

## SECTION 4 - ENVIRONMENTAL CONSEQUENCES

### 4.0 INTRODUCTION

Environmental impacts were evaluated following standards discussed in FAA Order 5050.4A, "*Airport Environmental Handbook*" (USDOT 1985). The handbook was established pursuant to NEPA and its regulations. This section of the EA evaluates the existing conditions and consequences of implementing the Preferred Alternative on potential environmental impact areas. Where relevant, the potential impacts of the No Build Alternative are also evaluated in detail, but these areas are limited. The following areas are not impacted by the Preferred Alternative, or impacts are negligible or do not exist within the project area: Coastal Zone Management Program, Coastal Barriers, Wild and Scenic Rivers, Light Emissions, and Solid Waste Impacts. As a result, these items are not addressed in this section.

For each specific area that is impacted, several items are discussed where relevant:

- **Direct Impacts** – These impacts occur as a direct result of building the Preferred Alternative and its operation. Examples of direct impacts include filling wetlands, property acquisition and noise increases.
- **Indirect Impacts** – Also referred to as "secondary" impacts, these are indirectly caused by an alternative. This means that they occur at a later time and are usually located farther away from the alternative than the direct impacts. Examples of indirect impacts include induced land use changes and downstream sedimentation of streams caused by stormwater runoff.
- **Construction Impacts** – These are the temporary effects that occur during construction. This could include impacts such as runoff, increased noise, dust and construction detours.
- **Cumulative Impacts** – Cumulative impacts result from combining the direct, indirect and construction impacts of an alternative with other past, present and reasonably foreseeable future impacts. An example of cumulative impacts evaluated in this document would be noise impacts.
- **Mitigation Measures** – These are actions that will be implemented to avoid, reduce or compensate for the impacts of an alternative. Examples of mitigation measures include wetland creation and assistance to residents being relocated as a result of a project.

If one or more of these items is not relevant to a particular topic, it is not included in the discussion.

### 4.1 NOISE ANALYSIS

#### 4.1.1 Background Information

In accordance with FAA Order 5050.4A, and Order 1050.1E, *Policies and Procedures for Considering Environmental Impacts*, a noise analysis was conducted for OSUA as part of this EA. A noise analysis is required for utility airports that exceed 700 annual adjusted jet or 90,000 annual adjusted propeller operations (USDOT 1985). OSUA exceeds this threshold. In compliance with Order 1050.1E, the FAA's Integrated Noise Model (INM) version 6.1 was used to conduct the noise analysis. When conducting aviation noise analyses, the cumulative noise energy exposure resulting from aviation activities must be established in terms of the day-night average sound level (DNL). DNL is the 24-hour average sound level, in decibels, generated by the accumulation of all sound events (aircraft approaches and takeoffs), with a 10-decibel penalty added to nighttime sound levels between 10:00 PM and 7:00 AM.



Extensive research has found that the DNL correlates very well with community annoyance from most environmental noise sources. A DNL of 65 dB is generally identified as the threshold level of aviation noise, and other sources of community noise, which are "significant". Recent studies continue to indicate that DNL is the descriptor of choice in representing community reaction to noises of all kinds. A recent study to assess the nighttime weighting factor used in DNL concluded that there is no credible evidence to use anything other than the accepted DNL ("Cumulative Airport Noise Exposure Metrics: An Assessment of the Evidence for Time-of-Day Weightings, " DOT/FAA/EE-86/10). Another study concluded that DNL satisfactorily represented surveyed community annoyance from helicopter noise for flyovers as infrequent as one operation per day ("A Community Survey of Helicopter Noise Annoyance Conducted under Controlled Noise Exposure Conditions," NASA Tech. Memo 86400).

The FAA has determined that a "significant" noise impact occurs if analysis shows that proposed improvements (i.e., the Preferred Alternative) would cause noise sensitive areas (i.e., residences, hotels, hospitals, etc.) to reach noise levels of 65 dB (DNL) or greater. A noise impact also occurs if noise sensitive areas experience an increase in noise of 1.5 dB (DNL) or more when they are already experiencing existing noise levels of 65 dB (DNL) or more.

#### **4.1.2 Methodology**

The noise analyses conducted for OSUA consisted of field noise monitoring at select sites and the generation of noise exposure maps for several scenarios using the INM. These scenarios included existing (2003) conditions, future (2008) No Build conditions, implementation of the Preferred Alternative (2008), and the full build scenario (2023). The noise analyses also consisted of computing DNL data for specific points. The predicted noise levels at these locations were compared to the noise levels produced for the Preferred Alternative to identify whether there were significant impacts (as defined by the FAA). Throughout the noise study, conservative assumptions were made in order to avoid underestimating noise levels.

##### **4.1.2.1 Field Monitoring Procedures**

Field measurements were taken at 15 representative locations surrounding OSUA from February 17 to February 25, 2004. The locations of these sites are shown in Appendix B, the Noise Technical Report prepared for this project. The monitoring sites were selected by the OSUA Advisory Committee, airport staff, and the project's consultant team. The sites were selected to provide either individual noise event data for noise model calibration or sample noise levels in the surrounding communities. The noise-monitoring program was designed to accomplish the following objectives:

- Sample and document individual noise event sound levels of aircraft at locations near the airport for comparison with the individual sound levels computed by the INM,
- Sample and document outdoor sound levels in the communities surrounding the airport,
- Sample and document outdoor sound levels of aircraft, and determine the contribution of aircraft noise to the overall day-night average sound levels.

Each site was monitored continuously for several days and included noise sources such as aircraft, railroads, vehicular traffic, and other local activities. Appendix B contains a detailed description of the noise monitoring process, the noise monitoring locations, and how the data were used for comparison with the INM calculations.



#### **4.1.2.2 INM Inputs**

The INM utilizes runway layout, flight track information, aircraft fleet mix, number of day and night operations, standard and user defined aircraft profiles, and terrain as inputs. The INM is an average-value-model and is designed to estimate long-term effects using average annual input conditions

To derive the necessary OSUA inputs to the INM, for each scenario that was evaluated, various information sources were used:

- The runway layout and runway use percentages were taken from the layout plans compiled for the Master Plan
- Flight tracks and flight track utilization percentages were derived from a radar data sample provided by the Port Columbus radar facilities
- Aircraft fleet mix was derived from radar data as well as information provided by airport staff
- Annual operations for the baseline year 2003 (Existing Condition) as well as the various analyzed scenarios were obtained from the new 2004 operations forecast developed for the Master Plan
- All aircraft were modeled using the standard departure and arrival profiles available in the INM,
- Terrain (elevation) information was included in the INM cases, as supplied by the official INM terrain data supplier.

