

CHAPTER FIVE

ENVIRONMENTAL REVIEW

5.1 INTRODUCTION

Council for Environmental Quality (CEQ) 1501.2 states, “Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.” To ensure that environmental factors are considered during the master planning process for the Ohio State University Airport, this environmental overview has been prepared. This environmental overview is not intended to be a formal Environmental Assessment (EA) or Environmental Impact Statement (EIS). Rather, it is meant to identify potential environmental factors within the project area so that they can be considered in the development of proposed projects for the Airport. For those Airport projects that are not categorically excluded from further environmental review, additional environmental analyses will be conducted, resulting in either an EA or EIS. This environmental review was conducted in accordance with FAA Order 5050.4A, “Airport Environmental Handbook,” which presents guidelines for 20 specific environmental categories. These 20 categories are as follows:

- Noise
- Compatible Land Use
- Social Impacts/Induced Socioeconomic Impacts
- Air Quality
- Water Quality
- Department of Transportation Act, Section 4(f) (recodified at 49 USC, Subtitle I, Section 303)
- Historic, Architectural, Archaeological, and Cultural Resources
- Biotic Communities
- Endangered and Threatened Species of Flora and Fauna
- Wetlands
- Floodplains
- Coastal Zone Management Program
- Coastal Barriers
- Wild and Scenic Rivers
- Farmland
- Energy Supply and Natural Resources
- Light Emissions
- Solid Waste Impact
- Construction Impacts

Two additional environmental categories have been included for consideration in environmental documents since the publication of FAA Order 5050.4A, “Airport Environmental Handbook.” These categories include: potential cumulative impacts and Environmental Justice impacts

resulting from the proposed action. Each of these environmental impact areas is discussed in further detail in this chapter.

This environmental overview discusses potential environmental impacts of the following proposed runway improvements, as well as landside developments identified in the Master Plan Update. The proposed runway improvements for the Ohio State University Airport include the following:

- Extension of Runway 9L/27R from 3,000 feet to 6,000 feet. This will be accomplished by adding 1,800 feet to the west side (Runway 9L) and 1,200 feet to the east side (Runway 27R). This extension will allow the north runway to accommodate corporate jet traffic.
- Installation of high intensity runway lighting and approach lights on 9L/27R.
- Installation of a precision approach on 27R. This includes an instrument landing system (ILS) with a lighting system that will extend approximately 2,800 feet from the end of the pavement.
- Construction of new taxiways from both ends of the north runway to the south runway.

The proposed landside improvements include the following:

- Infill development/redevelopment of the southern building including the construction of a new general aviation terminal/administration building, a new Flight Education Center, hangars, auto parking, maintenance buildings, and a proposed aviation research center building.
- Development of the northern building area.

All development will take place on land currently under the control of the Airport and the University.

An Environmental Analysis (EA) and Noise Study for the extension of Runway 9L/27R are currently underway and are incorporated by reference herein.

5.2 NOISE

The FAA's Integrated Noise Model (INM), Version 6.0, was used to evaluate the future (2020) noise impacts of the proposed airport. The following subsections summarize the physics and measurement of noise, the noise modeling analysis performed, and the general assumptions used during the modeling process.

5.2.1 Physics and Measurement of Noise

Sound and noise are physically the same; however, noise is typically defined as unwanted sound. Whether a sound is considered to be a noise is a subjective determination made by the receiver (listener). Sound is measured by its pressure or energy. As a sound source vibrates, it introduces vibrations into the air, causing fluctuations in the atmospheric pressure. The unit of measure for

this sound energy is known as a decibel (dB). A decibel is a unit that measures the difference between atmospheric pressure with no sound and the total pressure with the sound. Decibels are logarithmic and, therefore, cannot be added to produce a total. For example, two 70 dB sound sources added together produce a total sound energy of 73 dB. When the decibel count goes up by 10, the perceived sound is twice as loud. The decibel scale from zero to 120 covers most of the range of everyday sounds, as shown in **Table 5-1**. Two important factors that influence noise perception are frequency and duration. Frequency reflects the pitch of the sound, measured in cycles per second, or Hertz. Duration refers to the length of a particular noise event, such as an aircraft flyover, or a series of events.

