

## **Appendix B**

# **ENVIRONMENTAL OVERVIEW**

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A review of the potential environmental impacts associated with proposed airport projects is an essential consideration in the Airport Master Plan process. The primary purpose of this section is to review the proposed improvement program at Ryan Airfield to determine whether the proposed actions could, individually or collectively, have the potential to significantly affect the quality of the environment. The information contained in this section was obtained from previous studies, various internet websites, and analysis by the consultant.

Construction of the improvements depicted on the Airport Layout Plan will require compliance with the *National Environmental Policy Act (NEPA) of 1969*, as amended, to receive federal financial assistance. For projects not “categorically excluded” under FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, compliance with NEPA is generally satisfied through the preparation of an Environmental Assessment (EA). In instances in which significant environmental impacts are expected, an Environmental Impact Statement (EIS) may be required. While this portion of the Master Plan is not designed to satisfy the NEPA requirements for a categorical exclusion, EA, or EIS, it is intended to supply a preliminary review of environmental issues that would need to be analyzed in more detail within the NEPA process. This evaluation considers all environmental categories required for the NEPA process as outlined in FAA Order 1050.1E and Order 5050.4B, *National Environmental Policy Act (NEPA) Implementation Instructions for Airport Actions*.

## **ENVIRONMENTAL ANALYSIS**

FAA Orders 1050.1E and 5050.4B contain a list of the environmental categories to be evaluated for airport projects. Of the 20 plus environmental categories, the following resources are not found within the airport environs:

- Coastal Resources
- Environmental Justice Areas and Children's Environmental Health Risks
- Farmlands
- Wetlands
- Wild and Scenic Rivers

The following sections describe potential impacts to resources present within the airport environs. These resources were described in detail within Chapter One of this study.

## **AIR QUALITY**

According to the most recent update contained on the EPA's Greenbook website, Pima County is currently in attainment for all criteria pollutants. The *2008 Revision to the Carbon Monoxide Limited Maintenance Plan for the Tucson Air Planning Area* prepared by Pima Association of Governments (PAG), states that the Tucson Air Planning Area (TAPA) has been an active limited maintenance plan area for Carbon Monoxide (CO) since July 10, 2000.

A number of projects planned at the airport could have temporary air quality impacts during construction. Emissions from the operation of construction vehicles and fugitive dust from pavement removal are common air pollutants during construction. However, with the use of best management practices (BMPs) during construction, these air quality impacts can be significantly lessened. Local construction permits will need to be acquired prior to the commencing of any construction project.

## **COMPATIBLE LAND USE**

According to the Pima County Assessor's office (May 2007), the area surrounding the airport is designated for commercial use or vacant. These land use designations are both considered compatible land uses. The vast majority of surrounding land is privately owned. The City of Tucson owns a parcel to the northwest of the airport, the State of Arizona owns land to the east, and two parcels south of the airport are owned by the federal government. The land proposed for acquisition in this master plan along the northern boundary of airport property is privately owned.

## **CONSTRUCTION IMPACTS**

Construction impacts typically relate to the effects on specific impact categories, such as air quality, water quality, or noise, during construction. The use of BMPs during construction is typically a requirement of construction-related permits such as an NPDES (AZDES) permit. Use of these measures typically alleviates potential resource impacts.

Short-term construction-related noise impacts should be minimal as land immediately adjacent to the airport is primarily vacant. Also, these impacts typically do not arise unless construction is being undertaken during early morning, evening, or nighttime hours.

Construction-related air and water quality impacts can also be expected. Air emissions related to construction activities will be short-term in nature and will be included in air emissions inventories prepared prior to project implementation as requested by the FAA. The most common type of air pollution related to construction is fugitive dust. The Activity Permit Program, monitored by the Pima County Department of Environmental Quality (PDEQ), ensures that individuals are aware of fugitive dust emissions regulations and requires them to provide information regarding the location and types of activities prior to construction.

In regards to water quality, the Tucson Airport Authority (TAA) has prepared a general Storm Water Pollution Prevention Plan (SWPPP) for construction activities dated May 2008. The TAA SWPPP sets minimum standards to comply with the AZPDES General Permit based on FAA Advisory Circular 150/5320-15 *Storm Water Management for Construction Activities* dated September 1992. For any development project at the airport, it is the responsibility of the contractor to prepare a Site Specific SWPPP which identifies all BMPs that are necessary to ensure compliance with the TAA's SWPPP and general permit provisions.

