

Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. 109–58, 119 Stat. 594 (2005).

Sections 150.3, 150.15, 150.15a, 150.31, 150.32 also issued under Atomic Energy Act secs. 11e(2), 81, 83, 84 (42 U.S.C. 2014e(2), 2111, 2113, 2114). Section 150.14 also issued under Atomic Energy Act sec. 53 (42 U.S.C. 2073).

Section 150.15 also issued under Nuclear Waste Policy Act sec. 135 (42 U.S.C. 10155, 10161). Section 150.17a also issued under Atomic Energy Act sec. 122 (42 U.S.C. 2152). Section 150.30 also issued under Atomic Energy Act sec. 234 (42 U.S.C. 2282).

PART 160—TRESPASSING ON COMMISSION PROPERTY

- 71. Revise the authority citation for part 160 to read as follows:

Authority: Atomic Energy Act secs. 161, 229, 223, 234 (42 U.S.C. 2201, 2278a, 2273, 2282); Energy Reorganization Act sec. 201 (42 U.S.C. 5841).

PART 170—FEES FOR FACILITIES, MATERIALS IMPORT AND EXPORT LICENSES AND OTHER REGULATORY SERVICES UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

- 72. Revise the authority citation for part 170 to read as follows:

Authority: Independent Offices Appropriations Act sec. 501 (31 U.S.C. 9701); Atomic Energy Act sec. 161(w) (42 U.S.C. 2201(w)); Energy Reorganization Act sec. 201 (42 U.S.C. 5841); Chief Financial Officers Act sec. 205 (31 U.S.C. 901, 902); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act sec. 623, Energy Policy Act of 2005 sec. 651(e), Pub. L. 109–58, 119 Stat. 783 (42 U.S.C. 2201(w), 2014, 2021, 2021b, 2111).

PART 171—ANNUAL FEES FOR REACTOR LICENSES AND FUEL CYCLE LICENSES AND MATERIAL LICENSES, INCLUDING HOLDERS OF CERTIFICATES OF COMPLIANCE, REGISTRATIONS, AND QUALITY ASSURANCE PROGRAM APPROVALS AND GOVERNMENT AGENCIES LICENSED BY THE NRC

- 73. Revise the authority citation for part 171 to read as follows:

Authority: Consolidated Omnibus Budget Reconciliation Act sec. 6101 Pub. L. 99–272, as amended by sec. 5601, Pub. L. 100–203 as amended by sec. 3201, Pub. L. 101–239, as amended by sec. 6101, Pub. L. 101–508, as amended by sec. 2903a, Pub. L. 102–486 (42 U.S.C. 2213, 2214), and as amended by Title IV, Pub. L. 109–103 (42 U.S.C. 2214); Atomic Energy Act sec. 161(w), 223, 234 (42 U.S.C. 2201(w), 2273, 2282); Energy Reorganization Act sec. 201 (42 U.S.C. 5841); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act of 2005 sec. 651(e), Pub. L. 109–58 (42 U.S.C. 2014, 2021, 2021b, 2111).

Dated at Rockville, Maryland, this 27th day of June 2012.

For the Nuclear Regulatory Commission.

Cindy Bladey,

Chief, Rules, Announcements, and Directives Branch, Division of Administrative Services, Office of Administration.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 93

[Docket No. FAA–2010–0302; Amdt. No. 93–97]

RIN 2120–AJ75

The New York North Shore Helicopter Route

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action requires helicopter pilots to use the New York North Shore Helicopter Route when operating along the north shore of Long Island, New York. The North Shore Helicopter Route was added to the New York Helicopter Route Chart in 2008 and prior to this action, its use has been voluntary. The purpose of this rule is to protect and enhance public welfare by maximizing utilization of the existing route flown by helicopter traffic one mile off the north shore of Long Island and thereby reducing helicopter overflights and attendant noise disturbance over nearby communities. This rule will lapse in 2 years unless the FAA determines that a permanent rule is merited.

DATES: Effective August 6, 2012 through August 6, 2014.

ADDRESSES: For information on where to obtain copies of rulemaking documents and other information related to this final rule, see “How To Obtain Additional Information” in the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this rule contact Gary A. Norek, Airspace, Regulations and ATC Procedures Group, AJV–11, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone 202–267–8783. For legal questions concerning this rule contact Rebecca MacPherson, AGC–200, Office of Chief Counsel, Federal Aviation Administration, 800 Independence

Avenue SW., Washington, DC 20591; telephone 202–267–3073.

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA has broad authority and responsibility to regulate the operation of aircraft, the use of the navigable airspace and to establish safety standards for and regulate the certification of airmen, aircraft, and air carriers. (49 U.S.C. 40104 *et seq.*, 40103(b)). The FAA’s authority for this rule is contained in 49 U.S.C. 40103 and 44715. Under section 40103, the Administrator of the FAA has authority to “prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes) for * * * (B) protecting individuals and property on the ground. (49 U.S.C. 40103(b)(2)). In addition, section 44715(a), provides that to “relieve and protect the public health and welfare from aircraft noise,” the Administrator of the FAA, “as he deems necessary, shall prescribe * * * (ii) regulations to control and abate aircraft noise * * *”

I. Executive Summary

In response to continued concerns from a large number of local residents who are disturbed by the level of noise from helicopters operating over Long Island, the FAA adopts this final rule, as proposed, to require helicopter pilots whose route of flight takes them over the north shore of Long Island to fly the North Shore Helicopter Route. This route is based on a voluntary route that the FAA established in 2008. The route is published on the New York Helicopter Route Chart. This rule also provides that when necessary for safety, weather, or when transitioning to or from a point of landing, a pilot may deviate from the published altitudes and routes. This action is part of an on-going process to enhance public health and welfare by reducing helicopter noise for residents along the north shore of Long Island.

The FAA believes this rule is justified for several reasons. Maximizing the utilization of the existing route by making it mandatory is expected to help to further decrease levels of noise that have already been voluntarily achieved. Because the route is approximately one mile off the northern shore of Long Island and away from the residential communities on Long Island that are the source of hundreds of comments supporting the rule, it should not in itself cause any environmental harm. Other than necessary deviations or transitions, the noise from the helicopters would be over water, and there is no evidence of any significant

effect of the rule on water quality, ecological resources, or other aspects of the environment.

The rule fully addresses any safety concerns by beginning the route at a point that minimizes interaction with LaGuardia's airport traffic, and allowing deviations at the pilot's discretion for safety and weather concerns.

Since the extra distance traveled is relatively minor to get to and return from the approximately one-mile offshore route, the costs for fuel and extra time would also be minimal. In addition, no new equipment is required.

The FAA has noted five circumstances, the combination of which is likely unique to Long Island, that support using our statutory authority to move forward with a final rule.

1. Because Long Island is surrounded by water, it was possible to develop a route that took helicopters a short distance off the shoreline. Thus, the North Shore Helicopter Route does not adversely affect other communities and operators can use the route without significant additional costs.

2. There are disproportionately more multi-engine helicopters flying in Long Island than the national averages (approximately 65% versus 10–15% nationally.) This allows for greater use of the off-shore route.

3. There are visual waypoints along the route that allow pilots to fly along the route with no additional equipment during good weather.

4. The helicopter traffic along the north shore of Long Island is largely homogenous, in that it is primarily point-to-point transit between New York City and the residential communities along the northern and eastern shores of Long Island.

5. The population corridor along the north shore of Long Island is significant, and coupled with the number of airports/heliports on the island, the FAA found it reasonable to develop a route to mitigate noise impacts.

Since a voluntary route already exists, the only available remaining option to further abate this noise problem is to make the route mandatory to the extent consistent with aviation safety. In light of the minimal costs imposed and the substantial number and volume of complaints, the FAA finds that this rule is justified. However, the FAA recognizes that there may already be a high rate of compliance with the voluntary route and that it is imprudent to mandate that all helicopters follow the route under all circumstances. Accordingly, it is possible that the actual rates of compliance may not improve significantly or that noise

levels that are currently dispersed may inadvertently be concentrated as a result of the rule. Consequently, the FAA has decided to sunset the rule in 2 years in the event the agency concludes that the rule does not reduce or alleviate noise concerns or is otherwise unjustified. During the time that the rule is in effect, the FAA will continue to review and monitor the implementation of this rule and work with stakeholders to ensure that the rule addresses the problem and is otherwise justified; if not, the FAA will allow the rule to lapse at the end of 2 years. Alternatively, the FAA may amend the rule to implement meaningful changes should they be identified.

II. Background

A. Statement of the Problem

Helicopter traffic between New York City and eastern Long Island has traditionally followed one of three paths. The helicopters fly along the north shore of Long Island and then travel to the south to the intended destination; they travel across the middle of the island along the Long Island Expressway until branching off to the destination; or they travel along the south shore of Long Island and then turn inland to the final destination. Many of the helicopters take off or land in the Hamptons. There are two airports and a helipad that service the Hamptons. Other operators take off or land at one of the many other airports or heliports throughout the island. There are no airports and very few heliports along the north shore of Long Island. Accordingly, one might think that operators would prefer to travel along the south shore or along the Long Island Expressway. In fact, many operators prefer to travel along the north shore of Long Island and then travel inland to the desired landing spot. This is because this is a faster route and because at some locations, most notably the Hamptons, weather delays are common for aircraft approaching from the south.

In October 2007, Senator Charles Schumer and Representative Tim Bishop conducted a meeting with the FAA, local helicopter operators and airport proprietors to specifically address noise complaints stemming from helicopter operations along the north shore of Long Island. As a result of this meeting, the FAA designed a visual flight rules (VFR) helicopter route, the North Shore Helicopter Route, for helicopters to use when transiting the area that would reduce the noise impact of helicopter traffic on populated

areas by having these operations offshore.

The FAA published the route on the Helicopter Route Chart for New York, effective May 8, 2008. Subsequently, New York public officials advised the FAA that they continue to receive noise complaints in this area even with the voluntary North Shore Helicopter Route in place. The local FAA Flight Standards District Office has also received similar complaints.

Uniqueness of the Situation

There are a number of unique characteristics that, taken together, made development of an alternative over-water route along the north shore of Long Island appropriate and feasible and consistent with the FAA's safety mandate. First, because Long Island is surrounded by water, it was possible to develop a route that took helicopters a short distance off the shoreline. Thus, the North Shore Helicopter Route does not negatively impact other communities, and operators can use the route with minimal additional costs. Second, the fleet mix in Long Island consists of significantly more multi-engine helicopters than the national mix, allowing more operators to use the route. There are limits on the distance certain helicopters can prudently operate from shore without being equipped for overwater operation. Unlike fixed wing aircraft, helicopters are not able to glide in the event of total loss of power for any significant distance. Thus, pilots of single-engine rotorcraft not equipped for overwater operation need to operate close to shore so they can land safely in the event of a loss of power. Nationally, the vast majority (roughly between 85 and 90 percent)¹ of helicopters have only one engine. However, the FAA believes that about two-thirds of commercial helicopters flying from New York City to Long Island are multi-engine helicopters, while about one-third of the helicopters being used for this purpose have only one engine.² Thus, the need to stay close to land is less of an issue along the North Shore than it would be in other areas of the country where the number of single-engine helicopters is significantly greater. This highly

¹ A review of the Registry database indicated that approximately 90 percent of all registered helicopters have a single-engine. A review of the 2010 GA survey indicated that approximately 85 percent of the active helicopter population is single-engine. The discrepancies in the two data sets are a function of filters in the survey that are designed to focus on helicopters that are actively flown.

² See Eastern Region Helicopter Council Operations Analysis—Suffolk County, Memorial Day Weekend 2010, June 23, 2010, Docket No. FAA-2010-0302-0898.

unusual situation allows us to implement an inexpensive alternative that should effectively and safely address the considerable complaints. Third, there are visual waypoints along the route that allow pilots to fly along the route with no additional equipment during good weather. While many pilots use Global Positioning System (GPS) coordinates to track a portion of the route, they are not required to do so. Fourth, the helicopter traffic along the north shore of Long Island is largely homogenous, in that it is primarily point-to-point transit between New York City and the residential communities along the northern and eastern shores of Long Island. Unlike helicopter traffic in urban areas, where the destination points and reasons for using a helicopter diverge widely (e.g., news reporting, aerial traffic updates, as well as point-to-point transit), the nature of helicopter traffic over and along the North Shore lends itself to the development of a single route that could be used consistently. Finally, the population corridor along the north shore of Long Island is significant, and coupled with the number of airports/heliports on the island, the FAA found it reasonable to develop a route to mitigate noise impacts.

Safety Implications

In developing this route, the FAA considered the potential safety implications associated with helicopters flying in VFR conditions off the coastline and the interaction with other traffic at or above the specified minimum altitude. The route begins approximately 20 miles northeast of LaGuardia in order to minimize interaction of the traffic operating to or from that airport.

Community Involvement

The FAA, airport sponsors, state and local government, aircraft operators, and local communities all have a role to play in reducing aircraft noise. Community noise concerns about aircraft overflights are uniquely local in nature and are best resolved in a voluntary manner, at the local level, and with the participation of all affected parties. In this instance, local participation was crucial to the development of the voluntary route. Based on the number of complaints and public comments to the proposed rule, the local effort, while successful in many regards, has not fully resolved community annoyance with helicopters flying over homes in northern Long Island.

The FAA's experience with aircraft noise has shown that community flight path preferences vary significantly;

some communities prefer to concentrate noise over a particular area while others prefer to disperse the flight paths so that individual neighborhoods experience less noise overall. Thus, the FAA's policy is to respond to requests for noise abatement flight procedural changes from airport sponsors and to encourage the development of such proposals through the FAA's Airport Noise Compatibility Program established under the Aviation Safety and Noise Abatement Act of 1979.

Future Technology

While helicopter noise appears to have recently roused the greatest number of noise complaints, over time helicopters will incorporate better technology and become less noisy. The FAA is developing rules to impose more stringent noise standards for all new rotorcraft models being certificated. As these quieter aircraft are built and incorporated into the fleet, noise levels associated with helicopter operations should correspondingly decrease.³

However, these standards are not yet in place. Given the existence of a voluntary route that reduces noise to some extent, the only available remaining option to further abate this noise problem is to require utilization of the route to the extent consistent with aviation safety.

B. Summary of the NPRM

On May 26, 2010, the FAA published the NPRM titled "The New York North Shore Helicopter Route" (75 FR 29471). The FAA proposed requiring civil helicopters operating along Long Island, New York's northern shoreline to utilize the published New York North Shore Helicopter Route between the fixed waypoint Visual Point Lloyd Harbor (VPLYD) and Orient Point. Specifically, the mandatory portion of the route begins at a waypoint 20 miles northeast of LaGuardia Airport (LGA) and near Huntington, NY; remains approximately one mile offshore, extends to the eastern end of Long Island; and terminates at Orient Point, near the eastern edge of Long Island. Helicopters operating on this route would have to remain at or above 2,500 feet mean sea level (MSL). The proposal contemplated helicopter pilots would deviate from the published altitude and route under several conditions. The conditions take into consideration the wide variety of

³ Should the FAA decide against allowing the rule to sunset, we may evaluate the affected fleet as the quieter technologies are incorporated into the helicopter fleet as a whole and may reevaluate the continued need for a mandatory route if the majority of affected helicopters have the quieter engines.

helicopters, their associated performance and mission profiles, the dynamic weather environment along the route, and the pilot's responsibility to conduct safe operations at all times. The proposal also contemplated allowing operators to deviate from the route in order to reach their final destination.⁴ The comment period closed on June 25, 2010.

C. General Overview of Comments

The FAA received approximately 900 comments. Many comments were from residents, local government, citizen groups, and businesses. Slightly more than a third of the total number of commenters complained about the levels of helicopter noise that they are exposed to, particularly during the summer months. The FAA also received numerous comments from individual pilots, many of whom were opposed to the implementation of a mandatory route on principle. In addition, the agency received comments from the Aircraft Owners and Pilots Association (AOPA), the Eastern Region Helicopter Council (ERHC), the General Aviation Manufacturers Association (GAMA), the National Air Transportation Association (NATA), the National Business Aviation Association (NBAA), and United Technologies Corporation (UTC/UTFlight).

The number and tenor of the comments demonstrates affected parties at odds with each other.

On the one hand, the residents along the north shore of Long Island emphatically agreed that helicopter overflights during the summer months are unbearable and negatively impact their quality of life. They opposed any route over communities, even sparsely settled areas, and suggested the route go over the ocean. One commenter noted he had counted over 25 helicopter operations in a 2-hour period. He also said the flights started early in the morning and continued to early evening. Other commenters noted that the helicopter noise interferes with sleep, conversation, and outdoor activities. Still others complained that the helicopters fly so low that their walls vibrated.

On the other hand, helicopter operators and their associations argued that the helicopter noise levels over Long Island are not appreciable, that operators are already largely flying on the voluntary route, and that any mandated route would result in an

⁴ While the route extends to Orient Point, it is unlikely that many operators would stay on the route that long because Orient Point is located at the far eastern point of the island, well east of any significant population centers.

unacceptable imposition of cost and safety risk.

The FAA received more specific comments on the following general areas of the proposal:

- Justification for the rule,
- Safety issues,
- Route location,
- Environmental concerns,
- Procedural/miscellaneous, and
- Economic evaluation.

III. Discussion of Public Comments and Final Rule

A. Justification for the Rule

Several commenters alleged that the proposal does not have adequate factual support. Some commenters argued that according to industry measurements, compliance on the voluntary route is very high already and that mandating this route is therefore not necessary. According to data collected by ERHC after the voluntary route was implemented, roughly 85–95 percent of operators observed over multiple holiday weekends comply with the North Shore Helicopter Route.⁵ ERHC noted that it believes the noise complaints are coming from a relatively small number of households. While ERHC can demonstrate that relatively few households call its noise hotline, it cannot demonstrate these individuals are the only ones disturbed by the existing noise levels.

Other commenters stated that the lack of environmental analysis makes it impossible to determine that the rule actually addresses the concerns. ERHC and the Town of East Hampton contended that without such analysis, it is arbitrary and capricious to conclude that the route reduces noise on nearby communities.

As stated earlier, the original reason for establishing the North Shore Helicopter Route was to reduce noise from helicopter flights over communities along the north shore of Long Island by moving those flights offshore and establishing a minimum altitude. Because the route applies only to VFR flights, the FAA cannot definitively determine its current level of use. Even assuming the level of use is high, as alleged by the commenters, it is neither arbitrary nor capricious for the FAA to conclude, even without a specific noise analysis, that increasing use of the route by making it mandatory will further reduce noise impacts from helicopters operating along the north

shore of Long Island. ERHC's contention that only a small number of households object to the helicopter noise levels is called into question by the hundreds of comments the FAA received supporting the mandatory use of the offshore route and the complaints filed with local government and FAA.

No one contends that pilots are using the route 100 percent of the time, and the FAA cannot determine how long operators fly along the route (either geographically or at the specified altitudes) when they do use it. While the final rule allows operators to deviate from the route for safety (including adverse weather) or to reach their destination, the FAA is unable to determine whether operators are currently deviating for other reasons. However, based on comments to the NPRM and the continued concerns expressed by the residents' elected officials, the FAA understands that helicopter overflights continue to be a problem for the residents along the north shore of Long Island.

The FAA, with the assistance of the John A. Volpe National Transportation Systems Center (Volpe Center), analyzed data from the Performance Data Analysis and Reporting System (PDARS) to assess the noise of flight operations along the north shore of Long Island.⁶ The FAA reviewed helicopter traffic for the Memorial Day and Fourth of July weekends in the summer of 2011. That data indicated that helicopter traffic is greater on the Fridays before the long holiday weekends and on the last day of the holiday weekend than in the interim period. Based on this limited data set, as well as the assertions in the comments that the problem is greater in the summer, it is reasonable to assume that traffic is not evenly distributed throughout the year and on all days of the week. Thus, while overall cumulative noise levels may be low when averaged across the year, helicopter overflights could be more disturbing on certain days when they are experienced several times over a period of several hours or the course of a day. Maximizing the utilization of the existing route by making it mandatory

will secure and improve upon the decreased levels of noise that have been voluntarily achieved.

B. Safety Issues

ERHC objected to the over-water route because it places some helicopters beyond the autorotation performance distance needed to reach land in the event of an engine failure or other emergency.

The FAA notes that safety is its highest priority. To the extent a helicopter operator cannot safely fly along the North Shore Helicopter Route, this rule specifically allows for deviation.

The FAA recognizes the varying capabilities of helicopters, and this rule permits pilots to deviate from the rule for safety, weather, or when transitioning to or from a destination or point of landing. Under § 91.3, the pilot in command is directly responsible for and is the final authority as to the operation of that aircraft. Therefore, if flight along this route places a helicopter beyond the autorotation performance distance to the shore and the helicopter is not equipped with flotation devices, such as life jackets or helicopter floats, the pilot is permitted to deviate from the route and altitude.

AOPA stated there is no altitude discrimination between opposite direction helicopter traffic transiting the route. AOPA further stated that the FAA, at a minimum, should provide additional guidance on altitude assignments for opposite direction traffic in order to decrease the risk of a mid-air accident over Long Island.

As an initial matter, the FAA agrees that additional guidance is useful and is developing guidance that will be available before use of the route becomes mandatory. The FAA also acknowledges that opposite direction VFR traffic takes place along this route, but this is not unusual. There already are rules governing rights of way in VFR conditions, and §§ 91.113 and 91.155 are applicable to pilots operating along this route. These rules respectively address right of way rules for converging aircraft, approaching aircraft head on, overtaking aircraft, and the appropriate visibility minimums.

The FAA encourages operators to identify industry best practices and operational procedures for use on the route. The FAA also will develop a voluntary training awareness course for operators, which will include these best practices and emphasize industry's "fly neighborly" program as described on the New York Helicopter Route Chart. Most importantly, this rule provides pilots with the needed flexibility to

⁵ The FAA has not been able to independently assess the validity or reliability of these estimates. In any event, the FAA continued to receive noise complaints after implementation of the voluntary route.

⁶ The Performance Data Analysis and Reporting System (PDARS) supports the collection, archiving, and reporting of flight plan and radar track data from Air Route Traffic Control Centers, Terminal Radar Approach Control facilities, and Air Traffic Control Towers to manage aviation activity within the National Airspace System (NAS). The PDARS data analyzed by the FAA for this rule represents visual flight rule (VFR) aircraft operating in Class E and G airspace along the northern shoreline of Long Island, New York. The data represent aircraft using a transponder code indicating VFR operation and altitude.

maneuver off the route and/or altitude for weather, safety, or transition to/from a point of landing. FAA guidance on conducting operations subject to this rule will enhance pilot awareness and the safety of flights operating within the vicinity of this route. Should the level of traffic indicate an unacceptable level of safety risk, the FAA may choose to mandate separation standards for east- and westbound traffic in a subsequent rulemaking. Nothing in this rule should be construed as restricting or limiting in any way an air ambulance operator's ability to deviate from this route in order to provide emergency medical services.

ERHC argued that under the current rules, only the New York Helicopter Route Chart and New York Sectional depict the North Shore Helicopter Route, neither of which is required to be carried by pilots operating under VFR. ERHC further argued that the New York Sectional and New York Terminal Area Chart would need to be updated with the mandatory route and would need to be made mandatory for flight. ERHC asserted that the FAA would have to address the charting of the route as well as requirements to carry charts and sectionals, as no such requirements currently exist.

In accordance with § 91.103, the pilot in command is responsible before the beginning of a flight to become familiar with all information concerning the flight. Under this final rule, that responsibility includes being aware of the mandatory route when planning to fly along the north shore of Long Island. Though there is no specific requirement for pilots to carry aeronautical charts, the FAA believes that prudent pilots would carry charts, especially given the complexity and volume of air traffic in the greater New York City metropolitan area. The FAA will issue a notice to airmen (NOTAM) providing the operational requirements of this rule to augment information available to pilots.

Some commenters alleged this route would mix together VFR and instrument flight rules (IFR) aircraft. Portions of the route are located in Class E airspace where both IFR and VFR operations are conducted. However, this is not a unique situation for any Class E airspace area. Existing FAA regulations and air traffic control procedures provide for the safe integration of VFR and IFR operations. VFR pilots are responsible to see and avoid other traffic, which is how they operate today. Again, it must be emphasized that utilizing this route does not exempt pilots from this responsibility.

C. Route Location

This action requires helicopter operators to use the currently published North Shore Helicopter Route when transiting the north shore of Long Island. The mandatory portion of the route begins at VPLYD waypoint located approximately 20 miles northeast of LGA, remains approximately one mile offshore, and extends to the eastern end of Long Island, terminating at Orient Point.

Some commenters stated that the definition of the geographical boundaries of the route is insufficient and difficult to identify visually.

The FAA believes the route is sufficiently defined. A VFR route is to be flown under visual conditions. Pilotage, as defined in 14 CFR 1.1, is an acceptable means by which to conduct operations along the route. Most of the route is located just one mile off the shoreline, which provides adequate visual reference for navigation purposes. The route was developed and designed by the FAA in cooperation with local helicopter operators, many of whom according to ERHC, have been flying this route for several years. The FAA meets regularly with local helicopter operators to discuss safety and noise issues. In the four years since this route was published, the FAA is not aware of any concerns regarding navigating the route.

ERHC asserted proposed airspace changes would lower Class B dimensions and impose higher workloads on air traffic controllers and IFR traffic. ERHC further asserted that since the controllers have no ability to deny VFR operators clearance, the burden would be higher on the air traffic controllers (ATC) and IFR operators. ERHC posited that if the North Shore Helicopter Route falls within the redesigned Class B Airspace, the VFR helicopter operators would further burden ATC controllers as they would be required to receive special VFR (SVFR) clearances whenever weather minimums are less than those prescribed in the Code of Federal Regulations.

The FAA notes that while airspace changes for the New York Class B Airspace area have been under discussion for many years, there are no formal proposals under consideration to date. With respect to the ATC workload, controllers provide services on a first come, first serve basis. If necessary, controllers may direct aircraft to remain clear of the Class B airspace or to standby, or controllers may refuse traffic from other sectors. If weather conditions deteriorate to the point where a pilot

requires a SVFR clearance, the same first come first serve basis applies. The FAA notes that fixed wing SVFR operations are currently prohibited in the New York Class B Airspace Area.

Most residents and local government groups supported the over-water location of the route, and moving the helicopter traffic away from their communities by overflying the water. However, numerous commenters expressed opposition to the route, mistakenly believing the route would pass over land and therefore, bring helicopter overflights over their homes and communities. Obviously all helicopter operators planning on landing on Long Island will, at some point, have to fly inland in order to land. Were there no provision to allow operators to leave the route to transit to their destination, the likely impact on a few communities, notably those near VPLYD and Orient Point, would bear the brunt of the noise associated with the majority of helicopters flying over their communities. However, there are nine airports and 16 heliports on Long Island to the east of VPLYD. The noise associated with flying to an airport or other landing site should be dispersed among the affected communities. This is because this final rule allows pilots to deviate from the route for purposes of reaching their destination. The FAA notes that a local news article published during the comment period incorrectly placed the route over land. It is possible that some of the commenters were responding to the incorrect information contained in that news article.

ERHC also objected to the route, stating the route is difficult to navigate, and will require the purchase of helicopter charts and GPS equipment to comply with the regulation.

The NPRM did not propose any changes to the current published route, which is over water. This route was the result of many meetings and consultations between the FAA, local helicopter operators, residents, and elected officials. The FAA and the interested parties selected and agreed on the waypoints that are located near, or parallel to easily seen and identified locations along the shore. For example, VPLYD and VPJAY were chosen because of their proximity to two physically prominent locations (Lloyd Point, situated at the northern most spot on Lloyd Neck, and Old Field Point, a lighthouse location near Port Jefferson, respectively). The FAA designed the route to be over water, as it would prevent helicopter traffic from overflying residential areas. This voluntary route was charted and has been flown by helicopter operators for

several years. The FAA is not aware of any navigational or safety issues associated with the use of this route.

D. Environmental Concerns

Several commenters contended that the FAA has failed to analyze adequately the final rule's environmental consequences, as required by the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 *et seq.* ERHC alleged that without an adequate description of the proposed route, it is impossible to provide comments on whether there would be extraordinary circumstances that would preclude use of a categorical exclusion to comply with NEPA. ERHC further noted the lack of analysis to determine whether increased noise and operations over the water would affect water quality or ecological resources. Several commenters asserted that the rule would cause noise to concentrate over some communities.

The FAA's analysis of its PDAR data indicates that existing levels of helicopter noise is below levels at which homes are significantly impacted.⁷ Beyond making use of the North Shore Helicopter Route mandatory, the rule does not change the existing route, which has been charted and flown by helicopter operators for several years. The rule allows pilots to deviate from the route when transitioning to or from a destination or point of landing, thus avoiding concentrated operations at any particular point of entry or exit along the route. Therefore, it is reasonable to assume that those pilots currently complying with the voluntary route will continue to follow the same flight paths to the extent they have been following them in the past, with the same resulting pattern of noise dispersion among underlying communities.

⁷ Long Island North Shore Helicopter Route Environmental Study, John A. Volpe National Transportation Systems Center. The FAA analyzed data from the PDARS. The PDARS supports the collection, archiving, and reporting of flight plan and radar track data from Air Route Traffic Control Centers, Terminal Radar Approach Control facilities, and Air Traffic Control Towers to manage aviation activity within the National Airspace System (NAS). The PDARS data analyzed by the FAA for this rule represents visual flight rule (VFR) aircraft operating in Class E and Class G airspace in the vicinity of the northern shoreline of Long Island, New York. The data represent aircraft using a transponder code indicating VFR operation and altitude. The FAA's analysis modeled noise from approximately 15,600 flight operations, based on an average of 42.8 operations per day over 11 days around Memorial Day and July 4, 2011. The resulting noise levels were below DNL 45 dB. Under federal guidelines, residential land uses are considered compatible with noise levels below DNL 65 dB. 14 CFR part 150, appendix A, Table 1.

The FAA does not believe that this rule will create a negative impact on the public welfare. It is possible that compliance with the rule by pilots not currently complying with the voluntary route could result in some additional flights over some communities. However, because of the deviation allowed by the rule, the FAA cannot reliably predict the specific flight paths these pilots will follow on their way to or from the route. As a result, any specific noise impacts of such flight paths are not reasonably foreseeable.

In accordance with FAA Order 1050.1E, "Environmental Impacts: Policies and Procedures," the FAA has determined that the rule is categorically excluded from environmental review under paragraph 312f of the order, which applies to "regulations * * * (excluding those which if implemented may cause a significant impact on the human environment)." There are no significant noise or emissions impacts, which would be the primary concerns. The FAA determined that there are no extraordinary circumstances that would preclude the applicability of this categorical exclusion, and ERHC does not provide any facts supporting the presence of any such circumstances. Moreover, ERHC does not identify any significant effects the rule would have on water quality, ecological resources, or any other aspect of the environment, and the FAA has no reason to believe that any such effects would occur.

Were the rule to require pilots to follow the route in its entirety without regard to their origin or destination, it would be reasonable to expect an increase in noise in communities near the route's termination points (i.e., the VPLYD waypoint and Orient Point), due to the resulting concentration of operations entering and exiting the route at those locations. However, the rule allows pilots to deviate from the route when transitioning to or from a destination or point of landing. Therefore, it is reasonable to assume that those pilots currently complying with the voluntary route will continue to follow the same flight paths they have been following, with the same resulting pattern of noise dispersion among underlying communities. Compliance with the rule by pilots not currently complying with the voluntary route could result in additional flights over some communities. However, because of the deviation allowed by the rule, the FAA cannot reliably predict the specific flight paths these pilots will follow on their way to or from the route. As a result, any specific noise impacts of such flight paths are not reasonably foreseeable. In any event, based on the

number of helicopter operations the ERHC estimates occur along the north shore of Long Island, any noise increase in residential communities from further concentration of those operations would not be significant. This conclusion is further supported by an FAA analysis of radar and flight plan data, a copy of which has been placed in the docket for this rulemaking.

The FAA notes that it is likely noise impacts will be felt most keenly near airports or heliports, as the helicopters descend to land. Nothing in this rule makes that a unique phenomenon. Rather, aircraft noise is typically concentrated near airports, which is why the FAA typically addresses aircraft noise through the Airport Noise Compatibility Program.⁸

Several commenters alleged that the rule would require helicopter operators to fly more miles and therefore burn more fuel, and that this would cause significant environmental impacts. Specifically, ERHC alleged, without supporting documentation,⁹ that compliance with the rule would increase average flight time by 10 minutes, resulting in the consumption of nearly 117,000 additional gallons of fuel per year.

As stated above, the rule does not mandate entry or exit points, nor does it require operators to fly any specific route to or from the North Shore Helicopter Route. Therefore, it is not possible to reliably determine the amount of any increase in fuel consumption that might occur as a result of the rule. However, assuming ERHC is correct that average flight time would increase by 10 minutes, the commenter's estimated increase of 117,000 gallons per year would result in air emissions well below levels determined by the U.S. Environmental Protection Agency (EPA) to be *de*

⁸ Presumably those airports and heliports near larger population centers will receive have more take-offs and landings than the airports and heliports near smaller population centers. But this may not actually be true. It is possible that the airports and heliports near relatively small, but more affluent population centers will handle most of the helicopter traffic.

⁹ The FAA is unable to validate the assumptions of ERHC because it is impossible to determine where operators would choose to divert from the route to reach their intended destinations. However, the FAA did evaluate what it believes would be one of the worst case scenarios in terms of additional distance by looking at the distance between the initial waypoint at VPLYD and the Alexanders East Heliport, which is the southernmost heliport on the far south shore of Long Island. Assuming a 100 knot groundspeed, the FAA calculated the direct route time as 23.4 minutes (39 nm) and the North Shore route time as 30.6 minutes (51 nm), a difference of 7 minutes.

minimis.¹⁰ One commenter stated that aircraft on the North Shore Helicopter Route could impact wildlife. However, the commenter does not provide any information in support of this assertion, and the FAA is not aware of any reasonably foreseeable adverse impacts on wildlife from helicopters flying on the route at or above 2,500 feet MSL.

The Town of East Hampton raised several objections to the FAA's use of the cited categorical exclusion for the rule. First, the Town asserted that the categorical exclusion is inconsistent with the FAA's intent in proposing the rule. According to the Town, if the rule would not significantly affect the human environment, there is no basis for saying it would reduce noise impact on nearby communities as stated in the NPRM. Second, the Town contended that the FAA mischaracterized the legal standard for a categorical exclusion by limiting the analysis to adverse impacts. Third, the Town claimed that the FAA used the wrong categorical exclusion for the rule.

The FAA does not agree that the cited categorical exclusion, paragraph 312f of FAA Order 1050.1E, is inconsistent with the purpose of the rule. As stated above, the purpose of the rule is to maximize use of the North Shore Helicopter Route and reduce the noise impact of helicopter flights over nearby communities. Categorical exclusion of the rule from further environmental review under NEPA is fully consistent with that purpose and is based on the FAA's analysis of the environmental effects of the rule. The FAA also disagrees with the Town's contention that the agency erred in basing its application of the categorical exclusion on the absence of significant adverse environmental impacts. The agency is not aware of any controlling authority that precludes application of a

categorical exclusion to an action because the action has an environmental benefit. Finally, the cited categorical exclusion specifically applies to regulations and therefore is appropriate for this rule.

E. Procedural/Miscellaneous

ERHC argued the FAA has not cited the proper authority for this rule and that reliance on section 44715 is "overstated and misapplied." ERHC further commented that the FAA failed to consult with the Administrator of the EPA prior to prescribing standards and regulations under section 44715(a), as required. It also contended that § 44715(a) was intended to authorize the FAA to promulgate regulations addressing certification standards, not airspace matters.

NATA, UTC/UTFlight, and AOPA commented that this is the first action by the FAA to mandate the use of a noise abatement procedure without providing some type of operational or environmental analysis. They argued that, historically, the FAA addresses noise abatement action areas initiated by an airport sponsor, as it applies to takeoffs and landings, not to the enroute operation of the aircraft.

In response to the procedural comment, the FAA did consult with the Administrator of the EPA prior to issuing the NPRM, in accordance with the requirements of section 44715(a). That communication and the EPA response have been placed in the docket for this proceeding. In promulgating this rule, the FAA cites to sections 40103(b)(2) and 44715 to articulate the breadth of its authority to address noise stemming from aircraft overflights, aircraft operations in the airport environment and setting aircraft certification standards. Contrary to the commenters' assertion, the FAA possesses and has exercised its authority in the past to address noise issues associated with aircraft overflights.¹¹ The FAA continues to believe that noise generated by aircraft overflights generally is best addressed locally and with voluntary measures as

the primary consideration. However, the FAA is within its authority to address the issue by regulatory action.

UTC/UTFlight argued that the appropriate regulatory structure already exists in 14 CFR 91.119, which provides for minimum safe altitudes. UTC/UTFlight contended that this mandatory route redefines minimum safe altitudes.

The FAA disagrees with UTC/UTFlight that compliance with § 91.119 adequately addresses this issue. Section 91.119 provides the minimum safe altitudes for aircraft and helicopters and is not intended to address aircraft noise. Pilots must follow this provision, unless an altitude is otherwise specified for certain operations. Part 93 in 14 CFR sets forth specific rules for aircraft operations that are necessary for designated airports or defined areas.

GAMA, ERHC, and AOPA contended that the 30-day comment period was too compressed to provide the needed analysis and response to a proposal that raises significant technical, safety, environmental, and operational concerns. A number of the commenters requested that the FAA withdraw the NPRM and some commenters further requested that the FAA instead engage in a series of public meetings and a process to establish routes that would produce effective noise mitigation and provide safety and operational enhancements.

The Administrative Procedure Act¹² does not specify a minimum period for comment. The FAA finds 30 days is not an unreasonable amount of time to comment on the use of a route that has been in place since 2008 and, according to ERHC, has a high rate of use. The FAA also notes that within the 30-day comment period, approximately 900 comments were filed, some of which were extensive. Furthermore, FAA regulations governing rulemaking provide that late filed comments will be considered to the extent possible only if they do not significantly delay the rulemaking process. (See 14 CFR 11.45(b)) The Agency notes that some commenters submitted late comments, and they were considered by this agency.

ERHC also commented the FAA did not perform the required full regulatory evaluation under Executive Order 12866 and Department of Transportation Order 2100.5. ERHC argued that the FAA incorrectly concluded that the cost of the NPRM would be so minimal as to not require full review and that the NPRM was "not a significant regulatory action" and therefore exempt from

¹⁰ See Long Island North Shore Helicopter Route Environmental Study, John A. Volpe National Transportation Systems Center. The North Shore Helicopter Route is located entirely within Suffolk County, New York, which has been designated under the Clean Air Act as a nonattainment area for particulate matter (PM-2.5) and a moderate nonattainment area for ozone. See U.S. Environmental Protection Agency (EPA), "Currently Designated Nonattainment Areas for All Criteria Pollutants," available at <http://www.epa.gov/oap001/greenbk/ancl.html>. In addition, the state of New York is within the Ozone Transport Region established in section 184(a) of the Clean Air Act, 42 U.S.C. 7511c(a). EPA has determined that for such nonattainment areas, emissions of less than 50 tons per year of volatile organic compounds and 100 tons per year of nitrogen oxides, PM-2.5, or sulfur dioxide are *de minimis*. 40 CFR 93.153(b)(1). Using conservative assumptions, an analysis by the FAA (a copy of which has been placed in the docket for this rulemaking), indicates that emissions of these pollutants from combustion of an additional 117,000 gallons of fuel would be well below these *de minimis* levels.

¹¹ See: 33 FR 11748; August 20, 1968 (final rule designating special air traffic rule for Lorain County Regional Airport, Lorain, Ohio to route low altitude terminal traffic away from the Oberlin College Conservatory of Music to avoid audible disturbances; 35 FR 5466; April 2, 1970 (final rule designating Prohibited Airspace (P-66) Mount Vernon, VA based on a concern over the danger to irreplaceable historic structures and the noise nuisance caused by the low flying aircraft, including helicopters, over Mount Vernon grounds); 62 FR 1192; January 8, 1997 (final rule temporarily banning commercial air tour operations over Rocky Mountain National Park in order to prevent any potential adverse noise impact from these sightseeing aircraft).

¹² 5 U.S.C. 551 *et seq.*

review of the Office of Management and Budget (OMB).

As further discussed in the section addressing economic concerns, at the NPRM stage and now, the action was—and is—not expected to result in more than minimal additional costs on the affected helicopter operators. Consequently, the FAA properly determined that the proposal was not a significant regulatory action, as defined under Executive Order 12866, was not significant in accordance with DOT's policy, and did not require a full regulatory evaluation under either document. Upon OMB appraisal of the NPRM, it agreed with FAA that it was non-significant.

ERHC commented that the regulatory text is “unconstitutionally vague” and that the “NPRM's lack of clarity would almost certainly result in inadvertent violations and inconsistent enforcement of the rule,” which violates the Due Process Clause of the Fifth Amendment to the U.S. Constitution.

The FAA notes that ERHC was instrumental in working with the FAA to develop the North Shore Helicopter Route. Since this route was charted in 2008, the FAA is not aware of complaints from any operator about inability to navigate along the route, or any concern with the route as designed and charted. Unlike a route designed for IFR use, a VFR route does not have lateral dimension. The mandatory portion of the route follows the northern shoreline of Long Island from the VPLYD waypoint point to the northern tip of Long Island at Orient Point. As stated previously, the FAA chose waypoints that were based on the proximity to easily identifiable visual landmarks. The FAA believes that the route was developed using visual references that pilots can easily identify. We do not conclude that the requirements of this rule are vague and will result in inconsistent enforcement.

As with any other rule, the FAA will enforce this rule to the best of its capabilities. Reports of violations will be investigated to determine if the operator deviated for reasons of safety, weather, or to transit to its destination. While operators will be given the maximum latitude for deviations related to safety, a pattern of deviations would indicate that an operator was interested more in cutting short the route rather than any legitimate safety concerns. Any violation of this rule may result in a civil penalty or the suspension or revocation of the pilot's airman certificate.

F. Economic Evaluation

The FAA received several comments on our regulatory evaluation and the small business impact. These commenters included ERHC, GAMA, HAI, NATA, and NBAA, who stated the potential economic impact of the proposed regulatory changes, particularly on small businesses, is significant. The commenters believed the rulemaking's cost is significant because the change in flight procedures would drive longer flight paths for rotorcraft operating in the North Shore airspace. This in turn would have an impact on fuel consumed. They also believed that the final rule would force costs for additional avionics equipage.

ERHC asserted that mandating use of the North Shore Helicopter Route, as proposed, would increase the average flight of operations not currently using the route by 10 minutes. It estimated that 15 percent of current operations (approximately 2,250 operations) do not follow the voluntary route. Based on these assumptions, ERHC argued (assuming an 85 percent compliance rate) that the rule would result in the additional consumption of slightly less than 117,000 gallons of fuel per year.

The FAA cannot confirm that the route is currently being used 85 percent of the time. However, for the sake of estimating the cost of the rule, the FAA assumes that ERHC is correct. Using ERHC's numbers, the FAA calculated the cost associated with the use of the additional fuel. The nominal fuel price per gallon from the latest FAA fuel price forecast for the second half of 2012 through the first half of 2014 is \$3.17.¹³ Multiplying the average fuel price by ERHC's estimate of the additional fuel burn, over 2 years, that nominal cost equals \$745,875, or \$714,569 at a 7 percent discount rate. Applying the nominal value on a per flight basis, the nominal increase in fuel costs on a per flight basis is approximately \$150. However, as noted in footnote 12, the FAA calculated the increase in travel time from the VPLYD and Alexanders East Heliport, which the FAA believes represents the worst case in terms of additional travel time, and found that the increase in time should be approximately 7 minutes. Assuming ERHC's estimate of the amount of fuel burned per minute of flight time is correct, then with an increase in flight time of 7 minutes there would be an increase in fuel cost of \$105 for that flight. Since an operation between these two points represents the worst case, the

average of all affected flights would be somewhat lower. Thus the total discounted cost over a 2-year period would be significantly lower than \$714,569.

The FAA has determined that this action is not expected to result in more than minimal additional costs on the affected helicopters. Operators that cannot comply with the route as published due to operational limitations, performance factors, weather conditions, or safety considerations are allowed to deviate from the provisions of Subpart H.

G. Sunset Provision

As discussed above, it is both impractical and imprudent to require all helicopters to fly along the entire North Shore Helicopter Route. Operators must land at some point, and will have to deviate from the route for that reason. Additionally, safety considerations make use of the route imprudent under some circumstances and for some aircraft. As has also been noted above, the FAA does not know what the current rate of compliance with the route is or the circumstances surrounding decisions not to use it. ERHC contends that the current rate of compliance is already very high. There is no reason to retain this rule if the FAA determines that it is not actually improving the noise situation along the north shore of Long Island.

The FAA has decided to sunset this rule in 2 years if we determine there is no meaningful improvement in the effects of helicopter noise on quality of life or that the rule is otherwise unjustified. Should there be such an improvement, the FAA may, after appropriate notice and opportunity for comment, decide to make the rule permanent. Likewise, should the FAA determine that reasonable modifications could be made to the route to better address noise concerns (and any other relevant concerns), we may choose to modify the rule after notice and comment.

The FAA recognizes that we did not contemplate a sunset provision when we published the NPRM. The FAA has decided to finalize this provision without providing an additional opportunity to comment because we have determined that providing such a comment period is unnecessary. The FAA has already received hundreds of comments on the advisability of finalizing this rule. Commenters fall squarely into three camps: those who oppose the rule as burdensome and unnecessary, those who oppose the rule because they believe it does not go far enough, and those who support the rule.

¹³ http://www.faa.gov/about/office_org/headquarters_offices/apl/aviation_forecasts/aerospace_forecasts/2012-2032/.

The FAA does not anticipate that providing an opportunity to comment on a sunset provision will generate any discussion beyond that which has already been provided in the comments received on the NPRM. The FAA does note that any decision to extend the rule beyond 2 years or to modify the existing route will be subject to notice and an opportunity to comment.

IV. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits that a statement to that effect and the basis for it be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this final rule. The reasoning for this determination follows.

This action is not expected to result in more than minimal additional costs on the affected helicopter operators because many of the existing operators already comply with the final rule requirements. Further, no new systems

are required. Thus, the rule imposes no more than minimal cost. However, given the number of comments submitted in response to the NPRM, this final rule has been designated as significant under Executive Orders 12866 and 13563.

B. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96-354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration." The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA. However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

ERHC has 35 members who provide commercial operations. According to ERHC's comments to the NPRM, the majority of these operators fly over Long Island and could be impacted in some way by this final rule. The FAA presumes that all 35 commercial operators have fewer than 1,500 employees. However, assuming ERHC's estimates of current compliance are correct, somewhere between zero and fifteen percent of total operations are likely to be directly affected by this rule.

As noted above, the FAA believes those changes would result in an estimated increase in costs of \$105 to \$150 dollars per affected flight. The costs of commercial operations between Manhattan and the east end of Long Island generally range between \$3,500 and \$9,500 per trip, depending on the number of engines and available seats. The FAA believes that the vast majority of operators conduct operations on

behalf of paying customers because of the cost associated with owning and maintaining a helicopter for personal use. Accordingly, we base our determination that the impact on small entities will not be significant on the additional cost associated with flying along the North Shore Helicopter Route. At an additional \$150, the increase per affected operation would range between 4 and 1.5 percent. At an additional \$105, the increase per affected operation would range between 3 and 1.1 percent. The FAA also believes that, given the cost of the overall operation to a paying customer, much of that cost is likely to simply be passed on to the customer. To the extent private operators incur the additional fuel cost, the FAA believes those costs the operators will turn to additional forms of transportation only if they determine the additional cost in fuel justifies the longer times required to reach their destination by other forms of transportation. Given the cost between commercial helicopter rates and the cost to take a train or drive, the FAA believes private operators will likely absorb the additional cost because they value their time at a rate that already far exceeds the existing cost difference between helicopter travel and other forms of transportation. The rule does not require the purchase of additional equipment and allows pilots to deviate from the provisions if necessary, due to operational limitations of the helicopter, performance factors, weather conditions, or safety considerations. Therefore, the rule imposes only minimal operating cost.