TABLE 5-1

COMMON SOUND LEVELS

| Decibels | Common Aircraft Sound Level | Common Sound Levels |
|-----------------|--|----------------------------|
| 110 | B-747 Takeoff at 2 miles | Rock Band |
| 100 | DC10 Takeoff at 2 miles | Gas Lawn Mower at 3 feet |
| 90 | B-727 Takeoff at 2 miles | Garbage Disposal at 3 feet |
| 80 | Lear Jet Takeoff at 2 miles | Shouting at 3 feet |
| 70 | DASH-8 Takeoff at 2 miles | Normal Speech at 3 feet |
| 60 | DASH-6 Takeoff at 2 miles | Large Business Office |
| 50 | Piper Twin Comanche Takeoff at 2 miles | Dishwasher Next Room |
| 40 | | Conference Room |
| 30 | | Bedroom at Night |
| 20 | | Recording Studio |
| 10 | | Threshold of Hearing |

5.2.2 Use of DNL as Standard Descriptor for Aviation Noise

In 1979, the Federal Aviation Administration (FAA) designated a single methodology for measuring and describing noise in accordance with the Aviation Safety and Noise Abatement Act. In 1981, the FAA formally adopted day-night average sound level (DNL) as the single

system for determining exposure of individuals to airport noise. According to the FAA, DNL is the most widely accepted descriptor for aviation noise based on the following characteristics:

- DNL is a measurable quantity
- DNL is relatively simple to understand and to use by airport planners and the public who are not familiar with acoustics or acoustical theory
- DNL provides a simple method to compare the effectiveness of alternative airport scenarios
- DNL is a “figure of merit” for noise impacts that are based on communities’ reactions to environmental noise
- DNL is the best measure of noise exposure to identify significant impacts on the quality of the human environment
- By Federal interagency agreement, DNL is the best descriptor of all noise sources for land use compatibility planning
- DNL is the only metric with a substantial body of scientific survey data on the reactions of people to noise

DNL is the 24-hour average sound level, in decibels, obtained from the accumulation of all sound events. This includes the addition of a 10-decibel penalty for sounds occurring at night between 10 p.m. and 7 a.m. The weighting of nighttime events accounts for the usual increased interfering effects of noise during the night, when ambient levels are lower and people are trying to sleep.

5.2.3 Noise Contour Generation

Noise contours presented in the following sections were generated using the Integrated Noise Model (INM) Version 6.0. This model is the FAA’s state-of-the-art approved computer model that is used to predict the noise impacts that occur as a result of aircraft operations. The INM program will predict the values or contours of equal noise exposure for select points on the ground. The FAA currently requires that three different DNL levels (65, 70, and 75 DNL) be modeled. Noise-sensitive land uses, such as residences, hospitals, libraries, and schools, are generally considered unacceptable for noise levels greater than 65 DNL. A sound level over 65 DNL, but less than 75 DNL, is normally considered unacceptable for residential land uses. Such uses can be made acceptable with proper noise insulation techniques. For local and regional planning purposes, the 60 DNL contour was also prepared.

5.2.4 Noise Modeling Assumptions

Data from a number of sources are required in order to use the INM in the analysis of aircraft noise. The necessary data used in generating the noise contours include aircraft activity levels, fleet mix, flight track utilization patterns, and time of operation. The following is a summary of the data used to produce noise contours for the Airport:

Aircraft Activity

Projected annual aircraft activity for 2020 were developed in Chapter 2. **Table 5-2** presents the data that was used to develop the input for the INM. For comparison, the 1999 base data is also shown.

TABLE 5-2
PROJECTIONS OF AIRCRAFT ACTIVITY

| General Aviation Operations | 1999 Annual Operations | 1999 Daily Operations | 2020 Annual Operations | 2020 Daily Operations |
|-----------------------------|------------------------|-----------------------|------------------------|-----------------------|
| Local | 59,173 | 230 | 97,680 | 309 |
| Itinerant | 69,713 | 269 | 79,920 | 378 |
| Total | 128,886 | 499 | 177,600 | 687 |

Source: Wilbur Smith Associates

Fleet Mix

Fleet mix refers to the various categories of aircraft operating at the Airport. Fleet mix projections were also developed as part of the demand projections phase of the Master Plan Update. These data are presented in **Table 5-3**.

