. STATUS: Global Rank - G4. State Ranks: AZ - S1S2; CA - S2; NM - S1; NV - SA; TX - S1. The Mexican long-tongued bat is currently listed by the U.S. Fish and Wildlife Service as a Species of Concern. This classification describes an entire realm of taxa whose conservation status may be of concern to the Service (former C2 species). This designation carries with it no official status. This species is also considered Sensitive by the U.S. Forest Service, is considered to be Rare in Mexico, is proposed as a Species of Special Concern in California, and is included in Arizona Game and Fish Department's Wildlife of Special Concern in Arizona. Fewer than 1,500 individuals of this species have been documented since its discovery. In Arizona, all bats are protected from take by Arizona Game and Fish Commission Order #14.

III. IDENTIFYING CHARACTERISTICS AND LIFE HISTORY: Like other phyllostomid (=leaf-nosed) bats, C. mexicana has a leaf-like projection at the tip of its nose. It can be distinguished from other phyllostomid bats occurring in the U.S. by its relatively shorter ears, longer and narrower rostrum, and the presence of a tail. This species typically roosts in twilight areas near the entrances of caves, mines, rock crevices, and abandoned buildings. Roosting groups are usually comprised of < 15 individuals, but some colonies may reach 40-50 individuals. During the spring and summer, they rarely cluster and typically roost 1-2 inches apart. In the autumn when temperatures drop below 70oF, they have been observed to cluster in groups of 5-6. These bats are wary of intrusion and tend to fly out of the roost when disturbed. However, multiple roost sites are usually located within close proximity of each other and bats often return to roosts shortly after a disturbance stops. Choeronycteris mexicana forages primarily on nectar and pollen of night-blooming flowers such as species of Agave and columnar cacti. It also may eat the fruit of columnar cacti, along with incidental insects found on the fruit or flowers. Hummingbird feeders may help sustain individuals that arrive in Arizona early in the year, or remain into winter when natural food sources are not available. However, sugar water lacks essential nutrients (e.g., protein, vitamins) required for long-term survival. There is also evidence that they will forage on ornamental vegetation, such as Mexican bird-of-paradise. Very little is known about the migratory movements of this species. Over the past few years, these bats have arrived in Arizona as early as May. Apparently only females come north into the United States to birth and raise their young. The young are typically born in late June to early July, but reports of early-spring and late-autumn births indicate variation in parturition time. The young can fly within 2-3 weeks of birth. In October and November, they depart their maternity roosts for Mexico and Central America, where they remain active during the winter. Evidence suggests that some individuals may over-winter in warmer areas of Arizona and autumn and/or winter records exist for southern California and Texas.

IV. THREATS: Possible threats to this species include recreational caving; natural or intentional mine closures, renewed mining, mine reclamation, and loss of food resources. Long-term sustainability of food plants may be extremely important to this species. Anthropogenic activities such as development, prescribed fire, or grazing could potentially have negative impacts on food plants. In addition, direct disturbance and loss of riparian habitat brought about by such activities may also adversely affect this species in the southern United States.

In general, the long term persistence of North American bat species is threatened by the loss of clean, open water; modification or destruction of roosting and foraging habitat; and, for hibernating species, disturbance or destruction of hibernacula. Chemicals in the environment that affect bats or their prey are also a threat. Because of low fecundity and long generational turnover, many bat populations may be vulnerable to human-induced pressures.

V. SURVEY METHODS: Morphologically distinct. Roosts are difficult to find, but bats are easy to detect in roost. Effectiveness of netting depends on habitat type. This species is difficult to detect acoustically and is indistinguishable from Leptonycteris species in flight, except at very close range (e.g. hummingbird feeders).

VI. GAPS IN KNOWLEDGE: More information is needed to delineate the distribution of this species and better understand its seasonal movement patterns throughout its range. Studies are needed to clarify roosting and foraging requirements. This species may be amenable to mark-recapture methods for assessing population trends.

VII. SELECTED LITERATURE:

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More bat species accounts available at: http://www.wbwg.org/species_accounts

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Nevada Fauna Facts

furry, fishy, feathery & fantastically coldblooded

spotted bat

SCIENTIFIC NAME:

Euderma maculatum

CLASSIFICATION:

Mammal - bat

SIZE:

Body length – 4 ¼ to 4 ½ inches

Wingspan – about 14 inches

Weight – 16 to 20 grams

DESCRIPTION:

The spotted bat is a black bat with very large, pink ears. Conspicuous white spots mark each shoulder, the rump, and the base of each ear.

LIFE SPAN :

HABITAT:

Spotted bats can be found in wetland, riparian, rock, cliff, desert, shrubland, grassland, or woodland habitats usually near a permanent water source. They roost in caves and rock crevices mainly, but may also occasionally use mines, caves, and buildings as roost sites.

RANGE:

The range extends from British Colombia south through the western United States and Mexico. The distribution is scattered in Nevada and is tied to availability of cliff, roosting-habitat near or adjacent to riparian areas.

NATURAL HISTORY:

Spotted bats are generally solitary and hunt alone, although they may hibernate in small groups. They arouse periodically from their hibernation to forage for food or to drink. The bats may be seen hanging by their feet with their heads down while roosting.

FOOD HABITS:

Spotted bats forage for insects, primarily moths, high in the air or rarely near the ground.

BREEDING:

A single young is born in June or July to an attentive mother. The mother nurses the young almost constantly for the first two days, even while flying.

STATUS:

Spotted bats are State Protected in Nevada and are further classified as “Threatened”. They are also on the Bureau of Land Management Sensitive Species list.

REASON FOR STATUS:

Little is known about the population sizes and needs of spotted bats. They are rare and patchy in distribution in Nevada. Habitat loss, collection, recreational rock climbing, water impoundments, grazing, mining operations, and pesticide use threaten this species.

MANAGEMENT & CONSERVATION:

More information is needed on the habits, habitat requirements, and abundance of spotted bats. Recent survey efforts have revealed additional needs of spotted bats in Nevada.

FUN FACTS:

Unlike the higher frequency echolocation calls of other bats, the spotted bat’s echolocation call is actually audible to humans, even from quite a distance away.

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... the pallid bat of western North America is immune to the stings of scorpions and even the seven-inch centipedes upon which it feeds.

Lasionycteris noctivagans

Return to list

Common Name: Silver-haired bat

Lasionycteris

Vesper bats (Vespertilionidae)

Lasionycteris noctivagans

Silver-haired bat

Family: Vespertilionidae **Genus:** Lasionycteris **Species:** noctivagans

Pronunciation: *lay-zee-oh-**nick**-ter-is nock-**ti**-vah-**gans***

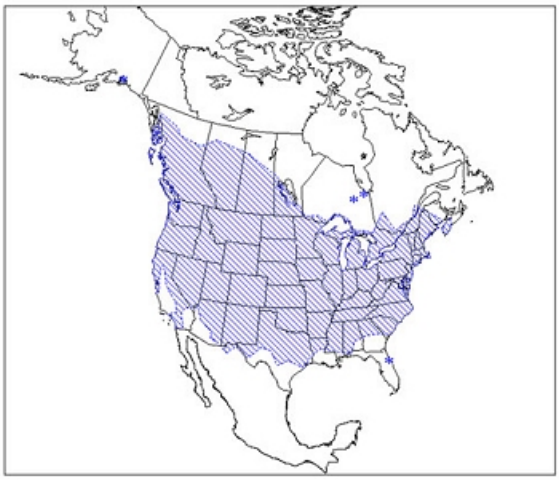
Common name: silver-haired bat

Silver-haired bats are among the most common bats in forested areas of America, most closely associated with coniferous or mixed coniferous and deciduous forest types, especially in areas of Old Growth. They form maternity colonies almost exclusively in tree cavities or small hollows. And like many forest-roosting bats, silver-haired bats will switch roosts throughout the maternity season. Because silver-haired bats are dependent upon roosts in Old Growth areas, managing forests for diverse age structure and maintaining forested corridors are important to these bats.

It is estimated that these bats require snag densities of at least 21 per hectare and often forest management practices have fallen far short of this figure. Unlike many bat species, silver-haired bats also appear to hibernate mainly in forested areas, though they may be making long migrations from their summer forest to a winter forest site. Typical hibernation roosts for this species include small tree hollows, beneath exfoliating bark, in wood piles, and in cliff faces. Occasionally silver-haired bats will hibernate in cave entrances, especially in northern regions of their range. Like big brown bats, the silver-haired bats have been documented to feed on many insects perceived as pest species to humans and/or agriculture and forestry.

Even though they are highly dependent upon Old Growth forest areas for roosts, silver-haired bats feed predominantly in disturbed areas, sometimes at tree-top level, but often in small clearings and along roadways or water courses. Though their diets vary widely, these bats feed chiefly on small, soft-bodied insects. Silver-haired bats have been known to take flies, midges, leafhoppers, moths, mosquitoes, beetles, crane flies, lacewings, caddisflies, ants, crickets, and occasional spiders.

Approximate North American Range



To learn more, read about this bat at our BATS magazine archive.

Bats and Old-Growth Forests: Are Both Vanishing?
Hide and Seek: In Search of Forest Bats

Printer Friendly

Lasiurus cinereus

Return to list

Common Name: Hoary bat

Lasiurus

Vesper bats (Vespertilionidae)

Lasiurus cinereus

Hoary bat

Family: Vespertilionidae **Genus:** Lasiurus **Species:** cinereus

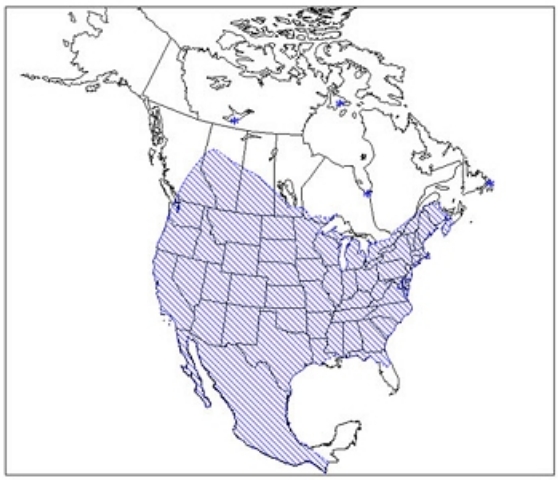
Pronunciation: *lay-zee-**your**-us sa-**near**-ee-us*

Common name: hoary bat

Hoary bats are one of America's largest and most handsome bats. With their long, dense, white-tipped fur, they have a frosted, or hoary, appearance. Humans rarely get the chance to see these magnificent bats; they are not attracted to houses or other human structures, and they stay well-hidden in foliage throughout the day. They typically roost 10-15 feet up in trees along forest borders. In the summer, hoary bats don't emerge to feed until after dark, but during migration, they may be seen soon after sundown. They sometimes make round trips of up to 24 miles on the first foraging flight of the night, then make several shorter trips, returning to the day roost about an hour before sunrise. Between late summer and early fall, they start their long journey south, migrating to subtropical and possibly even tropical areas to spend the winter.

Traveling in waves, they are often found in the company of birds, who also migrate in groups. For the rest of the year, however, hoary bats remain solitary. They are among the most widespread of all bats, found throughout most of Canada and the United States and south into Central and South America. The hoary bat is Hawaii's only native land mammal. Stray individuals have been found from Iceland to Orkney Island as well as in Bermuda and the Dominican Republic.

Approximate North American Range:



To learn more, read about this bat in the BATS magazine archive:

The Little-known World of Hoary Bats
How North America's Bats Survive the Winter
`Ope`ape`a: Hawaii's Elusive Native Bat
The Project to Save the Hawaiian Bat
Hide and Seek: In Search of Forest Bats

Printer Friendly

Eumops perotis

Western Mastiff Bat

Order: Chiroptera
Family: Molossidae

Click to play (0:10, 870 kb)
Credit: New Mexico Bat Call Library, W. L. Gannon

Eumops perotis - upper left (with *E. underwoodi*)
Click to enlarge. (78 kb)

Western mastiff bats live in rugged, rocky canyons typical of the arid Southwest, where they inhabit crevices in vertical cliffs. Because of their relatively large body size and narrow wings, these bats are unable to take off from a flat surface, and must instead freefall from a height to initiate flight. Hanging upside-down in a crevice, it can let go, gain airspeed as it drops, and flap away for its nightly hunt for insect prey. If an individual is on the ground, it will scramble up a tree or other object to get high enough to be able to launch itself into flight. In the early 1900s, they often roosted in buildings in southern California, but this may not be the case today.

Also known as:
Greater Mastiff Bat, Bonnetted Bat

Sexual Dimorphism:
Males are larger than females.

Length:
Average: 175 mm
Range: 159-187 mm

Weight:
Range: 45.5-73 g

Click to enlarge. (132kb)

References:

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Anatomie von dem Herrn Ritter von Cuvier.
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Nevada Fauna Facts — furry, fishy, feathery & fantastically coldblooded

Banded Gila Monster

(pronounced HEE-lah)

SCIENTIFIC NAME:

Heloderma suspectum
Family: helodermatidae

CLASSIFICATION:

Reptile - lizard

SIZE:

9-14 inches (22-35 cm) plus the tail

DESCRIPTION:

The Gila monster is distinctive among other reptiles. It is a large, heavy-bodied lizard with a massive head, a short, swollen sausage-shaped tail and a mottled pattern of black and pink, orange, or yellow beadlike scales. Its dark forked tongue flicks out in snake-like fashion. The legs are short and appear set too far apart to support the lengthy body. The feet have strong curved claws used for digging.

LIFE SPAN :

May live 20 to 30 years

HABITAT:

The Gila monster is found in most habitats throughout its range. it is common in areas with Saguaro cactus and along washes at elevations from near sea level to 4,100 feet. Its range is limited to regions that receive several inches of rain during the summer months and have mild winters and hot summers.

RANGE:

The Gila monster is primarily a desert species. It occurs in extreme southwestern Utah, the southern tip of Nevada, southwestern New Mexico, Arizona, and Sonora.

NATURAL HISTORY:

The Gila monster and the closely related Mexican beaded lizard are the world's only known venomous lizards. They are also the largest lizards in North America. Venom is produced in glands in the lower jaw. From 41 to 45 sharp teeth line the upper and lower jaws. Gila monsters lack hollow fangs like those found in rattlesnakes. Instead, their front teeth have grooves which facilitate the movement of venom through their saliva as the lizard chews. The venom is used in subduing some prey and also as a defense against some predators such as owls, kit foxes, coyotes and rattlesnakes. A bite from a Gila monster is powerful and painful but rarely fatal to humans.

The food-acquiring methods of the Gila monster are a deadly combination of powerful digging limbs and powerful jaws combined with especially keen senses of smell, hearing, and the sensing of ground vibrations. These soil diggers are opportunists that occasionally eat birds and lizards, and the eggs of birds and reptiles. They are highly successful carnivores that swallow their prey whole.

The Gila monster's tail is a good indicator of its physical condition. A plump, well-rounded tail is the sign of a well-fed, healthy animal. A skinny, triangular-shaped tail indicates the Gila monster may be starving and dehydrated. Serving as a fat storage-locker, the Gila monster's tail is not detachable as is the tail of many other species of lizards. Gila monsters can survive several years on the stored fat in their tails.

The growth rate of the wild adult Gila monster is slow and averages from 1/10th-1/5th of an inch a year, depending on the animal's size and condition. Young Gila monsters grow at a faster rate than the adults. Hatchlings may grow two inches or more a year in the first three years or so.

Gila monsters may be observed both during the day and at night. They are most active in April and May when their chances of securing food are best, and at night during the summer rainy season. In November they enter hibernation are not seen on the surface again until March.

FOOD HABITS:

Gila monsters eat small mammals; eggs, chiefly of ground-nesting birds (quail and mourning dove) and reptiles, lizards, insects and carrion (dead animals).

BREEDING:

Gila monsters reach sexually maturity in four to five years at which time they are 14-16 inches in length and weigh 1-1½ pounds. Females lay a clutch of 1-8 eggs (possibly to around a dozen) July to August. The hatchlings are about 6-6½ inches and weigh just over one ounce.

STATUS:

State protected but not listed as threatened and endangered. Utah and Arizona also classify the Gila monster as protected.

REASON FOR STATUS:

Reasons for status include: habitat loss due to urbanization and some agricultural uses; illegal collection; restricted range in Nevada; and limited knowledge and information. CITES (Convention on International Trade in Endangered Species refers to the Gila monster as being "a species not currently threatened, but may become so unless trade is regulated…" Occasionally it is killed out of fear since it is venomous.

MANAGEMENT & CONSERVATION:

Currently collection (commercial or personal) of Gila monsters is prohibited in Nevada. Nevada Department of Wildlife supports on-going Gila monster research projects conducted by the University of Nevada Reno and other individuals and agencies.

FUN FACTS:

The Gila monster is one of the most misunderstood, maligned, molested, and mythologized animals in the world.

Their scientific name (helo, “warty”; derma “skin”) describes the beaded or warty look of their bright-colored skin—pink, orange or yellow with black banding.

The Gila monster is the largest lizard or “saurian” native to the U.S. (Alligators are not considered lizards but crocodilians.)

Gila monsters are the slowest lizards.

Gila monsters are the only lizards, living or extinct, to possess grooved teeth and venom glands.

Occasionally the brick-red and black male chuckwalla is misidentified as a Gila monster, and people commonly mistake banded geckos for baby Gila monsters.

Gila monsters are weak but persistent swimmers and take to the water without hesitation.

More than 99% of a Gila monster’s life is spent underground and out of sight.

A Gila monster is most likely to be seen in the month of May than any other time of the year.

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Nevada Fauna Facts

furry, fishy, feathery & fantastically coldblooded

desert tortoise

SCIENTIFIC NAME:

Gopherus agassizii

CLASSIFICATION:

Reptile - lizard

SIZE:

Adult carapace length – 20 to 36 centimeters

Adult weight – 10 to 17 pounds

DESCRIPTION:

The brown carapace, or top part of the shell, is highly domed and flattened dorsally with prominent growth lines. The plastron, or bottom part of the shell, is yellowish. Thick, scaly limbs, the tail, and the head can be pulled inside the shell. The hind limbs are elephant-like and the forelimbs are shovel-like for digging. Males are larger and have longer gular shields, or projections of the plastron extending below the throat, and larger chin glands than females. The plastrons of males are concave as opposed to flat in females. Juveniles are smaller and lighter in color than adults.

LIFE SPAN :

Desert tortoises are long-lived, reaching 80 years or more, although 30 to 45 years is more common for adults. Only about 2 percent of hatchlings reach adulthood. Sexual maturity is reached at approximately 15 years of age.

HABITAT:

Desert tortoises are found in desert shrubland habitat in the Mojave Desert at about 1000 to 4000 feet in elevation.

RANGE:

The range extends from the southwestern United States, (Nevada, California, Arizona, Utah, and New Mexico) south to Mexico.

NATURAL HISTORY:

Desert tortoises dig burrows in the ground in which they spend the major portion of their lives. A shallower, summer burrow is constructed as an escape from heat. They hibernate in their deeper (up to 30 feet), winter burrows. Winter burrows are often communal. Desert tortoises may use multiple burrows in the summer, while the winter burrow is usually used year after year. The desert tortoise is diurnal and can be seen out of its burrow most often in the mornings. The tortoises are able to store water in their bladder for months at a time without voiding and their waterproof skin and shell reduce evaporation. Also, they can switch from excreting urea, which contains a lot of water, to excretion of uric acid crystals when necessary.

FOOD HABITS:

The desert tortoise is an herbivore. Its diet includes grasses, cacti, and forbs as well as some insects, caterpillars, and insect larvae. Most of the desert tortoises' water is obtained from the vegetation they eat since water is rarely available to drink.

BREEDING:

During the breeding season, males bob their heads and ram each other to establish dominance and compete for females. Females lay a clutch of up to 15 eggs (usually 4 to 12) in May to July and 0 to 3 clutches may be laid per year. The eggs are laid in a shallow hole near the entrance to the burrow. Hatchlings emerge in the late summer or fall. The shells of hatchlings are leathery and may take 5 years or more to fully harden, making them vulnerable to predators.

STATUS:

Desert tortoises are currently listed as a Threatened species under the Endangered Species Act. In Nevada, they are classified as a State Protected and Threatened species.

REASON FOR STATUS:

Numbers of desert tortoises in the wild are declining due to habitat loss, fragmentation, and degradation. The spread of easily transmitted diseases, road kills, and illegal collection from wild populations further contribute to the range-wide declines. High levels of predation on juveniles as well as their slow maturation rate make it difficult for populations to recover.

MANAGEMENT & CONSERVATION:

Habitat protection is crucial for the recovery and continued existence of the desert tortoise. Large tracts of undisturbed, undeveloped land have been protected for the benefit of desert tortoises. Numerous federal, state, and local agencies are working cooperatively to protect the desert tortoise, and extensive research is being conducted in the areas of tortoise diseases and biology. Desert tortoise populations are continuously monitored in Nevada.

FUN FACTS:

The desert tortoise is the Nevada state reptile.

The temperature at which desert tortoise eggs are incubated determines whether the hatchling will be male or female. At lower temperatures most hatchlings will be male, while at higher temperatures most hatchlings will be female.

Desert tortoises have existed on earth for millions of years.

The desert tortoise is the largest reptile living in the Mojave Desert.

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print version

Jeff Knight, Nevada Division of Agriculture

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Description: Individual bee species can be distinguished from each other by the hairiness of their body, by the first segment (tarsus) of the hind leg which is generally enlarged and flattened, and their wings. Length of female Mojave gypsum bee 11 - 13 mm (to 0.5 in.), wing length 4 mm (0.16 in.). Specific diagnostic features for females are red abdomen, short dense body hairs, and high vertex (top of head between eyes). Length of male bee 9 - 12 mm (to 0.47 in.), wing length 4 mm (0.16 in.), vertex high, and yellow spot in the eye. Wing membranes of both sexes are hyaline (transparent, colorless) with dark-red to reddish brown veins. Outer coverings mostly black except features described above. Flight period of Mojave gypsum bee is from March to early May.
Diet: Mojave gypsum bee collects pollen from a single plant species, the sunray (Enceliopsis argophylla), which is also the sole source of pollen for its offspring.
Habitat: Bees occur in various habitats, and nest on the ground (a characteristic of the Andrenidae family), or in various natural cavities. Mojave gypsum bees are restricted to the habitat of its host plant, sunray.
Range: Endemic to Clark County, Nevada, and the Arizona side of Lake Mead. Occurs in areas around Lake Mead and the Las Vegas basin where it is restricted to the gypsum soils associated with its host plant.
Comments: Mojave gypsum bee is considered a High Priority Evaluation Species. It is one of over 30 rare bee species in Clark County, Nevada, and of over 600 bee species in the Mojave Desert.

Back to Invertebrates

Arctomecon californica Torrey & Fremont — LAS VEGAS BEARPOPPY

FAMILY: *Papaveraceae*, the poppy family.

STATUS: **Heritage Program SENSITIVE LIST, ranks: G3 S3**
USFWS/ESA: species of concern. **STATE OF NEVADA:** FULLY PROTECTED. **BLM:** Special Status Species in Nevada. **USFS:** none. **NNNPS:** THREATENED.

POPULATION CENSUS (NEVADA): 63 extant occurrences mapped at 1.0 km (0.6 mi) separation, OR **92 extant and 22 extirpated occurrences mapped** at 0.16 km (0.1 mi) separation; total estimated **individuals 445,000+**, total estimated **area 8342+ ha (20,614+ ac)**. **TREND:** DECLINING RAPIDLY.

IMPACTS AND MAJOR THREATS (NEVADA): Habitat clearing for urban and residential development, highway construction and maintenance, flood control, gypsum mining, etc., off-road vehicle use, dumping, pollinator declines due to habitat fragmentation. Impoundment of Lake Mead inundated a large area of habitat, but the remaining populations there are large and relatively well-protected.