The FAA received several comments from the private sector and industry based on our regulatory evaluation and the small business impact. ERHC, GAMA, HAI, NATA, and NBAA commented that the potential economic impact of the regulatory changes, particularly on small businesses, is significant. These commenters believed the rulemaking's cost is significant because the change in flight procedures will drive longer flight paths for helicopters operating in the North Shore airspace, which will have an impact on fuel consumed. They also believed that the final rule would force costs for additional avionics equipment.

The FAA notes that numerous small business helicopter charter operators commented that they were already in compliance with the final rule. The FAA further notes that operators that cannot comply with the route as published due to safety, weather conditions, or transitioning to or from a destination or point of landing are allowed to deviate from the provisions of Subpart H. Therefore, this action is

not expected to result in more than minimal additional costs on the affected helicopters because those operators are allowed to deviate from the provisions of the final rule.

Therefore, as the acting FAA Administrator, I certify that this rule will not have a significant economic impact on a substantial number of small entities.

C. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$143.1 million in lieu of \$100 million. This final rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

D. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. The FAA has determined that there is no current or new requirement for information collection associated with this amendment.

E. International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these regulations.

F. Environmental Analysis

Under regulations issued by the Council on Environmental Quality, Federal agencies are required to establish procedures that, among other things, identify agency actions that are categorically excluded from the requirement for an environmental assessment or environmental impact statement under the National Environmental Policy Act of 1969 because they do not have a significant effect on the human environment. See 40 CFR 1507.3(b)(2)(ii), 1508.4. The required agency procedures must also "provide for extraordinary

circumstances in which a normally excluded action may have a significant environmental effect." See 40 CFR 1508.4. For FAA actions, these "categorical exclusions" and "extraordinary circumstances" are listed in Chapter 3 of FAA Order 1050.1E, "Environmental Impacts: Policies and Procedures."

The FAA has determined that this final rule qualifies for the categorical exclusion identified in paragraph 312f of FAA Order 1050.1E. That categorical exclusion applies to "[r]egulations, standards, and exemptions (excluding those which if implemented may cause a significant impact on the human environment)." The existing New York North Shore Helicopter Route is a VFR route, use of which is voluntary. Additionally, the route is located entirely over water and away from noise-sensitive locations. Furthermore, the number of helicopter operations along the north shore of Long Island is not high enough for this rule to have any potential to result in significant noise impacts. An analysis of emissions based on an overly conservative fuel burn estimate shows that the resulting air emissions would be well below levels determined by the EPA to be *de minimis*.¹⁴

Therefore, implementation of this final rule is not expected to result in significant adverse impacts to the human environment. Moreover, implementation of the final rule will not involve any of the extraordinary circumstances listed in Section 304 of FAA Order 1050.1E.

V. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. The

¹⁴ See Long Island North Shore Helicopter Route Environmental Study, John A. Volpe National Transportation Systems Center. The North Shore Helicopter Route is located entirely within Suffolk County, New York, which has been designated under the Clean Air Act as a nonattainment area for particulate matter (PM-2.5) and a moderate nonattainment area for ozone. See U.S. Environmental Protection Agency (EPA), "Currently Designated Nonattainment Areas for All Criteria Pollutants," available at <http://www.epa.gov/oaqps001/greenbk/ancl.html>. In addition, the state of New York is within the Ozone Transport Region established in section 184(a) of the Clean Air Act, 42 U.S.C. 7511c(a). EPA has determined that for such nonattainment areas, emissions of less than 50 tons per year of volatile organic compounds and 100 tons per year of nitrogen oxides, PM-2.5, or sulfur dioxide are *de minimis*. 40 CFR 93.153(b)(1). Using conservative assumptions, an analysis by the FAA (a copy of which has been placed in the docket for this rulemaking), indicates that emissions of these pollutants from combustion of an additional 117,000 gallons of fuel would be well below these *de minimis* levels.

agency determined that this action will not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, does not have Federalism implications.

B. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a "significant energy action" under the executive order and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

VI. How To Obtain Additional Information

A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the Internet—

1. Search the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visit the FAA's Regulations and Policies Web page at http://www.faa.gov/regulations_policies/ or
3. Access the Government Printing Office's Web page at <http://www.gpo.gov>.

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to <http://www.regulations.gov> and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA's dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local

FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.

VII. The Amendment

List of Subjects in 14 CFR Part 93

Air traffic control, Airspace, Navigation (air).

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends chapter I of title 14, Code of Federal Regulations as follows:

PART 93—SPECIAL AIR TRAFFIC RULES

■ 1. The authority citation for part 93 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40103, 40106, 40109, 40113, 44502, 44514, 44701, 44715, 44719, 46301.

■ 2. Add subpart H to part 93 to read as follows:

Subpart H—Mandatory Use of the New York North Shore Helicopter Route

Sec.
93.101 Applicability.
93.103 Helicopter operations.

Subpart H—Mandatory Use of the New York North Shore Helicopter Route

§ 93.101 Applicability.

This subpart prescribes a special air traffic rule for civil helicopters operating VFR along the North Shore, Long Island, New York, between August 6, 2012 and August 6, 2014.

§ 93.103 Helicopter operations.

(a) Unless otherwise authorized, each person piloting a helicopter along Long Island, New York's northern shoreline between the VPLYD waypoint and Orient Point, shall utilize the North Shore Helicopter route and altitude, as published.

(b) Pilots may deviate from the route and altitude requirements of paragraph (a) of this section when necessary for safety, weather conditions or transitioning to or from a destination or point of landing.

Issued in Washington, DC, on July 2, 2012.

Ray LaHood,
Secretary of Transportation.

Michael P. Huerta,
Acting Administrator.

[FR Doc. 2012-16667 Filed 7-3-12; 4:15 pm]

BILLING CODE 4910-13-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 74

[Docket No. FDA-2011-C-0050]

D&C Red No. 6 and D&C Red No. 7; Change in Specification

AGENCY: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA or the Agency) is revising its requirements for D&C Red No. 6 and D&C Red No. 7 by replacing the current specification for “Ether-soluble matter” with a maximum limit of 0.015 percent for the recently identified impurity 1-[(4-methylphenyl)azo]-2-naphthalenol. This action is in response to a petition filed by Sun Chemical Corp.

DATES: This rule is effective August 7, 2012, except as to any provisions that may be stayed by the filing of proper objections. Submit either electronic or written objections and requests for a hearing by August 6, 2012. See section XI of this document for information on the filing of objections.

ADDRESSES: You may submit objections and requests for a hearing, identified by Docket No. FDA-2011-C-0050, by any of the following methods:

Electronic Submissions: Submit electronic objections in the following way:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

Written Submissions: Submit written objections in the following ways:

- *Fax:* 301-827-6870.
- *Mail/Hand delivery/Courier (for paper or CD-ROM submissions):* Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

Instructions: All submissions received must include the Agency name and Docket No. FDA-2011-C-0050 for this rulemaking. All objections received may be posted without change to <http://www.regulations.gov>, including any personal information provided. For detailed instructions on submitting objections, see section XI of this document.

Docket: For access to the docket to read background documents or objections received, go to <http://www.regulations.gov> and insert the docket number, found in brackets in the

heading of this document, into the “Search” box and follow the prompts and/or go to the Division of Dockets Management, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852.

FOR FURTHER INFORMATION CONTACT:

Teresa A. Croce, Center for Food Safety and Applied Nutrition (HFS-265), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740-3835, 240-402-1281.

SUPPLEMENTARY INFORMATION:

I. Background

In a notice published in the **Federal Register** of April 14, 2011 (76 FR 20992), FDA announced that Sun Chemical Corp., 5020 Spring Grove Ave., Cincinnati, OH 45232, had filed a color additive petition (CAP 1C0290) requesting that FDA amend its regulations for D&C Red No. 6 and D&C Red No. 7 by replacing the current specification for “Ether-soluble matter” with a maximum limit of 0.015 percent for the recently identified impurity 1-[(4-methylphenyl)azo]-2-naphthalenol. As part of CAP 1C0290, Sun Chemical Corp. also requested that FDA remove Appendix A in part 74 (21 CFR part 74), which pertains to the ether-soluble matter specification.

D&C Red No. 6 and D&C Red No. 7 are principally monosulfo monoazo dyes prepared by the coupling of diazotized 2-amino-5-methylbenzenesulfonic acid with 3-hydroxy-2-naphthalenecarboxylic acid in alkaline medium. D&C Red No. 6 is produced as the disodium salt, whereas D&C Red No. 7 is the corresponding monocalcium salt. D&C Red No. 6 is listed in § 74.1306 for use in coloring drugs and in § 74.2306 for use in coloring cosmetics. D&C Red No. 7 is listed in § 74.1307 for use in coloring drugs and in § 74.2307 for use in coloring cosmetics. The identity and specifications in §§ 74.1306 and 74.1307 are referenced by §§ 74.2306 and 74.2307. Both color additives are required to be batch certified by FDA before they may legally be used in drugs and cosmetics marketed in the United States.

II. Regulatory History

In the **Federal Register** of December 28, 1982 (47 FR 57681), FDA published a final rule that permanently listed D&C Red No. 6 and D&C Red No. 7 for use in coloring drugs and cosmetics. The final rule described how D&C Red Nos. 6 and 7 contained ether-soluble matter for which the proponents of the color additives were not able to determine the chemical identity. FDA's final rule established a specification for ether-

Appendix D. Helicopter Noise Analysis

D.1 General Characteristics of Helicopter Noise

Helicopter noise originates from three components of the helicopter: the rotors, engine, and transmission.

Generally speaking helicopters are equipped with two rotors. The main rotor is located on the top of the cabin and is used to generate lift. The other rotor (tail rotor) is located in the tail and is used to produce a sideways force that prevents the body of the helicopter from rotating and is also used to steer the helicopter. Two types of helicopters – the AS350 and EC130 are used by Grand Canyon tour operators based in Clark County. Almost all helicopters are equipped with one of two types of tail rotors: a conventional tail rotor or a Fenestron tail rotor. By nature of its construction, the Fenestron tail rotor is quieter than the conventional tail rotor. The AS350 is equipped with a conventional tail rotor and the EC130 is equipped with the Fenestron tail rotor.

Power is transferred to the rotors from the engine via a main gearbox. The engine's revolutions per minute (RPMs) are reduced from thousands to hundreds by increasing the torque and slowing the rotation to an acceptable level for the rotors. Noise generated by the engine depends on the type/model of engine powering the helicopter. The transmission drives the mast, which provides direct rotation to the rotors. Noise generated by the transmission depends on the type/model of engine and transmission powering the helicopter.

D.2 Definition of Noise

Loudness, measured in decibels (dB), is the most commonly used characteristic to describe noise. The A-weighted decibel (dBA) is used in aircraft¹ noise analyses because it incorporates a frequency-dependent rating scale that more closely associates sounds and sound frequencies with the sensitivity of the human ear. Some common sounds on the dBA scale, relative to ordinary conversation, are listed in **Table D-1**. As shown in the table, the relative perceived loudness of a sound doubles for each increase of 10 dBA, although a 10-dBA change corresponds to a factor of 10 in relative sound energy. Generally, sounds with differences of 2 dBA or less are not perceived to be noticeably different by most listeners. A noise event produced by a helicopter flyover is usually characterized by a buildup to a maximum noise level as the helicopter approaches, and then a decrease in the noise level through a series of lesser peaks or pulses after the aircraft passes and the noise recedes.

¹ As used in report, "aircraft" includes helicopters.

Table D-1

Common Sounds on the A-Weighted Decibel Scale

Sound	Sound Level (dBA)	Relative Loudness (approximate)	Relative Sound Energy
Rock music, with amplifier	120	64	1,000,000
Thunder, snowmobile (operator)	110	32	100,000
Boiler shop, power mower	100	16	10,000
Orchestral crescendo at 25 feet, noisy kitchen	90	8	1,000
Busy street	80	4	100
Interior of department store	70	2	10
Ordinary conversation, 3 feet away	60	1	1
Quiet automobiles at low speed	50	½	0.1
Average office	40	¼	0.01
City residence	30	1/8	0.001
Quiet country residence	20	1/16	0.0001
Rustle of leaves	10	1/32	0.00001
Threshold of hearing	0	1/64	0.000001

Source: U.S. Department of Housing and Urban Development, *Aircraft Noise Impact—Planning Guidelines for Local Agencies*, 1972.
 Prepared by: Ricondo & Associates, Inc., April 2008

D.3 Noise Analysis Methodology

The methodology used for this helicopter noise analysis included the: (1) use of noise descriptors developed for helicopter noise analyses, (2) application of a computer model that provides estimates of helicopter noise levels, and (3) development of basic data and assumptions as input to the computer model.

D.3.1 Noise Descriptors

Noise is measured using a variety of scientific metrics. As a result of extensive research into the characteristics of aircraft noise and human response to that noise, a standard system of descriptors has been developed for use in aircraft noise exposure analyses. These descriptors, as used for this helicopter noise analysis, are described in the following subsections.

D.3.1.1 A-Weighted Sound Pressure Level

The decibel is used to describe sound pressure level. A-weighting approximates the human ear's sensitivity to sounds of different frequencies. Without this filtering, calculated and measured sound levels would include sounds that the human ear cannot hear, such as dog whistles (high frequency) and sounds made by large buildings with changes in temperature and wind (low frequency).

D.3.1.2 Maximum A-Weighted Sound Level

The maximum A-weighted sound level (L_{max}) is the loudest part of a noise event, measured in decibels. As an aircraft overhead passes an observer, the noise increases to a maximum level and then decreases as the aircraft passes. Some sound level meters measure the maximum, or L_{max} , level.

D.3.1.3 Equivalent Sound Level (Leq)

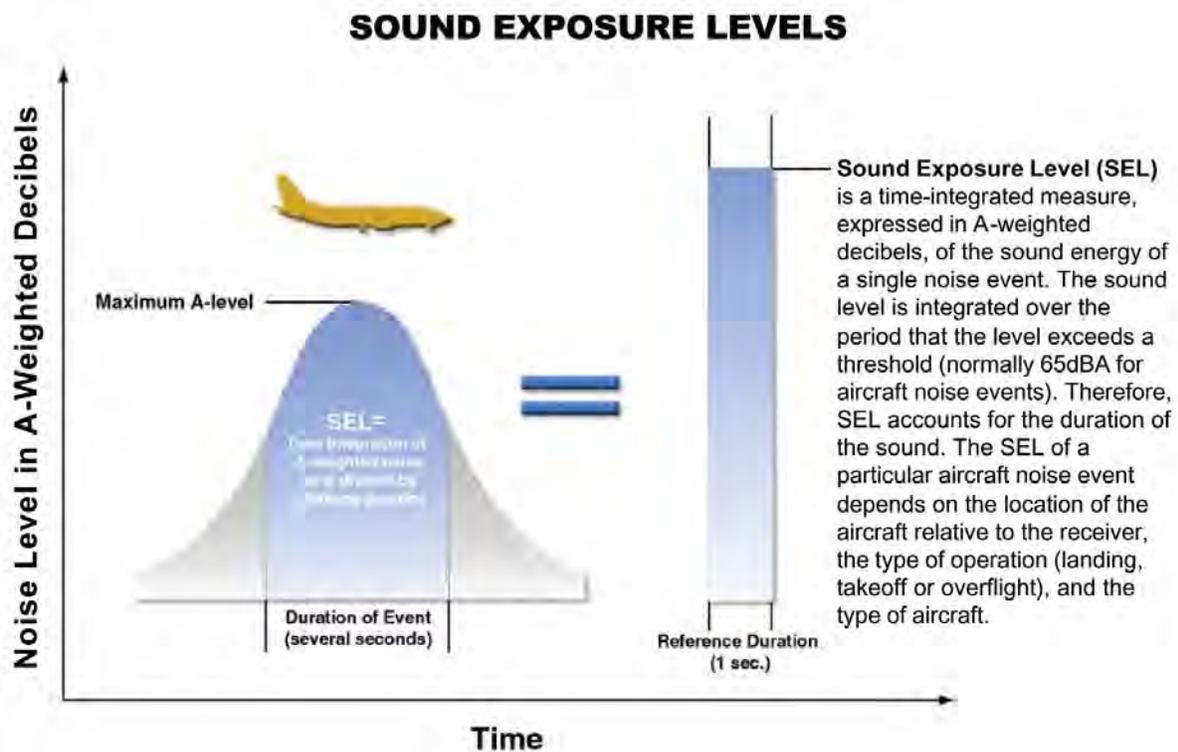
Leq is a standard measure of sound energy averaged over a specified time period. This metric indicates the constant sound level in decibels which is equivalent to the amount of sound energy produced by a series of events having fluctuating sound levels during the specified time period.

D.3.1.4 Sound Exposure Level

Sound exposure level (SEL) is a time-integrated measure, expressed in decibels, of the sound energy of a single noise event at a reference duration of one second. The sound level is integrated over the period that it exceeds a threshold. Therefore, SEL accounts for both the maximum sound level and the duration of the sound. The SEL for a particular aircraft noise event is a numerically higher value than the (L_{max}) for the same event. This is because the SEL consolidates the energy of the entire noise event into a reference duration of one second. The SEL is not “heard”, but is a derived value used for calculation of cumulative aircraft noise exposure as defined by the DNL. SELs for aircraft noise events depend on the location of the aircraft relative to the noise receptor, the type of operation (landing, takeoff, or overflight), and the type of aircraft. The SEL concept is depicted on **Exhibit D-1**.

Exhibit D-1

Sound Exposure Level Concept



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc., April 2008

D.3.1.5 Background Sound Level (L₉₀)

L₉₀ describes the noise level exceeded 90 percent of the time during the sample period. L₉₀ is useful for describing the background (or residual) noise level in the absence of any easily defined noise events, such as those caused by occasional traffic, barking dogs, or aircraft overflights.

D.3.1.6 Day-Night Average Sound Level

Day-night average sound level (DNL) is a method used to describe the existing and predicted cumulative noise exposure from aircraft operations in the vicinity of an airport or a heliport. The DNL is expressed in dBA and represents the time-weighted average noise level over a 24-hour period. The DNL is used to estimate the effects of specific noise levels on land uses. The U.S. Environmental Protection Agency (EPA) introduced the DNL metric in 1976 as a single number measurement of community noise exposure. The Federal Aviation Administration (FAA) adopted DNL as the noise metric for measuring cumulative aircraft noise under Title 14, Code of Federal Regulations, Part 150 (14 CFR Part 150), *Airport Noise Compatibility Planning*. DNL has also been adopted for measuring cumulative noise exposure by several other government agencies, including the Department of Housing and Urban Development, the Veterans Administration, the Department of Defense, the Coast Guard, and the Federal Transit Administration. DNL is widely accepted as the best available method to describe aircraft noise exposure and is the noise descriptor required for use in aircraft noise exposure analyses, land use compatibility planning, environmental assessments, and environmental impact statements for airport/heliport improvement projects. Although additional noise metrics may be used to characterize aircraft noise and environmental impacts, neither Clark County nor the State of Nevada mandates the use of metrics other than DNL.

In calculating DNL, for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.), sound levels are increased by a 10-decibel-weighting penalty before the 24-hour value is computed. The weighting penalty accounts for the more intrusive nature of noise during nighttime hours.

DNL is expressed as an average noise level on the basis of annual aircraft operations for a calendar year, not on the average noise levels associated with different aircraft operations. To calculate the DNL at a specific location, the SELs at that location associated with each aircraft operation (landing or takeoff) are determined. Using the SEL for each noise event and applying the 10-decibel penalty for nighttime operations as appropriate, a partial DNL is then calculated for each aircraft operation. The partial DNLs for each aircraft operation are added logarithmically to determine the total DNL.

The logarithmic addition process, whereby the partial DNLs are combined, can be approximated by the following guidelines:

How to Add Decibels	When two DNLs differ by:	Add the following amount to the higher value	For Example
	0 or 1 dBA	3 dBA	70 dBA + 70 dBA = 73 dBA
	2 or 3 dBA	2 dBA	
	4 to 9 dBA	1 dBA	
	10 dBA or more	0 dBA	

Adding the noise from a relatively quiet event (60 dBA) to a relatively noisy event (70 dBA) results in a value of 70 dBA because the quieter event has only one-tenth the sound energy of the noisier

event. As a result, the quieter noise event is “drowned out” by the noisier one, and there is no increase in the overall noise level as perceived by the human ear.

DNL is used to describe existing and predicted noise exposure in communities in an airport/heliport vicinity based on the average number of daily operations over the year and the average annual operational conditions at the airport/heliport. Therefore, at a specific location near an airport/heliport, the noise exposure on a particular day is likely to be higher or lower than the annual average noise exposure, depending on the specific operations at the airport/heliport that day.

D.3.2 Integrated Noise Model

The Integrated Noise Model (INM) was developed by the FAA, and is the computer model required for use in developing aircraft/helicopter noise exposure maps. The INM contains aircraft operational and noise data in a database that reflects average aircraft operating conditions. The INM was originally designed for modeling noise from fixed-wing aircraft. However, with the introduction of Version 7.0² of the INM, the FAA incorporated the noise modeling capabilities of its Helicopter Noise Model (HNM). INM Version 7.0 is the latest accepted state-of-the-art tool for determining the total effect of aircraft noise at and around airports and heliports, and is the model that was used to determine potential helicopter noise impacts for this analysis

Because the DNL is fundamentally based on the noise levels produced by individual aircraft operations, selection of appropriate aircraft-type designations from the INM database is of critical importance. The INM Version 7.0 database contains both of the helicopter types that are used by Grand Canyon tour operators based in Clark County. Those helicopter types are designated within the INM database as the SA350D (AS350) and the EC130. The SA350D and EC130 helicopter types were used without modification to model helicopter noise levels for this analysis.

D.3.2.1 DNL and Noise Exposure Ranges

A noise exposure value of DNL 65 was used as the criterion level for the noise analysis. Two specific ranges of noise exposure were estimated: (1) DNL 65 and higher and (2) DNL 60 to 65. DNL 65 and higher is the FAA’s standard threshold for land use compatibility planning purposes in areas surrounding a heliport or airport. Although the FAA considers aircraft noise exposure lower than DNL 65 to be compatible with residential land uses, persons residing outside the DNL 65 noise exposure area may still be annoyed by aircraft noise. However, Clark County agencies use information regarding noise exposure between DNL 60 and DNL 65 for local planning purposes and therefore DNL 60 noise contours are depicted on exhibits in this EA.

D.3.2.2 The DNL Descriptor

The validity and accuracy of DNL calculations depend on the basic information used in the calculations. For future heliport activities, the reliability of DNL calculations is affected by a number of variables:

- Future aviation activity—the number of helicopter operations, the types of helicopters in the fleet mix, the times of operations (daytime and nighttime), and helicopter flight tracks—are estimates or forecasts, the achievement of which cannot be assured.
- Although new helicopter types may be introduced in the future, current models were used as input to the INM to estimate future activity.

- The noise descriptors used as the basis for calculating DNL represent typical human response (and reaction) to aircraft/helicopter noise. Because people vary in their responses to noise and because the physical measure of noise accounts for only a portion of an individual's reaction to that noise, DNL can be used only to obtain an average response to aircraft noise that might be expected in a community.
- Single flight tracks used in computer modeling represent a wider band of actual flight tracks.

These uncertainties aside, DNL mapping was developed as a tool to assist in land use planning around airports/heliports. Mapping is best used for comparative purposes rather than to provide absolute values. DNL calculations provide valid comparisons between different potential conditions, so long as consistent assumptions and data are used for all calculations.

Thus, sets of DNL calculations can show anticipated changes in aircraft/helicopter noise exposure over time, or can indicate which of a series of simulated situations would be better, and generally how much better, from the standpoint of noise exposure. However, a line drawn on a map is not meant to imply that a particular noise condition exists on one side of that line and not on the other. DNL calculations are a means for comparing noise effects, not for precisely defining them relative to specific parcels of land.

Nevertheless, DNL contours can be used to (1) highlight an existing or potential aircraft noise problem that requires attention, (2) assist in the preparation of noise compatibility programs, and (3) provide guidance in developing land use controls, such as zoning ordinances, subdivision regulations, and building codes. DNL has been, and is still, considered to be the best methodology available for depicting aircraft/helicopter noise exposure.

D.3.2.3 Graphic Representation of DNL

Contours are lines on a map that connect points of equal DNLs, much like topographic contour lines are drawn on a map to indicate ground elevations. For example, a contour is drawn to connect all points exposed to DNL 65; another may be drawn to connect all points exposed to DNL 70; and so forth. Generally, noise contours are plotted at 5-DNL intervals. Noise contours were developed for this analysis in conformance with FAA guidelines included in FAA Orders 5050.4B and 1050.1E and 14 CFR Part 150. For this analysis, the INM was used to produce DNL 65 and DNL 60 helicopter noise exposure contours.

D.3.3 Basic Data and Assumptions for Developing Noise Exposure Maps

The primary data required to develop helicopter noise exposure maps using INM Version 7.0 are:

- The existing and forecast number of helicopter operations, by helicopter type, and with daytime or nighttime flight characteristics.
- Operational information, including use of the runways or touchdown and liftoff areas, location and use of flight tracks (the paths that pilots fly to arrive at and depart from the airport or heliport), departure profiles, and existing noise abatement procedures.

D.3.3.1 Helicopter Operations

To determine existing and projected noise exposure, helicopter operations associated with the average day of the year are used in the INM. Helicopter operations data for an average day in 2004 were used to represent existing conditions in this environmental assessment. The 2004 average annual day condition is based on actual helicopter operations data collected by AirScene². Forecasts of operations for the average day in 2011 and 2017 were derived from the annual forecasts presented in Chapter III of this EA.

Existing and forecast levels of helicopter operations under the Proposed Action are presented in **Table D-2**. Existing and forecast levels of helicopter operations under the No Action alternative are presented in **Table D-3**. As shown in Table D-2, the number of Grand Canyon tour departures at the Heliport site under the Proposed Action is projected to be 29,500 in 2011 and 37,300 in 2017. It was assumed that the operators of Las Vegas Strip tours would not relocate to the proposed Heliport site from McCarran. Las Vegas Strip tours would continue to be accommodated at McCarran under the Proposed Action – 8,400 annual tour departures in 2011 and 9,100 annual tour departures in 2017. Under the Proposed Action there would be 9,800 Grand Canyon tour departures at McCarran in 2011 and 12,400 annual Grand Canyon tour departures in 2017. Under the Proposed Action it is anticipated that some helicopter operations, both Grand Canyon tours and Las Vegas Strip tours, would be accommodated at other locations in the region (11,100 annual tour departures in 2011 and 15,600 annual tour departures in 2017). These helicopter movements were not assessed or evaluated in this environmental assessment.

As shown in Table D-3, the number of Grand Canyon tour departures at McCarran under the No Action alternative is projected to be 29,500 in 2011 and 37,300 in 2017. Las Vegas Strip tours would continue to be accommodated at McCarran under the No Action alternative – 8,400 annual tour departures in 2011 and 9,100 annual tour departures in 2017. It is anticipated that some helicopter operations, both Grand Canyon tours and Las Vegas Strip tours, would be accommodated at other locations in the region under the No Action alternative (20,900 annual tour departures in 2011 and 28,000 annual tour departures in 2017).

² AirScene is a proprietary software package developed and licensed by Rannoch Corporation that provides data to the CCDOA regarding aircraft and helicopter operations at McCarran. The CCDOA has used the software package since July 2000.

Table D-2

Helicopter Air Tour Departures – Proposed Action

Year	McCarran International Airport		Heliport Site ^{1/}		Other Facility ^{2/}		Total	
	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures
Historical								
2004	33,190	11,501	-	-	-	-	33,190	11,501
2005	37,595	12,775	-	-	-	-	37,595	12,775
2006	36,865	12,045	-	-	-	-	36,865	12,045
Forecast								
2011	9,800	8,500	29,500	-	4,400	6,700	43,700	15,200
2012	10,200	8,600	30,700	-	4,500	7,200	45,400	15,800
2013	10,600	8,700	31,900	-	4,700	7,700	47,200	16,400
2014	11,000	8,800	33,200	-	4,900	8,300	49,100	17,100
2015	11,500	8,900	34,500	-	5,100	8,900	51,100	17,800
2016	11,900	9,000	35,900	-	5,300	9,500	53,100	18,500
2017	12,400	9,100	37,300	-	5,500	10,100	55,200	19,200

Notes:

1/ It was assumed that Las Vegas Strip tours would not be accommodated at the proposed Heliport site.

2/ Not evaluated in the environmental assessment.

Sources: Clark County Department of Aviation using data from AirScene (2004 departures); Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., April 2008

Table D-3

Helicopter Air Tour Departures – No Action Alternative

Year	McCarran International Airport		Other Facility ^{1/}		Total	
	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures	Annual Grand Canyon Tour Departures	Annual Las Vegas Strip Tour Departures
Historical						
2004	33,190	11,501	-	-	33,190	11,501
2005	37,595	12,775	-	-	37,595	12,775
2006	36,865	12,045	-	-	36,865	12,045
Forecast						
2011	29,500	8,500	14,200	6,700	43,700	15,200
2012	30,600	8,600	14,800	7,200	45,400	15,800
2013	31,900	8,700	15,300	7,700	47,200	16,400
2014	33,100	8,800	16,000	8,300	49,100	17,100
2015	34,500	8,900	16,600	8,900	51,100	17,800
2016	35,800	9,000	17,300	9,500	53,100	18,500
2017	37,300	9,100	17,900	10,100	55,200	19,200

Note:

1/ Not evaluated in the environmental assessment.

Sources: Clark County Department of Aviation using data from AirScene (2004 departures); Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., April 2008

Helicopter Fleet Mix

The helicopter fleet mix consists of two helicopter types – the AS350 and the EC130. The percentages of departures by helicopter type and year are shown in **Table D-4**. These fleet mix percentages were applied to the operations data used in the INM analysis for the Proposed Action and No Action alternative.

Table D-4

Percentage of Departures by Helicopter Type

Year	Helicopter Type	
	AS350	EC130
2004	80.0%	20.0%
2011	53.2%	46.8%
2017	42.9%	57.1%

Source: Ricondo & Associates, Inc., based on helicopter air tour operator surveys.
Prepared by: Ricondo & Associates, Inc., April 2008

Time of Day

AirScene data were used to determine the number of helicopter operations at McCarran International Airport during the daytime hours (7:00 a.m. to 9:59 p.m.) and nighttime hours (10:00 p.m. to 6:59 a.m.) in 2004. These data indicated that 1 percent of helicopter operations occurred during nighttime hours. As mentioned earlier, the calculation of DNL includes a 10-decibel weighting penalty for those operations occurring during the nighttime hours. It was assumed that the split between daytime and nighttime operations for each helicopter type would be the same in 2011 and 2017 as that recorded in 2004.

D.3.3.2 Heliport Operational Information

The assumed future uses of the flight tracks to and from the airport or heliport are important in determining where helicopters are flying and, consequently, the noise levels generated on the ground.

Helipad Use and Design Criteria

Helipad use was determined based on several factors, including: historical wind analysis, conversations with helicopter operators at McCarran International Airport, air traffic control procedures in the vicinity of McCarran, Federal Aviation Regulations pertaining to helicopter operations, FAA Advisory Circulars pertaining to heliports and air traffic patterns, and observations of helicopter activities in the Las Vegas region.

Specific criteria that were applied to the airspace analysis around the sites were referenced from FAA Advisory Circular 150/5390-2A, *Helipad Design*, 14 CFR Part 77 *Objects Effecting Navigable Airspace*, FAA Order 8260.42A *Helicopter Global Positioning System (GPS) Non-Precision Approach Criteria*, and data acquired from the Las Vegas TRACON and the FAA Digital Obstruction File.

The wind analysis for the Heliport site utilized historical weather data from January 1992 to January 2001 collected at the McCarran International Airport weather station. Helipad use was calculated by assuming that helicopters would use helipads aligned with prevailing winds when

winds are above three knots and would use the helipads providing the most direct route during calm winds.

According to FAA criteria, the design of helicopter approach paths should be based on prevailing wind direction, crosswind component (150 degrees minimum), and clear approach and transitional surfaces at the heliport site. The Heliport Approach Surface for each landing area at a heliport is defined in 14 CFR Part 77 as the area beginning at the end of the take off and landing area with the same width, extending outward and upward for a horizontal distance of 4,000 feet, where its width is 500 feet. The slope of the approach surface rises at a ratio of 8 to 1 (eight feet horizontal to one foot vertical). The Heliport Transitional Surface is defined in 14 CFR Part 77 as that area that extends outwards and upward from the lateral boundaries of the heliport landing and takeoff area and from the Heliport Approach Surfaces for a distance of 250 feet from the centerline of the approach surface. The slope of this surface is 2 to 1.

Design of the heliport landing areas was based on Visual Flight Rules (VFR) operations. However, intermediate and final missed approach design criteria as specified in FAA Order 8260.42A, *Helicopter Global Positioning System Non Precision Approach Criteria*, were considered in the design of the approach lighting area orientation in the event that an Instrument Flight Rules (IFR) approach is desired in the future. The optimum design for an instrument approach includes a three-mile intermediate segment, a 3-mile final approach segment, and a clear missed approach area. Planning data for the proposed Heliport is presented on **Exhibit D-2**.

Generalized Aircraft Flight Tracks

Flight track information is another important input to the INM. However, inputting the individual tracks for each aircraft operation is not practical and the FAA suggests that flight tracks be consolidated into a set of generalized flight tracks that are representative of all flight tracks into and out of the airport/heliport. Deviations from the generalized flight tracks occur because of weather conditions, pilot technique, air traffic control procedures, and aircraft weight. However, the generalized flight tracks do provide representative tracks for arrivals and departures at the airport/heliport.

The potential flight corridors and the local routes for the Heliport site are shown on **Exhibits D-3 through D-5**. The local routes represent generalized flight paths for transitioning between the site and the flight corridor. Each exhibit depicts the noise model inputs for each flight track scenario within the Proposed Action, including the flight corridors, the percentage of traffic on each corridor, and each local route.

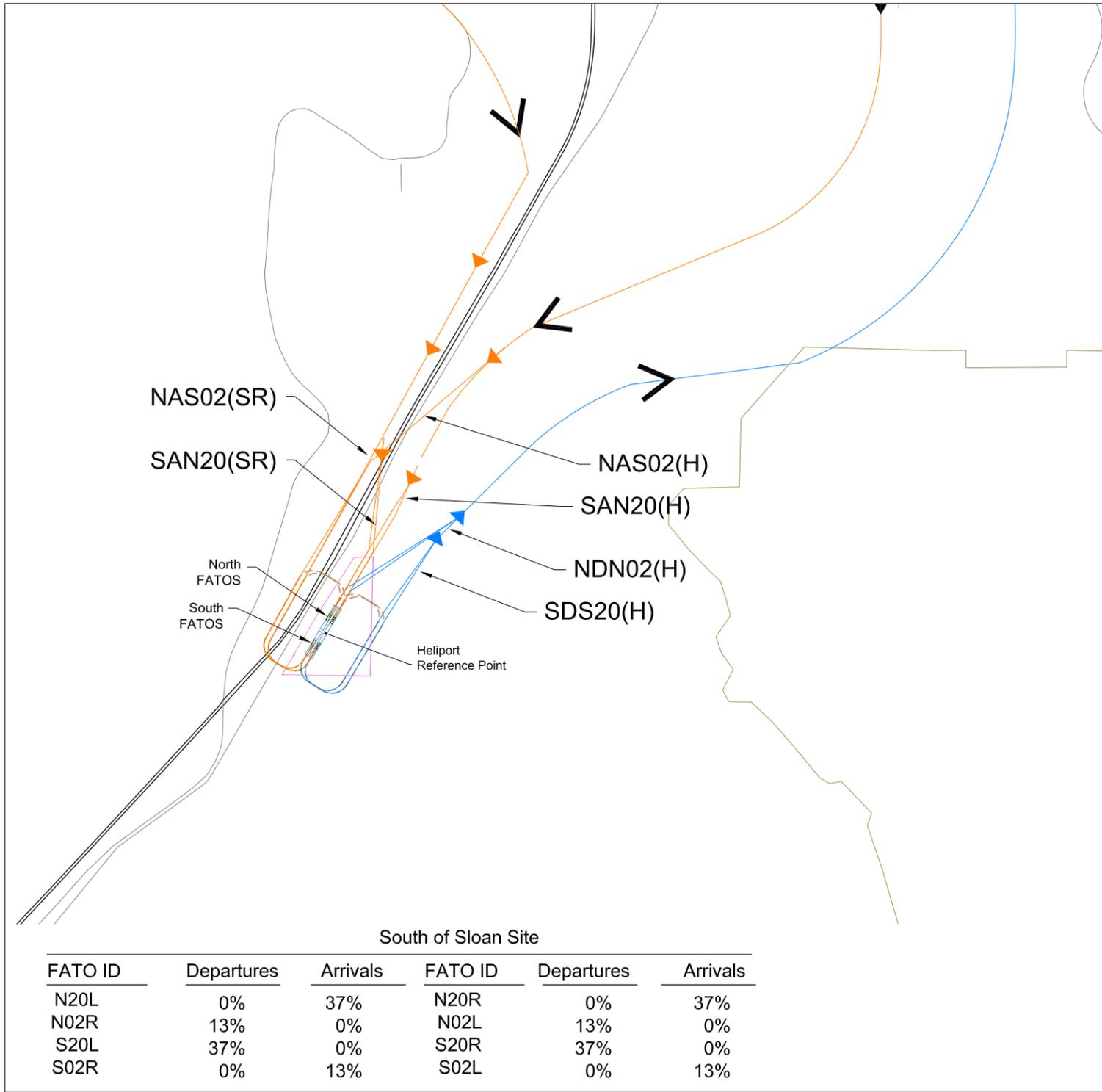
Exhibit D-3, Flight Corridors for Heliport site – Scenario A (Henderson), shows the Henderson departure flight corridor being used 100 percent of the time. Arrivals are split, with 80 percent arriving via the Henderson flight corridor and 20 percent arriving via the Charleston and Strip Railroad flight corridors. Exhibit D-4, Flight Corridors for Heliport Site – Scenario B (McCullough), shows the McCullough departure flight corridor being used 100 percent of the time. Arrivals are split, with 80 percent arriving via the McCullough flight corridor and 20 percent arriving via the Charleston and Strip Railroad flight corridors. Exhibit D-5, Flight Corridors for the Heliport site – Scenario C (Jean), shows the Jean flight corridor being used 100 percent of the time. Arrivals are split, with 80 percent arriving via the Jean flight corridor and 20 percent arriving via the Charleston and Strip Railroad flight corridors.

South of Sloan

Final Approach and Take Off Area (FATO)	Coordinates in State Plane NAD83 Nevada East X (Easting), Y (Northing)	Coordinates in NAD83 DATUM (converted from State Plane) LAT., LONG.	Coordinates in NAD83 DATUM (rounded to nearest .01 second) LAT.,LONG.
North 20L	764785.4452, 26661836.5075	35° 53' 24.50600", 115° 12' 59.82063"	35° 53' 24.51", 115° 12' 59.82"
North 02R	764642.3773, 26661595.8177	35° 53' 22.13088", 115° 13' 01.57044"	35° 53' 22.13", 115° 13' 01.57"
South 20L	764187.3299, 26660830.2705	35° 53' 14.57640", 115° 13' 07.13577"	35° 53' 14.58", 115° 13' 07.14"
South 02R	764044.2620, 26660589.5807	35° 53' 12.20125", 115° 13' 08.88546"	35° 53' 12.20", 115° 13' 08.89"
North 20R	764613.5239, 26661957.2521	35° 53' 25.70655", 115° 13' 01.90466"	35° 53' 25.71", 115° 13' 01.90"
North 02L	764470.4560, 26661698.0091	35° 53' 23.14792", 115° 13' 03.65531"	35° 53' 23.15", 115° 13' 03.66"
South 20R	764015.4086, 26660932.4618	35° 53' 15.59342", 115° 13' 09.22060"	35° 53' 15.59", 115° 13' 09.22"
South 02L	763872.3407, 26660691.7720	35° 53' 13.21825", 115° 13' 10.97028"	35° 53' 13.22", 115° 13' 10.97"
Heliport Reference Point	764414.8536, 26661213.0441	35° 53' 18.35365", 115° 13' 04.35314"	35° 53' 18.35", 115° 13' 04.35"

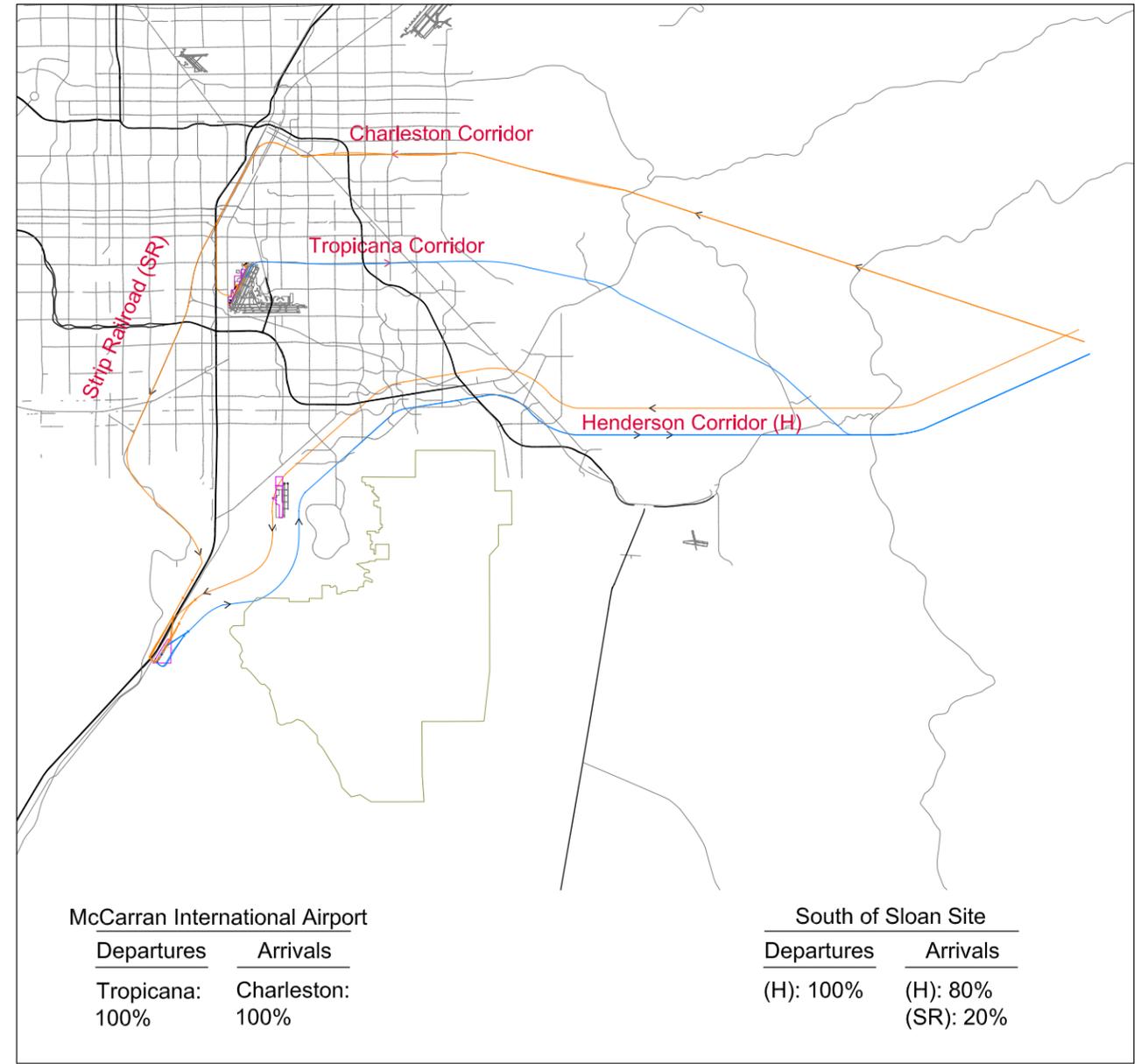
Sources: Ricondo & Associates, Inc.; Conceptual Heliport Layout Plan, HNTB, January 2007
 Prepared by: Ricondo & Associates, Inc., April 2008

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South of Sloan Site					
FATO ID	Departures	Arrivals	FATO ID	Departures	Arrivals
N20L	0%	37%	N20R	0%	37%
N02R	13%	0%	N02L	13%	0%
S20L	37%	0%	S20R	37%	0%
S02R	0%	13%	S02L	0%	13%

LOCAL ROUTES



McCarran International Airport		South of Sloan Site	
Departures	Arrivals	Departures	Arrivals
Tropicana: 100%	Charleston: 100%	(H): 100%	(H): 80% (SR): 20%

CORRIDORS



Notes: Nighttime flights (10 pm to 6:59 am): 1%
Heliport elevation per FAA Form 7480: 3,120 feet

Legend

- Sloan Canyon Boundary
- Arrivals
- Departures
- Streets
- Major Roads
- Corridor FATO identifier
- Arrivals (A) or Departures (D)
- South Operations (SOPS) or North Operations (NOPS)

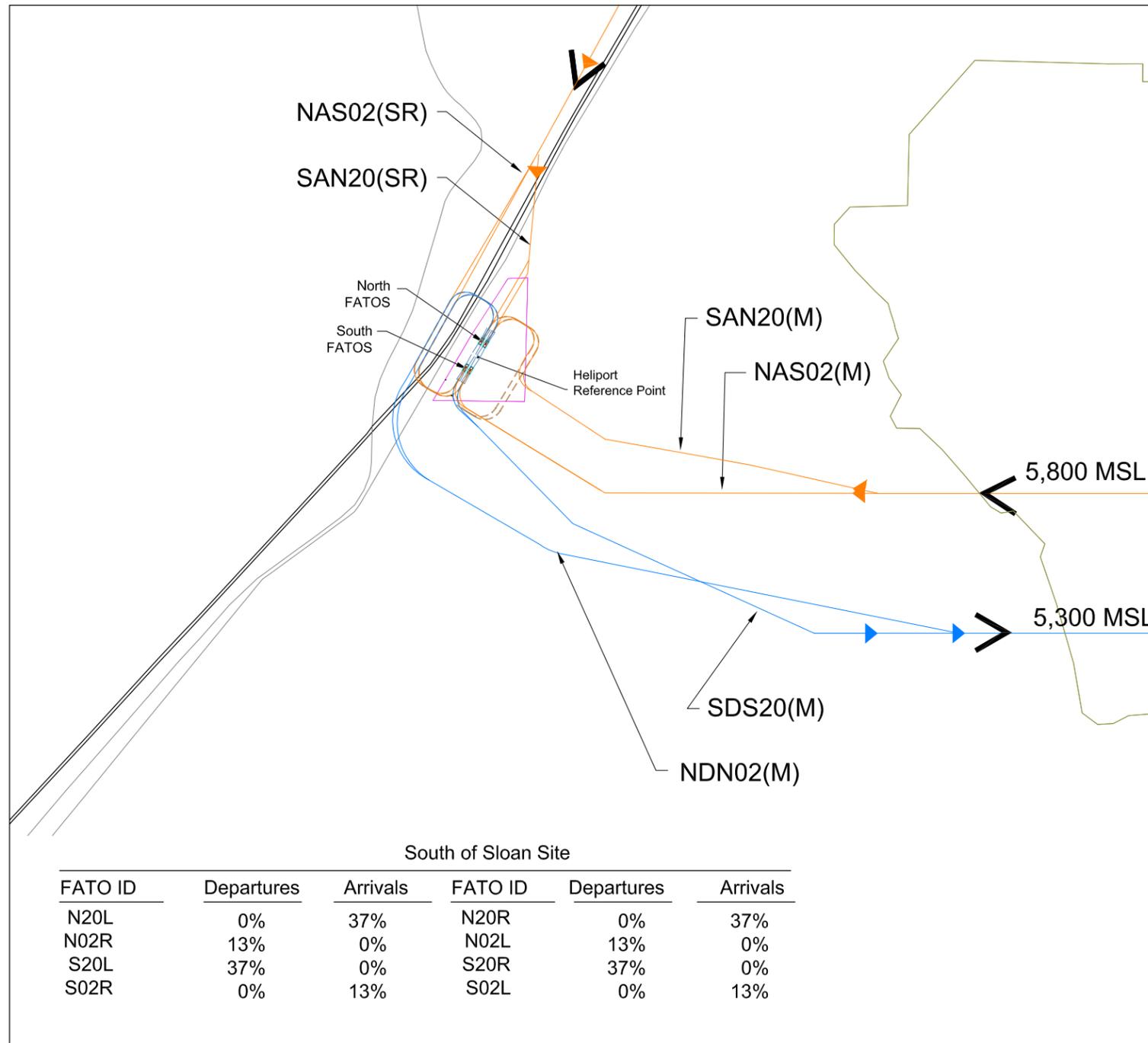
Sources: Ricondo & Associates, Inc.; ASRC Research and Technology Solutions; Clark County Department of Aviation; FAA Form 7480; Conceptual Heliport Layout Plan, HNTB, January 2007
Prepared by: Ricondo & Associates, Inc., April 2008