## **SECTION 4(f) PROPERTIES**

As described within Chapter One, previous coordination with the Pima County Parks and Recreation Department expressed concern regarding Vahalla Regional Park located approximately 2.5 miles southeast of the airport. The Arizona State Parks Department has also previously expressed concern regarding air traffic over the San Xavier Del Bac Mission, which is located on the National Register of Historic Places. The mission is located eight miles southeast of the airport. An 80-acre baseball diamond park is planned to be developed approximately one mile to the east of the airfield. During the anticipated NEPA analysis for the runway development projects, coordination should be undertaken with the appropriate agencies to assess potential project concerns.

## FISH, WILDLIFE, AND PLANTS

**Table B1** lists the threatened, endangered, and candidate species with the potential to occur in Pima County.

<b>TABLE B1 Threatened or Endangered Species in Pima County, Arizona</b>	
<b>Species</b>	<b>Federal Status</b>
California brown pelican	Endangered
Chiricahua leopard frog	Threatened
Desert pupfish	Endangered
Gila chub	Endangered
Gila topminnow	Endangered
Huachua water umbel	Endangered
Jaguar	Endangered
Kearney blue star	Endangered
Lesser long-nosed bat	Endangered
Masked bobwhite	Endangered
Mexican spotted owl	Threatened
Nichol Turk's head cactus	Endangered
Ocelot	Endangered
Pima pineapple cactus	Endangered
Sonoran pronghorn	Endangered
Southwestern willow flycatcher	Endangered
Acuna cactus	Candidate
Sonoyta mud turtle	Candidate
Yellow-billed cuckoo	Candidate

Source: FWS online listed species database, November 2007

As discussed in Chapter One, the Arizona Heritage Data Management System online environmental review tool indicates that the Pima Pineapple Cactus, a federally listed species, has a recorded occurrence within three miles of the airport. It has also been indicated that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of the airport. Previously conducted surveys failed to locate any significant or sensitive habitat or threatened or endangered species. However, prior to development in previously undisturbed areas, field surveys will likely be needed. Surveys will likely be required prior to construction of Runway 6L-24R as well as the planned extensions to the existing runway systems. The development of new apron and hangar facilities may also be required prior to construction. Survey results should be communicated to the U.S. Fish and Wildlife Service and the Arizona Fish and Game Department.

A majority of the County's threatened or endangered species rely on riparian habitats for survival. Riparian habitats are rare areas that provide flood controls, habitats for fish and wildlife, and irrigation water. More recently they have been uti-

lized for urbanization water needs. In a January 2003 report prepared by the Pima Association of Governments (PAG), *Riparian Areas: Regulatory Controls in Eastern Pima County*, riparian areas can fall within the following categories:

- “Flood control features with very little vegetation;
- Dual purpose washes that convey storm water but also contain some natural elements;
- Effluent-based systems, such as those downstream from the wastewater outfalls;
- Outlying rural washes, with little direct impact from urbanization, but that still receive indirect impacts; and
- A few unique waters that include a lot of critical elements such as perennial groundwater, shallow groundwater, and unique vegetation communities. The San Pedro River, Honey Bee Canyon, Cienega Creek, and the west branch of the Santa Cruz are examples of these somewhat pristine watercourses.”

Pima County adopted the *Sonoran Desert Conservation Plan* in 2001 to establish a plan to protect and enhance these riparian areas. Ryan Airfield is located within a riparian restoration/rehabilitation area as identified on **Exhibit B1**. Analysis and coordination with Pima County will need to be undertaken to determine impacts of airport improvement projects on any riparian areas located in the vicinity of the airport.

## **HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE**

According to the Environmental Protection Agency’s (EPA) National Priorities List (NPL), there are no active Superfund sites located in the vicinity of the airport.

