Appendix B
ENVIRONMENTAL EVALUATION

Analysis of the potential environmental impacts of proposed airport development projects, as discussed in Chapter Five and depicted in Exhibit 5A, is an important component of the Airport Master Plan process. The primary purpose of this appendix is to evaluate the development program to determine whether proposed actions could individually or collectively affect the quality of the environment.

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

AIR QUALITY

The United States (U.S.) Environmental Protection Agency (EPA) has adopted air quality standards that specify the maximum permissible short-term and long-term concentrations of various air contaminants based on potential health effects. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for six criteria pollutants, which include: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen oxide (NO), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). Potentially significant air quality impacts associated with an FAA project or action would be demonstrated by the project or action exceeding one or more of the NAAQS for any of the time periods analyzed.

Dallas Executive Airport is located within Dallas County, Texas, which is classified as a nonattainment area for the 8-hour ozone standard by the EPA.[1] To ensure that a federal action complies with the NAAQS, the *Clean Air Act* (CAA) establishes a General Conformity Rule for all general federal actions, including airport improvement projects, if the action is located within a nonattainment area. Therefore, future airport development projects will require a General Conformity analysis to determine if total net emissions related to a proposed project are above the *de minimis* thresholds. Since FAA projects typically fall within *de minimis* thresholds, no significant air quality impacts under the CAA are anticipated.

Under NEPA, the FAA requires that an air quality emissions inventory be prepared for federal actions at airports where forecast general aviation operations exceed 180,000. At this time, as discussed in Chapter Two of this Airport Master Plan Update, the airport is forecast to have future operations of 100,400 by the year 2031. Therefore, operational air quality emission inventories would not be required for future projects under NEPA. However, air quality impacts could still occur as a result of proposed airport development projects in the short-term. Construction-related air quality impacts are discussed below in the section on Construction Impacts.

Additionally, of growing concern is the impact of proposed projects on climate change. Greenhouse gases (GHGs) are those that trap heat in the earth's atmosphere. Greenhouse gases can be either naturally occurring or anthropogenic (man-made) and include water vapor (H_2O) and carbon dioxide (CO_2). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. All GHG inventories measure CO_2 emissions, but beyond CO_2, different inventories include different greenhouse gases (such as methane [CH_4], nitrous oxide [N_2O], and O_3).

No significance thresholds for the creation of GHG have been promulgated to date. However, research has shown that there is a direct link between fuel combustion and GHG emissions. Therefore, sources that require fuel or power at an airport are the primary sources that would generate GHGs. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as cars. Aircraft jet engines, like many other vehicle engines, produce CO_2, H_2O, nitrogen oxides (NO_x), CO, oxides of sulfur

[1] www.epa.gov/airquality/greenbk/, accessed April 9, 2012.

(SO_x), unburned or partially combusted hydrocarbons (known as volatile organic compounds, VOCs), particulates, and other trace compounds.

The scientific community is developing areas of further study to enable them to more precisely estimate aviation's effects on the global atmosphere. The FAA is currently leading or participating in several efforts intended to clarify the role that commercial aviation plays in greenhouse gases and climate changes. The most comprehensive and multi-year program geared towards quantifying climate change effects of aviation is the Aviation Climate Change Research Initiative (ACCRI) funded by the FAA and the National Aeronautics and Space Administration (NASA). ACCRI hopes to reduce key scientific uncertainties in quantifying aviation-related climate impacts and provide timely scientific input to inform policy-making decisions. The FAA also funds Project 12 of the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition.

COASTAL RESOURCES

Federal activities involving or affecting coastal resources are governed by the *Coastal Barriers Resource Act* (CBRA), the *Coastal Zone Management Act* (CZMA), and Executive Order (E.O.) 13089, *Coral Reef Protection*.

Dallas Executive Airport is not located within any coastal areas and, therefore, would not adversely affect any coastal resources. The airport lies approximately 265 miles north of Galveston Bay, located on the Gulf of Mexico.

COMPATIBLE LAND USE/NOISE

The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts. Typically, significant impacts will occur over noise-sensitive areas within the 65 decibel (dB) day-night noise exposure level (DNL) contour. (DNL is the metric currently accepted by the FAA, the EPA, and the Department of Housing and Urban Development [HUD] as an appropriate measure of cumulative noise exposure.) FAA Orders 1050.1E and 5050.4B define a significant noise impact as one which would occur if the proposed action would cause noise-sensitive areas to experience an increase in noise of 1.5 DNL or more at or above the 65 DNL noise contour when compared to a No Action alternative for the same timeframe.