TABLE 5-3
OPERATIONAL FLEET MIX

| Aircraft Type | 1999 | 2020 |
|------------------------|------|------|
| Single-Engine | 81% | 81% |
| Multi-Engine/Turboprop | 11% | 8% |
| Jet | 8% | 11% |

Runway Utilization

Runway end utilization assumptions were based on discussions with Airport management and a review of historical wind conditions. With the proposed extension to Runway 9L/27R, approximately 80 percent of the jet operations and almost all of the nighttime activity is anticipated to occur on this runway. Runway 9R/27L will account for approximately 20 percent of the jet operations. Approximately 60 percent of the multi-engine activity will occur on Runway 9R/27L, 35 percent on Runway 9L/27R, and 5 percent on Runway 5/23. Approximately 80 percent of the single-engine activity will occur on Runway 9R/27L, 15 percent on Runway 9L/27R, and 5 percent on Runway 5/23.

Approach and Takeoff Profiles

Approach and takeoff profiles identify aircraft altitudes along the flight path. Standard approach and takeoff profiles are incorporated in the INM, and were used for this analysis. The primary

direction of departures is to the west, although approximately one-third of the departures are to the east. **Exhibit 5-1** depicts the runway utilization and the approach/departure profiles.

Flight Tracks

Flight tracks are the projection on the ground of an aircraft's path. Flight paths are unique for each flight due to meteorological conditions, aircraft type, stage length, and pilot judgment. Generalized flight track assumptions were developed for the Airport based on historical operational conditions, as well as anticipated patterns.

5.2.5 Future Noise Contours

The noise exposure contours for 2020 are shown in **Exhibit 5-2**.

5.3 COMPATIBLE LAND USE

The 2000 and 2020 noise contours were analyzed to evaluate the impact of aircraft noise on sensitive land uses in the Airport area. Sensitive land uses include: residential areas, schools, parks, hospitals, churches, amphitheaters, and libraries. FAA Advisory Circular 150/5020-1, *Noise Control and Compatibility Planning for Airports*, has identified land use compatibility guidelines that relate types of land uses to airport noise levels. Based on these guidelines, all land uses are considered compatible with yearly day-night sound levels below 65 DNL. Residential areas border the Airport to the east, south, and west. Sawmill State Wildlife Education Area and Brookside Country Club are located to the north of the Airport. There are several parks located within one mile to the east of the Airport, including the Olentangy River Trail, Antrim Park, Broadmeadows Park, Olentangy Park, Anheuser Busch Sports Park, and Kenney Park. Sycamore Hills Park is located southeast of the Airport. There are scattered commercial and manufacturing land uses located along Sawmill Road to the west of the Airport. The proposed airport layout plan includes extension of Runway 9L by 1,800 feet to the west and the extension of Runway 27R by 1,200 feet to the east. These two runway extensions and their associated runway protection zone areas will be contained on University-owned property. Based on the results of the noise analysis, the 65 DNL contour is completely within Airport property; therefore, there would be no noise impacts to surrounding sensitive land uses, including parks and residential areas.

There currently exist few remaining undeveloped sites in Northwest Columbus. As the city considers residential development for sites in the immediate vicinity of the Airport, the University requests that a disclosure statement be incorporated into the plat(s) and deeds, as was previously used by the City for other developments around the Airport, and which can be referenced through **City Ordinance 484-92, Section 7**, as follows:

That this ordinance is further conditioned upon the following notice appearing on the plat(s) of the site and in the deed as part of every individual lot conveyance:

Exhibit 5-1

Exhibit 5-2

Disclosure – This subdivision is located approximately ____' from the end of the principal runway at Don Scott Field, the OSU Airport, and is located adjacent the approach and departure paths for aircraft using the runway. Depending upon weather conditions, there may be times that aircraft will be operating at minimum of approximately ____' above mean sea level (____' above ground level) as they pass by the subdivision. The subdivision will be subject to noise exposure from aircraft. Due to the nature of this traffic, residents of this subdivision shall be prohibited from using or allowing to be used any equipment which can interfere with the communications and other electronics of the Airport, or which will produce Electro Magnetic Radiation (EMR) from their dwelling or lot thereon, which EMR would unreasonably or dangerously interfere with the communications, navigational facilities, or other electronics of the Airport.