INVENTORY EFFORT (NEVADA): Surveys are substantially complete. Most recent entered survey 2000, average year of last survey 1992. **Years since last entered survey** (percent of mapped records at various survey ages)**: 0-5 yrs:** 35.9%; **6-10 yrs:** 55.6%; **11-20 yrs:** 2.6%; **21-30 yrs:** .9%; **31-50 yrs:** 1.7%; **51+ yrs or unknown:** 3.4%.

LAND MANAGEMENT (NEVADA) in decreasing predominance: U. S. Bureau of Land Management, private lands, National Park Service, Nevada state lands, U. S. Department of Defense, U. S. Fish and Wildlife Service (?).

RANGE: Clark County, Nevada; also in AZ and UT (introduced). Maximum Nevada **range dimension 97.7 km (60.7 mi)** excluding most disjunct record.

ELEVATIONS RECORDED (NEVADA): 1060-3642 feet (323-1110 meters).

HABITAT (NEVADA): Open, dry, spongy or powdery, often dissected ("badland") or hummocked soils with high gypsum content, often with well-developed soil crust, in areas of generally low relief on all aspects and slopes, with a sparse cover of other gypsum-tolerant species surrounded by Larrea tridentata, Atriplex, and Coleogyne ramosissima associations. On appropriate soil types, will often revegetate disturbances that have been allowed to recover if a soil seedbank remains.

PHENOLOGY: flowering spring. Range of most frequent **survey months:** February-July.

LIFE-FORM AND HABIT: evergreen perennial cushion.

DESCRIPTION: A short-lived perennial herb with showy yellow flowers in bloom April-May. Flower stalks are 2-4 dm tall.

PHOTOGRAPHS: Mistretta et al. (1996); Nevada Natural Heritage Program images web page (1998-present), slide collection (1986-present), and files.
ILLUSTRATIONS: Flora of North America editorial Committee (1997), Mozingo and Williams (1980).
OTHER GENERAL REFERENCES (listed separately): Holland et al. (1979), Holland et al. (1980), Niles et al. (1997), Niles et al. (1996).
SPECIFIC REFERENCES:

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Douglas, C. L. 1977. Biota of Lake Mead National Recreation Area, project report no. 1, annotated checklist and bibliography, March 1977. Las Vegas: University of Nevada, Department of Biological Sciences, Cooperative National Park Resources Studies Unit, contribution No. CPSU/UNLV 15.

Hickerson, L. L. and P. G. Wolf. 1998. Population genetic structure of Arctomecon californica Torrey and Fremont (Papaveraceae) in fragmented and unfragmented habitat. Plant Species Biology 13: 21-33.

Holland, J. S. 1979. Status report for Arctomecon californica. Denver, Colorado: National Park Service.

Mistretta, O., R. Pant, T. S. Ross, J. M. Porter, and J. D. Morefield. 1996. Current knowledge and conservation status of Arctomecon californica Torrey and Fremont (Papaveraceae), the California bearpoppy. Carson City: Nevada Natural Heritage Program, status report prepared for the U. S. Fish and Wildlife Service, Reno.

Nelson, D. and S. Walsh. 1993. Taxonomic revision of Arctomecon Torr. and Frem. Rhodora 95: 197-213.

Phillips, B. and A. Phillips III. 1988. Status report for Arctomecon californica. Albuquerque: U. S. Fish and Wildlife Service.

Thompson, S. K. S., and S. D. Smith. 1997. Ecology of Arctomecon californica and A. merriamii (Papaveraceae) in the Mojave Desert. Madroño 44(2): 151-169.

Eriogonum corymbosum Bentham **var. (unnamed)** Reveal **LAS VEGAS BUCKWHEAT**

FAMILY: *Polygonaceae*, the buckwheat family. **SYNONYMS:** *E. c.* var. *glutinosum* (misapplied), *E. c.* var. *aureum* (misapplied). **OTHER COMMON NAME:** golden buckwheat.

STATUS: **Heritage Program SENSITIVE LIST, ranks: G5 T2T3 S2**
USFWS/ESA: none. **STATE OF NEVADA:** recommended for full protection. **BLM:** Special Status Species in Nevada. **USFS:** none. **NNPS:** THREATENED.

POPULATION CENSUS (NEVADA): 15 occurrences mapped at 1.0 km (0.6 mi) separation, OR **29 occurrences mapped** at 0.16 km (0.1 mi) separation; total estimated **individuals 5188+**, total estimated **area 420+ ha (1038+ ac)**. **TREND:** DECLINING RAPIDLY.

IMPACTS AND MAJOR THREATS (NEVADA): Conversion of habitat for residential and urban development, off-road vehicle use, trash dumping, flood control, road and utility corridors, gypsum mining.

INVENTORY EFFORT (NEVADA): Surveys are ongoing and becoming relatively complete. Most recent entered survey 2004, average year of last survey 1999. **Years since last entered survey** (percent of mapped records at various survey ages)**: 0-5 yrs:** 13.8%; **6-10 yrs:** 86.2%. **Earliest entered record:** 3 October 1997.

LAND MANAGEMENT (NEVADA) in decreasing predominance: private lands, U. S. Bureau of Land Management, Nevada state lands (?), U. S. Department of Defense (?).

RANGE: Clark County, Nevada; also in UT (?). Maximum Nevada **range dimension 60.6 km (37.6 mi)** excluding most disjunct record. **Type specimen** collected in Clark County.

ELEVATIONS RECORDED (NEVADA): 1900-3839 feet (579-1170 meters).

HABITAT (NEVADA): On and near gypsum soils, often forming low mounds or outcrops in washes and drainages, or in areas of generally low relief, often with *Arctomecon californica* and other gypsum-tolerant species, surrounded by *Ambrosia dumosa, Stanleya pinnata, Atriplex canescens, Ephedra torreyana, Larrea tridentata, Acacia greggii, Suaeda torreyana, Psorothamnus fremontii*, etc.

PHENOLOGY: flowering summer to fall, August to November. Range of most frequent **survey months:** September-November.

LIFE-FORM AND HABIT: long-lived shrub.

DESCRIPTION AND IDENTIFICATION: Shrubs 0.3-1.2 m high, 0.4-2.3 m across, leaves and flowering branches with silvery tufts of cobwebby hairs, leaves oval, stalked, 1-4 cm long, flowers numerous in masses along upper branches, 6-parted, bright to pale yellow (rarely whitish), 2-3 mm long, seeds triangular, 2-2.5 mm long, light brown. **Distinguishing features:** Distinguished from other yellow-flowered varieties by the sparse silvery tufts of cobwebby hairs on the flowering branches and upper leaf surfaces.

PHOTOGRAPHS: Niles *et al*. (1999); Nevada Natural Heritage Program images web page (1998-present) and files.
ILLUSTRATIONS: none known.
OTHER GENERAL REFERENCES (listed separately): Niles *et al*. (1997), Reveal (1985), Welsh *et al*. (1993).
SPECIFIC REFERENCES:

Reveal, J. L. 2002. A review of Eriogonum corymbosum Benth with emphasis on the species in southern Nevada. Montrose, CO: Spring Canyon Enterprises, prepared for the U. S. Fish and Wildlife Service, Las Vegas, NV. 39 pages.

OF FURTHER INTEREST: The flowers are visited by a wide variety of insects. Reveal's (2002) field study concluded that the Nevada populations are distinct from vars. *aureum* and *glutinosum*. Publication as a variety new to science (var. *nilesii*) is expected in December 2004. Molecular studies are underway at Utah State University to determine its genetic significance.

Penstemon bicolor (Brandegee) Clokey & Keck **ssp. *bicolor***
YELLOW TWOTONE BEARDTONGUE

FAMILY: *Scrophulariaceae*, the figwort family.

SYNONYMS: *Penstemon palmeri* var. *bicolor*
Penstemon pseudospectabilis ssp. *bicolor*
Penstemon bicolor (?)

STATUS: **Heritage Program SENSITIVE LIST, ranks: G3 T2Q S2**
USFWS/ESA: species of concern. **STATE OF NEVADA:** none. **BLM:** Special Status Species in Nevada.
USFS: Humboldt-Toiyabe NF Sensitive Species. **NNNPS:** watch list.

POPULATION CENSUS: 31 occurrences mapped at 1.0 km (0.6 mi) separation, OR **34 occurrences mapped** at 0.16 km (0.1 mi) separation; total estimated **individuals 784+**, total estimated **area unknown**. **TREND:** DECLINING.

IMPACTS AND MAJOR THREATS: Urban expansion of Las Vegas.

INVENTORY EFFORT: Surveys have been extensive and are ongoing. Most recent entered survey 1999, average year of last survey 1980. **Years since last entered survey** (percent of mapped records at various survey ages)**: 0-5 yrs:** 2.9%; **6-10 yrs:** 42.9%; **11-20 yrs:** 11.4%; **21-30 yrs:** 25.7%; **31-50 yrs:** 2.9%; **51+ yrs or unknown:** 14.3%.

LAND MANAGEMENT in decreasing predominance: U. S. Bureau of Land Management, private lands, Nevada state lands (?), Humboldt-Toiyabe National Forest (?), National Park Service (?).

RANGE: Clark County, Nevada; also in CA (?). Possible or probable **Nevada endemic.** Maximum **range dimension 95.8 km (59.5 mi)** excluding most disjunct record. **Type specimen** collected in Clark County.

ELEVATIONS RECORDED (NEVADA): 2500-5480 feet (762-1670 meters).

HABITAT: Calcareous or carbonate soils in washes, roadsides, rock crevices, outcrops, or similar places receiving enhanced runoff, in the creosote-bursage, blackbrush, mixed-shrub, and lower juniper zones.

PHENOLOGY: flowering spring. Range of most frequent **survey months:** April-May.

LIFE-FORM AND HABIT: perennial herb.

DESCRIPTION: not available (see references).

PHOTOGRAPHS: Weixelman and Atwood (1990); Nevada Natural Heritage Program images web page (1998-present), slide collection (1986-present), and files.
ILLUSTRATIONS: Mozingo and Williams (1980), Weixelman and Atwood (1990).
OTHER GENERAL REFERENCES (listed separately): Clokey (1951), Hickman (1993), Niles et al. (1998), Niles et al. (1999).
SPECIFIC REFERENCES:

Clokey, I. W. and D. D. Keck. 1939. Reconsideration of certain members of Penstemon subsection Spectabiles. Bulletin of the Southern California Academy of Sciences 38: 8-13.

Keck, D. D. 1937. Studies in Penstemon V. The section Peltanthera. American Midland Naturalist 18: 790-829.

Morefield, J. D. 1992. Status report for Opuntia whipplei Engelmann and Bigelow var. multigeniculata (Clokey) L. Benson. Carson City: Nevada Natural Heritage Program, prepared for the U. S. Fish and Wildlife Service, Reno.

Phacelia parishii A. Gray — PARISH PHACELIA

FAMILY: *Hydrophyllaceae*, the waterleaf family.

STATUS: **Heritage Program SENSITIVE LIST, ranks: G2G3 S2S3**
USFWS/ESA: species of concern. **STATE OF NEVADA:** none. **BLM:** Special Status Species in Nevada. **USFS:** none. **NNNPS:** watch list.

POPULATION CENSUS (NEVADA): 16 occurrences mapped; total estimated **individuals 37,000,000+**, total estimated **area 1860+ ha (4596+ ac)**. **TREND:** DECLINING.

IMPACTS AND MAJOR THREATS (NEVADA): No summary available (see references).

INVENTORY EFFORT (NEVADA): Surveys in Nevada are largely complete. Most recent entered survey 1998, average year of last survey 1989. **Years since last entered survey** (percent of mapped records at various survey ages)**: 0-5 yrs:** 5.9%; **6-10 yrs:** 88.2%; **51+ yrs or unknown:** 5.9%.

LAND MANAGEMENT (NEVADA) in decreasing predominance: U. S. Bureau of Land Management, private lands, U. S. Fish and Wildlife Service, U. S. Department of Defense, Nevada state lands.

RANGE: Clark, Lincoln, Nye, and White Pine counties, Nevada; also in AZ and CA. Maximum Nevada **range dimension 378.7 km (235.3 mi)** excluding most disjunct record.

ELEVATIONS RECORDED (NEVADA): 2190-5922 feet (668-1805 meters).

HABITAT (NEVADA): Moist to superficially dry, open, flat to hummocky, mostly barren, often salt-crusted silty-clay soils on valley bottom flats, lake deposits, and playa edges, often near seepage areas, sometimes on gypsum deposits, surrounded by saltbush scrub vegetation but with few immediate associates such as Atriplex confertifolia, A. canescens, A. argentea, Poa secunda, Monolepis nuttalliana, Phacelia fremontii, Lepidium flavum, Sarcobatus vermiculatus, etc. Aquatic or wetland-dependent in Nevada.

PHENOLOGY: flowering late-spring. Range of most frequent **survey months:** April-August.

LIFE-FORM AND HABIT: small annual.

DESCRIPTION: not available (see references).

PHOTOGRAPHS: Blomquist et al. (1995), Knight and Smith (1996), Knight et al. (1997), Smith (1997); Nevada Natural Heritage Program files.

ILLUSTRATIONS: Cronquist et al. (1984).

OTHER GENERAL REFERENCES (listed separately): Beatley (1976), Cochrane (1979), Hickman (1993), Niles et al. (1998).

SPECIFIC REFERENCES:

Harrison, B. F. 1980. Botanical survey of threatened and endangered plants Schell Resource Area. Ely, Nevada: Bureau of Land Management.

Howell, J. T. 1943. Studies in Phacelia - A revision of species related to P. pulchella and P. rotundifolia. American Midland Naturalist 29: 1-26.

Smith, F. 1997. Current knowledge and conservation status of Phacelia parishii A. Gray (Hydrophyllaceae) in Nevada, September 1996 (second draft 1/17/97). Carson City: Nevada Natural Heritage Program, DRAFT status report prepared for the U. S. Fish and Wildlife Service, Reno.

Astragalus preussii var. *laxiflorus* - Gray

Lancaster Milkvetch

Related ITIS Name(s): *Astragalus preussii* var. *laxiflorus* Gray (TSN 192701)
Unique Identifier: ELEMENT_GLOBAL.2.138949
Element Code: PDFAB0F721
Informal Taxonomy: Plants, Vascular - Flowering Plants - Pea Family

View image report from CalPhoto

Kingdom	Phylum	Class	Order	Family	Genus
Plantae	Anthophyta	Dicotyledoneae	Fabales	Fabaceae	Astragalus

Check this box to expand all report sections: ☑

Concept Reference

Concept Reference: Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. 2nd edition. 2 vols. Timber Press, Portland, OR.
Concept Reference Code: B94KAR01HQUS
Name Used in Concept Reference: *Astragalus preussii* var. *laxiflorus*
Taxonomic Comments: Nevada-Arizona and California occurrence clusters may be two distinct taxa; reports from Utah are likely erroneous (J. Morefield, pers. comm. 2008).

Conservation Status

NatureServe Status

Global Status: G4T2
Global Status Last Reviewed: 16Apr2008
Global Status Last Changed: 16Apr2008
Rounded Global Status: T2 - Imperiled
Reasons: Known only from the area around Lake Mead (Nevada-Arizona) in the lower Muddy and Virgin valleys, and disjunctly in northeastern Los Angeles County (Lancaster), California. Approximately 13 occurrences are believed extant, 7 in Nevada, 3 in Arizona, and 3 in California. Likely declining in the California portion of the range, but not precipitously. This taxon is also potentially in Utah (near the NV-AZ sites).
Nation: United States
National Status: N2?

U.S. & Canada State/Province Status	
United States	Arizona (S1), California (S1), Nevada (S1S2)

Other Statuses

NatureServe Conservation Status Factors

Global Abundance Comments: Generally uncommon, although Nevada botanists are seeing it frequently in the Lake Mead area (J. Morefield, pers. comm. 2008).

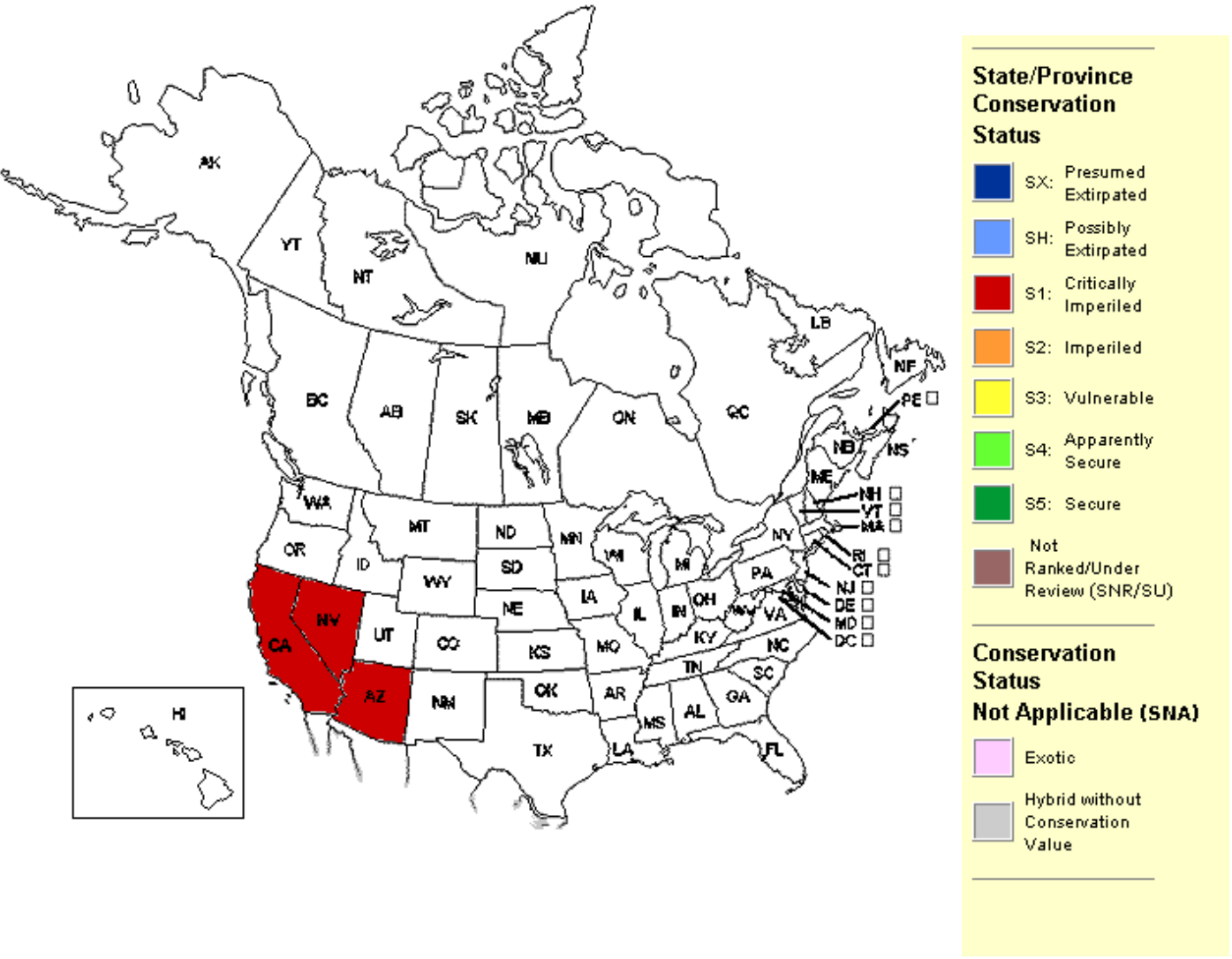
Estimated Number of Element Occurrences: 6 - 20
Estimated Number of Element Occurrences Comments: Approximately 13 occurrences are believed extant, 7 in Nevada, 3 in Arizona, and 3 in California. Some Nevada occurrences have not be revisited recently, but they are located in remote areas where they are likely to persist, and so are presumed extant. It is believed that a few, but not many, additional EOs might be found with intensive survey of suitable habitat in range.

Global Short Term Trend: Declining (decline of 10-30%)
Global Short Term Trend Comments: Likely declining in the California portion of the range.

Global Long Term Trend: Relatively stable (+/- 25% change)
Global Long Term Trend Comments: Probably declining somewhat, but long-term trend believed relatively stable.

Distribution

U.S. States and Canadian Provinces



U.S. & Canada State/Province Distribution	
United States	AZ, CA, NV

Range Map
No map available.

Global Range Comments: Known only from the area around Lake Mead (Nevada-Arizona) and disjunctly in northeastern Los Angeles County (Lancaster), California. This taxon has also been reported from Utah (near the NV-AZ sites), but these reports may be erroneous (J. Morefield, pers. comm. 2008). Range extent is approximately 1000-2000 square km, not including the area between the NV-AZ cluster of occurrences and the CA occurrences (which is not considered to be suitable habitat).

Natural heritage records exist for the following U.S. counties	
State	**County Name (FIPS Code)**
CA	Kern (06029)*, Los Angeles (06037)*
NV	Clark (32003)*

* Extirpated/possibly extirpated

U.S. Distribution by Watershed (based on available natural heritage records)	
Watershed Region	**Watershed Name (Watershed Code)**
15	Lake Mead (15010005)+, Havasu-Mohave Lakes (15030101)+
18	Antelope-Fremont Valleys (18090206)+

+ Natural heritage record(s) exist for this watershed
* Extirpated/possibly extirpated

Ecology & Life History

Basic Description: An ill-scented, pink-flowered locoweed (Fabaceae).
Technical Description: Perennial but sometimes flowering the first season, rather coarse and robust, glabrous or nearly so below the inflorescence, the few hairs when present, either filiform or scalelike, appressed up to 0.1-0.5 mm. long, confined to the margins and midrib of the leaflets, the malodorous herbage green or yellowish-green, somewhat leathery; stems several, erect and ascending, (0.7) 1-3.5 dm long, simple or few-branched below the middle. Leaves (3.5) 4.5-18 cm long, shortly petioled or the uppermost subsessile, with stiff rachis and (7) 11-25 rather distant leaflets 1.5-27 mm long, these varying in shape from suborbicular-obcordate through oblong-obovate to linear-elliptic, narrowly lanceolate, or linear and acute. Infloresence open; racemes loosely (3) 4-16 (22)-flowered, the axis 4-23 cm long in fruit; bracts membranous, pallid or purplish, ovate or lanceolate, 1.5-4mm long; pedicels ascending, straight, at anthesis (1) 1.5-2.8 mm; bracteoles nearly always 2, sometimes minute; calyx (6.4) 8-9.4 mm long, thinly strigulose with black or mixed black and white hairs. Flowers pink or when dried bluish-purple, sometimes pallid but distally suffused with lilac-purple, banner about 14 mm. Pod sessile or nearly so, oblong-elipsoid; more or less round in cross-section, stiffly papery. Ovules smooth or nearly so, sometimes mottled with dull purple, 2.4-3.7 mm long.
Diagnostic Characteristics: Fruit base not stalk-like; infloresence open, axis in fruit 4-23 cm; banner more or less 14 mm.
Duration: PERENNIAL
Ecology Comments: Gravelly or sandy washes and along gullied badlands from 1200-2500 feet. Also grows on alkaline clay flats in the southwest Mohave Desert. May prefer selenium rich soils.
Habitat Comments: Gravelly or sandy desert washes, alkaline desert playas. 360 - 750 m.

Economic Attributes

Economically Important Genus: Y

Management Summary

Stewardship Overview: This very rare native plant has had very little research done on its basic biology and its needs are almost completely unknown.
Preserve Selection & Design Considerations: Requires sandy or gravelly washes along draws in gullied badlands. Often grows in selenium rich soils.
Monitoring Requirements: Historic and potential habitat of species, particularly in the California portion of its range, should be surveyed.
Management Research Needs: All aspects of the basic biology of this species require more research.