Noise-sensitive land uses include residences, schools, hospitals, and places of worship. There are three schools and several churches within one mile of the airport. One school, A.W. Brown Fellowship Charter School, is located within ¼-mile of the airport to the west at the intersection of Red Bird Lane and Westmoreland Road. Generalized land use near the airport is discussed in Chapter One, Inventory, of the Airport Master Plan Update (refer to Exhibit 1G). Residential areas are located to the south, north, and east of the airport.

Existing noise contours for the airport are shown on **Exhibit B1.** Currently, the 65 DNL is located well within the airport boundaries. Ultimate noise contours associated with the Airport Master Plan Update are depicted in **Exhibit B2**. As shown on this exhibit, even with forecast future growth, the 65 DNL remains on airport property. Therefore, noise-sensitive land uses in proximity to the airport would not be significantly affected by the proposed Master Plan update and no noise thresholds would be exceeded. It should be noted that the ultimate noise contours are based upon the aggressive growth forecast model detailed at the end of Chapter Two.

Compatible land use also addresses nearby features that could pose a threat to safe aircraft operations. These features include land uses that attract wildlife (for example, landfills and water features) or structures within approach and departure zones. There are no wildlife attractants such as landfills or water features located near the airport other than water in the nearby drainages (i.e., tributaries of Fivemile and Crow creeks).

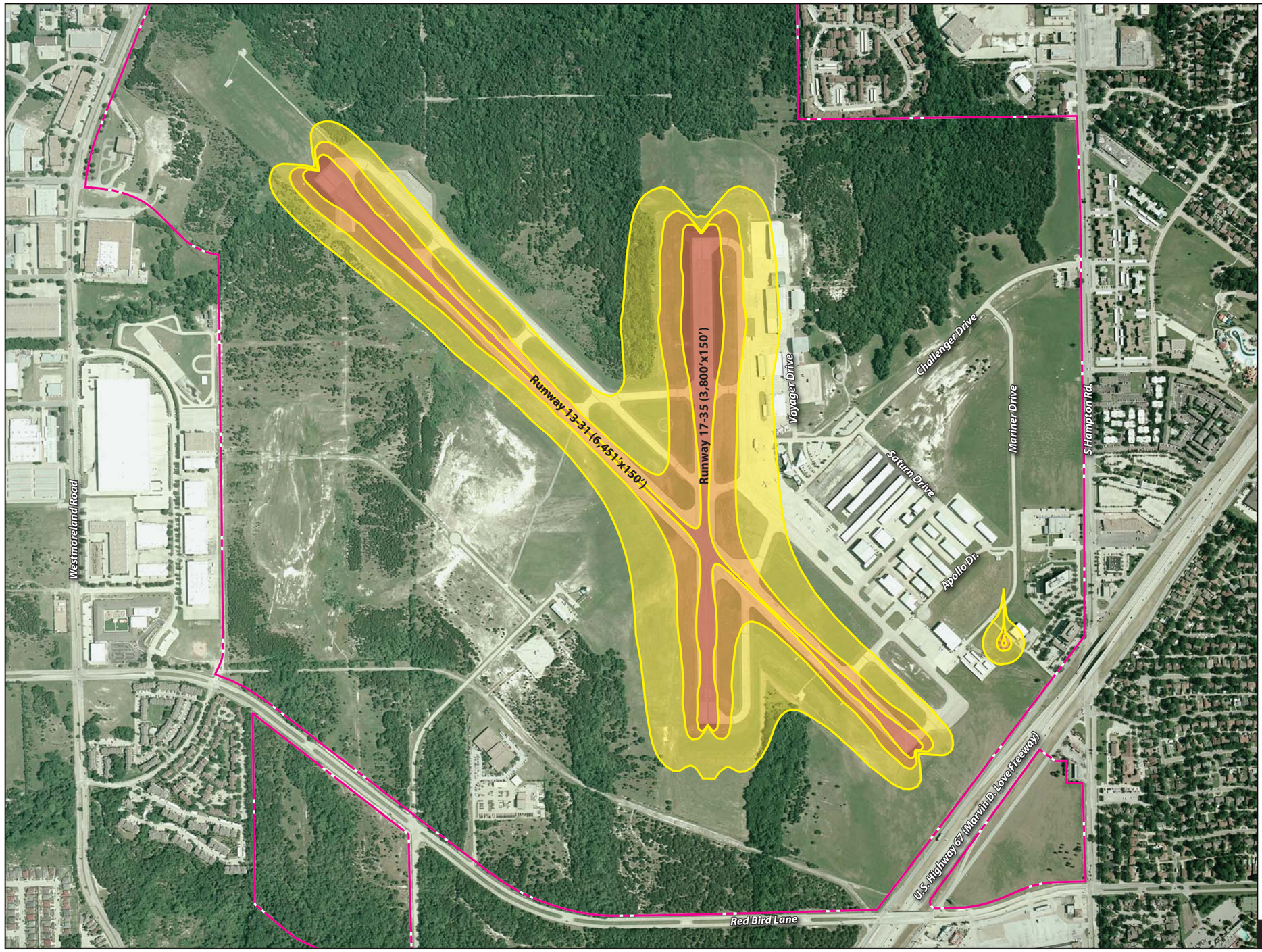
The City of Dallas has enacted height hazard zoning guidelines surrounding the airport that incorporate federal guidelines as set forth in Title 14 Code of Federal Regulations (CFR) Part 77, *Objects Affecting Navigable Airspace*. Once the Airport Master Plan is completed, height hazard zoning for areas surrounding the airport should be updated, as necessary.