5.4 SOCIAL IMPACTS

The purpose of a social impact analysis is to determine the effect of airport development on the human environment. The types of social impacts typically evaluated are as follows:

- Relocation of residences and/or businesses
- Alterations in traffic patterns that may permanently or temporarily restrict traditional community access
- Division or disruption of established communities
- Disruption of orderly, planned development
- Creation of appreciable change in employment

Each of these impacts is discussed below.

Relocation of residences and/or businesses: The proposed Airport development projects will not result in the relocation of residences and/or businesses.

Alterations in traffic patterns that may permanently or temporarily restrict traditional community access: The proposed Airport development projects will not result in any road closures or other access restrictions that would impact existing traffic patterns.

Division or disruption of established communities: Each of the proposed Airport development projects will occur on Airport property; therefore, there will not be any division or disruption of established communities or neighborhoods adjacent to the Airport.

Disruption of orderly, planned development: The proposed Airport development projects will not impact planned development adjacent to the Airport property.

Creation of appreciable employment: The construction of the Airport development projects will result in the creation of construction-related jobs in Franklin County. However, the number of jobs that will be created will not result in significant economic changes in Franklin County.

5.5 INDUCED SOCIOECONOMIC IMPACTS/CUMULATIVE IMPACTS

Induced socioeconomic impacts and cumulative impacts are evaluated to adequately assess the economic consequences and social ramifications of airport development. Induced socioeconomic and cumulative impacts on surrounding communities include shifts in patterns of population movement and growth, changes in public service demands, and changes in business and economic activity. Cumulative impacts occur if the proposed airport development projects, combined with other local development projects, such as road improvements or economic development projects, create significant socioeconomic impacts for the surrounding area. The proposed Airport development projects at the Ohio State University Airport will not result in shifts in patterns of population movement and growth. The projects will occur on University-owned land and will not require any re-zoning of adjacent land. The proposed Airport improvement projects will not require an expansion of utilities or public safety services, including fire and police service, that are available to the Airport. In addition, the proposed Airport development will not result in significant economic changes. There will be some construction-related employment generated by the projects that will have minor short-term economic benefits to Franklin County. It is not anticipated that there will be any long-term Airport jobs created by the projects. The Airport projects will increase the Airport's utilization by business jets and may encourage the location of businesses in Franklin County. However, these economic impacts, while beneficial to the local economy, are not anticipated to be significant enough to result in shifts in population or changes in local land use.

5.6 ENVIRONMENTAL JUSTICE IMPACTS

On April 15, 1997, the Department of Transportation (DOT) released DOT Order 5680.1 to comply with the Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations. This Order requires DOT to identify and address disproportionately high and adverse human health or environmental effects of their policies or programs on minorities or low-income populations. Environmental Justice must be considered in all phases of planning. It is essential that any potential impacts to minority and low-income populations be identified early in the planning process so that they can be considered during the evaluation of project alternatives.

The proposed Airport development projects will not result in any disproportionate adverse impacts to minority and low-income populations because there will be no significant impacts off Airport property to adjacent residential areas.

5.7 AIR QUALITY

The National Environmental Policy Act of 1969 (NEPA), the Clean Air Act (CAA), as amended, and Title 49 U.S.C. 47106 (c) (1) (B), as amended (formerly sections 509 B) (5) and (B) (7) of the Airport and Airway Improvement Act of 1982, as amended; PL 97-248, are the primary laws that apply to air quality. NEPA requires Federal agencies to prepare an environmental document (i.e. environmental impact statement (EIS) or environmental assessment (EA)) for major Federal actions that have the potential to affect the quality of the environment, including air quality.

The Clean Air Act (CAA) established National Ambient Air Quality Standards (NAAQS) for six pollutants, termed “criteria pollutants.” The six pollutants are: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulates (PM 10 and PM 2.5), and sulfur dioxide (SO₂). The CAA requires each state to adopt a plan (State Implementation Plan or SIP) to achieve the NAAQS for each pollutant within timeframes established under the CAA.