Exhibit D-3

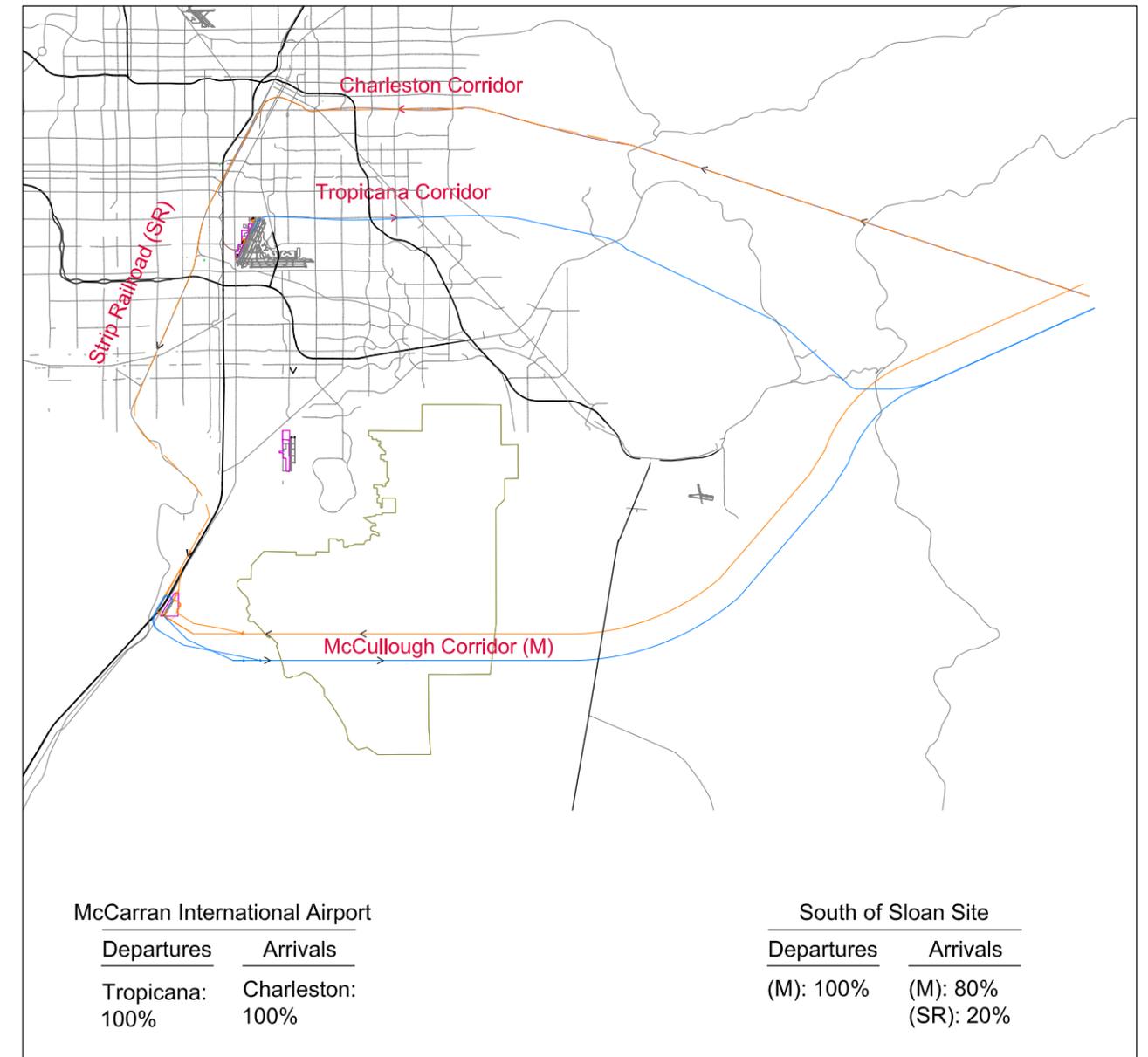
Flight Corridors for South of Sloan Site
Scenario A (Henderson)

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South of Sloan Site					
FATO ID	Departures	Arrivals	FATO ID	Departures	Arrivals
N20L	0%	37%	N20R	0%	37%
N02R	13%	0%	N02L	13%	0%
S20L	37%	0%	S20R	37%	0%
S02R	0%	13%	S02L	0%	13%

LOCAL ROUTES



McCarran International Airport	
Departures	Arrivals
Tropicana: 100%	Charleston: 100%

South of Sloan Site	
Departures	Arrivals
(M): 100%	(M): 80% (SR): 20%

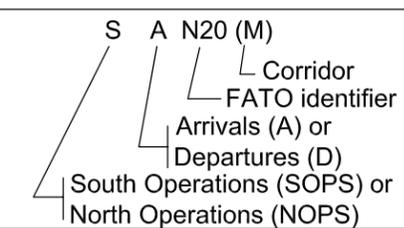
CORRIDORS



Notes: Nighttime flights (10 pm to 6:59 am): 1%
Heliport elevation per FAA Form 7480: 3,120 feet

Legend

- Sloan Canyon Boundary
- Arrivals
- Departures
- Streets
- Major Roads



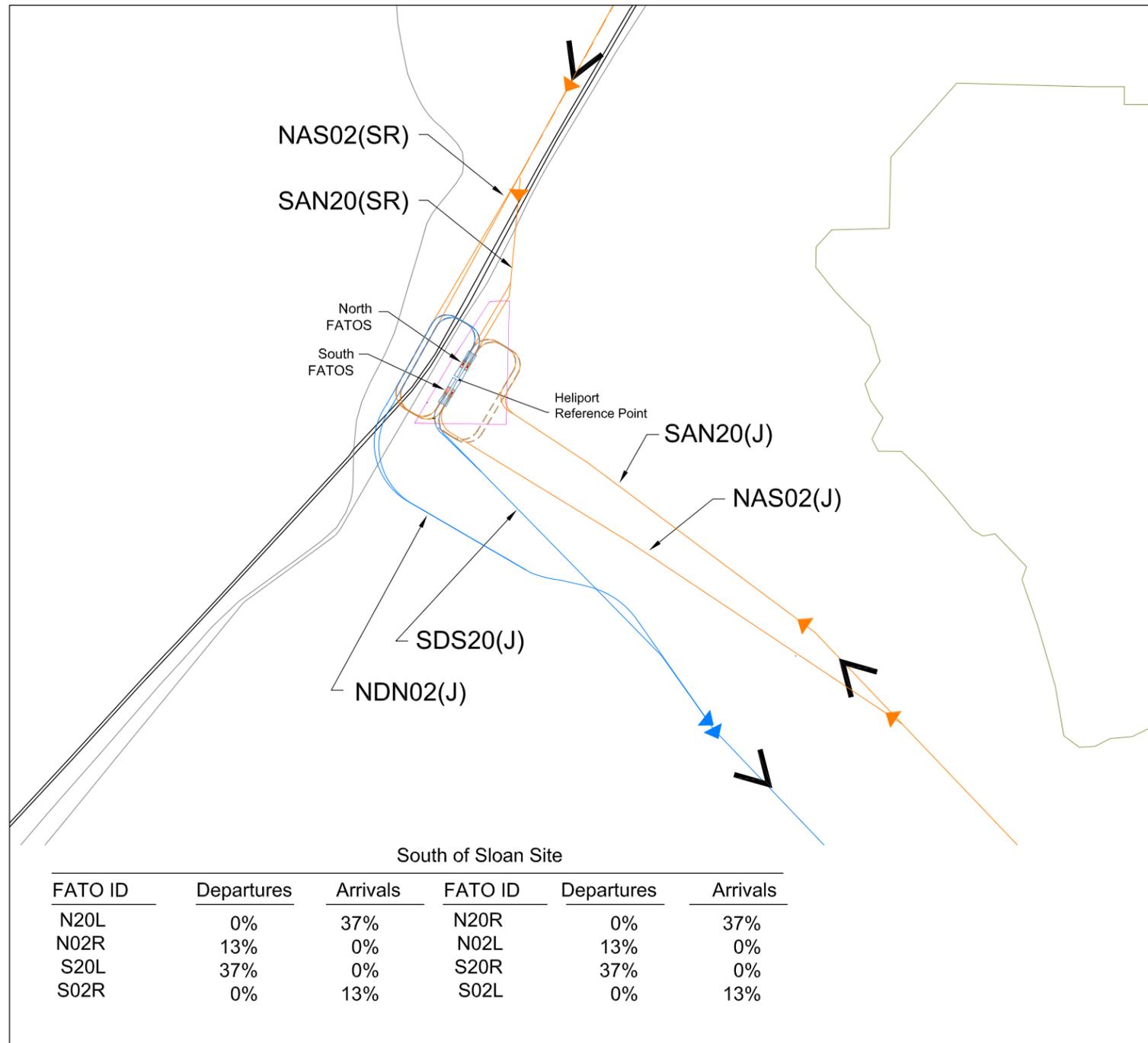
Sources: Ricondo & Associates, Inc.; ASRC Research and Technology Solutions; Clark County Department of Aviation; FAA Form 7480; Conceptual HLP, HNTB, January 2007
Prepared by: Ricondo & Associates, Inc., April 2008



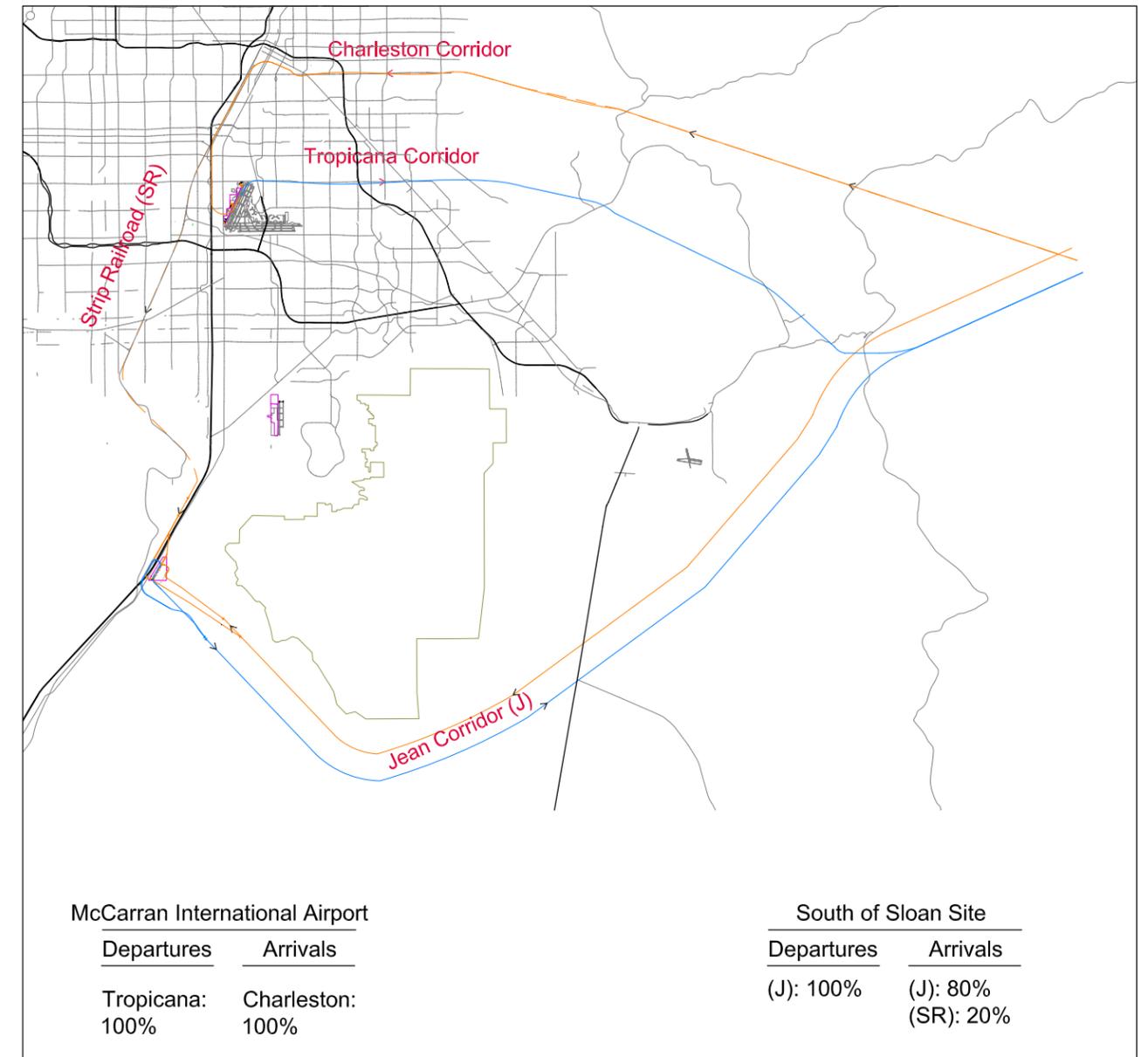
Exhibit D-4

Flight Corridors for South of Sloan Site
Scenario B (McCullough)

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LOCAL ROUTES



CORRIDORS



Notes: Nighttime flights (10 pm to 6:59 am): 1%
Heliport elevation per FAA Form 7480: 3,120 feet

Legend

- Sloan Canyon Boundary
- Arrivals
- Departures
- Streets
- Major Roads
- South Operations (SOPS) or North Operations (NOPS)
- Arrivals (A) or Departures (D)
- Corridor FATO identifier

Sources: Ricondo & Associates, Inc.; ASRC Research and Technology Solutions; Clark County Department of Aviation; FAA Form 7480; Conceptual HLP, HNTB, January 2007
Prepared by: Ricondo & Associates, Inc., April 2008



Exhibit D-5

Flight Corridors for South of Sloan Site
Scenario C (Jean)

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D.4 Ambient Noise Level Monitoring

The ambient noise environment in the vicinity of McCarran International Airport and the Heliport site and in the vicinity of potential helicopter flight corridors associated with each site was evaluated through a noise-monitoring program. Continuous noise monitoring for a minimum of 24 hours was conducted at 10 locations³ as shown on Exhibit III-5 in Chapter III. Two of the noise-monitoring sites represent alternative heliport sites, noted as McCarran International Airport and South of Sloan (Proposed Action), and eight of the noise monitoring sites are located underneath or near existing or potential helicopter flight corridors, noted as R1 through R8. **Exhibits D-6 through D-15** summarize the hourly L_{max} , L_{eq} , and L_{90} noise levels measured at each site, along with the measured DNL for the 24-hour noise-monitoring period. A photograph of each noise monitoring site and the noise monitoring equipment set up at each site is included with each exhibit. The exhibits demonstrate that noise levels vary during the day and night, with the lowest noise levels generally occurring during the late night and early morning hours.

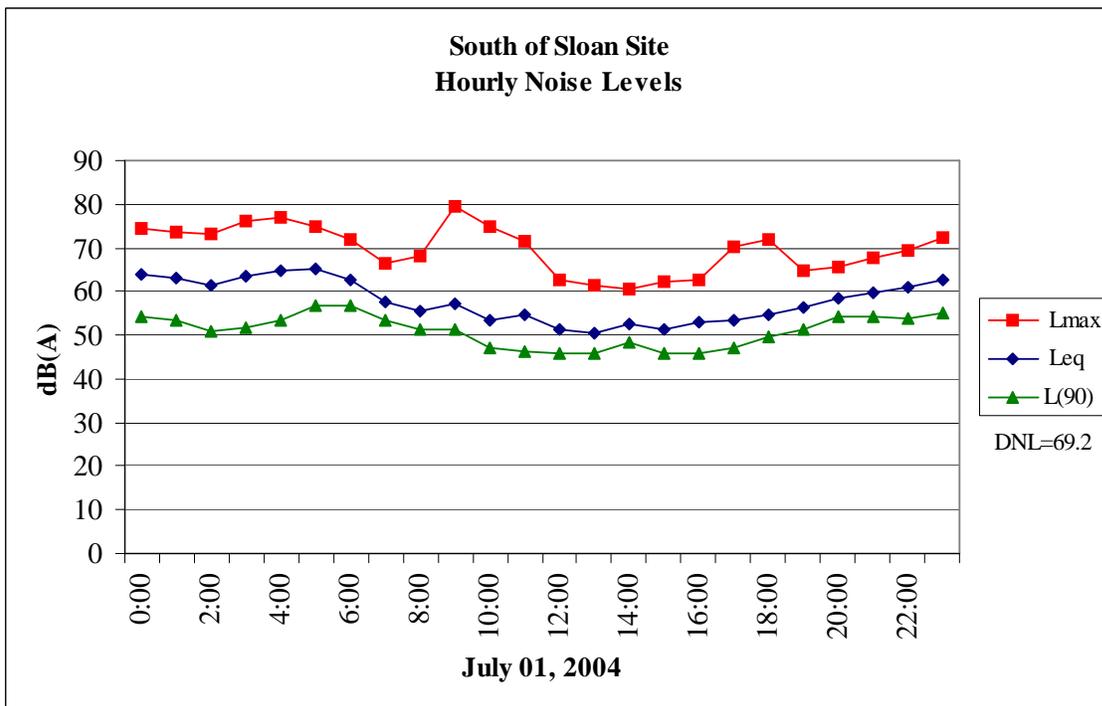
Ambient noise level measurements were recorded during July and October 2004. Noise monitoring equipment consisted of Larson-Davis Laboratories (LDL) Model 820 sound level analyzers equipped with Bruel & Kjaer (B&K) Type 4176 0.5-inch microphones. The instrumentation was calibrated prior to use with a B&K Type 4230 acoustic calibrator, and complies with applicable requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

The LDL Model 820 sound level analyzers run continuously with a sampling rate of 32 per second. The analyzers calculate various statistical descriptors of noise and DNLs for each 24-hour noise measurement period. As discussed previously, DNL is the average sound pressure level in A-weighted decibels for an average day of the year. DNL is calculated using the sound energy generated by individual aircraft operations (arrivals or departures), the number of operations occurring during a theoretical average 24-hour period, and the time of day the operations occur. A 10-dB weighting penalty is added for aircraft or helicopter operations occurring between 10:00 p.m. and 6:59 a.m.

In addition to the 10 sites noted above, ambient noise monitoring data from two locations beneath the Overflight Area, from an unrelated project conducted by the Federal Aviation Administration⁴, was also evaluated. These two noise monitoring sites, noted as L05 and L07, are also shown on Exhibit II-5 in Chapter III. **Exhibits D-16 through D-17** summarize the average hourly L_{eq} and L_{90} noise levels measured by the FAA at each site, along with the estimated DNL for the noise-monitoring period. DNL values were estimated based upon average hourly L_{eq} data from the above-referenced FAA study since measured DNL values were not reported in that document. A photograph of FAA sites L05 and L07 and the noise monitoring equipment setup at each of those sites is included with the exhibits. The exhibits demonstrate that noise levels vary during the day and night, with the lowest noise levels generally occurring during the late night and early morning hours.

3 Noise monitoring sites were selected by Brown-Buntin Associates, Inc. with input from the CCDOA and the Bureau of Land Management.

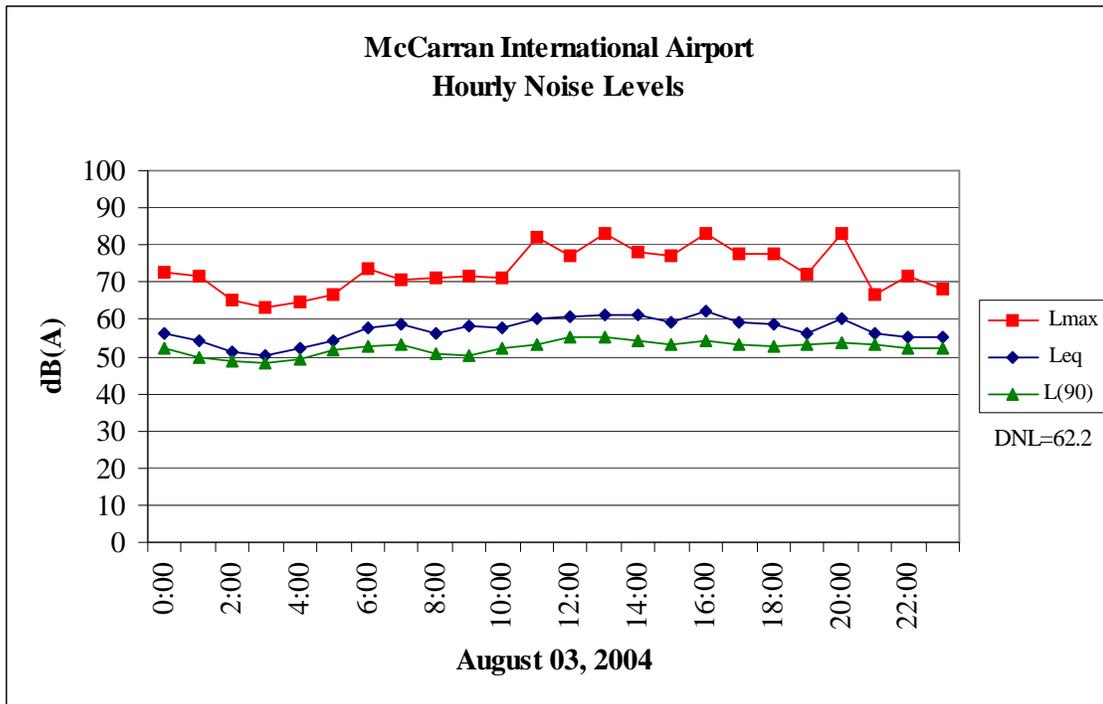
4 FAA, *Baseline Ambient Sound Levels in Lake Mead National Recreation Area (DOT-VNTSC-FAA-06-13, April 2006.*



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-6

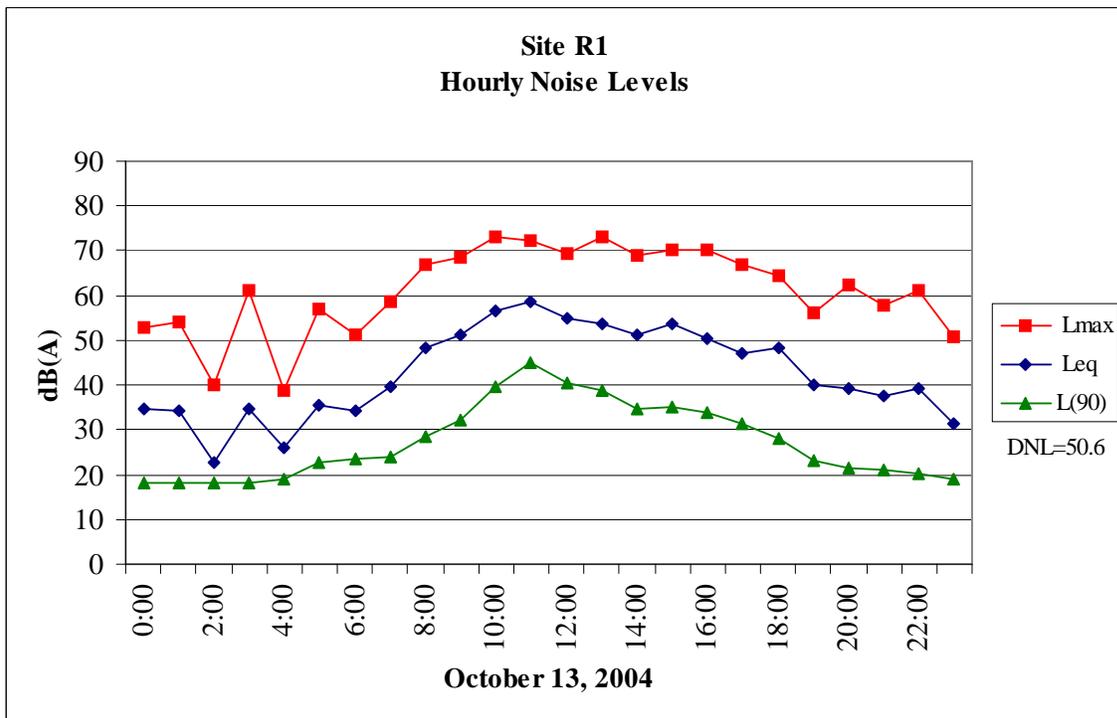
**Ambient Noise Monitoring Results
South of Sloan Site**



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-7

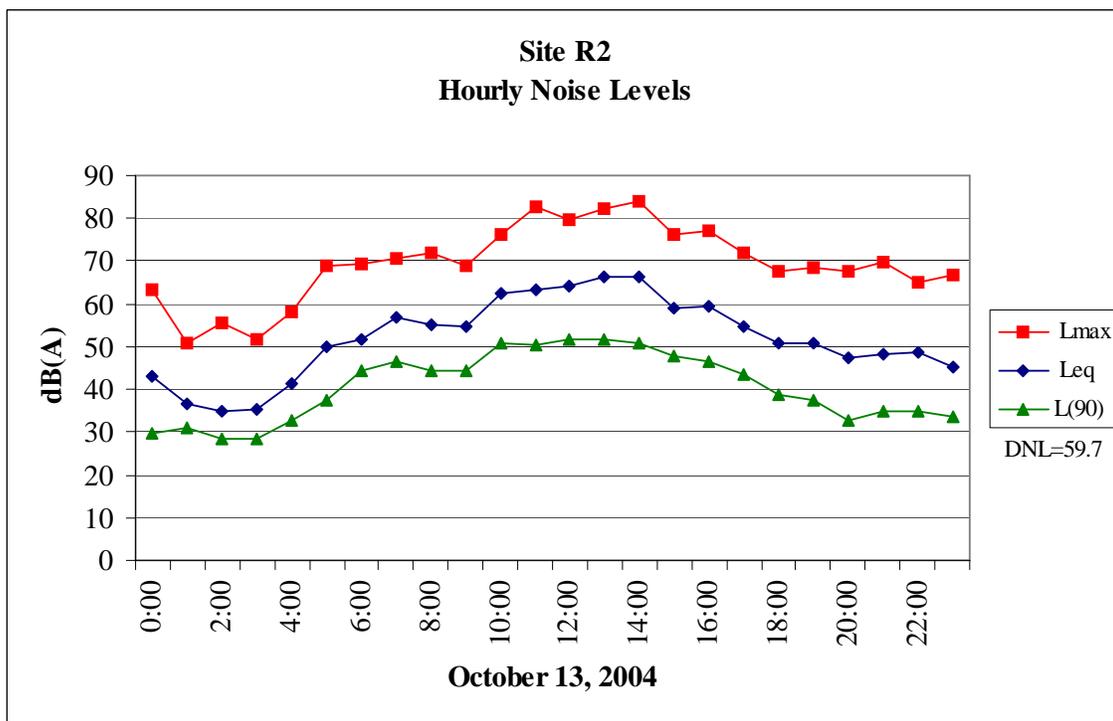
Ambient Noise Monitoring Results McCarran International Airport



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-8

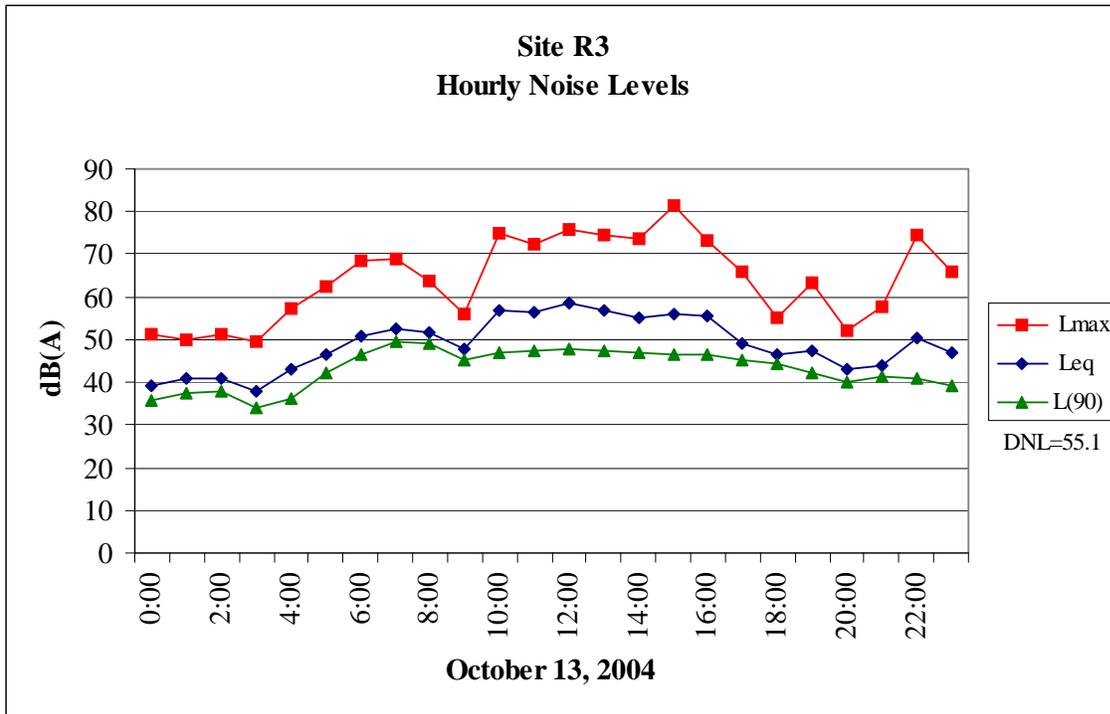
**Ambient Noise Monitoring Results
Site R1**



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-9

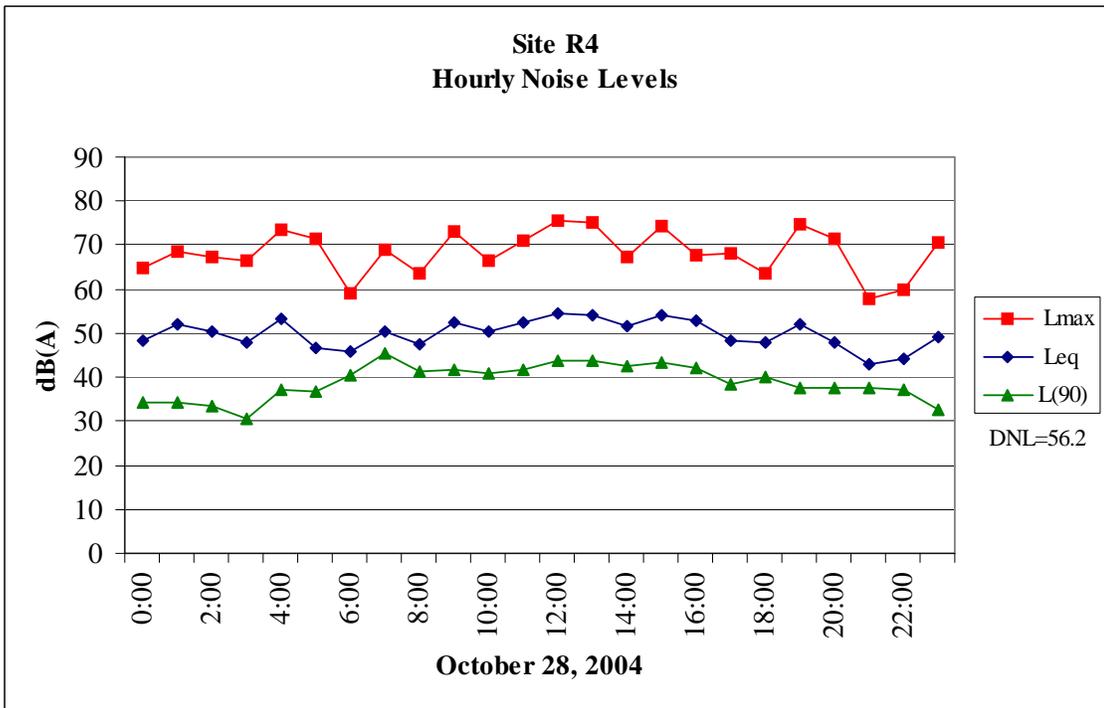
Ambient Noise Monitoring Results Site R2



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-10

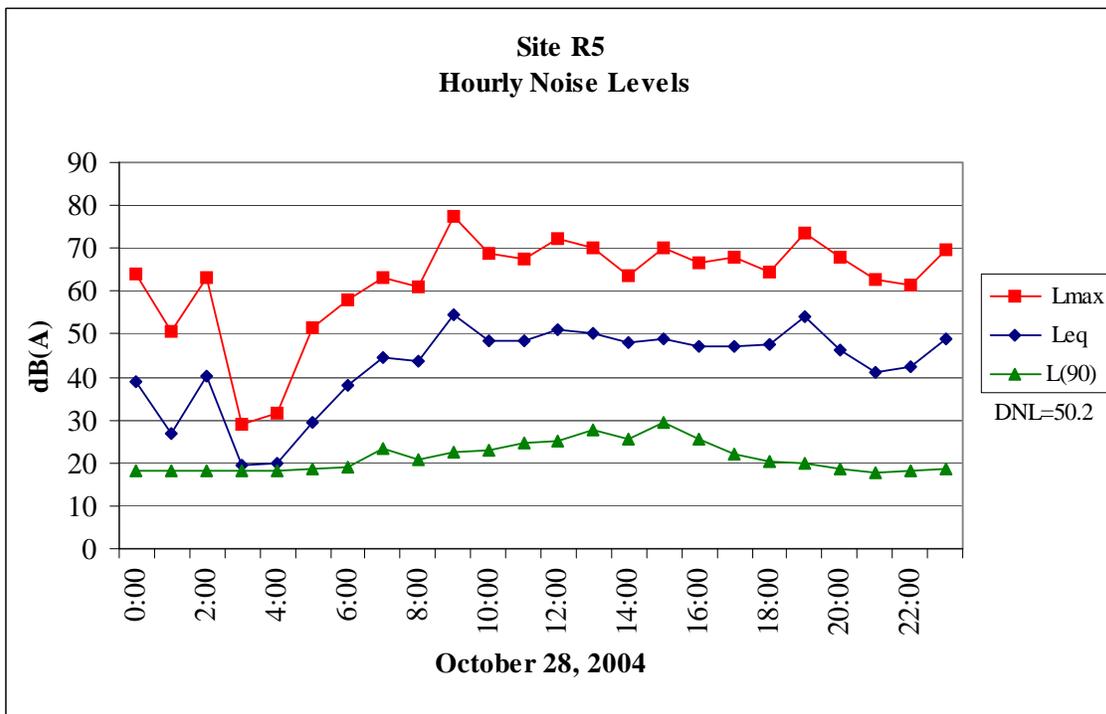
**Ambient Noise Monitoring Results
Site R3**



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-11

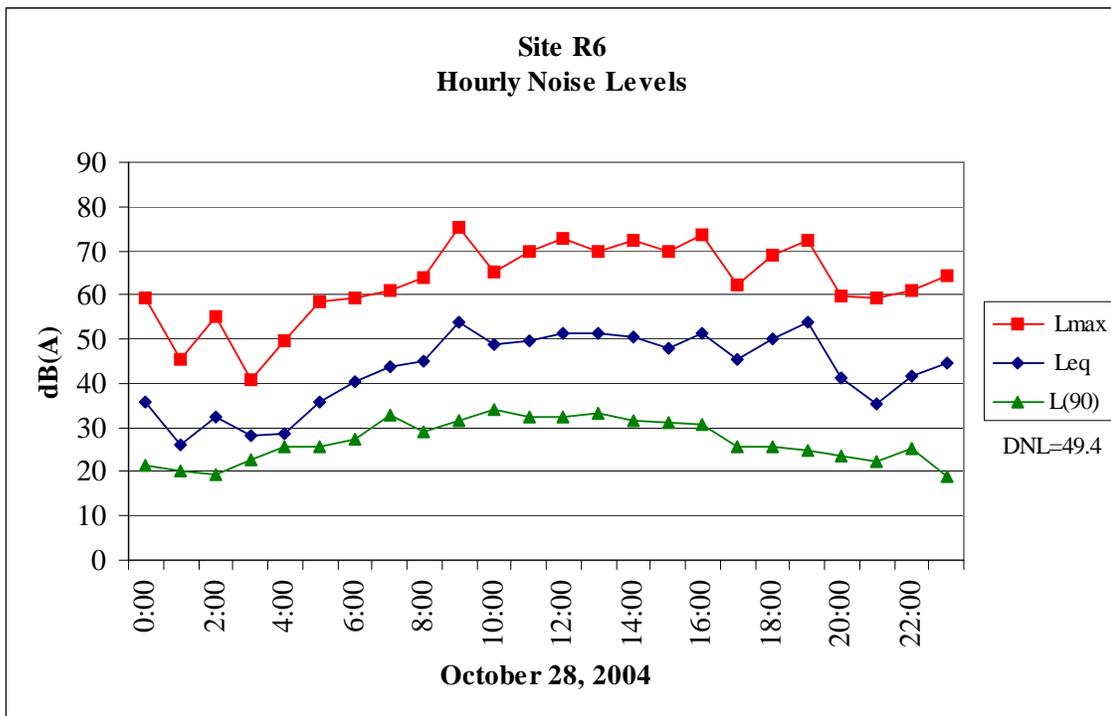
**Ambient Noise Monitoring Results
Site R4**



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-12

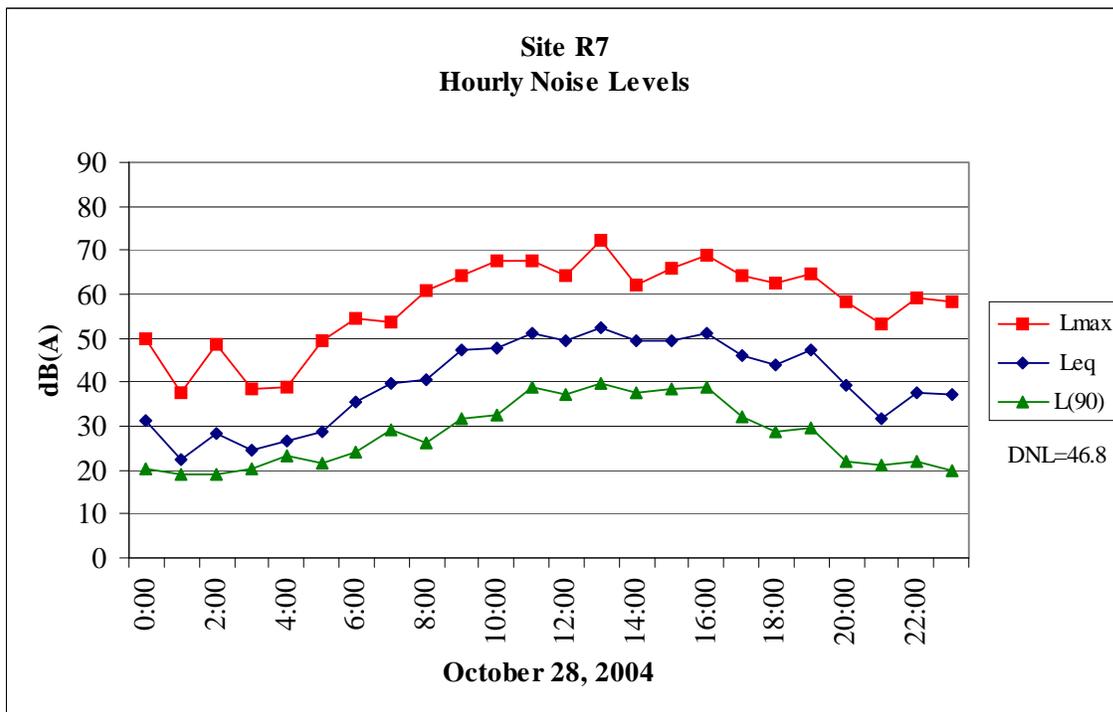
Ambient Noise Monitoring Results Site R5



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-13

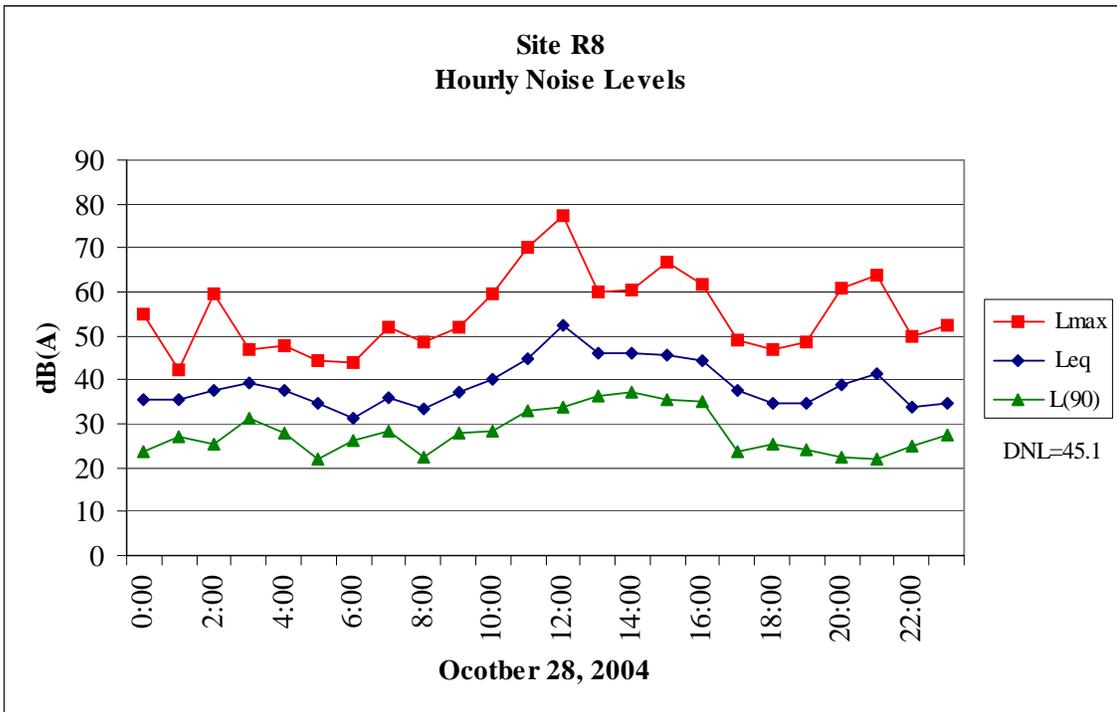
Ambient Noise Monitoring Results Site R6



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-14

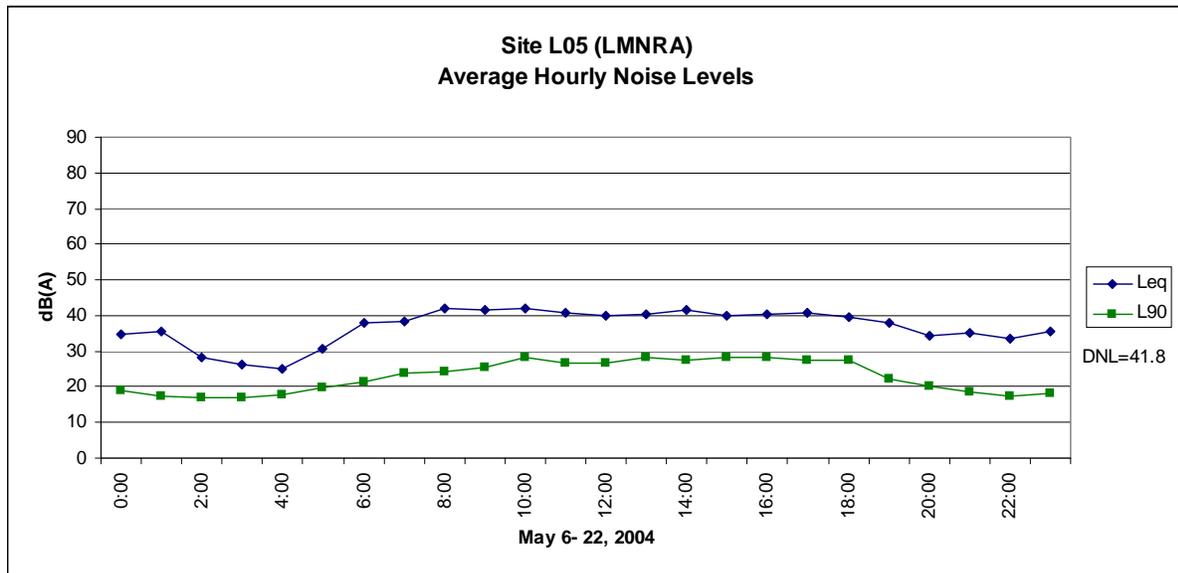
**Ambient Noise Monitoring Results
Site R7**



Source: Brown-Buntin Associates, Inc.
 Prepared by: Brown-Buntin Associates, Inc., April 2008

Exhibit D-15

Ambient Noise Monitoring Results Site R8

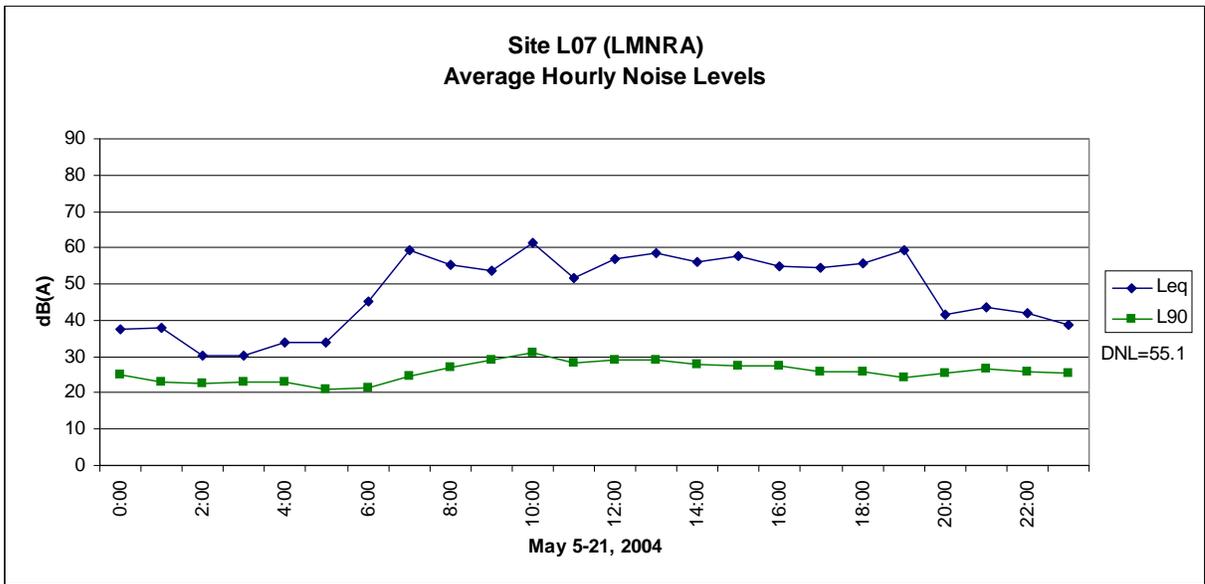


Source: Baseline Ambient Sound Levels in Lake Mead National Recreation Area

Source: Brown-Buntin Associates, Inc.
Prepared by: Brown-Buntin Associates, Inc., December 2008

Exhibit D-16

Ambient Noise Monitoring Results
Site L05



Source: Brown-Buntin Associates, Inc.
Prepared by: Brown-Buntin Associates, Inc., December 2008

Exhibit D-17

Ambient Noise Monitoring Results
Site L07

D.5 Noise Grid Analysis for Locations of Interest (LOIs)

Cumulative noise exposure near existing and potential helicopter flight corridors was evaluated for the ten noise monitoring locations described in Section D.4, including FAA sites L05 and L07, and at seven supplemental locations representing noise-sensitive locations in the region, such as residential areas, schools, recreation areas, and potential animal habitats. These locations, referred to as grid points, are shown on Exhibit IV-5 in Chapter IV. **Table D-5** indicates the land use or receptor represented by the grid points, and summarizes the ranges of predicted helicopter noise exposure for each grid point. These ranges in noise exposure were determined using the INM, and represent helicopter activity levels that would occur under the Proposed Action or No Action alternative. Helicopter noise levels are reported in terms of cumulative (DNL) and single-event (L_{max}) exposure. The L_{max} is considered a supplementary noise metric, and L_{max} values are reported for informational purposes.