The proposed Master Plan Concept (Exhibit 5A) shows proposed runway and taxiway improvements as well as proposed parcels of both aviation and non-aviation development. It also depicts FAA-mandated distances and safety-related areas such as the runway safety area (RSA), object free area (OFA), and runway protection zones (RPZs). All of these mandated safety distances and areas are ultimately to be contained on airport property with the exception of small portions of the RPZ for Runway 31. Southeast of the airport, this RPZ would extend south of Red Bird Lane over the parking lot of a neighboring commercial area and east of South Hampton Road over one driveway in a residential area. Since in both cases, the RPZ is clear of buildings and structures, this is not considered a land use incompatibility; however, per FAA regulations, the airport should, at a minimum, seek an avigation easement over these offsite areas to ensure that incompatible development is not an issue in the future.

Land use compatibility issues can also occur when residential and non-residential land uses are not buffered from each other adequately. In most cases, proposed development areas of the Airport Master Plan are at least separated from neighboring residential areas by a roadway, for example, east of the airport across South Hampton Road. However, in the southwestern corner of the airport, south of Red Bird Lane, there is an area planned for non-aviation development that is directly adjacent to a residential neighborhood. Land use compatibility impacts could occur as a result of future development; therefore, the ultimate development plans and site design for this area should incorporate measures such as landscaping and lighting redirection to reduce impacts to residents in proximity to the site.

City of Dallas

Dallas Executive Airport



LEGEND

- Airport Property Line
- DNL Noise Contour
- 65-70 DNL Noise Exposure
- 70-75 DNL Noise Exposure
- 75+ DNL Noise Exposure