Title 49 U.S.C. 47106 (c) (1) (B), as amended formerly sections 509 (B) (5) and (B) (7) of the Airport and Airway Improvement Act of 1982, as amended; PL 97-248 requires that the DOT/FAA may not approve a grant application for an airport development project involving the location of the airport, runway, or major runway extension, unless the Governor of the State in which the project is located certifies that there is reasonable assurance that the project will be located, designed, constructed, and operated in compliance with applicable air quality standards. Certification must be obtained from the Governor of the State prior to FAA approval of the project.

The Ohio State University Airport is located in Franklin County, which is currently in compliance with each of the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The NAAQS contained in the Federal Clean Air Act, as amended by the United States Congress in 1970, 1977, and 1990, are permitted levels for pollutants that must be met in order for a region to be in attainment for that pollutant. NAAQS standards are established for Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Nitrogen Dioxide (NO₂), lead (Pb), ozone (O₃), and particulate matter (PM 10).

FAA Order 5050.4A, *Airport Environmental Handbook*, indicates that, if the 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 Ohio State University Airport is based on the annual aircraft operations at the Airport. Based on the guidelines provided in FAA Order 5050.4A, *Airport Environmental Handbook*, 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, air quality impacts are not anticipated.

Because Franklin County is in attainment for all Federal and State air quality criteria and the Ohio State University Airport is projected to have less than 180,000 general aviation operations over the 20-year planning period, there will not be any adverse air quality impacts as a result of the Airport improvement projects. In accordance with 49 U.S.C. 47106 (C)(1)(B), certification must be obtained from the Governor of Ohio stating that the project will be located, designed, constructed, and operated in compliance with applicable air quality standards.

5.8 WATER QUALITY

The Federal Water Pollution Control Act, as amended (commonly referred to as the Clean Water Act), provides the authority to establish water quality standards, control discharges, develop

waste treatment management plans and practices, prevent or minimize the loss of wetlands, establish location with regard to an aquifer or sensitive ecological area such as a wetlands area, and regulate other issues concerning water quality.

If the proposed Federal action would impound, divert, drain, control, or otherwise modify the waters of any stream or other body of water, the Fish and Wildlife Coordination Act applies unless the project is for the impoundment of water covering an area of less than 10 acres. The Fish and Wildlife Coordination Act requires the responsible Federal official to consult with the Fish and Wildlife Service (FWS) and the applicable state agency to identify means to prevent loss or damage to wildlife resources resulting from the proposal.

If there is the potential for contamination of an aquifer designated by the Environmental Protection Agency (EPA) as a sole or principal drinking water resource for the area, the project needs to be coordinated with the EPA as required by section 1424 (e) of the Safe Drinking Water Act, as amended.

Potential water quality impacts associated with airport development result from disturbance of large areas of soil during construction; significant alteration of site grading and drainage; creation of large areas of impervious surface; and altered storm water runoff volumes and direction of flow. The project area lies between two rivers, the Scioto River to the west and the Olentangy River to the east. To ensure that there are no water quality impacts, Best Management Practices (BMPs) should be utilized to prevent non-point source pollution during construction, thereby controlling storm water runoff and sediment damage to water quality and aquatic habitat. Measures identified in FAA Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, should be incorporated into the design and construction of the proposed Airport projects to minimize adverse water quality effects, including control of water pollution during construction. The Ohio Environmental Protection Agency (OhioEPA) indicated in correspondence dated March 28, 2002, and included in Appendix B, that the following requirements must be met during the design and construction of this project:

- A storm water permit for construction must be acquired.
- Coverage under the Industrial Activity Storm Water General Permit for the current operation and expanded operation must be obtained.
- Treatment and disposal of deicing agents must be addressed.
- Any impacts on streams and/or wetlands must obtain approval from the U.S. Army Corps of Engineers and Ohio EPA.

The proposed Airport improvement projects would not impound, divert, drain, control, or otherwise modify the waters of any stream or other body of water. Therefore, the Fish and Wildlife Coordination Act does not apply to this project. In addition, the Ohio State University Airport is not within an area of a Sole Source Aquifer as indicated by the Ohio EPA's web site; therefore, section 1424 (e) of the Safe Drinking Water Act, as amended, does not apply.