The airport will need to continue to comply with an Arizona Pollution Discharge Elimination System (AZPDES) permit, which will ensure that pollution control measures are in place at the airport. As development occurs at the airport, the permit will need to be modified to reflect the additional impervious surfaces and stormwater retention facilities. The addition and removal of impervious surfaces may require modifications to this permit should drainage patterns be modified.

As a result of increased operations at the airport, solid waste will slightly increase; however, these increases are not anticipated to be significant.

Prior to the acquisition of the parcels north of the airport, a Phase I Environmental Due Diligence Audit (EDDA) will likely be requested by the FAA as part of the NEPA documentation.

Ryan Airfield was once the site of a City of Tucson landfill that was used from 1973 to 1977. The closed 15 acre landfill site, identified on **Exhibit B2**, has a groundwater depth of 300 feet and is located in the area of proposed developments. Coordination with the City will be needed prior to the development of these areas.

## **HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES**

Previous studies completed at the airport did not identify the presence of any historic, prehistoric, or isolated artifact. However, a 1990 Environmental Assessment for Proposed Development at Ryan Airfield indicated that the airport is located in an area where significant cultural resources might be located. It is anticipated that field surveys will be needed for previously undisturbed areas prior to development. These surveys would typically be undertaken during the NEPA documentation processes. Coordination with the State Historic Preservation Office is required prior to project implementation.

## **LIGHT EMISSIONS AND VISUAL IMPACTS**

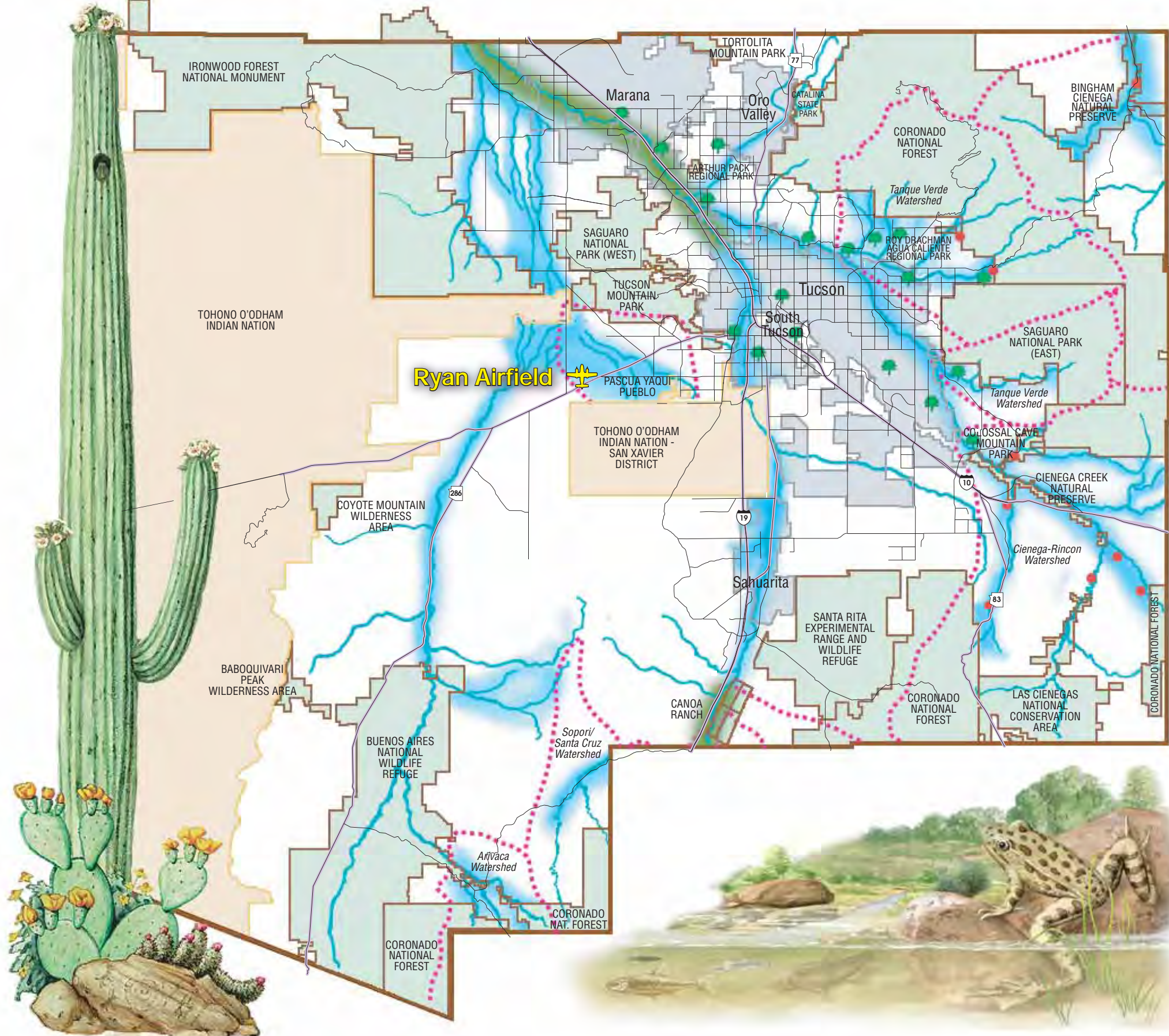
Airside development will include a 2,800-foot extension to Runway 6R-24L, a 105-foot extension to Runway 6L-24R, an 800-foot extension to Runway 15-33, and the installation of medium intensity approach lighting systems (MALSR) at each end of Runway 6R-24L. The runway extensions will result in the extension of runway and taxiway lighting.