Noise exposure underneath or near the existing and potential helicopter flight corridors is dependent partly on the altitude at which the helicopters would be flown. For the purposes of the noise analysis, the lowest altitude analyzed for helicopter flight corridors was 300 feet AGL. This is the minimum altitude above the ground required by 14 CFR Part 135, *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft*.

According to the air tour operators, the minimum expected vertical distance between the helicopters and the terrain along the routes during Grand Canyon helicopter air tours would be 500 feet when feasible. This would be a voluntary action on the part of the air tour operators.⁵

Helicopter DNL values were calculated at the reference grid points using Version 7.0 of the INM. The calculation procedure consisted of using the INM to determine SEL values for individual overflights by the AS350 and EC130 helicopter types and then combining predicted SEL values with the forecast number of helicopter operations on the closest helicopter flight corridors to the grid points. Calculations were conducted for both the 2011 and 2017 helicopter activity levels. The DNL values reported in Table D-5 represent potential helicopter flight altitudes ranging from 300 to 1500 feet AGL. Typically, for receptors located directly beneath a flight corridor, the highest DNL values would occur when the helicopters are at the lowest potential altitude. However, for receptors located farther away from flight corridors, the highest DNL values may occur when the helicopters are relatively higher above the ground. This occurs because absorption of noise by the ground (referred to as lateral attenuation) increases with distance from the helicopter flight corridor and as the angle of the helicopter above the ground becomes smaller with reference to the receptor location.

⁵ 14 CFR Part 135, *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft*, requires a minimum altitude of 300 feet AGL for helicopter operations when over congested areas; however, the Grand Canyon helicopter tour operators currently attempt to achieve a minimum altitude of 500 feet AGL.

Table D-5

Summary of Helicopter Noise Levels at Locations of Interest

Grid Point ^{1/}	Representative Land Use	Nearest Helicopter Flight Corridor(s) ^{2/}	Distance to Nearest Flight Corridor(s) (feet)	Measured Ambient Noise Level (DNL) ^{3/}	Predicted Helicopter Noise Levels (DNL) No Action Alternative ^{7/}		Predicted Helicopter Noise Levels (DNL) Proposed Action ^{7/}		Predicted Single Event Helicopter Noise Levels (L _{max}) ^{4/}	
					2011	2017	2011	2017	EC130	SA350D
R1	Recreation area (trail)	Charleston	0	50.6	44-53	45-55	39-49	40-50	61-78	65-80
R2	Abandoned mine	Tropicana	3,310	59.7	34-37	34-38	29-32	30-33	47-53	51-59
R3	Undeveloped land	Henderson (Inbound/Outbound)	7,600/2,340	55.1	n.a.	n.a.	39-43	40-43	53-58	55-62
R4	Undeveloped land	Henderson (Inbound/Outbound)	21,580/16,330	56.2	n.a.	n.a.	<25	<25	<35	<35
R5	Sloan Canyon petroglyphs	McCullough (Inbound/Outbound)	8,110/13,520	50.2	n.a.	n.a.	26-28	26-29	31-37	36-43
R6	Wilderness area with hiking trails	McCullough (Inbound/Outbound)	2,580/2,580	49.4	n.a.	n.a.	40-43	40-44	51-56	54-60
R7	Wilderness area with hiking trails	Jean (Inbound/Outbound)	3,170/2,090	46.8	n.a.	n.a.	42-44	42-44	55-59	57-63
R8	Electric power substation	Jean (Inbound/Outbound)	1,810/3,410	45.1	n.a.	n.a.	42-43	43-45	46-52	51-57
G1	Residential/school area	Charleston	5,300	n.a.	27-33	28-34	22-28	22-28	39-45	44-51
G2	Recreation area (campsite)	Tropicana	1,430	n.a.	43-47	44-48	38-43	39-43	59-66	62-69
G3	Residential area	Henderson (Inbound/Outbound)	8,080/2,880	n.a.	n.a.	n.a.	36-40	36-40	49-55	52-59
G4	Recreation area (trail)	Henderson (Inbound/Outbound)	22,420/17,110	n.a.	n.a.	n.a.	<25	<25	<35	<35
G5	Wilderness/habitat area	McCullough (Inbound/Outbound)	3,320/8,730	n.a.	n.a.	n.a.	33-37	33-37	47-53	51-57
G6	Wilderness/habitat area	Jean (Inbound/Outbound)	8,200/13,580	n.a.	n.a.	n.a.	26-28	26-29	31-37	36-43
G7	Residential area	Strip Railroad	0	n.a.	n.a.	n.a.	37-47	38-48	61-78	65-80
L05 ^{5/}	Semi-primitive/natural	McCullough/Jean (Outbound)	2,440	41.8 ^{6/}	n.a.	n.a.	36-41	36-42	53-58	55-62
L07 ^{5/}	High use	Charleston	1,100	55.1 ^{6/}	43-48	44-49	38-44	39-45	60-70	63-73

Notes:

n.a. = Not applicable

DNL = Day-night average sound level, expressed in A-weighted decibels

^{1/} Grid point locations are shown on Exhibit IV-5. Noise measurements were conducted at Sites R1 through R8 and Sites L05 and L07 in 2004.^{2/} Existing and potential helicopter flight corridors are shown on Exhibit IV-5.^{3/} Ambient noise level data are from Table III-2. Sites G1-G7 are supplemental grid point locations where noise levels were calculated using the INM. Ambient noise measurements were not conducted at those locations.^{4/} Predicted L_{max} values are shown as a range for individual overflights by the SA350D and EC130 helicopter types at altitudes ranging from 300 feet to 1500 feet above the observer location (grid point).^{5/} FAA ambient noise monitoring site and data as described in *Baseline Ambient Sound Levels in Lake Mead National Recreation Area* (DOT-VNTSC-FAA-06-13), April 2006.^{6/} DNL values estimated from hourly L_{eq} data measured by the FAA as referenced in Note 5 above.^{7/} Predicted DNL values are for potential helicopter flight altitudes ranging from 300 feet to 1500 feet above the observer location (grid point).

Source: Brown-Buntin Associates, Inc.

Prepared by: Ricondo & Associates, Inc., December 2008

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Based on the INM grid point analysis, it is expected that the highest DNLs would occur at the grid points closest to the existing or potential helicopter flight corridors. The highest DNLs would occur at grid points R1 (recreation area/trail) and G7 (residential area). The lowest DNLs (less than 25 dBA) would occur at grid points R4 (undeveloped land) and G4 (recreation area/trail). At all grid points, calculated helicopter DNLs are predicted to be below the FAA's DNL 65 significance threshold. In addition, at Sites R1 through R8, and FAA Sites L05 and L07, predicted DNLs from helicopter operations alone under the Proposed Action for 2011 and 2017 are anticipated to be comparable to or less than existing DNL values as measured during ambient noise level monitoring at the same locations in 2004. Similarly, the highest helicopter L_{max} noise levels would also occur at grid points R1 and R7 and the lowest helicopter L_{max} noise levels would also occur at grid points R4 and G4.

D.6 Helicopter Single Event Noise Level Measurements

Noise from individual helicopter overflights, coordinated directly with the pilot in command to ensure a valid "fly-by" noise event was captured, was measured at seven of the eight ambient noise monitoring locations discussed in Section D.4. These locations are the same as those used to document existing ambient noise levels from all sources affecting the proposed Heliport site, but the "fly-by" noise assessment focused on direct helicopter overflight noise levels. These individual (or "fly-by") monitoring sites are shown on Exhibit IV-5.

At sites near existing air tour routes (Sites R1 and R2), single event noise was measured during normal scheduled air tour operations. Single event noise was measured during pre-arranged test flights at Sites R4 through R8. (Single event noise was not measured at Site R3 because test flights could not be scheduled that would work within constraints imposed by ongoing fixed wing operations at Henderson Executive Airport. It is believed that single event noise levels at Site R3 are adequately represented by measurements at Sites R1, R2, and R4.)

Table D-6 summarizes the results of the single event helicopter noise monitoring at Sites R1 through R8. The mean (average) and range of measured maximum noise (L_{max}) and SELs for the observed helicopter flights are presented in the table. Table D-6 indicates that mean SELs for measured helicopter noise events ranged from approximately 57 to 85 dBA, and that mean L_{max} values for measured helicopter noise events ranged from approximately 43 to 76 dBA. The variability in measured noise levels was primarily caused by differences in the distance between helicopter flight routes and individual monitoring sites. The highest noise levels were recorded at Sites R6, R7, and R8, where helicopters consistently flew almost directly overhead during the test flights. The lowest noise levels were recorded at Site R5 (Sloan Canyon petroglyphs), where the closest potential helicopter flight corridor is more than a mile to the north.

Table D-6

Summary of Measured Single Event Noise Levels of Helicopter Overflights

Site ^{1/}	Helicopter Type	Number Sampled	L _{max} , (dBA) Average (Range)	SEL (dBA) Average (Range)	Azimuth ^{2/} (Degrees)
R1	AS350	11	58.3 (53.2-65.3)	72.1 (65.3-76.3)	45-90
R2	AS350	16	67.2 (59.9-70.0)	77.3 (69.7-79.7)	60-90
	EC130	2	68.9 (68.0-69.8)	77.7 (77.5-77.8)	90
R4	AS350	5	69.3 (68.3-70.2)	79.6 (79.0-80.5)	45-60
	EC130	5	67.8 (66.3-68.3)	77.7 (76.7-78.3)	45-60
R5	AS350	5	48.5 (44.5-50.2)	59.4 (55.9-61.5)	30
	EC130	5	46.9 (42.6-48.5)	56.9 (51.8-58.1)	30
R6	AS350	10	70.6 (67.9-73.6)	81.9 (79.0-84.4)	60-90
	EC130	5	67.3 (64.2-69.5)	77.1 (74.7-78.0)	75
R7	AS350	5	74.9 (72.3-76.4)	85.1 (83.6-86.4)	90
R8	AS350	6	70.2 (67.5-73.8)	81.7 (78.5-84.2)	60-75

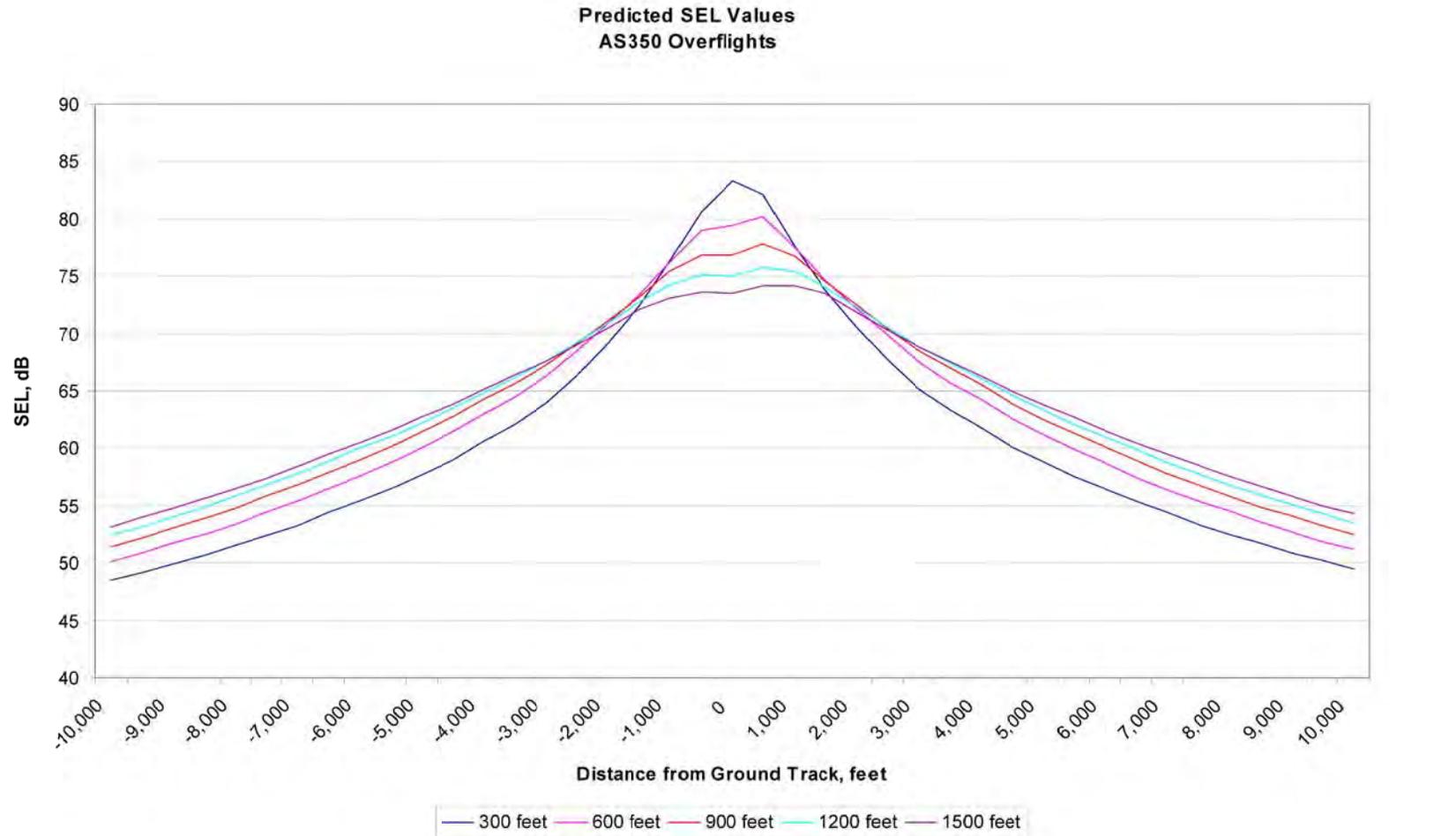
Notes:

- L_{max} = The maximum A-weighted sound level (L_{max}) is the loudest part of a noise event, measured in decibels. As an aircraft passes an observer overhead, the noise increases to a maximum level and then decreases.
- SEL = Sound exposure level (SEL) is a time-integrated measure, expressed in decibels, of the sound energy of a single noise event at a reference duration of one second.
- 1/ Designations correspond to the monitoring site locations shown on Exhibit IV-5.
- 2/ The azimuth is the angle between the aircraft flight path and the microphone at the point when the aircraft is closest to the microphone. An azimuth of 90 degrees means that the aircraft passed directly over the microphone.

Source: Brown-Buntin Associates, Inc., January 2005
 Prepared by: Ricondo & Associates, Inc., December 2008

D.7 Predicted Single Event Noise Levels Beneath or near Helicopter Flight Tracks

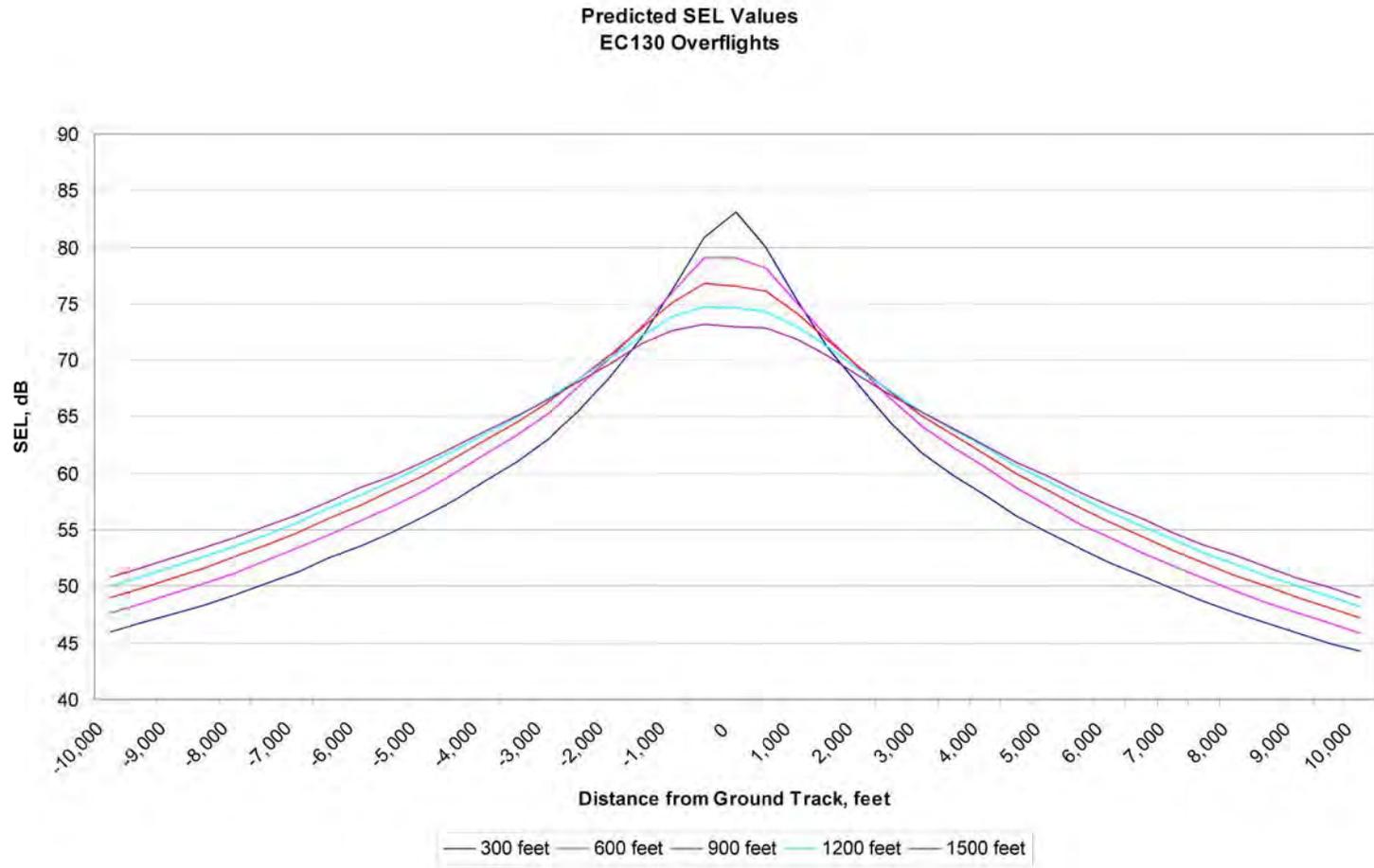
Exhibits D-18 and **D-19** depict SEL values predicted by Version 7.0 of the INM for the AS350 and the EC130 helicopter types, respectively, at a range of flight altitudes and lateral distances from the flight route. **Exhibits D-20** and **D-21** depict L_{max} values predicted by Version 7.0 of the INM for the AS350 and the EC130 helicopter types, respectively. Based on the information shown on the exhibits, the AS350 helicopter registers approximately 0.2 dB higher than the EC130 helicopter when the helicopters are directly overhead. As lateral distance from the helicopter flight route increases, the difference between noise levels generated by the two helicopter types becomes more pronounced. On the left side of the helicopter, the EC130 is approximately 1.0 dB quieter than the AS350 at a lateral distance of 3000 feet from the flight route. On the right side of the helicopter, the EC130 is about 3.5 dB quieter than the AS350 at a lateral distance of 3000 feet from the flight route.



Source: Brown-Buntin Associates, Inc.
Prepared by: Brown-Buntin Associates Inc., December 2008

Exhibit D-18

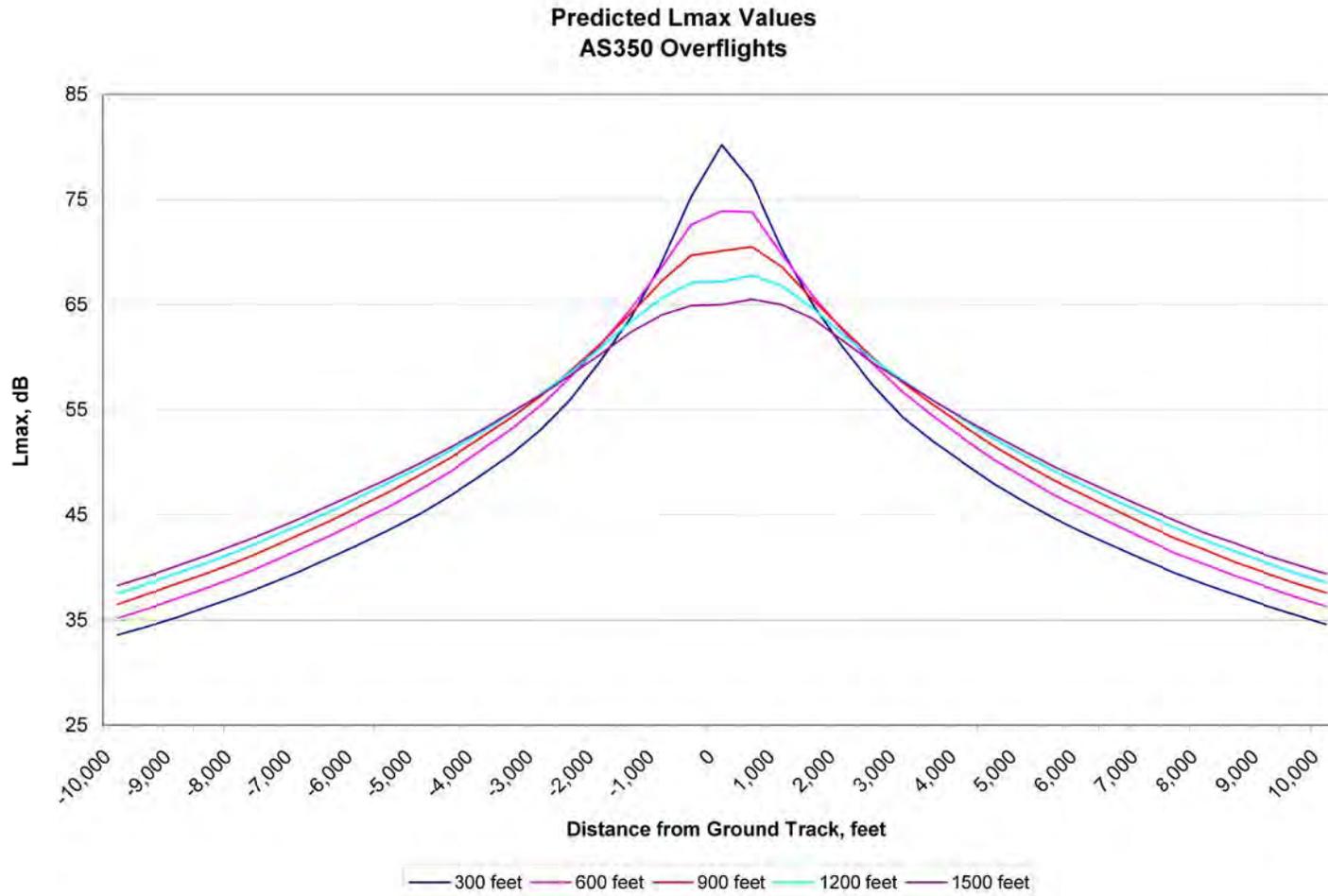
Predicted Single-Event Noise Levels AS350



Source: Brown-Buntin Associates, Inc.
Prepared by: Brown-Buntin Associates Inc., December 2008

Exhibit D-19

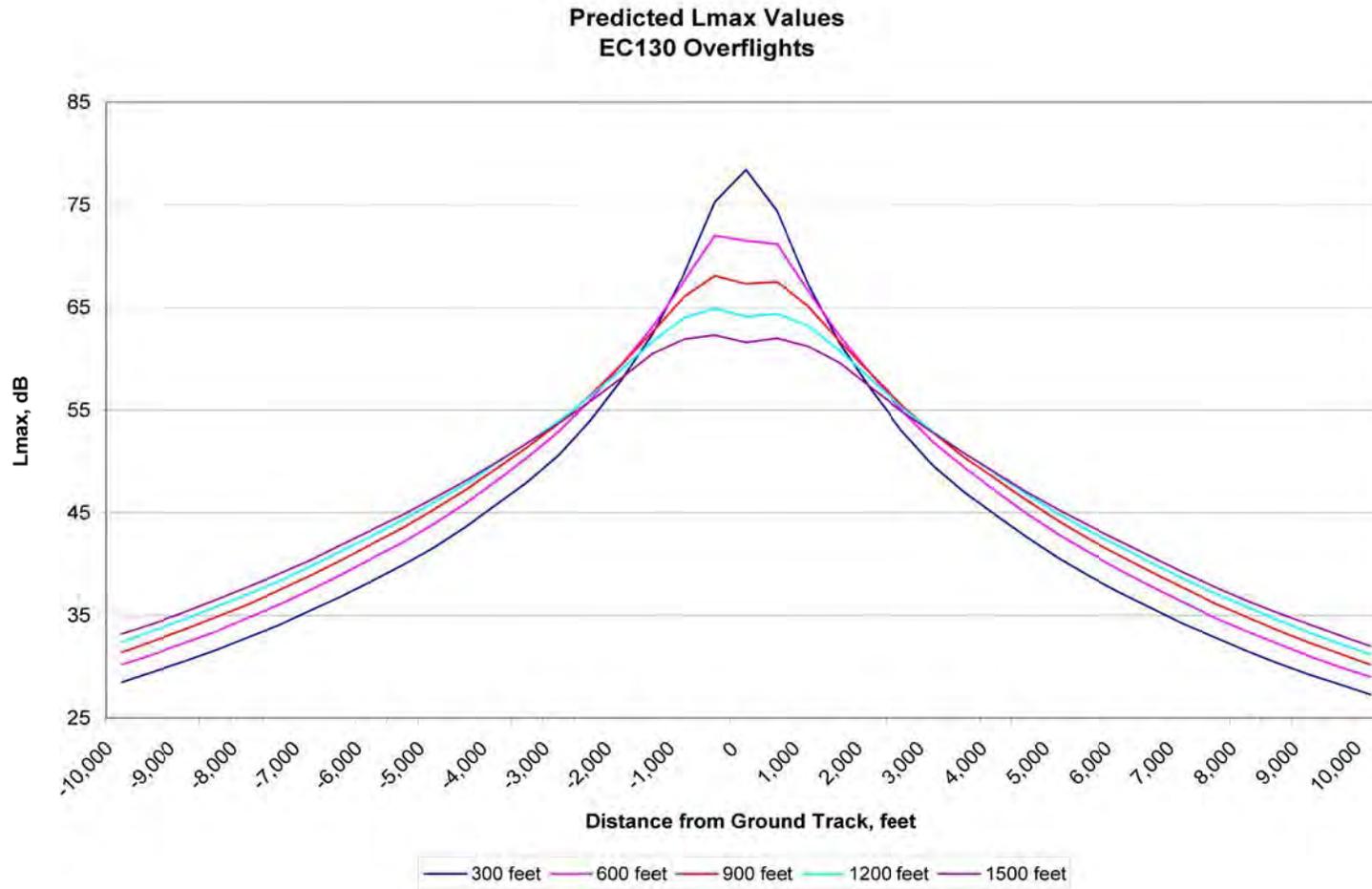
**Predicted Single-Event Noise Levels
EC130**



Source: Brown-Buntin Associates, Inc.
Prepared by: Brown-Buntin Associates Inc., December 2008

Exhibit D-20

**Predicted Lmax Values
AS 350**



Source: Brown-Buntin Associates, Inc.
Prepared by: Brown-Buntin Associates Inc., December 2008

Exhibit D-21

**Predicted Lmax Values
EC130**

As shown on Exhibit D-18, the highest predicted SEL for the AS350 helicopter (83.3 dBA) would occur when the helicopter is 300 feet AGL and at a location of zero feet horizontally from the center of the flight track. As shown on Exhibit D-19, the highest predicted SEL for the EC130 helicopter (83.1dBA) would also occur when the helicopter is 300 feet AGL and at a location of zero feet horizontally from the center of the flight track. Predicted SEL values shown in Exhibits D-18 and D-19 are comparable to SEL values measured during actual helicopter overflights as described in Table D-6.

As shown on Exhibit D-20, the highest predicted L_{max} for the AS350 helicopter (80.0 dBA) would occur when the helicopter is 300 feet AGL and at a location of zero feet horizontally from the center of the flight track. As shown on Exhibit D-21, the highest predicted L_{max} for the EC130 helicopter (78.0 dBA) would also occur when the helicopter is 300 feet AGL and at a location of zero feet horizontally from the center of the flight track. Predicted L_{max} values shown in Exhibits D-20 and D-21 are comparable to L_{max} values measured during actual helicopter overflights as described in Table D-6.

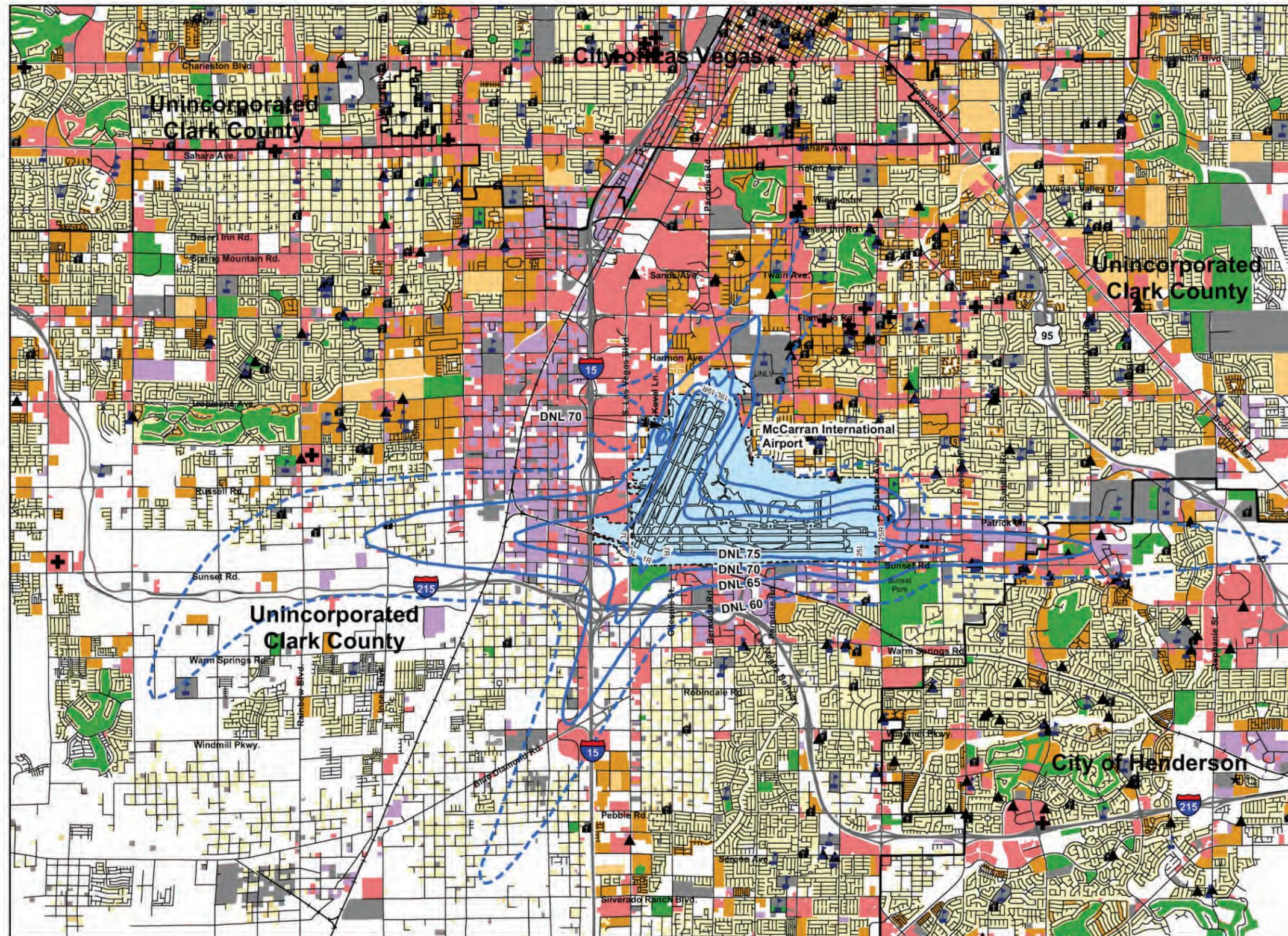
D.8 FAR Part 150 Noise Compatibility Study Update, McCarran International Airport

Beginning in 2005 and throughout 2006, the Clark County Department of Aviation conducted an Update to the 14 CFR Part 150 Noise Compatibility Study for McCarran International Airport, located in Las Vegas, Nevada. Four Open Houses were held during the preparation of the 14 CFR Part 150 Study Update (August 2005, October 2005, May 2006, and September 2006). The public comment period for the 14 CFR Part 150 Study Update was from August 29, 2006 through October 6, 2006; a formal Public Hearing was held on October 3, 2006.

The 14 CFR Part 150 Study Update is comprised of three volumes. Volume 1: Noise Exposure Map Report contains noise exposure maps (NEMs) for 2004, 2011, and 2017 and associated documentation. The 2004, 2011, and 2017 noise exposure maps are included herein as **Exhibits D-22** through **D-24**. The Noise Exposure Map Report was submitted to the FAA in December 2006 for review and acceptance. Volume 2: Noise Compatibility Program (NCP) Report, describes 13 noise abatement measures and nine noise mitigation measures proposed for McCarran. The NCP report was submitted to the FAA in March 2007. It is anticipated that the FAA will complete its review of the NCP report in 2008. Volume 3 of the 14 CFR Part 150 Study Update includes a compilation of public comments regarding the 14 CFR Part 150 Study Update and responses to those comments, and details the extensive outreach programs undertaken during the development of the 14 CFR Part 150 Study Update. Volume 3 was submitted to the FAA in December 2006.

Pursuant to Section 107(a) & (b) [Title 49, United States Code, Section 47506] of the Airport Safety and Noise Abatement Act of 1979, as amended, on July 10, 2007, the FAA completed its evaluation of, and has formally accepted, the 2004 and 2011 NEMs included in the Noise Exposure Map Report.

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Legend

- 2004 noise exposure contours (expressed in DNL)
- 2004 DNL 60 noise exposure contour (shown for informational purposes only)

DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.

Generalized existing land uses

- | | |
|---------------------------|---------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |

* Recreation includes commercial and non-profit recreational facilities

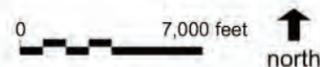
Noise sensitive facilities

- School
- Religious facility
- Hospital
- Structure listed in National Register of Historic Places
- Day care

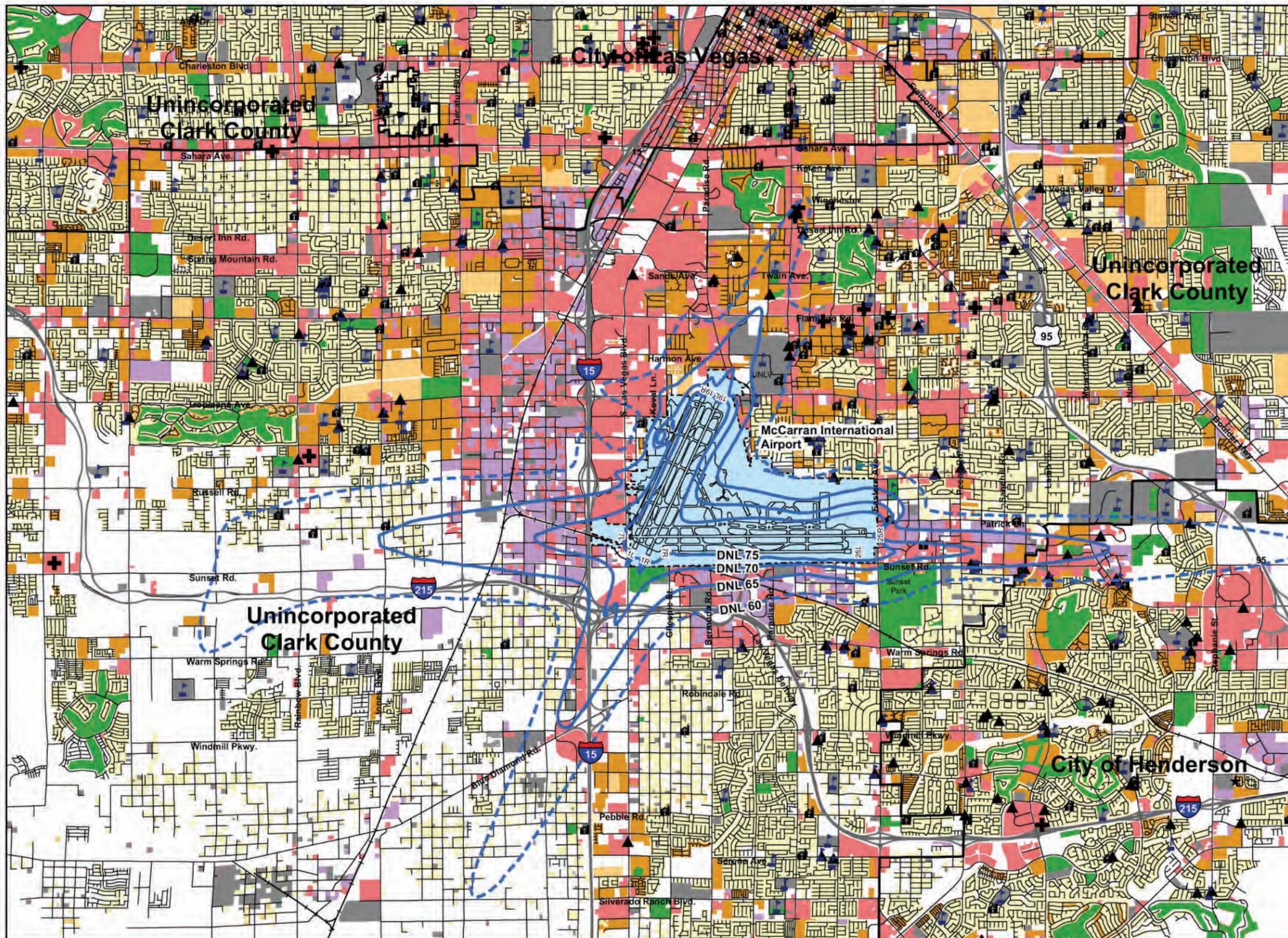
Other features

- Jurisdictional boundary
- Street
- Interstate highway
- U.S. route
- Railroad

Sources: Brown-Buntin Associates, Inc., October 2005 (noise exposure contours); Ricondo & Associates, Inc., August 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



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Legend

- 2011 noise exposure contours (expressed in DNL)
- 2011 DNL 60 noise exposure contour (shown for informational purposes only)

DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.

Generalized existing land uses

- | | |
|---------------------------|---------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |

* Recreation includes commercial and non-profit recreational facilities

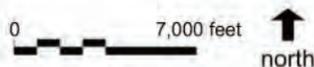
Noise sensitive facilities

- School
- Religious facility
- Hospital
- Structure listed in National Register of Historic Places
- Day care

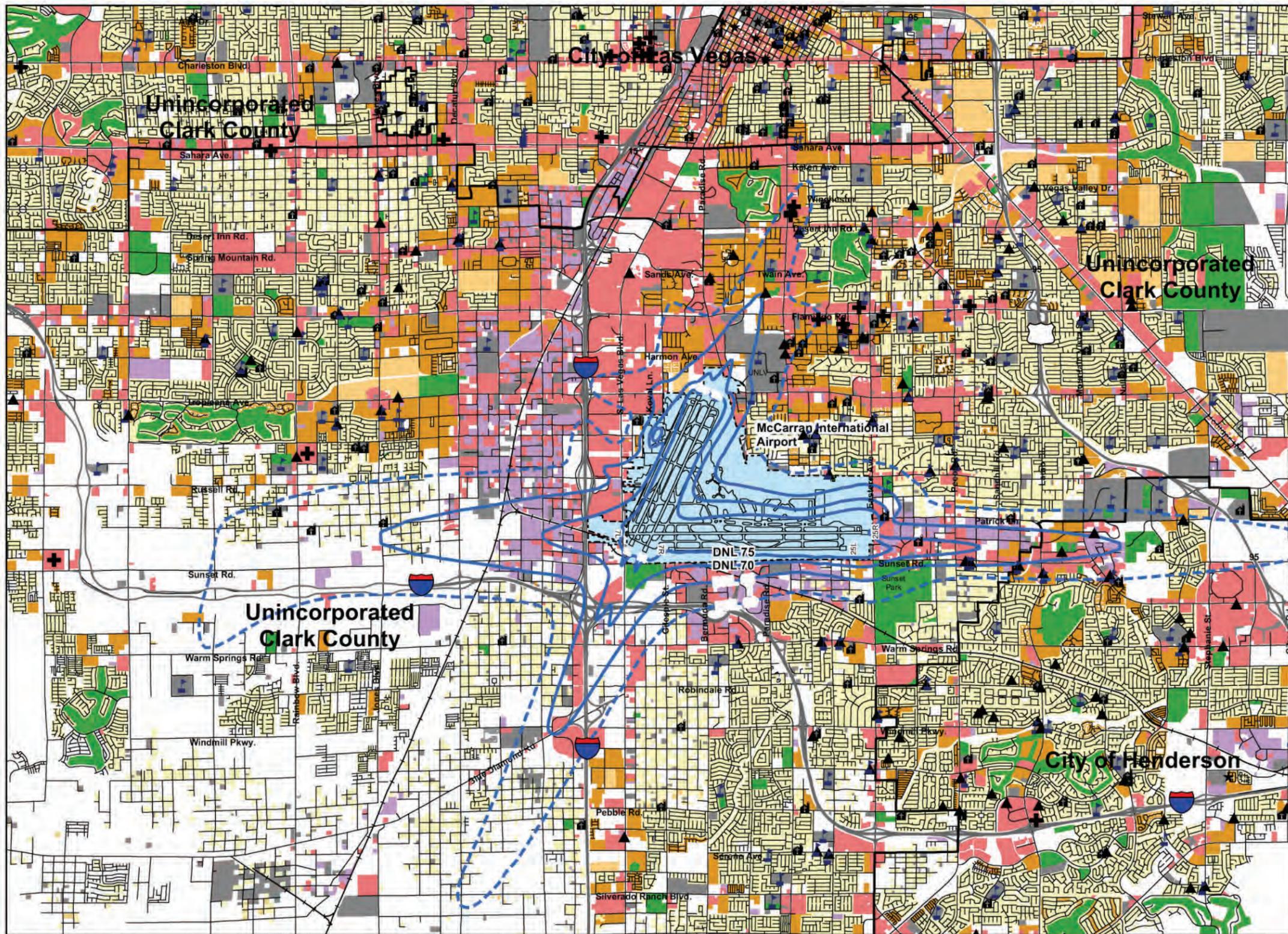
Other features

- Jurisdictional boundary
- Street
- Interstate highway
- U.S. route
- Railroad

Sources: Brown-Buntin Associates, Inc., October 2005 (noise exposure contours); Ricondo & Associates, Inc., August 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



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Legend

- 2017 noise exposure contours (expressed in DNL)
- - - 2017 DNL 60 noise exposure contour (shown for informational purposes only)

DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.

Generalized existing land uses

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |

* Recreation includes commercial and non-profit recreational facilities

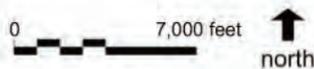
Noise sensitive facilities

- School
- Religious facility
- + Hospital
- ★ Structure listed in National Register of Historic Places
- ▲ Day care

Other features

- Jurisdictional boundary
- Street
- ⬇ Interstate highway
- U.S. route
- Railroad

Sources: Brown-Buntin Associates, Inc., October 2005 (noise exposure contours); Ricondo & Associates, Inc., August 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



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IV. Environmental Consequences

The potential environmental consequences associated with the Proposed Action and the No Action alternative are discussed in this chapter. The environmental categories evaluated, as specified in FAA Orders 1050.1E [I-1], 5050.4B [I-2], and BLM's *NEPA Handbook H-1790-1, Appendix 5* [I-3], are as follows:

- Noise
- Compatible land use
- Socioeconomic impacts, environmental justice, and children's environmental health and safety risks
- Air quality
- Areas of critical environmental concern¹
- Department of Transportation Section 4(f) lands
- Historic, architectural, archaeological, and cultural resources
- Native American religious concerns¹
- Wilderness¹
- Fish, wildlife, and plants
- Federally-listed threatened or endangered species
- Invasive, nonnative species¹
- Floodplains and floodways
- Water quality
- Hazardous materials, pollution prevention, and solid waste
- Light emissions
- Visual resources^{1,2}
- Natural resources and energy supply
- Secondary (induced) impacts
- Construction impacts
- Consistency with plans, goals, and policies
- Cumulative impacts

The following environmental resources are not present within the project area and, therefore, would not be affected by the Proposed Action or the No Action alternative: wetlands, coastal resources, wild and scenic rivers, farmlands, and wild horses and borros¹.

4.1 Noise

Potential noise effects associated with the Proposed Action and the No Action were estimated at and within the Overflight Area in accordance with FAA Orders 1050.1E and 5050.4B. The FAA's INM, Version 7.0³ was used to quantify helicopter noise exposure in close proximity to the Heliport site, at McCarran and along existing or potential flight corridors to determine the potential for adverse noise exposure impacts associated with the Proposed Action. Noise modeling assumptions included:

¹ "Critical Elements of the Human Environment", as listed in Appendix 5 of the BLM's *NEPA Handbook H-1790-1*. In accordance with BLM Instruction Memorandum No. NV-2005-028, determination of significance for these environmental categories will be provided in the agency decision document. All other environmental categories will include the determination of significance in this EA, as required under FAA guidance [I-1, I-2].

² Visual resources, as detailed in the BLM's Visual Resource Management (VRM) 8400 series manuals.

³ See Section 3.5 and Appendix D for a description of the INM.

