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March 13, 2024

City of Riverside
Community & Economic Development Department, Planning Division
3900 Main Street, 3rd Floor
Riverside, California 92522
Attn: Brian Norton, Principal Planner

RE: Arlington Mixed Use Project - Report Countering ALUC Findings of Inconsistency

Introduction

Project Overview

The Arlington Mixed Use Development Project (Planning Case PR-2022-001252 – General Plan Amendment, Rezone, Site Plan Review, Tentative Parcel Map, and Certificate of Appropriateness) ("Project") proposes to redevelop a 17.37 net acre parcel currently developed with 192,139 square feet ("sf") of vacant retail buildings (former Sears) and all appurtenances. Specifically, the Project proposes 576,203 sf of residential and commercial-retail uses. The residential buildings will allow for a total of 388 dwelling units and be divided between 13, 3-story garden style buildings providing for 318 dwelling units and 14, 2-story townhome buildings providing for 70 dwelling units. The residential portion will also include indoor and outdoor amenities, including a leasing office, club room, and fitness center, and outdoor amenities including a dog park, pedestrian promenade, picnic, pool and spa, shade structures, and outdoor seating and dining area. The commercial-retail portion will include one 5,000 sf multi-tenant retail speculative pad and a 20,320 sf grocery store pad.

The Project site sits in a highly urbanized and densely populated area in the City of Riverside. The Project site consists of Assessor Parcel Number (APN) 226-180-015-1, specifically located at 5261 Arlington Avenue, Riverside CA 92506. The Project site is situated at the northeast corner of Arlington Avenue and Streeter Avenue, directly across from the Heritage Plaza Shopping Mall and Arlington Square Shopping Center. Both Heritage Plaza Shopping Mall and Arlington Square Shopping Center are developed with major retail uses, such as Ross Dress for Less, Big Lots, and Smart & Final Extra. Directly west and east of the Project are additional single-family residential, office, and commercial uses. And directly north, the Project site is bordered by single family residential, commercial offices and vacant uses. Thus, the Project site is completely

surrounded by similar residential and commercial-retail uses with no vacant or undeveloped property in the vicinity.

ALUC Review

The Project site also sits approximately 1 mile from the Riverside Municipal Airport. Thus, the Project is subject to review by the Riverside County Airport Land Use Commission ("ALUC"). On January 12, 2023, ALUC reviewed and found the Project inconsistent with the 2005 Riverside Municipal Airport Land Use Compatibility Plan in terms of residential density, non-residential intensity, prohibited use, and open area criteria (ALUC File No. ZAP1107RI22).

Specifically, ALUC found that: 1) The Project's residential density of 28.0 dwelling units per acre in Zone B1 and 1.0 dwelling unit per acre in Zone C are inconsistent with the Zone B1 maximum residential density criteria of 0.05 dwelling units per acre and Zone C maximum residential density criteria of 0.2 dwelling units per acre; 2) The Project's non-residential intensity for the multi-family amenity facility results in an average intensity 49 people per acre and a single acre intensity of 769 people, both of which are inconsistent with Zone B1 average intensity criterion of 25 people per acre, and maximum single acre intensity of 50 people; 3) The Project's non-residential intensity for the grocery store building in Zone B1 results in an average intensity of 81 people per acre and a single acre intensity of 203 people, both of which are inconsistent with Zone B1 average intensity criterion of 25 people per acre, and maximum single acre intensity of 50 people; 4) The Project's non-residential intensity for the retail store building in Zone C results in an average intensity of 134 people per acre, which is inconsistent with Zone C average intensity criterion of 75 people per acre; 5) The Project's proposed three-story buildings are inconsistent with Zone B1 criteria prohibiting buildings with more than two aboveground habitable floors; 6) The Project does not provide the required 4.99 acres of ALUC qualified open area and is therefore inconsistent with the Zone B1, C, and D open area criteria.

City's Role

Despite ALUC's determination, the City of Riverside ("City") can override ALUC's determination of inconsistency and approve the Project. The Project does not present any public health, safety, and welfare risk based on the proposed residential density, non-residential intensity, prohibited use, and open area criteria beyond that which already exists. The City is required to provide findings supporting the override of ALUC's determination as required in the California Public Utilities Code ("PUC") Section 21676(b). The Project is consistent with the purposes of the State Aeronautics Act as stated in PUC Section 21670, which provides, in relevant part:

> "It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

As further detailed below, the City's proposed action on the Project provides for the orderly development of Riverside Municipal Airport Land Use Compatibility Plan ("ALUCP"), and its surrounding area. Further, the Project promotes the overall goals and objectives of the State noise standards by avoiding new noise and safety problems, and protecting the public health, safety and welfare through the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards to the extent that this area is not already devoted to incompatible uses.

Purpose of Report

The purpose of this report is twofold. First, the report demonstrates that the Project does not present any public health, safety, and welfare risk based on the proposed residential density, non-residential intensity, prohibited use, and open area criteria beyond that which already exists. This is supported by the fact that ALUC's criteria used to determine Project inconsistency is based on conservative, outdated projections that are not applicable to current trends or operations. Under these circumstances, the Project as proposed does not run afoul of ALUC's sole purpose of protecting the public's health, safety, and welfare.

Second, this report makes evident that the Project is needed to assist the City in reaching its Regional Housing Needs Allocation ("RHNA"). In recent years, the City of Riverside, along with the State in general, has been plagued with a growing, critical housing emergency. Based on this urgency, the State has issued an exceptionally high RHNA number to the City due to the chronic under-production of housing. However, the City contains limited land to develop and lacks housing in general to meet this State's housing requirements. The Project's residential portion presents a perfect opportunity to provide housing that will greatly assist the City in reaching its RHNA. The City's increasing need for housing greatly outweighs ALUC's finding of inconsistency based on outdated trends and operations.

<u>Riverside Municipal Airport and Surrounding Area</u>

Riverside Municipal Airport Overview

Owned and operated by the City, Riverside Municipal Airport ("Airport" or "RMA") is situated inside the western portion of the City limits. The airport occupies some 441 acres on the flat lands of the Santa Ana River plain. It has two intersecting runways—the primary runway running roughly east/west (Runway 9/27) and a shorter, crosswind runway aligned north/south. (Riverside County ALUCP – West County Airports Background Date (March 2005) ["ALUCP Background"], p. W6-1)

The surrounding area of the Airport is also heavily urbanized, especially to the east and south. Much of this development is not in conformance with either the former or new compatibility criteria. (ALUCP Background, p. W6-1.) Located on all sides of the airport are residential and commercial uses, along with schools and churches. In particular, multiple residential neighborhoods border the outlines of the Airport; commercial-retail buildings such as Arlington Inn, Hangar 18, Ross Dress for Less and Packinghouse Brewing Co. neighbor the Airport; and numerous schools such as Harvest Christian School and John Adams Elementary School are within

only hundreds of feet of the Airport's runway. Specifically, within Zones B1 and C adjacent to the project site, exist approximately 1,148 single-family homes, 215 multi-family units, and 314,000 sf. of commercial density. (*See* Exhibit B) Given the level of urbanization within the close confides of the Airport, it is evident that the opportunities for additional development in the Airport environs are limited. However, such development can occur as either infill or redevelopment. (ALUCP Background, p. W6-1)

Riverside Municipal Airport Land Use Compatibility Plan

The Riverside Municipal Airport Land Use Compatibility Plan (ALUCP) was adopted in 2005. ALUCP proposed an easterly 750-foot extension of Runway 9/27, which was originally planned in the 1998 Airport Master Plan. Further, in 2005, the ALUCP determined that the Master Plan forecasts were extended to a level anticipated to have a time horizon of 20+ years. Specifically, a projection of 220,000 annual operations, more than double the 2005 level (Exhibit A, Figure 2), was assumed. Essentially, all of this growth was expected to be in operations by turboprop aircraft, business jets, and helicopters; single-engine airplane activity is projected to remain roughly constant. (Riverside County Airport Land Use Compatibility Plan Policy Document ["ALUCP"], p. 3-30.) To note, the ALUCP compatibility map for the Airport takes into account the traffic patterns associated with both the existing and future runway ends and approach types. (ALUCP, p. 3-30.) However, recent trends determine that the ALUCP's approach to future expansion and operations, as forecasted in 2005, is currently outdated and conservative.

Since its construction, there has been little to no expansion of the Airport. From a land use compatibility standpoint, the most significant improvement planned for the Airport was the 750-foot easterly extension of the runway. (ALUCP Background, p. W6-1) However, since adoption of the ALUCP, there has been no known efforts or plan to construct this runway extension. The Alternatives section of the 2009 Airport Master Plan (AMP) determined that "[c]onsideration of an extension of less than 1,000 feet would not fully accomplish the goal of a runway extension as it would not fully meet the needs of large C-II aircraft and would not meet the next incremental runway length step from 5,400 feet to 6,400 feet." (AMP, p. 4-18.) As such, "a] 1,000-foot extension of runway 9/27 would require the purchase and demolition of 86 homes and the closing of seven roads. (AMP, p. 4-19.) This endeavor, per the 2009 Master Plan, would cost more than $34 million dollars (86 x $400,000 est.), not to mention the potential the environmental and social impacts. (*Ibid*.) The 2009 Master Plan also noted that several roads and neighborhood streets would have to be closed, property owners would have to be relocated at the expense of the airport, and an existing community would be divided and disrupted, not to mention the level of community opposition that is expected from this level of acquisition. (*Ibid*.) Instead, the 2009 Master Plan found that the primary runway length at Riverside Airport is adequate to accommodate most business jets in the national fleet throughout the year. (*Ibid*.) Based upon this analysis, the 2009 Master Plan found that the runway extension is not currently needed. (AMP. p. 3-22)

Total Airport Operations by Year:

- 2005 ALUCP: 96,102
- 2009 Airport Master Plan: 65,207
- 2023 126,719

(Exhibit A. Figure 2)

Should the City consider extending the Airport today it would come with a tremendous cost requiring a Benefit-Cost Analysis by the FAA. In today's dollars, the purchase of these homes would likely cost more than $43 million (86 x $500,000 est.). Additionally, the closing of seven roads in the area would have a tremendous impact on the functionality of the City traffic system and would require extensive environmental review. Thus, it is safe to assume that the City is unlikely to take on such a heavy, costly endeavor, particularly in light of the housing crisis the City is currently facing. In light of this revelation, the 2005 ALUCP is predicated on future operations that do not account for actual present-day conditions.

