
Appendix J-3

Wildlife Hazard Review



September 23, 2022

sent via email

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1156 North Mountain Avenue
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Subject: Wildlife Hazard Review of the Meridian D1-Gateway Aviation Center at March Air Reserve Base, Riverside County, California

Mr. Collier:

Meridian Park West, LLC (Meridian West) proposes to develop the Meridian D-1 Gateway Aviation Center Project (Project) on property that is under the jurisdiction of the March Joint Powers Authority (JPA) at March Air Reserve Base (ARB). The project would allow for the construction and operation a new air cargo center and taxiway, improvements to existing taxiways (widening and realignment), storm drain extensions, and the construction of new access roads and turn signals along Heacock Street (see **Figures 1 and 2**).

PROJECT LOCATION AND DESCRIPTION

The proposed project is located on property within the Airport Influence Area (AIA) of the March ARB as identified in the Riverside County Airport Land Use Compatibility Plan (ALUCP), which was prepared by the Riverside County Airport Land Use Commission (ALUC) (2014; **Figure 3**). The Plan Area is also addressed in the Air Installation Compatible Use Zones (AICUZ) Study for March ARB that was prepared by the U.S. Air Force (2018; see **Figure 4**).

The project includes two components comprising 58 acres:

- **Air Freight Cargo Center.** An approximately 35-acre gateway air freight cargo center would be located within the March JPA's jurisdiction that would include a cargo building with loading doors, office space, truck positions, and trailer storage positions. A new taxilane (Taxilane J) would provide aircraft access to Taxiway A within March ARB.
- **Airside and Drainage Infrastructure.** A 23-acre component located on property within March ARB and outside of jurisdiction of the March JPA. The 23-acre area within March ARB would be associated with taxiway and taxilane construction, storm drain extensions, and a perimeter patrol road.

As described in a preliminary draft of the proposed Environmental Impact Statement/Environmental Impact Report (EIS/EIR), the following discretionary actions would be required:

- **Zoning Designation/Zoning Plan Amendment.** To be consistent with the current General Plan, a zoning designation Aviation (AV) is requested for the 58-acre project site.
- **Parcel Map and Deed Restrictions.** Parcel map approval is requested to divide the site into two parcels, a Development Area (35 acres) and a Deed-restricted Area (23 acres), which includes a portion of the project site.

- **Plot Plan Approval.** Approval of a plot plan application to enable the construction of the 180,800-square foot cargo building with nine loading doors, taxiway expansion, stormwater facilities, security fence relocation, and roadway improvements including a signalized entrance on Heacock Street.

Several discretionary actions are required by state, local, and federal agencies. The following review was prepared to consider the proposed project's consistency with the ALUCP for the March ARB (2011) policies associated with potentially hazardous wildlife. The proposed project was reviewed to identify its potential to attract potentially hazardous wildlife that could pose risks to aircraft operations.

PROJECT REVIEW AND APPROACH

Constructed or natural areas, such as poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal and some conservation-based land uses, can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Mead & Hunt, Inc. (Mead & Hunt) reviewed the Specific Plan to consider the potential effect of the proposed project to attract potentially hazardous wildlife to March ARB.

Mead & Hunt reviewed information and policies related to the wildlife hazard management set forth in the following documents to consider the potential for the Specific Plan to increase potential wildlife hazards to aircraft operations at March ARB:

- *Riverside County ALUCP*, including countywide policies and specific policies associated with March ARB, and other applicable guidance;
- *Air Installations Compatible Land Use Zone Study for the March ARB (2014)*;
- Guidance set forth by the Federal Aviation Administration (FAA), specifically FAA Advisory Circular (AC) 150/5200-33C, *Wildlife Hazard Attractants On and Near Airports*; and
- Previous studies associated with potentially hazardous wildlife and the Bird/Wildlife Aircraft Strike Hazard (BASH) Plan for March ARB.

To conduct its analysis, Mead & Hunt reviewed the following project-specific materials to consider the project's potential to attract potentially hazardous wildlife to March ARB:

- Sheet A1-1P, Site Plan (revised March 3, 2022)
- Sheet A1-2P, Fence Plan (March 3, 2022)
- Sheet A2-2, Roof Plan (July 24, 2020)
- Conceptual Landscape Plan (revised April 14, 2022)
- Draft EIS/EIR Chapters 1 and, 2, and biological discussions set forth in Sections 3.3.1 through 3.3.5, and 4.6.1.9 (2022)
- Site-specific Water Quality Management Plan (2022).

The review and analysis were prepared under the direction of an FAA-Qualified Airport Wildlife Biologist (QAWB) as set forth by FAA Advisory Circular (AC) 150/5200-36B, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports* (2019).

A. Applicable Wildlife Hazard Management Guidance and Policies

1. FAA Advisory Circular (AC)150/5200-33C, Wildlife Hazards On and Near Airports

The FAA identifies hazardous wildlife as “Species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).” FAA AC 150/5200-33C provides guidance to identify “wildlife attractants,” or certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also addresses airport development projects, including airport construction, expansion, and renovation, affecting aircraft movement near hazardous wildlife attractants. For airports that serve turbine-powered aircraft, the FAA suggests a separation of 10,000 feet between aircraft movement areas and potential wildlife attractants.

Specific wildlife attractants identified by the FAA include vegetation, habitats, and land use practices that can attract wildlife that poses a risk to aviation safety. Such land uses that could be associated with the proposed D-1 project include, but are not limited to:

- **Water management facilities.** Facilities such as stormwater management retention/detention ponds that hold water for more than 48 hours or include emergent and submergent vegetation, artificial marshes, wetlands, wetland mitigation sites, and mitigation banks.
- **Golf courses and landscaping.** The FAA recommends against the construction of new golf courses and also recommends that a QAWB review all landscaping plans based on their geographic location, their ability to produce seeds/fruits/berries, and their potential to provide nesting cover. If a hazardous wildlife attractant is detected, immediate corrective actions should be taken.
- **Structures.** Some structures can attract birds for nesting, roosting, and loafing (e.g., flat rooftops, light posts, towers, etc).