Landside development at the airport will create new hangar space, aviation-use revenue support parcels, relocated segmented circle/lighted wind sock, and an airport perimeter service road.






Construction of these proposed facilities will introduce new light emissions, resulting in an increase of light emissions from the airport. Due to the airport's relatively remote location, light and visual impacts are not anticipated.

## **NATURAL RESOURCES AND ENERGY SUPPLY**

Increased use of energy and natural resources are anticipated as the operations at the airport grow. None of the planned development projects are anticipated to result in significant increases in energy consumption.

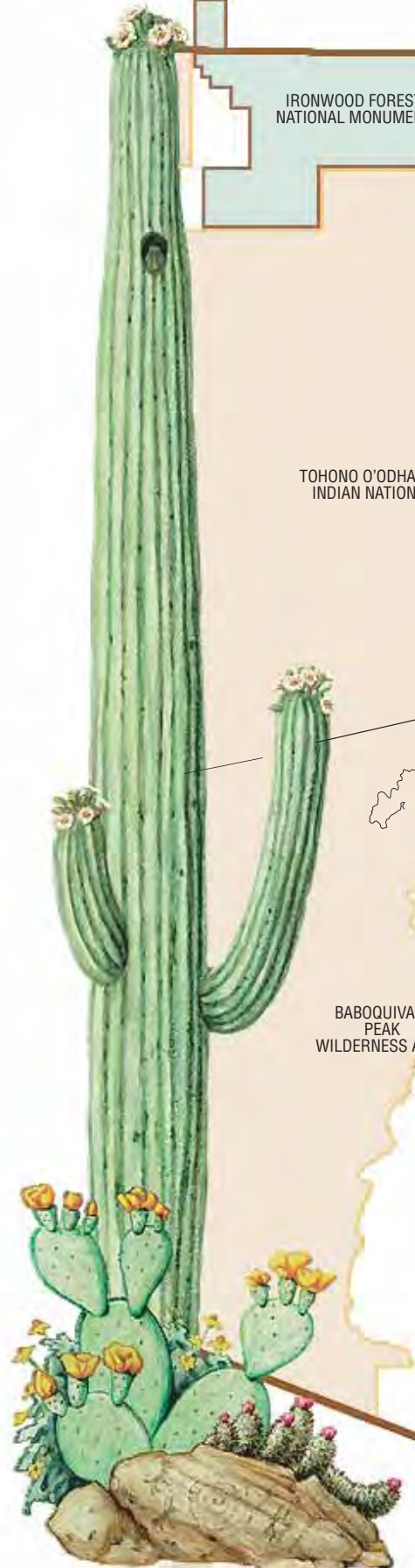


### LEGEND

-  Riparian Restoration/Rehabilitation
-  Effluent-Based Riparian Projects
-  Springs
-  Other Projects or Studies
-  Watershed Boundary