All collected data was verified by airport personnel, the study team, as well as the Study Advisory Committee. More details about the input data can be found in the Noise Technical Report in Appendix B.

#### **4.1.2.3 INM Runs**

Using the INM, 65, 70, and 75 DNL contours were generated for Existing (2003) Conditions, the Future (2008) No Build condition, the Preferred Alternative (2008), and the Full Build Out Condition (2023). Section 1 of this EA lists the annual number of operations modeled under each of these scenarios. Detailed information on the INM inputs and outputs is included in Appendix B.

The average annual day operations modeled for the Existing Conditions consist of jet aircraft, multi-engine propeller aircraft, single-engine propeller aircraft, and helicopters. The runway layout and use reflect the 2003 existing conditions at the OSUA, as do the flight tracks.

The No Build condition includes the projected growth in operations through the year 2008. No changes to any of the airport facilities were assumed for this scenario. As such, the runway layout and utilization as well as the flight tracks remained the same as those used for the Existing Conditions. The main difference between the Existing Conditions and this scenario is the composition of the jet fleet mix. Industry trends indicate an ongoing decline in noise stage 2 jets, and this scenario models fewer noise stage 2 jet operations than the Existing Conditions. This scenario also illustrates that background growth in the number of flights into and out of the airport will occur over the long term regardless of whether the proposed expansion occurs.

The Preferred Alternative scenario includes the RWY 9L/27R extension and the south side hangar development. Compared to the No Build scenario, this scenario includes the new runway length and utilization (most jet traffic moving to the north runway), new flight tracks (still very similar to those presently used based on coordination with Port Columbus air traffic control), and increased annual operations primarily due to the additional hangars. Like the No Build Scenario, industry trends were applied to reduce noise stage 2 jets for the 2008 fleet. The percent of future flights occurring during the night for this scenario would be the same as the percent of existing night flights.

To evaluate cumulative impacts to the noise environment through the year 2023, the Full Build Out scenario was modeled. This scenario assumes implementation of all of the major elements of the Master Plan and background growth through year 2023. This scenario encompasses additional hangars south of



the field, the extended RWY 9L/27R, and an additional increase in operations as a result of a hangar development on the north side of the airport. As with the No Build Condition and Preferred Alternative, industry trends were applied to reduce noise stage 2 jets by 2023.

### **4.1.3 Existing Conditions**

The existing conditions noise contours represent the average annual day noise environment around OSUA for the year 2003. As shown in Figure 5, the existing 65 DNL contour extends beyond the airport boundary to the west and east along the extended centerline of Runway 9R/27L. Currently, there are approximately 27 noise sensitive receivers impacted west of Runway 9R/27L and four noise sensitive receivers impacted east of the runway. The 70 and 75 DNL contours are wholly contained within the airport property boundary.

Noise monitoring results were generally consistent with these predictions. Existing DNL levels attributable to aircraft noise were well below the FAA impact level of 65 dB at all community monitoring locations. These noise levels were typical of suburban areas with DNL noise levels ranging from the mid 40s to 60 dB. Monitoring also showed that non-aircraft noise contributed significantly to existing community noise levels at most of the monitoring locations.

### **4.1.4 Environmental Consequences**

#### ***4.1.4.1 No Build Alternative***

As shown in Figure 6, the 65 DNL contour for the No Build Alternative would extend slightly beyond the airport property boundary east of Runway end 27L. The noise contours for this scenario are smaller (i.e., closer to the airport) than those generated for the Existing Conditions due to the smaller percentage of noise stage 2 jet operations. Overall industry trends for stage 2 jet usage have shown a steady decline in their use over the last ten years, and the trend is expected to continue. The historic industry trend was applied in developing the operations forecasts described in Appendix B which were used in the INM. No sensitive noise receivers are located within the 65 DNL contour. Therefore, the No Build Alternative would not create any noise impacts, and noise levels would generally be reduced relative to the existing situation.

#### ***4.1.4.2 Preferred Alternative***

Compared to the existing conditions at OSUA, noise levels around the north runway would increase as a result of the higher number of jet operations on RWY 9L/27R. For the Preferred Alternative, the 65 and 70 DNL contours extend beyond the OSUA property boundary to the north of Runway 9L/27R, while the 65 DNL contour extends beyond airport property east of Runway 9R/27L (Figure 7). No noise sensitive receivers are located where the 65 and 70 DNL contour extends beyond airport property. Therefore, the Preferred Alternative would not impact any noise sensitive receivers.

Table 8 illustrates the modeled DNL at various representative locations within and around the airport where noise monitoring also occurred (for the exact locations of these 15 receivers, please see Appendix B). The DNL for the majority of the locations decreases for the Preferred Alternative (relative to the existing conditions). This indicates a substantial benefit to area residents currently living in areas that are noise impacts (i.e., within the 65 dBA contour). However, at locations 2 and 3 (which are located immediately off the ends of Runway 9L/27R on airport property), noise levels would increase by 13 and 25 dB, respectively. This is primarily caused by increased numbers of jets using this runway as a result of the Preferred Alternative. Noise levels would also slightly increase at other representative locations. Noise levels within historic Worthington were raised as a concern by members of the public during this study. Noise levels in this area would experience very minor increases (i.e. less than 1 dB) or be unchanged as a result of the Preferred Alternative, and these noise levels would be far below FAA standards for noise impacts.



**Table 8. DNL Comparison of Existing Conditions vs. Preferred Alternative**

Site ID	INM Generated DNL Noise Levels (dB)		Change from Existing Condition to Preferred Alternative
	Existing Conditions (2003)	Preferred Alternative (2008)	
1	76.6	68.7	-7.9
2	65.6	78.8	13.1
3	62.9	88.2	25.3
4	71.1	65.2	-5.9
5	51.3	52.8	1.5
6	64.9	60.9	-4.0
7	60.2	55.9	-4.3
8	57.6	55.1	-2.5
9	49.0	48.6	-0.4
10	47.1	47.1	-1.8
11	43.0	43.0	0.4
12	48.6	48.6	-2.0
13	51.6	50.2	-1.4
14	47.8	48.1	0.3
15	53.0	53.2	0.2