Population/Occurrence Delineation

Alternate Separation Procedure: Use the Habitat-based Plant Element Occurrence Delimitation Guidance (2004).
Date: 01Oct2004

Population/Occurrence Viability

Justification: Use the Generic Element Occurrence Rank Specifications (2008).
Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 05May2008
NatureServe Conservation Status Factors Author: Gravuer, K.
Management Information Edition Date: 06Jul1995
Management Information Edition Author: Michael Schindel
Element Ecology & Life History Edition Date: 05Jul1995
Element Ecology & Life History Author(s): Michael Schindel

Botanical data developed by NatureServe and its network of natural heritage programs (see Local Programs), The North Carolina Botanical Garden, and other contributors and cooperators (see Sources).

References

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- Fuller, Thomas C. and Elizabeth McClintock. 1986. Poisonous Plants of California. University of California Press. 433 pages.
- Hickman, J. ed.Jepson Manual: Higher Plants of California
- Hickman, J.C., ed. 1993. The Jepson manual: Higher plants of California. Univ. California Press, Berkeley. 1400 pp.
- Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. 2nd edition. 2 vols. Timber Press, Portland, OR.

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Note: All species and ecological community data presented in NatureServe Explorer at http://www.natureserve.org/explorer were updated to be current with NatureServe's central databases as of **February 6, 2009**.
Note: This report was printed on **March 25, 2009**

Citation for data on website including State Distribution, Watershed, and Reptile Range maps:
NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: March 25, 2009).

Citation for Bird Range Maps of North America:
Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

Acknowledgement Statement for Bird Range Maps of North America:
"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

Citation for Mammal Range Maps of North America:
Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

Acknowledgement Statement for Mammal Range Maps of North America:
"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

Citation for Amphibian Range Maps of the Western Hemisphere:
IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:
"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

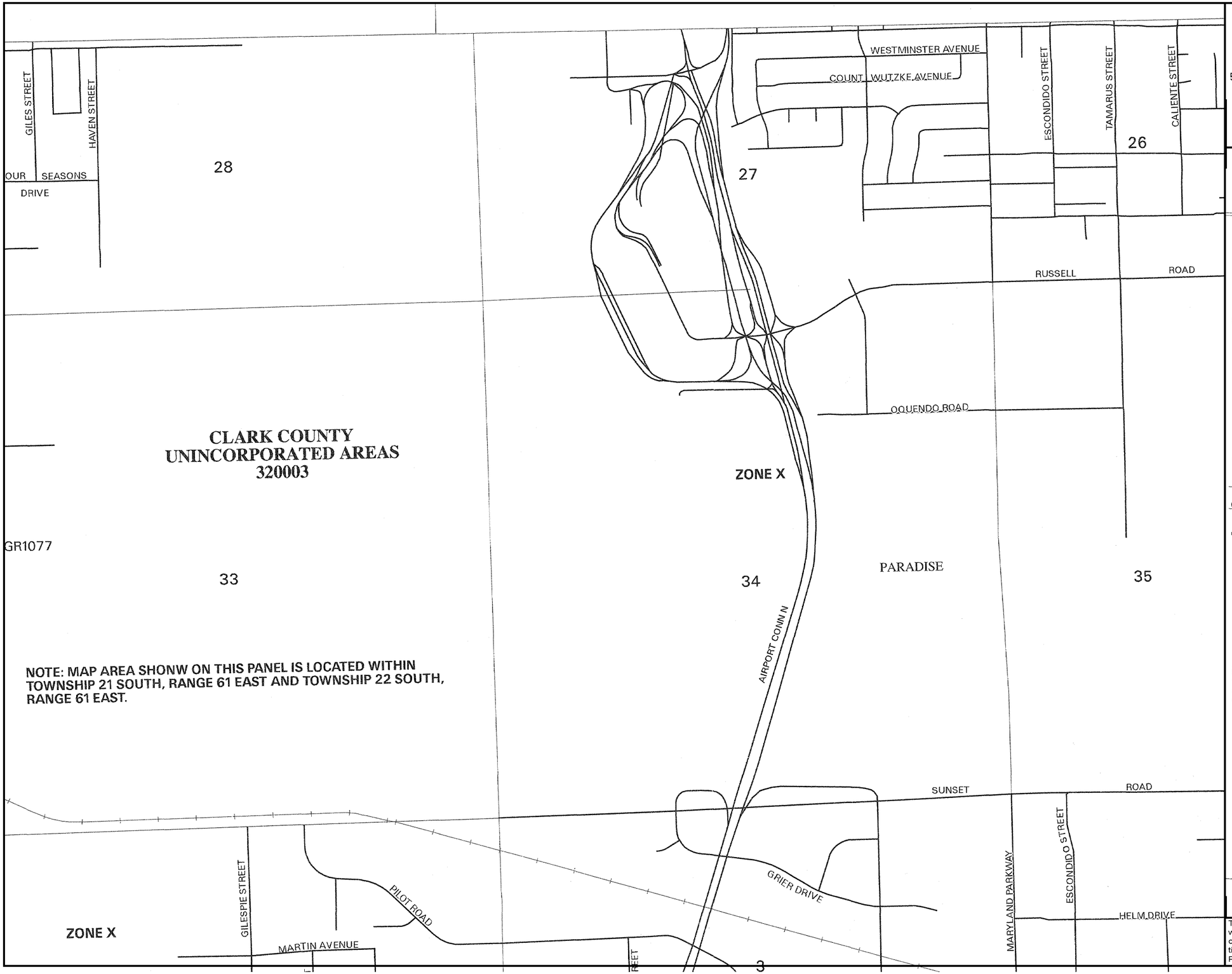
NOTE: Full metadata for the Bird Range Maps of North America is available at:
http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf.

Full metadata for the Mammal Range Maps of North America is available at:
http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf.

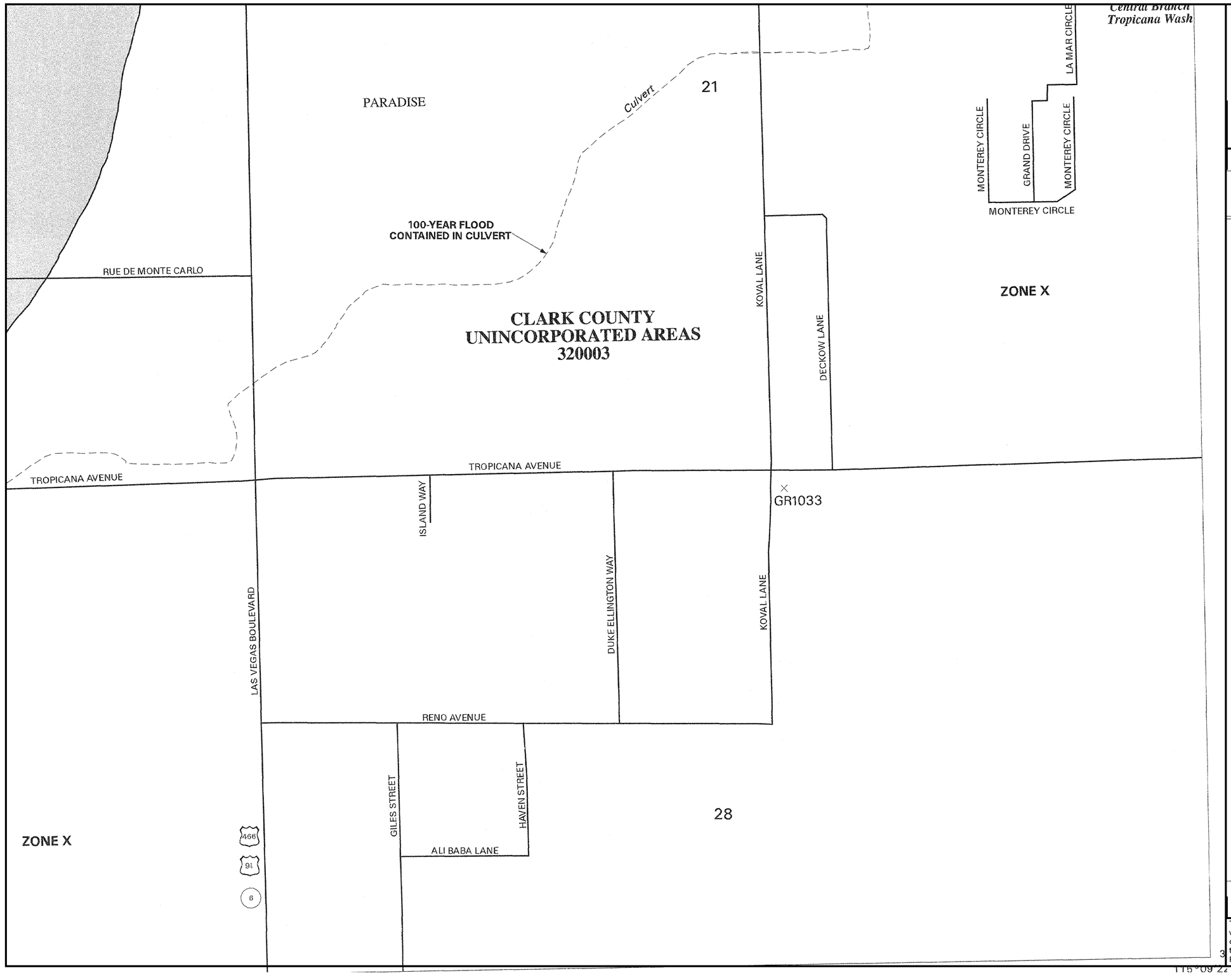
NatureServe

Version 7.1 (2 February 2009)
Data last updated: February 6, 2009

APPENDIX G
FEMA Flood Insurance Rate Maps



This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 500'

250 0 500 1000 FEET

PANEL 2556 E

FIRM

FLOOD INSURANCE RATE MAP

CLARK COUNTY,
NEVADA AND
INCORPORATED AREAS

PANEL 2556 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

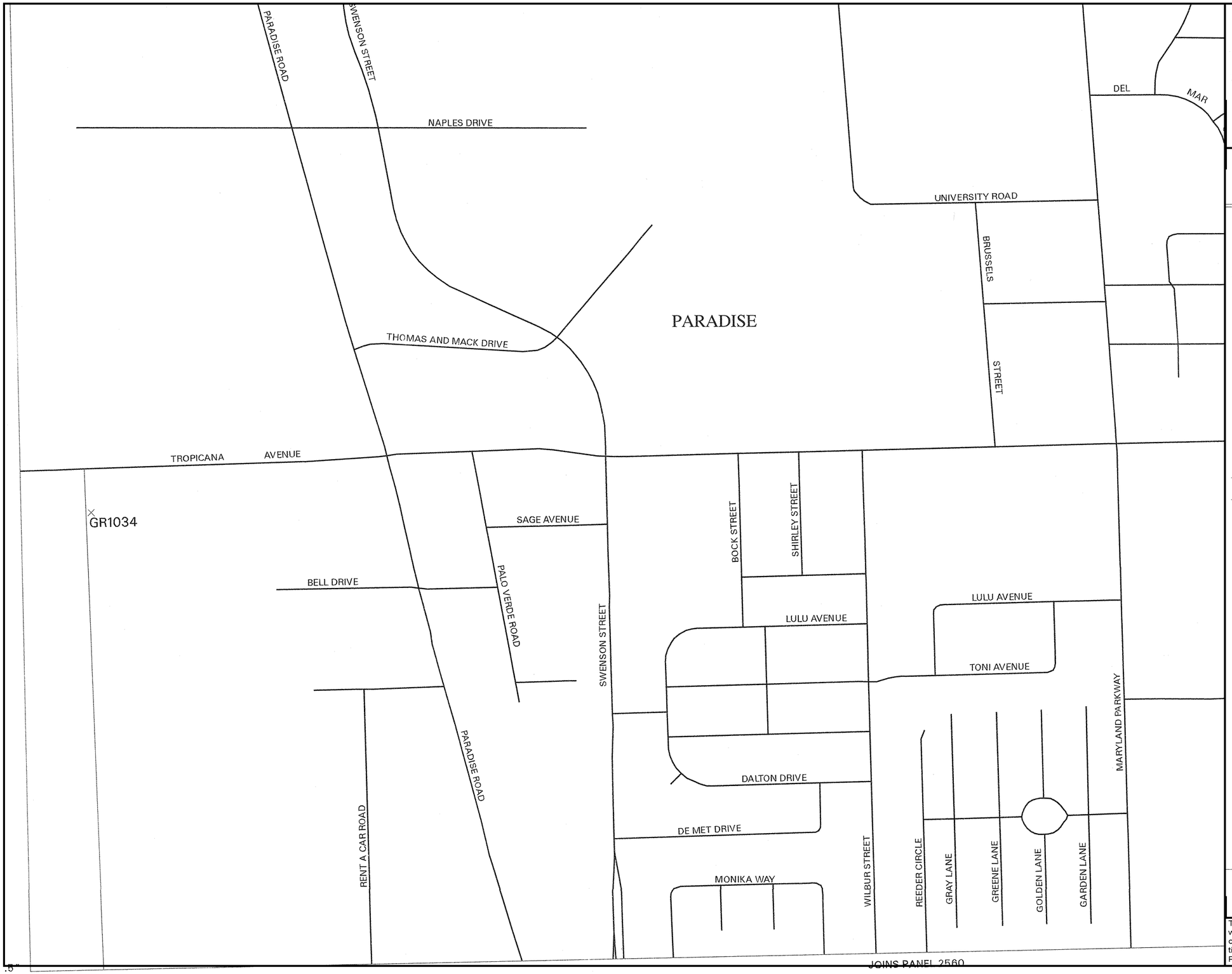
COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY, UNINCORPORATED AREAS	320003	2556	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
32003C2556 E

MAP REVISED:
SEPTEMBER 27, 2002

Federal Emergency Management Agency



MAP SCALE 1" = 500'

250 0 500 1000 FEET

PANEL 2557 E

FIRM

FLOOD INSURANCE RATE MAP

CLARK COUNTY,
NEVADA AND
INCORPORATED AREAS

PANEL 2557 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

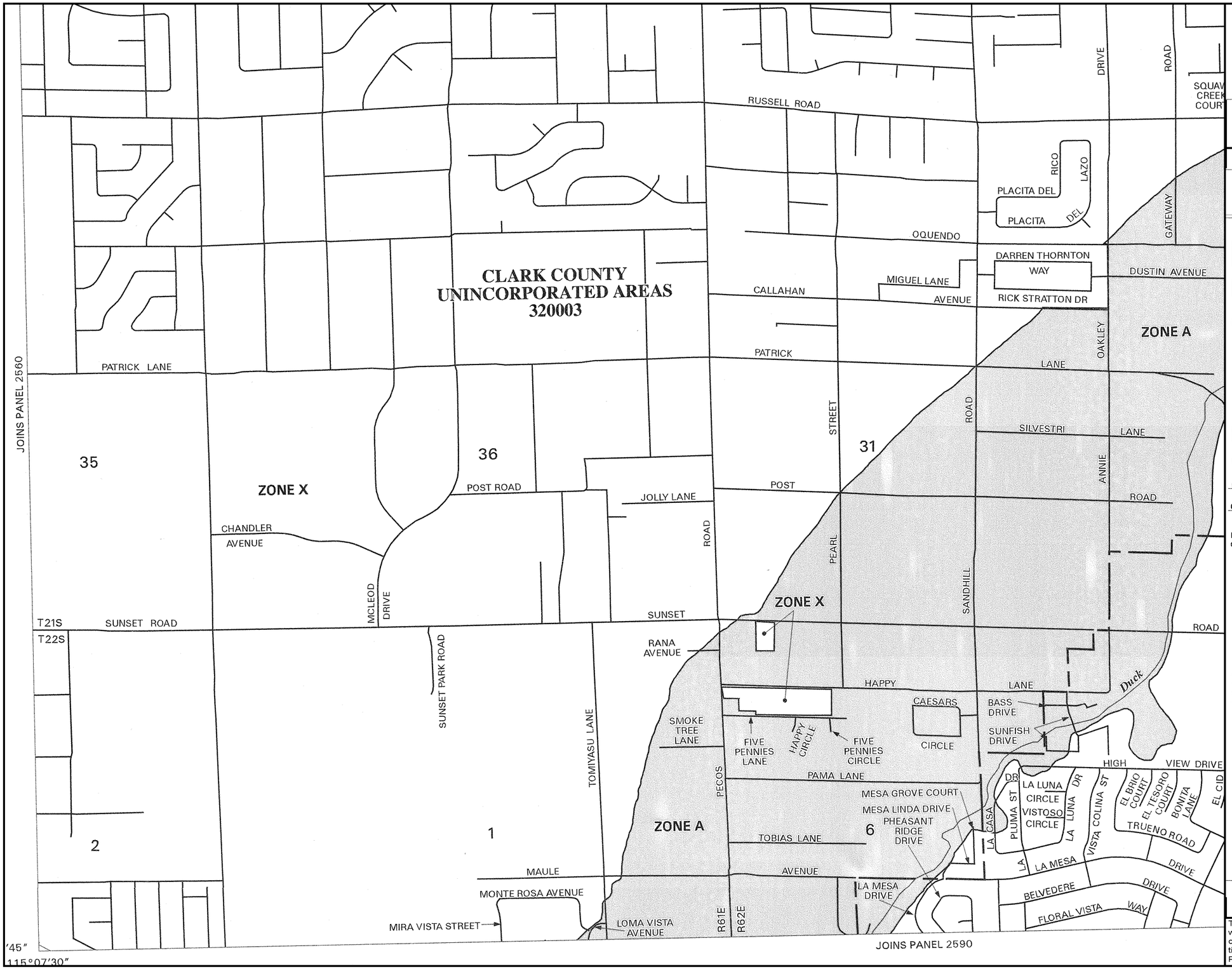
COMMUNITY	NUMBER	PANEL	SUFFIX
CLARK COUNTY, UNINCORPORATED AREAS	320003	2557	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
32003C2557 E

MAP REVISED:
SEPTEMBER 27, 2002

Federal Emergency Management Agency



PANEL 2580 E

FIRM

FLOOD INSURANCE RATE MAP

CLARK COUNTY,
NEVADA AND
INCORPORATED AREAS

PANEL 2580 OF 4090

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HENDERSON, CITY OF	320005	2580	E
CLARK COUNTY, UNINCORPORATED AREAS	320003	2580	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
32003C2580 E

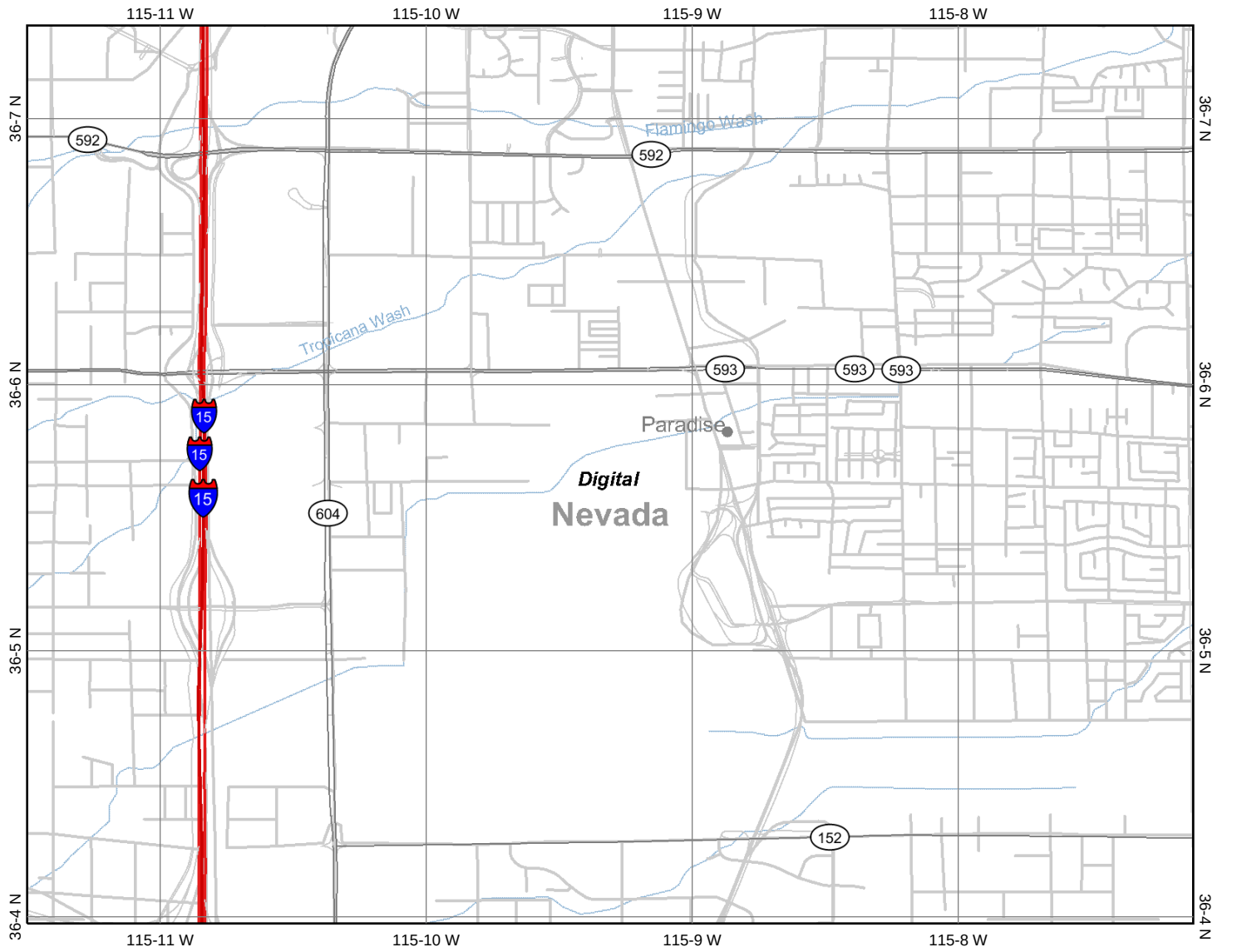
MAP REVISED:
SEPTEMBER 27, 2002

Federal Emergency Management Agency

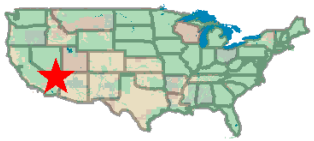
'45"
115°07'30"

APPENDIX H
LAS Area Wetlands Map

LAS Area Wetlands Map



Map center: 36° 5' 40" N, 115° 9' 18" W



Legend

- **Interstate**
- **Major Roads**
  - Other Road
  - Interstate
  - State highway
  - US highway
- **Roads**
- **Cities**
- **Lower 48 Wetland Polygons**
  - Estuarine and Marine Deepwater
  - Estuarine and Marine Wetland
  - Freshwater Emergent Wetland
  - Freshwater Forested/Shrub Wetland
  - Freshwater Pond
  - Lake
  - Other
  - Riverine
- **Lower 48 Available Wetland Data**
  - Non-Digital
  - Digital
  - No Data
  - Scan
- **NHD Streams**
- **Counties 100K**
- **States 100K**
- **South America**
- **North America**

N

Scale: 1:43,857

APPENDIX I
Permits Required for Proposed Action

Department of Air Quality & Environmental Management (DAQEM)
500 South Grand Central Parkway
Las Vegas, Nevada 89155-5210
Office: (702) 455-5942
Fax: (702) 383-9994

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APPLICATION FOR AN AUTHORITY TO CONSTRUCT CERTIFICATE

Source ID#:_____ (if modification) **Date:_____**

Is this application the result of a Corrective Action Order (CAO), Notice of Violation (NOV) or Inspection? If so, please identify with the number or attach.