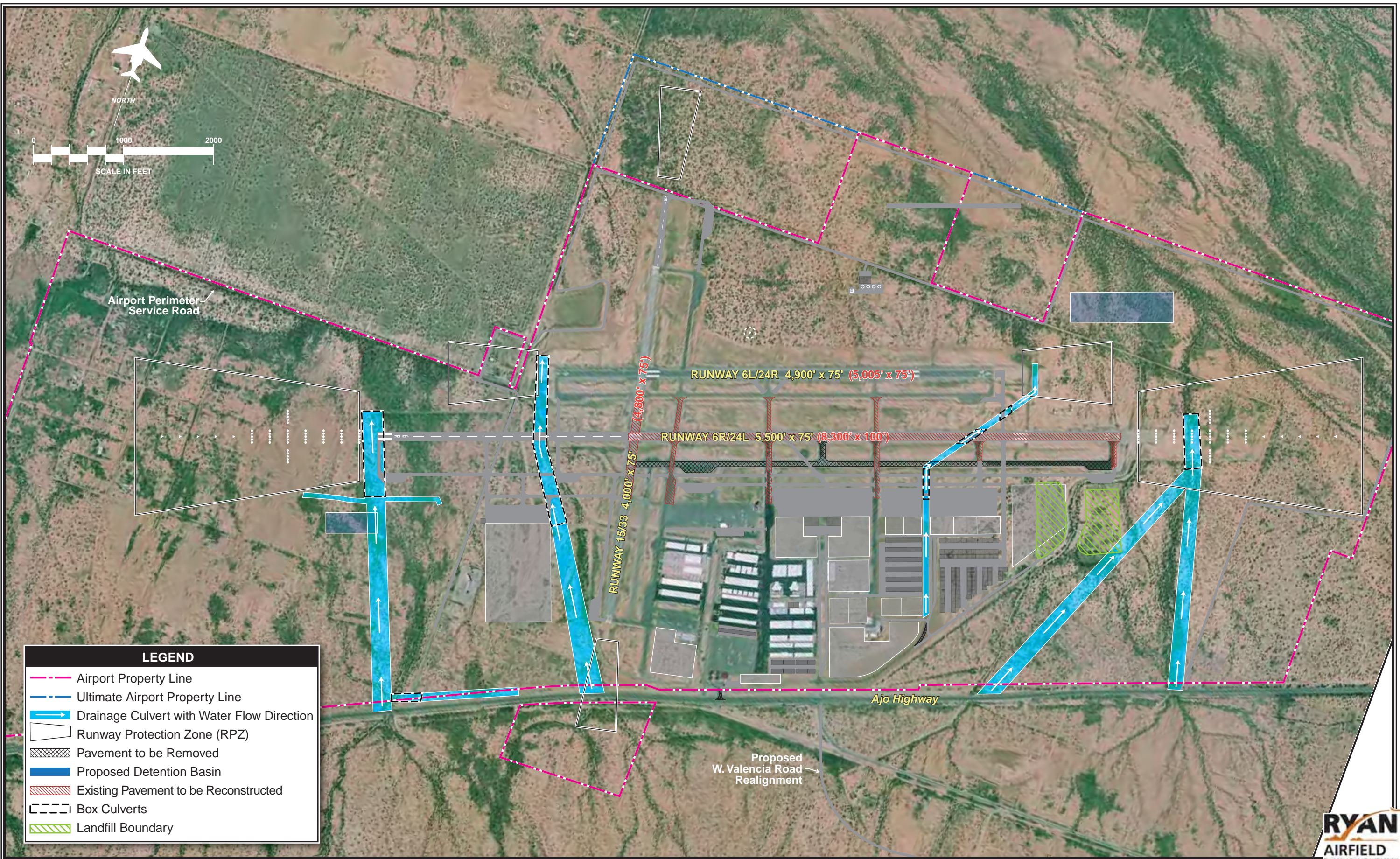


NOT TO SCALE



SOURCE: Sonoran Desert Conservation Plan, 2001







## **NOISE**

An airport's compatibility with surrounding land uses is usually associated with the extent of the airport's noise contours. Airport projects such as those needed to accommodate fleet mix changes, an increase in operations at the airport, or air traffic changes are examples of activities which can alter noise impacts and affect surrounding land uses. The 2008 noise exposure contours for Ryan Airfield are shown on **Exhibit B3**. As shown on the exhibit the 65 DNL noise contour remains largely on airport property. The contour extends off airport property north of the approach end to Runway 24R, over an area that is currently undeveloped. The contour also extends off airport property to the west of the approach end to Runway 6L, over an area owned by the City of Tucson that is not planned for noise-sensitive land uses.