- forecasts and distribution⁴ of helicopter activity
- the types of helicopters (the AS350 and the EC130) anticipated to be used at the Heliport
- the configuration of the Heliport and helicopter landing and takeoff locations at McCarran
- potential local flight patterns in the immediate vicinity of the Heliport and McCarran
- the locations of existing and potential helicopter flight corridors
- potential flight altitudes
- helicopter performance data provided by local helicopter operators

Details regarding the noise analysis techniques, methodology, and assumptions used in the helicopter noise analysis are provided in Appendix D. A description of existing helicopter noise exposure in the vicinity of McCarran is provided in Section 3.5.1 and a description of the existing noise exposure at the Heliport site is provided in Section 3.5.2.1.

Calculated noise exposure in the vicinity of the Heliport site and of McCarran is presented in the form of contour maps. For the helicopter noise analysis, two ranges of noise exposure were considered: DNL⁵ 60 to 65⁶ and DNL 65. FAA Orders 1050.1E and 5050.4B state that the threshold of significance for noise impacts for most areas is when an action, compared to the no action alternative, would cause noise-sensitive areas exposed to DNL 65 and higher under the proposed action to experience an increase in DNL of 1.5 or more [I-1, I-2]. The Orders also state that when such impacts would occur, increases in DNL of 3.0 or more in noise-sensitive areas exposed to noise exposure between DNL 60 and 65 under the Proposed Action, should also be disclosed, although such increases are not considered to constitute a significant impact. FAA Orders 1050.1E and 5050.4B further state that FAA must give special consideration to national parks, national wildlife refuges, and tribal traditional cultural properties. Supplemental noise analysis is provided in this Chapter to address such concerns.

4.1.1 Summary of Findings

No residences, households, or noise-sensitive land uses would be exposed to helicopter noise of DNL 65 or higher in 2011 or 2017 under the Proposed Action. Noise levels at various locations of interest in the Overflight Area are also predicted to be below DNL 65 under both the Proposed Action and the No Action alternative. In addition, at locations where existing ambient noise levels were evaluated, the predicted noise levels for 2011 and 2017 helicopter operations alone would be comparable to or lower than ambient noise levels from all sources as measured at the same locations in 2004. Implementation of the Proposed Action would not result in significant noise impacts compared to the No Action alternative; therefore, no mitigation measures would be required. Helicopter noise levels in established residential communities and portions of the Lake Mead National Recreation Area beneath the Tropicana and Charleston helicopter flight corridors associated

⁴ As described in the following sections and in Appendix D, it has been assumed that some Grand Canyon helicopter air tour activity would remain at McCarran International Airport and that some would occur at a different location under both the Proposed Action and the No Action alternative. However, it is noted that the proposed Heliport could accommodate all the Grand Canyon helicopter air tour activity that may remain at McCarran and other airport locations in the Las Vegas region.

⁵ DNL = day-night average sound level. See Section 3.5 and Appendix D for the definition and description of DNL.

⁶ The FAA does not require analysis of DNL 60 to 65 noise exposure when no significant noise impacts are expected within the area exposed to DNL 65 and higher under the Proposed Action when compared with the No Action alternative. However, Clark County agencies uses information regarding noise exposure between DNL 60 and DNL 65 for local planning purposes and therefore DNL 60 noise contours are depicted on exhibits in this EA.

with Grand Canyon helicopter tour overflights would be lower under the Proposed Action than the No Action alternative, because there would be fewer overflights. Section 4.6 summarizes the results of a supplementary noise analysis conducted for parks and cultural properties.

4.1.2 Environmental Consequences

The potential for significant noise impacts related to the Proposed Action was determined by considering the following:

- Cumulative helicopter noise exposure at and near the Heliport site and McCarran International Airport
- Cumulative helicopter noise exposure at noise-sensitive locations beneath or near existing helicopter flight corridors and potential helicopter flight corridors associated with the Heliport site

As discussed in Sections 2.5.1 and 2.5.2, some helicopter operations are anticipated to occur at a facility other than McCarran or the proposed Heliport site under the Proposed Action and No Action alternative. The specific effects of those helicopter operations (i.e., the helicopter operations not at McCarran or the proposed Heliport Site) on people, households, and noise sensitive land uses in the Overflight Area were not evaluated in this EA. Appendix D provides additional information regarding the distribution of helicopter operations in 2011 and 2017 under the Proposed Action and No Action alternative.

4.1.2.1 Proposed Action

Noise exposure contours were developed for the two locations expected to accommodate Grand Canyon helicopter air tour operations under the Proposed Action: the Heliport site and McCarran International Airport. Although Grand Canyon helicopter air tour operators have stated their support for the construction and operation of the heliport at the South of Sloan site, it has been assumed that some number of Grand Canyon helicopter air tour operations would continue at McCarran even after the Heliport is constructed and operational. Continued activity at McCarran is not part of the Proposed Action, but rather a planning assumption reflecting the fact that CCDOA has limited ability to prevent an operator from maintaining its base at McCarran.

The CCDOA consulted with the helicopter operators, the FAA, and other stakeholders to identify potential flight corridors associated with the Heliport site. Existing⁷ and potential flight corridors are shown on **Exhibit IV-1**. Three potential flight corridor scenarios are evaluated in this EA for the Heliport site. Each scenario consists of one primary corridor to and from the Heliport site and a sunset return corridor to the Heliport site. Under Scenario A, the Henderson flight corridor would be

⁷ The helicopter air tour operators based at McCarran International Airport and the FAA have executed Letters of Agreement establishing preferred helicopter flight corridors for Grand Canyon helicopter tour operations originating at McCarran. These Letters of Agreement are intended to ensure safety, minimize noise levels in residential areas, and comply with FAA ATC guidelines while the helicopter operators are in controlled airspace. The potential helicopter flight corridors analyzed in this EA could be a guide for future Letters of Agreement between the helicopter operators and the FAA, although the Letters of Agreement would not be applicable outside of controlled airspace.

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the primary flight corridor for helicopter operations to and from the Heliport site. Under Scenario B, the McCullough flight corridor would be the primary flight corridor. In accordance with Public Law 109-115 [I-6] the McCullough flight corridor represents the only route that can be used by Grand Canyon helicopter tour operators to cross the Sloan Canyon NCA if the flight is starting from or ending at the Heliport site. Under Scenario C, the Jean flight corridor would be the primary flight corridor. All three scenarios under the Proposed Action include a secondary flight corridor, Strip Railroad, for sunset and evening arrivals only. Flights on the Strip Railroad corridor would follow the existing Charleston corridor past the western side of McCarran, along the railroad tracks and I-15. Noise along the flight corridors is discussed in more detail in Section 4.1.2.3.

Noise exposure was analyzed for the anticipated first year of operations at the Heliport site (2011), and for conditions in a future year (2017). Noise exposure contours for the Proposed Action (Scenarios A, B, and C) for 2011 and 2017 superimposed onto maps of generalized existing land uses are presented on **Exhibits IV-2** and **IV-3**, respectively. The noise exposure contours for each flight corridor scenario differ slightly because of differences in flight paths between the takeoff/landing areas at the Heliport site and the helicopter flight corridors. For example, helicopter traffic on the Henderson flight corridor to and from the Heliport site would follow a different path when departing or arriving to the site, and therefore result in a different noise exposure pattern near the Heliport site than traffic to and from the McCullough flight corridor. Differences in noise contours are minimized by the fact that most differences in potential flight paths would occur outside the 60 and 65 DNL contours.

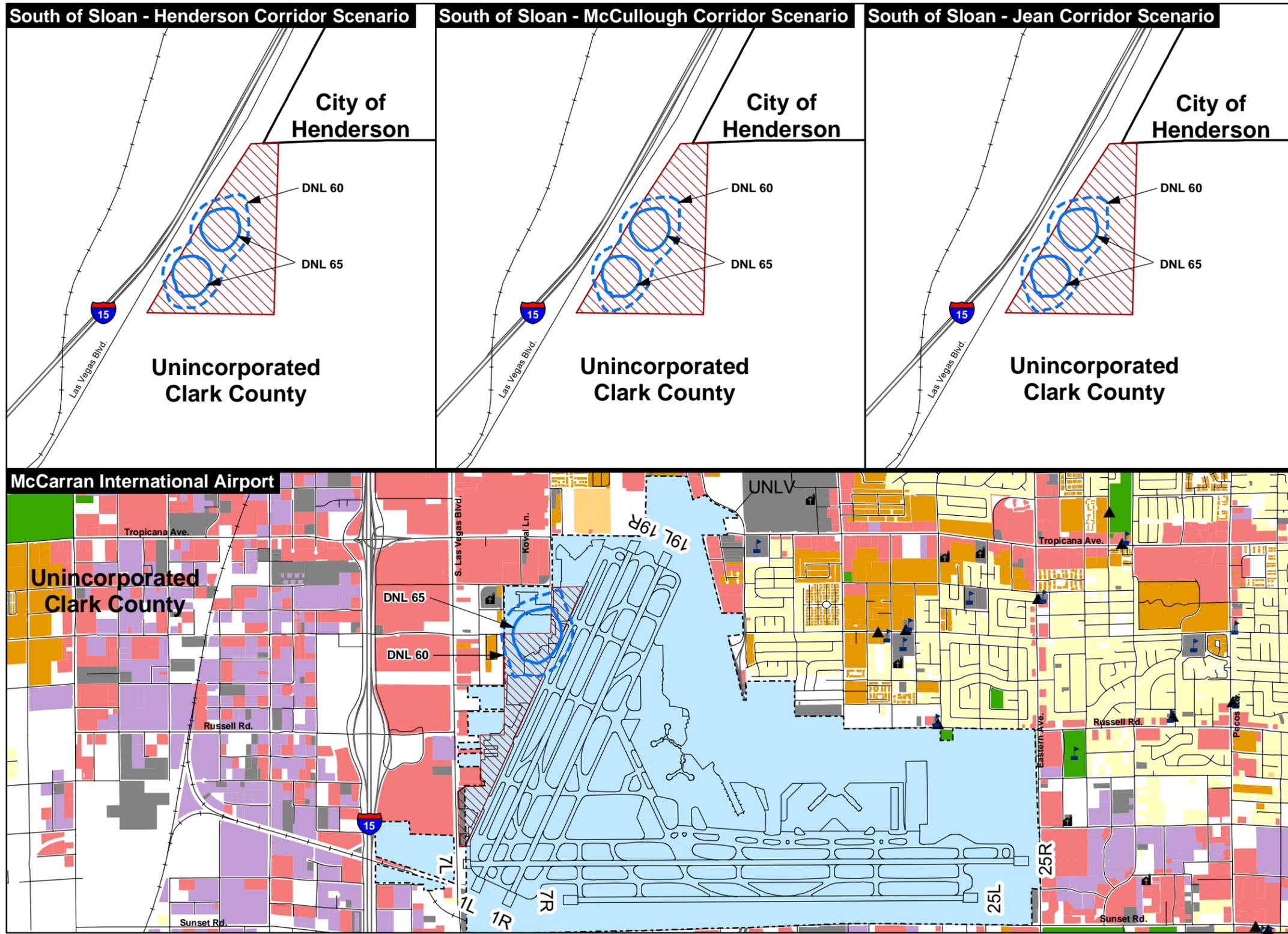
No residences, or noise-sensitive land uses would be exposed to helicopter noise of DNL 65 and higher in either 2011 or 2017 under the Proposed Action under any of the three scenarios for potential flight corridors. As no existing noise-sensitive land uses would be exposed to DNL 65 and higher in 2011 or 2017, no significant changes in helicopter noise (i.e., an increase or decrease of 1.5 or more in noise-sensitive areas exposed to helicopter noise of DNL 65 or higher) would occur as a result of the Proposed Action. As discussed in Section 4.1.2.3, the Proposed Action would result in a reduction in the number of overflights of residences and portions of the Lake Mead National Recreation Area along the existing Grand Canyon helicopter air tour flight corridors. As a result, helicopter noise exposure would be less under the Proposed Action than under the No Action alternative along the existing Tropicana and Charleston flight corridors.

4.1.2.2 No Action Alternative

Noise exposure contours for 2011 and 2017 superimposed onto a map of generalized land uses for the No Action alternative are presented on **Exhibit IV-4**.

One flight corridor scenario was used for the analysis associated with the No Action alternative based on the continued use of the existing Charleston and Tropicana corridors to and from McCarran. No residences, households, or noise-sensitive land uses would be exposed to helicopter noise of DNL 65 or higher in either 2011 or 2017 under the No Action alternative. However, noise related to helicopter operations along existing helicopter flight corridors would not be reduced under the No Action alternative, and residents and portions of the Lake Mead National Recreation Area along those flight corridors would continue to experience helicopter overflights and their associated noise exposure. In addition, it is anticipated that some helicopter operations might move from McCarran to other facilities in Clark County under the No Action alternative and additional routes could be established from other facilities over residential areas.

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Legend

- Potential/existing heliport site area
 - 2011 DNL 65 helicopter noise exposure contour
 - 2011 DNL 60 helicopter noise exposure contour (shown for informational purposes only)
- DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.
- Generalized existing land uses**
- | | |
|---------------------------|---------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- School
 - Religious facility
 - Hospital
 - Structure listed in National Register of Historic Places
 - Day care
- Other features**
- Jurisdictional boundary
 - Street
 - Interstate highway
 - U.S. route
 - Railroad

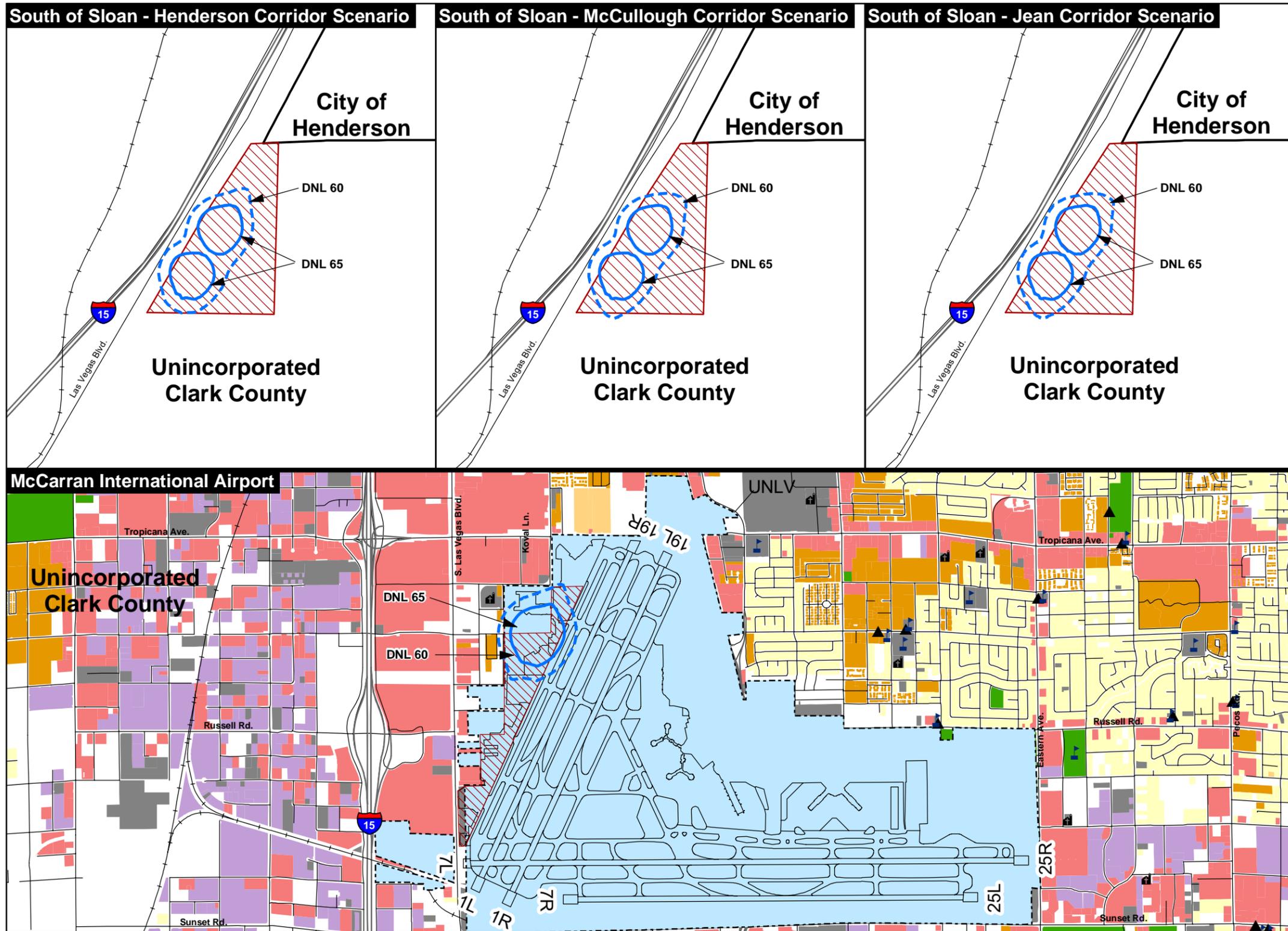
Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



2011 Helicopter Noise Exposure Contours over Generalized Existing Land Uses Proposed Action

Exhibit IV-2

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Legend

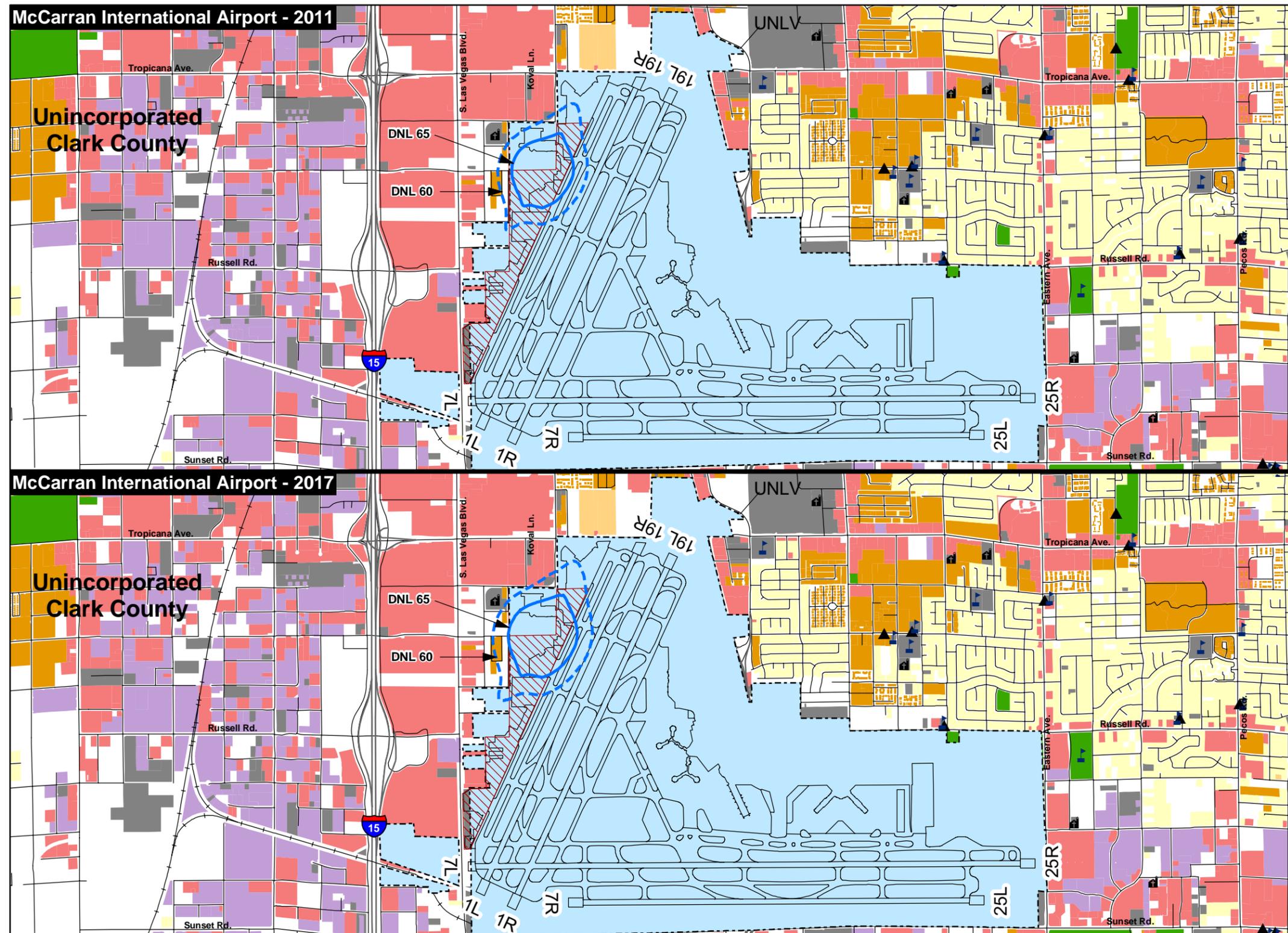
- Potential/existing heliport site area
 - 2017 DNL 65 helicopter noise exposure contour
 - 2017 DNL 60 helicopter noise exposure contour (shown for informational purposes only)
- DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.
- Generalized existing land uses**
- | | |
|---------------------------|---------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- School
 - Religious facility
 - Hospital
 - Structure listed in National Register of Historic Places
 - Day care
- Other features**
- Jurisdictional boundary
 - Street
 - Interstate highway
 - U.S. route
 - Railroad

Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



2017 Helicopter Noise Exposure Contours over Generalized Existing Land Uses Proposed Action

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Legend

- Potential/existing heliport site area
 - DNL 65 helicopter noise exposure contour
 - DNL 60 helicopter noise exposure contour (shown for informational purposes only)
- DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.
- Generalized existing land uses**
- | | |
|---------------------------|---------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- School
 - Religious facility
 - Hospital
 - Structure listed in National Register of Historic Places
 - Day care
- Other features**
- Jurisdictional boundary
 - Street
 - Interstate highway
 - U.S. route
 - Railroad

Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



**2011 and 2017 Helicopter Noise Exposure Contours over Generalized Existing Land Uses
 No Action Alternative**

Exhibit IV-4

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4.1.2.3 Overflight Area

Noise exposure within the Overflight Area associated with the potential helicopter flight corridors for the proposed Heliport is dependent on a number of factors including the altitude at which the helicopters are flown. For the purposes of the noise analysis, the lowest altitude analyzed for helicopter flight corridors was 300 feet AGL. This is the minimum altitude above the ground required by 14 CFR Part 135, *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft* [IV-1], for helicopters carrying a passenger for fare. However, according to the air tour operators, the minimum expected vertical distance between the helicopters and the terrain along the routes during Grand Canyon helicopter air tours would be 500 feet, or higher in some areas, when feasible. This would be a voluntary action on the part of the air tour operators, unless otherwise required by the Act.⁸

Helicopter noise exposure near existing and potential helicopter flight corridors was evaluated for the ten locations described in Section 3.5.2, including FAA locations L05 and L07 within the Lake Mead National Recreation Area⁹, plus seven supplemental sites. The seven supplemental sites (grid points) were identified to represent typical noise-sensitive locations in the Las Vegas region, such as residential areas, schools, recreation areas, and wildlife habitat. These locations are shown on **Exhibit IV-5. Table IV-1** indicates the land use or receptor represented by the grid points, and summarizes the ranges of predicted helicopter noise exposure for each grid point under the Proposed Action and the No Action alternative. Helicopter noise levels are reported in terms of cumulative (DNL) and single-event (L_{max}) exposure. The L_{max} is considered a supplementary noise metric, and L_{max} values are reported for informational purposes.

Based on the INM grid point analysis, the highest helicopter DNLs would occur at grid points R1 (recreation area/trail) and G7 (residential area). The lowest helicopter DNLs (less than 25 dBA) would occur at grid points R4 (undeveloped land) and G4 (recreation area/trail). At all grid points, calculated helicopter DNLs are predicted to be below 65 and differences in calculated DNLs between the Proposed Action and the No Action alternative would be less than significant. In addition, at Sites R1 through R8, and FAA Sites L05 and L07, predicted DNLs from helicopter operations alone under the Proposed Action for 2011 and 2017 are anticipated to be comparable to or less than existing DNL values as measured during ambient noise level monitoring at the same locations in 2004. The highest maximum (L_{max}) helicopter noise levels would also occur at grid points R1 and R7 and the lowest helicopter L_{max} noise levels would also occur at grid points R4 and G4.

⁸ 14 CFR Part 135, *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft*, requires a minimum altitude of 300 feet AGL for helicopter operations when over congested areas; however, the Grand Canyon helicopter tour operators currently attempt to achieve a minimum altitude of 500 feet AGL.

⁹ Federal Aviation Administration, *Baseline Ambient Sound Levels in Lake Mead National Recreation Area* (DOT-VNTSC-FAA-06-13), April 2006.

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Table IV-1

Summary of Helicopter Noise Levels at Locations of Interest

Grid Point ^{1/}	Representative Land Use	Nearest Helicopter Flight Corridor(s) ^{2/}	Distance to Nearest Flight Corridor(s) (feet)	Measured Ambient Noise Level (DNL) ^{3/}	Predicted Helicopter Noise Levels (DNL) No Action Alternative ^{7/}		Predicted Helicopter Noise Levels (DNL) Proposed Action ^{7/}		Predicted Single Event Helicopter Noise Levels (L _{max}) ^{4/}	
					2011	2017	2011	2017	EC130	SA350D
R1	Recreation area (trail)	Charleston	0	50.6	44-53	45-55	39-49	40-50	61-78	65-80
R2	Abandoned mine	Tropicana	3,310	59.7	34-37	34-38	29-32	30-33	47-53	51-59
R3	Undeveloped land	Henderson (Inbound/Outbound)	7,600/2,340	55.1	n.a.	n.a.	39-43	40-43	53-58	55-62
R4	Undeveloped land	Henderson (Inbound/Outbound)	21,580/16,330	56.2	n.a.	n.a.	<25	<25	<35	<35
R5	Sloan Canyon petroglyphs	McCullough (Inbound/Outbound)	8,110/13,520	50.2	n.a.	n.a.	26-28	26-29	31-37	36-43
R6	Wilderness area with hiking trails	McCullough (Inbound/Outbound)	2,580/2,580	49.4	n.a.	n.a.	40-43	40-44	51-56	54-60
R7	Wilderness area with hiking trails	Jean (Inbound/Outbound)	3,170/2,090	46.8	n.a.	n.a.	42-44	42-44	55-59	57-63
R8	Electric power substation	Jean (Inbound/Outbound)	1,810/3,410	45.1	n.a.	n.a.	42-43	43-45	46-52	51-57
G1	Residential/school area	Charleston	5,300	n.a.	27-33	28-34	22-28	22-28	39-45	44-51
G2	Recreation area (campsite)	Tropicana	1,430	n.a.	43-47	44-48	38-43	39-43	59-66	62-69
G3	Residential area	Henderson (Inbound/Outbound)	8,080/2,880	n.a.	n.a.	n.a.	36-40	36-40	49-55	52-59
G4	Recreation area (trail)	Henderson (Inbound/Outbound)	22,420/17,110	n.a.	n.a.	n.a.	<25	<25	<35	<35
G5	Wilderness/habitat area	McCullough (Inbound/Outbound)	3,320/8,730	n.a.	n.a.	n.a.	33-37	33-37	47-53	51-57
G6	Wilderness/habitat area	Jean (Inbound/Outbound)	8,200/13,580	n.a.	n.a.	n.a.	26-28	26-29	31-37	36-43
G7	Residential area	Strip Railroad	0	n.a.	n.a.	n.a.	37-47	38-48	61-78	65-80
L05 ^{5/}	Semi-primitive/natural	McCullough/Jean (Outbound)	2,440	41.8 ^{6/}	n.a.	n.a.	36-41	36-42	53-58	55-62
L07 ^{5/}	High use	Charleston	1,100	55.1 ^{6/}	43-48	44-49	38-44	39-45	60-70	63-73

Notes:

n.a. = Not applicable

DNL = Day-night average sound level, expressed in A-weighted decibels

^{1/} Grid point locations are shown on Exhibit IV-5. Noise measurements were conducted at Sites R1 through R8 and Sites L05 and L07 in 2004.^{2/} Existing and potential helicopter flight corridors are shown on Exhibit IV-5.^{3/} Ambient noise level data are from Table III-2. Sites G1-G7 are supplemental grid point locations where noise levels were calculated using the INM. Ambient noise measurements were not conducted at those locations.^{4/} Predicted L_{max} values are shown as a range for individual overflights by the SA350D and EC130 helicopter types at altitudes ranging from 300 feet to 1500 feet above the observer location (grid point).^{5/} FAA ambient noise monitoring site and data as described in *Baseline Ambient Sound Levels in Lake Mead National Recreation Area* (DOT-VNTSC-FAA-06-13), April 2006.^{6/} DNL values estimated from hourly L_{eq} data measured by the FAA as referenced above.^{7/} Predicted DNL values are for potential helicopter flight altitudes ranging from 300 feet to 1500 feet above the observer location (grid point).

Source: Brown-Buntin Associates, Inc.

Prepared by: Ricondo & Associates, Inc., December 2008

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4.2 Compatible Land Use

According to Appendix A of 14 CFR Part 150 [III-4] and FAA Advisory Circular 150/5020-1, *Noise Control and Compatibility Planning for Airports* [IV-2], a proposed action is considered to have a significant impact on land use compatibility if it causes significant increases in noise exposure over residential or other noise-sensitive land uses, such as schools, parks, and historic buildings, within areas exposed to aircraft noise of DNL 65 and higher. In addition to the consideration of aircraft noise impacts, other types of land use impacts to be considered in environmental assessments include disruption of communities, relocation of businesses, and induced socioeconomic impacts.

Potential disruptions to communities, effects on businesses, and induced socioeconomic impacts associated with the implementation of the Proposed Action are discussed in Section 4.3. Potential impacts to floodplains and floodways are discussed in Section 4.13. Potential impacts to fish, wildlife, and plants are discussed in Section 4.10; federally listed threatened and endangered species, including potential impacts to critical habitat are discussed in Section 4.11. As discussed in FAA Order 1050.1E, the compatible land use section of EAs for airport actions must include documentation to support the required airport sponsor's assurance under 49 USC 47107(a)(10) that appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to promote airport/community land use compatibility.¹⁰ The Clark County Board of County Commissioners has included a land use compatibility assurance letter in this EA, as provided in **Appendix E**.

4.2.1 Summary of Findings

Under both the Proposed Action and the No Action alternative, residents beneath and near existing helicopter flight corridors would continue to experience helicopter overflights and noise. The number of Grand Canyon helicopter tour overflights of established residential communities along the Tropicana and Charleston helicopter flight corridors would be lower under the Proposed Action when compared to the No Action alternative and helicopter noise levels would also be lower in those communities. Implementation of the Proposed Action would affect helicopter flight patterns in the Overflight Area; however, helicopter noise exposure is anticipated to be less than the FAA's land use compatibility threshold of DNL 65 and is not expected to adversely affect community land use compatibility within the Area of Disturbance or the Overflight Area.

4.2.2 Environmental Consequences

4.2.2.1 Proposed Action

The Heliport site is located on BLM managed public land in unincorporated Clark County within the South County Planning Area. The Clark County Department of Comprehensive Planning adopted a land use plan for the South County Planning Area in 1994 [III-5] and updated the land use plan map in 2005. The Heliport site is within the County land use designation Open Land.¹¹ While the Open Land designation allows for some limited uses (e.g., grazing), it is anticipated that future development outside the BLM disposal area (generally around the Heliport site) would be limited as land is not available for disposal.

¹⁰ The land use compatibility category is an evaluation of effects on the manmade environment based on a review of 14 CFR Part 150 land use categories; see other sections of this EA for discussions of noise relative to wildlife and DOT Section 4(f) lands.

¹¹ The land use category is called open space on Exhibits IV-6 and IV-7. See Appendix E for detailed description of land use designations under the South County Planning Area.

In 2007 the City of Henderson annexed about 3,455 acres of land located within the BLM disposal area north/northeast of the Heliport site. The City of Henderson has not prepared a land use plan for the annexed land, which is located in the West Henderson Planning Area. The land use plan for the South County Planning Area, prepared by the Clark County Department of Comprehensive Planning, would continue to apply until the City of Henderson updates the land use designation applicable to this area.

Two ranges of noise exposure were considered: DNL 60 to 65 and DNL 65 and higher. The noise contours were superimposed onto maps of generalized planned land uses to determine if projected noise levels would be incompatible with land use designations included in adopted land use plans encompassing the Area of Disturbance and McCarran.

Helicopter noise exposure contours for the Proposed Action in 2011 and 2017 are presented over generalized planned land uses on **Exhibits IV-6** and **IV-7**, respectively. As shown on the exhibits, helicopter noise of DNL 65 and higher would not extend beyond the property boundaries of the Heliport site or McCarran International Airport in 2011 or 2017. No planned noise-sensitive land uses would be exposed to helicopter noise of DNL 65 and higher in either 2011 or 2017 as a result of the Proposed Action.

4.2.2.2 No Action Alternative

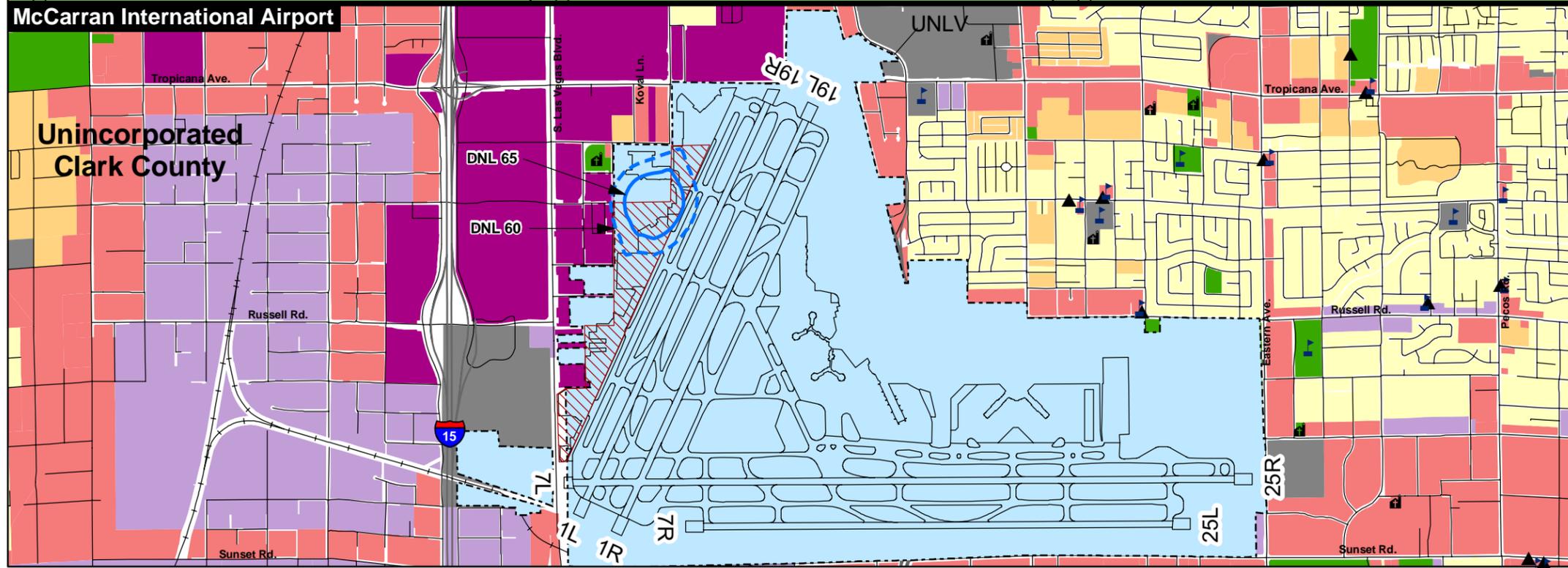
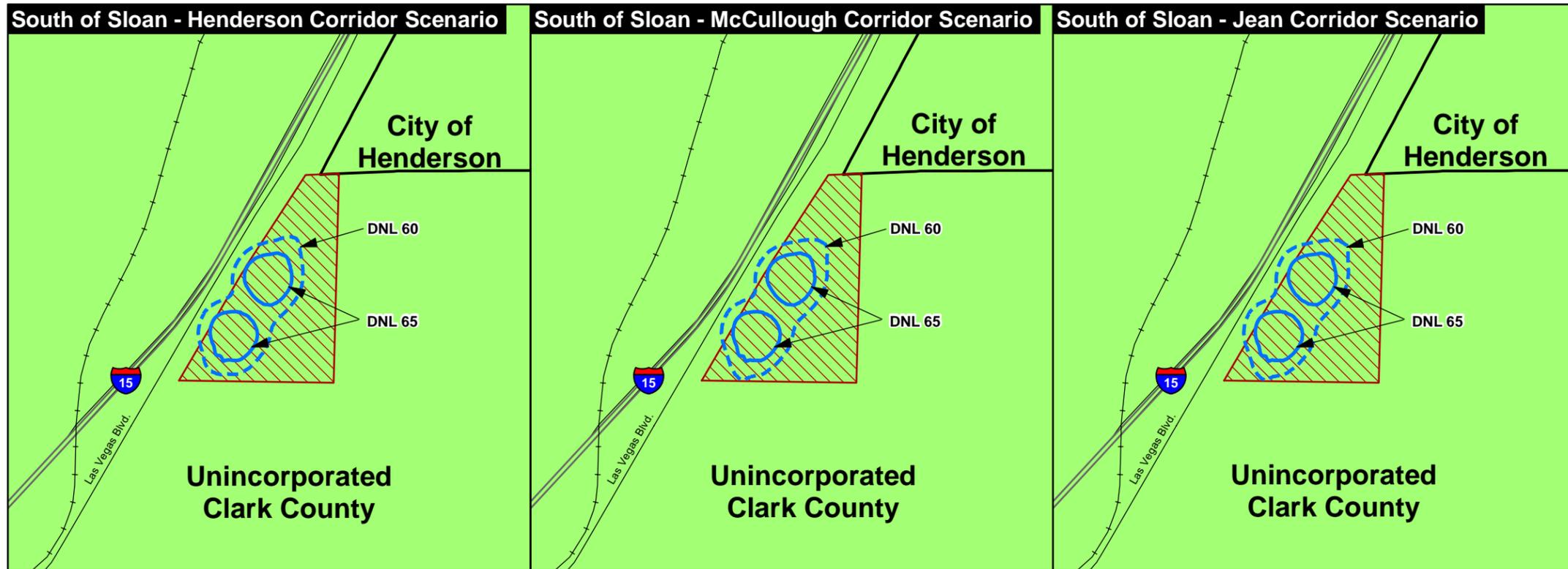
Noise exposure contours for the No Action alternative in 2011 and 2017 are presented over generalized planned land uses on **Exhibit IV-8**. As shown, the areas that would be exposed to DNL 65 and higher from helicopter operations would be contained within the McCarran boundaries. No existing or planned noise-sensitive land uses in the vicinity of McCarran would be exposed to helicopter noise of DNL 65 and higher in either 2011 or 2017.

4.2.2.3 Overflight Area

Between the Heliport site and the Rendezvous Point¹², planned land uses beneath the Henderson flight corridor generally represent a continuation of existing land use patterns, with single- and multi-family residential, commercial, industrial, recreation, public, and open space uses. The planned land uses also include new areas of industrial, mixed use, and low-density residential uses occupying a portion of what is currently vacant land. (See Exhibit III-12.) Most areas depicted as vacant lands on the existing land use exhibits are planned as open space. However, these lands are outside the BLM disposal area and are unavailable for community development. Flights on the McCullough flight corridor would pass primarily over land designated as open space or vacant land. Flights on the Jean flight corridor would pass over open space, vacant land, and a small area of planned industrial land use, which is currently vacant, and a small area of public land use. Almost all Open Land is federal land, except for areas within Boulder City, where the flight corridors pass over the Boulder City conservation easement¹³ and a recreation area. Flights on the Strip Railroad corridor would pass over single- and multi-family residential, commercial,

¹² As described in Section 3.2.1, the existing and potential helicopter flight corridors are the same between the Rendezvous Point and the Grand Canyon and no changes would occur as a result of the Proposed Action beyond the Rendezvous Point. See Exhibit III-8.

¹³ Clark County purchased a conservation easement on about 85,000 acres of desert tortoise habitat in the Eldorado Valley.



Legend

- Potential/existing heliport site area
 - 2011 DNL 65 helicopter noise exposure contour
 - 2011 DNL 60 helicopter noise exposure contour (shown for informational purposes only)
- DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.
- Generalized planned land uses**
- | | |
|---------------------------|---------------------|
| Residential single-family | Open space |
| Residential multi-family | Park / recreation* |
| Commercial | Public |
| Mixed use | Vacant / tax exempt |
| Industrial | Airport property |
| Major development project | |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- School
 - Religious facility
 - Hospital
 - Structure listed in National Register of Historic Places
 - Day care
- Other features**
- Jurisdictional boundary
 - Street
 - Interstate highway
 - U.S. route
 - Railroad

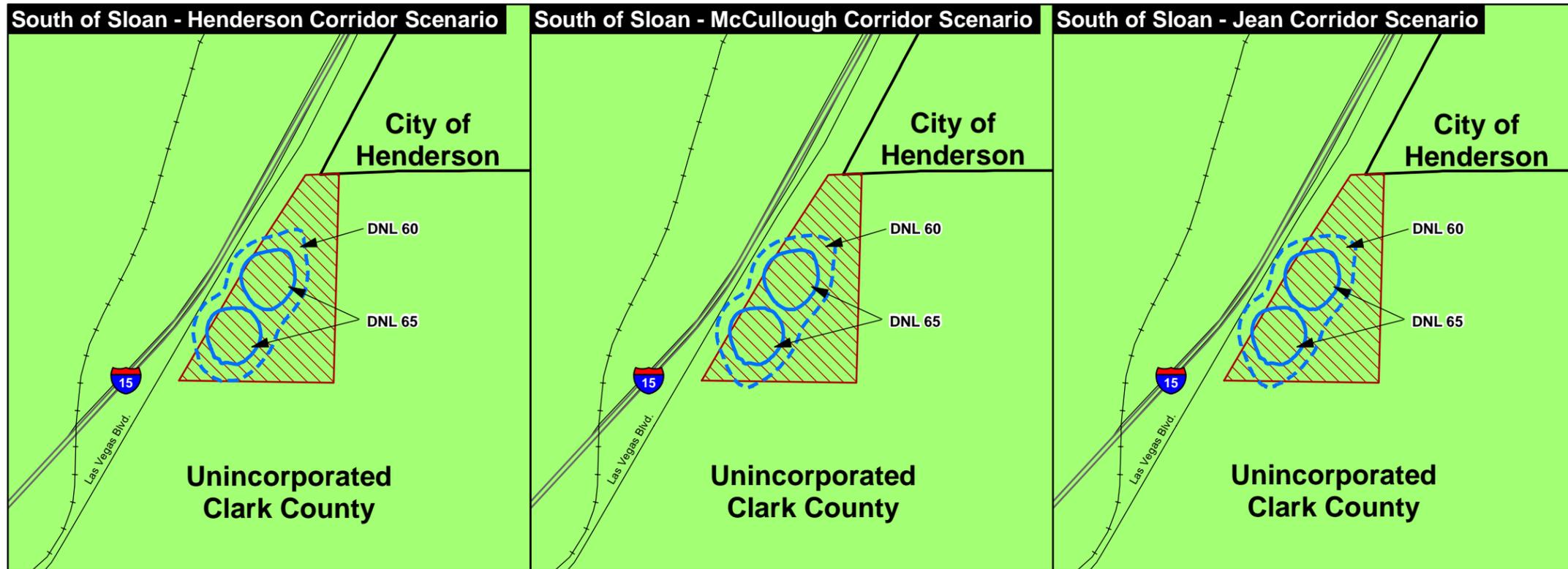
Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on data obtained from the Clark County Department of Comprehensive Planning, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



2011 Helicopter Noise Exposure Contours over Generalized Planned Land Uses Proposed Action

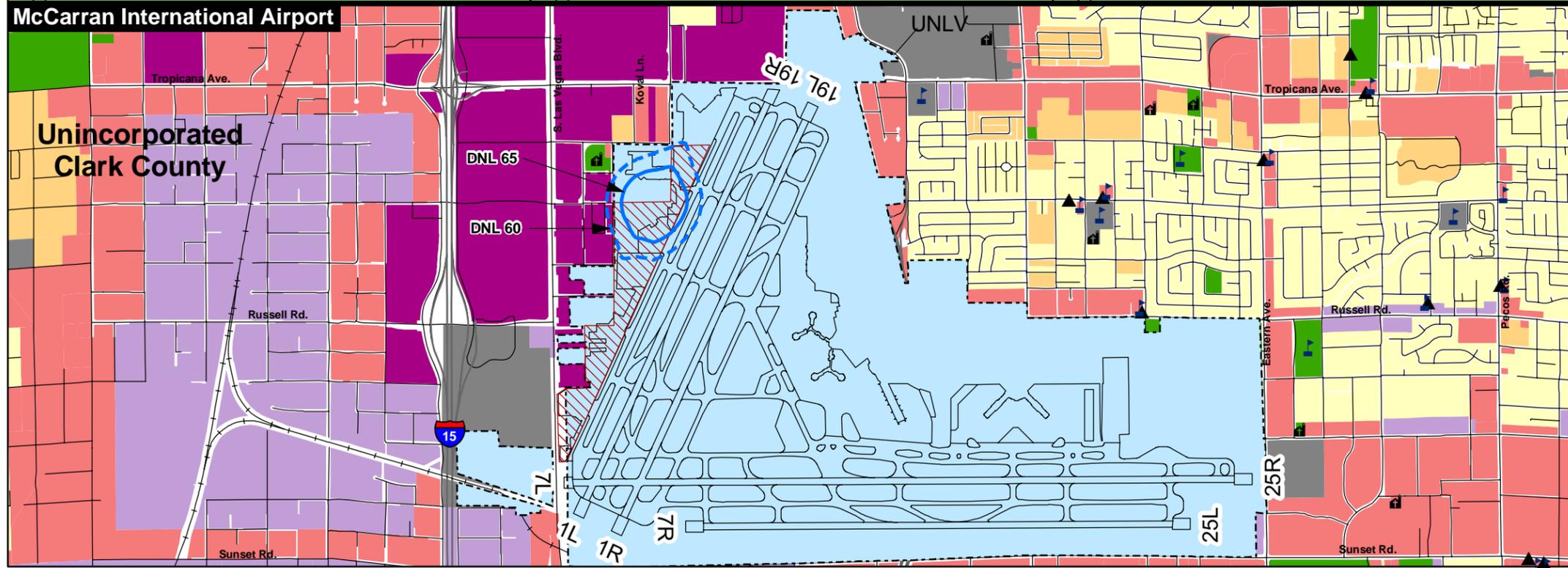
Exhibit IV-6

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Legend

- Potential/existing heliport site area
 - 2017 DNL 65 helicopter noise exposure contour
 - 2017 DNL 60 helicopter noise exposure contour (shown for informational purposes only)
- DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.
- Generalized planned land uses**
- | | |
|---------------------------|---------------------|
| Residential single-family | Open space |
| Residential multi-family | Park / recreation* |
| Commercial | Public |
| Mixed use | Vacant / tax exempt |
| Industrial | Airport property |
| Major development project | |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- School
 - Religious facility
 - Hospital
 - Structure listed in National Register of Historic Places
 - Day care
- Other features**
- Jurisdictional boundary
 - Street
 - Interstate highway
 - U.S. route
 - Railroad



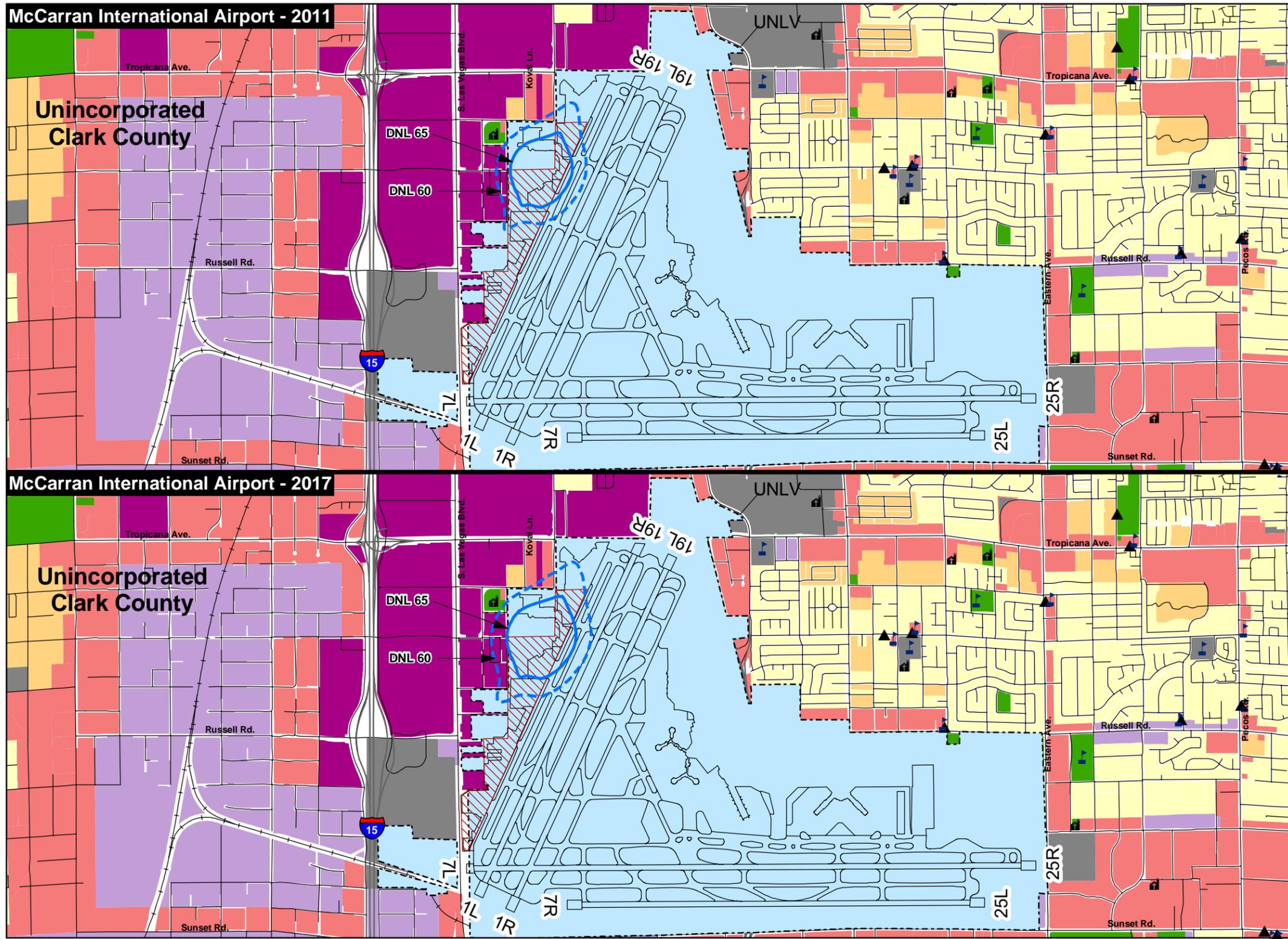
Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on data obtained from the Clark County Department of Comprehensive Planning, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



2017 Helicopter Noise Exposure Contours over Generalized Planned Land Uses Proposed Action

Exhibit IV-7

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Legend

- Potential/existing heliport site area
- DNL 65 helicopter noise exposure contour
- DNL 60 helicopter noise exposure contour (shown for informational purposes only)

DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.