#### **4.1.4.3 Cumulative Impacts**

In order to assess the cumulative noise impact of the Preferred Alternative in combination with other past, present, and reasonably foreseeable future actions, the Full Build Out scenario was evaluated. This scenario includes all of the main elements in the OSUA Master Plan as well as background growth through the year 2023. The main element in the Master Plan which is not included in the Preferred Alternative is the development of additional hangars on the north side of the airport. The Full Build Out scenario would result in a larger noise contour footprint than the Preferred Alternative. As shown in Figure 8, both the 65 and 70 DNL contours extend beyond the airport property boundary north of Runway end 27R, and the 65 DNL contour extends just barely beyond the airport property boundary to the west along the extended centerline of Runway 9L. The 65 DNL contour also extends across the airport property boundary to the southeast of Runway end 27L. There are no noise sensitive receivers located within the 65 and 70 DNL contours for this scenario. Additionally, the 65 DNL contour for the Port Columbus Airport is not close to OSUA, and therefore does not notably affect cumulative noise levels based on the number, altitude, and types of planes near OSUA. Therefore, no noise sensitive receivers would experience noise impacts as defined by FAA, even when considering all cumulative noise sources. This conclusion includes cumulative noise levels in historic Worthington.

#### **4.1.5 Mitigation Measures**

Although no noise impacts would be caused by the Preferred Alternative, OSUA continues to coordinate with the FAA, local air traffic control, and aircraft operators to voluntarily identify, examine, and implement ways for OSUA to operate in a community-minded manner. In doing so, the University considers both aircraft operating procedures and air traffic control procedures that are:

- Safe – Noise reduction practices must meet the requirements for safe aircraft separation and performance so that competent air traffic controllers and pilots will be willing to use them on a regular basis.
- Standardized – The same practices should be applicable to all runways. Therefore, it is necessary to develop standardized practices that can be used regardless of type and class of aircraft.
- Easy to perform – Complicated practices can create resistance to use.



#### **4.1.5.1 Existing Noise Abatement Procedures**

The OSUA currently maintains one noise abatement procedure, which is no touch and go landings or repeated takeoffs/landings between 11:00 PM and 7:00 AM. Also, a note is included in the Airport Facilities Directory that reads, "Noise sensitive area within 4 miles to the North and Northeast." The airport also relies on pilots to utilize manufacturers' recommended noise abatement procedures for their specific aircraft type, and to operate their aircraft in a quiet manner. These existing procedures will continue to be implemented as part of the Preferred Alternative.

#### **4.1.5.2 Proposed Procedures**

OSUA will coordinate with local stakeholders and the FAA to identify operating procedures that are effective in reducing noise exposure. These procedures will be considered for implementation.

The following operating procedures are recommended as a standard for all operations where aircraft manufacturers have not recommended specific procedures for noise abatement. The procedures are to supplement and be complementary to established noise abatement programs containing procedures and techniques for specific aircraft manufacturers.

Aircraft operators should request noise abatement procedures from aircraft manufacturers and work with them in developing noise abatement procedures for inclusion in the aircraft-operating manual.

- Propeller aircraft operators must make every reasonable effort to reduce the noise impact to the lowest practicable level. The recommended noise abatement procedures for propeller aircraft will reduce noise.
- Propeller aircraft operators must understand that propeller noise is substantial at high RPM and that a reduction of just a few hundred RPM can produce a significant noise reduction without a significant loss of performance during the initial climb over noise sensitive areas.
- Most engine manufactures publish a power chart with an acceptable RPM range with full throttle for constant speed or variable pitch propellers. A few hundred RPM can significantly reduce noise without a significant loss of performance during the initial climb over noise sensitive areas.
- State 1 and Stage 2 aircraft operators must make every reasonable effort to reduce the noise impact to the lowest practicable level. Noise abatement procedures should be made routine in operating aircraft in and out of OSUA.
- Stage 3 aircraft operators can also help reduce noise without a significant loss of performance during the initial climb over noise sensitive areas.
- Turbojet/Turboprop operators should be aware that unnecessary use of **Reverse Thrust** when landing is a source of excessive noise. The use of minimum reverse thrust necessary for safety is recommended, consistent with runway conditions and available length.

The notice in the Airport Facilities Directory will be changed to read, as follows: "Noise sensitive area within 4 miles to the North and Northeast. No touch and go landings, repeated takeoffs/landings, or practice approaches 2300-0700."

## **4.2 COMPATIBLE LAND USE**

### **4.2.1 Existing Conditions**

As defined by FAA Order 5050.4A Paragraph 47e(2) "the compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the noise impacts related to that airport. In this context if the analysis described above (the noise analysis) concludes that there is no significant impact, a similar conclusion usually may be drawn with respect to compatible land use" (USDOT 1985).



As discussed in Section 4.1 above, the existing 65 DNL noise contour extends beyond the airport boundary to the west and east along the extended centerline of Runway 9R/27L. Currently, there are approximately 27 noise sensitive receivers impacted west of Runway 27L/9R and four noise sensitive receivers impacted east of the runway.

The Mid-Ohio Regional Planning Commission (MORPC) has developed Model Airport Noise Regulations. This set of noise regulations was developed in 1991 and updated in 2002. It is designed to reduce conflict between the Port Columbus Airport and adjoining land uses. Although the regulations were designed specifically for Port Columbus, they were also intended to be incorporated by other airports and communities in the Mid-Ohio region. The Model Airport Noise Regulations recommend communities set up Airport Environs Overlay (AEO) Districts based on the sound level contours calculated by a noise study. The City of Columbus, as part of its Comprehensive Plan, has recommended that noise sensitive land uses be prohibited within the 65 DNL noise contour. Currently, there are no AEOs zoned for OSUA. Land immediately to the north of the airport has been zoned manufacturing. This type of land use is permitted with the 65 and 70 DNL noise contour and allows for acceptable lands uses adjacent to the airport.

Additionally, the Northwest Plan for the City of Columbus (adopted on September 16, 1991, Amended 1996, 2003) states, "Within the general area bounded by Godown, and Sawmill roads and State Route 161, there is a substantial amount of land at the periphery of Don Scott Field that has been acquired by the Ohio State University. The land was purchased to allow for the orderly development of the airport and to buffer airport activities from the surrounding neighborhoods. University acquisition of the land was also intended to preclude private development adjacent to the airport of land uses incompatible with airport activities. The University has established various compatible uses on those peripheral properties, largely agricultural in nature, with most of the land used directly for or in support of the Department of Animal Science. The remainder is used for aeronautical research and for laboratory animal activities."