Riverside Municipal Airport Current Operations

Presently, the FAA has designated the Airport as a regional, public use, and reliever airport as part of the National Plan of Integrated Airports System. (Exhibit A, p. 3.) However, the Airport's designation as a reliever airport should be revised. (*Id*. at 4.) Airports that are designated "reliever" are intended to relieve congestion at a primary airport due to capacity. In this case, the Airport was one of 6 airports designated as relievers within 24 miles of Ontario International Airport. (*Id.* at p. 3.) Between 2005 to 2017, the FAA recognized capacity issues in most of Southern California primary airports and the corresponding lack of reliever airports. (*Ibid*.) In anticipation of this apparent trend towards more use of the Airport, the ALUCP utilized a projection of 220,000 annual operations as a basis for their criteria and guidelines. (ALUCP Background, p. W6-1.)

By 2017, the FAA implemented a program to assist combating capacity issues by improving operations with new arrival and departure procedures and completing review or redesign of airspace. (Exhibit A, p. 4.) The Airport, however, was not chosen by the FAA to receive any review under the program but maintained its reliever status, despite Ontario International Airport's lack of capacity constraints. (*Ibid*.) Because of FAA implemented programs, utilization or precise satellite technology, and effective traffic flow management programs, capacity issues warranting use of reliever airports within Southern California are almost non-existent. (*Ibid*.)

Currently, the FAA Terminal Area Forecast, issued in January 2024, shows only slight growth for the Airport from 2023-2029. (Exhibit A, p. 4.) In 2024, the expected traffic count is anticipated to be 127,524 annual operations with a projected growth to 134,124 by 2050. (*Ibid*.) These new forecasts coupled with the success of the FAA implemented programs, new technology, and effective traffic flow management programs calls for revisions to the ALUCP. The 2005

ALUCP is based on outdated projections that do not accurately reflect current conditions and operations of the Airport. Thus, projects such as this one are unfairly impeded from moving forward.

Riverside Municipal Airport Safety

The main goal of the ALUC is to protect the public health, safety and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to extensive noise and safety hazards within areas around airports. ALUC reviews land use compatibility issues for development surrounding airports including safety, noise, overflight and airspace protection. These compatibility issues are identified and analyzed in the Airport Land Use Compatibility Plans for each airport, and implementation of these Plans promotes compatible development around the airports. The ALUCP, drafted by ALUC and adopted in 2005, reflects efforts to protect the future public health, safety and welfare based on conservative projections that are not currently applicable. As the extension of Runway 9/27 has been shown to be infeasible and the current operations of the Airport reflect otherwise, the use of development restrictions based on the current ALUCP would be inappropriate.

Risk Level

Based on the ALUCP, ALUC determined the Project exists primarily in Zone B1, identified with a high-risk level to the public health, safety and welfare in the area. In particular, the ALUCP states that Zone B1 has a high-risk level due to encompassing areas overflown by aircraft at low altitude – typically 200 to 400 feet above the runway – and some 10% to 20% of off-runway general aviation accidents near airports take place there. However, the ALUCP did not take into account FAA rules, which states that aircraft must maintain 1000 feet above the highest obstacle in their flight path with 2000 feet horizontal distance to the obstacle, except when taking off or landing. (Exhibit A, p. 7.) In order to abide by this regulation, and the pattern altitude of 1000 feet, pilots landing on RAL's Runway 27 must begin their descent at this higher altitude then cross over or near the project to further descend across the existing residential area between the property site and runway (*Ibid*.)

Further, great strides in general aviation safety have taken place over the past 20 years. An analysis of aircraft accidents dating back to 2001 shows that there were only 13 accidents connected to the Airport. (Exhibit A, p. 11.) Of these 13 accidents, 9 were off airport property making the off-airport accident rate approximately 0.000427%. (*Ibid*.) None of these accidents flew over the subject property, or on the final approach course, and were mostly concentrated to the south and southwest. (*Ibid*.) With the major improvements in aviation in the past decades, it is evident the proposed Project is no more likely to experience an accident than any other residential dwellings in the vicinity of Airport. (*Ibid*.) Rather, the likelihood of an aviation accident happening at all is low. (*Ibid*.)

And, although the project proposes a change of use from the existing commercial designation to mixed-use, any analysis of risk has to be in context of the surrounding area and existing permitted use. Within the ALUC Compatibility Zone Plan Area, there are 25 multi-family developments of 100 dwelling units or more for a total of 4,320 units. (*See* Exhibit C.) As stated

previously, the Project is surrounded by single-family homes, churches, schools, and similar non-residential intensity such as, Ross Dress for Less, Big Lots, and Smart & Final Extra. (*See* Exhibit B.) The proposed Project's residential and commercial uses clearly match those already existing in the area. As stated in the California Airport Land Use Planning Handbook (CALUPH) "The established character of land uses in urban places may limit the options for future development. Sometimes all that can be achieved is to hold new development to intensities similar to those that exist." (CALUPH 4.4.2.) Lastly, as shown below, the total number of people concentrated on the site does not increase with the proposed project. In fact, given the nature of residential living, there are less people on the site during daytime hours as residents go to work, school, etc. which coincides with regular airport operational hours (7am-8pm). The existing permitted commercial use would bring more people to the site during airport operational hours.

Calculation Based on California Building Code			
Use	**Min. Sq. Ft. per Occupant**	**Sq. Ft.**	**Total People**
Existing			
Retail	60	192,139	**3,202**
Proposed			
Apartments	200	380,150	1,901
Swimming Pool	50	2,240	45
Pool Deck	15	8,069	538
Clubhouse/Fitness	15	2,655	177
Leasing Office	200	1,748	9
Grocery	100	20,320	203
Retail	60	5,000	83
		Total	**2,956**

Calculation Based on Parking Space Requirements			
Use	**Metric**	**Parking Spaces**	**Total People**
Existing			
Retail	1.5ppl/space	978	**1467**
Proposed			
Mixed-Use	1.5ppl/space	815	**1223**

Calculations per ALUCP Appendix C

As seen above, there is not a high-risk level to the public welfare, health and safety in the area. The Project would not be affected by aircraft flying at low altitudes near the project, nor is there evidence that an accident is likely to occur near the Project site. Further, the Project's contemplated uses coincide with the existing uses in the area without the possibility of bringing in a larger population of people to the Airport's flight path. Thus, ALUCP's restrictions set for Zone B1 and its application to this Project demonstrates an extremely conservative approach that unnecessarily inhibits development of this Project.

Open Area Criteria

ALUC also determined that the Project was unable to provide the required ALUC open area in the case of an emergency landing or takeoff. ALUCP requires an open area associated with this Project be a minimum of 75 feet wide and 300 feet long. However, ALUCP's open air requirement does not reflect a real-world emergency scenario. To plan a landing in such a confined space, there are many factors, such as type of aircraft involved, landing distance, surrounding terrain, and obstacles, that must be considered. (Exhibit A, p. 12.)

For example, a Cessna 172 (a common aircraft at the Airport) requires a landing distance of 1,335 feet with a landing roll distance of 575 feet. (*Ibid*.) In the event of an emergency, a pilot would need to navigate to the Project site's required open area while also avoiding the multiple large buildings, vast neighborhoods, and extensive landscaping in the area. Based on the required landing distance and landing roll of a Cessna, ALUC's open air requirement would not be sufficient to yield a safe landing at the Project site, particularly with the lack of space and neighboring obstacles. (*Ibid*.) Instead, a pilot would likely look to the surrounding area to land. The area near the Airport is highly urbanized with neighborhoods, businesses, and other facilities that also do not meet ALUCP's open area requirement. (Exhibit A, p. 12.) But, existing roads such as Arlington Avenue, Central Avenue, and the 91 Freeway would provide a more advantageous emergency landing site due to their width and length. (*Ibid*; *see also* Exhibit D.) Thus, in case of an emergency landing, pilots are most likely to choose an area away from the Project site.

As this example demonstrates, ALUCP's open area requirement does not accurately reflect what a plane requires to safely land in the Airport's surrounding area, particularly at this Project site. Thus, these restrictions should be adjusted to reflect a real-world emergency scenario, one that takes into account the current status of the surrounding area. Until this is done, application of this ALUCP requirement inhibits appropriate development in the area, specifically this Project.

Riverside Regional Housing Needs

As previously stated, one of the purposes of this report is to demonstrate that the Project is needed to assist the City in reaching its Regional Housing Needs Allocation ("RHNA"). RHNA is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan. The RHNA quantifies the need for housing within each jurisdiction during specified planning periods.

In March 2021, SCAG adopted its 6th cycle RHNA allocation plan, which covers the planning period October 2021 through October 2029. For the 6th cycle, SCAG received a need of 1,341,827 housing units, which was distributed to all 197 SCAG jurisdictions, including the City of Riverside. Communities use RHNA in land use planning, prioritizing local resource allocation, and in deciding how to address identified existing and future housing needs resulting from population, employment and household growth.

