



View of tanks located near runway

6.1 INTRODUCTION

The purpose of this environmental evaluation is to identify potential adverse environmental impacts, which may be related to the continued operation and maintenance of the Bagdad Airport. In accordance with FAA guidelines, this environmental evaluation considers twenty specific impact categories, ranging from noise to construction impacts. These categories have been adapted from FAA Order 5050.4A, the Airport Environmental Handbook (FAA, 1985). These subjects must be addressed in any project that involves any of the following:

- Airport location
- New runway
- Major runway extension
- Runway strengthening creating specific noise conditions within specified boundaries
- Major change of entrance or access roads
- Land acquisition
- Establishment or relocation of an instrument landing system, or an approach lighting system
- Development involving historic sites, Section 4(f) land, farmland, wetlands, coastal zones, floodplains, or endangered or threatened species

Under the current Master Plan Update, the following actions are contemplated or recommended for the Bagdad Airport:

Airside

- Maintain Runway 5/23 at its current dimensions
- Reconstruct 600' of Runway 05 upgrading it to meet FAA profile standards
- Overlay runway, taxiway exits, and aircraft apron
- Upgrade the Medium Intensity Runway Lighting system
- Add Runway End Identification Lights (REILs) to Runway 05
- Evaluate need for GPS approach system
- Paint additional markings on the taxiways and aircraft apron areas

Landside

- Expand the main aircraft apron area to the west, adding 2 new aircraft spaces
- Construct a 200-square foot Terminal Building containing a restroom, telephone, drinking water, and storage space.
- Upgrade utilities and install proper electrical lines, portable sewage system, and telephone line(s)
- Relocate and upgrade existing fencing and install additional signage

6.2 ENVIRONMENTAL EVALUATION CATEGORIES

6.2.1 Noise

The Bagdad Airport is classified as a utility airport, which currently bases 14 privately owned aircraft belonging to Design Group I. Total operations for 1996, the most recent year for which statistical data is available, were 2,800. Projected total operations for the year 2001 are 3,000. Projected total annual operations do not exceed 3,200 for the years 2006 to 2017.

According to FAA Order 5050.4A (Airport Environmental Handbook, p. 28), no noise analysis is needed for proposals involving Design Group I and II airplanes on utility or transport type airports whose forecast operations in the period covered by the environmental assessment do not exceed 90,000 adjusted propeller operations or 700 annual adjusted jet operations. These numbers of propeller aircraft operations result in cumulative noise levels, which do not exceed 60 DNL more than 5,500 feet from start of takeoff roll or 65 DNL on the runway itself.

There are no non-airport related activities present on the site or within the airport boundaries. The closest residential development to the airport is located approximately 1,200 feet southwest of the centerline of Runway 05-23. The single runway of the Bagdad Airport (05-23) is oriented southwest-northeast. Airplanes approaching from or departing to the northeast do not fly over any residential developments. Airplanes approaching from or departing to the southwest fly over residential and commercial developments.

Currently, the land uses adjacent to the Bagdad Airport are compatible with airport operations. The existing (1997) 65 and 60 DNL contours (see Chapter 7, Airport Plans) fall within the airport boundary off both runway ends. However, the 50 DNL contour extends just outside the airport boundary. An exhibit illustrating these contours is presented in Chapter 7, Airport Plans.

6.2.2 Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is generally associated with the level of noise impact related to the airport. The FAA has developed guidelines for land-use compatibility based on noise levels and the nature of the land use being impacted. Commercial, industrial, and most public uses are considered compatible with airport operations, as long as they are consistent with performance standards of Federal Aviation Regulation (FAR) Part 77 relative to height and safety. Residential use is compatible in areas with less than 65 DNL noise.

The Bagdad Airport is sited on Sanders Mesa at an elevation of 4,183 feet. The airport facilities and a radio tower are the only occupants of Sanders Mesa. The closest residential development to the airport is located approximately 0.75 mile to the south at an elevation of 3,880 feet. Since the runway is oriented northeast-southwest, airplanes approaching or departing in either direction do not fly over any residential developments. The land use in the vicinity of the Bagdad Airport is compatible with current and forecast airport operations.

6.2.3 Social Impacts

The continued operation of the Bagdad Airport will not require relocation of residences or businesses, and surface transportation routes will not be altered outside the airport grounds. No adverse social impacts or community disruptions are anticipated. The overall effect of the proposed improvements and the continued operation of the airport will be the continued availability of air access to the Bagdad area for private and corporate aircraft.