#### **4.2.2 Environmental Consequences**

Based on the noise study performed for the EA, there are no residences, schools, churches, or other sensitive land uses located within the project's 65 DNL noise contours. Therefore, adjacent land uses are compatible with future operations at OSUA under the Preferred Alternative. Additionally, as explained in the Northwest Plan for the City of Columbus, OSUA has purchased and used adjacent land in such a way as to provide an adequate buffer between the airport and adjoining land uses. The Preferred Alternative would also be consistent with the MORPC model regulations.

The eventual full build represented in the Master Plan would result in increased noise levels compared to the Preferred Alternative, but these noise levels would still be compatible with surrounding land uses. As shown in Figure 8, the full build 65 DNL noise contours extend beyond the airport property boundary, but there are no noise impacts. Therefore, the cumulative noise impacts of the Master Plan would not result in incompatible land uses.

#### **4.2.3 Mitigation Measures**

The City of Columbus and OSUA will work together to develop AEOs around OSUA. The City of Columbus Comprehensive Plan and the MORPC Model Airport Noise Regulations have already established a set of guidelines that can be implemented for land surrounding OSUA. The creation of AEOs would prevent the future construction of noise sensitive receivers within the airport's 65 DNL contour.



## 4.3 SOCIAL IMPACTS

### 4.3.1 Existing Conditions

Social impacts as defined by FAA are associated with the relocation of residences or businesses; altering surface transportation patterns; dividing or disrupting established communities; disrupting orderly, planned development; or the creation of appreciable changes in employment.

The existing condition surrounding OSUA is characterized as residential with some mixed commercial development also present. Figure 4 shows existing land uses. This figure also shows that there are established residential communities (neighborhoods) on all four sides of OSUA with several schools also in the general vicinity. The general area is primarily built out with little land available for development. Economic conditions in the northwestern portion of the Columbus metropolitan area have exhibited stable growth with this trend expected to continue. Travel patterns in the area are typical of a suburban area with the heaviest traffic volumes found on Dublin-Granville Road, Sawmill Road, and West Case Road. Other streets near the airport are primarily residential with traffic lower volumes.

### 4.3.2 Environmental Consequences

Based on a comparison of proposed improvements against aerial photographs and conditions observed during field visits, implementation of the Preferred Alternative would not require the relocation of any residences or businesses (no property acquisition is required as all improvements would occur within the current OSUA property boundary).

The Preferred Alternative would not notably alter surface transportation patterns or affect traffic operations at area roads or intersections. In reaching this conclusion, a worst-case scenario was evaluated by experienced transportation planners. In the worst-case scenario, an additional 50 based aircraft would be located at OSUA in the new hangars on the south side of the airport. During any specific peak travel hour (i.e., morning and afternoon rush hours), it was assumed that no more than one-third of these 50 planes (16 planes) would generate additional automobile trips (a conservatively high estimate). At most, there would be two additional automobile trips generated by each of these 16 planes for a total of 32 extra auto trips during any one peak hour. Assuming half of these trips (16) would come from the west and the other half (16) would come from the east, approximately eight additional automobiles would enter the Sawmill/West Case Road intersection from the northbound direction, and eight would enter from the southbound direction. This equates to one extra vehicle entering the intersection about every three minutes. The same situation would occur at the intersection of West Case and Godown Roads. Even under this worst case scenario, these additional vehicles would not have any meaningful effect on traffic operations at these intersections or the roads that form the intersections. This would also be the case for cumulative impacts as the potential number of trips generated by the Preferred Alternative and north side developments would be a negligible contribution to the total number of trips and would be well within daily variations in traffic volumes. This conclusion is based on a similar worst-case evaluation of potential traffic using these roads.

Public concern over the safety of schools located near OSUA has also arisen. The FAA has approved the ALP for the airport, and this approval includes the surrounding airspace. FAA's approval means that to the greatest extent possible, the safety of the surrounding community and airport is assured. The OSUA is typical of airports located in an urban setting, and the chances of an accident are extremely low. Additionally, the preferred Alternative would not decrease the safety of the airport or surrounding airspace.

Because the Preferred Alternative would not result in the construction of facilities off the airport property, it would not divide or disrupt established communities or disrupt orderly, planned development. The



Preferred Alternative would result in the temporary creation of construction related jobs and support the economic strength of this area. However, it is unlikely that the number of jobs created by the Preferred Alternative would result in an appreciable change in employment or economic conditions in Franklin County.

## **4.4 INDUCED SOCIOECONOMIC IMPACTS**

### **4.4.1 Existing Conditions**

Major airport development projects can impact socioeconomic conditions in surrounding communities. Induced socioeconomic impacts include issues such as population movement and growth, reduction in property values, public service demands, and changes in business and economic activity. As described in Section 3 of this EA, the project area is mainly built out, the area's population has been increasing, and there has been substantial economic growth in the past decade. The majority of homes adjacent to the airport are multi-family structures.

### **4.4.2 Environmental Consequences**

The Preferred Alternative would not result in population movement or shifts, as the project will occur on airport property and will not require any rezoning or the purchase of homes or businesses. Also, the fundamental facilities and services offered at OSUA would remain essentially the same as the current situation. Therefore, the Preferred Alternative would support ongoing trends, but would not change these.

Because the Preferred Alternative would slightly increase the number of potential users at OSUA, the need for public services (e.g., sewer, water, etc.) would be slightly increased. The potential increased usage could be accommodated by existing facilities based on review of existing planning documents for the City of Columbus.

The Preferred Alternative would result in an increase in business jet usage at the airport and may encourage a relatively small number of businesses to locate near the airport or expand current operations. However, the Preferred Alternative would not result in major fundamental changes to the type and number of aircraft using the airport, and this fact means that economic changes would not be large. In addition, the Preferred Alternative would result in the temporary creation of construction related jobs at OSUA. However, it is unlikely that the number of jobs created would result in an appreciable change in employment or economic conditions in Franklin County.

Some studies have shown airport noise can reduce the property values of homes surrounding an airport. The majority of these studies have involved larger commercial airports, which are bigger, have larger aircraft and accommodate more traffic than OSUA. In situations like the one at OSUA, property values tend to be more heavily influenced by other localized factors such as zoning, economic conditions, and local land use plans. Also, the Preferred Alternative would not result in noise impacts as defined by FAA. For these reasons, there is no evidence indicating that the Preferred Alternative would decrease property values, and the Preferred Alternative would not cause significant impacts.

## **4.5 ENVIRONMENTAL JUSTICE**

### **4.5.1 Existing Conditions**

Executive Order 12898 on Environmental Justice directs Federal agencies to identify and address disproportionately high and adverse human health or environmental effects to minority and low-income populations caused by their programs, policies, and activities.