0 800 1600

SCALE IN FEET

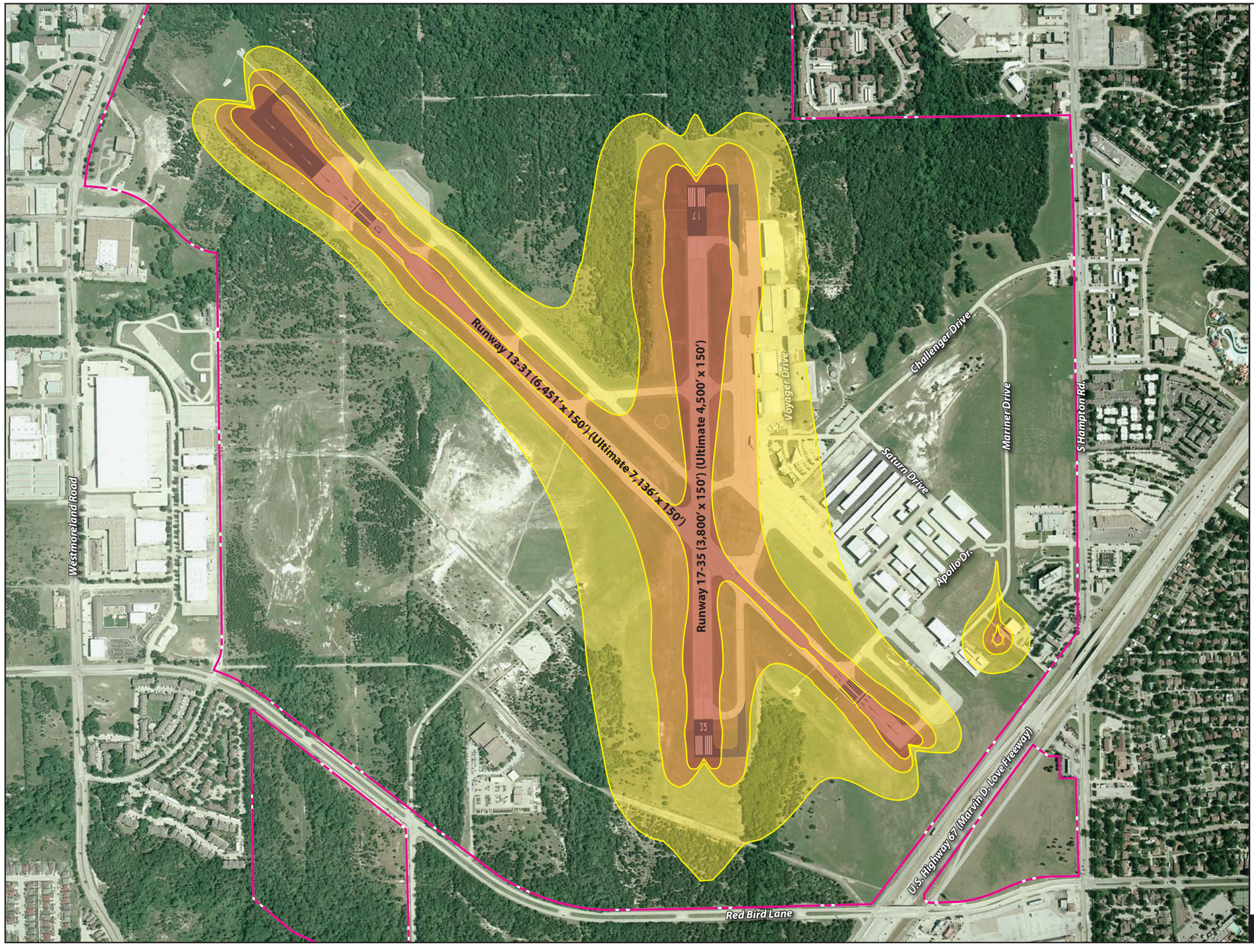
NORTH

DATE OF AERIAL:
May - 2011

Exhibit B1: EXISTING NOISE CONTOURS

City of Dallas

Dallas Executive Airport



LEGEND

- Airport Property Line
- DNL Noise Contour
- 65-70 DNL Noise Exposure
- 70-75 DNL Noise Exposure
- 75+ DNL Noise Exposure

0 800 1600

SCALE IN FEET

NORTH

DATE OF AERIAL:
May - 2011

Exhibit B2: ULTIMATE NOISE CONTOURS

CONSTRUCTION IMPACTS

Airport construction impacts can include dust, air emissions, traffic, storm water runoff, and noise. Construction-related air quality impacts are typically mitigated below a level of significance through the use of best management practices (BMPs), some of which are identified in FAA Advisory Circular (AC) 150/5371-10, *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control.* Emission controls on construction equipment and vehicles also help to reduce temporary emissions.

Construction traffic impacts occur when trucks or heavy equipment need to access the airport through a residential neighborhood or other sensitive area. Since this is not the case with the airport, which can be accessed directly off the perimeter roadways, no impacts related to construction traffic are anticipated.