I. Company Information: (Please Print or Type)

All correspondence and billing regarding this source will be communicated to the Responsible Official for Air Quality Control matters who signs this application at this address.

Name:_____
Physical Address:_____
City: _____ State: _____ Zip:_____
Contact Person: _____ Title: _____
Phone Number:(_____)_____Fax:(_)_____Mobile:(___)_____
Would you like the permit and invoice to be emailed to the Responsible Official?
E-Mail Address: _____ Contact Name: _____

II. Source Name and Address: (Please Print or Type)

Name:_____
Address:_____ or Township, Range & Section (TRS):_____
City: _____ State: _____ Zip:_____
Contact Person: _____ Title:
Phone Number:(____)_____Fax:(_____)_____ Mobile:(___)_____

Do not send us any documents larger than 11x 17" with your application.

III. Person responsible for Air Quality Control matters:

Name:_____ Phone Number:_____

E-mail Address:_____

Person Responsible For Signing of Documents:

Name/Title:_____ Phone Number:_____

Person Responsible For Billing Matters:

Name:_____ Phone Number:_____

IV. To comply with the preconstruction application requirements of Section 12 of the Clark County Air Quality Regulations, the applicant shall submit the following information:

NOTE: Application must include categorically exempt units and activities.

a. Stationary Source location map showing the property boundary with a legal description of the proposed site location. Include Township, Range and Section (TRS), if no street address. (Please attach)

b. Stationary Source site map identifying all buildings or structures on the site. (Please attach)

c. A general flow diagram identifying all processes located at the Stationary Source. (Please attach)

d. A complete detailed flow diagram of each process at the Stationary Source listing all Emission Units associated with the process. (Please attach)

e. Location of nearest residence and distance from the proposed Stationary Source. (Please attach)

f. Zoning approved by local municipality, or a copy of a currently approved zoning map. (Please attach)

g. Copy of application for Use Permit, or decision of the zoning authority. (Please attach)

h. Any new PM_{10} or CO Major Stationary Source proposing to locate in the non-attainment area, or any existing PM_{10} or CO Major Stationary Source located in the nonattainment area that proposes a Major PM_{10} or Major CO Modification, shall perform an analysis of alternative sites, sizes, production processes, fuel burned, and emission control techniques that demonstrate that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or Modification. The required analysis shall be based on EPA guidance or applicable regulations. (Please attach)

i. Identification of all Regulated Air Pollutants emitted from each Emission Unit. (Please attach)

j. Brief general description of the new Stationary Source or Modification. (Please attach)

k. Complete description of all processes by Standard Industrial Classification [SIC] and NAICS Code. (Please attach)

l. **Complete description of all Emission Units by Source Classification Code (SCC). (Please note, an SCC reference document is available upon request)**

m. **Type of fuel utilized in each Emission Unit, if applicable. (Please attach)**

n. **Estimate of total annual fuel usage from all NonRoad Engines [gasoline and diesel]; such information may be used by DAQEM for modeling and emission inventory purposes, but shall not be included as a condition in the Authority to Construct. (Please attach)**

o. **Maximum Potential to Emit of all Regulated Air Pollutants for each Emission Unit in lbs/hr, lbs/day, and ton(s)/yr. (Please attach)**

Maximum Potential to Emit Emissions of all Regulated Air Pollutants for each NonRoad Engine utilized within a permitted source in [lbs/hr, lbs/day, and ton(s)/yr]. Such Emissions may be used by DAQEM for modeling and emission inventory purposes and shall not be included in the source Potential to Emit. (Please attach)

p. **Stack data: location, height above grade, diameter (I.D. or effective), exhaust gasses, flow rate [ACFM], and temperature. (Please attach)**

q. **Maximum rated design production capacity. (Please attach)**

r. **Expected production capacity. (Please attach)**

s. **Schedule of operation hrs/day, days/wk, wks/yr. (Please attach)**

t. **Description of air pollution control equipment, for each Emission Unit. (Please attach)**

u. **Analysis of compliance with requirements for Best Available Control Technology (BACT), Lowest Achievable Emission Rate (LAER), Maximum Achievable Control Technology (MACT), as applicable. (Please attach)**

v. **Preconstruction measurements of existing air quality, as required by other subsections of Section 12. (Please attach)**

w. **Results of modeling for each Regulated Air Pollutant, if applicable. (Please attach)**

x. **Description of post construction ambient air monitoring systems for each Regulated Air Pollutant, if applicable. (Please attach)**

y. **Description and general specifications of continuous emissions monitoring systems for each Regulated Air Pollutant, if applicable. (Please attach)**

z. **Additional impact analysis of soils, visibility, vegetation, secondary air quality as required by other subsections of Section 12. (Please attach)**

aa. **Anticipated construction schedule including the estimated initial start-up date. (Please attach)**

bb. **Statement of statewide compliance of existing facilities operated by applicant. (Please attach)**

cc. **Information on the air pollution control equipment installed at similar facilities owned or operated by the applicant, applicable to sources subject to public notice requirements. (Please attach)**

dd. **Payment of all applicable fees pursuant to Section 18 of the Department of Air Quality and Environmental Management Regulations. (Please attach)**

ee. **Complete the Clark County fire survey required prior to permit issuance. (Please attach)**

In accordance with Section 4.3 of the Clark County Air Quality Regulation, and NRS 445.58, the applicant agrees to permit the Control Officer or his representative to inspect the source during the hours of operation without prior notice.

This application shall be deemed incomplete if submitted information is incorrect, inaccurate or missing.

If you wish to have a consultant and/or an attorney receive a copy of any correspondence during the completion of this ATC/OP provide names & addresses below:

Consultant's Name	**Attorney's Name**
Consultant's Company Name	**Attorney's Company Name**
Street Address	**Street Address**
City/State/Zip	**City/State/Zip**
E-mail Address	**E-mail Address**
Phone Number / Fax Number	**Phone Number / Fax Number**

To the best knowledge of the Responsible Official, the information submitted in this application is certified as true and complete. The Responsible Official agrees that any willful misrepresentation shall be cause for revocation of the Authority to Construct/Operating Permit.

Responsible Official's Signature:_____ **Date:**_____

Responsible Official's Printed Name:_____

Responsible Official's Title:_____

This application must be accompanied with a payment of $311.00 for the application filing fee. Additional fees may apply. The fees may include a one-time permit review fee, annual equipment fees and possible mitigation obligation. Withdrawal of this application after work has begun shall result in the assessment of applicable review fees.

The Government Center accepts: Cash, check, Visa, MasterCard and money orders. Make check/money order payable to: DAQEM or Department of Air Quality &

Environmental Management in accordance with Section 18 of the Clark County Air Quality Regulations.

To be filled out by Applicant – Payment Information – (Please Print)
If Paying by Check – Check #_____ **Name and Address As It Appears on Check:** _____ _____ _____ **Telephone #:_____** **If Paying by Credit Card, Last Four Digits of Credit Card #:** _____ **Exact Name As Listed on the Credit Card:** _____

For Office Use Only: POS #_____

Department of Air Quality & Environmental Management (DAQEM)
500 South Grand Central Parkway
Las Vegas, Nevada 89155-5210
Office: (702) 455-5942
Fax: (702) 383-9994

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Supplemental Information Sheet
Must be accompanied by an ATC Application

EMISSION UNIT INFORMATION - INTERNAL COMBUSTION ENGINE

Owner/Operator

Company Name: _____

Mailing Address: _____

_____

Contact Person: _____ **Phone:** _____

Manufacturer's Name: _____

Model Number: _____ **Serial Number:** _____

Date of Manufacture: _____

For Emergency/Standby Use (Like A Backup Generator), Provide The Testing Schedule:

_____ **(hours/day),** _____ **(hours/month),** _____ **(hours/year)**

or

For Primary Use (Like Primary Power Or Powering Production Equipment), Provide the Operating Schedule:

_____ **(hours/day),** _____ **(hours/month),** _____ **(hours/year)**

Number of Cylinders: _____ **Displacement:** _____ **(in^3, liters)**

[ ] Two Cycle **[ ] Four Cycle**

[ ] Spark Ignition **[ ] Compression Ignition**

Engine Manufacturer's Power Rating: _____ **(BHP, KW) @** _____ **RPM**

Type of Fuel(s) Used: _____

Full Load Consumption: _____ **(gal/hr, ft^3/hr)**

(Continue on next page)

Exhaust Stack Data

Height:_____ ft **Diameter:_____in**

Velocity:_____ ft/sec **Or** **Exhaust:_____**

Volume:_____ft^3/min

Temperature:_____°F

Emissions Data

List the Potential to Emit (PTE) for this unit for Particulate Matter under 10 microns (PM_{10}), Nitrogen Oxides (NO_x), Sulfur Oxides (SO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC).

POLLUTANT	EMISSIONS	UNITS *CIRCLE ONE*
PM_{10}		g/bhp-hr; g/hr; ppmv; lb/day; lb/gallon
NO_x		g/bhp-hr; g/hr; ppmv; lb/day; lb/gallon
SO_x		g/bhp-hr; g/hr; ppmv; lb/day; lb/gallon
CO		g/bhp-hr; g/hr; ppmv; lb/day; lb/gallon
VOC		g/bhp-hr; g/hr; ppmv; lb/day; lb/gallon

Source of Emissions Data:

[ ] Manufacturer's Guarantee

[ ] Source Test

[ ] AP-42 (if no other date available)

What methods of air pollution control are used with this engine?*

_____

_____

_____

_____

*** Attach copy of Manufacturer's Information concerning emissions and controls, if available.**

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RESET FORM BEFORE STARTING

APPLICATION
DUST CONTROL PERMIT FOR CONSTRUCTION ACTIVITIES

Blank spaces must be completed for the application to be processed. If not applicable, enter N/A.

1. Applicant/Permittee:

☐ Property Owner ☐ Developer ☐ Prime Contractor ☐ Other _____

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Ext: _____ Fax: _____

E-mail Address: _____

2. Project:

Name: _____

Address: _____ City: _____

Nearest major cross-streets: _____

Township(s): _____ Range(s): _____ Section(s): _____

Assessor's Parcel number(s) (Attach map): _____

Project Description: _____

_____

Project Acreage: _____ acres (rounded to the nearest 0.1 acre, min. fee 1 acre, all land to be disturbed must be included in project acreage: project site, new unpaved access roads, stockpile, and staging areas)

You must select one of the following three choices.

☐ This project does not require any offsite street or utility development.

☐ This project requires offsite street/utility development that is not included in this application, and will be added at a later date by modification or additional permit.

☐ This application includes offsite street/utility development. (Area must be marked on the accompanying parcel map. Check all that apply)

Utility Lateral ☐ less than 100 ft. ☐ greater that 100 ft. ☐ Half Street ☐ Full Street

☐ Curb / Entrance ☐ Entity Name and Number of Approved Offsite Plan / Permit / Easement: _____ ☐ Plan Pending ☐ Other

3. Property Owner (if not applicant):

Name: _____

If applicant is NOT the Property Owner, applicant must complete the Owner's Designee form DCP05, see Attachment 1: Dust Control Permit Forms. The signature on the Owner's designee form must be the same person that signs this application.

4. **Point of Contact for dust control matters and to whom a NOTICE OF VIOLATION should be sent if necessary:**

   Name: _____ Company: _____

   Address: _____

   City: _____ State: _____ Zip: _____

   Telephone: _____ Ext: _____ Fax: _____

   Cellular/Pager: _____ After Hours Phone: _____

5. **On-site Superintendent/Supervisor/Foreman contact:**

   Name: _____ Company: _____

   On-site phone: _____ Cellular/Pager: _____

   DAQEM Dust Class Certification/Card #: _____ Expiration date: _____

   Have all other on-site supervisory personnel attended the DAQEM Dust Class? ☐ Yes ☐ No

   If no, all on-site supervisory personnel must attend a DAQEM Dust Class within 30 days.

6. **Storm Water Advisory:** Be advised that all land disturbances that exceed one (1) acre or which are adjacent to a waterway must submit a "Notice of Intent" to the Nevada Division of Environmental Protection (NDEP) that certifies a Storm Water Pollution Prevention Plan has been developed and is maintained for the site. For information contact NDEP at (775) 687-9429. Applications and instructions are available at www.ndep.nv.gov/bwpc/storm01.htm

7. **By signing this permit application I certify that:**
   - **A. I am authorized, on behalf of the individual or company listed in Section 1, as Applicant/Permittee, to apply for their Dust Control Permit and to commit to all of the terms and conditions of the requested permit.**
   - **B. Construction activities will be limited to lands that the applicant/permittee either owns or is authorized to use for construction activities. The permit issued subsequent to this application is not a substitute for obtaining the property owners permission to use his land. Issuance of a Dust Control Permit is intended only for the purpose of controlling emissions of air pollutants and assuring compliance with Air Quality Regulations. The applicant/permittee agrees to hold harmless, indemnify, and defend Clark County, its employees and assigns from any claims that may arise due to any unauthorized use of land for construction activities.**
   - **C. The permittee accepts responsibility for assuring that all contractors, subcontractors, and all other persons on the construction site covered by this permit, comply with the terms and conditions of the permit, the dust mitigation plan and all applicable Air Quality Regulations.**
   - **D. The applicant/permittee understands that it is a condition of the permit that the permittee agrees to allow the inspection of the site for compliance with the terms and conditions of the permit and Air Quality Regulations at any time during the permittee's hours of operation by a DAQEM officer without prior notice or at any time pursuant to the investigation of a complaint or upon direct observation of emission and/or failure to maintain Best Management Practices.**
   - **E. I understand that any material misrepresentation made in this application may invalidate the permit and that Clark County may pursue enforcement action against me. In addition, I understand any willful misrepresentation may result in criminal penalties. I declare under penalty of perjury that the foregoing is true and correct.**

Executed on:

_____ _____

DATE SIGNATURE

_____ _____

PRINTED NAME TITLE AND COMPANY NAME

Application completed by, if not completed by signatory (Please Print):

_____ Ext._____
Name Phone Number

PAYMENT INFORMATION TO BE COMPLETED BY THE APPLICANT

PAYING BY **(Please Print)**

☐ CASH

☐ CHECK CHECK # _____
NAME AND ADDRESS AS IT APPEARS ON CHECK:

_____

_____

_____

Telephone #: _____

☐ CREDIT CARD LAST FOUR DIGITS OF CREDIT CARD NUMBER: _____
EXACT NAME AS IT APPEARS ON CREDIT CARD:

_____

FOR DAQEM USE ONLY

_____ _____ _____
ISSUE DATE ISSUED BY POS #

_____ _____
DATE PAID RECEIVED BY

DAQEM REVIEW: _____ DATE:_____

BLASTING APPROVAL (if applicable): _____ DATE: _____

DEMOLITION APPROVAL (if applicable): _____ DATE:_____

COMPLIANCE AREA ASSIGNMENT: _____ Hydrographic Area: _____

☐ Airport ☐ Blasting ☐ Commercial ☐ Demo-Structure ☐ Demo–Other ☐ Staging/Stockpiling

☐ Highway ☐ Schools ☐ Residential ☐ Public Works ☐ Flood Detention ☐ Utilities ☐ Misc.

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DUST MITIGATION PLAN FOR ALL PROJECTS

Project Name: _____

Permittee Name: _____

Identify the Project Soil "Particulate Emission Potential" (check all that apply):

Using silt and optimum moisture content to determine the particulate emission potential (PEP) is the preferred method.

☐ PEP determined using generalized PEP determination maps included in the Dust Control Handbook. View Valley Map View County Map

☐ PEP determined using silt vs. optimum moisture table in Figure 2 of the Dust Control Handbook.

Percentage of silt through a #200 sieve: ___% Optimum moisture content: ___%

PEP for this project is determined to be:

☐ High ☐ Moderate High ☐ Moderate Low ☐ Low

Water source: ☐ Hydrant with Jones Valve ☐ Fire hose ☐ Water trucks/pulls ☐ Well
☐ Stand tanks ☐ Ponds ☐ Other:_____

PROJECT ACTIVITIES CHECKLIST

Instructions:

Place a check mark in the box to the right of each Project Activity that will occur on your project. If additional soil disturbing activities that are not on the checklist are to be included in the project, list them on a separate page and provide a description. For a more complete description of the listed activities, see the Control Measures Selection Pages (Form DCP03) that follow or refer to the Best Management Practices for dust control in the Dust Control Handbook.

BMP 10 Disturbed Soil and BMP 20 Trackout Prevention and Cleanup must be marked for every Dust Mitigation Plan.

CONTROL MEASURES SELECTION PAGES

Instructions:

For each project activity that you have selected on the Project Activities Checklist you must include the corresponding Control Measures Selection Page. Read and understand each item listed as a "Requirement" on these included pages. Where control measure options are listed, place a check in the box in front of the control measure you will use to meet that requirement. You must select at least one control measure where a choice is listed. In addition you must select the control measure that corresponds to your PEP as listed above, if applicable.

NOTE: PROJECTS 10 ACRES AND LARGER MUST COMPLETE A SUPPLEMENT TO THE DUST MITIGARTION PLAN (APPENDIX B-1 AND B-2).

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PROJECT ACTIVITIES CHECKLIST

Project Name: _____

Permittee Name: _____

PLACE A CHECK MARK NEXT TO EVERY ACTIVITY THAT WILL BE CONDUCTED ON THIS SITE, FOR EACH CHECKED ACTIVITY COMPLETE THE CORRESPONDING CONTROL MEASURES SELECTION PAGE AND INCLUDE WITH APPLICATION.

BMP	Project Activity	Check All That Apply
01	Backfilling Filling area previously excavated or trenched.	☐
02	Blasting - Abrasive Sandblasting and/or abrasive blasting.	☐
03	Blasting Soil & Rock Explosive blasting of soil and rock.	☐
04	Clearing & Grubbing Clearing and grubbing for site preparation and vacant land cleanup.	☐
05	Clearing Forms, Foundations and Slabs Clearing and cleaning of forms, foundations and slabs prior to pouring concrete.	☐
06	Crushing Crushing of construction and demolition debris, rock and soil.	☐
07	Cut and/or Fill Cut and/or fill soils for site grade preparation.	☐
08	Demolition - Implosion Implosive demolition of a structure, using explosives.	☐
09	Demolition - Mechanical/Manual Mechanical and manual demolition of walls, stucco, concrete, freestanding structures, buildings, load-bearing walls and/or removal of transit pipe	☐
10	Disturbed Soil **THIS ACTIVITY MUST BE SELECTED FOR ALL PROJECTS** Disturbed soil throughout project including between structures.	☐
11	Disturbed Land - Long Term Stabilization Large tracts of disturbed land that will not have continuing activity for more than 30 days.	☐
12	Dust Suppressants - Selection and Use Selection and use of chemical and organic dust suppressing agents and other dust palliatives.	☐
13	Importing/Exporting Materials Importing or exporting of soil, aggregate, decorative rock, debris, Type II and other bulk material.	☐
14	Landscaping Installation of sod, decorative rock, desert or other landscape material.	☐
15	Paving/Subgrade Preparation Subgrade preparation for paving streets, parking lots, etc.	☐
16	Sawing/Cutting Material Sawing or cutting materials such as concrete, asphalt, block or pipe.	☐
17	Screening Screening of rock, soil or construction debris.	☐
18	Staging Areas Staging areas, equipment storage, vehicle parking lots, and material storage areas.	☐
19	Stockpiles Stockpiling of materials, such as Type II, other soils, rock or debris, for future use or export.	☐
20	Trackout Prevention and Cleanup **THIS ACTIVITY MUST BE SELECTED FOR ALL PROJECTS** Prevention and cleanup of mud, silt and soil tracked out onto paved roads.	☐
21	Traffic - Unpaved Routes and Parking Construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.	☐
22	Trenching Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.	☐
23	Truck Loading Loading trucks with materials including construction and demolition debris, rock and soil.	☐

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CONSTRUCTION ACTIVITIES DUST CONTROL PERMIT SUPPLEMENTAL PERMITS/APPROVALS CHECKLIST

The following construction activities require permits or approval in addition to a Dust Control Permit. Permits or approvals must be obtained prior to conducting the activity. This form must be submitted with every Dust Mitigation Plan. *Check all activities that apply to the construction project.*

Activities requiring a Various Locations Permit (VLP):
(Comply with VLP regulations prior to installation of this equipment on the project site.)

Operation of a: List Name of VLP Company and/or VLP#

- ☐ powered crusher at temporary locations. _____
- ☐ powered screen at temporary locations. _____
- ☐ concrete batch plant at temporary locations. _____
- ☐ asphalt batch plant at temporary locations. _____

Activities requiring Supplemental Permit:
(Submit applicable supplemental forms. Asbestos survey is required for any size demo/remodel. NESHAP notification is required for ANY size demolition or for remodel if RACM is found.)

- ☐ Blasting to fracture rock, hardpan, or caliche.
- ☐ Blasting to implode a structure.
- ☐ Demolition of a structure greater than 1,000 square feet.
  - ☐ Structural remodeling
  - ☐ Structure relocation

Activities requiring Authority to Construct (ATC) Certificate and Operating Permit:
(An ATC must be obtained prior to installation of this equipment/facility.)

- ☐ Construction of or installation of any Emission Unit
  - ☐ Gasoline Dispensing Facility
  - ☐ Cooling Tower
  - ☐ Dry Cleaning Equipment
  - ☐ Plating Shop
  - ☐ Incinerator
  - ☐ Boiler
  - ☐ Emergency Standby Generator or Other Internal Combustion Engine
  - ☐ Woodworking Process Equipment
  - ☐ Power Generation Facility or Equipment
  - ☐ Crushing or Screening Stationary Source
  - ☐ Concrete or Asphalt Plant Stationary Source
  - ☐ Commercial Surface Coating Equipment including Paint Spray Booth
  - ☐ Other Source of PM_{10}, CO, VOC, NO_X, SO_2, Lead, Hazardous Air Pollutant, or Toxic Chemical Substance

- ☐ Activities Listed Above Do Not Apply to this Construction Project:

PRINT APPLICATION

BACKFILLING — BMP 01

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize backfill material when not actively handling.

- ☐ 01-1 Water backfill material to maintain moisture or to form crust when not actively handling.
- ☐ 01-2 Apply and maintain a dust palliative to backfill material to form crust when not actively handling.
- ☐ 01-3 Cover or enclose backfill material when not actively handling.

Requirement: Stabilize backfill material during handling.

- ☐ 01-4 Empty loader bucket slowly and minimize drop height from loader bucket.
- ☐ 01-5 Dedicate water truck or large hose to backfilling equipment and apply water as needed.

Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.

- ☐ 01-6 **L:** Mix moist soil with dry soil until the optimum moisture is reached.
- ☐ 01-7 **ML:** Apply and mix water into the backfill material until optimum moisture is reached.
- ☐ 01-8 **MH:** Apply and mix water and tackifier solution into the backfill material until optimum moisture is reached.
- ☐ 01-9 **H:** Apply and mix water and surfactant solution into the backfill material until optimum moisture is reached.

Requirement: Stabilize soil at completion of backfilling activity.

- ☐ 01-10 Apply water and maintain disturbed soils in a stable condition until permanent stabilization is complete.
- ☐ 01-11 Apply and maintain a dust palliative on disturbed soils to form a crust following backfilling activity.

Requirement: Stabilize material while using pipe padder equipment.

- ☐ 01-12 Mix moist soil with dry soil until the optimum moisture is reached.
- ☐ 01-13 Dedicate water truck or large hose to equipment and apply water as needed.