Generalized planned land uses

Residential single-family	Open space
Residential multi-family	Park / recreation*
Commercial	Public
Mixed use	Vacant / tax exempt
Industrial	Airport property
Major development project	

* Recreation includes commercial and non-profit recreational facilities

Noise sensitive facilities

- School
- Religious facility
- Hospital
- Structure listed in National Register of Historic Places
- Day care

Other features

- Jurisdictional boundary
- Street
- Interstate highway
- U.S. route
- Railroad

Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on data obtained from the Clark County Department of Comprehensive Planning, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



2011 and 2017 Helicopter Noise Exposure Contours over Generalized Planned Land Uses
 No Action Alternative

Exhibit IV-8

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mixed use, industrial, park/recreational and public land uses, open space, and vacant land. In addition, flights on the Strip Railroad corridor would continue west of McCarran, follow the railroad tracks and I-15, and pass over single- and multi-family residential, commercial, and industrial land uses, open space, park/recreational areas, vacant land, and an area of public land use.

Implementation of the Proposed Action would affect helicopter flight patterns in the Overflight Area and potentially result in helicopters overflying areas that are currently developed with noise-sensitive land uses or that may be developed with noise-sensitive land uses in the future. Nevertheless, as discussed in Section 4.1, helicopter noise exposure beneath and near the Overflight Area is anticipated to be less than the FAA's land use compatibility threshold of DNL 65. As a result, helicopter noise on the ground beneath the Overflight Area is not expected to adversely affect community land use compatibility.

Between McCarran and the Rendezvous Point, planned land uses beneath the Tropicana flight corridor generally represent a continuation of existing land use patterns and include single- and multi-family residential, commercial, industrial, mixed use, public, and open space land uses. Planned land uses beneath the Charleston flight corridor generally represent a continuation of existing land use patterns and include single- and multi-family residential, commercial, mixed use, industrial, park/recreational, public land uses, open space, and vacant land. Under both the Proposed Action and the No Action alternative, the Tropicana and Charleston flight corridors would continue to be utilized; however, the number of overflights of established residential communities along both corridors would be lower under the Proposed Action.

4.3 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

In accordance with FAA Orders 1050.1E and 5050.4B, the three primary social impact categories to be considered in an EA are: (1) socioeconomic impacts, (2) environmental justice, and (3) children's environmental health and safety risks.

Factors to be considered when determining whether a proposed project would result in significant socioeconomic impacts include: (1) if extensive relocation of residents would be required, but insufficient replacement housing is available, and this results in a high degree of controversy; (2) if Section 206(a) of the *Uniform Relocation Assistance and Real Property Acquisition Policies Act*, as amended, [IV-3] is used as provision for housing of last resort; (3) if relocation of businesses, including farms, creates severe economic hardship on the community; (4) if significant disruption of employment and communities occurs; and (5) if a noticeable increase in traffic congestion or access time to community facilities cannot be prevented or minimized.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* [IV-4] provides guidance to federal agencies for identifying and addressing disproportionately high environmental effects of federal programs and activities on minority and low-income populations. Projects are considered to have a significant environmental justice impact when disproportionately high segments of low-income and minority populations are affected, or when the impacts are appreciably more severe or of greater magnitude than adverse effects experienced by non-minority and/or non-low-income populations.

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* [IV-5], directs federal agencies to ensure that potential environmental health risks and safety risks

Long Island North Shore Helicopter Route Environmental Study

This report presents the results of the noise and emissions analysis of helicopter operations along the North Shore Helicopter Route of Long Island, New York performed by the Federal Aviation Administration, with the assistance of the Volpe Center’s Environmental Measurement and Modeling group.

Noise

The FAA’s Office of Environment and Energy tasked the Volpe Center to conduct an analysis of the noise of helicopters operating under Visual Flight Rules (VFR) along the north shore of Long Island. This analysis examines current helicopter noise along the route. The route is shown below in [Figure 1](#).

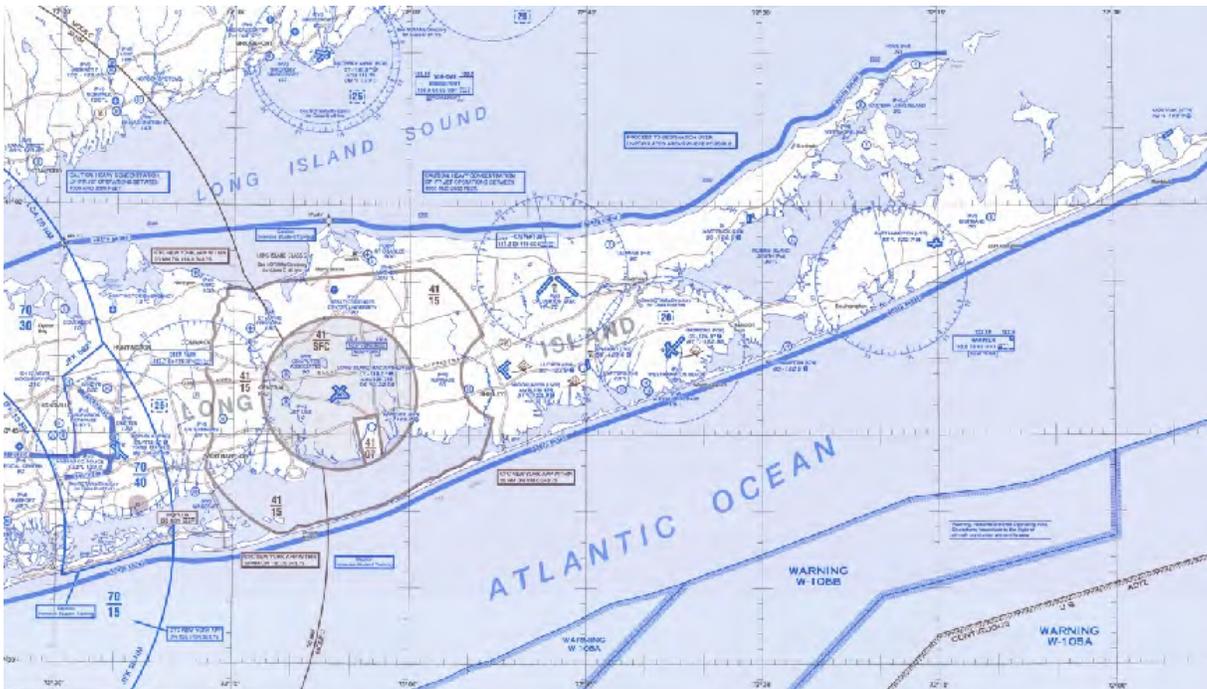


Figure 1. North Shore Helicopter Route

Helicopter Operational Source Data

The ATAC Corporation provided Performance Data Analysis and Reporting System (PDARS) information to the Volpe Center. This PDARS data set included helicopter operations near and over Long Island around Memorial Day, 2011 (May 27 to May 31) and the 4th of July, 2011 (June 30 to July 5). When providing the data, ATAC provided a breakdown of helicopter operations, which is shown in [Table 1](#). Using this peak season holiday data, the analysis assumed an average daily number of 42.8 helicopter operations (40.1 operations during the day and 2.7 operations during nighttime hours).

Table 1. Helicopter operations from PDARS data

Time	5/27	5/28	5/29	5/30	5/31	6/30	7/1	7/2	7/3	7/4	7/5	Total
Day	82	38	24	66	29	42	58	10	10	45	37	441
Night	2	2	1	3	1	3	4	3	2	6	3	30

The FAA’s Aviation Environmental Design Tool version 2A (AEDT 2A) was used to model the noise of these operations. U.S. Census Bureau 2010 population data were used to determine the population impacted by these operations.

Processing

The Volpe Center converted the PDARS data into a format usable by AEDT 2A. The PDARS data were used to generate track, fleet, and profile (altitude) data which were imported into AEDT 2A. Standard AEDT processes were used for fleet data. Flight specific altitude/speed profiles from the PDARS data were created for the helicopter performance profiles. These profiles were inserted directly into the AEDT fleet database for the respective helicopters being modeled. AEDT 2A was then run to calculate the noise of each of the flights and to generate the total noise impacts presented in this evaluation. Note that the numbers of operations were scaled from seasonal holiday time frames for an average annual day. Given that operation levels were drawn from around Memorial Day and Fourth of July – days when operations are known to be high in number – and the average annual day was created from these numbers, the average annual day reflects a higher level of operations than if a normal average annual day had been used. The assumed higher levels of operations result in higher noise levels than would result from a normal average annual day.

The majority of helicopter operation information did not contain specific helicopter types. Given this gap in the data, each helicopter operation was assigned to one of three helicopter types that have been used over Long Island: light helicopters, represented by the Robinson R-44; medium helicopters, represented by the Eurocopter AS-350; and heavy helicopters, represented by the Sikorsky S-76. Actual altitudes flown were taken from the PDARS data. All operations were modeled as overflights: takeoff and landing flight segments were modeled as climbs and descents at the beginning and end of the track, respectively.

To represent the cumulative helicopter noise environment, all helicopter operations in the vicinity of the route were modeled. This includes helicopters operating to and from MacArthur Airport (ISP) and helicopters which operate exclusively on either the east or west side of Long Island, even though they are not using the North Shore Route. In addition, helicopters that fly the route and fly near the route were also modeled. Figures 2 and 3 illustrate the routes modeled in the analysis.

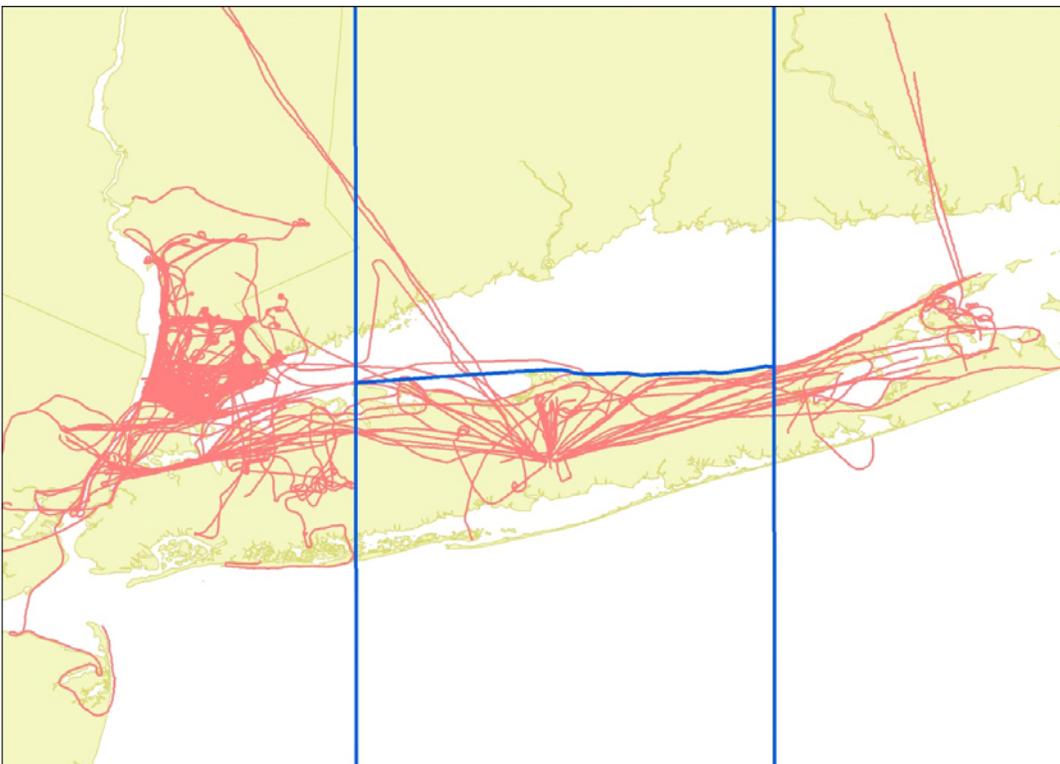


Figure 2. Helicopter operations outside the affected area or flying to/from ISP

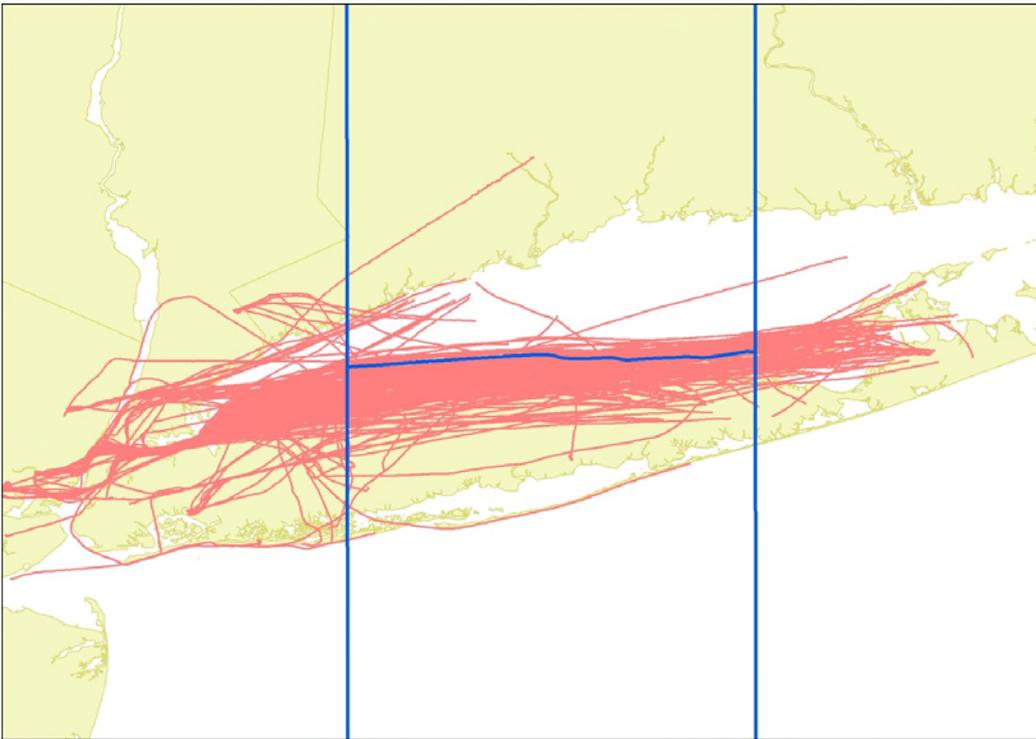


Figure 3. Helicopter operations that are primarily following or paralleling the North Shore route

Results and Analysis

Table 2 below shows the results of the noise analysis. It presents the Day-Night Average Sound Level (DNL) noise levels and the population affected by the modeled helicopter noise. The analysis of the existing condition shows no population exposed to helicopter noise over a level of DNL 45 dB (decibels). To help put the North Shore noise levels in context, the average DNL level in quiet suburban residential areas is 50 dB.¹

Table 2. Population Exposure at Noise Levels

Noise Level	DNL 30-35 dB	DNL 35-40 dB	DNL 40-45 dB	DNL 45-50 dB
Population	2,992,284	2,329,766	728,665	0

The rule is intended to maximize utilization of the existing North Shore Helicopter Route, which will secure and improve upon the existing low levels of helicopter noise that have to date been voluntarily achieved. In response to some commenters’ concerns that the rule might result in a significant noise impact on communities, there is not a reasonable potential for that to occur. To cause a significant noise impact, the rule would have to increase noise by DNL 1.5 dB or more at or above DNL 65 dB over residential areas.² Given that existing noise does not exceed DNL 45 dB, it would require thousands of additional daily flights along the North Shore Helicopter Route to produce enough noise to result in a significant noise impact, and this is not a possible outcome of the rule or reasonably foreseeable under any circumstances.

¹ Federal Agency Review of Selected Airport Noise Analysis Issues, Federal Interagency Committee on Noise, August 1992.
² FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, Appendix A, Section 14, June 8, 2004.

Emissions

Context for Emissions Analyses

A commenter to the NPRM estimated that the average helicopter engine burns between 45 and 55 gallons per hour. (For twin engine helicopter, the fuel burn may be doubled). They also alleged that compliance with the rule will increase average flight time by 10 minutes, which they estimated will result in an annual increase of fuel burn of 116,875 gallons.

According to the commenter, the total number of helicopter operations (to and from the East End airports) historically has been approximately 15,000 annually. Based on the commenter's assumption that North Shore Route usage is 85% of the total (12,750 operations), then the added 10 minutes per flight would equate to 127,500 minutes (2,125 hours). Therefore, at a rate of 55 gallons per hour, the commenter calculated that 116,875 additional gallons of fuel will be consumed.

No specific factual basis for the alleged 10-minute increase in flight time was provided by the commenter. The rule does not mandate entry or exit points for helicopters using the route, nor does it require operators to fly any specific route to or from the North Shore Helicopter Route. Therefore, it is not possible to quantify any increase in fuel consumption that might occur as a result of the rule. Based on the FAA's analysis of PDARS data, fuel burn under current voluntary conditions along the North Shore Helicopter Route is roughly 453,000 gallons per year. The commenter's estimated increase of 117,000 gallons per year would amount to a 25 percent increase in fuel burn. The FAA does not regard this as a reasonable potential result of the rule, considering the reported high level of compliance with the voluntary route, the commenter's apparent assumption that even those flights currently in compliance with the route would fly 10 minutes longer as a result of the rule, and the absence of mandates in the rule that would substantially increase fuel burn.

For the purposes of this emissions evaluation, the commenter's data is helpful insofar as it provides an upper bound for fuel consumption that can be used to show that the rule could not result in noncompliance with applicable emissions requirements. Therefore, this emissions analysis provides calculations based on the commenter's assumptions to demonstrate regulatory compliance with applicable emissions regulations.

Emissions Analysis

First, calculations (Equation 1 through 4) were performed using a worst case fuel consumption based on the commenter's assumptions, as follows:

- Rotorcraft Type: S76, B430, AW139, and AS365
- Annual increase in fuel burn: 117,000 gallons
- Annual increase in flight time: 2,125 hours

The commenter suggested the S76, B430, AW139, and AS365 as acceptable two engine helicopters to operate over water. From this list of rotorcraft, the AW139 and AS365 appear to be primarily used by the U.S. Coast Guard. The B430 was not specifically identified in EDMS (Emissions Dispersion Modeling System), but a comparable rotorcraft, the B407 with the same engine, was available for analysis. In addition, the S76 was found in EDMS as a viable commercial/private rotorcraft for use in this evaluation. The S76 and B407 emissions information was extracted from EDMS. Due to limited rotorcraft operations data at Long Island landing sites, the emissions indices were selected from EDMS based on the highest rate of emissions regardless of flight segment for the Sikorsky S-76 Spirit (See Table 3). These selected indices provide a more conservative emissions estimate.

Table 1 lists the conversion factors and emission factors/indices utilized in estimating an emissions inventory based on the commenter's assumption of 117,000 gallons of fuel being consumed. The emission indices for Sulfur Dioxide (SO₂), Total Hydrocarbons (THC), and Oxides of Nitrogen (NO_x) are multiplied by the total

fuel consumption to determine the total emissions. The Particulate Matter (PM₁₀) emission factor is multiplied by the number of hours operating to determine total PM₁₀ emissions. The number of additional hours of aircraft operation is estimated to be 2,125 hours. A conversion factor is applied to THC to obtain Volatile Organic Compounds (VOCs). Table 2 lists the worst case emissions inventory presented in U.S. Short tons based on this conservative emissions inventory methodology.

Table 1. Conversion Factors and Emissions Rates

Factor/Emission Rate	Description
Specific Weight of Fuel	6.8 lbs/gal of jet fuel
Mass Conversion	2.2 lbs per kg
U.S Short Ton Conversion	907.18 kg per U.S. Short Ton
THC Emission Index	56.67 g/kg - Sikorsky S-76 Spirit; T700-GE-700 Idle Emission Rate
THC to VOC Conversion	1.15 VOC to THC - FAA/EPA <i>RECOMMENDED BEST PRACTICE FOR QUANTIFYING SPECIATED ORGANIC GAS EMISSIONS FROM AIRCRAFT EQUIPPED WITH TURBOFAN, TURBOJET, AND TURBOPROP ENGINES Version 1.0 5/27/2009</i>
NO _x Emission Index	8.61 g/kg - Sikorsky S-76 Spirit; T700-GE-701 Take-off Emission Rate
PM ₁₀ Emission Rate	0.3633 kg/hr – U.S. Environmental Protection Agency (EPA), <i>EPA's Procedure for Emission Inventory Preparation, Vol. IV, Mobile Sources. 1992</i>
SO ₂ Emission Rate	Based on a 98% conversion to SO ₂ with jet fuel having 0.068% sulfur content - Coordinating Research Council, Inc., <i>Handbook of Aviation Fuel Properties, Third Edition, CRC Report No. 635, Alpharetta, GA., 2004.</i>

Results and Analysis

The North Shore helicopter route is located entirely within Suffolk County, New York. This area has been designated by the Environmental Protection Agency (EPA) under the Clean Air Act as a nonattainment area for particulate matter (PM-2.5) and a moderate nonattainment area for ozone.³ In addition, the state of New York is within the Ozone Transport Region established in section 184(a) of the Clean Air Act, 42 USC § 7511c(a). EPA has determined that for such nonattainment areas, emissions of less than 50 tons per year of volatile organic compounds and 100 tons per year of nitrogen oxides, PM-2.5, or sulfur dioxide are *de minimis*.⁴

Using the methodology described above, the analysis indicates that emissions of these pollutants from combustion of an additional 117,000 gallons of fuel would be well below levels determined by the EPA to be *de minimis*.

Table 2. Emissions Inventory Results Demonstrating Compliance below the 50 and 100 Tons per Year *de minimis* Thresholds (All values are in tons per year)

VOC	NO_x	PM₁₀	SO₂
25.98	3.43	0.85	.27

Note: The PM10 estimate can be used as a surrogate for PM_{2.5} emissions.

³ See U.S. Environmental Protection Agency (EPA), “Currently Designated Nonattainment Areas for All Criteria Pollutants,” available at <http://www.epa.gov/oaqps001/greenbk/ancl.html>.

⁴ 40 CFR § 93.153(b)(1).



Equation 1

? US Short Ton VOC

$$\begin{aligned} &= \frac{56.67 \text{ g THC}}{\text{kg fuel}} \times \left(117,000 \text{ gal fuel} \times \left(\frac{6.8 \text{ lb}}{1 \text{ gal}} \right) \times \left(\frac{1 \text{ kg}}{2.2 \text{ lb}} \right) \right) \times \left(\left(\frac{1 \text{ US Short Ton}}{907.18 \text{ kg}} \right) \times \left(\frac{1 \text{ kg}}{1,000 \text{ g}} \right) \right) \times \left(\frac{1.15 \text{ VOC}}{1 \text{ THC}} \right) \\ &= 25.98 \text{ Ton VOC} \end{aligned}$$

Equation 2

$$\begin{aligned} ? \text{ US Short Ton NOx} &= \frac{8.18 \text{ g NOx}}{\text{kg fuel}} \times \left(117,000 \text{ gal fuel} \times \left(\frac{6.8 \text{ lb}}{1 \text{ gal}} \right) \times \left(\frac{1 \text{ kg}}{2.2 \text{ lb}} \right) \right) \times \left(\left(\frac{1 \text{ US Short Ton}}{907.18 \text{ kg}} \right) \times \left(\frac{1 \text{ kg}}{1,000 \text{ g}} \right) \right) \\ &= 3.26 \text{ Ton NOx} \end{aligned}$$

Equation 3

$$? \text{ US Short Ton PM}_{10} = \frac{0.3633 \text{ kg PM}}{\text{hr}} \times \left(\left(\frac{1 \text{ US Short Ton}}{907.18 \text{ kg}} \right) \times \left(\frac{1 \text{ kg}}{1,000 \text{ g}} \right) \right) \times 2,125 \text{ hr} = 0.85 \text{ Ton PM}$$

Equation 4

$$? \text{ US Short Ton SOx} = \left(\left(117,000 \text{ gal fuel} \times \left(\frac{6.8 \text{ lb}}{1 \text{ gal}} \right) \times \left(\frac{1 \text{ kg}}{2.2 \text{ lb}} \right) \times \left(\frac{1 \text{ US Short Ton}}{907.18 \text{ kg}} \right) \right) \times 0.068\% \right) \times 98\% = 0.27 \text{ Ton SOx}$$



Table 3. EDMS Emissions Indices for Specific Pollutants and Modes of Operation for T700-GE-700 and 250B17B Engines. (All values are in g of pollutant per kg of fuel. The most conservative values are shaded to indicate the highest values used in this analysis.)

Aircraft Type	EDMS Equivalent Type	EDMS Equivalent Engine	THC Take Off	THC Climb Out	THC Approach	THC Idle	NOx Take Off	NOx Climb Out	NOx Approach	NOx Idle
S76	Sikorsky S76 Spirit	T700-GE-700	0.39	0.49	0.37	56.67	8.61	8.18	7.56	2.78
B430	Bell 407	250B17B	0.30	0.40	5.20	20.00	6.60	5.96	2.20	1.00
AW139	No information in EDMS; Researched suggested Coast Guard Helicopter									
AS365	No information in EDMS; Researched suggested Coast Guard Helicopter									

From: Feith.Ken@epamail.epa.gov
To: Hans.Bjornson/AGL/FAA@FAA
Subject: Re: Fw: Draft NPRM re North Shore Helicopter Route
Date: 04/23/2010 09:00 AM
Importance: High
Attachments: [KF-North Shore Helicopter Route NPRM \(draft 041410\).DOC](#)

Mr. Bjornson,

Sorry for the delay but needed management clearance on Agency response. The EPA fully supports the FAA effort to relieve the helicopter noise impact on the identified populations, particularly without transferring that impact to another community.

Recognizing that the document you sent to me was in draft, we wish to point out to you and your drafting staff several serious contradictions in the attached marked-up text. We direct your attention to the conflicting statements that use of the specified flight path is "...strictly voluntary..." but the rule is written in the command sense that helicopters are "...required..." and "...shall..." use the designated flight corridor. We have also noted several other areas and word usage that you may wish to consider.

Thank you for providing us an opportunity to review and comment.

Kenneth Feith
Senior Scientist
Office of Air & Radiation
U. S. EPA
Washington, D.C.
Phone: 202-564-1679

(See attached file: [KF-North Shore Helicopter Route NPRM \(draft 041410\).DOC](#))

From: [Hans Bjornson](#)
To: feith.ken@epa.gov
Bcc: [Hans Bjornson](#)
Subject: Draft NPRM re North Shore Helicopter Route
Date: 04/14/2010 04:24 PM
Importance: High
Attachments: [North Shore Helicopter Route NPRM \(draft 041410\).DOC](#)

Mr. Feith:

Pursuant to the consultation requirement in 49 USC 44715(a)(2), attached please find the draft NPRM we discussed on the phone today.

Thank you for your assistance.



North Shore Helicopter Route NPRM (draft 041410).DOC

Hans Bjornson
Senior Staff Attorney
Airports & Environmental Law Division, AGC-600
Office of the Chief Counsel
Federal Aviation Administration
Tel: (612) 713-4361
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04/12/2010

[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 93

Docket No. FAA-2010-0302

; Notice No.

RIN 2120-AJ75

The New York North Shore Helicopter Route

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This proposed action would ~~require~~ helicopter operators to use the New York North Shore Route when operating in that area of Long Island, New York. The North Shore Route was added to the New York Helicopter Route Chart in 2008 and the use of that route is currently voluntary. New York public officials have continued to receive complaints regarding the adverse impact of helicopter noise on their communities. The intended effect of this proposal is to maximize utilization of the existing route flown by helicopter traffic along the north shore of Long Island and reduce the noise ~~impact effects~~ on nearby communities.

Comment [c1]: This statement makes use of this route mandatory.

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DATES: Send your comments on or before 30 days after date of publication in the Federal Register.

ADDRESSES: You may send comments identified by Docket Number FAA-2010-0302 using any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the online instructions for sending your comments electronically.
- Mail: Send comments to Docket Operations, M-30; U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.
- Hand Delivery or Courier: Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at 202-493-2251.

For more information on the rulemaking process, see the SUPPLEMENTARY INFORMATION section of this document.

Privacy: We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. Using the search function of the docket web site, anyone can find and read the electronic form of all comments received into any of our dockets, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). You

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may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78) or you may visit <http://DocketsInfo.dot.gov>.

Docket: To read background documents or comments received, go to <http://www.regulations.gov> at any time and follow the online instructions for accessing the docket or Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this proposed rule contact Ellen Crum, Airspace and Rules Group, AJR-33, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone (202) 267-8783. For legal questions concerning this proposed rule contact Lorelei Peter, AGC-220, Office of Chief Counsel, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone 202-267-3073.

SUPPLEMENTARY INFORMATION:

Later in this preamble under the Additional Information section, we discuss how you can comment on this proposal and how we will handle your comments. Included in this discussion is related information about the docket, privacy, and the handling of proprietary or confidential business information. We also discuss how you can get a copy of related rulemaking documents.

Authority for this Rulemaking

The FAA has broad authority and responsibility to regulate the operation of aircraft and the use of the navigable airspace and to establish safety standards for and regulate the

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certification of airmen, aircraft, and air carriers. (49 U.S. C. § 40104 et seq., § 40103(b). The FAA's authority for this proposed rule is contained in 49 U.S.C. §§ 40103 and 44715. Under § 40103, the Administrator of the FAA has authority to "prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes) for * * * (B) protecting individuals and property on the ground. (49 U.S.C. § 40103(b)(2)). In addition, § 44715(a), provides that to "relieve and protect the public health and welfare from aircraft noise," the Administrator of the FAA, "as he deems necessary, shall prescribe . . . (ii) regulations to control and abate aircraft noise . . ."

Background

In response to numerous complaints regarding helicopter noise received by New York public officials, including Senator Schumer and former Senator Clinton, the FAA began working with stakeholders and industry groups. (to do ~~what?~~) Senator Charles Schumer and Representative Tim Bishop conducted a meeting in October 2007 with the FAA, local helicopter operators and the airport proprietors to specifically address the noise complaints stemming from the north shore of Long Island. As a result of this meeting, a visual flight rules (VFR) helicopter route, the North Shore route, was designed (designated ?) for helicopters to use when transiting the area in order to lessen the noise impact on ~~avoid~~ populated areas by remaining offshore and over the water. As this route was developed for VFR flight, use of it ~~that route is~~ strictly voluntary. The route was published on the Helicopter Route Chart for New York, ~~which was~~ effective May 8, 2008.

The Helicopter Route Chart program was established by the FAA to enhance helicopter access into, egress from, and operation within high density traffic areas by (designating ?) depicting discrete and/or common use helicopter routes. Guidance and

Comment [c2]: Needs explanation

Comment [c3]: Was the intent to avoid a safety hazard to the community?

Comment [c4]: Above you state helicopter operators are required to use this route -- that's NOT strictly voluntary!!

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procedures for this program are contained in FAA Order 7210.3, Facility Operation and Administration, Chapter 11. The use of these routes is voluntary, unless air traffic control assigns the charted routes to pilots for purposes of addressing traffic density or safety.

New York elected officials have advised the FAA the noise complaints continue in this area notwithstanding the North Shore route. The local FAA Flight Standards Division has also received the same complaints.

The New York Long Island airspace, like many other areas in the U.S., presents competing interests. The geographic area is not vast but supports a highly congested populated area that is surrounded by aircraft traffic operating into and out of LaGuardia Airport, John F. Kennedy International Airport, Republic Airport and a multitude of both public and private heliports.

This proposed action would require civil helicopters operating along Long Island, New York's northern shoreline to follow the published New York North Shore Route between the fixed waypoint VPLYD and Orient Point. The FAA is aware that several conditions may exist for which helicopter operators would need to deviate from the route. Therefore, provisions are included that take into consideration the wide variety of helicopters, their associated performance and mission profiles, the dynamic weather environment along the route, and the pilot's responsibility to maintain safe operations at all times.

Comment [c5]: What does this mean?

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the

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public. We have determined that there is no new information collection requirement associated with this proposed rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Regulatory Evaluation, Regulatory Flexibility Determination, International Trade Impact Assessment, and Unfunded Mandates Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Public Law 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that

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include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits that a statement to that effect and the basis for it be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this proposed rule. The reasoning for this determination follows:

This proposed action is not expected to result in additional costs on the affected helicopters because those operators that cannot comply with the route as published due to operational limitations, performance factors, weather conditions or safety considerations are allowed to deviate from the provisions of Subpart H.

FAA has, therefore, determined that this proposed rule is not a "significant regulatory action" as defined in section 3(f) of Executive Order 12866, and is not "significant" as defined in DOT's Regulatory Policies and Procedures.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Public Law 96-354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the

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objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.” The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions. Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA. However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

This proposed rule would impact a substantial number of small entities. A small entity for aircraft operators are all firms with less than 1,500 employees. Just in the New York???? part 135 sightseeing helicopter market there are 5 small entities. However, the rule does not require the purchase of additional equipment and allows pilots to deviate from the proposed provisions if necessary, due to operational limitations, performance factors, weather conditions or safety considerations. Therefore the rule imposes only minimal cost.

Therefore, the FAA certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities. The FAA solicits comments regarding this determination.

Comment [c6]: What makes the aircraft operators unique? For most other entities its 500 employees.

Comment [c7]: New York what?

Comment [c8]: This is considered substantial??

Comment [c9]: Of what?

Comment [c10]: For what?

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International Trade Impact Analysis

The Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standards have a legitimate domestic objective, such as the protection of safety and do not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. As the proposed rule would have only a domestic impact, the Trade Agreement Act does not apply.

Comment [c11]:

Comment [c12]: This is note a safety issue!

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$143.1 million in lieu of \$100 million. This proposed rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

Comment [c13]: This is irrelevant.

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Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, would not have federalism implications.

Environmental Analysis

Under regulations issued by the Council on Environmental Quality, federal agencies are required to establish procedures that, among other things, identify agency actions that are categorically excluded from the requirement for an environmental assessment or environmental impact statement under the National Environmental Policy Act of 1969 because they do not have a significant effect on the human environment. See 40 C.F.R. §§ 1507.3(b)(2)(ii), 1508.4. The required agency procedures must also “provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.” 40 C.F.R. § 1508.4. For FAA actions, these “categorical exclusions” and “extraordinary circumstances” are listed in Chapter 3 of FAA Order 1050.1E, “Environmental Impacts: Policies and Procedures.”

The FAA has determined that this proposed rulemaking action qualifies for the categorical exclusion identified in paragraph 312f of FAA Order 1050.1E. That categorical

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exclusion applies to “[r]egulations, standards, and exemptions (excluding those which if implemented may cause a significant impact on the human environment).” The existing New York North Shore Route is a visual flight rules (VFR) route, use of which is voluntary. Additionally, the route is located entirely over water and away from noise-sensitive locations. Therefore, implementation of this proposed rule is not expected to result in significant adverse impacts to the human environment. Moreover, implementation of the proposed rule would not involve any of the extraordinary circumstances listed in Section 304 of FAA Order 1050.1E.

Regulations that Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this NPRM under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a “significant energy action” under the executive order because it is not a “significant regulatory action” under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

Additional Information

Comments Invited:

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure

Comment [c14]: You state above that there will be costs to small entities after you remove consideration of equipment, facilities, etc. What is the additional cost if not for fuel burn? If for fuel burn then is that fuel consumption considered significant under maximum compliance condition?

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the docket does not contain duplicate comments, please send only one copy of written comments, or if you are filing comments electronically, please submit your comments only one time.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Proprietary or Confidential Business Information

Do not file in the docket information that you consider to be proprietary or confidential business information. Send or deliver this information directly to the person identified in the FOR FURTHER INFORMATION CONTACT section of this document. You must mark the information that you consider proprietary or confidential. If you send the information on a disk or CD ROM, mark the outside of the disk or CD ROM and also identify electronically within the disk or CD ROM the specific information that is proprietary or confidential.

Under 14 CFR 11.35(b), when we are aware of proprietary information filed with a comment, we do not place it in the docket. We hold it in a separate file to which the public does not have access, and we place a note in the docket that we have received it. If we receive a request to examine or copy this information, we treat it as any other request under

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the Freedom of Information Act (5 U.S.C. 552). We process such a request under the DOT procedures found in 49 CFR part 7.

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visiting the FAA's Regulations and Policies web page at http://www.faa.gov/regulations_policies or
3. Accessing the Government Printing Office's web page at <http://www.gpoaccess.gov/fr/index.html>.

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the docket or notice number of this rulemaking.

You may access all documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, from the internet through the Federal eRulemaking Portal referenced in paragraph (1).

List of Subjects in 14 CFR Part 93

Air Traffic Control, Airspace, Navigation (air)

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The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Chapter I of Title 14, Code of Federal Regulations, as follows:

PART 93— SPECIAL AIR TRAFFIC RULES

1. The authority citation for part 93 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40103, 40106, 40109, 40113, 44502, 44514, 44701, 44719, 46301.

2. Amend part 93 by adding subpart H to read as follows:

Subpart H—Mandatory Use of the New York North Shore Helicopter Route

93.101 Applicability.

93.103 Helicopter operations.

Subpart H—Mandatory Use of the New York North Shore Helicopter Route

§ 93.101 Applicability.

This subpart prescribes a special air traffic rule for civil helicopters operating VFR along the North Shore, Long Island, New York.

§ 93.103 Helicopter operations.

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(a) Unless otherwise authorized, each person piloting a helicopter along Long Island, New York's northern shoreline between the VPLYD waypoint and Orient Point, shall utilize the North Shore Helicopter route, as published.

Comment [c15]: This makes use of the route mandatory!! You state above that it is VOLUNTARY!!

(b) Pilots may deviate from the requirements of paragraph (a) when required for safety, weather conditions or transitioning to or from a destination or point of landing.

Comment [c16]: These are conditions that permit deviation from the "mandatory" route. Need to clarify above.

Issued in Washington, DC, on

Elizabeth L. Ray

Director, Systems Operations, Airspace and Aeronautical Information Management

Explanation of North Shore Helicopter Route Analysis

3.2.12 ver 2

Evaluation of
Helicopter and flights
with 1200 beacon code
using PDARS

To: Terminal Air Traffic

By:

Explanation of North Shore Helicopter Route Analysis



Federal Aviation
Administration



What is PDARS?

The Performance Data Analysis and Reporting System (PDARS) is a fully integrated performance measurement tool designed to help the Federal Aviation Administration (FAA) improve the National Airspace System (NAS). PDARS is a collaborative effort between the FAA Office of Performance Analysis and Strategy and the National Aeronautics and Space Administration (NASA) Aviation Safety Program (AvSP). PDARS is being developed and managed by ATAC Corporation in Sunnyvale, California.