In the 2021-2029 Housing Element Cycle, the City of Riverside's RHNA allocation is a minimum of 18,415 new housing units. The previously adopted Housing Element cycle covering the 2013-2021 period included a RHNA allocation of 10,025 units, of which only a small portion were built during the last seven years. The increase in the City's RHNA housing number is reflective of the State's current housing crisis, due in part to the difficulty of enabling the construction of new homes to keep up with the need for them. In order to ensure the City can safely meet its minimum, the City will need to identify space for approximately 24,000 new homes for the 2021-2029 Cycle. While cities do not build housing – that is the function of private developers – they do adopt projects, plans, regulations and programs that provide opportunities to meet this RHNA.

As detailed above, the Riverside Municipal Airport Land Use Compatibility Plan reflects overly conservative measures to the public health, safety and welfare based on outdated projections. These measures from the 2005 Riverside Municipal Airport Land Use Compatibility Plan, such as ALUC's conservative criteria concerning residential density, non-residential intensity, prohibited use, and open area criteria inhibit development of much needed housing for the City. This Project has the opportunity to help fulfill the City's RHNA requirement with its residential use, along with promoting growth and stability in the area by providing amenities through its commercial use, such as a grocery store. Since ALUC's findings based on the specific measures from 2005 do not accurately reflect the current operations and conditions, the City may overrule these findings in favor of fulfilling the RHNA number and promoting the City's clear mission in providing adequate housing for their inhabitants.

City's Findings

The City of Riverside ("City") is required to provide findings supporting the override of the Riverside County Airport Land Use Commission's ("ALUC") determination of inconsistency as required in the California Public Utilities Code ("PUC") Section 21676(b) (Riverside Municipal Code § 19.680.030(E)). Based on the above and the associated substantial evidence in the public record, the Project is consistent with the purposes of the State Aeronautics Act as stated in PUC Section 21670 based on the current Riverside Municipal Airport operations and trends along with the inapplicability of ALUC conservative and outdated measures.

Specifically, the City's proposed action on the Project provides for the orderly development of Riverside Municipal Airport Land Use Compatibility Plan ("ALUCP"), and its surrounding area and promotes the overall goals and objectives of the State noise standards by avoiding new noise and safety problems, and protecting the public health, safety and welfare through the adoption of

land use measures that minimize the public's exposure to excessive noise and safety hazards to the extent that this area is not already devoted to incompatible uses.

We recommend referring to the following findings to support the City's override:

i. The Project will not affect the orderly expansion of the RMA.

1. The Project is consistent with the residential development surrounding RMA, specifically in Zone B1, and will not result in the encroachment of incompatible residential densities affecting current or future RMA operations. The Project involves the redevelopment of an underutilized commercial parcel with multi-family residential and commercial development. The Project's proposed General Plan designation and zoning of Mixed Use-Village, is consistent with surrounding development, and would assist in transitioning between commercial and single-family residential uses.

2. The Project site is located directly across from the Heritage Plaza Shopping Mall and Arlington Square Shopping Center, which has a General Plan Land Use Designation of C – Commercial and HDR – High Density Residential and is zoned CR – Commercial Retail, CG – Commercial General, and O – Office, and is developed with retail uses. Directly west of the Project is additional single-family residential, office, and commercial uses, which have a General Plan Land Use Designation of MDR – Medium Density Residential, O – Office, C – Commercial, and PF – Public Facilities and is zoned CG – Commercial General, O – Office, and R–1-7000 – Single Family Residential. Directly north, the Project site is bordered by more single-family residential, office and vacant uses with a General Plan Land Use Designation of O – Office, PF – Public Facilities, and C – Commercial and is zoned CG – Commercial General and R–1-7000 – Single Family Residential. And lastly, the Project is bordered on the east with single-family residential and office uses with a General Plan Land Use Designation of MDR – Medium Density Residential and O – Office and is zoned R-1-7000 Single Family Residential and O – Office.

3. The surrounding residential uses appear to exceed the 0.05 dwelling units per acre requirement of Zone B1 and the 0.2 dwelling units per acre requirement of Zone C. Of note, several multi-family residential and commercial uses are located in Zone B1, near the Project. Apartment complexes, Phoenix Gardens Apartments, located at 6930 Phoenix Avenue, and Concord Place, located at 5657 Arlington Avenue, are adjacent to the Project Site, closer to the airport. Large neighborhoods of single or multi-family

residential houses are directly east of the Project site in Zone C. The Heritage Plaza and Arlington Square Shopping Center, directly across the street from the Project site, host over fifteen commercial businesses, such as Ross Dress for Less, Big Lots, and Smart & Final Extra. Lastly, the total number of people concentrated on the site does not increase with the proposed project. In fact, given the nature of residential living, there are less people on the site during daytime hours as residents go to work, school, etc., which coincides with regular airport operational hours. The existing commercial permitted use would bring more people to the site during airport operational hours. The Project is consistent with other residential and commercial developments in the B1 and C Zones.

4. Additionally, the Project consists of infill development of an underutilized commercial site. The vast majority of Zone B1 in the City has been built out, largely by residences and commercial uses. Few infill sites, such as the Project, are available for development. As such, the Project would not encourage other developments to exceed Zone B1 density standards or encroach upon RMA operations.

ii. The Project minimizes the public's exposure to excessive noise and safety hazards within areas around the RMA.

iii. The Project is consistent with the aircraft noise standards of the ALUCP and the requirements of PUC Section 21670.

1. The RMA ALUCP provides the CNEL considered normally acceptable for new residential uses in the vicinity of RMA is 65 dBA. (ALUCP, § RI.2(2.1).) The Project site is approximately one mile from the end of the RMA Runway 9/27. The RMA ALUCP depicts the site as being below the 60 CNEL range from aircraft noise. Therefore, ALUC found no special measures were required to mitigate aircraft-generated noise. Because the Project is consistent with the noise standards in the RMA ALUCP, the Project also complies with the noise standards in the City of Riverside General Plan. (General Plan Noise Element, Figure N-10.) While multi-family or mixed uses are not defined in the City's General Plan Noise Element, the "normally acceptable" noise level for an infill single family residential use is between 55 and 65 dBA CNEL. Accordingly, noise exposure from RMA would not exceed normally acceptable levels for the Project site.

2. The Project will comply with Riverside Municipal Code requirements regarding construction noise and will not compound

noise related to RMA operations. All construction would take place between 7:00 a.m. and 7:00 p.m. on weekdays, 8:00 a.m. and 5:00 p.m. on Saturdays, and would not take place at any time on Sunday or a federal holiday. (RMC, § 7.35.020.)

3. The Project will also comply with ALUC noticing conditions and will provide a "Notice of Airport in Vicinity" to all prospective purchasers and occupants of the property.

iv. The Project does not propose any uses specifically prohibited or discouraged in Compatibility Zone B1 (highly noise-sensitive outdoor nonresidential uses), such as major spectator-oriented sports stadiums, amphitheaters, concert halls and drive-in theaters. The Project also does not propose noise sensitive uses such as children's schools, day care centers, libraries, hospitals, or nursing homes.

v. The Project will have no impact on Federal Aviation Administration Federal Aviation Regulations (FAA FAR) Part 77.

1. The FAA FAR Part 77 Surface Map is a map used by the FAA and the ALUC to identify potential obstructions and hazards to aviation traffic. The ALUC uses the map as a height restriction boundary for purposes of making consistency determinations with its ALUCP. The elevation of Runway 9/27 at its northerly terminus is 815.8 feet above mean sea level ("MSL"). At a distance of approximately 5,151 feet from the project to the nearest point on the runway, FAA review would be required for any structures with top of roof exceeding 867 feet MSL. The site's average finished floor elevation is approximately 785 feet MSL and proposed building height is maximum 41.5 feet, resulting in a top point elevation of 826.5 feet MSL. Therefore, review of the building for height/elevation reasons by the FAA Obstruction Evaluation Service ("FAAOES") is not required.

vi. The Project will not impose a safety hazard due to height.

1. The Project proposes to develop 27 residential apartment buildings consisting of 2 and 3-story structures and two commercial buildings with a maximum height of 41.5 feet. Zone B1 criteria prohibit buildings with more than two aboveground habitable floors, however, the maximum height of these buildings is well below City standards and FAA standards. Project height is below the proposed Mixed Use – Village (MU-V) maximum height of 45 feet (RMC § 19.120.050), and well below the current Commercial Retail (CR) maximum height of 75 feet (RMC § 19.110.030). Development of the Project, as well as the proposed General Plan amendment and

change of zone, will result in a maximum height similar to what currently exists for the site and less than any project that could potentially be developed onsite if the current zoning is maintained. Thus, the Project will not create an obstruction or hazard to air navigation within the meaning of 14 C.F.R. Part 77 nor does it create a safety hazard pursuant to PUC Section 21670.

2. Runway 9/27 was conservatively assumed to be extended. As that is not occurring, height restrictions and habitable floor restrictions should not apply to the Project site. The Project site is almost entirely in Zone C without the runway extension which does not have the habitable floor restrictions.

vii. The Project will not utilize equipment that would interfere with aircraft communications.

1. There are no radar transmission or receiving facilities within the site. The Project's solar panels are low profile, oriented to limit glare, and present little risk of interfering with radar transmission. In addition, solar panels do not emit electromagnetic waves over distances that could interfere with radar signal transmissions, and any electrical facilities that do carry concentrated current will be buried beneath the ground and away from any signal transmission.

viii. The Project cannot comply with the ALUC Open Area requirement. A 4.99-acre open area, 300 feet x 75 feet, with objects no greater than 4 feet in height with a diameter of 4 inches is not conducive to a successful residential development. This requirement for an emergency landing is infeasible given the glide ratios and landing distance for the type of aircraft involved. (Exhibit A, p. 12.) There are many more advantageous emergency landing locations including Arlington Ave., Central Ave., the 91 freeway, golf courses, and parks to the north of the airport. (*See* Exhibit D)

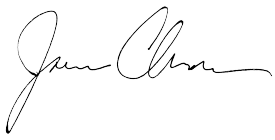
ix. The Project will comply with all feasible recommended ALUC conditions.