5.9 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) (RECODIFIED AT 49 USC, SUBTITLE I, SECTION 303)/LAND AND WATER CONSERVATION ACT SECTION 6(F)

The Department of Transportation Act of 1966, Section 4(f), Recodified at 49 USC, Subtitle I, Section 303, prohibits the taking of public parkland, recreation areas, wildlife and waterfowl refuges, or historic sites unless there is “no feasible and prudent alternative.” Section 6(f) of the Land and Water Conservation Act prohibits the taking of lands purchased with land and water conservation funds. Because the Airport development projects will occur within Airport property and there will be no impacts to adjoining properties, including air and noise impacts, there will be no direct or indirect impacts to Section 303 or Section 6(f) lands as a result of the proposed Airport development projects.

5.10 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act of 1966 (NHPA), as amended, provides for the preservation of properties that are eligible for inclusion in the National Register of Historic Places (NRHP). In addition, Section 106 of the NHPA directs the heads of Federal agencies, Federal departments, or independent agencies that have direct or indirect jurisdiction over a Federal or federally assisted undertaking to “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.”

The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, prehistorical, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to a Federal, federally licensed, or federally funded project.

Correspondence received from the Ohio Historic Preservation Office indicated that there are currently no known sites listed in the Ohio Archaeological Inventory for the project area and that the project area is not in a listed historic district. There are properties listed in the Ohio Historic Inventory in and around the project area, including architectural property FRA-1889-2, which is located northwest of the proposed extension of runway 9L/27R. The runway expansion part of the project would result in the demolition of a number of buildings currently utilized by the Ohio State University as Agricultural and Laboratory Animal Buildings. The expansion of the Airport also will require consideration of factors such as noise on older structures. In accordance with Section 106 of the National Historic Preservation Act, additional consultation with the Ohio Historic Preservation Office is required prior to the construction of these projects to identify historic properties and assess the effects of the project undertakings on the properties. Further consultation must include consideration of the Area of Potential Effects of the Airport expansion and the level of effort that will be required to comply with requirements to identify historic properties. (See letter from David Snyder, Archaeology Reviews Manager, Ohio Historic Preservation Office, dated May 8, 2002, included in Appendix B).

5.11 BIOTIC COMMUNITIES/THREATENED AND ENDANGERED SPECIES

Section 7 of the Endangered Species Act (ESA), as amended, applies to Federal agency actions and requires each agency, generally the lead agency, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any Federally listed endangered or threatened species or result in the destruction or adverse modification of critical habitat. In addition, the Fish and Wildlife Coordination Act requires that agencies consult with the State wildlife agencies and the Department of the Interior (FWS) concerning the conservation of wildlife resources where the water of any stream or other water body is proposed to be controlled or modified by a Federal agency or any public or private agency operating under a Federal permit.

Coordination undertaken with the U.S. Fish and Wildlife Service (USFWS) indicated that there are several Federally listed or Candidate threatened or endangered species that occur within the vicinity of the Ohio State University Airport. These include: the Indiana bat (*Myotis sodalis*), a Federally listed endangered species, and the eastern massasauga (*Sistrurus catenatus catenatus*), a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate species. The letter from Mary M. Knapp, Supervisor for the U.S. FWS, dated April 12, 2002, and included in Appendix B, includes information related to the measures that should be undertaken relative to these species during project design and construction in order to avoid potential impacts to these species and their habitats. An on-site biological survey of the Ohio State University Airport will be performed as part of the more detailed Environmental Assessment to determine potential impacts on wildlife and plant species and habitats.

5.12 FLOODPLAINS

Executive Order 11988 directs Federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by floodplains. Agencies are required to make a finding that there is no practicable alternative before taking action that would encroach on a base floodplain based on a 100-year flood (7 CFR Section 650.250).

According to the Flood Insurance Rate Map (FIRM) for Franklin County, Ohio, the Ohio State University Airport does not include areas within the 100-year or 500-year floodplain. Therefore, there will be no floodplain impacts as a result of the proposed projects. The FIRM map is included in Appendix B.