Water quality concerns occur if there are storm events during the construction period. There are several drainages located on or adjacent to the airport. Typically, the use of BMPs during construction is a requirement of construction-related permits and is incorporated into the airport's storm water pollution prevention plan (SWPPP). The airport's most recent SWPPP certificate is dated 2/26/2009. As previously mentioned, FAA AC 150/5371-10 also requires the implementation of BMPs to control erosion and siltation. BMPs could include temporary measures such as the use of berms, fiber mats, gravels, mulches, and slope drains.

Short-term noise impacts could occur with construction of proposed development projects due to the presence of sensitive receptors in proximity to the airport. Both a residential subdivision and a park (Boulder Park) are located immediately south of the airport; residential areas are also located east of the airport. Potential construction-related noise impacts should be assessed as part of any site-specific environmental review completed for development proposed in proximity to residential neighborhoods. However, construction-related noise impacts are not normally considered significant unless construction is being undertaken during early morning, evening, or nighttime hours.

DEPARTMENT OF TRANSPORTATION (DOT) ACT: SECTION 4(f)

Section 4(f) of the *Department of Transportation Act of 1966* (Title 49, United States Code [USC] §303) protects against the loss of significant publicly owned parks and recreation areas, publicly owned wildlife and waterfowl refuges, and historic sites as a result of federally funded transportation projects. The Act states that a project that requires the "use" of such lands shall not be approved unless there is no "feasible and prudent" alternative and the project includes all possible planning to minimize the harm from such use. In addition, the term "use" includes not only the physical taking of such lands, but "constructive use" of such lands. "Constructive use" of lands occurs when "a project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired" (23 CFR Part 771.135).

The closest publicly owned Section 4(f) lands to Dallas Executive Airport is Boulder Park, which is located immediately south across Red Bird Lane. This approximate 106-acre park contains trails for hiking and mountain biking through wooded areas, across creeks and limestone deposits. Another public park, Red Bird Park, is located east of the airport within the residential neighborhood east of South Hampton Road. Future airport projects being proposed in the Airport Master Plan would not directly affect these potential Section 4(f) resources. Since the 65 and greater DNL noise contours would remain entirely on the airport, no constructive use of these parks would occur as well.

There are no Wildlife Management Areas located within Dallas County[2], and according to the National Register of Historic Places (NRHP), the closest NRHP-listed properties are located approximately 4.5 miles to the northeast of the airport in the Rosemont Crest and Winnetka Heights historic districts of Dallas.[3]

No Section 4(f) resources would be adversely impacted by development of airport projects proposed as part of this study.

FARMLAND

Based on the U.S. Department of Agriculture, Natural Resources Conservation Service's (NRCS) Web Soil Survey map for Dallas County, there is limited prime farmland located at the airport.[4] A Farmland Conversion Impact Rating was completed on Dallas Executive Airport as part of the previous Master Plan (2001). The airport received a total score of less than 160 points, which indicates that it is exempt from the requirements of the *Farmland Protection Policy Act* (FPPA) because the airport property is already committed to urban development. Therefore, no impacts to farmland under the FPPA would occur as a result of the Airport Master Plan Update.

FISH, WILDLIFE, AND PLANTS

Section 7 of the *Endangered Species Act* (ESA), as amended, applies to federal agency actions and sets forth requirements for consultation to determine if a proposed action "may affect" a federally endangered or threatened species. If an agency determines that an action "may affect" a federally protected species, then Section 7(a)(2) requires the agency to consult with the U.S. Fish and Wildlife Service (USFWS) 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. If a species has been listed as a candidate species, Section 7(a)(4) states that each agency must confer with the USFWS.

[2] www.tpwd.state.tx.us/landwater/, accessed April 10, 2012.
[3] http://www.nps.gov/history/nr/research/, accessed April 9, 2012.
[4] http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed April 10, 2012.

The *Fish and Wildlife Coordination Act* requires that agencies consult with the state wildlife agencies and the Department of the Interior 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.

The *Migratory Bird Treaty Act* (MBTA) prohibits private parties and federal agencies in certain judicial circuits from intentionally taking a migratory bird, their eggs, or nests. The MBTA prohibits activities which would harm migratory birds, their eggs, or nests unless the Secretary of the Interior authorizes such activities under a special permit.