Print this BMP | Back

BLASTING – Abrasive

BMP 02

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 02-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 02-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Limit visible emissions to no more than an average of 40% opacity for any period aggregating 3 minutes in any 60-minute period pursuant to Air Quality Regulations.

- ☐ 02-3 Hydro-blasting, using water as the propellant, must be conducted in a manner to maintain visible emissions within opacity standards.
- ☐ 02-4 Dry, unconfined blasting with abrasive material must use only those abrasives that are approved and certified by the California Air Resources Board (CARB) for such use (see Attachment 3: CARB-Approved Abrasives Information).

Requirement: Stabilize particulate matter in surrounding area following blasting.

- ☐ 02-5 Clean particulate material from surrounding area and water disturbed soils following blasting.
- ☐ 02-6 Apply and maintain a dust palliative to surrounding area following blasting.

Recommendation: Abrasive blasting should be conducted within an enclosed structure whenever possible to preclude the release of visible emissions to the atmosphere.

Print this BMP | Back

BLASTING – Soil and Rock — BMP 03

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: A Blasting Supplemental form must be filled out, submitted and approved by the DAQEM prior to any blasting (see Appendix A: Dust Control Permit Supplemental Forms)

Requirement: No blasting within 1,500 feet of a residential area, occupied building or major roadway, when wind direction is toward these structures.

Requirement: Blasting shall be between the hours of 8:00 a.m. and 4:30 p.m., excluding Saturdays, Sundays and holidays unless prior permission is obtained from the Control Officer.

Requirement: No blasting allowed when the National Weather Service forecasts wind gusts above 25 miles per hour (mph).

☑ 03-1 Prior to setting explosive charges in holes, document current and predicted weather conditions as provided by the National Weather Service. If the current forecast is for wind gusts of 25 mph or greater or they are forecasted to be 25 mph or greater within the next 24 hours, do not charge any blast holes. When setting explosive charges, monitor weather reports for wind gusts of 25 mph or greater on the National Weather Service Radio and/or Internet sites. If wind gusts above 25 mph are stated, discontinue charging additional blast holes. Limit the blast to holes charged at time the wind report is made.

Requirement: Stabilize surface soils where drills, support equipment and vehicles will operate.

☐ 03-2 Pre-water and maintain surface soils in a stabilized condition where drills, support equipment and vehicles will operate.

☐ 03-3 Apply and maintain a dust palliative on surface soils where drills, support equipment and vehicles will operate.

(Continued on next page.)

Requirement: Stabilize soil during blast preparation activities.

- ☐ 03-4 Limit the blast footprint area to no larger than what can be practically stabilized immediately following the blast.
- ☐ 03-5 Maintain surface rock and vegetation where possible to reduce exposure of disturbed soil to wind.

Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.

- ☐ 03-6 **L & ML:** Presoak surface soils to depth of the caliche or bedrock with water using water trucks, water pulls, sprinklers or wobblers.
- ☐ 03-7 **MH:** Presoak surface soils to depth of the caliche or bedrock with water and tackifier mixture using water trucks, water pulls, sprinklers or wobblers.
- ☐ 03-8 **H:** Presoak surface soils to depth of the caliche or bedrock with water and surfactant mixture using water trucks, water pulls, sprinklers or wobblers.

Requirement: Stabilize soil after blasting.

- ☐ 03-9 Water disturbed soils to form crust immediately following blast and safety clearance.
- ☐ 03-10 Apply and maintain a dust palliative to form crust immediately following blast and safety clearance.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

Print this BMP Back

CLEARING AND GRUBBING — BMP 04

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 04-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 04-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize soil during clearing and grubbing activities.

- ☐ 04-3 **L & ML:** Apply water during clearing and grubbing activities.
- ☐ 04-4 **MH:** Apply water and tackifier mixture during clearing and grubbing activities.
- ☐ 04-5 **H:** Apply water and surfactant mixture during clearing and grubbing activities.

Requirement: Stabilize disturbed soil immediately after clearing and grubbing activities.

- ☐ 04-6 Water disturbed soils to form crust immediately following clearing and grubbing activities.
- ☐ 04-7 Apply and maintain a dust palliative on disturbed soils to form crust immediately following clearing and grubbing activities.

Recommendations: Maintain live perennial vegetation and desert pavement where possible.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

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CLEARING FORMS, FOUNDATIONS AND SLABS — BMP 05

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible emissions to no more than an average of 20% opacity for any period aggregating 3 minutes in any 60-minute period pursuant to Air Quality Regulations.

- [x] 05-1 Use single stage pours, unless prohibited by engineering design or building code, to minimize clearing.

Note: At least one of the following must be selected.

- [ ] 05-2 Use water spray to clear forms, foundations and slabs.
- [ ] 05-3 Use sweeping and water spray to clear forms, foundations and slabs.
- [ ] 05-4 Use industrial vacuum to clear forms, foundations and slabs prior to the use of high pressure air to blow soil and debris.
- [ ] 05-5 Use industrial vacuum to clear forms, foundations and slabs.

Recommendations: Verify Building Code Restrictions for use of water on slabs.

Avoid use of high pressure air to blow soil and debris from forms, foundations and slabs.

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CRUSHING — BMP 06

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT.
PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Obtain the appropriate Operating Permit for powered crushers prior to engaging in crushing activity. Comply with permit conditions.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 06-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 06-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.

Requirement: Stabilize material before crushing.

- ☐ 06-3 Pre-water material prior to loading into crusher.
- ☐ 06-4 Test material to determine moisture content and silt loading, crush only material that is at optimum moisture content.

Requirement: Stabilize material during crushing.

- ☐ 06-5 Apply water to stabilize material so as to remain in compliance with opacity standards and permit conditions, during crushing.
- ☐ 06-6 Monitor emissions opacity. Make adjustments to remain in compliance with opacity standards and permit conditions.

Requirement: Stabilize material after crushing.

- ☐ 06-7 Water crushed material to form crust immediately following crushing.
- ☐ 06-8 Apply and maintain a dust palliative to crushed material.

See also: BMP 19. STOCKPILING

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CUT AND FILL — BMP 07

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT.
PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 07-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 07-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.

Requirement: Pre-water soils.

- ☐ 07-3 Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut.
- ☐ 07-4 **L & ML:** Pre-water with sprinklers or wobblers to allow time for penetration.
- ☐ 07-5 **L & ML:** Pre-water with water trucks or water pulls to allow time for penetration.
- ☐ 07-6 **MH:** Pre-water with a water and tackifier mixture using sprinklers or wobblers to allow time for penetration.
- ☐ 07-7 **MH:** Pre-water with a water and tackifier mixture using water trucks or water pulls to allow time for penetration.
- ☐ 07-8 **H:** Pre-water with a water and surfactant mixture using sprinklers or wobblers to allow time for penetration.
- ☐ 07-9 **H:** Pre-water with a water and surfactant mixture using water trucks or water pulls to allow time for penetration.

Requirement: Stabilize soil during cut activities.

- ☐ 07-10 Apply water, using water truck or water pull, to depth of cut prior to subsequent cuts.
- ☐ 07-11 No cut activities fill only.

Requirement: Stabilize soil after cut and fill activities.

- ☐ 07-12 Water disturbed soils to form crust following fill and compaction.
- ☐ 07-13 Apply and maintain a dust palliative on disturbed soils to form crust following fill and compaction.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization if no continuing activity will occur within 30 days.

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DEMOLITION – Implosion BMP 08

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: A Demolition Supplemental form (see Appendix A) and a Supplement To The Dust Mitigation Plan (see Appendix B) must be filled out, submitted and approved by the Control Officer prior to implosion.

Requirement: An asbestos survey must be conducted on any facility before demolition can commence.

Requirement: A complete Clark County NESHAP Notification form must be submitted to the DAQEM at least ten working days prior to demolition. The asbestos survey must be attached to this notification.

Requirement: All friable and non-friable asbestos containing material must be removed from the facility prior to implosion.

Requirement: Confine blasting to times when wind direction is away from closest residential areas, occupied buildings and major roadways.

Requirement: Implosion time must be pre-approved by the Control Officer.

Requirement: Monitor and document current weather conditions and weather predictions from National Weather Service.

☑ 08-1 Prior to setting explosive charges, obtain and document current and predicted weather conditions as provided by the National Weather Service. If wind advisory (over 20 miles per hour gusts or average wind speed of 10 miles per hour) is current or forecasted for blast period, do not set charges and do not blast. Maintain a calibrated anemometer and log ambient air velocity and direction within 1,000 feet of the implosion site, beginning at least 1 (one) hour prior to and 15 minutes after the implosion.

(Continued on next page)

Requirement: Stabilize surface area where support equipment and vehicles will be operated.

☐ 08-2 Restrict support equipment and vehicles to existing paved and/or stable areas.

Note: You must select one of the following if paved and/or stable areas do not already exist and you have not selected 08-2.

☐ 08-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.

☐ 08-4 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will be operated.

Requirement: Stabilize demolition debris immediately following blast and safety clearance.

☐ 08-5 Apply water to debris immediately following blast and safety clearance.

☐ 08-6 Apply and maintain a dust palliative to debris immediately following blast and safety clearance.

Requirement: Stabilize and clean surrounding area immediately following blast and safety clearance.

☐ 08-7 Water all disturbed soil surfaces to establish crust and prevent wind erosion of soil.

☐ 08-8 Thoroughly clean blast debris from paved and other surfaces following blast and safety clearance.

See also: BMP 23: TRUCK LOADING.

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DEMOLITION - Mechanical/Manual BMP 09

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: For renovation or demolition of a structure, a Demolition Supplemental form (see Appendix A) must be filled out, submitted and approved by the Control Officer prior to commencing demolition.

Requirement: An asbestos survey must be conducted on any facility or structure that is subject to NESHAP requirements before demolition can commence.

Requirement: A complete Clark County NESHAP Notification form must be submitted to the DAQEM at least ten working days prior to demolition. The asbestos survey must be attached to this notification.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 09-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 09-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.
- ☐ 09-3 Area where support equipment and vehicles will operate is completely covered with paving or concrete.

Requirement: Stabilize demolition debris during handling.

- ☑ 09-4 Apply water to demolition debris during handling.

Requirement: Stabilize debris following demolition.

- ☐ 09-5 Apply water to stabilize demolition debris.
- ☐ 09-6 Apply a dust palliative to stabilize demolition debris.

Requirement: Stabilize surrounding area following demolition.

- ☐ 09-7 Apply water to stabilize surrounding area following demolition.
- ☐ 09-8 Apply and maintain a dust palliative to stabilize surrounding area following demolition.

See also: BMP 23: TRUCK LOADING.

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DISTURBED SOIL — BMP 10

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: For each non-linear project to be permitted for 5 acres or less; install perimeter wind barrier 3 feet or more in height made of material with a porosity of 50% or less.

Requirement: Limit vehicle traffic and disturbance of soils where possible.

- [x] 10-1 Limit vehicle traffic and disturbance of soils with the use of fencing, barriers, barricades, and/or wind barriers.

Requirement: Stabilize and maintain stability of all disturbed soil throughout construction site.

Note: You must choose one or more of the following.

- [ ] 10-2 Apply water to stabilize disturbed soils. Soils must be kept in a sufficiently damp, crusted or covered condition.
- [ ] 10-3 Apply and maintain a dust palliative based on soil type and future plans.

Requirement: Soil conditions, including preventive and corrective measures, must be recorded every day the construction project is active.

- [x] 10-4 Record soil conditions and dust control actions in daily project records.

Recommendations: If interior block walls are planned, install as early in the construction as possible.

See also: BMP 11: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

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DISTURBED LAND – Long-Term Stabilization — BMP 11

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize soil to meet standards required by Air Quality Regulation Section 90.

- ☐ 11-1 Apply and maintain a dust palliative on disturbed soils for long-term stabilization.
- ☐ 11-2 Stabilize disturbed soil with vegetation for long-term stabilization.
- ☐ 11-3 Pave or apply surface rock for long-term stabilization.
- ☐ 11-4 Use wind breaks in accordance with a site-specific plan approved by the Control Officer and Region IX Administrator of the EPA.
- ☐ 11-5 Apply water and maintain soils in a visible damp or crusted condition for temporary stabilization.

Requirement: Prevent access to limit soil disturbance.

- ☑ 11-6 Prevent access by fencing, ditches, vegetation, berms or other suitable barrier or means approved by the Control Officer.

Recommendations: Plant perimeter vegetation early. Use of native and drought-tolerant plants with greater than 50 % silhouette area is encouraged.

See also: BMP 12: DUST SUPPRESSANT, DUST PALLIATIVE AND SURFACTANT – Selection and Use.

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DUST PALLIATIVE – Selection and Use — BMP 12

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Follow AQD "Interim Policy on Dust Palliatives Use In Clark County, Nevada".

Requirement: Record use of suppressants and dust palliatives and retain records.

Requirement: Follow applicable federal and state regulations.

Requirement: Select method of long-term stabilization taking into consideration future land use.

☐ 12-1 For traffic area applications use Table 1: Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Interim Policy on Dust Palliatives Use In Clark County, Nevada.

☐ 12-2 For non-traffic area applications use Table 2: Non-Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Interim Policy on Dust Palliatives Use In Clark County, Nevada.

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IMPORTING/EXPORTING SOIL, ROCK AND OTHER BULK MATERIAL

BMP 13

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible dust opacity from vehicular operations.

- ☐ 13-1 Apply water and limit vehicle speeds to 15 mph on the work site.
- ☐ 13-2 Apply and maintain dust suppressant on haul routes.

Requirement: Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage.

Requirement: Maintain 3-6 inches of freeboard to minimize spillage.

Requirement: Stabilize materials during transport on site.

- ☐ 13-3 Use tarps or other suitable enclosures on haul trucks.
- ☐ 13-4 Stabilize materials with water.

Requirement: Clean wheels and undercarriage of haul trucks prior to leaving construction site.

Recommendations: Verify State and local laws, concerning the hauling of bulk materials on public roadways.

See also: BMP 20: TRACKOUT PREVENTION AND CLEANUP.

BMP 23: TRUCK LOADING.

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LANDSCAPING BMP 14

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT.
PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize soils, materials and slopes during handling.

- ☐ 14-1 **L & ML:** Apply water prior to leveling or any other earth moving activity to keep the soil moist throughout the process.
- ☐ 14-2 **MH:** Apply a water and tackifier mixture prior to leveling or any other earth moving activity to keep the soil moist throughout the process.
- ☐ 14-3 **H:** Apply a water and surfactant mixture prior to leveling or any other earth moving activity to keep the soil moist throughout the process.

Requirement: Stabilize soils, materials and slopes at completion of activity.

- ☐ 14-4 Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slope.
- ☐ 14-5 Apply water and maintain sloping surfaces in a crusted condition.
- ☐ 14-6 Maintain effective cover over materials.

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PAVING/SUBGRADE PREPARATION — BMP 15

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT.
PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize soils prior to activities.

- [x] 15-1 Pre-water subgrade surface until optimum moisture content is reached and maintained.

Requirement: Stabilize soils during activities.

- [x] 15-2 Maintain at least 70% of optimum moisture content for Type II material while aggregate is being applied.

Requirement: Stabilize soils following activities.

- [ ] 15-3 Place tack coat on Type II aggregate base immediately after it is applied.
- [ ] 15-4 Apply water to Type II aggregate base immediately after it is applied.

Requirement: Stabilize adjacent disturbed soils following paving activities.

- [ ] 15-5 Stabilize adjacent disturbed soils following paving activities by crusting with water.
- [ ] 15-6 Stabilize adjacent disturbed soils following paving activities by applying a dust palliative.
- [ ] 15-7 Stabilize adjacent disturbed soils following paving activities with immediate landscaping activity or installation of vegetative or rock cover.
- [ ] 15-8 There are no soils adjacent to paving activities.

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SAWING/CUTTING MATERIALS

BMP 16

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible emissions to no more than an average of 20% opacity, pursuant to Air Quality Regulations.

- ☐ 16-1 Use water to control dust when cutting materials.
- ☐ 16-2 Use a vacuum to collect dust when cutting materials.

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SCREENING — BMP 17

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT.
PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: If using a powered screen, obtain the appropriate Operating Permit for powered screens prior to engaging in screening activity. Comply with permit conditions.

Requirement: Drop material through the screen slowly and minimize drop height.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 17-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 17-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Pre-treat material prior to screening.

- ☐ 17-3 Apply sufficient water to obtain at least 70% optimum moisture in material prior to screening.
- ☐ 17-4 Apply a dust suppressant to material prior to screening.

Requirement: Stabilize material during screening.

- ☐ 17-5 Dedicate water truck or large hose to screening operation and apply water as needed to prevent dust.
- ☐ 17-6 Apply water to material as it is being dropped through the screen.
- ☐ 17-7 Install wind barrier upwind of screen as high as the screen drop point and made of material with a porosity of 50% or less.

Requirement: Stabilize material and surrounding area immediately after screening.

- ☐ 17-8 Apply water to stabilize screened material and surrounding area after screening.
- ☐ 17-9 Apply and maintain a dust palliative to stabilize screened material and surrounding area after screening.

See also: BMP 19: STOCKPILING

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STAGING AREAS — BMP 18

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible dust opacity from vehicular operations.

- ☐ 18-1 Limit vehicle speeds to 15 mph in the staging area and on all unpaved access routes.
- ☐ 18-2 Apply and maintain dust suppressant on all vehicle traffic areas in the staging areas and unpaved access routes.

Requirement: Stabilize staging area soils during use.

- ☐ 18-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 18-4 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will be operated.

Requirement: Stabilize staging area soils at project completion.

- ☐ 18-5 Apply a dust palliative.
- ☐ 18-6 Apply screened or washed Type II aggregate.
- ☐ 18-7 Use wind breaks in accordance with a site-specific plan approved by the Control Officer and Region IX Administrator of the EPA.
- ☐ 18-8 Pave with thin paving.
- ☐ 18-9 Completed project will cover staging area with buildings, paving, and/or landscaping.
- ☐ 18-10 Apply water to form adequate crust and prevent access.

Recommendations: Limit size of staging areas.

Limit ingress and egress points.

See also: BMP 20: TRACKOUT PREVENTION AND CLEANUP

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STOCKPILING — BMP 19

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: To the extent possible, maintain stockpile to avoid steep sides or faces.

Requirement: Stockpile location and height must be maintained pursuant to Air Quality Regulations. Stockpiles located within 100 yards of occupied buildings must not be constructed over 8 feet in height.

- ☐ 19-1 Stockpiles will not be constructed over 8 feet in height.
- ☐ 19-2 Stockpiles will be constructed over 8 feet high and must have a road bladed to the top to allow water truck access or must have a sprinkler irrigation system installed, used and maintained

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- ☐ 19-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- ☐ 19-4 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize stockpile materials during handling.

- ☐ 19-5 Maintain stockpile materials with at least 70% optimum moisture content.
- ☐ 19-6 Remove material from the downwind side of the stockpile, when safe to do so.

Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.

- ☐ 19-7 **L & ML:** Apply water during stacking, loading and unloading operations.
- ☐ 19-8 **MH:** Apply a water and tackifier mixture during stacking, loading and unloading operations.
- ☐ 19-9 **H:** Apply a water and surfactant mixture during stacking, loading and unloading operations.

(Continued on next page)

Requirement: Stabilize stockpiles at completion of activity.

- ☐ 19-10 Water stockpiles to form a crust immediately at the completion of activity.
- ☐ 19-11 Apply and maintain a dust palliative to all outer surfaces of the stockpiles.
- ☐ 19-12 Provide and maintain wind barriers on 3 sides of the pile, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and made of material with a porosity of 50% or less.
- ☐ 19-13 Apply a cover or screen to stockpiles.

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TRACKOUT PREVENTION AND CLEANUP — BMP 20

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: In soils that have a PEP classification of "High", pave construction activities roadways as early as possible.

Requirement: Use of soil to create a ramp for vehicle access over a curb is prohibited.

Requirement: Trackout conditions, including preventive and corrective measures, must be recorded daily for every day that the construction project access is used by vehicles.

- [x] 20-1 Record soil conditions and dust control actions in daily project records.

Requirement: Prevent dust from trackout.

- [ ] 20-2 Immediately clean trackout from paved surfaces to maintain dust control. Trackout must not extend 50 feet or more.
- [ ] 20-3 Maintain dust control during working hours and clean trackout from paved surfaces at the end of the work shift/day. Trackout must not extend 50 feet or more and must be cleaned daily, at minimum.

Requirement: Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect.

- [ ] 20-4 Install gravel pad(s) consisting of 1" to 3" rough diameter, clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness.
- [ ] 20-5 Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness.
- [ ] 20-6 Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness.
- [ ] 20-7 Install wheel shakers in the event that trackout cannot be controlled with gravel pads.
- [ ] 20-8 Install wheel washer in the event that trackout cannot be controlled with gravel pads and wheel shakers.
- [ ] 20-9 Motorized vehicles will only operate on paved surfaces.

(Continued on next page)

Requirement: All exiting traffic must be routed over selected trackout control device(s).

- ☐ 20-10 Clearly establish and enforce traffic patterns to route traffic over selected trackout control device(s).
- ☐ 20-11 Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.

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TRAFFIC – Unpaved Routes and Parking Areas BMP 21

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Limit visible dust opacity from vehicular operations.

- ☐ 21-1 Limit vehicle speeds to 15 mph on all unpaved routes and parking areas.
- ☐ 21-2 Apply and maintain dust palliative on all vehicle travel areas.

Requirement: Stabilize all haul routes.

- ☐ 21-3 Apply water to haul routes and maintain in a stabilized condition.
- ☐ 21-4 Apply a dust palliative to haul routes and maintain in a stabilized condition.
- ☐ 21-5 Apply gravel to haul routes and maintain in a stabilized condition.
- ☐ 21-6 Supplement dust palliative or aggregate applications with watering, if necessary.

Requirement: Stabilize all off-road and parking areas.

- ☐ 21-7 Apply water to off-road traffic and parking areas and maintain in a stabilized condition.
- ☐ 21-8 Apply gravel to off-road traffic and parking areas and maintain in a stabilized condition.
- ☐ 21-9 Apply recycled asphalt (or other suitable material) to off-road traffic and parking areas and maintain in a stabilized condition.
- ☐ 21-10 Apply and maintain a dust palliative (designed for vehicle traffic) to off-road traffic and parking areas and maintain in a stabilized condition.

Recommendations: Use of bumps or dips for speed control is encouraged.

Apply paving as soon as possible to all future roadway areas for PEP categories other than “High”.

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TRENCHING BMP 22

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Stabilize surface soils where trenching equipment, support equipment and vehicles will operate.

- ☐ 22-1 Pre-water and maintain surface soils in a stabilized condition where trenching equipment, support equipment and vehicles will operate.
- ☐ 22-2 Apply and maintain a dust palliative to surface soils where trenching equipment, support equipment and vehicles will operate.

Requirement: Presoak soils prior to trenching activities.

- ☐ 22-3 Pre-water surface, pre-trench to 18” depth, soak soils via pre-trench prior to deep trenching.
- ☐ 22-4 **L & ML:** Presoak soil with water using sprinklers or wobblers.
- ☐ 22-5 **L & ML:** Presoak with water, using water truck and/or water pull.
- ☐ 22-6 **MH:** Presoak soil with a water and tackifier mixture using water pulls and/or water trucks.
- ☐ 22-7 **MH:** Presoak soil with a water and tackifier mixture using sprinklers or wobblers.
- ☐ 22-8 **H:** Presoak soil with a water and surfactant mixture using water pulls and/or water trucks.
- ☐ 22-9 **H:** Presoak soil with a water and surfactant mixture using sprinklers or wobblers.

Requirement: Stabilize soil during trenching activities.