5.13 WETLANDS

Executive Order (E.O.) 11990, "Protection of Wetlands," DOT Order 5660.1A, the Rivers and Harbors Act of 1899, and the Clean Water Act, Section 404, address activities in wetlands. E.O. 11990 requires Federal agencies to ensure that their actions minimize the destruction, loss, or degradation of wetlands. It also ensures the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, funding, and operation of transportation facilities and projects (7 CFR Part 650.26, August 6, 1982). DOT

Order 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to ensure protection and enhancement of wetlands.

Based on a review of the National Wetlands Inventory (NWI) Map (Northwest Columbus, Ohio quadrangle), there are no wetlands located within the boundaries of the Ohio State University Airport that would be impacted by the proposed Airport improvement projects. An on-site wetlands investigation will be conducted of the project area during the preparation of the Environmental Assessment required for the proposed runway extension projects to ensure that there will be no wetlands impacts. If wetland impacts are identified, coordination with the U.S. Army Corps of Engineers will be required and a Section 404 permit obtained prior to project construction.

5.14 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act (P.L. 90-542, as amended) protects rivers that are listed on the National Inventory of Wild and Scenic Rivers. Based on a review of the nationally designated wild and scenic rivers available on the National Park Service's web site, the proposed improvements at the Ohio State University Airport will not impact nationally designated wild and scenic rivers. The State of Ohio has a statewide wild and scenic rivers program that protects state-designated wild and scenic river segments. The Ohio Division of Natural Areas and Preserves' list of wild and scenic rivers indicates that the Olentangy River is a designated scenic river for 22 miles. The boundaries of this designation extend from just below the Delaware Dam in Delaware to the Old Wilson Bridge Road in Worthington, Ohio. The Ohio State University Airport is located approximately one and a half miles downstream of the Old Wilson Bridge Road in Worthington. Therefore, the proposed Airport improvements would not impact the segment of the Olentangy River that is designated a scenic river.

5.15 COASTAL ZONE MANAGEMENT PROGRAM AND COASTAL BARRIERS

The Coastal Barriers Resources Act (CBRA) and the Coastal Zone Management Act (CZMA) govern Federal activities involving or affecting coastal resources. These environmental issues do not apply to the proposed improvements at the Ohio State University Airport.

5.16 FARMLAND

The Farmland Protection Policy Act (FPPA) regulates Federal actions with the potential to convert farmland to nonagricultural uses. Based on a review of the Soil Survey of Franklin County, Ohio, there are no prime or unique farmland soils within the boundaries of the Ohio State University Airport. In addition, there are no active farms in the areas adjacent to the Airport. Therefore, there will be no adverse impacts to farmland soils or active farms as a result of the Airport improvement projects.

The Ohio State University College of Food, Agricultural, and Environmental Sciences currently uses some land and buildings on the Airport property for agricultural purposes. The proposed Airport development projects will not impact these operations, with the exception that some

buildings currently utilized by OSU's College of Food, Agricultural, and Environmental Sciences will need to be removed with the extension of runway 9L/27R. Airport development that will impact the College of Food, Agriculture, and Environmental Science will be contingent on University concurrence with all projects.

5.17 ENERGY SUPPLY AND NATURAL RESOURCES

FAA Order 1053.1, *Policies and Procedures for Energy Planning and Conservation*, provides for assessing energy demands related to airport improvement projects. The effects of airport development on the energy supply typically relate to the amount of energy required for the following:

- Stationary facilities (such as terminal building heating and cooling and airfield lighting)
- Movement of air and ground materials

The effects of airport development on natural resources typically relate to basic materials, such as gravel, fill dirt, etc., that are required for construction.

It is anticipated that the local power company will have no difficulty in meeting the energy demands of the proposed stationary facilities or runway lighting.

Aviation activity at the Airport is projected to increase approximately 2.1 percent compounded annually. Therefore, energy consumption by aircraft and vehicles will not be expected to noticeably increase due to the proposed Airport development.

5.18 LIGHT EMISSIONS

Light emissions caused by airport-related lighting can create an annoyance to residents in the vicinity of the airport. In general, however, light emissions created by general aviation airports are minimal. As indicated in FAA Order 5050.4A, light emissions do not result in impacts to adjacent residential communities unless there are unusual circumstances, such as high intensity strobe lighting aimed directly at an individual's house. Therefore, the proposed Airport development projects, which include the addition of high intensity runway lights and approach lights for Runway 9L/27R, are not expected to result in light emission impacts to adjacent communities.