1. The Project will comply with the majority of recommended ALUC conditions of approval, including restrictions on maximum building height, noise attenuation measures, and notices and informational brochures for prospective purchasers and tenants. The Project also will comply with recommended conditions related to land uses with minor modifications, to continue to ensure safety, but allow for the best available use of the Project site. Condition 10 cannot be met based on the current size of the Project site. Similar to the surrounding uses such as the Heritage Plaza Shopping Mall and Arlington Square Shopping Center, neighboring residential areas, and adjacent offices, there is no available acreage that could adhere

to this requirement. Condition 2(e) can be properly revised to accommodate habitable floors within the City's permitted building height. As demonstrated above, the Project will be designed and constructed in the safest manner possible to align with ALUC's purpose of minimizing safety hazards within areas around public airports while at the same time satisfying the City's great need for housing.

Although ALUC's mission is to protect the public health, safety and welfare, it is clear that the ALUCP and development restrictions placed on this property are based upon overly conservative and outdated analysis. Further, the development restrictions in place are inconsistent with the reality of the urbanized nature of the surrounding environs. This is made evident by the variety of residential, commercial, and civic uses which have been coexisting with the airport for decades. The City of Riverside has the goal of promoting the production of housing and is mandated by the State RHNA to do so. With so few properties of this size available for redevelopment it is imperative that the City seize this opportunity. Thank you for your consideration of the analysis provided in this report.

Sincerely,



Jamie Chapman

Development Manager

List of Exhibits:

Exhibit A – Report and Analysis of Riverside Municipal Airport

Exhibit B – Existing Uses within B1 and C Zones

Exhibit C – Multi-Family Exhibit

Exhibit D – Open Area Exhibit

Report and Analysis of Riverside Municipal Airport Impact from Proposed Multi-Use Property Development Undertaken by Riverside Property Owner LLC

Property Address 5621 Arlington Ave, Riverside, CA

Prepared by

Diverse Vector Aviation Consulting LLC

March 5, 2024

Introduction

Diverse Vector Aviation Consulting LLC (DVAC) has been retained to evaluate airport and aviation related issues as it relates to the mixed-use residential development community within proximity to the Riverside Municipal Airport (RAL).

The Arlington Mixed Use Development Project (Project) proposes to redevelop a 17.37 net acre parcel currently developed with a 178,426 square feet (sf) vacant retail building (former Sears) an 13,713 sf vacant former Sears Auto Center. The Project proposes 576,203 sf of residential and commercial-retail uses. The residential buildings will allow for a total of 388 dwelling units and be divided between 13, 3-story garden style buildings providing for 318 dwelling units and 14, 2-story townhome buildings providing for 70 dwelling units.

The Project site is located at the northeast corner of Arlington Avenue and Streeter Avenue. The Project site consists of assessor parcel number (APN) 226-180-015-1; specifically located at 5261 Arlington Avenue, Riverside CA 92506. The Project site is located directly across from the Heritage Plaza Shopping Mall and Arlington Square Shopping Center which is developed with retail uses, such as Ross Dress for Less, Big Lots, and Smart & Final Extra. Directly west and east of the Project is additional single-family residential, office, and commercial uses. Directly north, the Project site is also bordered by single family residential, office and vacant uses.

The Project site is approximately 1 mile southeasterly of the easterly terminus of RAL Runway 9-27. (Figure 1) Accordingly, the Project is subject to the Riverside County Airport Land Use Compatibility Plan. On January 12, 2023, the Riverside County Airport Land Use Commission found the Project (Planning Case PR-2022-001252 – General Plan Amendment, Rezone, Site Plan Review, Tentative Parcel Map, and Certificate of Appropriateness) inconsistent with the 2005 Riverside Municipal Airport Land Use Compatibility Plan in terms of residential density, non-residential intensity, prohibited use, and open area criteria (ALUC File No. ZAP1107RI22). This report evaluates the Riverside County Airport Land Use Commission's findings that the Project is "inconsistent" with the 2005 Riverside Municipal Airport Land Use Compatibility Plan.

Figure 1.

Historical and Current Traffic Projections for RAL

The Federal Aviation Administration (FAA) has designated RAL as a Regional[1], Public Use[2], and Reliever Airport[3] as part of the National Plan of Integrated Airports System (NPIAS)[4]. Airports that are designated "Reliever" are intended to relieve congestion at a Primary Airport due to capacity constraints. There are currently 6 airports designated as 'Reliever," within 24 miles of Ontario International Airport, which is the Primary Commercial Service airport in the area. Between 2005 to 2017, the FAA recognized capacity issues in most Southern California Primary airports and the corresponding lack of "Reliever" airports. Accordingly, the FAA increased designations of "Reliever" airports.

In mid-2017, the FAA implemented its Optimization of Airspace in the Metroplex project in the Southern

[1] A Regional airport supports regional economies by connecting communities to regional and national markets. They are generally located in metropolitan areas and serve relatively large populations. Regional airports have high levels of activity with some jets and multiengine propeller aircraft.

[2] A public-use airport that does not have scheduled service or has scheduled service with less than 2,500 passenger boardings each year (49 U.S.C. §47102(8)).

[3] Reliever airports are designated by the FAA to relieve congestion at Commercial Service Airports and to provide improved general aviation access to the overall community.

[4] The National Plan of Integrated Airport Systems (NPIAS) identifies nearly 3,310 existing and proposed airports that are included in the national airport system, the roles they currently serve, and the amounts and types of airport development eligible for Federal funding under the Airport Improvement Program (AIP) over the next 5 years.

California Area[5] (Metroplex) to further assist in combating capacity issues at these primary airports. This immense project improved operations at many airports, with new arrival and departure procedures being developed for 21 airports, and complete review or redesign of airspace. The FAA stated that "[t]he proposed Metroplex would allow for more direct and efficient routing of aircraft into and out of Southern California and its surrounding airports, enhancing aviation safety, and reducing flight delays above these communities." ("FAA Facts," p.1, Federal Aviation Administration, Southern California Metroplex, 2017.)

However, RAL was not chosen by the FAA to receive any review under the Metroplex. Rather, RAL maintained its "Reliever" status, despite Ontario International Airport's lack of capacity constraints. In its 2020 bi-annual report of National Plan of Integrated Airport System (NPIAS) the FAA stated: "The term "reliever" is relevant in a small number of instances where commercial service airports still experience significant congestion. However, there are a significant number of airports with reliever designation that no longer meet reliever status since the airports they are relieving in are no longer considered congested." ("National plan of Integrated Airport Systems (2019-2023)," p. 3, Federal Aviation Administration, 2020.)

Because of Metroplex's benefits, utilization of precise satellite technology, and effective Traffic Flow Management[6] programs, capacity issues at Southern California commercial airports are almost non-existent. The capacity achievements in Southern California and the reduced need for "Reliever" airports, indicate Riverside County will need to reassess their Airport Land Use Compatibility Plan for RAL, last published in 2005. (Riverside County Airport Land Use Compatibility Plan Policy Document, 2005.) This plan was based on projection models that anticipated RAL to grow to 220,000 operations per year. However, FAA Terminal Area Forecast (TAF), issued in January 2024, shows only slight growth for RAL from 2023-2049, with an expected traffic count from 127,524 in 2024, to 134,124 in 2050. ("Forecast Process 2023 TAF," Federal Aviation Administration, 2024.)

A historical perspective from 2002 through 2023 is represented in the Air Traffic Activity System (ATADS) in Figure 2 below.

[5]A Metroplex is a geographic area covering several airports, serving major metropolitan areas and a diversity of aviation stakeholders. By optimizing airspace and procedures in the Metroplex, the FAA provides solutions on a regional scale, rather than focusing on a single airport or set of procedures.

[6] Traffic Flow Management facilitates a "system approach" to managing traffic that considers the impact of individual actions on the whole. Managing disruptions in airspace capacity (caused for example by bad weather, traffic overloads, or emergencies) requires consideration of who or what may be impacted by events, and a coordinated mitigation effort to ensure safety, efficiency, and equity in the delivery of air traffic services.