E.O. 13112, *Invasive Species*, directs federal agencies to use relevant programs and authorities, to the extent practicable and subject to available resources, to prevent the introduction of invasive species and provide for restoration of native species and habitat conditions in ecosystems that have been invaded. FAA is to identify proposed actions that may involve risks of introducing invasive species on native habitat and populations. "Introduction" is the intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity. "Invasive species" are alien species whose introduction does, or is likely to, cause economic or environmental harm or harm to human health.

Table B1 identifies federal and state listed species as published on the Texas Parks and Wildlife Department's (TPWD) *Annotated County Lists of Rare Species*, dated August 17, 2011; there are five animal species and no plant species federally listed as endangered or threatened for Dallas County.[5] The following species are listed as endangered: whooping crane (*Grus americana*); interior least tern (*Sterna antillarum*); black-capped vireo (*Vireo atricapilla*); and golden-cheeked warbler (*Dendroica chrysoparia*). The piping plover (*Charadrius melodus*) is listed as threatened and portions of Texas are listed as critical habitat for wintering populations. However, there are no listed critical habitat areas within Dallas County. In addition, Sprague's pipit (*Anthus spragueii*) is a candidate for listing under the ESA.

No habitat for the whooping crane, least tern or piping plover exists on the airport property since these are shore birds. However, black-capped vireo habitat consists of scattered trees and brushy areas while the golden-cheeked warbler can be found in tall, dense, mature stands of Ashe juniper (blueberry cedar) mixed with other deciduous trees. Since upland, wooded areas occur on the airport site, onsite biological surveys and/or consultation with the USFWS would be necessary to determine whether or not adverse impacts to these species protected by the *Endangered Species Act* could occur as a result of projects to be constructed under the Airport Master Plan Update.

[5] http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx?tabindex=0&tabid=9&type=countylist&parm=Dallas, accessed April 9, 2012.

TABLE B1
Threatened, Endangered, and Candidate Species
Dallas County, Texas

Common Name	Habitat	Status	Potential for Occurrence[1]
Alligator Snapping Turtle (reptile)	Perennial water bodies; deep water of rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near deep running water; usually in water with mud bottom and abundant aquatic vegetation; sometimes enters brackish coastal waters.	State-Endangered	Unlikely to occur
American Peregrine Falcon (bird)	Year-round resident and local breeder in west Texas, migrant across state. Nests in tall cliff eyries. Occupies wide range of habitats during migration including urban concentrations along coast and barrier islands; low-altitude migrant with stopovers at leading landscape edges such as lake shores.	State-Threatened	Potential to occur
Bald Eagle (bird)	Found primarily near rivers and larger lakes; nests in tall trees or on cliffs near water.	State-Threatened	Unlikely to occur
Black-capped Vireo (bird)	Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover. Deciduous and broad-leaved shrubs and trees provide insects for feeding.	Federal-Endangered; State-Endangered	Unknown
Golden-cheeked Warbler (bird)	Juniper-oak woodlands; dependent on Ashe juniper (aka. cedar) for long fine bark strips, only available in mature trees, used in nest constructions.	Federal-Endangered; State-Endangered	Unknown
Interior Least Tern (bird)	Species is listed only when inland at least 50 miles from coastline. Nests along sand and gravel bars within braided streams, rivers; also known to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc.).	Federal-Endangered; State-Endangered	Unlikely to occur
Louisiana Pigtoe (mollusk)	Streams and moderate-sized rivers, usually flowing water on substrates of mud, sand, and gravel; not generally known from impoundments.	State-Threatened	Unlikely to occur
Piping Plover (bird)	Wintering migrant along the Texas Gulf Coast; beaches and bayside mud or salt flats.	Federal-Threatened; State-Threatened	Unlikely to occur
Sprague's Pipit (bird)	Only in Texas during migration and winter, mid-Sept. to early April; strongly tied to native upland prairie, with vegetation of intermediate height and lacking woody shrubs; can be locally common in coastal grasslands.	Federal-Candidate	Unlikely to occur
Texas Heelsplitter (mollusk)	Quiet waters in mud or sand and also in reservoirs. Sabine, Neches, and Trinity River basins.	State-Threatened	Unlikely to occur
Texas Horned Lizard (reptile)	Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky.	State-Threatened	Unlikely to occur

TABLE B1 (Continued)
Threatened, Endangered, and Candidate Species
Dallas County, Texas