- ☐ 22-10 **L & ML:** Complete trenching with a dedicated water truck or large hose maintaining water as needed to prevent dust.
- ☐ 22-11 **L & ML:** Use spray nozzles mounted on trenching machine.
- ☐ 22-12 **MH:** Complete trenching with a dedicated water truck or large hose maintaining a water and tackifier mixture as needed to prevent dust.
- ☐ 22-13 **H:** Complete trenching with a dedicated water truck or large hose maintaining a water and surfactant mixture as needed to prevent dust.

(Continued on next page)

Requirement: Stabilize soils at the completion of trenching activities.

- ☐ 22-14 Use water to form crust on excavated soil windrow as it is formed.
- ☐ 22-15 Use dust palliative to form crust on excavated soil windrow as it is formed.

Recommendations: Wash mud and soil from equipment at completion of trench to prevent crusting and drying of soil on equipment.

See also: BMP 01: BACKFILLING, if applicable.

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TRUCK LOADING — BMP 23

YOU MUST SELECT AT LEAST ONE CONTROL MEASURE FOR EACH REQUIREMENT. PLACE A CHECK IN THE BOX IN FRONT OF YOUR SELECTION.

Requirement: Ensure all loads are covered prior to leaving the construction site and traveling on public roadways.

Requirement: Stabilize surface soils where loaders, support equipment and vehicles will operate.

- ☐ 23-1 Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate.
- ☐ 23-2 Apply and maintain a dust palliative on surface soils where loaders, support equipment and vehicles will operate.

Requirement: Stabilize material during loading.

- ☑ 23-3 Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

Note: You must selected 23-3 if PEP is greater than LOW, in addition one of the following must be selected.

- ☐ 23-4 **L & ML:** Mix material with water prior to loading.
- ☐ 23-5 **L & ML:** Spray material with water while loading.
- ☐ 23-6 **MH:** Mix material with a water and tackifier mixture prior to loading.
- ☐ 23-7 **MH:** Spray material with a water and tackifier mixture while loading.
- ☐ 23-8 **H:** Mix material with a water and surfactant mixture prior to loading.
- ☐ 23-9 **H:** Spray material with a water and surfactant mixture while loading.

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CLARK COUNTY
DEPARTMENT OF AIR QUALITY &
ENVIRONMENTAL MANAGEMENT
500 S. Grand Central Pkwy. P.O. Box 551776, Las Vegas Nevada 89155-1776
Office (702) 455-5942 · Fax (702) 383-9994

BLASTING SUPPLEMENTAL

Each blasting contractor working under a Dust Control Permit must complete a separate Blasting Supplemental Form and submit applicable fees prescribed in Section 18 of the Air Quality Regulations.

1. PERMIT INFORMATION:

Permit Number:_____

Applicant/Permittee:_____

Project Name:_____

Project Address/Location:_____

2. BLASTING CONTRACTOR INFORMATION:

Blasting Company:_____

Address:_____

Contact Person:_____

Phone #:_____ Cellular #:_____ Fax #:_____

3. BLASTING DETAILS:

Attach selected Control Measures for BMP 03: BLASTING - Soil and Rock.

Monitor and record weather conditions using a suitable source such as the website http://www.wrh.noaa.gov/Lasvegas/, Las Vegas Weather - Local Forecast.

Duration of Blasting:_____ Start Date:_____ Finish Date:_____

Hours during which blasting will occur: _____a.m. to _____p.m.
(Hours other than 8:00 a.m. through 4:00 p.m., Monday through Friday, excluding holidays, require Control Officers prior review and approval.)

Description of material to be blasted:_____

Total number of acres to be blasted:_____acres Depth:_____

Distance: To nearest residence:_____ To commercial facility:_____

Have nearby residents been informed? ☐ Yes ☐ No

4. SUBMITTED BY:

Name:_____ Title:_____

Company Name:_____

Signature:_____ Date:_____

Print this Page Back

CLARK COUNTY
DEPARTMENT OF AIR QUALITY &
ENVIRONMENTAL MANAGEMENT
500 S. Grand Central Pkwy. P.O. Box 551776, Las Vegas Nevada 89155-1776
Office (702) 455-5942 · Fax (702) 383-9994

DEMOLITION SUPPLEMENTAL

NESHAP notifications must be submitted with renovation/demolition applications regardless of age and/or size of the building.

Permit Number: _____
(If known, otherwise to be completed by DAQEM)

1. PERMIT INFORMATION:

Applicant/Permittee: _____

Project Name: _____

Project Address/Location: _____

2. DEMOLITION CONTRACTOR:

Company Name: _____ Responsible Person: _____

Address: _____

Phone #: _____ Cellular #: _____ FAX #: _____

3. DEMOLITION INFORMATION:

Describe demolition to take place: _____

Size of building: _____ ft^2 Date of building construction: _____

Total Number of buildings on site: _____ Number of buildings to be demolished: _____

4. **BEFORE A DUST CONTROL PERMIT CAN BE ISSUED ON SITES REQUIRING AN ASBESTOS SURVEY, THE FOLLOWING IS REQUIRED:**

A. If Regulated Asbestos Containing Material (RACM) is present, a NESHAP notification must be submitted to DAQEM and an Asbestos Waste Certificate must be issued before the asbestos can be removed and disposed.

B. Once the RACM has been abated, submit a final clearance letter from a certified asbestos consultant along with a copy of the license of the individual that cleared the site.

C. Has Asbestos Waste Certificate been received from DAQEM?

No: ☐ Yes: ☐, Certificate #: _____

5. SUBMITTED BY:

Name: _____ Title: _____

Company Name: _____

Signature: _____ Date: _____

Print this Page **Back**

Protecting the air we share

Air Quality

OWNER'S DESIGNEE FORM
DUST CONTROL PERMIT for CONSTRUCTION ACTIVITIES

An Excavation / Encroachment / Offsite permit for government owned land may be submitted in lieu of this form.

1. **DESIGNEE INFORMATION:**

   Applicant/Permittee:_____

   Project Name:_____

2. **PROPERTY OWNER INFORMATION:**

   ☐ Property Owner ☐ Easement / Right of Way Holder

   Name:_____

   Address:_____

   City:_____ State:_____ ZIP:_____

   Phone:_____ Ext:_____ Fax:_____

I certify that the property owner and/or easement/right-of-way holder has given me permission to act as the Designee and to act on his/her behalf in all matters regarding the issuance, modification, closure and all requirements of the DUST CONTROL PERMIT for Construction Activities. I understand that I am responsible for dust control on the property listed on this application until such time that the permit is closed in accordance with Air Quality Regulations. I have completed the Dust Control Class or will complete the Class, no later than thirty (30) days from today's date. Furthermore, I understand that I am responsible for ensuring the contractor(s), subcontractor(s), and all other persons associated with the Project comply with the "Conditions of Permit" and "Dust Mitigation Plan".

I declare under penalty of perjury that the foregoing is true and correct.

Executed on:

_____ _____

Date Applicants/Permittee Signature

_____ _____

Printed Name Title and Company

Print this Page Back

FIGURE 4: VALLEY SOIL TYPES MAP
Las Vegas Valley

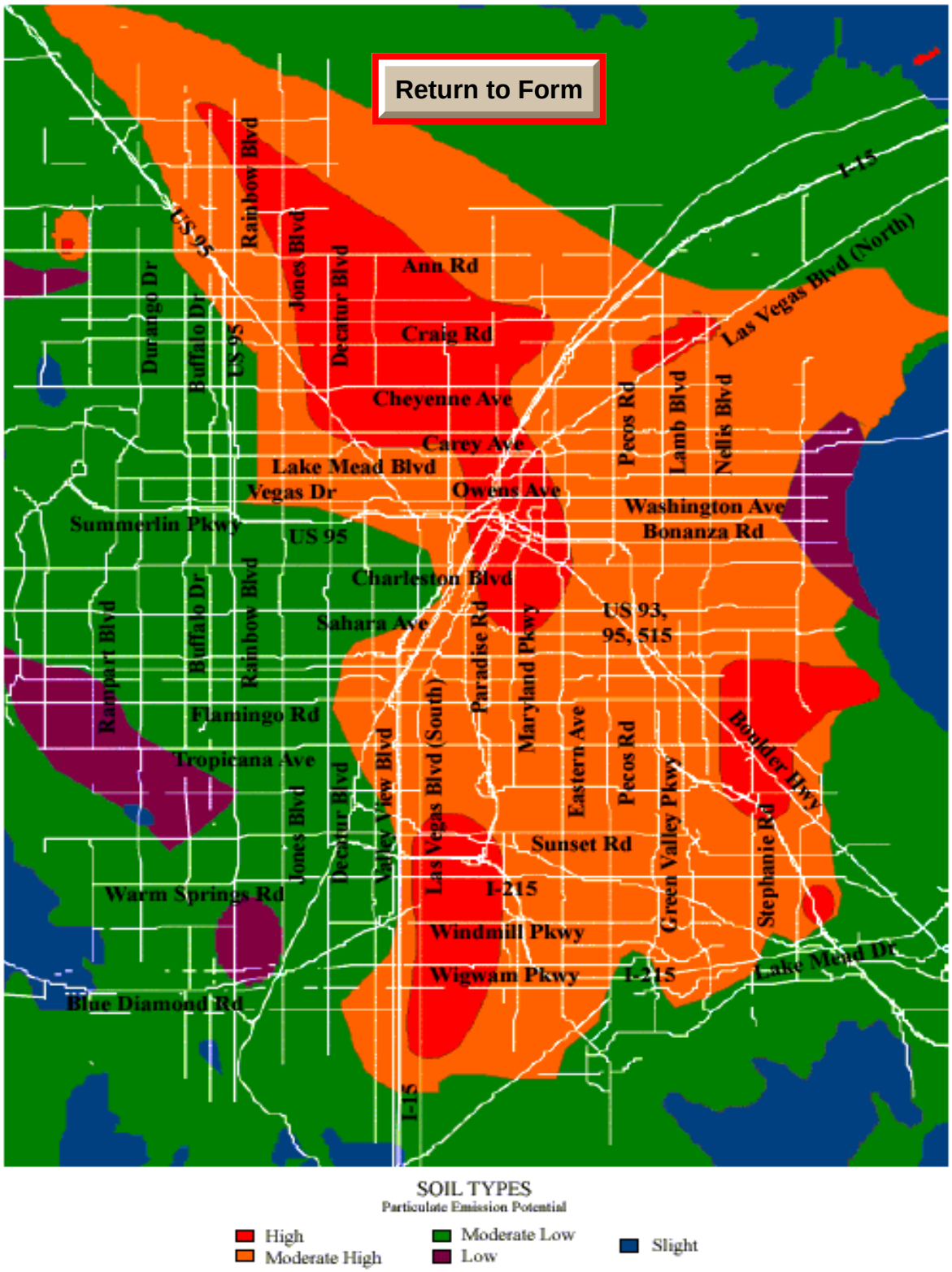
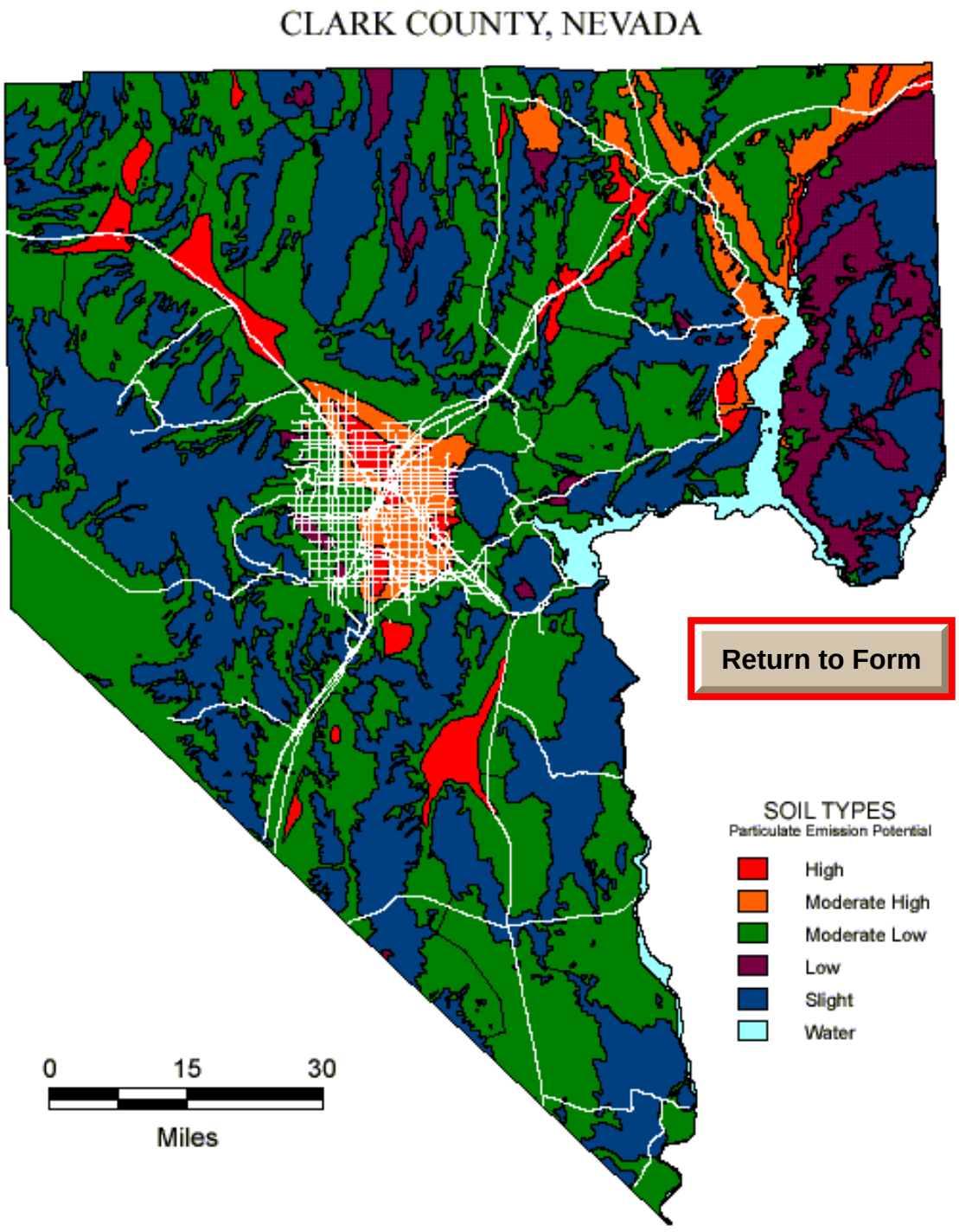


FIGURE 3: COUNTY SOIL TYPES MAP



CLARK COUNTY DEPARTMENT OF AIR QUALITY AND ENVIRONMENTAL MANAGEMENT
500 S. Grand Central Pkwy
P.O. Box 555210
Las Vegas, Nevada 89155-5210
Phone: (702) 455-5942 FAX: (702) 455-1537 or 383-9994

Demolition Notification Form

DNF No.: _____

GENERAL INSTRUCTIONS: This Demolition Notification Form is to be completed and submitted before a building or structure is to be demolished. **NOTE: If the building or structure contains friable asbestos-containing materials, the NESHAP Notification of Asbestos Abatement Form (ASB01) must be completed and submitted to the Department of Air Quality Management. This Demolition Form will not be accepted for reporting the removal or encapsulation of friable asbestos-containing materials from buildings or structures scheduled for demolition.** This form is to be received by the Department of Air Quality Management no less than 10 working days before the demolition project is scheduled to start. Any notification that is incomplete or any notification indicating site activities to be in violation of applicable regulations will be considered an invalid notification.

Separate notifications must be provided for each building or other individual facility where demolition of said building or facility is to be demolished. Additional copies of this form should be reproduced as needed.

Under most circumstances, the removal of Category I non-friable asbestos-containing materials will not be required prior to demolition unless the building is to be burned or the materials are in poor condition or will be handled in a manner that renders them friable. Category II non-friable asbestos-containing materials must be removed prior to demolition if the materials would be subject to crushing, crumbling, or pulverizing during the process of demolition of the building or structure.

Mail the **original**, **signed** and **completed** form to:

Department of Air Quality Management
Asbestos Program
500 South Grand Central Parkway
P.O. Box 555210
Las Vegas, Nevada 89155-5210
(702) 455-5942

PART A AUTHENTICATION

I hereby certify that, to the best of my knowledge and understanding, the information provided is complete, true and correct.

Print or Type Name: _____ Title: _____

Signature: _____ Date: _____

Name of Firm: _____

Telephone No.: _____ Fax No.: _____

PART B PROJECT DESCRIPTION

Building/Structure Owner: _____

Owner Address: Street: _____

City: _____ State: _____ Zip: _____

Owner Contact - Name: _____ Telephone No.: _____ Fax No.: _____

Building Address - Street: _____ City: _____

Present Use: _____ Age of Building: _____

Building Floor Space (sq ft): _____ No. of Floors: _____

Scheduled Demolition: Start Date: ____/____/____ Completion Date: ____/____/____

Describe how building will be demolished: _____

_____

PART C **INSPECTION INFORMATION**

Was an inspection for asbestos conducted for this project? _____ Yes _____ No

If yes, provide the following information:

Inspector Name: _____ Date Inspected: _____

Address: _____ City: _____ State: _____

Telephone No.: _____ Fax No.:_____

Accreditation By:_____ Exp. Date:_____

Provide method used to detect the presence of asbestos material, including analytical method: _____

_____

PART D **DEMOLITION CONTRACTOR INFORMATION**

Contractor:_____

Address:_____

City:_____ State:_____ Zip:_____

Contact:_____ Telephone No.: _____ Fax No.: _____

Procedures to be used if unexpected asbestos is discovered during demolition:

_____

_____

PART E **IDENTIFIED ASBESTOS-CONTAINING MATERIALS (remaining in building during demo)**

Nonfriable Category I: _____s.f. _____l.f. _____c.yd.

Nonfriable Category II: _____s.f. _____l.f. _____c.yd.

If Category II asbestos containing materials are present, briefly state the work practices intended to ensure these materials do not become friable (i.e. crushed, crumbled or pulverized).

_____

_____

Is the building or structure to be burned? _____ Yes _____ No

NOTE: All asbestos-containing materials must be removed prior to burning.

Was demolition ordered by a Local Government because the structure is structurally unsafe and in danger of imminent collapse? _____ Yes _____ No If yes, order issued by _____ Date_____

NOTE: Attach a copy of the Order.

PART F **WASTE DISPOSAL**

Disposal Site:_____

Location: City:_____ County: _____ State:_____

Waste Transporter:_____

Address:_____

Phone No.:_____ Fax No.:_____

CLARK COUNTY DEPARTMENT OF AIR QUALITY AND ENVIRONMENTAL MANAGEMENT

ASBESTOS NESHAP
NOTIFICATION OF ASBESTOS ABATEMENT

PROJECT NOTIFICATION FEES

An asbestos contractor intending to engage in an asbestos abatement project in Clark County, Nevada is required to submit a Notification Form (via U. S. Postal Service, commercial delivery, or hand delivery), which must be received by the Air Quality Department 10 working days before beginning any on-site work at the asbestos abatement project.

No project notification form is complete until the project notification fee is received by the Division. Please submit only the notification fee at this time. Permit inspection fees (required under Section 18) will be invoiced as inspections occur. Effective each spring, the notification fee shall be adjusted according to the relative percent change from the previous calendar year in the Urban Consumer Price Index (CPI-U) per Subsection 18.21.

$602.00 For each project with RACM: **1. FRIABLE ACM, 2. CATEGORY I NONFRIABLE ACM THAT HAS BECOME FRIABLE, 3. CATEGORY I NONFRIABLE ACM THAT WILL BE OR HAS BEEN SUBJECTED TO SANDING, GRINDING, CUTTING OR ABRADING, 4. CATEGORY II NONFRIABLE ACM THAT HAS A HIGH PROBABILITY OF BECOMING OR HAS BECOME CRUMBLED, PULVERIZED, OR REDUCED TO POWDER BY FORCES EXPECTED DURING DEMOLITION OR RENOVATION** in quantities equal to or greater than 260 linear feet, 160 square feet, or 35 cubic feet.

$0.00 For each project with **FRIABLE ACM OR NONFRIABLE ACM** in quantities less than 260 linear feet, 160 square feet, or 35 cubic feet. This notification form is required to be submitted to Air Quality Management.

$0.00 For each renovation or demolition project with **no ACM** based on a thorough survey of the structure(s). Please use the **Demolition Notification Form** (ASB02) to notify the Air Quality Department of demolition of structures with no ACM. This form is also required to be submitted for all demolitions.

$0.00 For each renovation or demolition project for private residences not meeting the definition of facility.

GENERAL INFORMATION AND INSTRUCTIONS

SURVEY REQUIREMENTS: ***Asbestos surveys are required to be performed for any building undergoing renovation and/or demolition***. There is no age restriction on the building. For implosions and buildings used for fire training purposes, all friable and non-friable asbestos containing materials must be removed from the structure.

NOTIFICATION REQUIREMENTS: Notifications where no asbestos is present in the structure but where demolition will occur must be submitted 10 working days prior to demolition. In those cases where a 1000 square foot building or larger will be demolished, the notification form can be submitted with the dust control permit application.

Original notifications for asbestos regulated jobs must be submitted to the Clark County Department of Air Quality and Environmental Management (DAQEM), P.O. Box 555210, Las Vegas, NV 89155-5210 at least 10 working days prior to beginning any on-site work at the asbestos abatement project. This notification can be via U. S. Postal Service, commercial delivery, or hand delivery. Fax copies are not acceptable for regulated projects.

Regulated projects must also comply with the specifications and notification requirements of the Clark County Fire Department, City of Las Vegas Fire Department, Nevada OSHA and the Southern Nevada Health District.

Notifications for non-regulated jobs must be submitted as soon as possible prior to the start of the project, but not after the project is complete. Fax copies of these notifications are acceptable.

Notifications for planned, renovation operations (e.g. routine maintenance for very small amounts of material) involving individual nonscheduled operations at a facility throughout a calendar year must be submitted at least 10 working days before the end of the calendar year preceding the year for which the notification is for.

All other notifications for demolition or renovation must be submitted at least 10 working days prior to beginning work.

Fill out the notification form completely regardless whether the project is regulated or not.

FEE REQUIREMENTS:

Notifications for regulated projects under the NESHAP must be accompanied by a $602 fee. Notifications submitted without the fee will be deemed incomplete and will not be processed. There is no fee for projects containing less than the EPA threshold amount of RACM, for demolition or renovation of structures with no asbestos containing materials, or for private residences not meeting the definition of facility. Projects conducted without valid notification are subject to enforcement action.

Other fees for weekly inspections and post-abatement inspections will be invoiced to the company. Do not pay these fees upfront.

CANCELLATION:

If a project has been cancelled, the company must notify DAQEM by fax or mail by using the original notification form by placing a “C” (for “cancelled”) under “Type of Notification” (Section 1). Any fee paid may be refunded, but the company must request that this be done and should do so when the revised notification is sent. The fee cannot be applied to the next regulated project.

REVISIONS:

Note the revision number on the form, along with the waste certificate number (if received). Note any other revisions, e.g. if the start and stop dates changes, the amount of RACM changes by at least 20%, or if

contacts or numbers change. A fax copy of the revised notification is acceptable.

EMERGENCY NOTIFICATIONS: These are for immediate asbestos removals due to unsafe conditions, such as fire, site contamination, flooding, or equipment breakdowns. For emergency removals, submit a letter on official or company letterhead from the person or agency authorizing the emergency work. For ordered demolitions, provide a copy of the order with the notification. A building that has not been secured and is experiencing vagrancy problems is not considered an emergency. The owner/operator of the building is responsible for providing for the security of the building. Fax copies of the NESHAP Notification Form are acceptable for Emergencies and Ordered Demolitions.