**Exhibit B4** depicts the 2027 noise exposure contours for the airport. As shown on the exhibit the noise contours continue to remain largely on airport property. The portions of the contour that extend beyond current airport property are over areas planned to be acquired for airport uses. To the west of the airport the contour extends over property owned by the City of Tucson that is not planned for noise-sensitive land uses. The circular shaped portion of the noise contours located north of Runway 6L-24R results from a planned helipad and helicopter training touch-down and lift-off (TLOF) area in that location. Additional information regarding the development of the noise exposure contours can be found in **Appendix C** of this document.

## **SECONDARY (INDUCED) IMPACTS**

Significant shifts in patterns of population movement or growth or public service demands are not anticipated as a result of the proposed development. It could be expected, however, that the proposed development would potentially induce positive socioeconomic impacts for the community over a period of years. The airport, with expanded facilities and services, would be expected to attract additional users. It is also expected to encourage tourism, industry, and trade and to enhance the future growth and expansion of the community's economic base. Future socioeconomic impacts resulting from the proposed development are anticipated to be primarily positive in nature.

## **SOCIOECONOMIC IMPACTS**

The proposed project includes the acquisition of two parcels of land totaling approximately 119.3 acres located along the northern boundary of the existing property line. These parcels would be acquired to accommodate the extension to Runway 15 and its runway protection zone (RPZ), the potential construction of a third parallel

runway, and the construction of an airport perimeter service road. The acquisition will not include the relocation of residents or businesses. The airport perimeter service road will be located entirely on airport property and will not be accessible to the public.

## **WATER QUALITY**

The airport will need to continue to comply with an AZPDES operations permit. With regard to construction activities, the airport and all applicable contractors will need to obtain and comply with the requirements and procedures of the construction-related AZPDES General Permit number AZG2003-001, including the preparation of a *Notice of Intent* and a *SWPPP*, prior to the initiation of product construction activities.

As development occurs at the airport, the AZPDES permit will need to be modified to reflect the additional impervious surfaces and any stormwater retention facilities. The addition and removal of impervious surfaces may require modifications to this permit should drainage patterns be modified.