Portions of seven different census tracts are adjacent to OSUA (Table 9). According to the 2000 U.S. Census data, minority populations range between 4.1 and 19.7 percent in these tracts, while the percent of households below the poverty level ranges from 1.8 to 7.3 percent. Tracts containing a minority or low-income percentage notably greater than the county or metropolitan area in which they are located can be considered areas of potential concern if serious impacts are anticipated as part of a proposed project. Considering this situation, there are no census tracts in the project area where minority or low-income percentages exceed those found in Franklin County. Also, field investigations and the general knowledge of OSUA staff were also used to conclude that there are not concentrated minority or low-income populations in the project area.

**Table 9. Low Income and Minority Population Information.**

Location	Median Household Income	Individuals Below Poverty Level	Minority Population
Tract 63.51	\$51,607	6.9%	8.0%
Tract 63.60	\$46,673	6.7%	15.2%
Tract 63.71	\$54,917	2.8%	14.3%
Tract 63.72	\$50,726	7.3%	19.7%
Tract 63.86	\$53,099	2.2%	19.0%
Tract 63.87	\$55,033	5.0%	14.1%
Tract 69.50	\$80,255	1.8%	4.1%
Franklin County	\$42,734	11.6%	24.5%
State of Ohio	\$40,956	10.6	13.5%

Source: 2000 US Census Data

#### **4.5.2 Environmental Consequences**

Disproportionately high and adverse human health or environmental effects on minority and low-income populations are not anticipated as a result of the Preferred Alternative. This conclusion is based on (1) Census Bureau data shown in Table 9, (2) visual inspections of the project area, (3) OSUA staff knowledge of the project area, and (4) the relatively low impacts associated with the Preferred Alternative (as described throughout this section of the EA). Also, the public involvement program for the project has fully included all interested and affected persons in the decision-making process, including minority and low-income residents. The public involvement process did not result in identification of any disproportionate impacts to minority or low-income populations.

## **4.6 AIR QUALITY**

### **4.6.1 Existing Conditions**

Under the direction of the Clean Air Act Amendments (CAAA) of 1990, the U.S. Environmental Protection Agency (EPA) has established health-based National Ambient Air Quality Standards (NAAQS) for six pollutants. These six "criteria pollutants" are lead, ozone, sulfur dioxide, oxides of nitrogen, carbon monoxide (CO), and particulate matter smaller than 10 and 2.5 microns in diameter. The project area is in attainment with the NAAQS for all of these criteria pollutants except for ozone. The project area is designated as a nonattainment area for ozone under the new 8-hour standard recently imposed by EPA.

FAA Order 5050.4A indicates that if a proposed Federal action is in a state that does not have applicable indirect source review (ISR) requirements, then the projected airport activity levels are examined to determine if a detailed air quality analysis is required. The State of Ohio does not have indirect source review requirements. Therefore, the determination of whether or not a detailed air quality analysis is



required for the OSUA is based on the annual aircraft operations. Based on the FAA Order 5050.4A, no air quality analysis is needed for general aviation airports that have less than 180,000 operations forecast annually. If this threshold is not met, FAA experience at other airports across the U.S. indicates that air quality impacts would not occur.

#### **4.6.2 Environmental Consequences**

Because Franklin County is in attainment for all criteria pollutants except ozone and OSUA is projected to have less than 180,000 operations over the 20-year planning period, it can safely be concluded that there will not be adverse air quality impacts as a result of the Preferred Alternative. This assessment is consistent with FAA Order 5050.4A.

## **4.7 WATER QUALITY**

### **4.7.1 Background**

Perennial, intermittent and ephemeral streams are considered jurisdictional waters of the United States and are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act of 1977. A Section 401 Water Quality Certification from the State of Ohio is required to obtain the Section 404 permit or any other federal permits or licenses for projects that will result in a discharge of dredged or fill material to any waters of the State of Ohio.

### **4.7.2 Existing Conditions**

In order to assess the quality of the stream and ditches located in the project area, Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) evaluations were conducted. The QHEI has been designed to be a visual method of measuring habitat quality to support the designation of aquatic life uses, assess use attainment, and assess impacts in Ohio streams with drainage areas greater than one square mile. The HHEI predicts the biological potential in primary headwater habitats (watershed areas less than one square mile). It too uses a multi-parameter rapid assessment of the physical habitat, which has been found to correlate well with biological measures of stream quality in small streams. A more detailed description of QHEI and HHEI can be found in Appendix D of this document.

QHEI and HHEI site assessments were performed on January 20, 2004 for one stream as well as tributary ditches in the project area. These water bodies can be seen in Figure 2.

The first water body in the project area is an unnamed stream originating just north of OSUA and flowing in a southeast direction across the site, eventually discharging into the Olentangy River approximately 9800 feet downstream of the headwaters. The stream is located within the Olentangy River watershed. Two 400-foot segments of the unnamed stream were assessed using the QHEI, and these are referred to as Sites 1A and 1B.

Site 1A on the unnamed stream has an average depth of 7.9 inches and an average width of 1.9 feet. Grazing cattle have impacted the site which has resulted in heavy bank erosion throughout the length. Despite the bank erosion, the site has an adequate riparian zone with narrow to moderate widths and established vegetation of grass and trees. The stream runs through two culverts upstream of this location and appears to be susceptible to flooding as evidenced by debris along the banks. The QHEI score for this site was 48 placing it into the "Fair" category. This QHEI score ranked near the average for the reference sites for the Eastern Corn Belt Plains, placing higher than the modified sites but lower than most unmodified sites.



Upstream of Site 1B, the unnamed stream runs through a wooded section, and downstream it opens up to pastureland. It has a average depth of 5.9 inches and mean width of 4.9 feet. Cattle have grazed heavily on the east bank of the site. The steepness of the west bank prevents cattle from accessing that side. The QHEI score for this site was 51 placing it into the "Fair" category. This QHEI score ranked near the average for the reference sites for the Eastern Corn Belt Plains, placing higher than the modified sites but lower than most unmodified sites.

Ditch A originates north of Runway 9R/27L and flows east to the unnamed stream. A 200-foot segment was sampled within the location of a potential culvert placement. This site has an average depth of 3.1 inches and an average width of 1.4 feet. Upstream, the ditch is filled with cattails and grasses while the downstream portion has been heavily impacted by cattle, as evidenced by the severe bank erosion and lack of bank vegetation. The portion of the ditch that runs parallel to the runway was channelized at some point. The QHEI score for this site was 26 placing it into the "Very Poor" classification, and the HHEI score was 54, which classifies the primary headwater stream as Modified Class II tributary.