ATADS : Airport Operations : Standard Report

From 01/2002 To 12/2023 | Facility=RAL

				Itinerant					Local			
Calendar Year	Facility	Region	Class	Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	Total Operations
2002	RAL	AWP	Federal Contract Tower	0	881	43,321	61	44,263	59,586	37	59,623	103,886
2003	RAL	AWP	Federal Contract Tower	0	260	44,296	163	44,719	55,593	103	55,696	100,415
2004	RAL	AWP	Federal Contract Tower	0	190	44,090	287	44,567	49,001	66	49,067	93,634
2005	RAL	AWP	Federal Contract Tower	0	415	46,466	57	46,938	49,126	38	49,164	96,102
2006	RAL	AWP	Federal Contract Tower	0	539	41,947	96	42,582	41,376	23	41,399	83,981
2007	RAL	AWP	Federal Contract Tower	0	268	39,173	101	39,542	39,251	85	39,336	78,878
2008	RAL	AWP	Federal Contract Tower	16	165	39,435	76	39,692	34,253	72	34,325	74,017
2009	RAL	AWP	Federal Contract Tower	0	136	32,847	140	33,123	31,984	100	32,084	65,207
2010	RAL	AWP	Federal Contract Tower	0	94	30,897	59	31,050	25,163	53	25,216	56,266
2011	RAL	AWP	Federal Contract Tower	0	111	34,104	32	34,247	30,194	3	30,197	64,444
2012	RAL	AWP	Federal Contract Tower	0	175	36,530	118	36,823	35,155	47	35,202	72,025
2013	RAL	AWP	Federal Contract Tower	119	617	43,022	137	43,895	45,508	60	45,568	89,463
2014	RAL	AWP	Federal Contract Tower	0	1,999	50,011	444	52,454	58,143	71	58,214	110,668
2015	RAL	AWP	Federal Contract Tower	0	3,431	47,335	447	51,213	58,636	96	58,732	109,945
2016	RAL	AWP	Federal Contract Tower	0	4,006	44,533	395	48,934	56,444	72	56,516	105,450
2017	RAL	AWP	Federal Contract Tower	20	3,562	42,887	475	46,944	52,742	43	52,785	99,729
2018	RAL	AWP	Federal Contract Tower	0	2,378	39,923	368	42,669	62,859	55	62,914	105,583
2019	RAL	AWP	Federal Contract Tower	0	2,267	43,006	296	45,569	73,549	246	73,795	119,364
2020	RAL	AWP	Federal Contract Tower	0	2,297	42,165	241	44,703	70,410	240	70,650	115,353
2021	RAL	AWP	Federal Contract Tower	0	2,424	42,788	483	45,695	65,059	70	65,129	110,824
2022	RAL	AWP	Federal Contract Tower	137	2,897	48,405	491	51,930	73,518	260	73,778	125,708
2023	RAL	AWP	Federal Contract Tower	1	4,039	46,091	380	50,511	76,126	82	76,208	126,719
Sub-Total for Unknown				293	33,151	923,272	5,347	962,063	1,143,676	1,922	1,145,598	2,107,661
Sub-Total for AWP				293	33,151	923,272	5,347	962,063	1,143,676	1,922	1,145,598	2,107,661
Sub-Total for RAL				293	33,151	923,272	5,347	962,063	1,143,676	1,922	1,145,598	2,107,661
Total:				293	33,151	923,272	5,347	962,063	1,143,676	1,922	1,145,598	2,107,661

Figure 2.

RAL Operational Criteria

RAL's Airport Reference Code is designated as B-II. (FAA, Advisory Circular AC 150/5300-13B, Airport Design , 2022). Reference codes allow uses to quickly assess a runway's suitability related to critical geometry and visibility without special operations. This determination is made when initially designing an airport and can be changed based on updated criteria that are submitted to the FAA from the airport operator. This initial design or request for change is based on several factors identified in FAA AC FAA, Advisory Circular (AC) 150/5300-13B, Airport Design and associated planning guidance such as:

- AC 150/5000-17, Critical Aircraft and Regular Use Determination
- AC 150/5020-1, Noise Control and Compatibility Planning for Airports
- AC 150/5060-5, Airport Capacity and Delay
- AC 150/5070-6, Airport Master Plans

Aircraft that utilize RAL within the B-II guidelines fall under certain criteria under two distinct categories: Airport Design Group (ADG) and Aircraft Approach Category (AAR). AAR and ADG are determined with respect to the approach speed and the tail height and wingspan of the aircraft. Other factors for operating at a B-II designated airport and for a specific runway are aircraft Gross takeoff and Maximum Landing Weight (GTOW-MLW). These factors are in relation to the runway length and weight bearing capacity, and defined safety areas per FAA directives. The pilot of an aircraft that is outside of the B-II criteria may utilize the airport at their discretion regardless of the AAR/ADG categorization.

FAA criteria for AAR and ADG (FAA, Advisory Circular AC 150/5300-13B, Airport Design , 2022) are:

- Category Speed
  - A < 91 Knots
  - B 91- < 121 Knots
  - C 121- < 141 Knots
  - D 141- 166 Knots
- Airplane Design Group

	Tail Height (ft)	Wingspan (ft)
I	< 20	< 49
II	20- < 30	49- < 79
III	30- < 45	70- < 118
IV	45- < 60	118- < 171
V	60- < 66	171- < 214
VI	66- < 80	214- < 262

Under the current airport standards as a B-II airport, RAL can accommodate A-1 through B-II aircraft. Examples of these aircraft are shown below and include approximate required landing distance which are affected by a variety of factors including weather and wind, runway conditions, airport elevation, approach speed and more.

Cessna Skyhawk, C-172/A-I
Landing distance 1335 feet

Beech Baron, BE-58/B-I
Landing distance 2490

Beech Super King Air, 200/B-II
Landing distance 2692

Cessna Citation IV/B-II
Landing distance 2490

Easterly Runway Extension

Airport Master Plans are the basis for Compatibility Plans. One of the improvements for RAL contained in the Riverside County Airport Land Use Compatibility Plan (RCALUC) was to increase the length of Runway 9/27 to the east by 753 feet, and transition RAL to a C-II airport, allowing larger aircraft to operate with appropriate safety measures. However, the Alternatives section of the 2009 Master Plan determined that "[c]onsideration of an extension of less than 1,000 feet would not fully accomplish the goal of a runway extension as it would not fully meet the needs of large C-II aircraft and would not meet the next incremental runway length step from 5,400 feet to 6,400 feet." A 1,000-foot extension of runway 9/27 would require the purchase and demolition of 86 homes and the closing of seven roads. Per the 2009 Master Plan "the cost of acquiring these properties would likely be more than $34 million (86 x $400,000 est.), the environmental and social impacts may be of greater concern. Several roads and neighborhood streets would have to be closed, property owners would have to be relocated at the expense of the airport, and an existing community would be divided and disrupted. The impact to community continuity is also measured. In addition, community opposition to this level of acquisition could be a factor." The Master Plan goes on to state "the primary runway length at Riverside Airport is adequate to accommodate most business jets in the national fleet throughout the year. The current length of Runway 9-27 is able to meet the needs of 75 percent of the national business jet fleet. Based upon this analysis, a runway extension is not currently needed."

RCALUC finding of "Inconsistent" for Proposed Project

In January 2023, the Riverside County Airport Land Use Commission (ALUC) made a finding of "Inconsistent" with the 2005 Riverside Municipal Airport Land Use Compatibility Plan for the proposed project. This is based on the opinion that the project does not comply with the required "residential density, non-residential intensity, prohibited use, and open area criteria." The reasons given for the finding include:

"Zone B1 is identified as the inner approach/departure zone where risk level and noise impacts are considered "high" in the ALUC Countywide policies Table 3A Compatibility Zone Factors. Table 3A states that Zone B1 has a high-risk level due to "encompassing areas overflown by aircraft at low altitude – typically 200 to 400 feet above the runway" and "some 10% to 20% of off-runway general aviation accidents near airports take place here".

The level of "risk" associated with this project comes from the California Airport Land Use Planning Handbook Compatibility Objective and is the foundation for information in the ALUC opinions. The Handbook states there are two variables that determine risk posed by potential aircraft accidents:

- Accident Frequency: Where and when aircraft accidents occur in the vicinity of an airport
- Accident Consequences: Land uses and land use characteristics that affect the severity of an accident when one occurs.

The information in Table 3A of the RCALUC Countywide policies identifying altitudes "typically 200 to 400 above the runway" in the encompassing area, requires a more exact explanation. Pilots are required by regulation to comply with United States Code of Federal Regulations, Part 91 (CFR-91), General Operating and Flight Rules, Minimum Safe Altitudes, which states that aircrafts must maintain 1000 feet above the highest obstacle in their flight path with 2000 feet horizontal distance to the obstacle, except when taking off or landing. (Federal Code of Regulations, §91.119.) To abide by this regulation, and the pattern altitude of 1000 feet, pilots landing on RAL's Runway 27 must begin their descent at this higher altitude then cross over or near the project to further descend across the existing residential area between the property site and runway threshold.

In January 1997, the Riverside Municipal Airport Part 150 Noise and Compatibility Study was approved by the City of Riverside (Riverside, Part 150 Records of Approval, 1)and forwarded to the FAA for final determination. The FAA approved the study in February 1997. Among the FAA's various approvals for the Riverside Municipal Airport Part 150 Noise and Compatibility Study, Item 1.5 of the study ("Encourage the use of the Sears store as a visual fix for Runway 27 VFR approaches") was approved as a voluntary action for pilots. Item 1.5 of the study was produced as a legacy pilot technique based on observed traffic data. The City's approval and justification was: "Neighbors have complained about very short approaches to Runway 27 as aircraft are turning final west of Hillside Avenue . . . This pattern leaves less than 2,000 feet for a stable final approach and creates unnecessary single event noise occurrences." The FAA Airplane Flying Handbook (FAA, Airplane Flying Handbook, 2021) states: "The pilot should continue the downwind leg past a point abeam the approach end of the runway to a point approximately 45° from the approach end of the runway." In figure 3 below, the red lines indicate the approximate angles abeam the approach end of the runway at 90 degrees and the standard

45 degrees from that point when commencing the base leg turn. The City recommendation to continue downwind to the Sears building added approximately .8 miles to the base leg turn, which resulted in more residential overflight of the area between Hillside Ave and Streeter Ave. Had this recommendation not been approved there would have been a greater disbursement of noise, less environmental impact, and reduced traffic density over the project site.

Figure 3.

The Caltrans Handbook points out that several factors should be considered for proposed construction and to ensure public welfare, health, and safety such as airspace obstructions, wildlife hazards, and land use characteristics. Similarly, pilots are also tasked with ensuring public welfare, health, and safety when operating aircrafts over persons and/or property. CFR-91 directs pilots to operate at "an altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface." (Federal Code of Regulations, §91.119.) Pilots are trained from the very beginning to analyze emergency procedures and options that will not endanger persons or property in the case of a forced landing. These measures, specifically the Caltrans Handbook and pilot requirements, are meant to reduce risk to harm of people and property from aviation accidents.