FAA AC 150/5360-13A, *Airport Terminal Planning* (2018), provides guidance on the process of planning airport passenger terminals. Section 9.4.8, Hazardous Wildlife Attractants, refers back to AC 150/5200-33C, stating:

During the planning and design process it is advisable to understand, weigh, and mitigate the potential that facility design may have on attracting wildlife. Changes made to terminal facilities (e.g., architectural treatments, introduction of landscape vegetation, etc.) and adjacent land uses have the potential to attract hazardous wildlife on or near public-use airports. Examples include; exposed beams becoming bird perches or nesting locations, airport landscaping featuring vegetation that attracts wildlife, cell phone lots, TNC and taxi staging areas that could introduce new sources of food waste that can attract hazardous wildlife. For more information see AC 150/5200-33, *Hazardous Wildlife Attractants on or Near Airports*.

This guidance should be considered during the design of the Air Freight Cargo Center.

2. Air Installation Compatible Use Zones Study for March Air Reserve Base

The Air Installation Compatible Use Zone (AICUZ) for March ARB outlines the location of runway clear zones, aircraft accident potential zones, and noise contours and provides recommendations for development compatible with military flight operations. The Air Force Reserve Command provides the study so that local governments can incorporate the study recommendations into community plans, zoning ordinances, subdivision regulations, building codes, and other documents (U.S. Air Force, 2018).

AICUZ Study Section 5.3, Hazards to Aircraft Flight Zones, presents a discussion on BASH:

Wildlife represents a significant hazard to flight operations. Birds, in particular, are drawn to different habitat types found in the airfield environment including hedges, grass, brush, forest, water, and even the warm pavement of the runways. Although most bird and animal strikes do not result in crashes, they cause structural and mechanical damage to aircraft as well as loss of flight time.

To reduce the potential for strike hazards, the Air Force recommends against the development of land uses that attract birds near installations that support an active air operations mission, specifically in clear zones and accidental zones. The land uses are consistent with FAA guidance set forth at 150/5200-C.

3. Riverside County Airport Land Use Compatibility Plan

The Riverside County ALUCP for March ARB identifies specific compatibility zones in which specific lands uses are allowed, conditionally allowed, or prohibited. As Shown in **Figure 2**, Specific Plan Compatibility Zones, the D-1 project area includes portions of ALUCP Compatibility Zones A, B2, and M. Zone M refers to federal lands that remain part of March ARB, and the ALUC has no authority over the land uses that occur in Zone M. A separate review of proposed uses included in this area will be required.

ALUCP Table MA-2, Basic Compatibility Criteria for the March ARB/Inland Port Airport, is presented as **Figure 3**. The table presents site-specific policies for the March AIA. Should conflicts occur between the county-wide policies and the site-specific policies for March ARB, the site-specific policies prevail. ALUCP policies associated with wildlife hazard management and each Compatibility Zone are summarized below:

- **Zone A - Clear Zone.** The Clear Zone limits are derived from the March ARB AICUZ study. Incompatible uses in Zone A include all non-aeronautical structures, assemblages of people, objects that penetrate navigable airspace, and the storage of hazardous materials. In addition, “hazards to flight” as identified in Zone B2 also apply to Zone A. The portion of the proposed project in Zone A appears to coincide with new taxiway/taxilane connections, which are considered aeronautical uses. However, as required by ALUCP Policy 4.3.5, an aviation easement shall be dedicated to the United States of America.
- **Zone B2 - High Noise Zone.** Prohibited uses include “Hazards to flight.” Table MA-2 identifies hazards to flights as:

“Land use development that may cause the attraction of birds to increase is also prohibited. Man-made features must be designed to avoid heightened attraction of birds. In Zones A, B1, and B2, flood control facilities should be designed to hold water for no more than 48 hours following a storm and be completely dry between storms (see FAA Advisory Circular 150/5200-33B). Additionally, certain farm crops and farming practices that tend to attract birds are strongly discouraged. These include certain crops (e.g., rice, barley, oats, wheat – particularly durum – corn, sunflower, clover, berries, cherries, grapes, and apples); farming activities (e.g., tilling and harvesting); confined livestock operations, and fish production....”

B. Plan Review

Mead & Hunt reviewed several plan sheets associated with the proposed Gateway Aviation Center for their consistency with wildlife hazard management guidance and policies included in the documents cited above. Mead & Hunt reviewed the plans for the consistency with policies associated with wildlife hazard management; it did not consider consistency with other compatibility issues, such as noise exposure, overflight, and height restrictions, or other FAA design criteria associated with the location of project components (e.g., setbacks from aircraft movement areas and design criteria). Comments are provided on each sheet reviewed.

1. Schematic Site Plan A1-1P (Date: 3/3/22)

The schematic plan identifies the presence of aircraft parking positions, dock loading positions, a proposed 180,000 square-foot-(SF) structure, and vehicle parking positions. Also included are the proposed location of trash enclosures, fences, and vehicle entrances.

Vehicle Parking Areas

A proposed vehicle parking area is located adjacent to the east side of the Proposed D-1 building, a portion of which is adjacent to aircraft Gate 17. In addition, the southwestern portion of the trailer storage position is adjacent to Aircraft Gate 11. The schematic site plan includes the Standard JPA notes. Note No. 6 states:

6. Full screening of all parking is required by mounding and contouring of landscaped areas, by landscape shrub, by screening wall, or by combination of these techniques.

The use of a full screening by contouring and landscape shrubs, as identified in Note No. 6, is inappropriate, as these areas are adjacent to aircraft parking areas, and they are not visible to the public.

Recommendation:

- Revise the note to indicate that only a screening wall or other non-vegetative boundary is appropriate to screen parking if visual screening is deemed necessary.

Lunch Patio

The proposed plan identifies a small lunch patio on a landscaped area near the office entry. Outdoor break areas are attractive to wildlife based on the presence of food waste or deliberate attempts to feed birds by site users. The lunch patio could be considered a use that may attract birds, as identified in Note 11.C.

Recommendations:

- If possible, move the lunch patio indoors.
- If the lunch patio cannot be moved indoors, include a note on the plan set to state that "The lunch patio shall be equipped with covered trash receptacles that are emptied daily." In addition, the walls adjacent to the lunch patio shall be equipped with a sign that says, "Do not feed birds or other wildlife."

Landscaped Areas

Several areas are shown that are either current or previously used stormwater detention basins or swales, and the plans indicate that the areas will be covered with “non-irrigated hydroseed mix.” Other areas with groundcover are shown. Comments pertaining to the landscape and ground cover are discussed in relation to the Landscape Plan (see item 2).