Ditch B originates from field tiles located east of the runways and flows east to the unnamed stream. This site has an average depth of 0.3 feet and an average width of 1.5 feet. The ditch is located within pasturelands and is heavily used by cattle for grazing. Impacts caused by cattle include the lack of significant instream cover, bank instability, severe erosion and heavy algal growth. This ditch has been modified at its point of origin (with drainage tiles, placement of a retaining wall and driveway) and has been observed to run dry during periods of low rainfall. The QHEI score for this site was 43 placing it into the "Poor" classification, and the HHEI score was 60, which classifies the primary headwater stream as Class III tributary.

Ditch C originates north of the Runway 9L/27R and flows east to the unnamed stream. This site has an average depth of 1.9 inches and an average width of 4.9 feet. The ditch receives runoff from the runway and taxiway that it is located between. The channel is entirely filled with grasses and cattails, and downstream the ditch has been relocated to the perimeter of a pasture that is grazed by cattle. The entire length of this ditch has been channelized. The QHEI score was 26 placing it into the "Very Poor" classification and the HHEI score was 39, which classifies the primary headwater stream as Modified Class II tributary.

The QHEI and HHEI assessments and report have been included as Appendix D.

### **4.7.3 Environmental Consequences**

The Preferred Alternative would directly impact ditches/streams at five locations where culverts would be installed. All of these are regulated by the State of Ohio and the U.S. Army Corps of Engineers and would require applicable permits. Culverts would be installed on Ditches A (one culvert), B (one culvert), and C (two culverts) as well as the unnamed stream (one culvert). These culverts would range in length from about 50 feet along the ditches to 500 feet for the unnamed stream. Adding these culverts would result in minor impacts to aquatic habitat. These would result from vegetation removal, changes in channel substrate, and enclosing the ditches/stream. Aquatic habitat would be essentially removed from the areas where culverts are located.

These changes are unlikely to notably affect flow (hydraulic) characteristics in the project area. Impacts to surface water quality are also unlikely as a result of this alternative. Currently, these water bodies are substantially impaired due to historic degradation and continuing use by cattle. Stormwater presently runs off into ditches and, in most cases, is directly discharged into receiving water bodies without any pre-treatment. Although this alternative would increase the total amount of paved surface, these changes would not notably change the existing situation. Additionally, de-icing agents are not in use at OSUA, therefore contamination from runoff would not occur. Storm water runoff from the Preferred Alternative



would travel through vegetated ditches and/or retention/detention basins before being discharged into ditches and the unnamed stream in the project area. As a result of these factors, negative water quality impacts are unlikely.

Taking into account past, present, and reasonably foreseeable future factors, there is no reason to believe that the Preferred Alternative would cause these water bodies to become degraded beyond their current condition. These water bodies are already degraded as a result of numerous factors, including adjacent development and use by cattle. The Preferred Alternative would result in new culverts and temporary construction impacts. No other future actions are foreseeable that would impact these water bodies. Because future corrective actions are not currently identified for these water bodies, cumulative impacts to surface water are likely to be similar to existing conditions.

## 4.8 CULTURAL RESOURCES

### 4.8.1 Existing Conditions

In accordance with the provisions of the National Historic Preservation Act of 1966, as amended, OSUA has coordinated with the Ohio Historical Center, Ohio State Historic Preservation Office (SHPO) to determine the presence of and potential impacts to historic or archaeological cultural resource sites within the study area. Cultural resources include above ground structures and archaeological sites that are eligible for listing or listed on the National Register of Historic Places (NRHP). Eligibility for the NRHP for airport projects funded using federal money is determined by FAA in consultation with SHPO. As part of this project, an investigation was performed to identify cultural resources within the Area of Potential Effect (APE). The APE for this project includes the runway and taxiway extension areas, the proposed hangar areas, and areas where noise levels for the Preferred Alternative would reach 65 DNL. The cultural resources investigation included background research, coordination with the SHPO, and field investigations.

The NRHP has established criteria for determining historic significance. These criteria require a property to be at least 50 years old and to have integrity of location, design, setting, materials, workmanship, feeling, and association. Additionally, a property must meet one of the following criteria in order to be eligible for the NRHP:

- Criterion A: Association with a significant event
- Criterion B: Association with the lives of significant persons
- Criterion C: Embody the distinctive characteristics of a type, period or method of construction, or represent the work of a master
- Criterion D: Have yielded or may be likely to yield information important in history or prehistory (usually archeological sites)

Following initial coordination with SHPO, a Phase I archaeological and architectural field survey was conducted. The archaeological fieldwork was conducted from April 7-10, 2003, while the history/architecture investigation was conducted on January 31, 2003. Visual inspection, shovel test pit excavation, and surface collections were conducted as part of the survey. As a result of the survey, three archaeological sites and no history/architecture properties were found. Investigation into the archaeological sites revealed that they are not eligible for the NRHP. Because the 65 DNL noise contour does not extend far enough beyond airport property to encompass any sensitive receivers, no additional sites were investigated for historic significance because they would not be within the APE. This includes sites located within historic Worthington. A more detailed description of the cultural resources survey



may be found in the *Phase I cultural Resources Survey of the Proposed Expansion of Ohio State University Airport in Perry Township, Franklin County, Ohio* (ASC 2003)

#### **4.8.2 Environmental Consequences**

In accordance with Section 106 of the National Historic Preservation Act, the effects of the project on cultural resources have been evaluated. The three archaeological sites were found not to be eligible for the NRHP as none of the sites yielded diagnostic artifacts. Also, there are no historic above ground sites eligible for the NRHP within the APE (including historic Worthington which is not in the APE). Therefore, because there are no sites eligible for or listed on the NRHP in the APE, the Preferred Alternative would have no effect upon such sites.

### **4.9 SECTION 4(f) RESOURCES**

#### **4.9.1 Existing Conditions**

Section 4(f) of the Department of Transportation Act specifies that publicly owned land, such as a park, recreational area, or wildlife refuge, and historic sites of national, state, or local significance, may not be used for transportation projects unless there is no other prudent and feasible alternative. If there are no other prudent and feasible alternatives, the proposed project must include all possible efforts to minimize impacts to Section 4(f) properties.

A review of local master plans and land use plans as well as field visits and the Phase I Cultural Resources Survey did not identify the presence of any public parks/recreation facilities or significant historic properties that could be affected.