6.2.4 Induced Socioeconomic Impacts

This category refers to impacts such as shifts in business and economic activity, demands on public services, or patterns of population growth associated with major airport development proposals. There are no plans for major development of the Bagdad Airport. The purpose of the proposed improvements is to improve the safety and convenience of the existing facilities. Continued airport operations will maintain the availability of air access to the otherwise remote community.

6.2.5 Air Quality

National Ambient Air Quality Standards (NAAQS) have been established by the Environmental Protection Agency (EPA) for seven criteria pollutants; carbon monoxide, lead, nitrogen dioxide, ozone, PM_{2.5}, PM₁₀ and sulfur dioxide. For each of these (except carbon monoxide), the EPA has adopted Primary standards to protect public health and Secondary standards to protect public welfare. Each state must adopt standards at least as strict as the federal standards. The standards adopted by Arizona are the same as those utilized by EPA. The Bagdad Airport is located within an area that complies with all NAAQ Standards.

Arizona does not have indirect source review (ISR) requirements. Because the Bagdad Airport has less than 180,000 operations forecast annually, it is not subject to air quality analysis (FAA Order 5050.4A, Airport Environmental Handbook, p. 33). No impacts to air quality are anticipated to result from the proposed improvements and the continued operation of the Bagdad Airport.

6.2.6 Water Quality

The Bagdad Airport property drains southward to an unnamed pond and small creek, which flows southward off of Sanders Mesa and empties into Bridle Creek at the foot of the mesa. Normal contaminants from airport operations are petroleum products, but the Bagdad Airport contains no fixed base operations or fueling facilities other than a limited emergency fuel supply maintained by one airport tenant, who is also the acting airport manager. The potential for degradation of local water quality resulting from the proposed improvements and continued operation of the Bagdad Airport is very small.

6.2.7 Special Land Uses, DOT Section 4(F)

Section 4(f) of the Department of Transportation (DOT) Act specifies that no project will be approved that requires use of any publicly owned land from a Public Park, recreation area, or wildlife refuge. There are no special land uses, as defined by the Department of Transportation that exist within the potential impact area of the Bagdad Airport. The proposed improvements and the continued operation of the Bagdad Airport will have no impacts on Special Use land or Section 4(f) lands.

6.2.8 Cultural Resources

A record search was conducted at the office of the State Historic Preservation Officer (SHPO) for information regarding significant cultural resources in or near the project area. None of the airport project area has been surveyed for cultural resources; however, prior surveys of surrounding areas indicate a high prehistoric site density. Although no impacts are anticipated from the proposed improvements, the land-disturbing activities proposed may require cultural resource surveys under the National Historic Preservation Act. The proposed projects, which may require cultural resource surveys are the following:

- Reconstruct 600' of Runway 05-23, upgrading to meet FAA profile standards.
- Expand the main aircraft apron area to the west, adding 2 new aircraft spaces.
- Construct a 200 square-foot Terminal Building containing a restroom, telephone, drinking water, and storage space.
- Upgrade utilities and install proper electrical lines, portable sewage system, and telephone line(s).

6.2.9 Biotic Communities

The Bagdad Airport, sited on Sanders Mesa, is surrounded by undisturbed natural desert. None of the proposed plans for improvement or expansion of airport facilities would disturb the surrounding landscape and habitat.

6.2.10 Threatened and Endangered Species

The U.S. Fish & Wildlife Service (USFWS) and the Arizona Game & Fish Department (AG&FD) were contacted for information regarding threatened, endangered, candidate, or special status species in the project area (see Appendix). Although a number of species are listed as Threatened or Endangered on a county basis, it is unlikely that habitat utilized by these species is contained within the Bagdad Airport area. It is unlikely that the proposed improvements or the continued operation of the Bagdad Airport will impact Threatened or Endangered Species.

6.2.11 Wetlands

Airport property has not been evaluated for the presence of wetlands. A small, unnamed natural pond is situated immediately south of the Bagdad Airport runway. From this pond, a stream emanates. It flows southward off Sanders Mesa and joins Bridle Creek at the foot of the mesa. Neither the proposed improvements nor the continued operation of the Bagdad Airport will result in disturbance of the pond or the stream, which it feeds.