2. Conceptual Landscape Plan (Date: Revised 4/14/22)

Several recommendations are provided to prevent the attraction of potentially hazardous wildlife and their prey.

Presence of Trees and Shrubs

The proposed Conceptual Landscape Plan identifies landscaped areas within/adjacent to the vehicle and aircraft parking areas. Landscaping in close proximity to aircraft can pose risks to aircraft operations by attracting or providing habitat and by creating foreign object debris (FOD), such as downed leaves, stems, or limbs following wind events. While the reviewer understands landscaped areas are desirable to provide aesthetic effects and shade, the presence of landscaping immediately adjacent to aircraft parking gates may be inappropriate due to the risks associated with wildlife and FOD.

Recommendations:

- **Eliminate all trees and shrubs.** Eliminate all trees and shrubs from the proposed landscape plans due to their potential to create FOD or attract or provide shelter for avian species and their prey, including those within parking lots or identified to provide screening. Hardscapes or fences should be incorporated to provide screening, and weighted umbrellas or awnings can be used to provide shade near the lunch patio if it remains outside.
- **Groundcover.** In the event that groundcover cannot be eliminated adjacent to buildings, it is recommended that small fescue (*festuca microstachys*) be used.
- **Replace landscaping with cobbles.** If possible, use appropriately sized cobbles to armor basin sides rather than plant materials. The cobbles will promote filtration, but they are less likely to attract potentially hazardous wildlife.
- **Non-Irrigated Native Hydroseed Mix.** A hydroseed mixture was identified for the existing basins/swales adjacent to the proposed site. It is unclear whether these areas are existing basins that are associated with the proposed project or existing features that would be disturbed during project construction. Detention basins are known to attract potentially hazardous wildlife. Plant materials that provide food or shelter must be avoided. Nearly all of the species identified in the proposed hydroseed mixture would have the potential to attract hazardous wildlife, with the exception of small fescue.

If cobbles cannot be used, modify the native grass and forbs mix to eliminate food for potentially hazardous wildlife. Of the species identified in the landscape palette provided, only small fescue is considered acceptable. All other species should be eliminated based on their potential to produce seeds that could be attractive to birds or other species.

3. Other Plan Sheets

Mead & Hunt also received copies of the proposed Fence Plan, Floor Plan, and Roof Plan. No comments are offered on these plan sheets at this time.

C. Draft Environmental Impact Statement/Environmental Impact Report

Mead & Hunt reviewed specific portions of the EIS/EIR pertaining to biological species, wetlands, and natural communities to identify whether proposed mitigation measures had the potential to attract potentially hazardous wildlife (Sections 3.3.1 through 3.3.5 and Section 4.6.1.9). Comments are offered on some of these sections.

1. Section 3.3, Biological Environment, and Section 3.3.1, Natural Communities

The introduction to Section 3.3 describes the existing biological resource conditions of the proposed Meridian D-1 Gateway Aviation Center Project (Proposed Action/Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Proposed Action/Project. The section goes on to state that “the analysis within this section involved review of existing biological resources; technical data; and applicable laws, regulations, and guidelines to adequately assess potential impacts to biological resources.”

Recommendations:

- **Section 3.3, Biological Environment (Introduction).** Incorporate a discussion of aviation safety. The introduction to the Chapter should be amended to discuss the potential threat posed by hazardous wildlife to aviation and the overarching issue of safety during aircraft operations. In addition, it should acknowledge how safety considerations are incorporated into proposed mitigation measures.
- **Section 3.3.1, Regional Local Plans.** The discussion of Regional/Local plans should be amended to discuss the BASH Plan for March ARB and applicable policies pertaining to hazardous wildlife attractants set forth in the ALUCP for March ARB and discussed in this review.

2. Section 3.3.2, Wetlands and Other Waters

Section 3.3.2 describes the wetlands and other waters in the D-1 project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Proposed Action/Project. The section concludes that, “Impacts to aquatic resources would be significant and would require mitigation through the purchase of re-establishment credits...or as otherwise determined through consultation with the USACE, RWQCB, and CDFW.” The section states that Mitigation Measure (MM) Bio-5, Jurisdictional Waters Permitting and Regulatory Agency Permitting, would reduce impacts to “less-than adverse” levels.

MM BIO-5 states that mitigation will be conducted through the use of a mitigation bank or other applicant-sponsored mitigation following consultation with agencies, and it states, “should application sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan shall be prepared.... Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity.”

As stated in FAA AC 150/5200-33C, the FAA warns against the creation of new wildlife attractants within 10,000 feet of the aircraft operation area (AOA) for airports that support turbine operations (jets). The creation of new aquatic resources should be appropriately sited to include a 10,000-foot separation from the AOA.

Recommendation:

- MM BIO-5 should be amended to state, “in accordance with FAA Advisory Circular (AC) 150/5200, *Wildlife Hazard Attractants on and Near Airports*, and the ALUCP for March ARB, any off-site applicant-sponsored mitigation shall be located at least 10,000 feet from the aircraft operations area associated with March ARB.

3. Section 3.3.4, Animal Species

Burrowing Owls

Burrowing owls were identified as present in the project area.

- MM-BIO-1A, Burrowing Owl Avoidance and Minimization Measures, states that occupied borrowing owl burrows shall not be disturbed during the breeding season unless a CDFW-approved biologist confirms that it is appropriate to do so. If disturbance is not possible, distance buffers shall be implemented between project activities during both the breeding and non-breeding season.
- MM-BIO-1B, Burrowing Owl Relocation and Mitigation Plan, states that a Burrowing Owl Mitigation Plan shall be prepared to relocate non-breeding burrowing owls from the Project Area if avoidance is not possible.
- MM-BIO-2, Best Management Practices, identifies monitoring requirements and BMPs to avoid impacts to special-status resources and inadvertent disturbance to areas outside the limits of project construction.

The Proposed Action/Project Area includes the construction of new airfield pavements and connections to existing airfield pavements, which should not support the presence of wildlife. The National Wildlife Strike Database confirms that burrowing owls have been struck by aircraft, and this species is prey for coyotes and large avian species, which can pose serious risks to aircraft operations. All burrowing owls identified within the project area should be relocated to a location that is 10,000 feet from the aircraft operations area even if avoidance possible.