Common Name	Habitat	Status	Potential for Occurrence[1]
Timber/ Canebrake Rattlesnake (reptile)	Swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover (i.e., grapevines or palmetto).	State-Threatened	Unknown
White-faced Ibis (bird)	Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitat; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	State-Threatened	Unlikely to occur
Whooping Crane (bird)	Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.	Federal-Endangered; State-Endangered	Unlikely to occur
Wood Stork (bird)	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including saltwater, even those associated with forest areas; usually roots communally in tall snags.	State-Threatened	Unlikely to occur

Source: Texas Parks and Wildlife Department, *Annotated County Lists of Rare Species*, dated August 17, 2011. Available at: http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx?tabindex=0&tabid=9&type=countylist&parm=Dallas, accessed April 9, 2012.

[1] Resource is "unlikely to occur" if the airport is either beyond the known geographic or elevation range of the species, or it does not contain vegetation or landscape features known to support these species, or both.

Migratory birds protected under the MBTA may or may not be present at the airport and could include American peregrine falcon (*Falco peregrinus anatum*), which is also listed by the State of Texas as threatened or endangered. If this species or other birds protected under the MBTA are identified at the airport and ground disturbance is planned during the nesting period for such birds, a certified biologist should conduct preconstruction surveys for the presence of the protected nesting bird species within 500 feet of the construction areas. If active nests are found, further coordination with the USFWS to address the requirements of the MBTA should occur.

It should also be noted that an action need not involve a threat to extinction of federally listed species to result in a significant impact; lesser impacts, including impacts on state listed species, could also constitute a significant impact. Habitat at the airport is not suitable for most of the state listed species identified in **Table B1**. However, habitat at the airport may be potentially suitable for the timber/canebrake rattlesnake (*Crotalus horridus*). Consultation with agencies or organizations having jurisdiction or special expertise concerning the protection and/or management of these other sensitive species should be utilized in cases such as this.

No invasive species are expected to be introduced as a result of airport development projects. The TPWD enforces laws against the introduction of exotic species. The primary

concern, however, is related to fish, shellfish, and aquatic plants that are not native to Texas and may compete with native animals and plants for food and space.

FLOODPLAINS

As defined in FAA Order 1050.1E, floodplains consist of "lowland and relatively flat areas adjoining inland and coastal water including flood prone areas of offshore islands, including at a minimum, that area subject to one percent or greater chance of flooding in any given year." E.O. 11988, *Floodplain Management,* directs federal agencies 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 the floodplains. Natural and beneficial values of floodplains include providing ground water recharge, water quality and maintenance, fish, wildlife and plants, open space, natural beauty, outdoor recreation, agriculture, and forestry. FAA Order 1050.1E(12)(c) indicates that "if the proposed action and reasonable alternatives are not within the limits of a base floodplain (100-year flood area)," it may be assumed that there are no floodplain impacts. The limits of base floodplains are determined by Flood Insurance Rate Maps (FIRMs) prepared by the Federal Emergency Management Agency (FEMA).

Most of the airport is designated as Zone X on the FEMA floodplain maps (Map ID #s 48113C0460J, 48113C0470J, 48113C0480J, and 48113C0490J).[6] Zone X identifies areas determined to be outside of the 500-year floodplain. However, as shown in **Exhibit B3**, there are two portions of the airport, one in the northwestern corner of the airport and one in the southwest, where a 100-year floodplain is present on the airport. These areas within the 100-year floodplain continue off the airport property to the south and north and are associated with Fivemile Creek and Crow Creek tributary drainages, respectively.

Development planned for the airport as part of the Airport Master Plan Update includes the extension of Runway 13 northwest of its current location. This is one of the areas on the airport that contains a 100-year floodplain. In addition, potential non-aviation development may eventually occur in the parcel south of Red Bird Lane where the 100-year floodplain of a Fivemile Creek tributary is located.