When discussing risk and advising proponents of land use matters, this publication uses statistics from the National Transportation Safety Board (NTSB), Aviation Accident Database for years 1990-2000. Since 1990, major improvements in aviation safety have occurred as evidenced in the current NTSB statistics in Table 10 below, resulting in few aviation accidents and fatalities. ("Aviation Accident Database," National

Transportation Safety Board, 2024.)

Safety

Great strides in general aviation safety have taken place over the past 20 years and have always been an emphasis for the FAA, NTSB, and other aviation interests. Efforts to reduce risk by the FAA and industry partners have included several programs that focus on root cause analysis, and by putting in place strategies to carry them out.

One of the main FAA and National Transportation Safety Board (NTSB) goals is to reduce fatal accidents to no more than 1 per 100,000 flight hours (Committee, 2020). Thanks to the strategies developed including the establishment of the General Aviation Joint Steering Committee (GAJSC) in 1997, which is a public-private partnership whose goal is to "analyze general aviation (GA) safety data to develop intervention strategies to prevent or mitigate problems associated with accident causes, called Safety Enhancements (SE). These SEs may include procedures, training, and equipment installations that, when implemented, may reduce the likelihood of accidents in the future." To date there have been 58 SEs published by the GAJSC working to improve safety within the GA community (GAJSC, 2024).

In 2014 the FAA launched its national "Got Weather" program and began to go beyond the basics to educate both pilots and controllers about the impact weather has on general aviation (Administration, Got Weather, 2017). Weather is one of the highest determiners of general aviation accidents. The City of Riverside, California is reported to have an average of 277 days of sunshine per year, compared to a national average of 205, with only 34 days of precipitation (Places, 2020). Weather was not a factor in any of the accidents involving RAL aircraft.

In 2016 FAA aeronautical data availability was widened to include the private sector, giving thousands of pilot's accesses to a multitude of data they did not have before. Also, in 2016, the program FlySafe (Administration, Fly Safe: Addressing GA Safety, 2020) was launched which addresses general aviation pilot strategies to address emergency situations.

In 2018 new Airman Certification testing standards were implemented which require an elevated awareness of risk and how to manage it (Airman Certification Standards, 2020). Airman Certification, along with the upgrade of the air traffic control system such as En Route Automation Modernization (ERAM) and implementing Automatic Dependent Broadcast System (ADS-B), which is a satellite-based tracking system that both pilots and air traffic controllers use has been another immense improvement. All these initiatives have contributed to the safety of the National Airspace System as a whole, and especially for general aviation.

Riverside airport's operational contingent is almost completely general aviation. An analysis of aircraft accidents with RAL as either a departure or arrival point, from the NTSB database, dating back to 2001, shows that there were 13, of which 9 were off airport property, identified as 5 Departures and 4 Arrivals. None of these accidents occurred over the proposed project area, or on the final approach course and were mostly concentrated to the south and southwest (NTSB, 2024). National statistics indicate that arrival accidents

outweigh departures. However, at Riverside Airport it was divided with 5 Departures/4 Arrivals, The Riverside airport traffic count from 1/2001 through 12/2023 was 2,107,661, making the off-airport accident rate of 9 approximately 0.000427%.

The FAA and NTSB are continually addressing safety of flight. Statistics, as mentioned in this report, indicate that the proposed project development has no greater propensity to experience an accident than any other residential dwellings in the vicinity of RAL.

Table 10. Accidents, Fatalities, and Rates, 2003 through 2022, US General Aviation

	Accidents		Fatalities			Accidents per 100,000 Flight Hours[b]	
Year	All	Fatal	Total	Aboard	Flight Hours[a]	All	Fatal
2003	1,741	352	633	630	25,997,782	6.681	1.342
2004	1,619	314	559	559	24,888,126	6.493	1.262
2005	1,671	321	563	558	23,167,712	7.204	1.381
2006[c]	1,523	308	706	547	23,962,936	6.347	1.281
2007	1,654	288	496	491	23,818,668	6.936	1.201
2008	1,569	277	496	487	22,804,648	6.871	1.215
2009	1,481	276	481	472	20,861,866	7.080	1.318
2010	1,441	271	458	455	21,688,409	6.630	1.240
2011	1,471	270	458	447	-	-	-
2012	1,471	273	439	438	20,880,993	7.040	1.303
2013	1,223	221	390	386	19,492,356	6.259	1.118
2014	1,222	255	422	412	19,617,389	6.229	1.300
2015	1,211	230	378	375	20,576,072	5.851	1.098
2016	1,268	213	386	379	21,333,747	5.930	0.984
2017	1,234	203	331	331	21,702,719	5.677	0.935
2018	1,275	224	379	376	21,663,367	5.872	1.025
2019	1,221	234	416	408	21,800,689	5.592	1.069
2020	1,086	203	329	319	19,454,467	5.577	1.043
2021	1,154	211	346	343	21,965,784	5.235	0.956
2022[d]	1,205	214	339	339	22,542,999	5.336	0.945

With the major improvements in aviation in the past decades and supported by the data above, it is evident the proposed residential development is no more likely to experience an accident than any other residential dwellings in the vicinity of RAL. Rather, the likelihood of an aviation accident happening at all is low.

"The project's inability to provide the required ALUC open area. In the event of an aircraft emergency on takeoff or landing, there is no suitable landing area for the aircraft to make an emergency landing which increases the likelihood of the aircraft crashing into the project's residential buildings."

Per the RCALUC requirements, the requirement for an open area associated with this project is a minimum of 75 feet wide and 300 feet long. Aircraft landing distances vary depending on many factors including the type of aircraft, landing weight, wind conditions, and final approach speed. The landing distance is divided into two parts: an airborne section and a ground run. The airborne portion of the landing starts at 50 ft, where the aircraft is at the correct approach and landing speed, over the runway threshold. It ends when the main wheels of the aircraft touch the ground. This marks the beginning of the ground roll, which ends when the aircraft comes to a stop.

To plan a landing in such a confined space, factors including Glide Ratio[7] for the type aircraft involved, landing distance and surrounding terrain and obstacles must be considered. The FAA Airplane Flying Handbook (FAA-H-8083-3C), Chapter 18: Emergency Procedures (FAA, Airplane Flying Handbook, 2021) addresses emergency landings in confined areas and states: "The natural preference to set the airplane down on the ground should not lead to the selection of an open spot between trees or obstacles where the ground cannot be reached without making a steep descent."

An example would be a Cessna 172 (C-172), which is a common aircraft at RAL and requires a landing distance of 1,335 feet with a landing roll distance of 575 feet. In the event of an emergency requiring an immediate landing, a 300-foot open area would not be sufficient to successfully land. In addition, a steep descent would have to be made over the existing congested areas near the project site that contain buildings of all types with heights that may be detrimental to a landing, if possible, at all.

The area surrounding RAL is densely populated with residential, business, and other facilities especially to the north, south and east of the approach end of Runway 27 (Rwy27). In this area existing roads such as Arlington Ave, Central Ave, the 91 freeway and many others would provide a more advantageous emergency landing site due to their width and length, and the ability of the pilot to apply an appropriate glide ratio to a successful landing. A set-aside open area that is 300x75 feet anywhere around the project area, does not appear to be of any benefit to an emergency aircraft.

Much better options for a forced landing and a natural choice for an emergency landing would include the Runway Protection Zone (RPZ) that extends for approximately .35 mi from the approach end of Rwy27 to Hillside Ave. There are much more open space areas to the north and west of the airport, including Riverside Flabob (RIR) airport approximately 3.5 mi to the north, that are considered a better option to an emergency aircraft if landing at RAL was deemed not possible.

Accordingly, the defined RCALUC requirement for an open space area around the project is not a viable emergency landing site and is outdated based on the airport's surrounding conditions. As stated before, the use of Arlington Ave, Central Ave, and the 91 Freeway, as well as the open areas north and west of RAL would

[7] The Glide ratio of an aircraft is the distance of forward travel divided by the altitude lost in that distance. The glide ratio is affected by all the four fundamental forces that act on an aircraft in flight - lift, drag, weight and thrust.

be safer and preferable.

Part 77- Safe, efficient use, and preservation of the Navigable Airspace

The elevation of approach end of Rwy27 is approximately 815 feet Mean Sea Level (MSL). The project location is approximately 5,100 feet from the Rwy27 threshold to the site. FAA review would be required for any structures with the top of roof exceeding 867 feet MSL. The project site elevation is 785 feet MSL, and a maximum building height of 41.5 feet, the resulting top point elevation is 826.5 feet MSL.

The Project will have no impact on Federal Aviation Administration Federal Aviation Regulations Part 77 (FAA FAR) and does not impact the non-precision Approach[8] or Visual Approach currently in use for Runway 27, or have any impact on departure or missed approach procedures for Runway 9.

Conclusion

The data compiled for this report is based on current trends and analysis of RAL operational needs and future traffic forecasts. The successful implementation of the FAA Metroplex project to decrease traffic flow restrictions and relieve capacity issues in Southern California has removed many expected increases to air traffic at general aviation airports in the area, specifically with RAL. Because of the densely populated area surrounding RAL, an expansion effort to increase the length of Rwy 9/27 to attract business through inviting larger aircraft to use the facility has been abandoned.

The subject property will not affect air traffic procedures, or pilot actions when arriving or departing Rwy 9/27. Aircraft accident locations are difficult to predict, but we do know that the ones reviewed for this report did not happen at this property site or its nearby vicinity. This may be due to the numerous open areas around RAL to assist in those instances when a forced landing is required. As stated previously the FAA and NTSB have worked very hard over the past decades to decrease those accidents through education and oversight.

Upon completion of this research and report development it our opinion that the subject project will not degrade the safety or efficiency of Riverside Municipal Airport, and that a complete review of requirements by the RCALUC in relation to airport operations and community needs be undertaken to establish current criteria.