The PDARS Tool Suite

PDARS is several applications functioning in conjunction with one another. Each tool (or “module”) provides quantitative and/or graphical data about flights (see next slide)

The primary PDARS tools include:

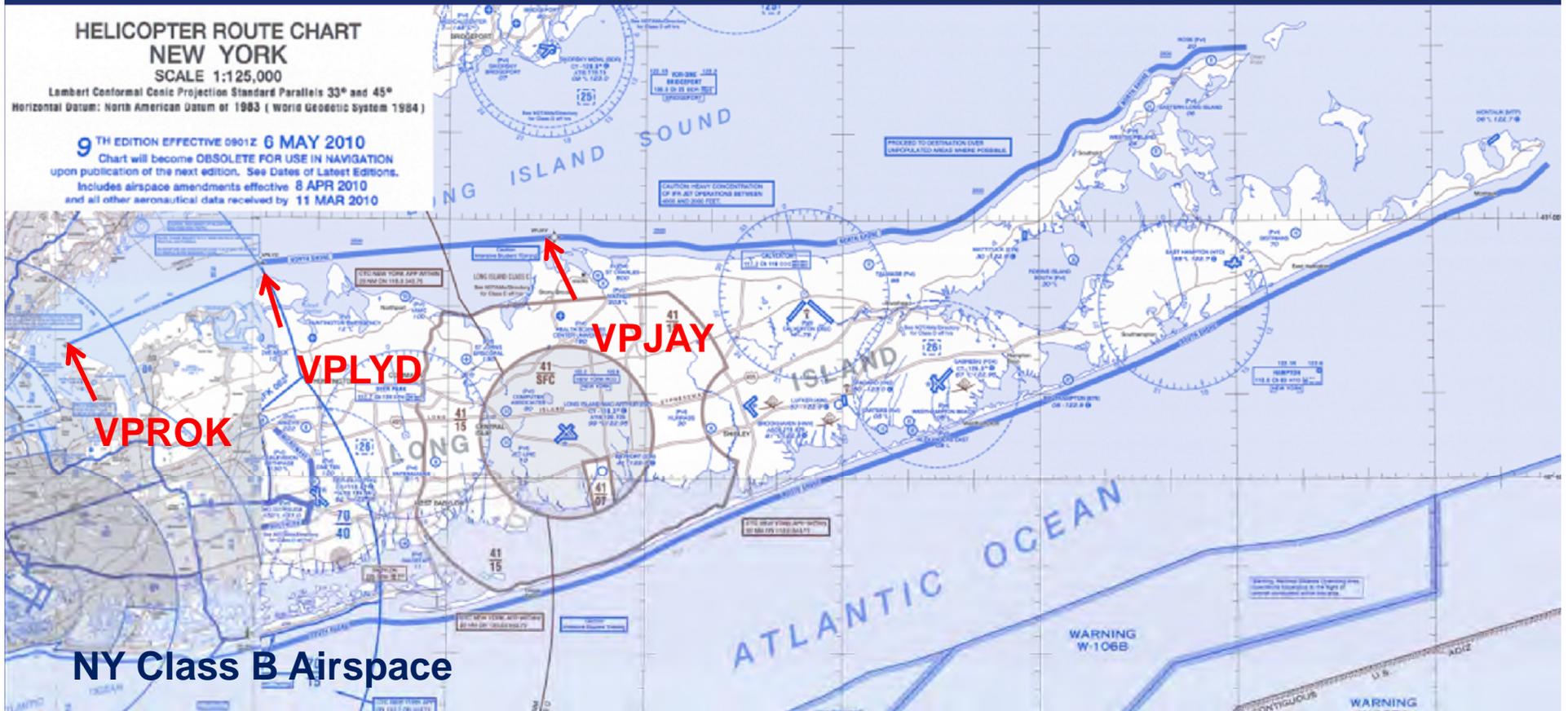
- Microsoft Excel
- BWRS (Excel-based reports, histograms, and charts)
- GRADE (an advanced graphical display environment)



Voluntary Helicopter Route

Route defined by waypoints and Long Island North Shore east of Port Jefferson stacks

http://aeronav.faa.gov/content/aeronav/heli_files/New_York_Heli.zip



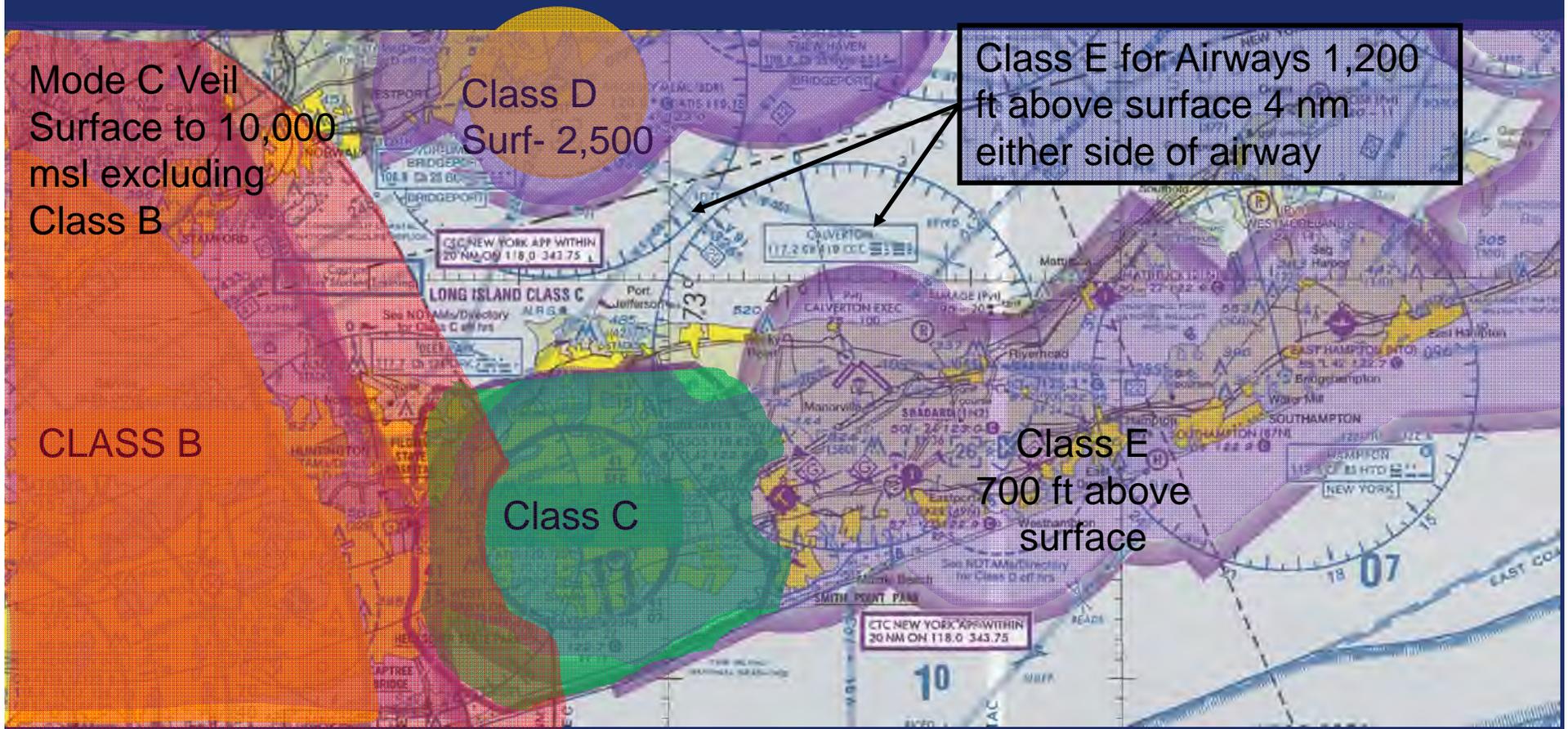
Explanation of North Shore Helicopter Route Analysis



Federal Aviation
Administration

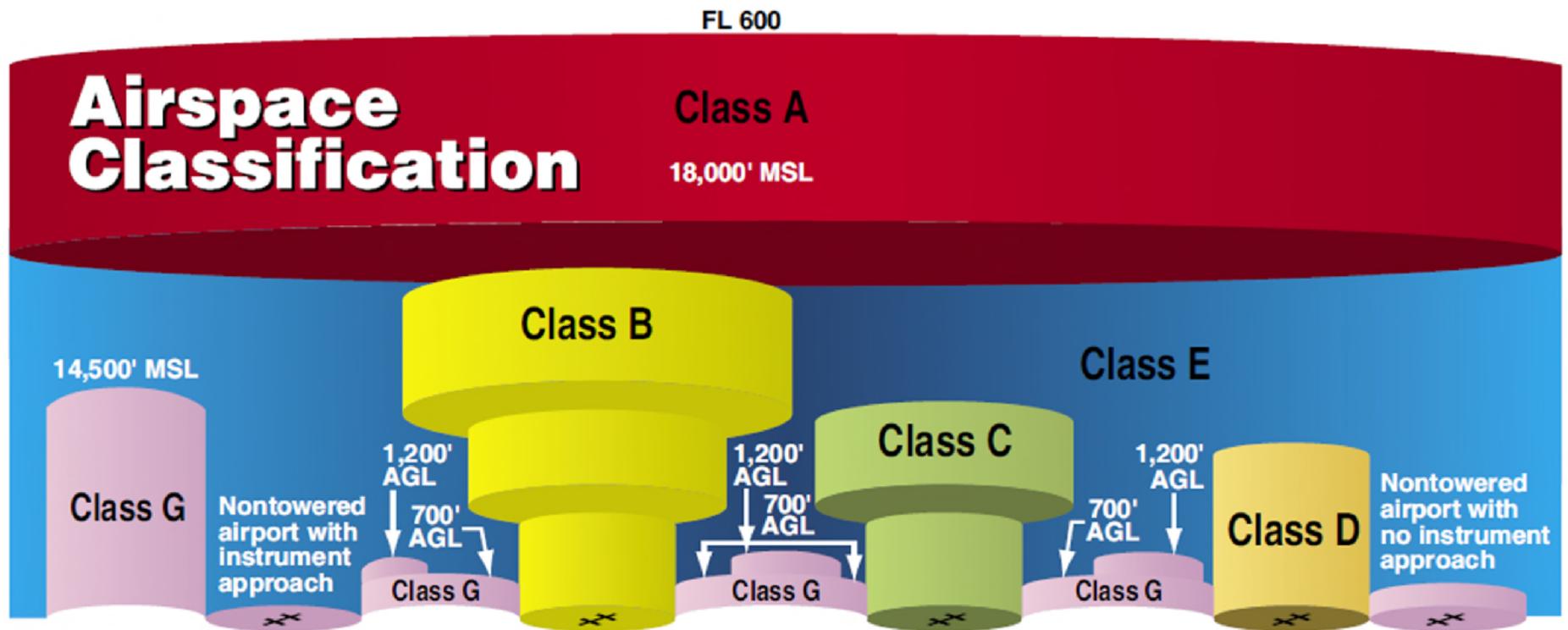
Airspace around Long Island

http://aeronav.faa.gov/content/aeronav/tac_files/New_York_TAC_82.zip



Airspace Classification

http://www.faa.gov/library/manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2014.pdf



Airspace Requirements

http://www.faa.gov/library/manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2014.pdf

Class Airspace	Entry Requirements	Equipment	Minimum Pilot Certificate
A	ATC clearance	IFR equipped	Instrument rating
B	ATC clearance	Two-way radio, transponder with altitude reporting capability	Private—(However, a student or recreational pilot may operate at other than the primary airport if seeking private pilot certification and if regulatory requirements are met.)
C	Two-way radio communications prior to entry	Two-way radio, transponder with altitude reporting capability	No specific requirement
D	Two-way radio communications prior to entry	Two-way radio	No specific requirement
E	None for VFR	No specific requirement	No specific requirement
G	None	No specific requirement	No specific requirement

Mode C Veil- The airspace within 30 nautical miles of NY Class B from the surface upward to 10,000 feet MSL. Unless otherwise authorized by ATC, aircraft operating within this airspace must be equipped with automatic pressure altitude reporting equipment having Mode C capability.



PDARS Cited Data

The PDARS data cited in the North Shore Helicopter Route Analysis represents VFR aircraft operating along the northern shoreline of Long Island, New York. Those aircraft operating clear of Class B and Class C airspace did not require ATC clearance. Aircraft operating within the Mode-C veil are required to be equipped with automatic pressure altitude reporting equipment having Mode C capability.

Two groups of aircraft are represented in this evaluation, aircraft with discrete beacon code (helicopters) and non-discrete beacon codes (VFR aircraft on 1200 codes) :

1. Discrete Beacon Codes- Helicopters electing to receive Terminal VFR Radar Service provided by New York TRACON (N90) in Westbury, NY. The types of helicopters are identified by call sign and helicopter type listed in JO 7110.65U, or as a generic “Helo” type. The actual aircraft type can be determined by cross referencing the call sign to an FAA database.



PDARS Cited Data

2. Non-discrete beacon codes- VFR aircraft on 1200 codes. These aircraft did not elect to receive Terminal VFR Radar Service provided by N90 (New York TRACON) in Westbury, NY. They were selected because these flights follow a path consistent with the known helicopter traffic of similar speed. No attempt to differentiate between helicopters or fixed-wing aircraft was made at this time. These aircraft are mode C equipped, squawking 1200 on their transponders and displaying altitude information. There was no aircraft type, origin or destination determined.



III. Affected Environment

3.1 Introduction

This chapter provides a description of the manmade and natural environments on and near the existing helicopter air tour facilities at McCarran International Airport and the proposed Heliport site. The “existing condition” year for this analysis is 2004 to be consistent with the *LAS FAR Part 150 Noise Compatibility Study Update* [III-1]. When available, historical data for 2005 and/or 2006 are also provided in this chapter.

This chapter also describes the existing conditions for environmental resource categories, as described in FAA Order 1050.1E, paragraph 403 and Order 5050.4B, paragraph 706, that are applicable to the study areas. These resource categories include:

- Noise
- Compatible land use
- Demographics and socioeconomic profile
- Air quality
- Department of Transportation, Section 4(f) lands, wilderness, and Areas of critical environmental concern¹
- Historic, architectural, archaeological, and cultural resources and Native American religious concerns¹
- Fish, wildlife, and plants and invasive, nonnative species¹
- Federally listed threatened and endangered species
- Floodplains and floodways
- Water quality
- Hazardous materials, pollution prevention, and solid waste
- Visual resources²

The following environmental resources are not present within the study areas (see Section 3.2) and therefore, would not be affected by the Proposed Action or the No Action alternative: wetlands, coastal resources, wild and scenic rivers, farmlands, and wild horses and burros. Chapter IV, Environmental Consequences, describes the potential and specific environmental effects of the alternatives selected for detailed evaluation, as set forth in Chapter II, Alternatives.

3.2 Study Areas

Three study areas were developed for this EA to describe the existing conditions in the Las Vegas region and to consider the potential direct and indirect impacts of the Proposed Action and the No Action alternative: Area of Disturbance, Overflight Area, and the Las Vegas region.

3.2.1 Area of Disturbance

The Area of Disturbance includes land within the Heliport site boundary (about 229 acres of land) and areas that would be affected by the extension of electrical power, water, and communication utilities to the site (see **Exhibit III-1**).

¹ “Critical Elements of the Human Environment”, as listed in Appendix 5 of the BLM’s *NEPA Handbook H-1790-1*.

² Visual resources, as detailed in the BLM’s Visual Resource Management (VRM) 8400 series manuals. See Section 3.16.

The proposed utility corridor is located south of St Rose Parkway and north of Jean, Nevada, and generally parallels I-15 and Las Vegas Boulevard South. Utilities to be installed or improved within the corridor include above-ground and underground power lines, an underground communication line, and an underground water pipeline. (See Section 1.3 for a description of the Proposed Action.) For purposes of analysis in this EA, a 200-foot wide utility corridor was assumed as part of the Area of Disturbance, except for a portion adjacent to and west of the Heliport site for which a 400 foot wide corridor was assumed. The permanent right-of-way, which would be located within the assumed 200-foot wide corridor, would be a maximum of 50 feet in width for each utility line; an additional 50-foot wide temporary right-of-way for construction would also be required.

3.2.2 Overflight Area

The Overflight Area includes (1) a one-mile radius around the proposed Heliport site and the west side of McCarran International Airport where existing helicopter tour facilities are located; (2) the existing Grand Canyon helicopter air tour flight corridors; and (3) three potential flight corridors³ analyzed as part of the Proposed Action.

The boundary of the Overflight Area, which is defined by the location of existing helicopter flight corridors and potential helicopter flight corridors, is depicted on **Exhibit III-2**. As shown on Exhibit III-2, the eastern boundary of the Overflight Area is the Rendezvous Point, beyond which the flight corridors to and from the Grand Canyon would remain unchanged.

3.2.3 Las Vegas Region

The Las Vegas region includes Clark County as a whole. The discussions on noise, air quality, demographics and socioeconomic profile include a discussion of the existing condition within Clark County. Department of Transportation, Section 4(f) lands include discussion of the existing condition in the Las Vegas region as a whole.

3.3 Historical and Forecast Helicopter Air Tour Demand

This section provides a summary of the historical and forecast helicopter air tour demand, as documented in the Heliport Forecasts [I-12].

3.3.1 Historical Helicopter Air Tour Demand

The helicopter air tour industry in Southern Nevada has grown over the past several years. According to statistics produced using AirScene data, Grand Canyon helicopter air tour activity at McCarran increased an average of 20.7 percent per year between 2001 and 2004. In comparison,

³ The CCDOA consulted with the helicopter operators, the FAA, and other stakeholders to identify potential flight corridors associated with the Heliport site. In accordance with Public Law 109-115 the McCullough flight corridor represents the only route that can be used by Grand Canyon helicopter tour operators to cross the Sloan Canyon NCA if the flight is starting from or ending at the Heliport site. Because neither the CCDOA nor the FAA has the authority to mandate flight corridors or the use of those corridors in uncontrolled airspace, the flight corridors depicted in the Draft EA are intended to be illustrative of where Grand Canyon helicopters would fly under the Proposed Action and No Action alternatives and are the best available for analysis purposes. The Proposed Action does not include any proposal to establish or implement mandatory flight corridors.



Legend

-  Proposed heliport site area
-  Area of disturbance
-  National Conservation Area or Wilderness Area
-  Primary road
-  Secondary/State road
-  Railroad
-  Jurisdictional boundary

Note: The area of disturbance includes areas that could be affected by construction or the extension of utilities to the site.

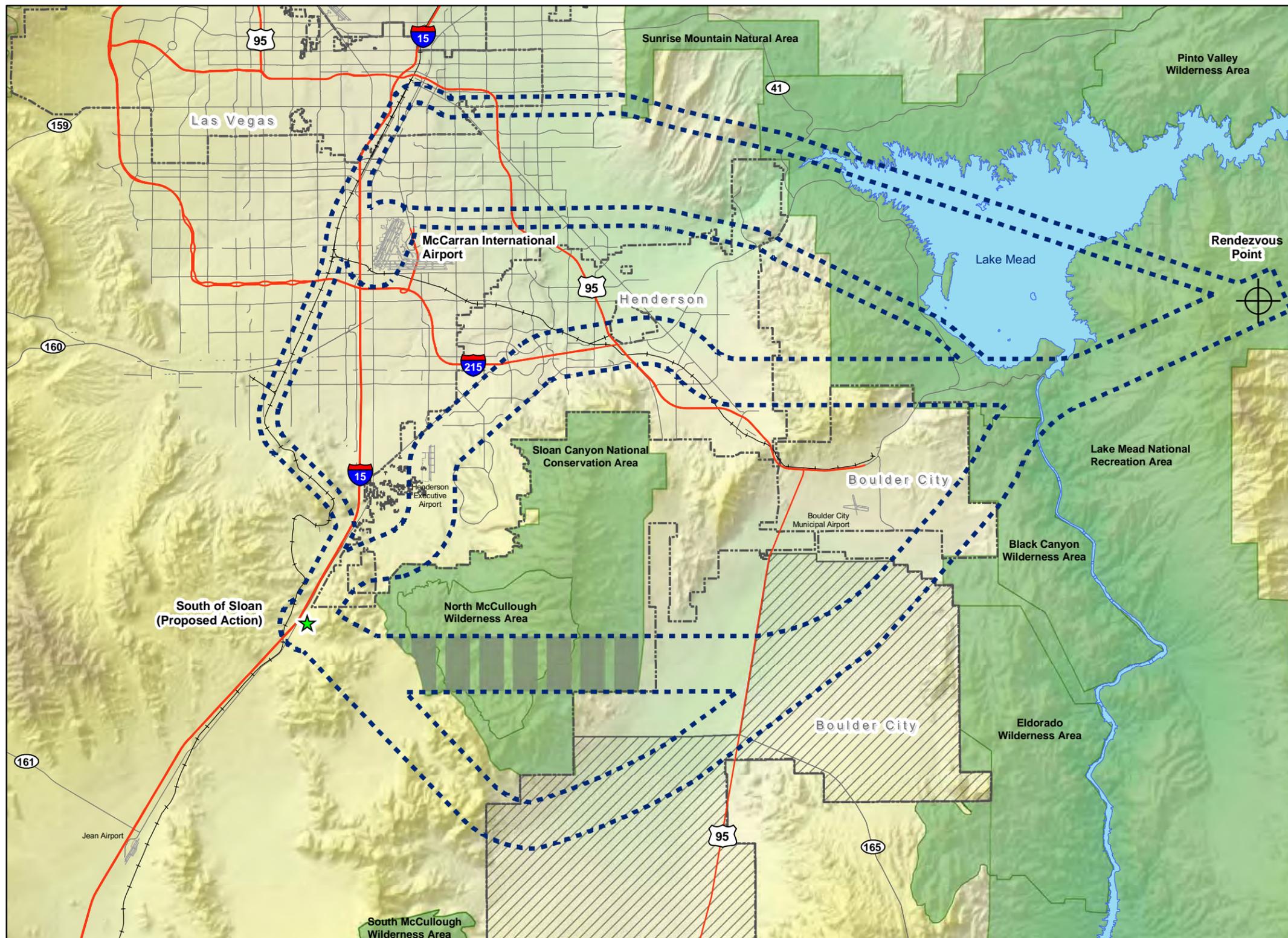
Sources: Clark County Department of Aviation; AirPhotoUSA, February 2007 (aerial photograph); SWCA Environmental Consultants (area of disturbance).
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-1



Area of Disturbance

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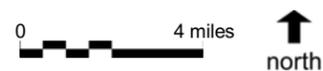


Legend

- Proposed heliport site
- Primary road
- Secondary/State road
- Railroad
- Jurisdictional boundary
- Overflight area
- National Conservation Area, Wilderness Area, Natural Area, or National Recreation Area
- Flight path allowed by Congressional legislation for helicopter tours originating or concluding at the South of Sloan site and crossing the Sloan Canyon National Conservation Area
- Boulder City conservation easement

Sources: Clark County Department of Aviation; Ricondo & Associates, Inc., August 2007.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-2



Overflight Area

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total air carrier aircraft operations at McCarran increased an average of 4.3 percent per year over the same period. Helicopter air tour activity to the Grand Canyon has, therefore, increased at a higher rate than air carrier aircraft operations in the region in recent years.

In 2004, annual helicopter departures totaled 33,190 Grand Canyon tours and 11,501 Las Vegas Strip tours. In 2005, annual helicopter departures totaled 37,595 Grand Canyon tours and 12,775 Las Vegas Strip tours. In 2006, annual helicopter departures totaled 36,865 Grand Canyon tours and 12,045 Las Vegas Strip tours. Assuming a load of 5.5 enplaned passengers per helicopter departure based on the helicopter fleet mix, air tour helicopters carried about 182,550 passengers on tours of the Grand Canyon and about 63,260 passengers on tours of the Las Vegas Strip and in 2004. In 2005, air tour helicopters carried about 206,772 passengers on tours of the Grand Canyon and about 70,262 passengers on tours of the Las Vegas Strip. In 2006, air tour helicopters carried about 202,757 passengers on tours of the Grand Canyon and about 66,247 passengers on tours of the Las Vegas Strip. The actual 2006 Grand Canyon annual tour departures are within about three percent of the number of departures forecasted in 2004 for 2006.

3.3.2 Current Helicopter Tour Operators

As of 2007, four commercial helicopter operators provided helicopter air tours from their base at McCarran. A fifth commercial helicopter operator, offering helicopter training and local tours, is partially based at North Las Vegas Airport. Helicopter tours are also conducted at the Boulder City Municipal Airport by an operator who is also based at McCarran. Multiple sites on the west side of McCarran are currently used as bases for the four helicopter tour operators operating at McCarran. These helicopter facilities are located about two miles south of Caesars Palace, a location that is considered the center of the helicopter air tour customer base. Additional helicopters used for television news gathering, fire fighting, and executive charter flights are also based at McCarran and at other airports and private heliports located throughout the Las Vegas region.

3.3.3 Forecast Helicopter Air Tour Demand

Unconstrained forecasts of helicopter air tour passengers and operations in the Las Vegas region were approved in 2007 and are described in the Heliport Forecasts [I-12]. Helicopter tour activity based at McCarran in 2004 was used as the existing condition in the forecasts. **Table III-1** summarizes the forecast of helicopter air tour departures as derived from the Heliport Forecasts. An unconstrained growth rate of 4.0 percent per year is forecast through the planning period. As shown in Table III-1, based on the forecast growth rate, the number of Grand Canyon air tour departures is forecast to increase from about 33,190 in 2004 to 43,700 in 2011 and 55,200 in 2017. Daily departures for Grand Canyon air tours are forecast to increase from an average of 91 in 2004 to 120 in 2011 and 151 in 2017. The total number of helicopter air tour departures, including Las Vegas Strip tour departures, is forecast to increase from 44,692 in 2004 to 58,900 in 2011 and 74,400 in 2017.

Table III-1

Forecast of Helicopter Air Tour Departures

Year	Las Vegas Strip Tours		Grand Canyon Tours		Total Tour Departures	
	Annual	Daily	Annual	Daily	Annual	Daily
Historical						
2004	11,501	32	33,190	91	44,692	122
2005	12,775	35	37,595	103	50,370	138
2006	12,045	33	36,865	101	48,910	134
Forecast						
2011	15,200	41	43,700	120	58,900	161
2017	19,200	53	55,200	151	74,400	204

Notes:

Columns may not add to totals shown because of rounding.

Forecasts are intended to represent general trends; therefore, some air tour departures reported in this table shows faster historical growth while other years show slower growth.

Sources: Clark County Department of Aviation, using data from AirScene (2004-2006 departures); Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., April 2008

3.4 Physical Setting and Resources

The natural environment in the Las Vegas region, including the climate, topography and drainage, soils, and mineral resources and mining, is described below.

3.4.1 Climate

The Las Vegas region has a warm climate, with an average annual temperature of 75 degrees Fahrenheit. The four seasons are well defined. In summer, the region experiences daytime maximum temperatures usually averaging about 100 degrees Fahrenheit with extreme summertime temperatures reaching 115 degrees Fahrenheit and higher on some occasions. The proximity of the mountains contributes to relatively cool summer nights with average temperatures in the mid 70s. Winter temperatures are generally mild, with the temperature dropping below freezing about 12 days per year. Daytime winter temperatures average near 60 degrees Fahrenheit with mostly clear skies. The spring and fall seasons are generally considered the most ideal, with average daily temperatures about 80 degrees Fahrenheit, although rather extreme temperature changes can occur during these months.

The Sierra Nevada Mountains of California and the Spring Mountains immediately west of the Las Vegas Valley, the latter rising to elevations over 10,000 feet above the Valley floor, act as effective barriers to moisture moving eastward from the Pacific Ocean. These barriers primarily result in a minimum of overcast and rainy days. The numbers of rainy days during a given month in the region can vary from less than one rainy day in June to three days during the winter months. Humidity is normally low, averaging 30 percent, but moist tropical air from the southwest affects the region from mid- to late summer months.

3.4.2 Topography and Drainage

Clark County is within the Basin and Range Physiographic Province. The topography of this Province is one of marked relief, with low-lying valley floors surrounded by steeply rising mountain ranges. Topography divides Nevada into a number of generally closed drainage basins. Both the

Heliport site and McCarran lie in the Las Vegas Valley hydrographic area. (See Section 3.8.2 for a discussion of Hydrographic Area 212, the Las Vegas Valley hydrographic area.)

Portions of the Heliport site and areas to the east are hilly. The elevation of the Heliport site ranges from a low of about 3,000 feet above mean sea level (MSL) on the western side of the site to a high of about 3,340 feet above MSL in the southeastern corner of the site. Drainage on the site flows northwesterly. Major washes cross the southern third of the site and the southwestern tip of the site.

3.4.3 Mineral Resources and Mining

According to a database of mining claims⁴ maintained by the BLM, there are 12 mill site claims (“Apple Rose 6” through “Apple Rose 17” inclusive) that are on or partially on the Heliport site. No development or work has occurred on any of these mill site claims and no plans of operations have been submitted to or approved by BLM for any of them. Each of the 12 mill site claims is partially or totally within the proposed Transportation and Utility Corridor that was withdrawn from location and entry under the mining laws by the action of the BLM dated July 2, 2007, pursuant to section 501(b) of P.L. 107-282, the *Clark County Conservation of Public Land and Natural Resources Act of 2002* [III-2].

There are no active mining claims within the Heliport site. Two mining claims of approximately 20 acres each (“QU #15” and “QU #29”) in the same section as the Heliport site have been closed.

Just north of the Heliport site, the BLM database shows four active mining claims. Just south of the Heliport site, the BLM database shows two active mining claims. No other mining claims were found in the BLM database. The Clark County Assessor’s Office database of land ownership records does not show private holdings (or patented mining claims) near the Heliport site.

Gravel was once mined from small pits to the south of the Heliport site and just west of the southern half of the site in the small wash that drains west-northwest; however no potentially significant mining material was found near the site.

Part of the southwest corner of Heliport site (less than 10 acres) is utilized by the Nevada Department of Transportation (NDOT) as a material site⁵ to extract gravel for regional transportation projects.

3.5 Noise

In accordance with FAA Orders 5050.4B and 1050.1E, aircraft noise exposure in the vicinity of McCarran International Airport and the Heliport site was analyzed for existing (2004) and future (2011 and 2017) conditions. Total aircraft noise exposure contours and helicopter noise exposure contours for existing (2004) conditions at McCarran are discussed in Section 3.5.1 below. Existing noise levels at the Heliport site and at other locations of interest within the Overflight Area are described in Section 3.5.2. A discussion of the noise analysis techniques, methodology, and assumptions used for the existing and future year noise analysis is provided in **Appendix D**.

⁴ The BLM maintains an online database of mining claims, listed by quarter section. The claims in the database are unpatented mining claims; that is, no private land ownership is associated with the claims.

⁵ NDOT site NEV044285 is used to extract gravel for regional transportation projects.

The primary metric used in the noise analysis is the day-night average sound level (DNL), which is the average sound pressure level in A-weighted decibels (dBA) for an average day of the year.⁶ (See Appendix D for further details.) DNL is calculated using the sound energy generated by individual aircraft operations (arrivals or departures), the number of operations occurring during a theoretical average 24-hour period, and the times of day the operations occur. A 10-decibel (dB) weighting penalty is added for aircraft operations occurring during nighttime hours (between 10:00 p.m. and 6:59 a.m.). The 10-dB penalty represents the added intrusiveness of sounds that occur during sleeping hours, both because of the increased sensitivity to noise during sleep, and because ambient sound levels during nighttime hours are typically about 10 dB lower than during daytime hours. With the penalty, each operation during nighttime hours is considered to be equivalent to 10 operations of the same aircraft type during daytime hours (between 7:00 a.m. and 9:59 p.m.).

The FAA's Integrated Noise Model (INM), Version 6.1, was used to evaluate total aircraft noise exposure at McCarran International Airport.⁷ INM Version 7.0, the most current version of the INM at the time this EA was prepared, was used for the helicopter noise exposure analysis documented in this EA.

The INM produces noise exposure contours, which are computer-generated drawings that depict areas of equal noise exposure resulting from aircraft overflights. Four specific ranges of noise exposure were estimated in the total aircraft noise analysis: (1) DNL 75 and higher, (2) DNL 70 to 75, (3) DNL 65 to 70, and (4) DNL 60 to 65.

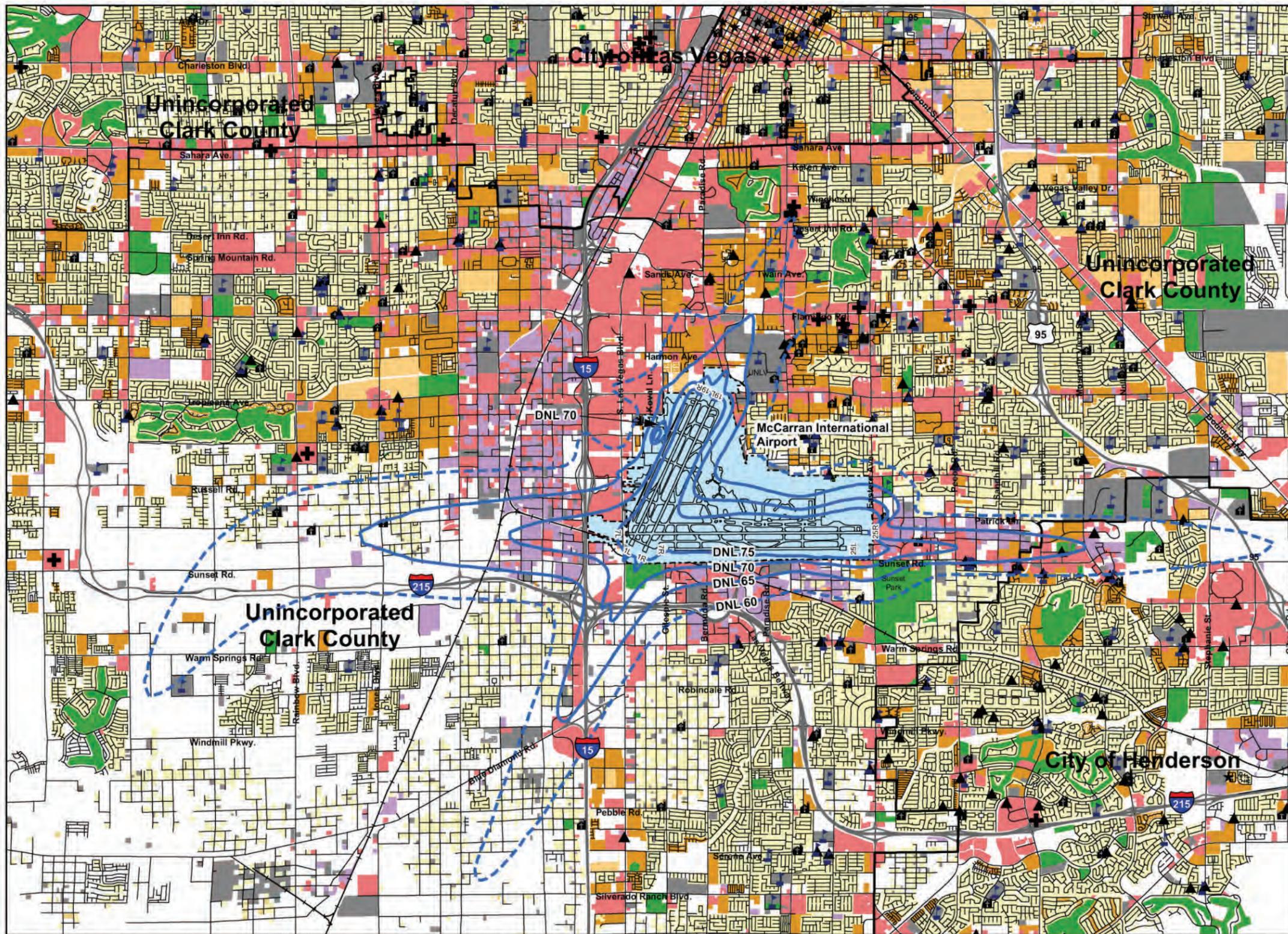
Two specific ranges of noise exposure were estimated in the helicopter noise analysis: (1) DNL 65 and higher and (2) DNL 60 to 65. Clark County agencies use information regarding noise exposure between DNL 60 and DNL 65 for local planning purposes; therefore DNL 60 noise contours are depicted on exhibits in this EA.

3.5.1 McCarran International Airport

Noise exposure contours representing total aircraft operations, including helicopter operations, at McCarran in 2004 are presented on **Exhibit III-3** and are reproduced from the *Noise Exposure Map Report, FAR Part 150 Noise Compatibility Study Update*. As shown on Exhibit III-3, although noise-sensitive land uses throughout the vicinity of McCarran are exposed to aircraft noise of DNL 65 and higher, the highest levels of aircraft noise exposure occur in areas west/southwest of McCarran. The primary contributors to aircraft noise in these areas are overflights by aircraft departing McCarran on Runways 25L and 25R. In 2004, about 54 percent of daytime air carrier aircraft departures and 82 percent of nighttime air carrier aircraft departures from McCarran occurred on Runways 25L and 25R. Departures on Runways 19L and 19R (accounting for about 25 percent of daytime departures and 9 percent of nighttime departures from McCarran in 2004) also contribute to aircraft noise in areas south/southwest of McCarran.

⁶ A-weighted sound pressure level is a frequency-weighted sound level that correlates with the way sound is perceived by the human ear.

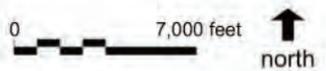
⁷ The total aircraft noise exposure contours were derived from the *Noise Exposure Map Report, FAR Part 150 Noise Compatibility Study Update*, which was completed in November 2006. The FAA accepted the 2004 and 2011 noise exposure maps for McCarran International Airport in July 2007.



Legend

- 2004 noise exposure contours (expressed in DNL)
 - - - 2004 DNL 60 noise exposure contour (shown for informational purposes only)
- DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.
- Generalized existing land uses**
- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open land |
| Commercial | Airport property |
| Industrial | |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- ▲ School
 - ▲ Religious facility
 - + Hospital
 - ★ Structure listed in National Register of Historic Places
 - ▲ Day care
- Other features**
- Jurisdictional boundary
 - Street
 - ▬ Interstate highway
 - U.S. route
 - Railroad

Sources: Brown-Buntin Associates, Inc., October 2005 (noise exposure contours); Ricondo & Associates, Inc., August 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.



**Existing (2004) Aircraft Noise Exposure Contours and Generalized Existing Land Uses
 McCarran International Airport**

Exhibit III-3

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Exhibit III-4 depicts 2004 noise exposure contours associated solely with helicopter operations at McCarran International Airport superimposed on a map of generalized existing land uses. The 2004 helicopter noise exposure contours were developed by Brown-Buntin Associates, Inc. (BBA), using INM Version 7.0. As shown on Exhibit III-4, noise exposure levels of DNL 65 generated by helicopter tour operations in 2004 did not extend beyond McCarran's property boundary. As can be seen by comparing Exhibits III-3 and III-4, the relative contribution of helicopter operations to the 2004 DNL 65 noise exposure contour at McCarran was very minimal. Noise generated by helicopter operations at McCarran in 2004 was, relatively, overwhelmed by noise generated by fixed-wing aircraft operations.

3.5.2 2004 Ambient Noise Monitoring Program

As part of the preparation for this EA, the existing (2004) ambient noise environment in the vicinity of the Heliport site, and at other locations near and beneath the Overflight Area, was evaluated using a noise-monitoring program. Continuous noise monitoring for a minimum of 24 hours was conducted at the 10 locations depicted on **Exhibit III-5**. Two of the noise-monitoring locations represent alternative heliport sites, noted as McCarran International Airport and South of Sloan (Proposed Action) and eight of the locations are beneath the Overflight Area, noted as sites R1 through R8.

Noise monitoring locations were selected by BBA with input from the CCDOA and the BLM. The noise monitoring locations were selected to provide reference locations for assessing project-related noise impacts, which are discussed in Section 4.1. Noise level measurements were recorded during July and October 2004. Noise monitoring equipment consisted of Larson-Davis Laboratories (LDL) Model 820 sound level analyzers equipped with Bruel & Kjaer (B&K) Type 4176 0.5-inch microphones (see Appendix D for more details).

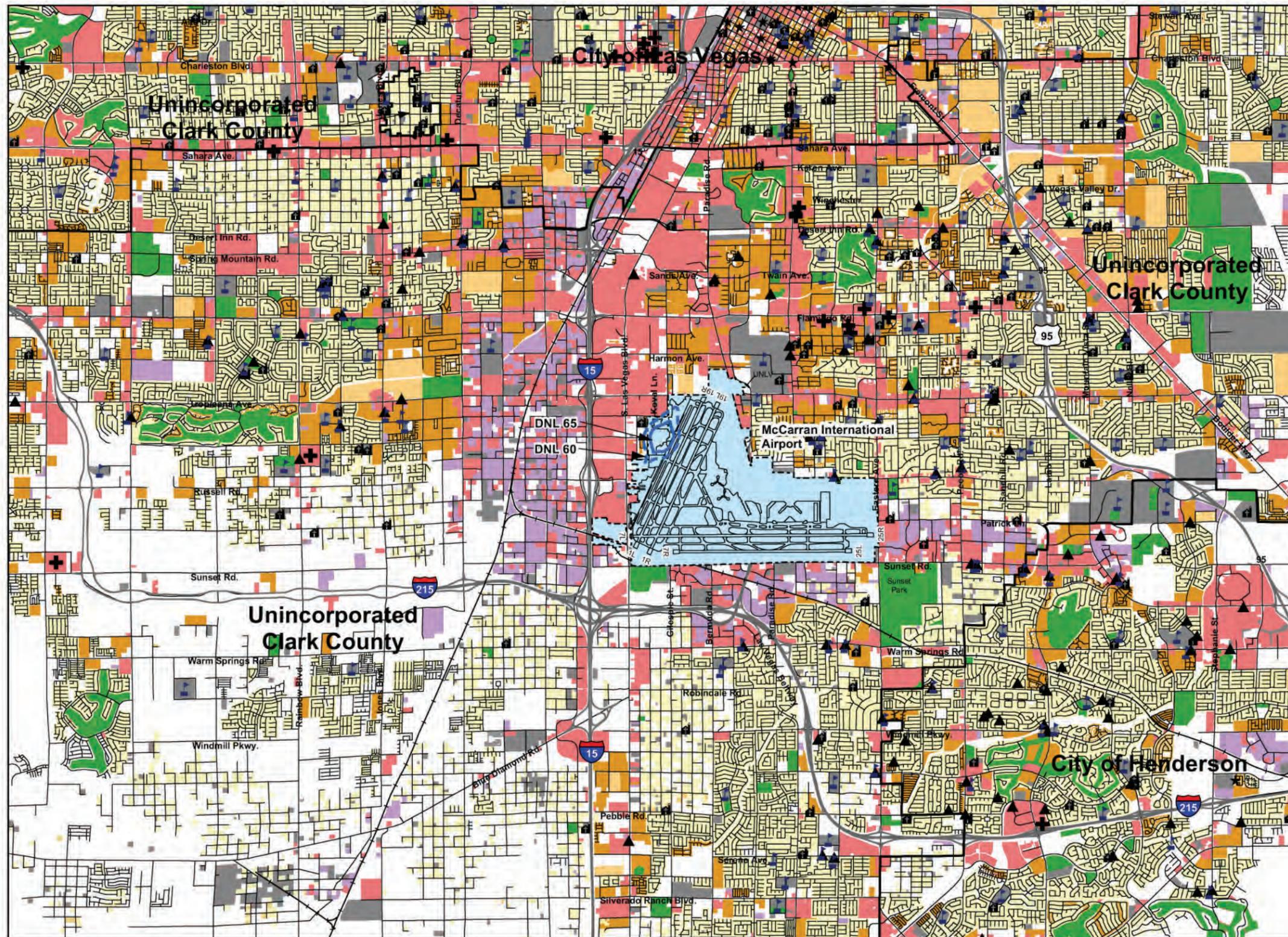
In addition to the 10 sites noted above, ambient noise monitoring data from two locations beneath the Overflight Area, from an unrelated project conducted by the Federal Aviation Administration⁸, was also evaluated and incorporated into this EA for informational purposes. Ambient noise monitoring was conducted by the FAA for 16-17 days at those locations. The FAA noise monitoring sites are depicted as L05 and L07 on Exhibit III-5.

As previously mentioned, DNL is the average sound pressure level in A-weighted decibels for an average day of the year. Other statistical descriptors that are useful in describing the ambient noise characteristics of a specific location include L_{max} , L_{eq} , and L_{90} . Such descriptors are typically calculated for each one-hour interval of the overall sample period. L_{max} represents the highest noise level measured during a sample period and L_{eq} represents the energy average noise level during the sample period. L_{90} describes the noise level exceeded 90 percent of the time during the sample period. L_{90} is useful for describing the background (or residual) noise in the absence of any easily defined noise events, such as those caused by occasional traffic, barking dogs, or aircraft overflights.

The ambient noise monitoring results are summarized in **Table III-2**, which shows the locations and dates of the noise measurements, along with the range of hourly L_{max} , L_{eq} , and L_{90} values for the sampling periods. The FAA did not report L_{max} values for Sites L05 and L07. Table III-2 also shows

⁸ Federal Aviation Administration, *Baseline Ambient Sound Levels in Lake Mead National Recreation Area* (DOT-VNTSC-FAA-06-13), April 2006

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Legend

- 2004 DNL 65 helicopter noise exposure contour
- - - 2004 DNL 60 helicopter noise exposure contour (shown for informational purposes only)

DNL = Day-Night Average Sound Level - A metric used to describe the existing and predicted cumulative noise exposure for communities surrounding an airport. DNL is expressed in A-weighted decibels (dBA) and represents the average noise level over a 24-hour period. In calculating DNL, the average sound level for each hour during the nighttime period (10:00 p.m. to 6:59 a.m.) is increased by a 10-decibel weighting penalty.

Generalized existing land uses

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Residential single-family | Park / recreation* |
| Residential multi-family | Public |
| Mobile home | Vacant / open space |
| Commercial | Airport property |
| Industrial | |

* Recreation includes commercial and non-profit recreational facilities

Noise sensitive facilities

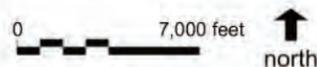
- School
- Religious facility
- + Hospital
- ★ Structure listed in National Register of Historic Places
- ▲ Day care

Other features

- Jurisdictional boundary
- Street
- ▬ Interstate highway
- U.S. route
- Railroad

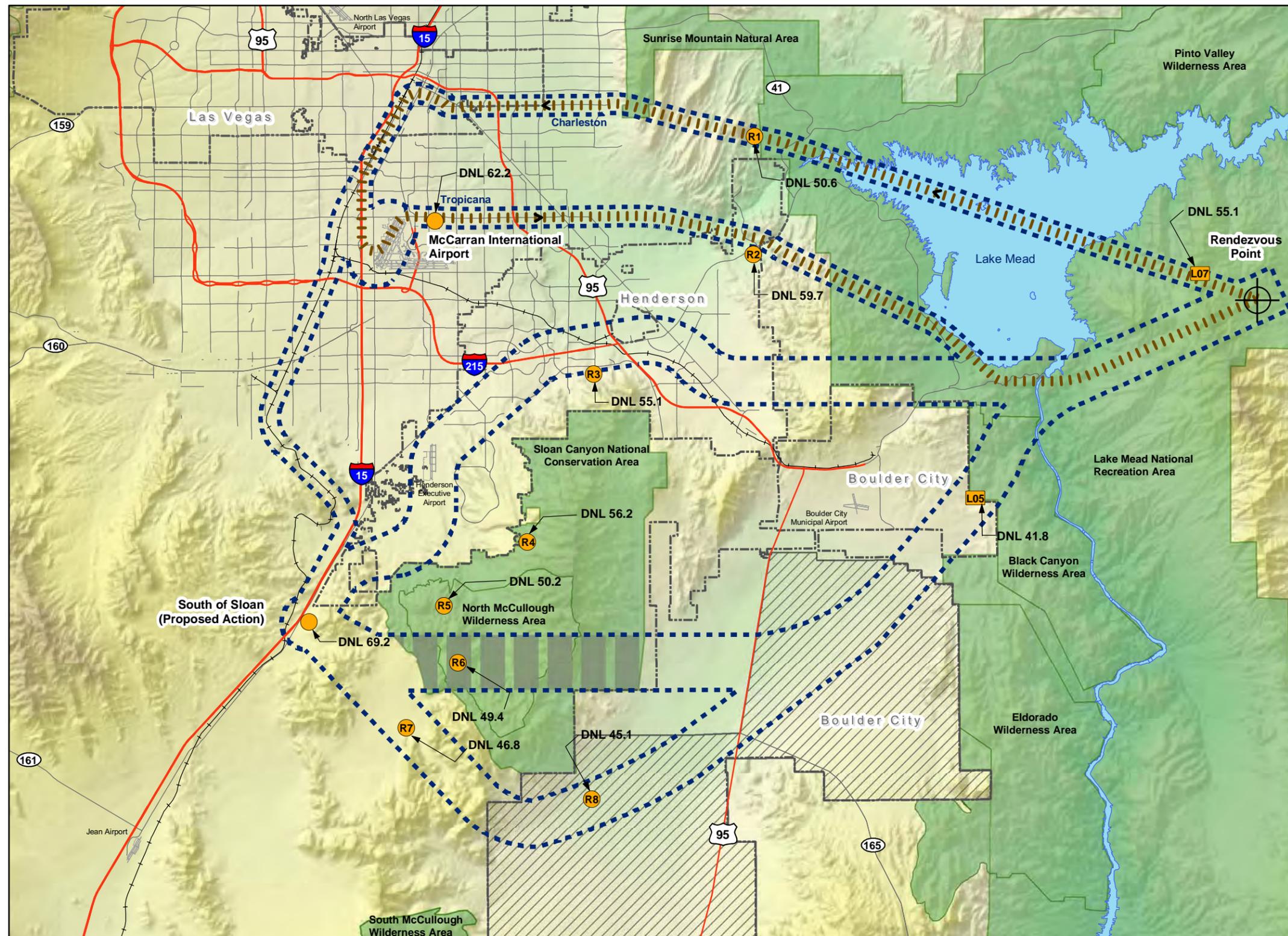
Sources: Brown-Buntin Associates, Inc., September 2007 (noise exposure contours); Ricondo & Associates, Inc., September 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-4



**Existing (2004) Helicopter Noise Exposure Contours and Generalized Existing Land Uses
 McCarran International Airport**

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Legend

Ambient noise monitors

- At alternative heliport site
- R1 Underneath or near potential and existing flight corridors
- L05 FAA noise monitoring site

DNL 60.0 Measured ambient DNL (see Table III-2)

Other features

- Primary road
- Secondary/State road
- Railroad
- Jurisdictional boundary
- Overflight area
- National Conservation Area, Wilderness Area, Natural Area, or National Recreation Area
- Flight path allowed by Congressional legislation for helicopter tours originating or concluding at the South of Sloan site and crossing the Sloan Canyon National Conservation Area
- Boulder City conservation easement

Helicopter flight corridors

- McCarran International Airport existing flight corridor to or from the Grand Canyon
- Direction of traffic

Flight Corridor Identification

- Charleston** Existing arrival flight corridor along Charleston Boulevard
- Tropicana** Existing departure flight corridor along Tropicana Avenue

Sources: Ricondo & Associates, Inc., August 2007; Clark County Department of Aviation; Brown-Buntin Associates, Inc. (sites R1 through R8); Federal Aviation Administration, "Baseline Ambient Sound Levels in Lake Mead National Recreation Area," April 2006 (sites L05 and L07).
 Prepared by: Ricondo & Associates, Inc., August 2008.

Exhibit III-5



Ambient Noise Monitor Locations

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Table III-2

Summary of Noise Level Measurements – All Ambient Sources

Location Name	Date	Hourly Noise Levels (dBA) ^{1/}			DNL	Source of Noise
		L _{max}	L _{eq}	L ₉₀		
South of Sloan	07/01/04	61-79	51-65	46-57	69.2	Roadway traffic, railroad, and wind
McCarran International Airport	08/03/04	63-83	50-62	48-55	62.2	Fixed-wing aircraft, helicopters, and roadway traffic
R1	10/13/04	40-73	23-59	18-45	50.6	Fixed-wing aircraft and helicopters
R2	10/13/04	52-83	35-67	28-52	59.7	Fixed-wing aircraft, helicopters, and roadway traffic
R3	10/13/04	49-75	38-56	34-49	55.1	Fixed-wing aircraft and wind
R4	10/28/04	58-75	43-54	31-45	56.2	Construction activities and wind ^{2/}
R5	10/28/04	29-77	19-55	18-30	50.2	Fixed-wing aircraft and wind
R6	10/28/04	41-75	26-54	19-34	49.4	Fixed-wing aircraft and wind
R7	10/28/04	38-72	23-52	19-39	46.8	Fixed-wing aircraft and wind
R8	10/28/04	42-77	31-53	22-37	45.1	Commercial activities and wind ^{3/}
L05 ^{4/}	05/06/04 – 05/22/04	— ^{6/}	25-42	17-28	41.8 ^{5/}	Aircraft, vehicles, visitors, gunfire, and wind
L07 ^{4/}	05/05/04 – 05/21/04	— ^{6/}	30-61	21-31	55.1 ^{5/}	Aircraft, vehicles, watercraft, water, and wind

Notes:

dBA = A-weighted decibel

DNL = Day-night average sound level

1/ The range of hourly noise levels measured over a 24-hour period. Noise levels were measured over a 16-17-day period at L05 and L07.