Recommendations

- The first sentence of Measure MM-BIO-1B, Burrowing Owl Relocation and Monitoring Plan, should be revised as follows:

~~If avoidance is not possible, either directly or indirectly, a~~ If burrowing owls are identified in the Proposed Action/Project Area, a Burrowing Owl Relocation and Mitigation Plan (Plan) shall be prepared and submitted for approval by the California Department of Fish and Wildlife (CDFW).

- MM-BIO-2, Best Management Practices, identifies eight BMPs to avoid impacts to special status resources and inadvertent disturbance to areas outside the construction limits. The concluding paragraph refers to the use of Landscaping Guidelines of the Resource Management Element of the March JPA and consistency with the March JPA Landscape Water Efficiency Ordinance. The mitigation measure should be amended to include the following:

To avoid the creation of wildlife attractants that could pose risks to aircraft operations and to comply with the ALUCP for March ARB, landscape plans shall be reviewed by an FAA-Qualified Airport Wildlife Biologist.

San Diego Black-Tailed Jackrabbit.

The San Diego Black-Tailed Jackrabbit was identified as occurring in the project area, and MM-BIO-3, San Diego Black Tailed Jackrabbit, provides measures to avoiding impacts during the breeding and non-breeding seasons. The mitigation measure states that “If construction fencing is installed, the contractor shall establish adequate openings within the northern and western fence perimeter to allow for passive dispersal into adjacent undeveloped lands during construction. If unattended young are discovered, they shall be located to a suitable habitat by a qualified biologist.”

Jackrabbits can pose risks to aircraft as they taxi, takeoff, and land, resulting in aircraft damage and animal fatality. In addition, jackrabbits serve as a prey base/food source for coyotes, which can result in aircraft damage and animal fatality in the event of a wildlife strike.

Recommendation:

- Aircraft operations will be ongoing during much of the construction period, and aircraft parking aprons and airfield pavements are located in the southern and western portion of the project area. MM-BIO-2 should be revised to indicate that construction fencing in the western portion of the project area should *not* include openings that would enable wildlife to enter the airfield and aircraft movement areas during project construction.

Nesting Bird Avoidance and Minimization Measures.

MM-BIO-4, Nesting Bird Avoidance and Minimization Measures, seeks to avoid direct impacts to raptors and migratory birds during the breeding season. Raptors and migratory birds can pose hazards to aircraft operations. Airfield operators should be alerted to the presence of bird nests for raptors and other birds observed during project activities so that they can alert aviators and remove nests during the non-breeding season.

Recommendation:

- The second paragraph of MM-BIO-4 should be revised as follows.

If an active nest is found, a qualified avian biologist shall alert the Operations Manager or Wildlife Hazard Manager at March ARB to the presence of the nest to determine whether the nest poses risks to aircraft operations. The biologist shall establish an exclusion buffer, with the established buffer width being dependent on preventing all disruption of nesting behavior and nest activity.

D. Project-Specific Water Quality Management Plan

A *Project-Specific Water Quality Management Plan (WQMP)* was prepared for the D-1 project using the template for projects located within the Santa Ana Watershed Region of Riverside County. The WQMP was prepared to comply with the March JPA, which requires the preparation and implementation of a Project-specific WHMP. The WQMP acknowledges that standing water is not allowed in the Airport Influence Area.

As stated in the WQMP, the proposed development will extend underground culverts to the existing taxiway culverts. Underground culverts equipped with a duplex lift station system and sump pumps allow the tributary off-site run-on to bypass the site. On-site flows will be treated prior to discharge using an underground culvert system.

The WQMP identifies four distinct drainage management areas (DMAs) identified as DMA A through DMA D:

- DMA A and DMA B will drain to an underground detention basin, and the design capture volume (DCV) will be pumped into a wet-vault and modular wetland unit that will outlet and discharge to a modular wetlands system that will treat volume within 24 hours. The modular wetland system is an enclosed vault that will not provide a source of open water.
- DMA C will drain to an underground detention basin in DMA A.
- DMA D is associated with a contaminated soil area, and water quality will be addressed when the site is remediated.
- Landscaped drainage swales will be installed to achieve finish grades that are typically 1 to 2 feet below hardscape features. It is unclear if these swales are the same as the landscaped depressions shown on site plans.

The WQMP also provides standard details for the stormwater biofiltration system prepared by BioClean. The units will be installed adjacent to the Air Freight Cargo Complex structure and require the use of plant media. The elevation view of the structure includes installation notes. Installation note No. 6 states, "Vegetation supplied and installed by others. All units with vegetation must have drip or spray irrigation supplied by others." Such vegetation must be considered in accordance with recommendations identified earlier in association with the proposed landscaping plans.

Comments and Recommendations

The proposed WQMP strives to prevent the creation of standing water in accordance with the ALUCP and FAA guidance pertaining to open water on airports. Some of the proposed features, such as swales and the modular wetland systems will require the use of vegetation to mask open water; however, a list of proposed species is not provided in the plan set. The location of proposed swales in relation to aircraft movement areas is not considered in this review.

- All WQMP drawings that identify the use of landscape features should comply with the comments made in Section B1 and B2 of this letter, including landscaping associated with swales and the underground wetland units.
- Standard note No. 6 associated with the stormwater biofiltration units should be modified as follows:

6. Vegetation to be supplied and installed by others in accordance with site-related landscape and plans to prevent the creation of hazardous wildlife attractants to aviation. Plant materials that are not identified on site-specific landscape plans should be approved by an FAA-Qualified Airport Wildlife Biologist. If necessary, All units with vegetation must have drip or spray irrigation supplied by others." Such vegetation must be considered in accordance with recommendations identified earlier in association with the proposed landscaping plans.

LIMITATIONS ON THIS REVIEW

At the time of this review, neither a project-specific Biological Resources Report nor the Bird Air/Wildlife Strike Hazard (BASH) Report for March ARB was available. Available FAA guidance pertaining to wildlife hazard management was used for the purpose of this analysis. Additional review pertaining to wildlife hazard management and aviation safety must be addressed as part of the EIR analysis.

The reviewer understands that the development of the forthcoming NEPA/CEQA and project plans is ongoing. The comments made in this review should be carried forth into subsequent versions of project plans.

Thank you for this opportunity to review the proposed D-1 facility at March ARB. Should you have any questions, please reach out to me (rick.jones@meadhunt.com) or to Lisa Harmon (lisa.harmon@meadhunt.com) by email or contact Lisa by telephone (916-993-4650).

Sincerely,
MEAD & HUNT INC.