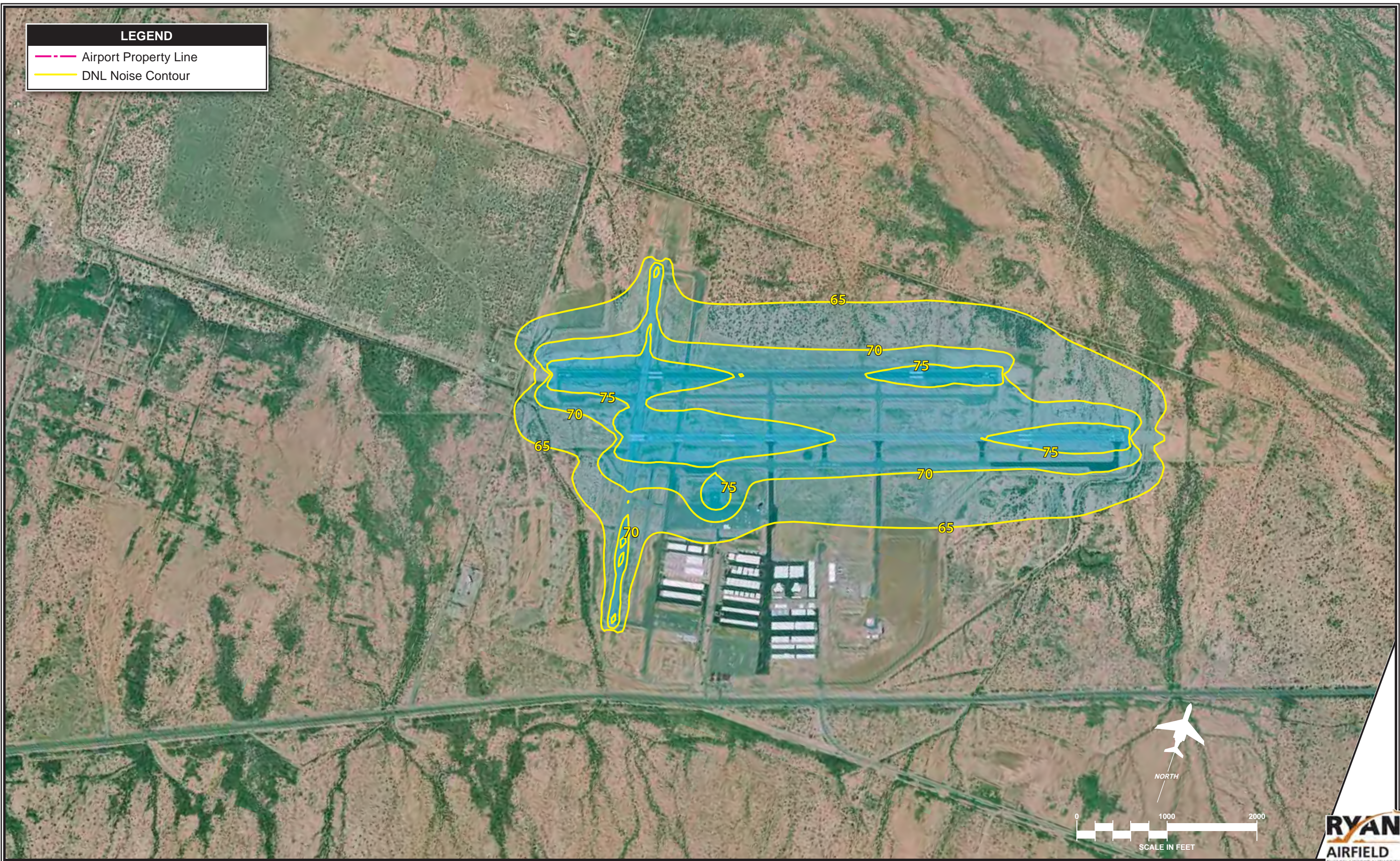
A review of the aerial photography for the airport indicates the presence of a number of washes within the planned development area. Specifically, potential washes are located within the proposed MALSR area for Runway 24L as well as the western portions of airport property, which contain the proposed Runway 6R-24L runway extensions, taxiway projects, and apron and future airport building locations. Along with these development projects are plans to improve drainage throughout the airport. The 2006 Ryan Airfield drainage master plan addressed many drainage improvements and analyzed their impact on the existing washes. This Master Plan proposes additional improvements, which are depicted on **Exhibit B2** and combined with the recommended improvements from the drainage master plan. Additional study will need to be undertaken during preliminary design to determine the impact of these drainage improvements on the existing washes. Disturbance of these areas may require the issuance of a Section 404 Permit from the U.S. Army Corps of Engineers. Prior to development, field surveys should be undertaken to delineate potential jurisdictional areas.

## **FLOODPLAINS**

According to the most recent Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Ryan Airfield is located within a Special Flood Hazard Area (100-year floodplain). An existing earthen levee west of the airfield confines 100-year flow from a tributary to the Black Wash. However this levee does not have the freeboard required by FEMA standards and is not certified per FEMA