2/ Construction-related noise is expected to be temporary.

3/ Commercial activities include the Jean Sport Aviation Center and casino hotel.

4/ FAA ambient noise monitoring site and data as described in *Baseline Ambient Sound Levels in Lake Mead National Recreation Area* (DOT-VNTSC-FAA-06-13), April 2006.5/ DNL values estimated based upon hourly L_{eq} data measured by the FAA, as referenced in Note 4 above.6/ FAA did not report L_{max} values for Sites L05 and L07.

Source: Brown-Buntin Associates, Inc., January 2005

Prepared by: Ricondo & Associates, Inc., December 2008

the measured DNL for the sample period at Sites R1-R8 and at the two alternative heliport sites and the sources of ambient noise that were noted while an observer was present. The DNL values reported in Table III-2 for FAA Sites L05 and L07 were estimated from average hourly L_{eq} data since the FAA did not report measured DNL values for those sites. The measured or estimated DNLs for the sample periods at each location are also presented on Exhibit III-5.

The ambient acoustical environment at each of the noise monitoring locations is described below. Appendix D provides exhibits summarizing the hourly noise levels measured at each location, along with the measured or estimated DNL for the noise-monitoring periods. A photograph of each noise monitoring location and the noise monitoring equipment setup is included with each exhibit. The exhibits demonstrate that ambient noise levels vary during the day and night, with the lowest noise levels generally occurring during the late night and early morning hours.

3.5.2.1 Proposed Heliport Site

The Heliport site is located in an undeveloped area on the east side of I-15 and the Union Pacific Railroad corridor. Primary noise sources affecting the environs around the Heliport site are freeway traffic and railroad operations, although small fixed-wing aircraft and helicopters occasionally fly along the interstate corridor. Noise measurements were recorded on July 1, 2004. Measured hourly background noise levels, as defined by the L_{90} , ranged from 46 to 57 dBA and the measured DNL for the 24-hour sample period was 69.2. This measurement primarily reflected roadway traffic and wind. Appendix D presents a summary of hourly noise levels at the Heliport site for the noise-monitoring period.

3.5.2.2 McCarran International Airport

The primary noise sources at McCarran International Airport are fixed-wing jet aircraft. As the site is located close to existing major roadways, roadway traffic is also a primary noise source affecting the area. Noise measurements were recorded on August 3, 2004, at a location near the University of Nevada, Las Vegas, just north of McCarran. This location is affected by noise from fixed-wing aircraft, roadway traffic, and existing helicopter air tour operations along the Tropicana flight corridor. Measured hourly background noise levels, as defined by the L_{90} , ranged from 48 to 55 dBA and the measured DNL for the 24-hour sample period was 62.2. Maximum noise levels from individual aircraft operations ranged from 75 to 85 dBA. Appendix D provides an exhibit that summarizes hourly noise levels for the noise-monitoring period at McCarran.

According to the *LAS FAR Part 150 Noise Compatibility Study Update*, the number of households and people estimated to have been exposed to all sources of aircraft noise of DNL 65 and higher in 2004 were 2,189 and 4,286, respectively.

3.5.2.3 Ambient Noise Levels at Other Locations in the Overflight Area

Noise monitoring locations R1 through R8 and FAA locations L05 and L07 as shown on Exhibit III-5, represent areas that currently experience helicopter overflights or that could experience helicopter overflights if a heliport were constructed at the Heliport site. Locations R1, R2, and L07 are in areas that currently experience helicopter air tour flights originating at McCarran. Locations R3 through R8, and L05 are in areas not currently affected by such flights. Locations L05 and L07 are located within the Lake Mead National Recreation Area (LMNRA). Location R1 is just outside the western boundary of the LMNRA and locations R4 through R6 are within the Sloan Canyon National Conservation Area (NCA) and/or North McCullough Wilderness Area. Noise sources

affecting the noise monitoring locations included wind over the ground and in the sparse vegetation of the area and, in most cases, aircraft overflights. Most of the locations were affected by overflights of air carrier jet aircraft associated with operations at McCarran. Smaller fixed-wing aircraft operating at McCarran, the Henderson Executive Airport, and the Boulder City Municipal Airport were also observed to overfly locations R5, R6, and R7. Measured hourly background noise levels, as defined by the L_{90} , ranged from a low of 17-18 dBA at locations R1, R5, and L05, to a high of 52 dBA at location R2. The measured or estimated DNLs for the 24-hour sample periods ranged from 41.8 at location L05 to 59.7 at location R2. Exhibits in Appendix D summarize hourly noise levels during the noise monitoring periods for the representative noise monitoring locations.

3.6 Compatible Land Use

Federal agencies have adopted guidelines for compatible land uses and environmental noise levels. On the basis of extensive research on the effects of noise on people, it has been determined that noise levels that are incompatible with residential land uses may be compatible with commercial and industrial land uses, including stores and factories [III-3]. The FAA has developed land use compatibility guidelines relating types of land uses to aircraft noise levels. 14 CFR Part 150, *Airport Noise Compatibility Planning* [III-4], sets forth compatibility guidelines for residential, public, commercial, manufacturing, and recreational land uses, as presented in **Table III-3**.

3.6.1 Existing Land Uses

Generalized existing land uses on and in the vicinity of the Heliport site and in the vicinity of the west side of McCarran are described below. The exhibits in this section depict existing land uses and not land ownership. The source of the existing land use data is the Clark County Tax Assessor's Office; however the land use classifications have been simplified/generalized to be more consistent with land use classifications in 14 CFR Part 150.

3.6.1.1 Proposed Heliport Site

Exhibit III-6 presents generalized existing land uses on and in the vicinity of the Heliport site. The site is vacant and undeveloped. A vacant 20-acre NDOT materials site is located on the southwestern portion of the site. Vacant and undeveloped BLM-managed land surrounds the Heliport site. The nearest developments are more than one mile from the site and are public land uses. The boundary of the Sloan Canyon NCA is about 2.3 miles east of the Heliport site.

3.6.1.2 McCarran International Airport

Exhibit III-7 depicts the generalized existing land uses in the vicinity of McCarran International Airport. As shown, McCarran is just south of an extensively developed area. The Las Vegas Strip, with a wide array of casinos and hotels, begins northwest of McCarran and extends southward to and along McCarran's west side. Recent trends have included expansion of the Strip further south as the demand for new resorts and hotel facilities has increased. The areas north and east of McCarran are primarily occupied by high-density residential developments and some religious facilities, schools, and neighborhood shopping centers. The University of Nevada, Las Vegas is less than one mile northeast of McCarran. The land south, southeast, and southwest of McCarran are developed with low-density single-family residential, high-density residential, and commercial and industrial developments have been constructed in those areas. Industrial developments are located southwest of McCarran near the interchange of I-15 and Blue Diamond Road. New industrial uses west of I-15 extend almost to Valley View Boulevard.

Table III-3

Suggested Land Use Compatibility Guidelines in Aircraft Noise Exposure Areas

Land Use	DNL 65 to 70	DNL 70 to 75	DNL 75+
Residential			
Residential other than mobile homes and transient lodgings	NLR required ^{1/}	NLR required ^{1/}	Incompatible
Mobile homes	Incompatible	Incompatible	Incompatible
Transient lodgings	NLR required ^{1/}	NLR required ^{1/}	Incompatible
Public Use			
Schools, hospitals, and nursing homes	NLR required ^{1/}	NLR required ^{1/}	Incompatible
Churches, auditoriums, and concert halls	NLR required ^{1/}	NLR required ^{1/}	Incompatible
Governmental services	Compatible	NLR required	NLR required
Transportation	Compatible	Compatible ^{2/}	Compatible ^{2/}
Parking	Compatible	Compatible ^{2/}	Compatible ^{2/}
Commercial Use			
Offices, business, and professional	NLR required	NLR required	NLR required ^{2/}
Wholesale and retail—building materials, hardware, and farm equipment	Compatible	Compatible ^{2/}	Compatible ^{2/}
Retail trade—general	NLR required	NLR required	NLR required
Utilities	Compatible	Compatible ^{2/}	Compatible ^{2/}
Communication	NLR required	NLR required	NLR required
Manufacturing and Production			
Manufacturing—general	Compatible	Compatible ^{2/}	Compatible ^{2/}
Photographic and optical	Compatible	NLR required	NLR required
Agriculture (except livestock) and forestry	Compatible	Compatible	Compatible
Livestock farming and breeding	Compatible	Compatible	Incompatible
Mining and fishing resources production and extraction	Compatible	Compatible	Compatible
Recreational			
Outdoor sports arenas and spectator sports	Compatible ^{3/}	Compatible ^{3/}	Incompatible
Outdoor music shells, amphitheaters	Incompatible	Incompatible	Incompatible
Nature exhibits and zoos	Compatible	Incompatible	Incompatible
Amusements, parks, resorts, and camps	Compatible	Compatible	Incompatible
Golf courses, riding stables, and water recreation	Compatible	Compatible	Incompatible

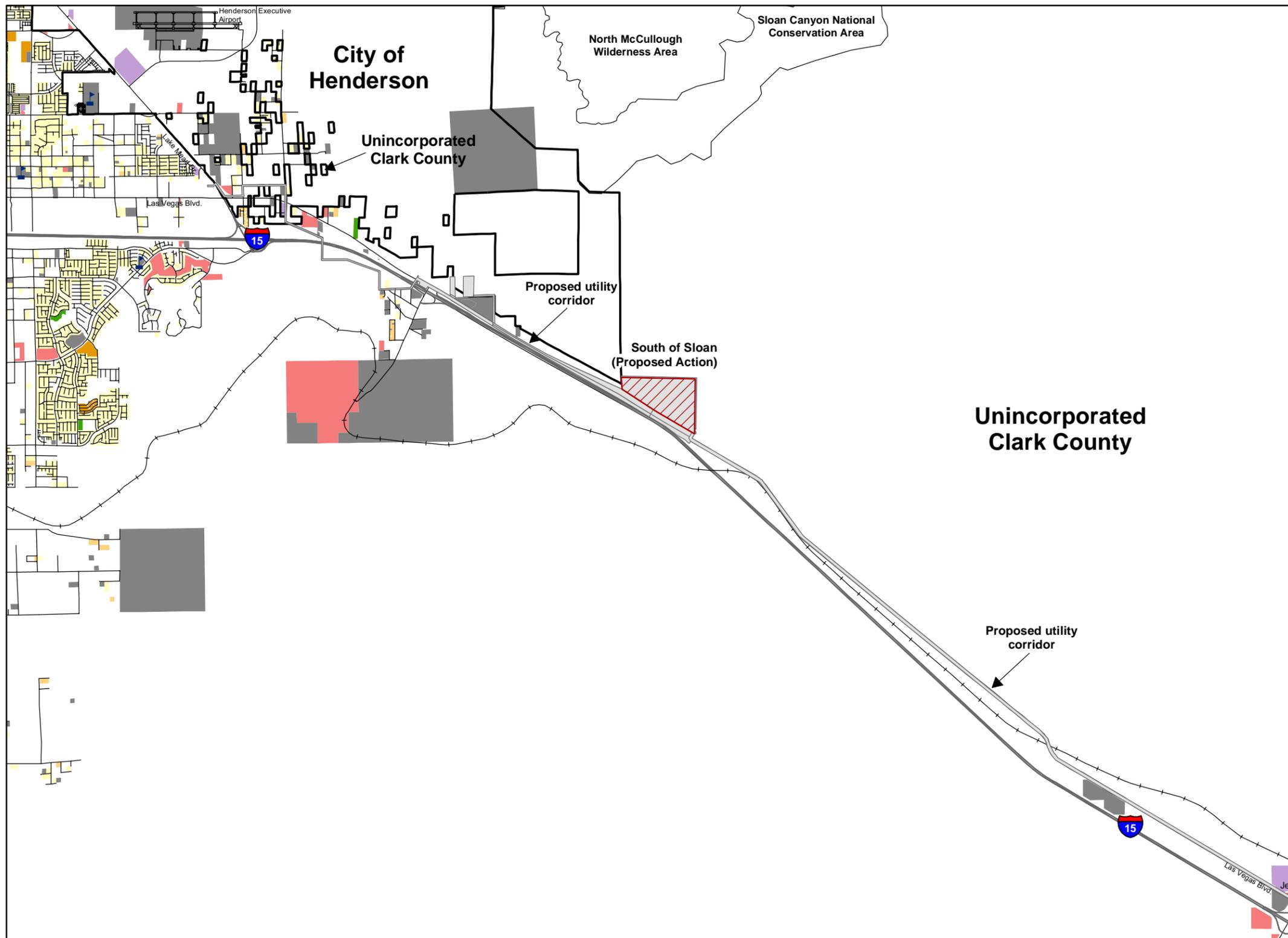
DNL = Day-night average sound level, in A-weighted decibels.
 Compatible = Generally, no special noise attenuating materials are required to achieve an interior noise level of DNL 45 in habitable spaces, or the activity (whether indoors or outdoors) would not be subject to a significant adverse effect by the outdoor noise level.
 Incompatible = Generally, the land use, whether in a structure or an outdoor activity, is considered to be incompatible with the outdoor noise level even if special attenuating materials were to be used in the construction of the building.
 NLR = Noise Level Reduction. NLR is used to denote the total amount of noise transmission loss in decibels required to reduce an exterior noise level in habitable interior spaces to DNL 45. In most places, typical building construction automatically provides an NLR of 20 decibels. Therefore, if a structure is located in an area exposed to aircraft noise of DNL 65, the interior noise level would be about DNL 45. If the structure is located in an area exposed to aircraft noise of DNL 70, the interior noise level would be about DNL 50, so an additional NLR of 5 decibels would be required if not afforded by the normal construction. This NLR can be achieved through the use of noise attenuating materials in the construction of the structure.

Notes:

- 1/ The land use is generally incompatible with aircraft noise and should only be permitted in areas of infill in existing neighborhoods or where the community determines that the use must be allowed.
- 2/ NLR required in offices or other areas with noise-sensitive activities.
- 3/ Provided that special sound reinforcement systems are installed.

Source: U.S. Department of Transportation, Federal Aviation Administration, Federal Aviation Regulations Part 150, *Airport Noise Compatibility Planning*, Code of Federal Regulations, Title 14, Chapter I, Subchapter I, Part 150, Table 1, January 18, 1985, as amended.

Prepared by: Ricondo & Associates, Inc., April 2008



Legend

-  Proposed heliport site area
-  Area of disturbance

Note: The area of disturbance includes areas that could be affected by construction or the extension of utilities to the site.

Generalized existing land uses

- | | |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|  Residential single-family |  Industrial |
|  Residential multi-family |  Park / recreation* |
|  Mobile home |  Public |
|  Commercial |  Vacant / open space |

* Recreation includes commercial and non-profit recreational facilities

Noise sensitive facilities

-  School
-  Religious facility
-  Hospital
-  Structure listed in National Register of Historic Places
-  Day care

Other features

-  Jurisdictional boundary
-  Street
-  Interstate highway
-  U.S. route
-  Railroad

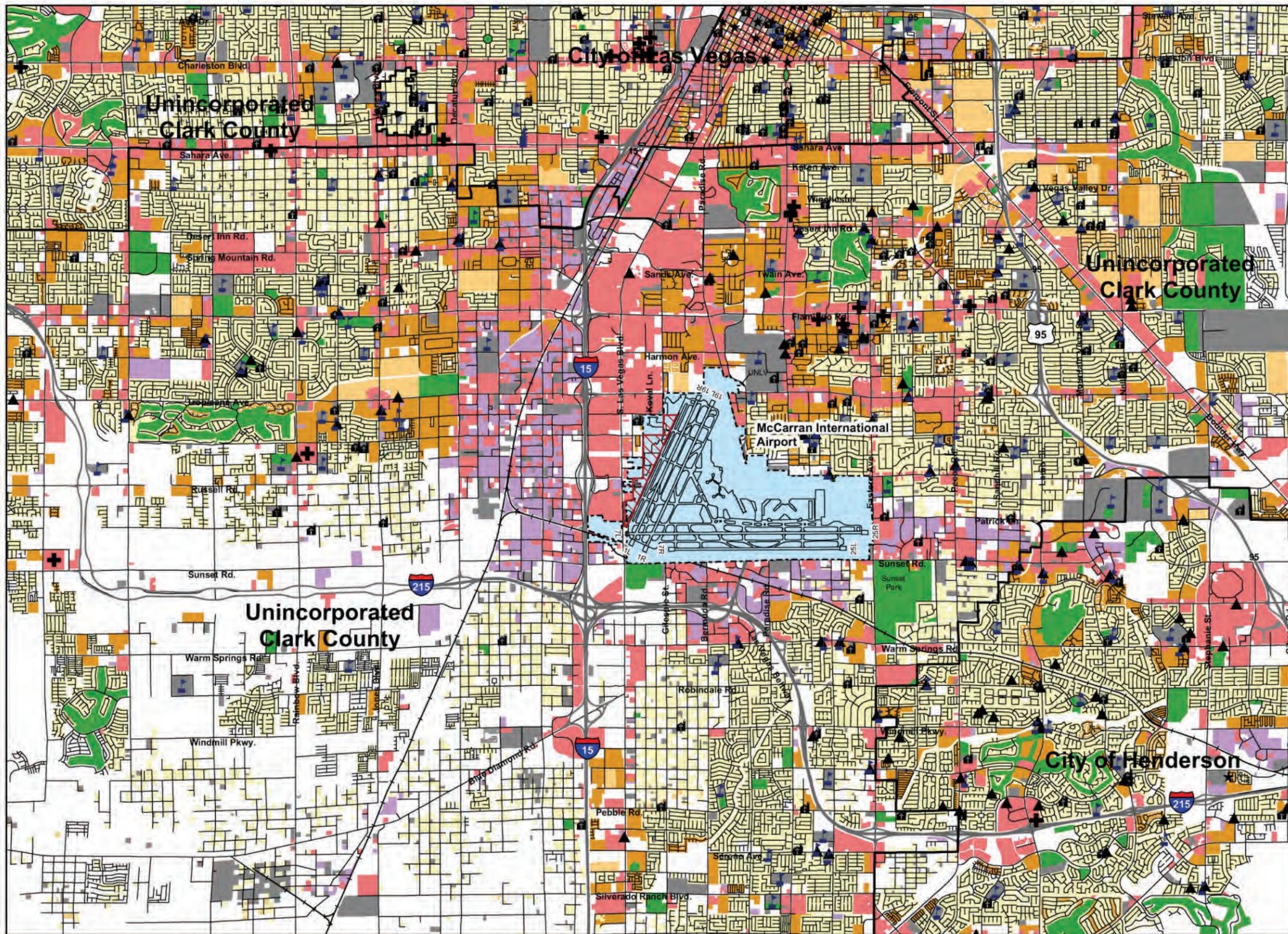
Sources: SWCA Environmental Consultants (area of disturbance); Ricondo & Associates, Inc., August 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-6



**Generalized Existing Land Uses
in the Vicinity of the Area of Disturbance**

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Legend

-  Existing heliport site area
- Generalized existing land uses**
-  Residential single-family
-  Residential multi-family
-  Mobile home
-  Commercial
-  Industrial
-  Park / recreation*
-  Public
-  Vacant / open space
-  Airport property

* Recreation includes commercial and non-profit recreational facilities

Noise sensitive facilities

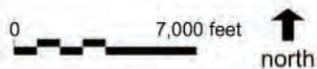
-  School
-  Religious facility
-  Hospital
-  Structure listed in National Register of Historic Places
-  Day care

Other features

-  Jurisdictional boundary
-  Street
-  Interstate highway
-  U.S. route
-  Railroad

Sources: Ricondo & Associates, Inc., August 2007, based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-7



**Generalized Existing Land Uses
 in the Vicinity of McCarran International Airport**

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3.6.1.3 Existing Land uses beneath Overflight Area

Generalized existing land uses beneath the Overflight Area are shown on **Exhibit III-8**. Much of the Overflight Area is undeveloped open space administered by the BLM. The Lake Mead National Recreation Area is administered by the National Park Service and is classified as park/recreation on Exhibit III-8.

3.6.2 Planned Land Uses

Clark County is divided into numerous planning areas covering incorporated jurisdictions and unincorporated areas. **Exhibit III-9** depicts planning areas in the Las Vegas region, including Clark County and incorporated cities. Planned land use recommendations for incorporated cities (Henderson, Boulder City, and Las Vegas) are addressed in comprehensive plans/land use plans developed by various city departments. Planned land use recommendations for unincorporated portions of Clark County are addressed in land use plans developed by the Clark County Department of Comprehensive Planning and adopted by the Clark County Board of County Commissioners. The Clark County Board of County Commissioners has adopted development plans and guides for the unincorporated towns of Enterprise, Goodsprings (the South County Planning Area), Whitney, and Winchester and Paradise and for unincorporated areas south of the Las Vegas Valley (the South County Planning Area).

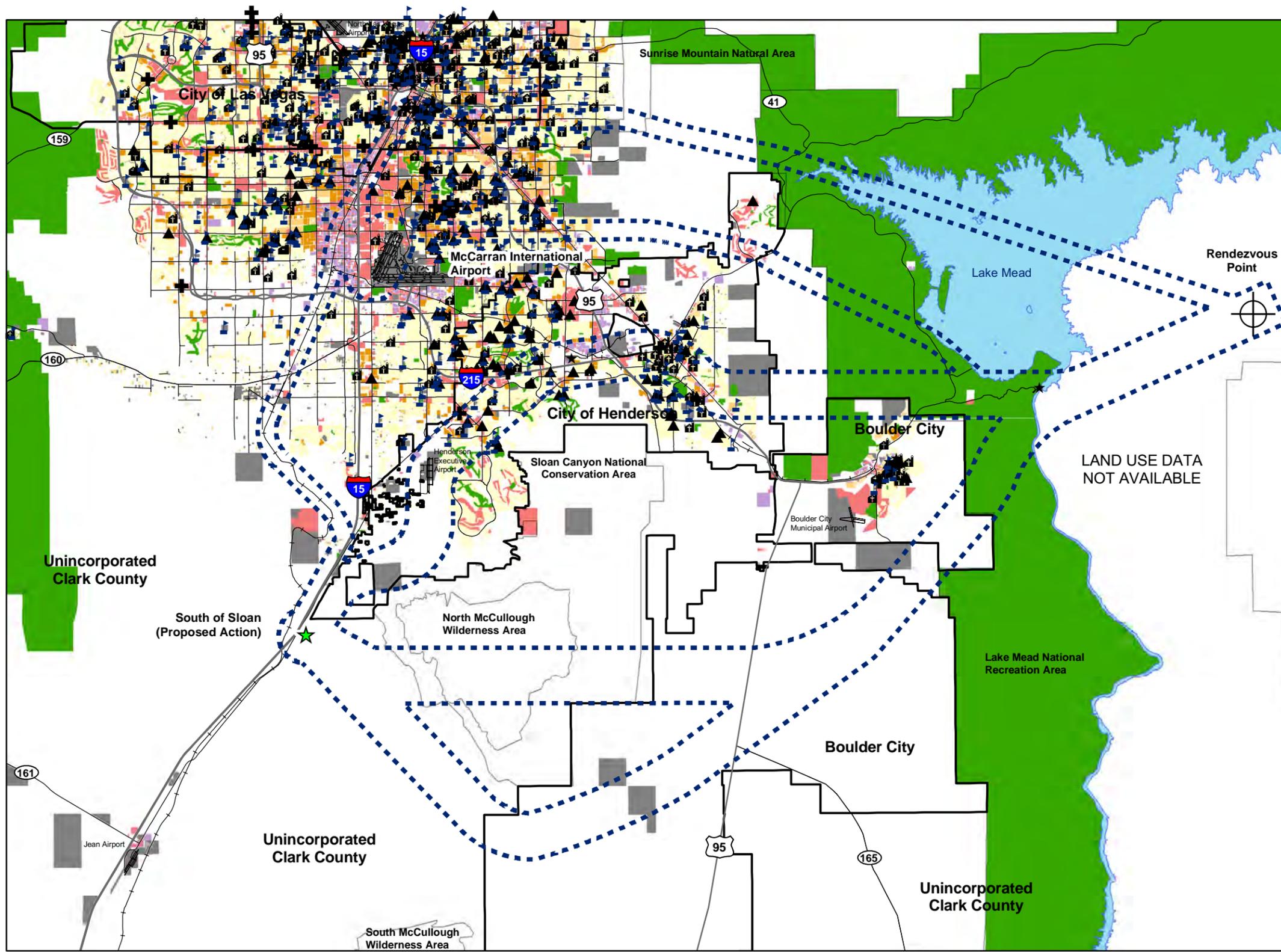
The exhibits in this section depict planned land uses and not land ownership. The sources of the planned land use data are listed above; however the land use classifications used by Clark County and the incorporated cities have been simplified/generalized to be more consistent with land use classifications in 14 CFR Part 150.

The following sections describe generalized existing land uses in the vicinity of the Heliport site and in the vicinity of the west side of McCarran.

3.6.2.1 Proposed Heliport Site

Generalized planned land uses in the vicinity of the Heliport site are depicted on **Exhibit III-10**. The site is located in unincorporated Clark County within the area covered by the *South County Land Use and Development Guide* [III-5]. Clark County is currently updating portions of this plan, which was adopted in 1994 and amended in 2005. In 2007, the City of Henderson annexed about 3,455 acres of land, which expanded the city boundary southwestward and created the West Henderson Planning Area. The southern boundary of the West Henderson Planning Area is located adjacent to the northern boundary of the Heliport site. Planned land use designations contained in Clark County's *South County Land Use and Development Guide* apply to the portion of the West Henderson Planning Area south of Sloan Road. Land parcels in the immediate surroundings of the Heliport site are anticipated to remain vacant in the future based on adopted land use plans and current land ownership status. About one mile northeast of the Heliport site within the West Henderson Planning Area, there is a parcel that is planned for single-family residential land uses; however, no specific development projects have been proposed for the parcel.

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Legend

- ★ Proposed heliport site
- Overflight area

Generalized existing land uses

 Residential single-family	 Industrial
 Residential multi-family	 Park / recreation*
 Mobile home	 Public
 Commercial	 Vacant / open space

* Recreation includes commercial and non-profit recreational facilities

Noise sensitive facilities

- School
- Religious facility
- Hospital
- Structure listed in National Register of Historic Places
- Day care

Other features

- Jurisdictional boundary
- Street
- Interstate highway
- U.S. route
- Railroad

Source: Ricondo & Associates, Inc., August 2007 based on existing land use data provided by the Clark County Department of Aviation, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.

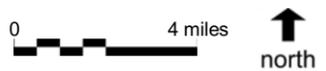
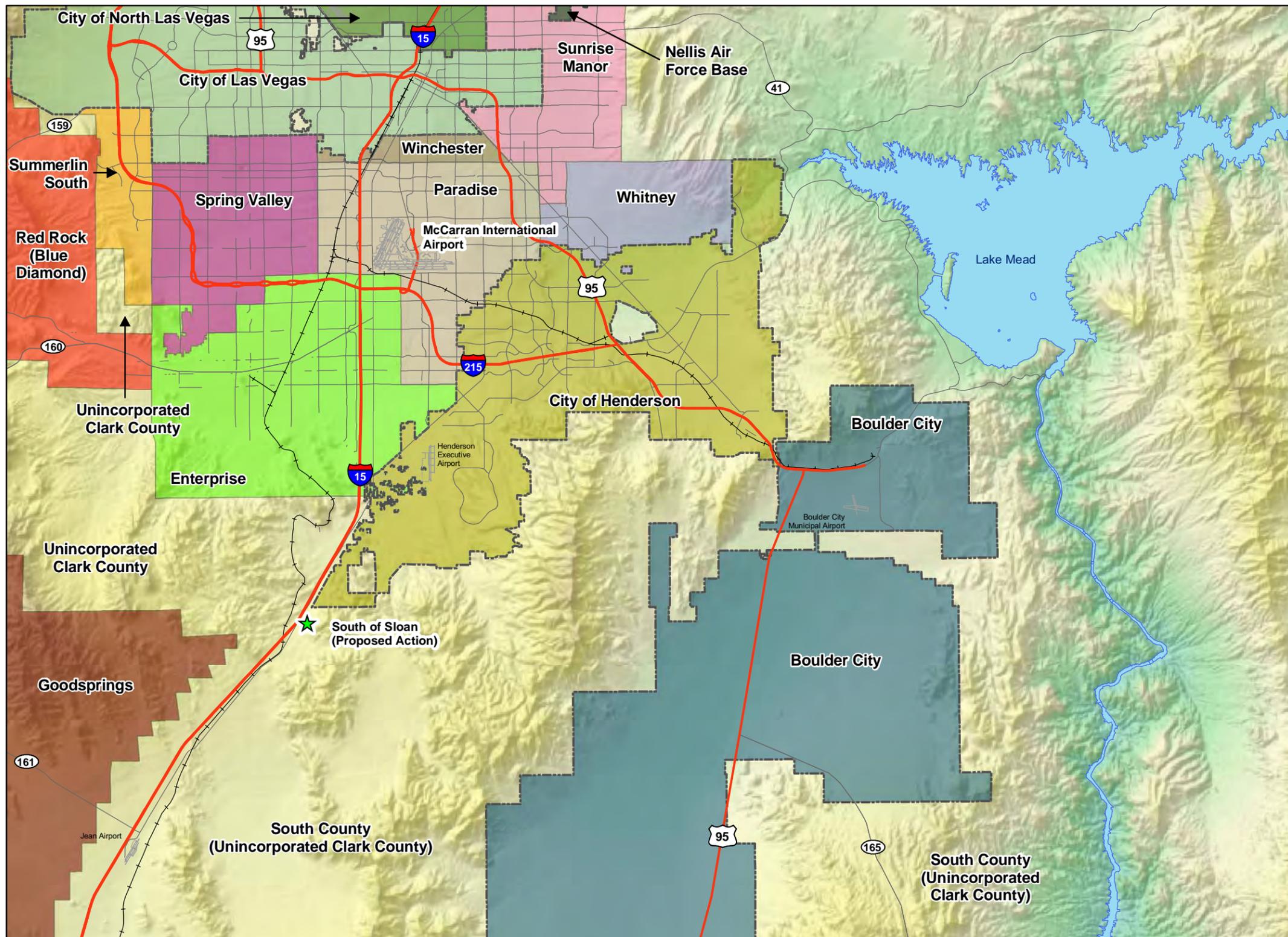


Exhibit III-8

**Generalized Existing Land Uses
in the Overflight Area**

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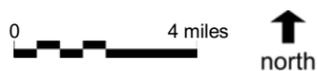


Legend

- ★ Proposed heliport site
- Primary road
- Secondary/State road
- +— Railroad
- - - - - Jurisdictional boundary

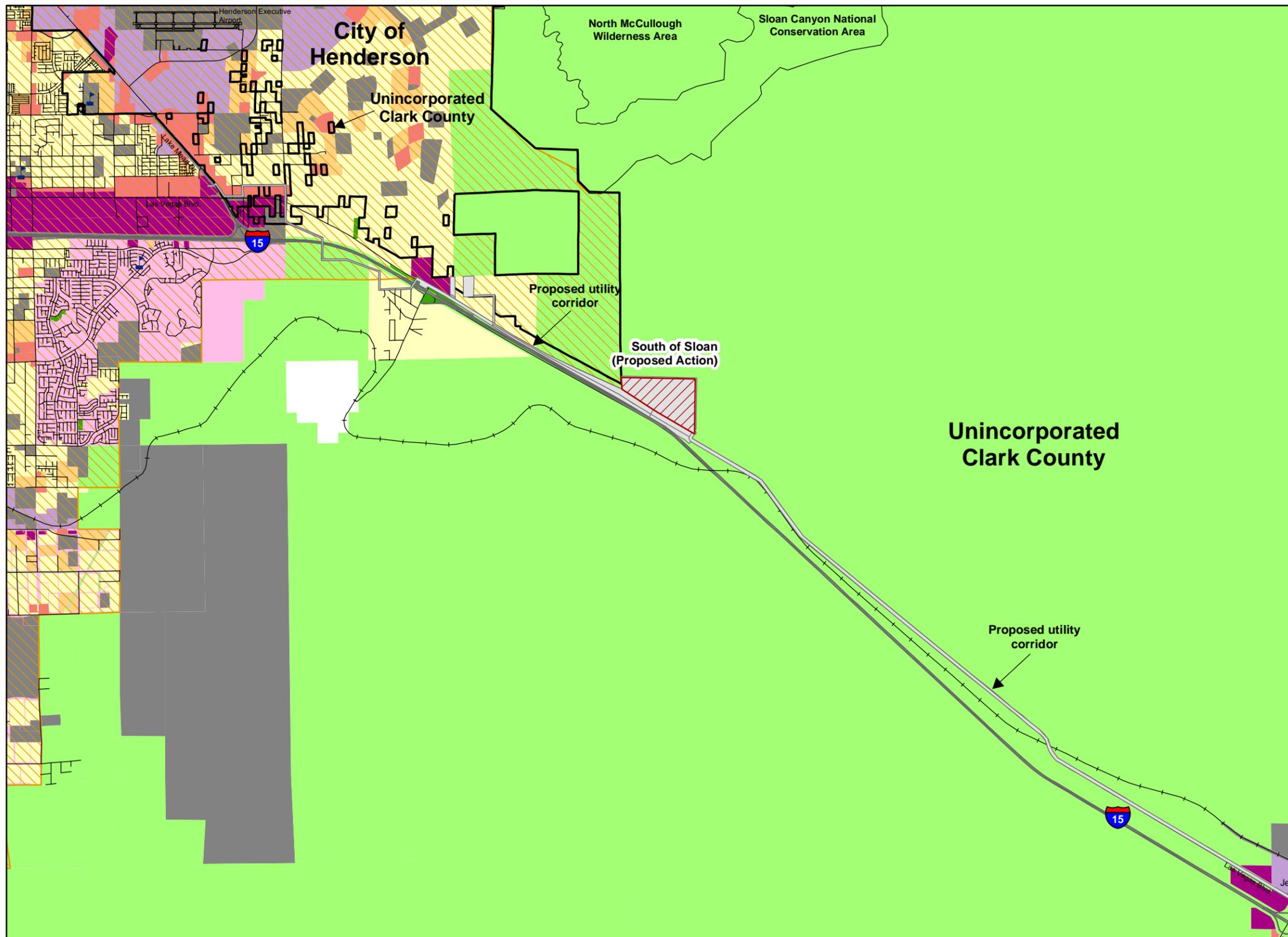
Source: Ricondo & Associates, Inc., August 2007; Clark County Department of Aviation.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-9



Clark County Planning Areas

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Legend

-  Proposed heliport site area
-  Bureau of Land Management Disposal Area
-  Area of disturbance

Note: The area of disturbance includes areas that could be affected by construction or the extension of utilities to the site.

Generalized planned land uses

- | | |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|  Residential single-family |  Open space |
|  Residential multi-family |  Park / recreation* |
|  Commercial |  Public |
|  Mixed use |  Vacant / tax exempt |
|  Industrial |  Major development project |

* Recreation includes commercial and non-profit recreational facilities

Noise sensitive facilities

-  School
-  Religious facility
-  Hospital
-  Structure listed in National Register of Historic Places
-  Day care

Other features

-  Jurisdictional boundary
-  Street
-  Interstate highway
-  U.S. route
-  Railroad

Source: Ricondo & Associates, Inc., August 2007 based on data obtained from the Clark County Department of Comprehensive Planning, February 2005; SWCA Environmental Consultants (area of disturbance).
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-10



Generalized Planned Land Uses in the Vicinity of the Area of Disturbance

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As shown on Exhibit III-10, the Heliport site is located outside the BLM disposal boundary. Development outside the BLM disposal boundary is limited because the land is publicly managed. BLM policies on lands under BLM administration include a variety of public use, conservation, and resource management actions. Certain lands administered by the BLM fall under the classification of general management, while other areas are special designation management areas where specific policies apply. The BLM has developed resource management plans for the special designation management areas in Clark County, including the Sloan Canyon NCA. BLM lands immediately south of the Heliport site fall under the classification of general management. The boundary of the Sloan Canyon NCA is about 2.3 miles east of the site and no change is anticipated to the boundary of the Sloan Canyon NCA in the future.

3.6.2.2 McCarran International Airport

Exhibit III-11 depicts the generalized planned land uses in the vicinity of McCarran. McCarran is located in the Paradise Planning Area and is adjacent to the Enterprise (to the south and southwest), Spring Valley (to the west), and Winchester (to the north) planning areas. Planned land uses in the vicinity of McCarran generally represent a continuation of existing land use patterns with infill of mixed-use, commercial, industrial, and single- and multi-family residential uses in vacant areas to the west and southwest, with a shift in use from industrial to commercial adjacent to the airport to the south and east, and a focus on mixed use along the I-15 corridor. The University of Nevada, Las Vegas is located northeast of McCarran. On the west side of McCarran, land uses are planned to be predominantly mixed use, public, and industrial, with small pockets of recreational uses and residential uses.

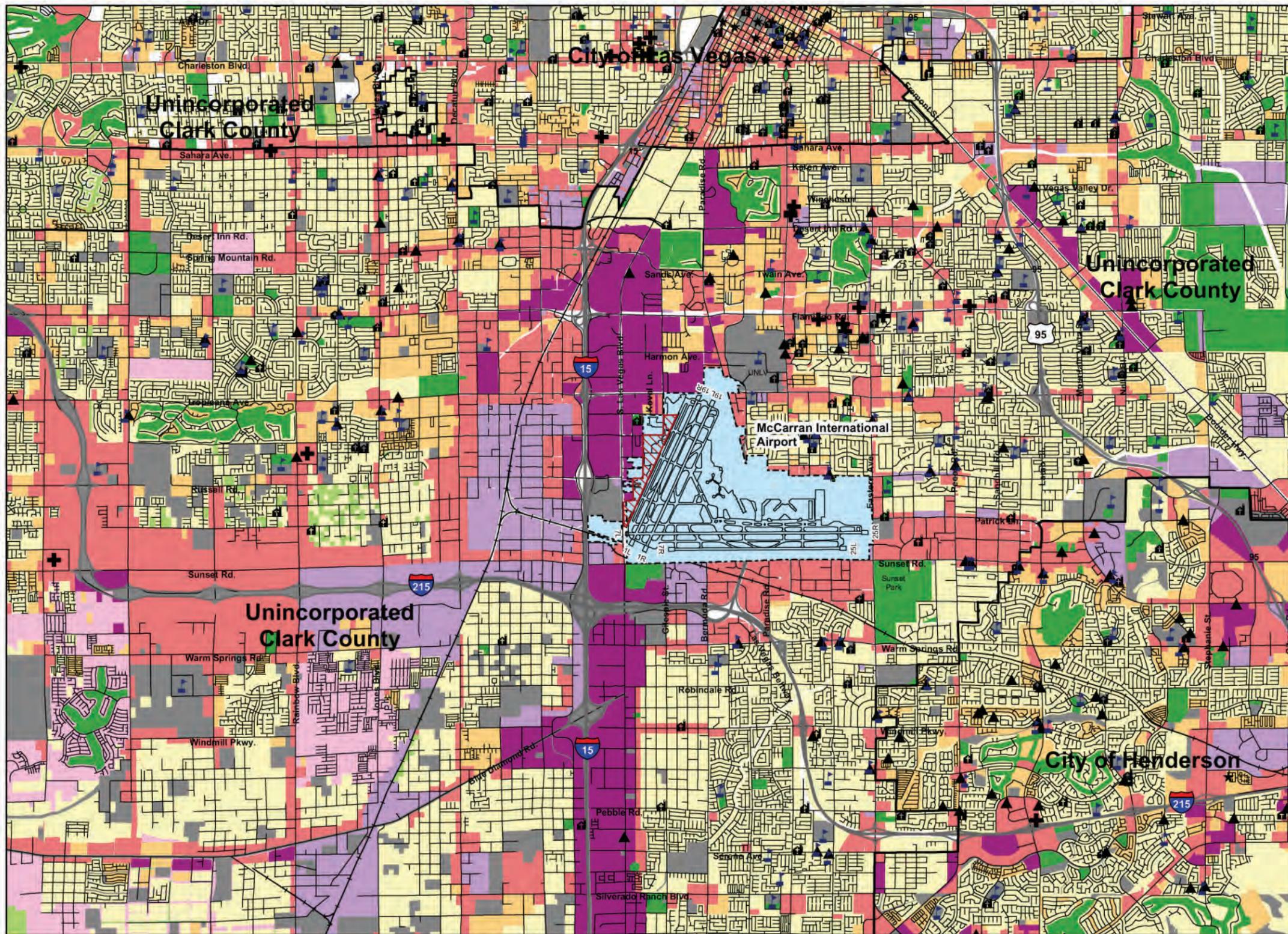
3.6.2.3 Planned Land Uses beneath Overflight Area

Generalized planned land uses in the Overflight Area are shown on **Exhibit III-12**.

3.6.3 Zoning

Zoning is the traditional mechanism used by local governments to control land use and implement the goals and policies of their general plans or community master plans. Zoning controls the location, type, and intensity of new land uses, and is an important tool for preventing incompatible land uses from being developed in the vicinity of airports. The legal basis for zoning powers is to protect the health, safety, and welfare of the public. Since the establishment of zoning powers in the early 1900s, the courts have been consistent in confirming broad discretion to local governments in carrying out their zoning powers, provided that zoning designations are based on a sound land use policy and plan. Zoning authority for unincorporated portions of Clark County, including public lands, rests with the Clark County Zoning Administrator. Each of the incorporated cities in Clark County has zoning authority within the limits of their jurisdiction. Summaries of the zoning ordinances and zoning designations applicable to the Overflight Area and Area of Disturbance, along with associated exhibits, are provided in **Appendix E**.

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Legend

- Existing heliport site area
- Generalized planned land uses**
- Residential single-family
- Residential multi-family
- Commercial
- Mixed use
- Industrial
- Major development project
- Open space
- Park / recreation*
- Public
- Vacant / tax exempt
- Airport property

* Recreation includes commercial and non-profit recreational facilities

- Noise sensitive facilities**
- School
- Religious facility
- Hospital
- Structure listed in National Register of Historic Places
- Day care

- Other features**
- Jurisdictional boundary
- Street
- Interstate highway
- U.S. route
- Railroad

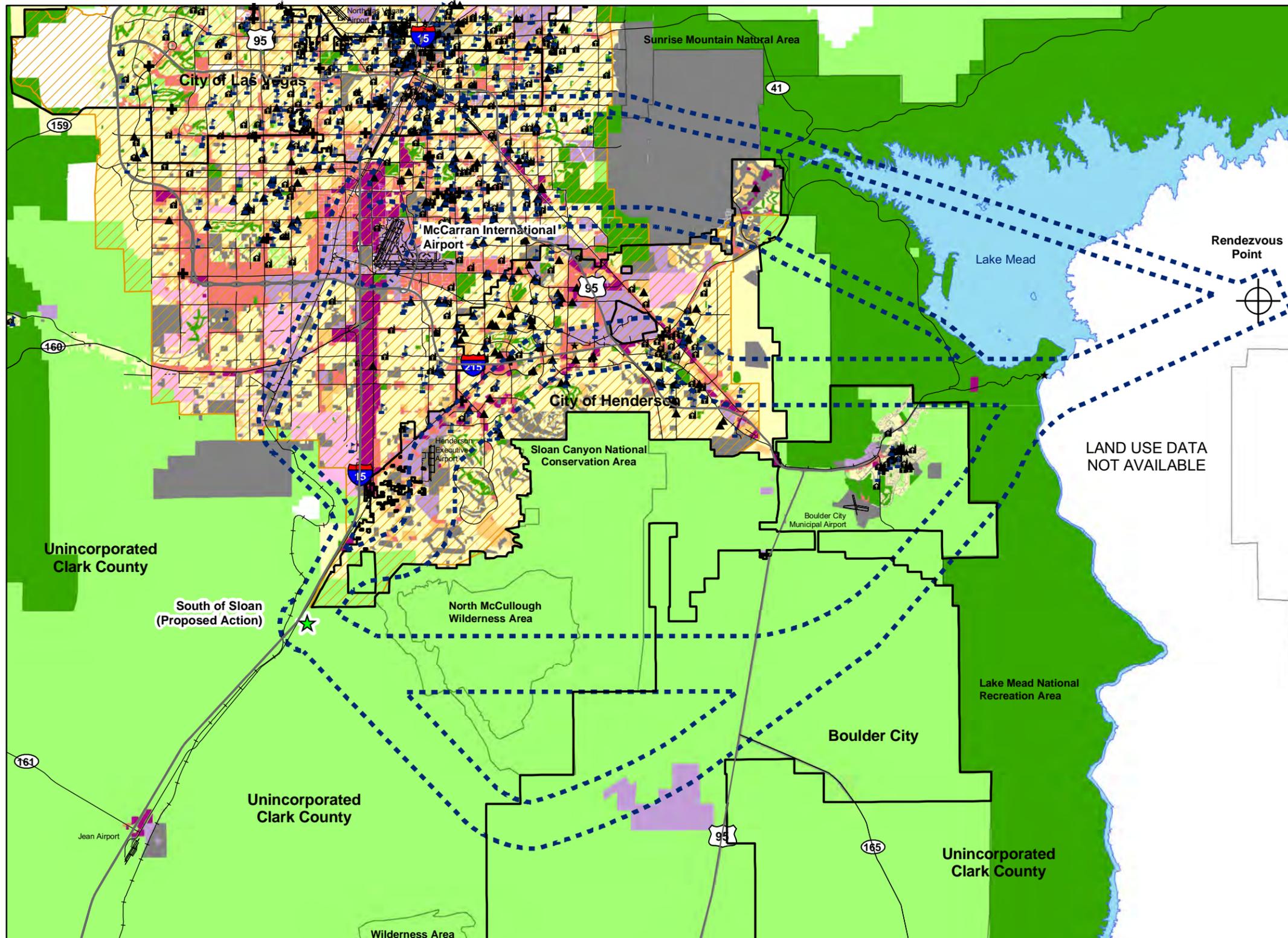
Sources: Ricondo & Associates, Inc., August 2007, based on data obtained from the Clark County Department of Comprehensive Planning, February 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-11



**Generalized Planned Land Uses
 in the Vicinity of McCarran International Airport**

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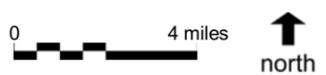


Legend

- ★ Proposed heliport site
 - ⋯ Overflight area
 - ▨ Bureau of Land Management Disposal Area
- Generalized planned land uses**
- | | |
|-----------------------------|-----------------------------|
| ▨ Residential single-family | ▨ Open space |
| ▨ Residential multi-family | ▨ Park / recreation* |
| ▨ Commercial | ▨ Public |
| ▨ Mixed use | ▨ Vacant / tax exempt |
| ▨ Industrial | ▨ Major development project |
- * Recreation includes commercial and non-profit recreational facilities
- Noise sensitive facilities**
- ⚙ School
 - ⛪ Religious facility
 - ⛶ Hospital
 - ★ Structure listed in National Register of Historic Places
 - ▲ Day care
- Other features**
- Jurisdictional boundary
 - Street
 - Interstate highway
 - U.S. route
 - Railroad

Source: Ricondo & Associates, Inc., August 2007 based on data obtained from the Clark County Department of Comprehensive Planning, February 2005, and Boulder City Department of Community Development, March 2005.
 Prepared by: Ricondo & Associates, Inc., April 2008.

Exhibit III-12



**Generalized Planned Land Uses
in the Overflight Area**