A handwritten signature in black ink, appearing to read "Rick Jones", written in a cursive style.

Rick Jones
FAA-Qualified Airport Wildlife Biologist

Attachments:

Figure 1 – Project Location

Figure 2 – AICUZ for March ARB

Figure 3 – Airport Land Use Compatibility Zones within the Plan Area

Figure 4 – Table MA-2, Basic Compatibility Criteria for the March Air Reserve Base/Inland Port Airport

FIGURE 1 – Project Location

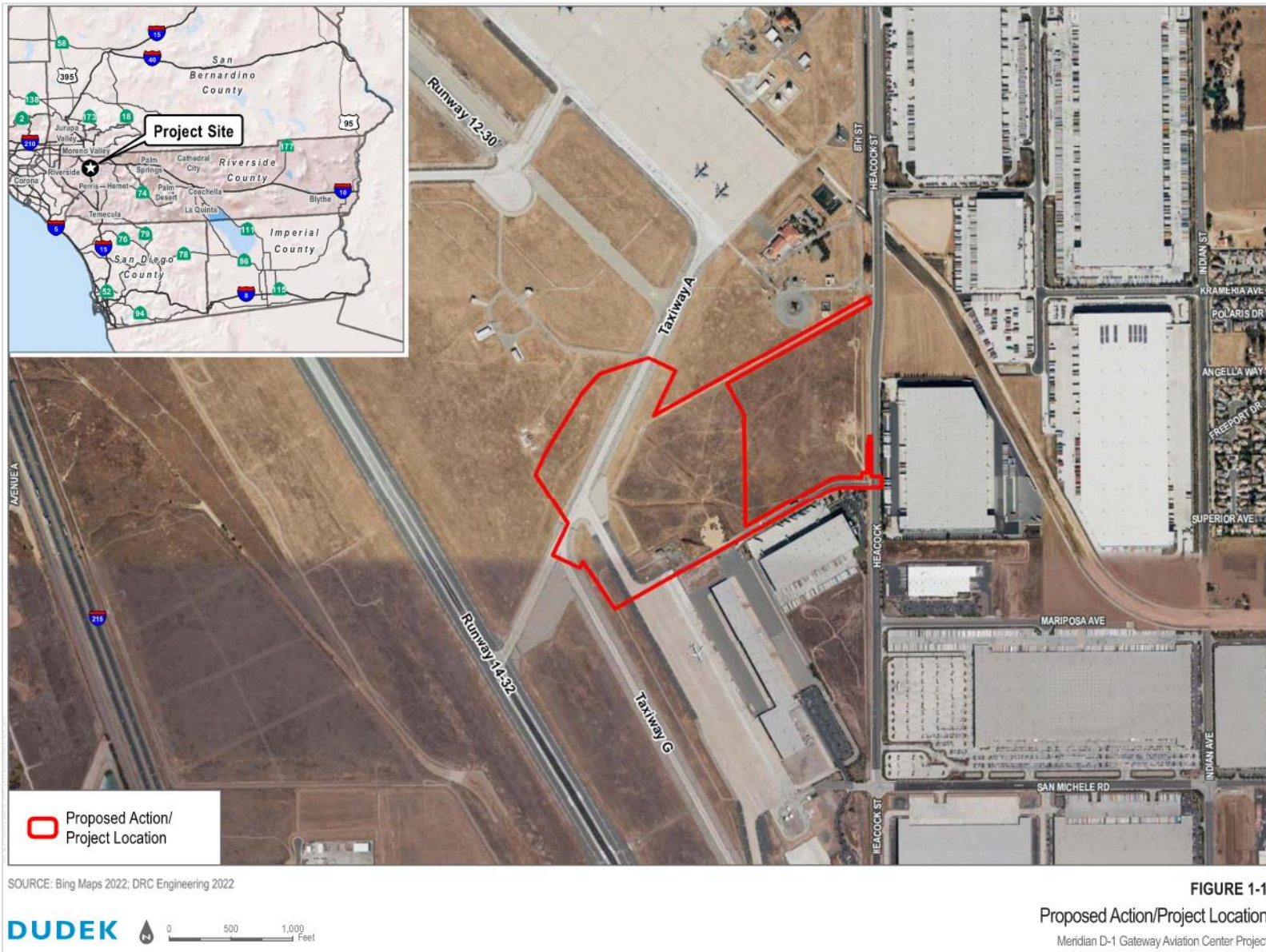


FIGURE 2 – AICUZ for March ARB

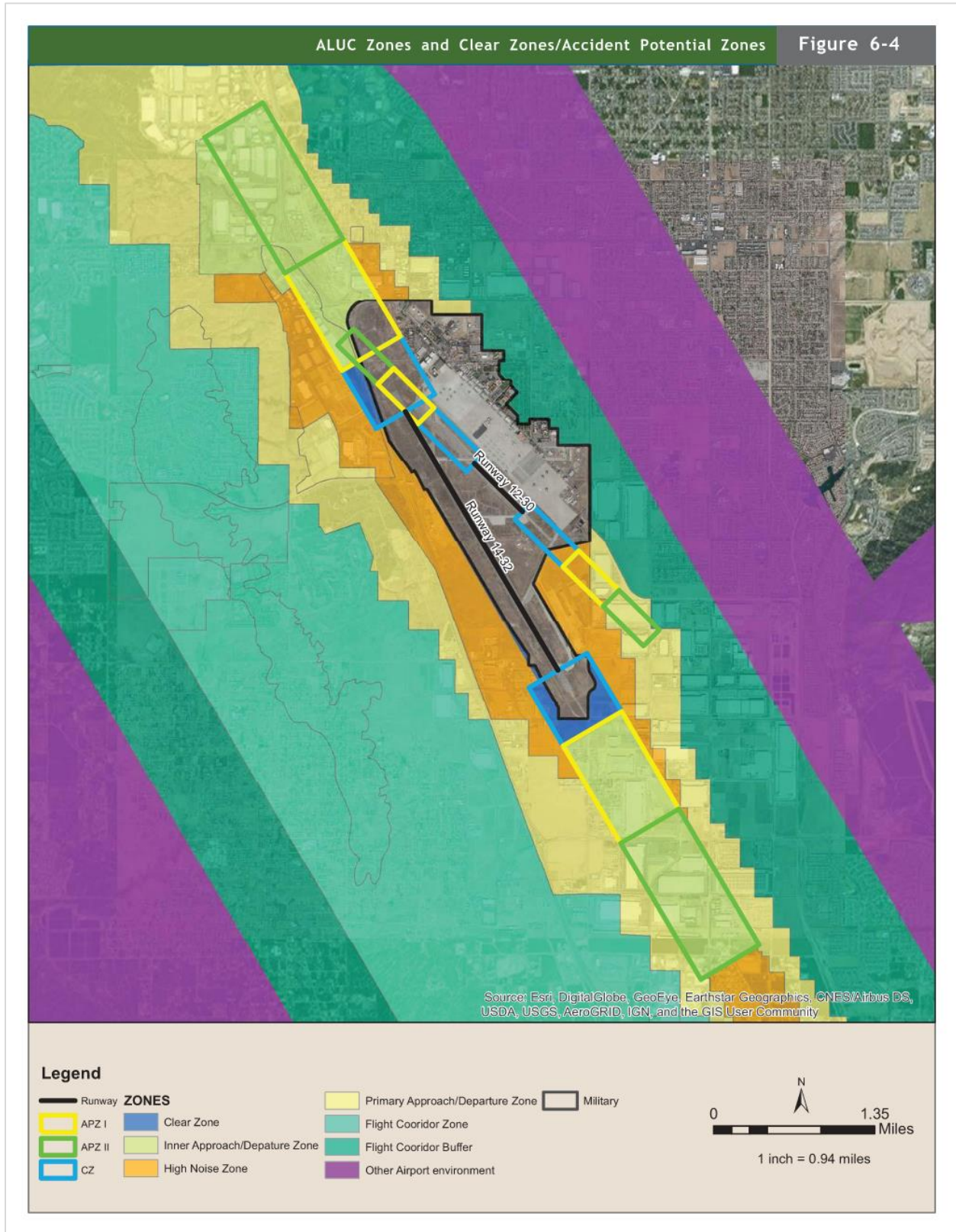


FIGURE 3 – ALUCP Compatibility Zones and Project Location

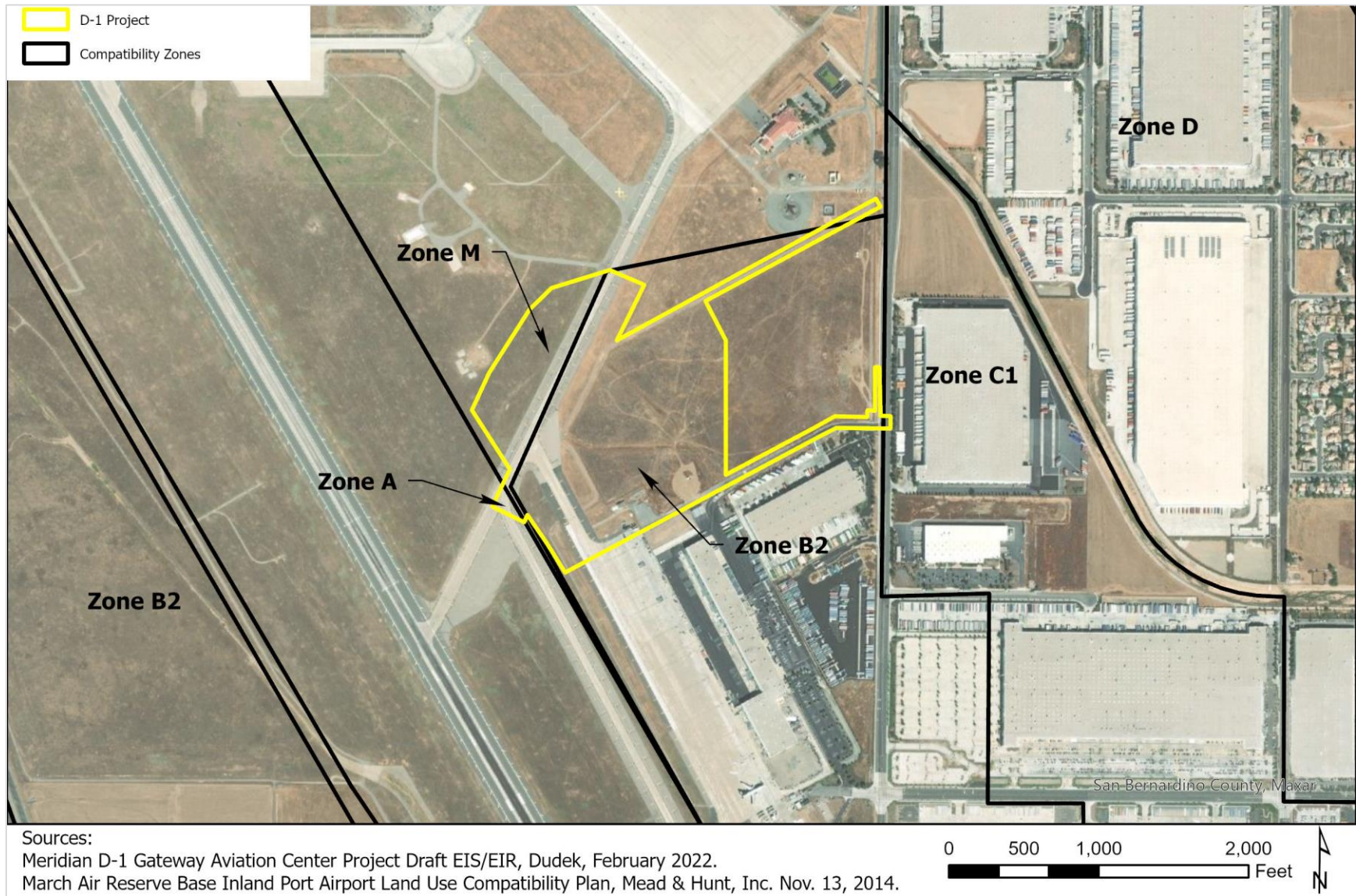


FIGURE 4 – Table MA-2, Basic Compatibility Criteria for the March Air Reserve Base/Inland Port Airport