5.19 SOLID WASTE AND HAZARDOUS MATERIALS IMPACTS

The two statutes of most importance in the construction and operation of airport facilities and navigational aids are the Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended (also known as Superfund). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes and CERCLA provides for the cleanup of any releases of a hazardous substance (excluding petroleum) into the

environment. FAA actions to fund, approve, or conduct an activity require consideration of hazardous material and solid waste impacts.

To identify the presence of known hazardous waste sites within the Airport property that could be impacted by the construction of the proposed improvement projects, the Environmental Protection Agency (EPA) databases for hazardous waste information were searched. These databases include information on hazardous waste generators, as well as hazardous waste sites. Based on this search, no known hazardous waste sites are within the Airport property.

In addition to hazardous waste sites, solid waste impacts must be evaluated in conjunction with airport development. These impacts include the following:

- Impacts on solid waste generation
- Location of existing solid waste disposal facilities in the vicinity of proposed runways

No significant increases in solid waste generation are anticipated as a result of the proposed Airport improvements. The only additional waste anticipated is that which will be associated with the construction of the aviation facilities. The Airport currently disposes of its waste at the Franklin County Sanitary Landfill, located south of Downtown Columbus off Interstate 71 in Jackson Township, Ohio, approximately 13 miles from the Airport. The Landfill is owned and operated by the Solid Waste Authority of Central Ohio and serves residents and businesses within the Solid Waste District. The existing waste collection and disposal facilities will be adequate to handle the waste associated with the construction of the Airport facilities.

FAA Order 5200.5, *FAA Guidance Concerning Sanitary Landfills On or Near Airports*, states that “sanitary landfills will be considered as an incompatible use” if located within 1,500 meters (approximately 4,921 feet) of all runways planned to be used by piston type aircraft and within 3,000 meters (approximately 9,843 feet) of all runways planned to be used by turbo aircraft. Airports located closer than these distances to sanitary landfills have an increased risk of bird hazards. The Franklin County Sanitary Landfill is not located within 10,000 feet of the Ohio State University Airport; therefore, there would be no potential bird hazards as a result of the proposed runway improvements.

5.20 CONSTRUCTION IMPACTS

Specific impacts that would occur as a result of construction activities include noise of construction equipment on the site, noise and dust from delivery of materials through street, disposal of soil, air pollution from construction equipment exhaust and dust, and water pollution from erosion. These impacts would be temporary in nature and limited to the construction period. To the extent necessary, mitigation of construction impacts would be accomplished by incorporating in the project specifications from the provisions of FAA Advisory Circular 150/5370-10, *Standards for Specifying Construction of Airports*, and FAA Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltration Control*. Potential construction-related water

quality impacts would be minimized through the implementation of a sediment and erosion control plan.

Construction would require workers and machinery in and about the operations of the Airport. In some cases, runway or taxiway closures may be required for short periods of time. Guidelines as cited in FAA Advisory Circular 150/5370/2C, *Operation Safety on Airports During Construction*, would be enforced where applicable. Runway or taxiway closure conditions will be kept to a minimum in an effort to minimize inconvenience to Airport users.

Correspondence with the Ohio Environmental Protection Agency (EPA) included in Appendix B indicated that the following requirements would need to be addressed during the design and construction of the Airport improvement projects:

- A storm water permit for construction activity will be needed.
- Coverage under the Industrial Activity Storm Water General Permit for the current operation and expanded operation will be needed.
- Treatment and disposal of deicing agents must be addressed.
- Impacts on stream and/or wetlands will require approval from the U.S. Army Corps of Engineers and Ohio EPA.

5.21 MITIGATION

Mitigation measures for any adverse impacts of the proposed Airport development will be identified during the preparation of the Environmental Assessment.

5.22 CONCLUSION

While a detailed Environmental Assessment is underway for the proposed extension of Runway 9L/27R, and will be required for other major projects, no significant environmental impacts are apparent as a result of the recommended development alternative of this study.