[8] Non-precision approach means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved, or planned, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document. (Government, 2024)

Curriculum Vitae

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Summary

Kevin Karpé is the CEO and Founder of Diverse Vector Aviation Consulting LLC (DVAC). Mr. Karpé was an Air Traffic Controller and manager with the Federal Aviation Administration, Air Traffic Organization (ATO) for 31 Years, and is a Veteran of the US Navy where he served at ashore and afloat commands. DVAC is a Certified Veteran Owned Small Business and provides specialty services for aerospace and aviation organizations including airport operations, airspace and procedure design, noise and environmental review, municipality assistance, Advanced Air Mobility (AAM) and Unmanned Aerial Systems (UAS), which includes integration of these new entrants into the National Airspace System (NAS). DVAC also provides expert witness services for litigation support, and more.

Experience

Diverse Vector Aviation Consulting LLC 2018-Present

CEO

Diverse Vector Aviation Consulting, LLC (DVAC) provides support, guidance and focus to companies and organizations with ties to the aerospace and aviation communities. DVAC aids municipalities with noise mitigation and evaluation; airport operations; airspace and procedural development and implementation design; UAS/UAV operations airspace and procedural integration, domestic and international; UAM integration into the National Airspace System (NAS), and Safety Management System facilitation and SME services.

- Consultant for the City of Newport Beach, CA, addressing aviation concerns regarding John Wayne Airport and Southern California airspace as it pertains to noise, routes, communication, and aviation committee facilitation
- Consultant for Harris, Harris, Miller and Hanson (HMMH) supporting the Southern San Fernando Valley Airplane noise Task Force
- Consultant for HMMH as part of the San Francisco Airport Community Roundtable
- Consultant for Environmental Science Associates (ESA) on FAA Part 150 Noise and Land Use Compatibility Study for Naples Airport Authority at Naples Municipal Airport
- Consultant for ESA FAA Part 150 Noise and Land Use Compatibility Study at Seattle-Tacoma International Airport
- Retained as consultant for the Naples Airport Authority, Naples Florida assisting in noise, airspace and procedural matters associated with the city's FAR Part 150 study
- Retained as consultant by Foulger-Pratt, a real estate development company that is proposing to build housing near the Riverside Municipal Airport in Riverside, CA, advising on airport operations, obstruction evaluation, addressing federal, state, and local requirements
- Retained as Air Traffic Control Subject Matter Expert by Concept Solutions LLC to support major contracts with the Federal Aviation Administration to integrate UAV/UAS/UAM operations into the National Airspace System
- Air Traffic Control (ATC) SME subcontractor for AAM/UAM integration as well as UAS procedural development for Concept Solutions, in contract with the FAA
- Developed and submitted waivers to FAR Part 107, for Texas UASWerx, a test range focusing on military and law enforcement training and Urban Air Mobility testing
- Facilitated the approval of a FAA Public Safety UAS Certificate of Authorization for police and fire departments for the city of Mineral Wells, TX
- Retained as an Expert Witness in several cases across the country, for both Plaintiff and Defense

Federal Aviation Administration 1987–2017

Southern California Terminal Radar Approach Control (SCT)

Assistant Air Traffic Manager/Staff Manager 2011-2017

SCT is the busiest radar approach control in the world with over 2 million operations per year.

- Assisted the air traffic manager with daily operations of the facility. Directly managed all aspects of staff support departments for the facility including airspace and procedures, training, safety/QA/QC, and planning and requirements.
- Collaborated successfully with the National Air Traffic Controllers Association (NATCA) on multiple issues to establish a mutual benefit for all
- Coordinated special operations between the operational workforce and support functions including VIP movement, airport closures, military operations, UAS/UAV activities, airshows, etc. Ensured traffic management initiatives were implemented for the 51 airports that SCT serves.
- Served as designated facility point of contact responsible for the success of the FAA Optimization of Airspace and Procedures in the Metroplex (OAPM) for Southern California airspace, the largest and most complex airspace redesign in the United States which affected over 200 procedures for pilots and controllers. The project integrated the Standard Terminal Automation System (STARS) that allows ADS-B processing and other technology as part of the Terminal Automation Modernization and Replacement program for Southern California TRACON. Successfully trained more than 300 air traffic control personnel on equipment changes and procedures, on time and within budget.
- Ensured that specialists were trained and knowledgeable on procedures for applicable waivers for UAS and UAV activity. Directed the operations support group to establish an expert presence in the facility to manage and process requests prior to the implementation of FAR Part 107 to expedite approval and coordination time.
- Served as liaison for multiple outside organizations including the SoCal Aviation Association, San Diego Airport Authority, Los Angeles World Airport Airspace Users Group and local US Navy and Marine Corps facilities etc. Created and executed the presentations on the work of the FAA and SCT to congressmen and senate staff offices, local flying groups, community groups such as the Kiwanis, and spoke to several visiting international aviation groups.
- Developed and managed the SCT Mentoring and Leadership Development Program for applicants from all FAA lines of business to learn business acumen and managerial techniques by embedding participants on a rotational basis through all support, administrative and operational offices. All participants have since been promoted throughout the Air Traffic and Technical Operations lines of business into upper management positions.

Support Manager, Performance and Strategic Analysis **2010 - 2011**

- Developed and implemented the facility strategic plan
- Re-aligned the facility program management oversight to complement the FAA Air Traffic Organization business plan and strategy and performance initiative that included LEAN and some Six Sigma concepts
- Conducted value analysis on all departments and operational entities, recommended improvements and changes to the air traffic manager for implementation

Manager for Safety Assurance **2007-2010**

- Managed the quality assurance/quality control program at SCT. Oversaw all aspects of compliance with FAA and air traffic requirements, including review of operational errors and deviations, ensuring workforce compliance with established rules and regulations; conducted regular facility evaluations as defined in FAA orders
- Coordinated with other ATC facilities to establish common ground on potential conflict areas. Developed and presented several QA/QC summits with other air traffic facilities so all personnel were trained on safety culture.
- Conducted operational error review boards as directed, at times these groups included other facilities in a root cause analysis

- As certified Safety Management System (SMS) practitioner, conducted safety panels for new inputs to the ATC system and provided reviews of existing or recommended improvements

Operations Manager **2005-2007**

- Responsible for all operations at SCT on a given shift, which included seven areas of operation with approximately 14 supervisors and 80 air traffic controllers on duty
- Ensured all aspects of the shift were operating as required including traffic management initiatives, personnel staffing, weather impacts, reporting of equipment outages, training and more
- Monitored the Domestic Event Network (DEN) and other required communication methods; responded to all directives and operational requirements as needed
- Responded and coordinated efforts for all identified emergencies and inquiries, VIP movement, temporary flight restrictions and more

Quality Assurance Staff Specialist

FAA Western-Pacific Regional Office, Lawndale, CA **2003-2005**

- Provided QA/QC oversight to air traffic facilities in the entire western United States. Reviewed services after incidents or accidents; coordinated with airport management, NTSB and regional counsel; conducted facility evaluations of air traffic facilities; augmented national teams for accident investigation when required by NTSB or FAA headquarters
- Developed and implemented a strategic plan to transition safety assurance capacity when the Air Traffic Organization was implemented. Identified, coordinated and established a new area that increased from three states to 10, resulting in a seamless transition and expert support from the first day of implementation.

Air Traffic Manager

Gillespie Field, El Cajon, CA **2000-2002**

- Managed the control tower operations at Gillespie Field Airport Traffic Control Tower (ATCT), including a staff of up to 18 personnel at a time
- Coordinated closely with the airport manager on multiple operations aspects including signage, construction, environmentally sensitive areas, Letters to Airmen, vehicle operations, noise abatement and more
- Participated in airport round-table operations discussions and ATC impact at facility user meetings; participated in FBO discussions on specific and general operational needs and requirements.
- Simultaneously managed Montgomery Field ATCT for six months due to a sudden vacancy. Worked with the County and City Airports divisions in this capacity. During this time, supported the supervisory staff at San Diego Lindbergh Field control tower and was the day-shift supervisor on September 11, 2001.

Front Line Manager **1999-2000**

Southern California TRACON, San Diego

- Managed the Burbank, CA area of SCT
- Supervised a team up to 15 personnel on a shift-by-shift basis that provided air traffic services in the northern portion of SCT airspace
- Responsible for staffing, training and meeting operational demands as integrated with the National Airspace System

Support Specialist

Southern California TRACON **1996-1999**

Airspace and Procedures Department

- Designed, coordinated, and implemented new procedures as required
- Wrote briefings to the operational workforce on procedural updates, changes, and explanations
- Coordinated with all control towers and airports in responsibility area on procedural and airspace matters

Plans and Programs Department

- Developed requirements and procedures for new equipment installation and upgrade
- Directly responsible for new voice communications and software upgrade capability for SCT
- Participated as a team member on implementing new software to the air traffic control baseline computer system

FAA Air Traffic Controller **1987-1996**
Burbank Airport Traffic Control Tower
Burbank TRACON
Southern California TRACON

- Responsible for the safe, orderly and expeditious flow of air traffic around the Southern California area, specializing in the operations at Los Angeles, Santa Monica and Van Nuys airports

US Navy
Air Traffic Controller **1979-1986**

- Fully certified Air Traffic Controller for tower and radar at NAS Point Mugu, CA.
- Attended A and C Air Traffic Control schools for both land-based and aircraft carrier operations as well as for many leadership and additional Navy requirements
- Fully certified Air Traffic Controller in the Carrier ATC Center aboard forward deployed USS Midway
- Fully certified Air Traffic Controller at both shore and afloat commands

Education

Studied at Embry-Riddle Aeronautical University
Professional Aeronautics, minor in management

Federal Aviation Administration
Completed numerous training courses in all aspects of air traffic control, airports, quality assurance, Safety Management Systems, airspace procedures and implementation and management

Certifications and Accomplishments

- Fully certified Safety Management System (SMS) Practitioner
- Certified Contracting Officers Representative (COR)
- Professional Air Traffic Control Specialist
- Control Tower Operator License

Professional Associations

- 2019-Present: Lawyer-Pilot Bar Association member
- San Diego Regional Aircraft Association
- 2019-Present: City of San Marcos, CA representative for the Palomar Airport Advisory Committee, as appointed by San Diego County Board of Supervisors
- 2019-Present: Alternate on the San Marcos General Plan Committee as appointed by the San Marcos City Council
- 2008-2010: Appointed to Executive Board of Directors FAA Managers Association, Chapter 290

EXISTING DENSITY

ZONE B1
SINGLE-FAMILY UNITS: 304
MULTI-FAMILY UNITS: 188
COMMERCIAL AREA: 113,800 SF.