INDIVIDUAL AIRPORT POLICIES AND COMPATIBILITY MAPS **CHAPTER 3**

Zone	Locations	Density / Intensity Standards				Additional Criteria	
		Residential (d.u./ac) ¹	Other Uses (people/ac) ²		Req'd Open Land	Prohibited Uses ³	Other Development Conditions ⁴
			Average ⁵	Single Acre ⁶			
M	Military					<ul style="list-style-type: none"> › No ALUC authority 	
A	Clear Zone ⁷	No new dwellings allowed	0	0	All Remaining	<ul style="list-style-type: none"> › All non-aeronautical structures › Assemblages of people › Objects exceeding FAR Part 77 height limits › All storage of hazardous materials › Hazards to flight ⁸ 	<ul style="list-style-type: none"> › Electromagnetic radiation notification ⁹ › Avigation easement dedication and disclosure ^{4,7}
B1	Inner Approach/Departure Zone	No new dwellings allowed ¹⁰	25 (APZ I) 50 (APZ II and outside APZs) ¹¹	100	Max. 50% lot coverage within APZs ¹²	<ul style="list-style-type: none"> › Children's schools, day care centers, libraries › Hospitals, congregate care facilities, hotels/motels, restaurants, places of assembly › Bldgs with >1 aboveground habitable floor in APZ I or >2 floors in APZ II and outside of APZs ¹³ › Hazardous materials manufacture/storage ¹⁴ › Noise sensitive outdoor nonresidential uses ¹⁵ › Critical community infrastructure facilities ¹⁶ › Hazards to flight ⁸ › Uses listed in AICUZ as not compatible in APZ I or APZ II ¹⁷ 	<ul style="list-style-type: none"> › Locate structures maximum distance from extended runway centerline › Sound attenuation as necessary to meet interior noise level criteria ¹⁸ › Zoned fire sprinkler systems required › Airspace review req'd for objects >35 ft. tall ¹⁹ › Electromagnetic radiation notification ⁹ › Avigation easement dedication and disclosure ⁴
B2	High Noise Zone	No new dwellings allowed ¹⁰	100	250	No Req't	<ul style="list-style-type: none"> › Children's schools, day care centers, libraries › Hospitals, congregate care facilities, hotels/motels, places of assembly › Bldgs with >3 aboveground habitable floors › Noise-sensitive outdoor nonresidential uses ¹⁵ › Critical community infrastructure facilities ¹⁶ › Hazards to flight ⁸ 	<ul style="list-style-type: none"> › Locate structures max. distance from runway › Sound attenuation as necessary to meet interior noise level criteria ¹⁸ › Aboveground bulk storage of hazardous materials discouraged ^{14,20} › Airspace review req'd for objects >35 ft. tall ¹⁹ › Electromagnetic radiation notification ⁹ › Avigation easement dedication and disclosure ⁴
C1	Primary Approach/Departure Zone	≤ 3.0	100	250	No Req't	<ul style="list-style-type: none"> › Children's schools, day care centers, libraries › Hospitals, congregate care facilities, places of assembly › Noise-sensitive outdoor nonresidential uses ¹⁵ › Hazards to flight ⁸ 	<ul style="list-style-type: none"> › Critical community infrastructure facilities discouraged ^{16,20} › Aboveground bulk storage of hazardous materials discouraged ^{14,20} › Sound attenuation as necessary to meet interior noise level criteria ¹⁸ › Airspace review req'd for objects >70 ft. tall ¹⁹ › Electromagnetic radiation notification ⁹ › Deed notice and disclosure ⁴
C2	Flight Corridor Zone	≤ 6.0	200	500	No Req't	<ul style="list-style-type: none"> › Highly noise-sensitive outdoor nonresidential uses ¹⁵ › Hazards to flight ⁸ 	<ul style="list-style-type: none"> › Children's schools discouraged ²⁰ › Airspace review req'd for objects >70 ft. tall ¹⁹ › Electromagnetic radiation notification ⁹ › Deed notice and disclosure ⁴
D	Flight Corridor Buffer	No Limit	No restriction ²¹		No Req't	<ul style="list-style-type: none"> › Hazards to flight ⁸ 	<ul style="list-style-type: none"> › Major spectator-oriented sports stadium, amphitheaters, concert halls discouraged ²¹ › Electromagnetic radiation notification ⁹ › Deed notice and disclosure ⁴
E	Other Airport Environs	No Limit	No Restriction ²¹		No Req't	<ul style="list-style-type: none"> › Hazards to flight ⁸ 	<ul style="list-style-type: none"> › Disclosure only ⁴
*	High Terrain	Same as Underlying Compatibility Zone			Not Applicable	<ul style="list-style-type: none"> › Hazards to flight ⁸ › Other uses restricted in accordance with criteria for underlying zone 	<ul style="list-style-type: none"> › Airspace review req'd for objects >35 ft. tall ¹⁹ › Avigation easement dedication and disclosure ⁴

Table MA-2

Basic Compatibility Criteria
March Air Reserve Base / Inland Port Airport

FIGURE 4 (Continued)

CHAPTER 3 INDIVIDUAL AIRPORT POLICIES AND COMPATIBILITY MAPS

NOTES:

Policies referenced here are from the *Riverside County Airport Land Use Compatibility Plan* adopted by the Riverside County ALUC for other airports beginning in October 2004. The countywide policies are hereby incorporated into the *March ARB/IPA ALUCP* except as modified or supplemented by the policies in Section MA.2 of this chapter. A complete copy of the *Riverside County Airport Land Use Compatibility Plan* is available on the Riverside County Airport Land Use Commission website at www.rcaluc.org.