6.2.12 Floodplains

Bagdad Airport is sited atop Sanders Mesa at an elevation of approximately 4,180 feet. It is not located within or adjacent to a floodplain. The proposed improvements and continued operation of the Bagdad Airport will not indirectly support secondary development within a floodplain. There will be no floodplain impacts.

6.2.13 Shoreline Management

A shoreline management program does not cover the vicinity of Bagdad; thus, evaluation under this category is not applicable.

6.2.14 Coastal Barriers

This impact category refers exclusively to islands on the Atlantic and Gulf coasts; thus, it is not applicable to development at the Bagdad Airport.

6.2.15 Wild and Scenic Rivers

There are no wild or scenic rivers in the vicinity of the Bagdad Airport which could be impacted by its continued operation or any future modification or expansion.

6.2.16 Farmland

The Farmland Protection Policy Act (FPPA) directs federal agencies to take into account the adverse effects of federal programs on the preservation of Prime or Unique Farmland. The Act protects such farmland from being converted, directly or indirectly, to nonagricultural uses. No farmland adjoins the Bagdad Airport property. Neither the proposed improvements nor the continued operation of the Bagdad Airport will impact farmland in the Bagdad area.

6.2.17 Energy Supply and Natural Resources

The operation of the Bagdad Airport requires minimal consumption of energy resources. The facility contains no fixed base operations nor does it have fueling facilities. However, it is uncertain that the existing electrical power lines will be sufficient to provide power for the proposed runway lighting improvements. Because there are no existing as-built plans illustrating the location of the existing electrical power lines, the existing lines will be replaced with electrical lines known to be capable of handling the increased power demand. Power generating capacity in the Bagdad area is sufficient to support the increased power needed for the proposed airport improvements.

The proposed improvements do not require any special natural resources.

6.2.18 Light Emissions

The Bagdad Airport is currently lighted by a non-standard (not FAA-approved) low intensity runway lighting (LIRL) system. Some of the lights are not operational and some are not properly located. It is proposed that this system be replaced with medium intensity runway lighting (MIRL) system and that runway end identifier lights (REILs) be added to Runway 05. These modifications constitute establishment or relocation of an approach lighting system.

The proposed runway lighting upgrade and installation of REILs will increase marginally the emission of light from the Bagdad Airport. There are, however, no adjacent commercial or residential developments, which will be affected by the marginal increase in emitted light. An environmental evaluation of the impacts of the proposed lighting modifications will be required prior to proceeding with the installation of the systems.

6.2.19 Solid Waste Impacts

The activity generated by the proposed improvements or the continued operation of the Bagdad Airport is not expected to create an increase in solid waste sufficient to cause an adverse impact on disposal facilities.

The FAA and EPA regulations indicate that solid waste sites should not be located within 5,000 feet of an airport utilized by smaller piston-engine aircraft nor within 10,000 feet for turbine-powered aircraft. No landfills have been identified within these distances from the Bagdad Airport.

6.2.20 Construction Impacts

The volume of construction activity required to implement the proposed improvements to the Bagdad Airport is very small. The sites of the proposed construction are sufficiently distant from the nearest residential development that noise and dust are unlikely to impact Bagdad residents. The Bagdad Airport access road does pass by several small residential areas, but delivery of construction equipment and materials does not require passage through residential streets. In order to minimize construction impacts, the proposed construction projects will incorporate in their plans and specifications the provisions of FAA Advisory Circular 150/5370 10, *Standards for Specifying Construction of Airports*, (change 10, Item P 156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control).

6.3 CONCLUSION

Based on the review of potential environmental impacts and considerations anticipated as a result of the construction and development of Bagdad Airport, the major issues identified are summarized below. Mitigation measures may be recommended to limit the potential impacts related to a number of these resources.

- ❖ The proposed projects, which may require cultural resource surveys are the following:
 - Reconstruct 600' of Runway 05-23, upgrading to meet FAA profile standards.
 - Expand the main aircraft apron area to the west, adding 2 new aircraft spaces.
 - Construct a 200 square-foot Terminal Building containing a restroom, telephone, drinking water, and storage space.

- Upgrade utilities and install proper electrical lines, portable sewage system, and telephone line(s).
- ❖ An environmental evaluation of the impacts of the proposed lighting modifications may be required prior to proceeding with the installation of the systems.
- ❖ In order to minimize construction impacts, the proposed construction projects will incorporate in their plans and specifications the provisions of FAA Advisory Circular 150/5370 10, *Standards for Specifying Construction of Airports*, (change 10, Item P 156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control).