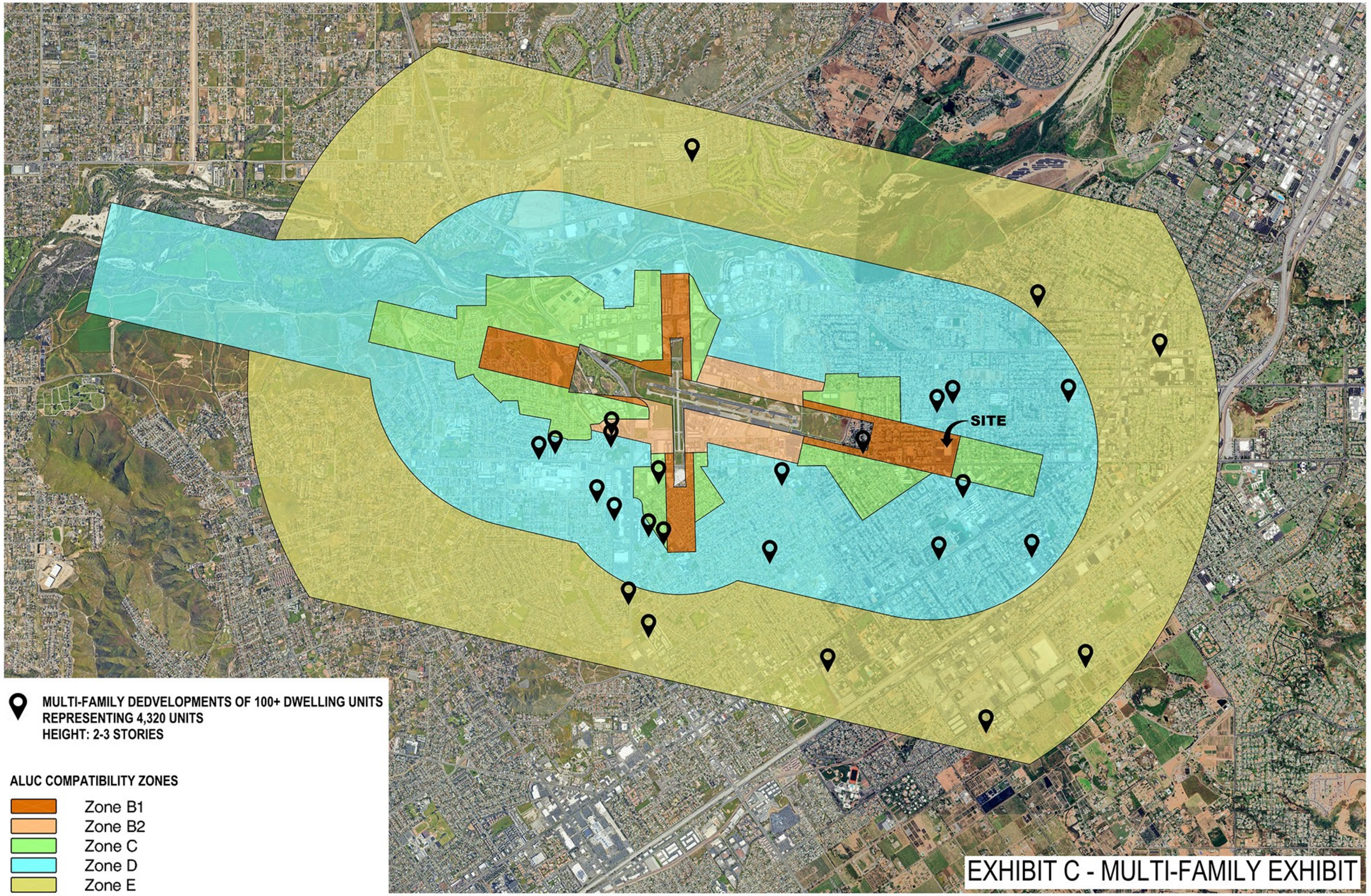
ZONE C
SINGLE-FAMILY UNITS: 844
MULTI-FAMILY UNITS: 27
COMMERCIAL AREA: 200,500 SF.

LEGEND

- R-1-7000 - Single Family Residential
- O - Office
- CR - Commercial Retail
- CG - Commercial General
- R-3-1500 - Multi-Family Residential
- R-3-2000 - Multi-Family Residential
- BMP - Business and Manufacturing Park
- PF - Public Facilities

SITE

EXHIBIT B - EXISTING USES WITHIN B1 AND C ZONES


SITE
MULTI-FAMILY DEDVELOPMENTS OF 100+ DWELLING UNITS
REPRESENTING 4,320 UNITS
HEIGHT: 2-3 STORIES
ALUC COMPATIBILITY ZONES
Zone B1
Zone B2
Zone C
Zone D
Zone E
EXHIBIT C - MULTI-FAMILY EXHIBIT

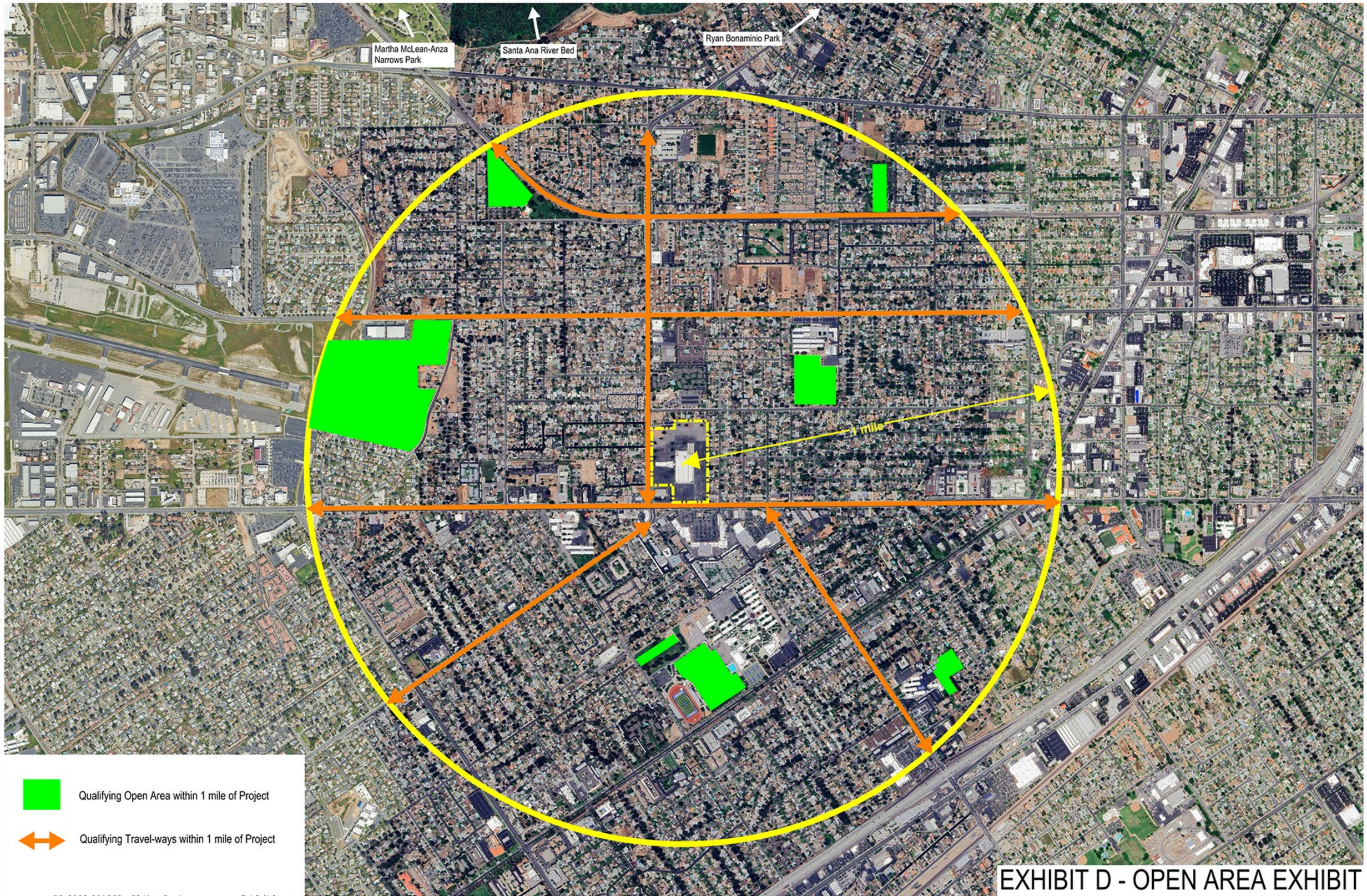


EXHIBIT D - OPEN AREA EXHIBIT