INSTRUCTIONS FOR THE NESHAP NOTIFICATION FORM

Please print or type all information. Fill in all numbered sections on the form. Use N/A ("not applicable") where appropriate.

Section 1 Type of Notification: Enter O if this is an original notification, R1 if this is the first revision, R2 if a second revision, and so forth. Enter C if the project has been cancelled. For revisions, enter the waste certificate number (if received).

Section 2 Facility Information: Include the owner's name, address, and appropriate contact person. A telephone and fax number must be entered.

Include the abatement removal contractor's name, address, and appropriate contact person. A telephone and fax number must be entered.

Include the other operator/consultant. This is the third party consultant hired by the facility owner. Fill in all blanks.

Section 3 Type of Operation: Enter D if the notification is for a simple demolition (the taking out of a load-supporting structural member or intentional burning) of a building or structure, otherwise enter R for renovation. Enter Planned, Nonscheduled Renovations (PNR) for the small (less than EPA regulated amounts) renovation (maintenance) jobs expected to be conducted on an annual basis. Note the calendar year for which the annual notification is made. The notification for planned, non-scheduled renovations must be submitted at least 10 working days before the end of the calendar year preceding the year for which notice is being given.

Section 4 Asbestos Present? Self explanatory. If no asbestos was found, complete Sections 5,10, and 18 and attach the survey results to the notification and submit to the DAQM. If the structure(s) is/are to be demolished, a Demolition Notification Form (ASB02) must be submitted at least 10 working days prior to demolition.

Section 5 Facility Description: Self explanatory. Note the complete address including the zip code. Attach a separate sheet if there are multiple addresses or parcel numbers with the type and amount of ACM noted for each address. If a business was run out of a private residence, this must be noted. Condominiums and apartments are public buildings. Rental properties (e.g. private homes, mobile homes and trailers) are commercial businesses. Mobile homes and trailers used for offices are commercial businesses. Attach a location map to the notification. For any facility (especially large facilities such as hotels/casinos), designate the specific location(s) where abatement will occur).

Section 6 Detection Procedure: Describe the analytical methods or knowledge used to determine the presence of RACM and Category I and II non-friable ACM. PLM = Polarized Light Microscopy; PCM = Phase Contrast Microscopy; TEM =

Transmission Electron Microscopy; X-Ray Diffraction; bulk sampling, or process knowledge.

Section 7 Amount of Asbestos: Enter the amount of RACM to be removed in the appropriate box, under the appropriate type. Estimate the amount of Category I and II non-friable asbestos containing materials in the affected part of the facility that will be removed as well as that which will not be removed before demolition. If the amount of RACM changes by at least 20%, revision of the notification form is required. If a number of buildings are to be demolished in a phase, note addresses of each, type and amount of ACM of each, on a separate attachment.

Section 8 Dates of Abatement: Enter the actual start and end dates. The start date is the day of initial setup, e.g. delivery of supplies on site.

Section 9 Hours of Operation: Enter the expected hours of abatement removal operations. Note a.m. or p.m.

Section 10 Dates of Demolition: Enter the expected dates of actual demolition.

Section 11 Description of Demo or Reno and Methods To Be Used: Describe how demolition will be performed and the specific methods/techniques to be used for renovation. Describe the affected facility components.

Section 12 Description of Work Practices and Engineering Controls to Prevent Emissions: Describe in detail the work practices and engineering controls for the project. Note the specific methods/techniques to be used in the asbestos abatement (e.g. pry bars, saws {note type, e.g. reciprocating}, power plows/slicers, other power tools, hammers, axes, dry ice, solvents, brushes, infrared machines, shot blasters, etc.). Include the emission control procedures for asbestos removal and waste handling. Include the number of negative air machines expected to be used. Include how/where the waste will be handled and stored if not taken directly to the landfill. Do not simply repeat the same information for each notification as each project is different.

Section 13 Waste Transporter: Self explanatory. All blanks must be filled in.

Section 14 Waste Disposal Site: Self explanatory. All information is required to be provided. Once the NESHAP Notification is deemed complete, an Asbestos Waste Certificate is issued from the Clark County Department of Air Quality and Environmental Management to the removal contractor, so the ACWM can be disposed of at the Apex Landfill.

Section 15 Ordered Demolition: Provide all information requested for the state or local agency representative who has ordered the demolition. Attach a copy of the order to the notification.

Section 16 Emergency Renos: For emergency removals, submit a letter on official or company letterhead from the person or agency authorizing the emergency work. Provide a description of the sudden, unexpected event and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden. Provide the date and hour that the emergency occurred – month, day year (e.g. 8/21/01 – 14:30 hrs).

Section 17 Procedures to Be Followed in Case Unexpected RACM is Found, or Cat. I or II ACM Becomes Friable: Describe in detail how unexpected RACM would be handled, or if Category I or II ACM becomes crumbled, pulverized or reduced to powder.

Section 18 Certification: Ensure all information is complete and accurate prior to signing the form. *Notifications must be signed by the contractor doing the work, or its authorized company representative.*

CLARK COUNTY DEPARTMENT OF AIR QUALITY AND ENVIRONMENTAL MANAGEMENT

ASBESTOS NESHAP
NOTIFICATION OF ASBESTOS ABATEMENT

Attn: NESHAP Notification Coordinator, Clark County Department of Air Quality and Environmental Management
500 S. Grand Central Parkway, P. O. Box 555210, Las Vegas, NV 89155-5210 Telephone: (702) 455-5942 FAX: (702) 383-9994

Operator Project #:_____ Waste Certificate #:_____

1. Type of Notification:_____ O=Original R=Revised C=Cancelled

2. Facility Information:
   Owner: _____
   Address: _____
   _____
   _____

   Contact Person:_____Tel:_____FAX:_____

   Removal Contractor: _____
   Address: _____
   _____
   _____

   Contact Person:_____Tel:_____FAX:_____

   Other Operator/Consultant:_____
   Address: _____
   _____
   _____

   Contact Person:_____Tel:_____FAX:_____

3. Type of Operation:_____ D=Demolition, R=Renovation, E=Emergency Reno, O=Ordered Demo, PNR = Planned, nonscheduled renovations (annual), Year: _____

4. Is Asbestos present? _____Yes _____No If no, submit survey results and complete sections 5, 10, and 18 (Certification).

   Description of ACM type and nature:

_____
_____
_____
_____
_____

5. Facility Description:_____
Building name: _____
County: _____
Site address/zip code: _____
Work location:_____
Building size:_____ # of floors:_____ Age in years:_____
Present use:_____
Prior use (e.g. home office, office, manufacturing):_____

6. Procedure Used to Detect Presence of ACM:_____

7. Approximate Amount of Asbestos:

	Amount RACM To Be Removed	Amount Non-friable ACM To Be Removed			Amount Non-friable ACM To Remain	
		Category I (e.g. gaskets, packings, resilient floor coverings, asphalt roofing products)	Category II (e.g. cement siding, transite shingles/pipes)		Category I	Category II
Pipes (linear ft)						
Surface Area (square ft)						
Volume RACM off components (cubic ft)						

Note: this notice must be revised if the amount of RACM changes by 20%.

8. Scheduled Dates of Asbestos Abatement/Removal:

Start:_____ Stop:_____

9. Expected Hours of Abatement Operation: Begin:_____a.m./p.m. End:_____a.m./p.m.

10. Scheduled Dates of Actual Demolition/Renovation:

Start:_____ Stop:_____

11. Description of Planned Demo or Renovation, and Method(s) To Be Used (e.g. hand/non-mechanical methods, dozer, wrecking ball, excavator)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

12. Description of Work Practices and Engineering Controls to Prevent Emissions (power tools, mastic solvents, critical barriers, full containment, glovebag, wet methods, decontamination, # of negative air machines, etc.):

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

13. Waste Transporter: _____
Address: _____
_____
_____

Contact Person:_____Tel:_____FAX:_____

14. Waste Disposal Site:_____
Address: _____
_____
_____

Contact Person:_____Tel:_____FAX:_____

15. If Demolition Ordered by a Government Agency, Identify Below. Please attach a copy of the order.
Agency:_____
Address:_____
_____
_____

Contact Person:_____Tel:_____FAX:_____

16. For Emergency Renovations: (submit a letter from the person or agency authorizing the emergency work.)
Date and Hour of Emergency (MM/DD/YY – HH:MM)

_____

Description of the sudden UNEXPECTED event:

_____

_____
Explanation of how the event caused unsafe conditions:

_____

_____

17. Description of Procedures to be followed in the event that unexpected asbestos is found or previously non-friable asbestos material becomes crumbled, pulverized or reduced to a powder.

_____
_____
_____
_____
_____
_____
_____
_____

CERTIFICATION

18. I certify that an individual trained in the provisions of this regulation (40 CFR 61 Subpart M) will be on site during the demolition or renovation and have evidence that the required training has been accomplished. This person will be available for inspection during normal business hours.

I certify that the information (contained in sections #1 through #18) on this form is current and correct.

Signature:_____ **Date:** _____

Printed Name:_____

Joelle Dickson

From: Rob Saunders [rsaunder@ndep.nv.gov]
Sent: Tuesday, December 02, 2008 3:10 PM
To: Joelle Dickson
Subject: Application requirements for a temporary permit for construction dewatering
Attachments: temp-pmt.pdf

Joelle Dickson
Sage Environmental
(801)322-2050
jdickson@sage-env.com

Joelle

As we discussed, the subject application requirements are as follows.

1. form - attached (also on the web site)
2. $250 fee
3. water analyses:

8015 ORO DRO & GRO ranges, 0.5 mg/l RLs
8260 full range report all parameters, 0.5 ug/l RLs
metals: antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, copper, fluoride, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, zinc, and hardness as calcium carbonate. Analyses shall be for total metals.

4. Narrative description of planned procedures including BMPs for sediment and erosion control as needed.

Please let me know if you have any questions.

Rob

Robert J Saunders
Staff Engineer
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
901 S Stewart St Ste 4001
Carson City NV 89701-5249
phone: (775)687-9437
fax (775)687-4684
email: rsaunder@ndep.nv.gov
web: http://ndep.nv.gov

LIST OF REQUIREMENTS FOR TEMPORARY PERMIT APPLICATION

A temporary permit may be issued for a maximum of a 180 day (6 month) period of time, pursuant to NRS 445A.485, after which time the discharge shall cease or the discharger shall have applied for and received a Permanent Discharge Permit. A $250.00 fee is due at the time of application.

I. Owner Information

Name: _____
Address: _____
City: _____ **County:** _____
State: _____ **Zip Code:** _____
Telephone Number: (____) _____ **Fax Number:** (____) _____
Contact Person: _____

II. Facility/Site Information

Facility Name: _____
Facility Address: _____
City: _____ **County:** _____
State: _____ **Zip Code:** _____
Telephone Number: (____) _____ **Fax Number:** (____) _____
Contact Person: _____

Latitude: _____ **Longitude:** _____
Township: _____ **Range:** _____
Section: _____

III. Receiving Water Name

If the discharge enters a separate storm water drainage or other system, please provide the following information:

a. The name of the owner of the drainage
b. The name of the receiving water into which the drainage system discharges; and
c. A copy of the permit, license, or equivalent written approval granted by the owner of the system for such a discharge or connection to the system

IV. A narrative description of the site & activities that require the discharge permit. Describe any treatment system and/or Best Management Practices to be used at the facility.

V. Water Quality Analysis (must use a Nevada State Certified Lab) to include the potential contaminants/pollutants in the discharge.

VI. Quantity of discharge: Flow (gallons per day) _____

VII. Attach a topographic map and a site map showing the location of the potential discharge and a line drawing showing the general route taken by water in the facility from intake to discharge.

VIII. Existing Environmental Permits

NPDES Permit (Discharges to Surface Water) _____
NEV Permit (Discharges to Ground Water) _____

IX. I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete, and accurate.

_____ _____
Printed Name of Person Signing Title

_____ _____
Signature of Applicant Date Application Signed

LIST OF REQUIREMENTS FOR A TEMPORARY PERMIT APPLICATION

/\

A temporary permit is issued for a maximum of a 180 day (6 month) period of time, after which time the discharge shall cease or the discharger shall have applied for and received a Permanent Discharge Permit.

A. A narrative description of the site to include the following items if they apply to the discharge:
  a. the type of contamination and source,
  b. the type of treatment system to be installed,
  c. the location and address of the site,
  d. the discharge point and conveyance,
  e. the Latitude and Longitude

B. A topographic map with the site delineated and the discharge point outlined.

C. Water Quality Analysis (must use a Nevada State Certified Lab) to include the contaminants/pollutants in the discharge.

D. The estimated flow rate in GPM for each discharge point and total for the site.

E. A copy of the Letter of Authorization or Encroachment permit authorizing the discharge to the conveyance from the City or the County with jurisdiction over the land use.

F. FEES: $250.00 for a Temporary Permit to discharge, and

5/2000

APPENDIX J
URBEMIS Air Emissions Data

3/25/2009 2:53:40 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: S:\SAGE\Projects\FAA\McCarran Airport ATCT EA\Air Quality\Las Vegas ATCT.urb924

Project Name: Las Vegas ATCT

Project Location: Kern County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	0.10	0.85	0.48	0.00	0.20	0.04	0.24	0.04	0.04	0.08	91.21
2010 TOTALS (tons/year mitigated)	0.10	0.85	0.48	0.00	0.08	0.02	0.10	0.02	0.01	0.03	91.21
Percent Reduction	0.00	0.00	0.00	0.00	59.04	65.48	60.22	58.95	65.52	62.21	0.00
2011 TOTALS (tons/year unmitigated)	0.54	4.06	2.85	0.00	0.00	0.24	0.25	0.00	0.22	0.22	608.37
2011 TOTALS (tons/year mitigated)	0.54	4.06	2.85	0.00	0.00	0.20	0.20	0.00	0.18	0.18	608.37
Percent Reduction	0.00	0.00	0.00	0.00	0.00	18.64	18.27	0.00	18.67	18.52	0.00
2012 TOTALS (tons/year unmitigated)	1.33	1.85	1.38	0.00	0.00	0.11	0.11	0.00	0.10	0.10	300.80
2012 TOTALS (tons/year mitigated)	1.22	1.85	1.38	0.00	0.00	0.09	0.09	0.00	0.08	0.08	300.80
Percent Reduction	8.08	0.00	0.00	0.00	0.00	20.85	20.39	0.00	20.88	20.70	0.00
2015 TOTALS (tons/year unmitigated)	0.06	0.46	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02	71.44

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2015 TOTALS (tons/year mitigated)	0.06	0.46	0.33	0.00	0.00	0.01	0.01	0.00	0.01	0.01	71.44
Percent Reduction	0.00	0.00	0.00	0.00	0.00	54.97	54.23	0.00	55.03	54.73	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.13	0.12	0.24	0.00	0.00	0.00	146.25

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.04	4.85	23.31	0.02	1.50	0.40	1,856.74

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.17	4.97	23.55	0.02	1.50	0.40	2,002.99

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2010	0.10	0.85	0.48	0.00	0.20	0.04	0.24	0.04	0.04	0.08	91.21
Mass Grading 10/04/2010-11/01/2010	0.03	0.26	0.14	0.00	0.13	0.01	0.15	0.03	0.01	0.04	24.72
Mass Grading Dust	0.00	0.00	0.00	0.00	0.13	0.00	0.13	0.03	0.00	0.03	0.00
Mass Grading Off Road Diesel	0.03	0.26	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	23.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Fine Grading 11/01/2010-11/15/2010	0.02	0.14	0.08	0.00	0.06	0.01	0.07	0.01	0.01	0.02	13.30
Fine Grading Dust	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.02	0.14	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
Trenching 11/11/2010-12/15/2010	0.03	0.22	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	22.77
Trenching Off Road Diesel	0.03	0.22	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	21.43
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Building 12/15/2010-06/22/2012	0.03	0.22	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	30.42
Building Off Road Diesel	0.03	0.21	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	24.90
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
Building Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45
2011	0.54	4.06	2.85	0.00	0.00	0.24	0.25	0.00	0.22	0.22	608.37
Building 12/15/2010-06/22/2012	0.54	4.06	2.85	0.00	0.00	0.24	0.25	0.00	0.22	0.22	608.37
Building Off Road Diesel	0.50	3.92	1.85	0.00	0.00	0.23	0.23	0.00	0.21	0.21	498.09
Building Vendor Trips	0.01	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.30
Building Worker Trips	0.03	0.04	0.90	0.00	0.00	0.00	0.01	0.00	0.00	0.00	88.98

2012	1.33	1.85	1.38	0.00	0.00	0.11	0.11	0.00	0.10	0.10	300.80
Building 12/15/2010-06/22/2012	0.24	1.79	1.31	0.00	0.00	0.10	0.11	0.00	0.10	0.10	292.51
Building Off Road Diesel	0.23	1.73	0.87	0.00	0.00	0.10	0.10	0.00	0.09	0.09	239.47
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.24
Building Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.81
Asphalt 05/07/2012-05/21/2012	0.01	0.06	0.05	0.00	0.00	0.01	0.01	0.00	0.00	0.00	6.95
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.01	0.01	0.00	0.00	0.00	5.39
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03
Coating 05/22/2012-06/22/2012	1.07	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Architectural Coating	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
2015	0.06	0.46	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02	71.44
Demolition 03/02/2015-07/01/2015	0.06	0.46	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02	71.44
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.06	0.46	0.28	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.37
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.07

Phase Assumptions

Phase: Demolition 3/2/2015 - 7/1/2015 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

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Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 11/1/2010 - 11/15/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 0.9

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 22 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 16.09

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 10/4/2010 - 11/1/2010 - Default Mass Site Grading Description

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 0.9

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 30.2 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/11/2010 - 12/15/2010 - Default Trenching Description
Off-Road Equipment:
2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 5/7/2012 - 5/21/2012 - Default Paving Description
Acres to be Paved: 0.9
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 12/15/2010 - 6/22/2012 - Default Building Construction Description
Off-Road Equipment:
3 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
1 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Architectural Coating 5/22/2012 - 6/22/2012 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130
Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	0.10	0.85	0.48	0.00	0.08	0.02	0.10	0.02	0.01	0.03	91.21
Mass Grading 10/04/2010-11/01/2010	0.03	0.26	0.14	0.00	0.05	0.00	0.06	0.01	0.00	0.01	24.72
Mass Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Mass Grading Off Road Diesel	0.03	0.26	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.60
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Fine Grading 11/01/2010-11/15/2010	0.02	0.14	0.08	0.00	0.03	0.00	0.03	0.01	0.00	0.01	13.30
Fine Grading Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.02	0.14	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
Trenching 11/11/2010-12/15/2010	0.03	0.22	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.77
Trenching Off Road Diesel	0.03	0.22	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.43
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Building 12/15/2010-06/22/2012	0.03	0.22	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	30.42
Building Off Road Diesel	0.03	0.21	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	24.90
Building Vendor Trips	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
Building Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45

2011	0.54	4.06	2.85	0.00	0.00	0.20	0.20	0.00	0.18	0.18	608.37
Building 12/15/2010-06/22/2012	0.54	4.06	2.85	0.00	0.00	0.20	0.20	0.00	0.18	0.18	608.37
Building Off Road Diesel	0.50	3.92	1.85	0.00	0.00	0.19	0.19	0.00	0.17	0.17	498.09
Building Vendor Trips	0.01	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.30
Building Worker Trips	0.03	0.04	0.90	0.00	0.00	0.00	0.01	0.00	0.00	0.00	88.98
2012	1.22	1.85	1.38	0.00	0.00	0.09	0.09	0.00	0.08	0.08	300.80
Building 12/15/2010-06/22/2012	0.24	1.79	1.31	0.00	0.00	0.09	0.09	0.00	0.08	0.08	292.51
Building Off Road Diesel	0.23	1.73	0.87	0.00	0.00	0.08	0.08	0.00	0.08	0.08	239.47
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.24
Building Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.81
Asphalt 05/07/2012-05/21/2012	0.01	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.95
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.06	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.39
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03
Coating 05/22/2012-06/22/2012	0.96	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Architectural Coating	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34

2015	0.06	0.46	0.33	0.00	0.00	0.01	0.01	0.00	0.01	0.01	71.44
Demolition 03/02/2015-07/01/2015	0.06	0.46	0.33	0.00	0.00	0.01	0.01	0.00	0.01	0.01	71.44
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.06	0.46	0.28	0.00	0.00	0.01	0.01	0.00	0.01	0.01	64.37
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.07

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 3/2/2015 - 7/1/2015 - Default Demolition Description

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Fine Grading 11/1/2010 - 11/15/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Mass Grading 10/4/2010 - 11/1/2010 - Default Mass Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Trenching 11/11/2010 - 12/15/2010 - Default Trenching Description

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Other General Industrial Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 5/7/2012 - 5/21/2012 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Building Construction 12/15/2010 - 6/22/2012 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Bore/Drill Rigs, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Architectural Coating 5/22/2012 - 6/22/2012 - Default Architectural Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.12	0.10	0.00	0.00	0.00	146.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.00						
Architectural Coatings	0.11						
TOTALS (tons/year, unmitigated)	0.13	0.12	0.24	0.00	0.00	0.00	146.25

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General office building	2.04	4.85	23.31	0.02	1.50	0.40	1,856.74
TOTALS (tons/year, unmitigated)	2.04	4.85	23.31	0.02	1.50	0.40	1,856.74

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General office building		11.01	1000 sq ft	100.00	1,101.00	8,920.85
					1,101.00	8,920.85

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.6	1.5	98.2	0.3
Light Truck < 3750 lbs	11.9	3.4	89.0	7.6
Light Truck 3751-5750 lbs	20.3	1.5	98.0	0.5
Med Truck 5751-8500 lbs	12.0	0.8	99.2	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.9	0.0	72.4	27.6
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	40.0	60.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	5.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.4	68.2	31.8	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.3	7.7	76.9	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General office building				35.0	17.5	47.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

Ambient winter temperature changed from 40 degrees F to 50 degrees F

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: S:\SAGE\Projects\FAA\McCarran Airport ATCT EA\Air Quality\Las Vegas ATCT.urb924

Project Name: Las Vegas ATCT

Project Location: Kern County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	6.50	51.82	32.20	0.01	24.17	2.84	26.70	5.05	2.61	7.37	6,500.83
2010 TOTALS (lbs/day mitigated)	6.50	51.82	32.20	0.01	9.88	1.72	10.28	2.07	1.58	2.43	6,500.83
2011 TOTALS (lbs/day unmitigated)	4.13	31.24	21.89	0.01	0.04	1.85	1.89	0.01	1.70	1.71	4,679.76
2011 TOTALS (lbs/day mitigated)	4.13	31.24	21.89	0.01	0.04	1.50	1.54	0.01	1.38	1.39	4,679.76
2012 TOTALS (lbs/day unmitigated)	93.18	39.93	29.84	0.01	0.05	2.62	2.67	0.02	2.40	2.42	5,944.38
2012 TOTALS (lbs/day mitigated)	84.26	39.93	29.84	0.01	0.05	1.54	1.59	0.02	1.42	1.44	5,944.38
2015 TOTALS (lbs/day unmitigated)	1.42	10.55	7.39	0.00	0.01	0.55	0.55	0.00	0.50	0.51	1,623.70
2015 TOTALS (lbs/day mitigated)	1.42	10.55	7.39	0.00	0.01	0.25	0.25	0.00	0.23	0.23	1,623.70

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.76	0.69	2.11	0.00	0.01	0.01	802.81

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	11.19	23.94	130.27	0.11	8.22	2.19	10,647.06

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	11.95	24.63	132.38	0.11	8.23	2.20	11,449.87