#### **4.9.2 Environmental Consequences**

The Preferred Alternative would not result in any negative impacts to Section 4(f) resources since none are present in the project area.

### **4.10 BIOTIC COMMUNITIES**

#### **4.10.1 Existing Conditions**

Habitat within the project area includes open fields, pastures, forested areas and an intermittent stream with tributary ditches. Open field and pasture habitats include native and non-native grasses and forbs. Forested habitat located on the east side of airport property includes upland plant communities common to central Ohio. Based on coordination with the Ohio Environmental Protection Agency (OEPA), the Ohio Department of Natural Resources (ODNR), and the U.S. Fish and Wildlife Service (USFWS) as well as field investigations conducted by qualified biologists, no lakes or rare vegetated communities are located within the project area. Agency coordination letters are included in Appendix C.

A Wildlife Hazard Assessment was previously conducted by the United States Department of Agriculture. The assessment noted several features within and surrounding the airport they may serve as an attractant to wildlife species, and OSUA has an ongoing process of addressing these concerns. The following species were observed in the project area during the assessment. Mammal species included: whitetail deer (*Odocoileus virginianus*), woodchuck (*Marmota monax*), eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis latrans*), feral cat (*Felis catus*) and raccoon (*Procyon lotor*). Common bird species included: song sparrow (*Melospiza melodia*), northern cardinal (*Cardinalis cardinalis*), European starling (*Sturnus vulgaris*), red-winged blackbird (*Agelaius phoeniceus*), blue jay (*Cyanocitta cristata*), American



crow (*Corvus brachyrhynchos*), Canada geese (*Branta canadensis*), Rock dove (*Columba livia*), and red-tailed hawk (*Buteo jamaicensis*).

#### **4.10.2 Environmental Consequences**

Impacts to habitat within the construction limits of the project would decrease the quantity of wildlife habitat within the airport property. However, vegetation and wildlife would be minimally affected by the Preferred Alternative since the general character of the project area would remain very similar to its current condition, no unique or special vegetation communities would be affected, and the species affected are common to developed areas. Mobile wildlife species would be displaced to adjacent available habitat, as areas surrounding the airport contain habitat similar to the habitat that will be impacted. The Preferred Alternative would not cause any additional wildlife hazards, but may reduce some hazards the airport. Impacts to aquatic habitat are discussed in Section 4.7 of this EA.

### **4.11 THREATENED AND ENDANGERED SPECIES**

#### **4.11.1 Existing Conditions**

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to insure that "any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species." The State of Ohio also has regulations that protect threatened and endangered plant and animal species. Based on a review of historic occurrence records, background research, field investigations by qualified biologists, and coordination with the ODNR Division of Wildlife and Division of Natural Areas, the project area does not contain any threatened or endangered species or their habitat. No rare, threatened, or endangered species are listed in the ODNR Natural Heritage maps and files for the project area, nor are do these species show up within a one-half mile radius surrounding the project area. Appendix C contains a coordination letter from ODNR.

Field studies conducted for the project did not identify the presence of threatened and endangered species or their habitat. The woodlot located on the eastern end of the airport property contains a dominance of small diameter trees, which is indicative second growth in a recently disturbed habitat. Furthermore, most of the woodlot shows evidence of recent livestock grazing. The adjacent fields also exhibit a history of recent disturbance. The site was inspected for potential roost trees for the Indiana bat. Although some small diameter (<12") hickory (*Carya ovata*) trees were noted, these trees were too small and infrequent to be considered suitable habitat for this species. Currently, there are no forested wetlands or standing deadwood with exfoliating bark providing suitable roosting areas within the project area. Due to its disturbed nature, the project area does not exhibit conditions that are conducive to the presence of any other rare or endangered plant or animal species.

#### **4.11.2 Environmental Consequences**

Based on a review of the historical occurrence of threatened and endangered species in the project area, field surveys, coordination with the ODNR, and lack of suitable habitat, the Preferred Alternative would not impact threatened or endangered species or suitable threatened and endangered species habitat as defined by the Endangered Species Act because neither are present in the project area.

### **4.12 WETLAND RESOURCES**

#### **4.12.1 Existing Conditions**

Ohio's wetlands are currently regulated under the jurisdiction of the Section 404 of the Clean Water Act, DOT Order 5660.1A, the Rivers and Harbors Act, and Executive Order 11990, Protection of Wetlands.



The Executive Order requires the avoidance of direct or indirect impacts to wetlands caused by construction activities that are Federally undertaken, financed, or assisted. Where unavoidable impacts are present, an evaluation and mitigation for the impacts must be performed, regardless of size or regulatory status. DOT Order 5660.1A requires that transportation facilities should be planned constructed and operated to ensure protection and enhancement of wetlands.

The wetland investigation conducted for this project included a complete and thorough search of the property as well as substantial background research related to soils, hydrology, and historic uses of the property. A field investigation was conducted by a qualified wetland biologist on November 21, 2002. This investigation led to the conclusion that there are no jurisdictional wetlands present anywhere in the project area. An intermittent stream and two ditches were identified and are discussed in Section 4.7 of this EA.

#### **4.12.2 Environmental Consequences**

No jurisdictional wetlands are present. Therefore, the Preferred Alternative would not result in any impacts to wetland resources.

### **4.13 FLOODPLAINS**

#### **4.13.1 Existing Conditions**

Floodplains are defined by Executive Order 11988, Floodplain Management, as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year”. Coordination with OSUA and local authorities did not indicate mapped 100-year floodplains within the project area. There are no Flood Insurance Rate Maps (FIRM) prepared as part of the National Flood Insurance Program (NFIP) for the OSUA.

#### **4.13.2 Environmental Consequences**

Executive Order 11988 and a number of supporting Federal regulations and guidelines address the issue of floodplains. These regulations and guidelines are intended to reduce the risk of property damage and injury as a result of flooding. Additionally, they are intended to protect natural floodplain benefits. In general, floodplain “encroachments” (placing fill material, culverts, bridge piers, etc. within a floodplain) must be avoided and minimized where practical. Where these impacts cannot be avoided, specific studies are required to demonstrate that floodwater elevations would not be harmfully altered as a result of encroachments. Beyond these items, floodplain encroachments can require a permit from the OEPA. Implementation of the Preferred Alternative would have no impact to any officially designated floodplains since there are none present in the project area.