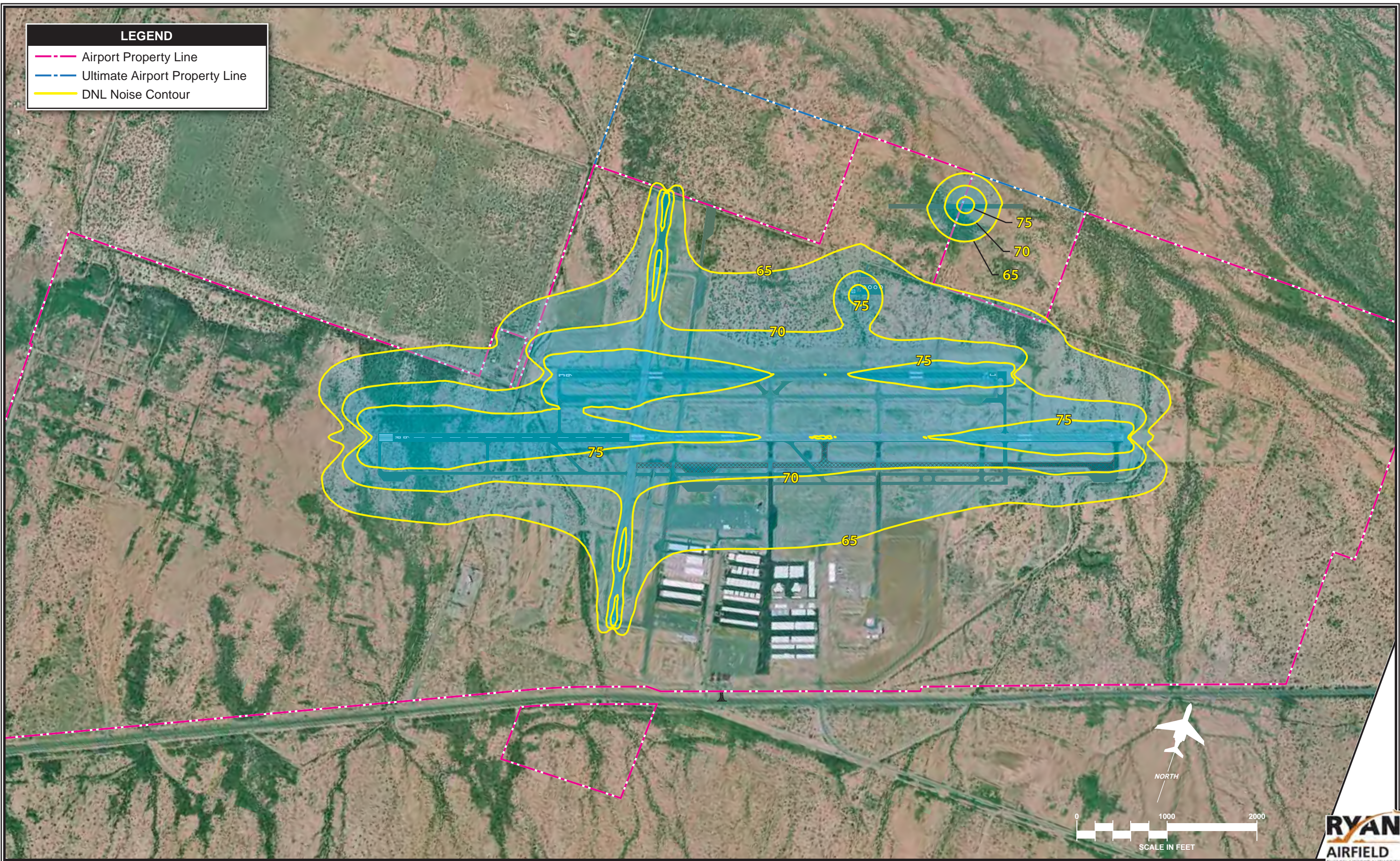
**LEGEND**

- Airport Property Line
- DNL Noise Contour



**LEGEND**

- Airport Property Line
- Ultimate Airport Property Line
- DNL Noise Contour



standards. An uncertified levee is assumed to fail by FEMA standards and therefore, the 100-year floodplain would extend within the adjacent airport related development areas and airfield operations areas and flow north into the airfield. For this reason, a new levee is required at Ryan Airfield to contain the 100-year flow from the tributary of the Black Wash. The Ryan Airfield Airport-Wide Basin Study Update (March 20, 2006) identifies a new alignment for this levee, approximately 600 ft. east of the existing levee. Once construction plans are developed for the levee, a Conditional Letter of Map Revision (CLOMR) could be process with FEMA to conditionally revise the floodplain for the tributary wash. Subsequent to approval of the CLOMR, and construction of the levee and associated low flow channel, a final Letter of Map Revision (LOMR) may be pursued.