- ¹ Residential development must not contain more than the indicated number of dwelling units (excluding secondary units) per gross acre. Clustering of units is encouraged provided that the density is limited to no more than 4.0 times the allowable average density for the zone in which the development is proposed. Gross acreage includes the property at issue plus a share of adjacent roads and any adjacent, permanently dedicated, open lands. Mixed-use development in which residential uses are proposed to be located in conjunction with nonresidential uses in the same or adjoining buildings on the same site shall be treated as nonresidential development for the purposes of usage intensity calculations; that is, the occupants of the residential component must be included in calculating the overall number of occupants on the site. A residential component shall not be permitted as part of a mixed use development in zones where residential uses are indicated as incompatible. See Countywide Policy 3.1.3(d). All existing residential development, regardless of densities, is not subject to ALUC authority.
- ² Usage intensity calculations shall include all people (e.g., employees, customers/visitors, etc.) who may be on the property at a single point in time, whether indoors or outside.
- ³ The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria. See *Riverside County Airport Land Use Compatibility Plan*, Volume 1, Appendix D for a full list of compatibility designations for specific land uses.
- ⁴ As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law. See Countywide Policy 4.4.2 for details. Easement dedication and deed notice requirements indicated for specific compatibility zones apply only to new development and to reuse if discretionary approval is required. Except within Zone A (Clear Zone), aviation easements are to be dedicated to the March Inland Port Airport Authority. See sample language in www.marchipa.com/docs_forms/avigationeasement.pdf. Any aviation easements required within Zone A shall be dedicated to the United States of America.
- ⁵ The total number of people permitted on a project site at any time, except rare special events, must not exceed the indicated usage intensity times the gross acreage of the site. Rare special events are ones (such as an air show at the airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.
- ⁶ Clustering of nonresidential development is permitted. However, no single acre of a project site shall exceed the indicated number of people per acre. See Countywide Policy 4.2.5 for details.
- ⁷ Clear zone (equivalent to runway protection zone at civilian airports) limits that delineate Zone A are derived from locations indicated in the March Air Reserve Base AICUZ study. See Note 4 for avigation easement dedication requirements in this zone.
- ⁸ Hazards to flight include physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development that may cause the attraction of birds to increase is also prohibited. Man-made features must be designed to avoid heightened attraction of birds. In Zones A, B1, and B2, flood control facilities should be designed to hold water for no more than 48 hours following a storm and be completely dry between storms (see FAA Advisory Circular 150/5200-33B). Additionally, certain farm crops and farming practices that tend to attract birds are strongly discouraged. These include: certain crops (e.g., rice, barley, oats, wheat – particularly durum – corn, sunflower, clover, berries, cherries, grapes, and apples); farming activities (e.g., tilling and harvesting); confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg-laying operations); and various farming practices (e.g., livestock feed, water, and manure). Fish production (i.e., catfish, trout) conducted outside of fully enclosed buildings may require mitigation measures (e.g., netting of outdoor ponds, providing covered structures) to prevent bird attraction. Also see Countywide Policy 4.3.7.
- ⁹ March ARB must be notified of any land use having an electromagnetic radiation component to assess whether a potential conflict with Air Base radio communications could result. Sources of electromagnetic radiation include microwave transmission in conjunction with a cellular tower, radio wave transmission in conjunction with remote equipment inclusive of irrigation controllers and other similar EMR emissions.
- ¹⁰ Other than in Zone A, construction of a single-family home, including a second unit as defined by state law, on a legal lot of record is exempted from this restriction where such use is permitted by local land use regulations. Interior noise level standards and avigation easement requirements for the compatibility zone in which the dwelling is to be located are to be applied.
- ¹¹ Non-residential uses are limited to 25 people per gross acre in Accident Potential Zone (APZ) I and 50 people per acre in APZ II and elsewhere in Zone B1. Single-acre intensity limits are 100 people/acre throughout Zone B1.
- ¹² In APZ I, any proposed development having more than 20% lot coverage must not provide on-site services to the public. Zoned fire sprinklers are required. Also, in APZ I, site design of proposed development should to the extent possible avoid placement of buildings within 100 feet of the ex-

Table MA-2, continued

FIGURE 4 (Continued)

<p>tended runway centerline; this center strip should be devoted to parking, landscaping, and outdoor storage. Maximum lot coverage is not limited outside the APZs.</p> <p>¹³ Within APZ II and outside APZs, two-story buildings are allowed.</p> <p>¹⁴ Storage of aviation fuel and other aviation-related flammable materials on the airport is exempted from this criterion. In APZ I, manufacture or bulk storage of hazardous materials (toxic, explosive, corrosive) is prohibited unless storage is underground; small quantities of materials may be stored for use on site. In APZ II and elsewhere within Zone B1, aboveground storage of more than 6,000 gallons of nonaviation flammable materials per tank is prohibited. In Zones B2 and C1, aboveground storage of more than 6,000 gallons of hazardous or flammable materials per tank is discouraged.</p> <p>¹⁵ Examples of noise-sensitive outdoor nonresidential uses that should be prohibited include major spectator-oriented sports stadiums, amphitheaters, concert halls and drive-in theaters. Caution should be exercised with respect to uses such as poultry farms and nature preserves.</p> <p>¹⁶ Critical community facilities include power plants, electrical substations, and public communications facilities. See Countywide Policy 4.2.3(d).</p> <p>¹⁷ For properties in either APZ I or II, any use listed as "N – not compatible" for that particular APZ in Table 3-1 of the 2005 <i>Air Installation Compatible Use Zone Study for March Air Reserve Base</i>. Beyond the boundaries of the APZs in Zone B1, such uses are discouraged, but not necessarily prohibited unless otherwise specified herein.</p> <p>¹⁸ All new residences, schools, libraries, museums, hotels and motels, hospitals and nursing homes, places of worship, and other noise-sensitive uses must have sound attenuation features incorporated into the structures sufficient to reduce interior noise levels from exterior aviation-related sources to no more than CNEL 40 dB. This requirement is intended to reduce the disruptiveness of loud individual aircraft noise events upon uses in this zone and represents a higher standard than the CNEL 45 dB standard set by state and local regulations and countywide ALLUC policy. Office space must have sound attenuation features sufficient to reduce the exterior aviation-related noise level to no more than CNEL 45 dB. To ensure compliance with these criteria, an acoustical study shall be required to be completed for any development proposed to be situated where the aviation-related noise exposure is more than 20 dB above the interior standard (e.g., within the CNEL 60 dB contour where the interior standard is CNEL 40 dB). Standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior standard is 20 dB or less.</p> <p>¹⁹ This height criterion is for general guidance. Airspace review requirements are determined on a site-specific basis in accordance with Part 77 of the Federal Aviation Regulations. Shorter objects normally will not be airspace obstructions unless situated at a ground elevation well above that of the airport. Taller objects may be acceptable if determined not to be obstructions. The Federal Aviation Administration or California Department of Transportation Division of Aeronautics may require marking and/or lighting of certain objects. See Countywide Policies 4.3.4 and 4.3.6 for additional information.</p> <p>²⁰ Discouraged uses should generally not be permitted unless no feasible alternative is available.</p> <p>²¹ Although no explicit upper limit on usage intensity is defined for <i>Zone D and E</i>, land uses of the types listed—uses that attract very high concentrations of people in confined areas—are discouraged in locations below or near the principal arrival and departure flight tracks.</p>

Table MA-2, continued