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/4/2010-10/29/2010 Active Days: 20	3.04	25.05	13.64	0.00	12.57	1.25	13.82	2.63	1.15	3.78	2,354.20
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	12.57	1.25	13.82	2.63	1.15	3.78	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	12.56	0.00	12.56	2.62	0.00	2.62	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

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Time Slice 11/1/2010-11/1/2010 Active Days: 1	6.11	50.56	27.45	0.00	**24.17**	2.52	**26.70**	**5.05**	2.32	**7.37**	4,773.19
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	11.60	0.00	11.60	2.42	0.00	2.42	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	12.57	1.25	13.82	2.63	1.15	3.78	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	12.56	0.00	12.56	2.62	0.00	2.62	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/2/2010-11/10/2010 Active Days: 7	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	11.60	0.00	11.60	2.42	0.00	2.42	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 11/11/2010-11/15/2010 Active Days: 3	5.17	43.26	23.21	0.00	11.61	2.15	13.76	2.43	1.98	4.40	4,240.51
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	11.60	0.00	11.60	2.42	0.00	2.42	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/16/2010-12/14/2010 Active Days: 21	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 12/15/2010-12/15/2010 Active Days: 1	6.50	**51.82**	**32.20**	0.01	0.04	**2.84**	2.89	0.02	**2.61**	2.63	**6,500.83**
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.97	2.00	0.01	1.81	1.82	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.91	1.91	0.00	1.76	1.76	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 12/16/2010-12/31/2010 Active Days: 12	4.40	34.08	22.81	0.01	0.04	1.97	2.00	0.01	1.81	1.82	4,679.31
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.97	2.00	0.01	1.81	1.82	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.91	1.91	0.00	1.76	1.76	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Time Slice 1/3/2011-12/30/2011 Active Days: 260	4.13	31.24	21.89	0.01	0.04	1.85	1.89	0.01	1.70	1.71	4,679.76
Building 12/15/2010-06/22/2012	4.13	31.24	21.89	0.01	0.04	1.85	1.89	0.01	1.70	1.71	4,679.76
Building Off Road Diesel	3.85	30.13	14.19	0.00	0.00	1.80	1.80	0.00	1.65	1.65	3,831.46
Building Vendor Trips	0.07	0.77	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.82
Building Worker Trips	0.21	0.33	6.95	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.47
Time Slice 1/2/2012-5/4/2012 Active Days: 90	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90

Time Slice 5/7/2012-5/21/2012 Active Days: 11	5.92	39.93	29.84	**0.01**	0.05	2.62	2.67	0.02	2.40	2.42	5,944.38
Asphalt 05/07/2012-05/21/2012	2.03	11.31	8.81	0.00	0.01	0.94	0.95	0.00	0.86	0.87	1,264.15
Paving Off-Gas	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.72	10.64	6.84	0.00	0.00	0.91	0.91	0.00	0.84	0.84	979.23
Paving On Road Diesel	0.04	0.59	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	97.65
Paving Worker Trips	0.05	0.08	1.74	0.00	0.01	0.01	0.01	0.00	0.00	0.01	187.28
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Time Slice 5/22/2012-6/22/2012 Active Days: 24	**93.18**	28.67	22.07	0.01	0.04	1.68	1.72	0.02	1.54	1.56	4,791.70
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Coating 05/22/2012-06/22/2012	89.29	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47
Architectural Coating	89.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47

Time Slice 3/2/2015-7/1/2015 Active Days: 88	1.42	10.55	7.39	0.00	0.01	0.55	0.55	0.00	0.50	0.51	1,623.70
Demolition 03/02/2015-07/01/2015	1.42	10.55	7.39	0.00	0.01	0.55	0.55	0.00	0.50	0.51	1,623.70
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	1.39	10.50	6.25	0.00	0.00	0.54	0.54	0.00	0.50	0.50	1,462.92
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.03	0.05	1.14	0.00	0.01	0.00	0.01	0.00	0.00	0.01	160.78

Phase Assumptions

Phase: Demolition 3/2/2015 - 7/1/2015 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 11/1/2010 - 11/15/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 0.9

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 22 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 16.09

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 10/4/2010 - 11/1/2010 - Default Mass Site Grading Description

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 0.9

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 30.2 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/11/2010 - 12/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 5/7/2012 - 5/21/2012 - Default Paving Description

Acres to be Paved: 0.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 12/15/2010 - 6/22/2012 - Default Building Construction Description

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Off-Road Equipment:

3 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

1 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Architectural Coating 5/22/2012 - 6/22/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/4/2010-10/29/2010 Active Days: 20	3.04	25.05	13.64	0.00	5.14	0.19	5.33	1.07	0.17	1.25	2,354.20
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	5.14	0.19	5.33	1.07	0.17	1.25	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	5.13	0.00	5.13	1.07	0.00	1.07	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 11/1/2010-11/1/2010 Active Days: 1	6.11	50.56	27.45	0.00	9.88	0.40	10.28	2.07	0.37	2.43	4,773.19
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	4.74	0.00	4.74	0.99	0.00	0.99	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	5.14	0.19	5.33	1.07	0.17	1.25	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	5.13	0.00	5.13	1.07	0.00	1.07	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/2/2010-11/10/2010 Active Days: 7	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	4.74	0.00	4.74	0.99	0.00	0.99	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 11/11/2010-11/15/2010 Active Days: 3	5.17	43.26	23.21	0.00	4.75	0.34	5.09	0.99	0.32	1.31	4,240.51
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	4.74	0.00	4.74	0.99	0.00	0.99	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/16/2010-12/14/2010 Active Days: 21	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 12/15/2010-12/15/2010 Active Days: 1	6.50	**51.82**	**32.20**	0.01	0.04	1.72	1.77	0.02	1.58	1.60	**6,500.83**
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.59	1.63	0.01	1.46	1.47	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.53	1.53	0.00	1.41	1.41	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 12/16/2010-12/31/2010 Active Days: 12	4.40	34.08	22.81	0.01	0.04	1.59	1.63	0.01	1.46	1.47	4,679.31
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.59	1.63	0.01	1.46	1.47	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.53	1.53	0.00	1.41	1.41	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Time Slice 1/3/2011-12/30/2011 Active Days: 260	4.13	31.24	21.89	0.01	0.04	1.50	1.54	0.01	1.38	1.39	4,679.76
Building 12/15/2010-06/22/2012	4.13	31.24	21.89	0.01	0.04	1.50	1.54	0.01	1.38	1.39	4,679.76
Building Off Road Diesel	3.85	30.13	14.19	0.00	0.00	1.45	1.45	0.00	1.34	1.34	3,831.46
Building Vendor Trips	0.07	0.77	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.82
Building Worker Trips	0.21	0.33	6.95	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.47
Time Slice 1/2/2012-5/4/2012 Active Days: 90	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.33	1.33	0.00	1.22	1.22	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90

Time Slice 5/7/2012-5/21/2012 Active Days: 11	5.92	39.93	29.84	**0.01**	0.05	1.54	1.59	0.02	1.42	1.44	5,944.38
Asphalt 05/07/2012-05/21/2012	2.03	11.31	8.81	0.00	0.01	0.17	0.18	0.00	0.15	0.16	1,264.15
Paving Off-Gas	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.72	10.64	6.84	0.00	0.00	0.14	0.14	0.00	0.13	0.13	979.23
Paving On Road Diesel	0.04	0.59	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	97.65
Paving Worker Trips	0.05	0.08	1.74	0.00	0.01	0.01	0.01	0.00	0.00	0.01	187.28
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.33	1.33	0.00	1.22	1.22	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Time Slice 5/22/2012-6/22/2012 Active Days: 24	84.26	28.67	22.07	0.01	0.04	1.38	1.42	0.02	1.27	1.28	4,791.70
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.33	1.33	0.00	1.22	1.22	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Coating 05/22/2012-06/22/2012	80.36	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47
Architectural Coating	80.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47

Time Slice 3/2/2015-7/1/2015 Active Days: 88	1.42	10.55	7.39	0.00	0.01	0.25	0.25	0.00	0.23	0.23	1,623.70
Demolition 03/02/2015-07/01/2015	1.42	10.55	7.39	0.00	0.01	0.25	0.25	0.00	0.23	0.23	1,623.70
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	1.39	10.50	6.25	0.00	0.00	0.24	0.24	0.00	0.22	0.22	1,462.92
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.03	0.05	1.14	0.00	0.01	0.00	0.01	0.00	0.00	0.01	160.78

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 3/2/2015 - 7/1/2015 - Default Demolition Description

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Fine Grading 11/1/2010 - 11/15/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Mass Grading 10/4/2010 - 11/1/2010 - Default Mass Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Trenching 11/11/2010 - 12/15/2010 - Default Trenching Description

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Other General Industrial Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 5/7/2012 - 5/21/2012 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Building Construction 12/15/2010 - 6/22/2012 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Bore/Drill Rigs, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Architectural Coating 5/22/2012 - 6/22/2012 - Default Architectural Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.67	0.56	0.00	0.00	0.00	800.00
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.59						
TOTALS (lbs/day, unmitigated)	0.76	0.69	2.11	0.00	0.01	0.01	802.81

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General office building	11.19	23.94	130.27	0.11	8.22	2.19	10,647.06
TOTALS (lbs/day, unmitigated)	11.19	23.94	130.27	0.11	8.22	2.19	10,647.06

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 90 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General office building		11.01	1000 sq ft	100.00	1,101.00	8,920.85
					1,101.00	8,920.85

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.6	1.5	98.2	0.3
Light Truck < 3750 lbs	11.9	3.4	89.0	7.6
Light Truck 3751-5750 lbs	20.3	1.5	98.0	0.5
Med Truck 5751-8500 lbs	12.0	0.8	99.2	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.9	0.0	72.4	27.6
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	40.0	60.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	5.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.4	68.2	31.8	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.3	7.7	76.9	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General office building				35.0	17.5	47.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

Ambient winter temperature changed from 40 degrees F to 50 degrees F

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: S:\SAGE\Projects\FAA\McCarran Airport ATCT EA\Air Quality\Las Vegas ATCT.urb924

Project Name: Las Vegas ATCT

Project Location: Kern County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	6.50	51.82	32.20	0.01	24.17	2.84	26.70	5.05	2.61	7.37	6,500.83
2010 TOTALS (lbs/day mitigated)	6.50	51.82	32.20	0.01	9.88	1.72	10.28	2.07	1.58	2.43	6,500.83
2011 TOTALS (lbs/day unmitigated)	4.13	31.24	21.89	0.01	0.04	1.85	1.89	0.01	1.70	1.71	4,679.76
2011 TOTALS (lbs/day mitigated)	4.13	31.24	21.89	0.01	0.04	1.50	1.54	0.01	1.38	1.39	4,679.76
2012 TOTALS (lbs/day unmitigated)	93.18	39.93	29.84	0.01	0.05	2.62	2.67	0.02	2.40	2.42	5,944.38
2012 TOTALS (lbs/day mitigated)	84.26	39.93	29.84	0.01	0.05	1.54	1.59	0.02	1.42	1.44	5,944.38
2015 TOTALS (lbs/day unmitigated)	1.42	10.55	7.39	0.00	0.01	0.55	0.55	0.00	0.50	0.51	1,623.70
2015 TOTALS (lbs/day mitigated)	1.42	10.55	7.39	0.00	0.01	0.25	0.25	0.00	0.23	0.23	1,623.70

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.64	0.67	0.56	0.00	0.00	0.00	800.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	11.19	31.88	122.57	0.09	8.22	2.19	9,227.58

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	11.83	32.55	123.13	0.09	8.22	2.19	10,027.58

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/4/2010-10/29/2010 Active Days: 20	3.04	25.05	13.64	0.00	12.57	1.25	13.82	2.63	1.15	3.78	2,354.20
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	12.57	1.25	13.82	2.63	1.15	3.78	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	12.56	0.00	12.56	2.62	0.00	2.62	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

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Time Slice 11/1/2010-11/1/2010 Active Days: 1	6.11	50.56	27.45	0.00	**24.17**	2.52	**26.70**	**5.05**	2.32	**7.37**	4,773.19
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	11.60	0.00	11.60	2.42	0.00	2.42	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	12.57	1.25	13.82	2.63	1.15	3.78	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	12.56	0.00	12.56	2.62	0.00	2.62	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/2/2010-11/10/2010 Active Days: 7	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	11.60	0.00	11.60	2.42	0.00	2.42	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

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Time Slice 11/11/2010-11/15/2010 Active Days: 3	5.17	43.26	23.21	0.00	11.61	2.15	13.76	2.43	1.98	4.40	4,240.51
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	11.60	1.27	12.87	2.42	1.17	3.59	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	11.60	0.00	11.60	2.42	0.00	2.42	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	1.25	1.25	0.00	1.15	1.15	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/16/2010-12/14/2010 Active Days: 21	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 12/15/2010-12/15/2010 Active Days: 1	6.50	**51.82**	**32.20**	0.01	0.04	**2.84**	2.89	0.02	**2.61**	2.63	**6,500.83**
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.97	2.00	0.01	1.81	1.82	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.91	1.91	0.00	1.76	1.76	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 12/16/2010-12/31/2010 Active Days: 12	4.40	34.08	22.81	0.01	0.04	1.97	2.00	0.01	1.81	1.82	4,679.31
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.97	2.00	0.01	1.81	1.82	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.91	1.91	0.00	1.76	1.76	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Time Slice 1/3/2011-12/30/2011 Active Days: 260	4.13	31.24	21.89	0.01	0.04	1.85	1.89	0.01	1.70	1.71	4,679.76
Building 12/15/2010-06/22/2012	4.13	31.24	21.89	0.01	0.04	1.85	1.89	0.01	1.70	1.71	4,679.76
Building Off Road Diesel	3.85	30.13	14.19	0.00	0.00	1.80	1.80	0.00	1.65	1.65	3,831.46
Building Vendor Trips	0.07	0.77	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.82
Building Worker Trips	0.21	0.33	6.95	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.47
Time Slice 1/2/2012-5/4/2012 Active Days: 90	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90

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Time Slice 5/7/2012-5/21/2012 Active Days: 11	5.92	39.93	29.84	**0.01**	0.05	2.62	2.67	0.02	2.40	2.42	5,944.38
Asphalt 05/07/2012-05/21/2012	2.03	11.31	8.81	0.00	0.01	0.94	0.95	0.00	0.86	0.87	1,264.15
Paving Off-Gas	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.72	10.64	6.84	0.00	0.00	0.91	0.91	0.00	0.84	0.84	979.23
Paving On Road Diesel	0.04	0.59	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	97.65
Paving Worker Trips	0.05	0.08	1.74	0.00	0.01	0.01	0.01	0.00	0.00	0.01	187.28
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Time Slice 5/22/2012-6/22/2012 Active Days: 24	**93.18**	28.67	22.07	0.01	0.04	1.68	1.72	0.02	1.54	1.56	4,791.70
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.68	1.71	0.01	1.54	1.55	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Coating 05/22/2012-06/22/2012	89.29	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47
Architectural Coating	89.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47

Time Slice 3/2/2015-7/1/2015 Active Days: 88	1.42	10.55	7.39	0.00	0.01	0.55	0.55	0.00	0.50	0.51	1,623.70
Demolition 03/02/2015-07/01/2015	1.42	10.55	7.39	0.00	0.01	0.55	0.55	0.00	0.50	0.51	1,623.70
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	1.39	10.50	6.25	0.00	0.00	0.54	0.54	0.00	0.50	0.50	1,462.92
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.03	0.05	1.14	0.00	0.01	0.00	0.01	0.00	0.00	0.01	160.78

Phase Assumptions

Phase: Demolition 3/2/2015 - 7/1/2015 - Default Demolition Description

Building Volume Total (cubic feet): 0

Building Volume Daily (cubic feet): 0

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

1 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 11/1/2010 - 11/15/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 0.9

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 22 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 16.09

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 10/4/2010 - 11/1/2010 - Default Mass Site Grading Description

Total Acres Disturbed: 3.6

Maximum Daily Acreage Disturbed: 0.9

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 30.2 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/11/2010 - 12/15/2010 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 5/7/2012 - 5/21/2012 - Default Paving Description

Acres to be Paved: 0.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 12/15/2010 - 6/22/2012 - Default Building Construction Description

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Off-Road Equipment:

3 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

1 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Architectural Coating 5/22/2012 - 6/22/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 130

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/4/2010-10/29/2010 Active Days: 20	3.04	25.05	13.64	0.00	5.14	0.19	5.33	1.07	0.17	1.25	2,354.20
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	5.14	0.19	5.33	1.07	0.17	1.25	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	5.13	0.00	5.13	1.07	0.00	1.07	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 11/1/2010-11/1/2010 Active Days: 1	6.11	50.56	27.45	0.00	9.88	0.40	10.28	2.07	0.37	2.43	4,773.19
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	4.74	0.00	4.74	0.99	0.00	0.99	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Mass Grading 10/04/2010-11/01/2010	3.04	25.05	13.64	0.00	5.14	0.19	5.33	1.07	0.17	1.25	2,354.20
Mass Grading Dust	0.00	0.00	0.00	0.00	5.13	0.00	5.13	1.07	0.00	1.07	0.00
Mass Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/2/2010-11/10/2010 Active Days: 7	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	4.74	0.00	4.74	0.99	0.00	0.99	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 11/11/2010-11/15/2010 Active Days: 3	5.17	43.26	23.21	0.00	4.75	0.34	5.09	0.99	0.32	1.31	4,240.51
Fine Grading 11/01/2010-11/15/2010	3.07	25.52	13.81	0.00	4.74	0.21	4.95	0.99	0.19	1.18	2,418.98
Fine Grading Dust	0.00	0.00	0.00	0.00	4.74	0.00	4.74	0.99	0.00	0.99	0.00
Fine Grading Off Road Diesel	3.00	24.99	12.46	0.00	0.00	0.19	0.19	0.00	0.17	0.17	2,247.32
Fine Grading On Road Diesel	0.03	0.47	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	64.78
Fine Grading Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 11/16/2010-12/14/2010 Active Days: 21	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88
Time Slice 12/15/2010-12/15/2010 Active Days: 1	6.50	**51.82**	**32.20**	0.01	0.04	1.72	1.77	0.02	1.58	1.60	**6,500.83**
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.59	1.63	0.01	1.46	1.47	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.53	1.53	0.00	1.41	1.41	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Trenching 11/11/2010-12/15/2010	2.09	17.75	9.40	0.00	0.00	0.13	0.14	0.00	0.12	0.13	1,821.52
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,714.64
Trenching Worker Trips	0.04	0.06	1.18	0.00	0.00	0.00	0.01	0.00	0.00	0.00	106.88

Time Slice 12/16/2010-12/31/2010 Active Days: 12	4.40	34.08	22.81	0.01	0.04	1.59	1.63	0.01	1.46	1.47	4,679.31
Building 12/15/2010-06/22/2012	4.40	34.08	22.81	0.01	0.04	1.59	1.63	0.01	1.46	1.47	4,679.31
Building Off Road Diesel	4.10	32.87	14.46	0.00	0.00	1.53	1.53	0.00	1.41	1.41	3,831.46
Building Vendor Trips	0.07	0.84	0.80	0.00	0.01	0.04	0.04	0.00	0.03	0.03	163.78
Building Worker Trips	0.23	0.36	7.55	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.06
Time Slice 1/3/2011-12/30/2011 Active Days: 260	4.13	31.24	21.89	0.01	0.04	1.50	1.54	0.01	1.38	1.39	4,679.76
Building 12/15/2010-06/22/2012	4.13	31.24	21.89	0.01	0.04	1.50	1.54	0.01	1.38	1.39	4,679.76
Building Off Road Diesel	3.85	30.13	14.19	0.00	0.00	1.45	1.45	0.00	1.34	1.34	3,831.46
Building Vendor Trips	0.07	0.77	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.82
Building Worker Trips	0.21	0.33	6.95	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.47
Time Slice 1/2/2012-5/4/2012 Active Days: 90	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.33	1.33	0.00	1.22	1.22	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90

Time Slice 5/7/2012-5/21/2012 Active Days: 11	5.92	39.93	29.84	**0.01**	0.05	1.54	1.59	0.02	1.42	1.44	5,944.38
Asphalt 05/07/2012-05/21/2012	2.03	11.31	8.81	0.00	0.01	0.17	0.18	0.00	0.15	0.16	1,264.15
Paving Off-Gas	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.72	10.64	6.84	0.00	0.00	0.14	0.14	0.00	0.13	0.13	979.23
Paving On Road Diesel	0.04	0.59	0.22	0.00	0.00	0.02	0.03	0.00	0.02	0.02	97.65
Paving Worker Trips	0.05	0.08	1.74	0.00	0.01	0.01	0.01	0.00	0.00	0.01	187.28
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.33	1.33	0.00	1.22	1.22	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Time Slice 5/22/2012-6/22/2012 Active Days: 24	84.26	28.67	22.07	0.01	0.04	1.38	1.42	0.02	1.27	1.28	4,791.70
Building 12/15/2010-06/22/2012	3.90	28.62	21.04	0.01	0.04	1.38	1.42	0.01	1.27	1.28	4,680.23
Building Off Road Diesel	3.65	27.62	13.98	0.00	0.00	1.33	1.33	0.00	1.22	1.22	3,831.46
Building Vendor Trips	0.06	0.70	0.69	0.00	0.01	0.03	0.04	0.00	0.03	0.03	163.86
Building Worker Trips	0.19	0.30	6.37	0.01	0.03	0.02	0.05	0.01	0.02	0.03	684.90
Coating 05/22/2012-06/22/2012	80.36	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47
Architectural Coating	80.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	1.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	111.47

Time Slice 3/2/2015-7/1/2015 Active Days: 88	1.42	10.55	7.39	0.00	0.01	0.25	0.25	0.00	0.23	0.23	1,623.70
Demolition 03/02/2015-07/01/2015	1.42	10.55	7.39	0.00	0.01	0.25	0.25	0.00	0.23	0.23	1,623.70
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	1.39	10.50	6.25	0.00	0.00	0.24	0.24	0.00	0.22	0.22	1,462.92
Demo On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Worker Trips	0.03	0.05	1.14	0.00	0.01	0.00	0.01	0.00	0.00	0.01	160.78

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 3/2/2015 - 7/1/2015 - Default Demolition Description

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Fine Grading 11/1/2010 - 11/15/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Mass Grading 10/4/2010 - 11/1/2010 - Default Mass Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Trenching 11/11/2010 - 12/15/2010 - Default Trenching Description

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Other General Industrial Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 5/7/2012 - 5/21/2012 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

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PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Building Construction 12/15/2010 - 6/22/2012 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Bore/Drill Rigs, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Architectural Coating 5/22/2012 - 6/22/2012 - Default Architectural Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.67	0.56	0.00	0.00	0.00	800.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.59						
TOTALS (lbs/day, unmitigated)	0.64	0.67	0.56	0.00	0.00	0.00	800.00

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General office building	11.19	31.88	122.57	0.09	8.22	2.19	9,227.58
TOTALS (lbs/day, unmitigated)	11.19	31.88	122.57	0.09	8.22	2.19	9,227.58

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 50 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General office building		11.01	1000 sq ft	100.00	1,101.00	8,920.85
					1,101.00	8,920.85

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.6	1.5	98.2	0.3
Light Truck < 3750 lbs	11.9	3.4	89.0	7.6
Light Truck 3751-5750 lbs	20.3	1.5	98.0	0.5
Med Truck 5751-8500 lbs	12.0	0.8	99.2	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.9	0.0	72.4	27.6
Lite-Heavy Truck 10,001-14,000 lbs	1.0	0.0	40.0	60.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	5.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	4.4	68.2	31.8	0.0
School Bus	0.2	0.0	0.0	100.0
Motor Home	1.3	7.7	76.9	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
General office building				35.0	17.5	47.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 90 degrees F

Ambient winter temperature changed from 40 degrees F to 50 degrees F