### **4.14 FARMLAND**

#### **4.14.1 Existing Conditions**

The Farmland Protection Policy Act (FPPA) requires that all Federal agencies “identify and take into account the adverse effects of Federal programs on the preservation of farmland” and to consider alternatives that would lessen those effects. This act is implemented by the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS) and regulates farmlands that are designated as “prime”, “unique”, “statewide important”, and “local important”. The NRCS has identified specific soil types that make up these special categories. The FPPA specifically excludes land already in or committed to urban development or water storage from these protected categories. This includes land



that has been designated or zoned for residential, industrial or commercial use within the past ten years. OSUA and surrounding areas are currently zoned as commercial, industrial, and residential. The Soil Survey of Franklin County, Ohio, was also reviewed to identify soil conditions in areas proposed for development. No prime or unique farmland soils were identified through this exercise. The Ohio Department of Agriculture (ODA) confirmed that no prime and unique farmland is located within airport property.. In addition, there are no privately owned farms adjacent to airport property.

#### **4.14.2 Environmental Consequences**

The NRCS indicated that they reviewed the proposed developments for OSUA and found that there would not be a negative impact on prime and unique farmland or forestland. According to the NRCS, since no unique or prime farmlands are being impacted, an AD 1006 form would not be required. Since the project area does not contain prime and unique farmland or land enrolled in the Farmland and Open Space Preservation Program, implementation of the Preferred Alternative would have no impact to these farmlands.

### **4.15 ENERGY SUPPLY AND NATURAL RESOURCES**

#### **4.15.1 Existing Conditions**

The energy requirements associated with OSUA fall into two categories: those that relate to changed demand for stationary facilities and those that involve the movement of air and ground vehicles. Examples of these are airfield lighting, terminal heating and cooling systems, and aircraft and passenger vehicles. Both of these categories are present at OSUA.

#### **4.15.2 Environmental Consequences**

A relatively small amount of additional fuel would be used during construction activities at OSUA. A minor increase in fuel consumption would also occur due to the increased annual operations associated with the Preferred Alternative. These increases in fuel consumption are not considered significant as per the thresholds identified in FAA Order 5050.4A. Therefore, implementation of the Preferred Alternative would have no significant impact to energy supply and natural resources.

### **4.16 HAZARDOUS MATERIALS**

#### **4.16.1 Existing Conditions**

Based on a review of OEPA and U.S. EPA databases, consultation with OSUA staff, and field investigations, there are not any known hazardous materials sites in the project area.

#### **4.16.2 Environmental Consequences**

There are no known contaminated sites within the area that would be affected in any way by the Preferred Alternative. Therefore, implementation of the Preferred Alternative would not affect any contaminated sites.

### **4.17 CONSTRUCTION IMPACTS**

The Preferred Alternative would result in temporary localized air, water, and noise quality impacts during construction. Construction documents would identify specific environmental control methods to minimize air and water quality impacts. Section 4.20 identifies control methods and mitigation measures for construction impacts.



## 4.18 CONSISTENCY WITH LAND USE PLANS

Direct comparison indicates that the Preferred Alternative is consistent with the City of Columbus land use plans.

## 4.19 CONSISTENCY WITH LAWS AND REGULATIONS

The Preferred Alternative is consistent with all applicable local, State, and Federal laws and regulations.

## 4.20 MITIGATION MEASURES

The provisions of FAA Advisory Circular 150/5370-10, "*Standards for Specifying Construction of Airports*", FAA Advisory Circular 150/5230-5B, "*Airport Drainage*", and State of Ohio regulations will be incorporated into the construction contract as required to prevent air and water pollution. Adequate controls will be used to minimize any adverse effects generated by grading operations. Contract specifications will require control of dust from all construction operations. Care will be exercised to seed or pave areas in a timely manner after final grading. Mulching of all seeded areas will be required to ensure good starting and growth of grass seed. Drainage swales and berms will be designed in such a manner as to avoid steep side slopes. Air quality impacts, such as fugitive dust and exhaust from construction equipment, will be minimized by seeding disturbed areas, covering haul trucks, and wetting down the construction areas.

Sediment and erosion control measures would be used to minimize any impacts to adjacent drains and/or wetland areas. OSUA would obtain a soil and erosion control permit, and a National Pollution Discharge Elimination System (NPDES) Permit would be required. Construction would comply with FAA specifications, and State of Ohio regulations would be followed as required to prevent air and water pollution.

Table 10 provides a summary of environmental impacts and proposed mitigation.

## 4.21 DEGREE OF CONTROVERSY

The Preferred Alternative has caused concern from some citizens and neighborhood groups in communities surrounding OSUA. The main issue of concern raised by these groups has been noise levels, and there has been controversy regarding this topic. To assure that these and any other concerns were addressed as part of the study process, OSUA set up an Advisory Committee early in the project to gather information and concerns from surrounding communities. In addition to the Advisory Committee, the Airport Director has met with concerned community groups and has attended city council meetings. OSUA has also held two public information meetings to collect public input and inform residents of the progress of the project, with one more planned.

Throughout the study process, numerous letters have been received regarding existing and future noise levels in surrounding areas. The majority of concerned residents are from the City of Worthington. In addition to letters received from concerned citizens, an organization has been set up to oppose the airport



project. This group is called "We Oppose Ohio State Expansion" (WOOSE). The OSUA has also received many letters of support of the Preferred Alternative from other citizens and community groups.

**Table 10. Summary of Environmental Impacts and Proposed Mitigation.**

<b>Environmental Factor</b>	<b>Impact With Development</b>	<b>Mitigation and/or Permit Requirements</b>
Noise	No Impact	None required.
Compatible Land Use	No Impact	None required.
Social Impacts	No Impact	None required.
Socioeconomic Impacts	No Impact	None required.
Environmental Justice	No Impact	None required
Air Quality	No Impact	None required
Water Quality	Minor Impacts	Required permits to be obtained Best management practices during construction.
Historic, Archeological, Architectural and Cultural	No Impact	None required.
Section 4(f) Resources	No Impact	None required.
Biotic Communities	Minor impacts to species that utilize forested areas and to aquatic biota in stream/ditches	None required.
Threatened and Endangered Species	No Impact	None required.
Wetland Resources	No Impact	None required.
Floodplains	No Impact	None required.
Prime and Unique Farmland	No Impact	None required.
Energy Supply and Natural Resources	No significant impact	None required.
Solid Waste	No significant Impact	None required.
Construction	Short-term increase in noise and air pollution and construction traffic	Compliance with FAA Advisory Circular 150/5370-10; Soil Erosion Control Permit; NPDES Permit