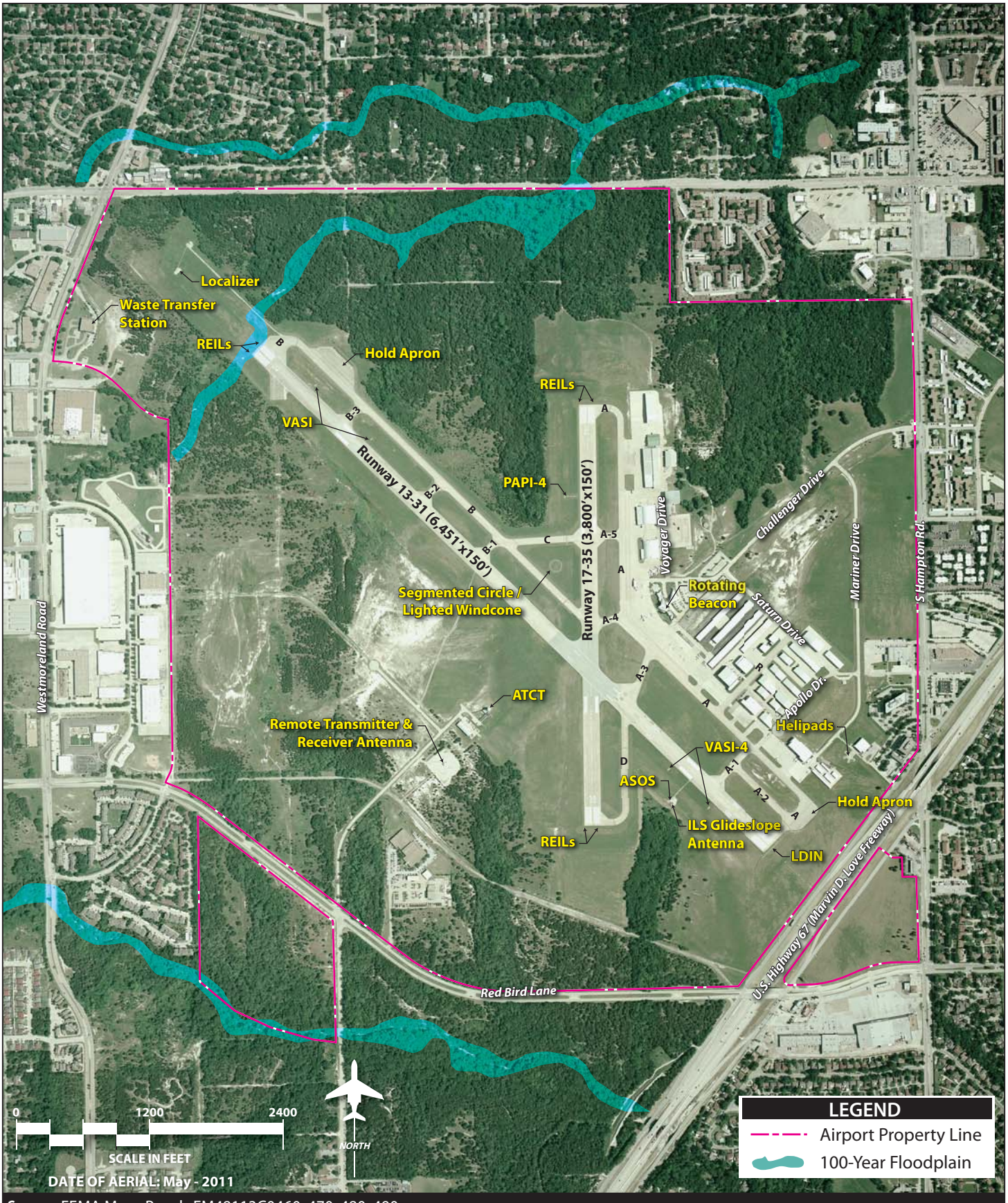
The City of Dallas has floodplain regulations (Section 51A-5.100 of Part II of the *Dallas Development Code*), which outline the processes for floodplain alteration and floodplain fill permit requests. A floodplain alteration permit is required for construction of retaining wall, pools, fences, and landscaping that change the topography within the floodplain. A floodplain fill permit is required for the reclamation of floodplain for development. Article V, *Floodplain Regulations*, outlines the processes and technical requirements for these permits. The criteria in Article V ensure that projects can be completed with no adverse impact on other properties or on the environment.[7] The floodplain regulations may be found at www.dallascityhall.com/trinity_watershed/articleV.html.

[6] https://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1, accessed April 10, 2012.

[7] City of Dallas, Publication #09/10-21, http://www.dallascityhall.com/trinity_watershed, accessed April 11, 2012.

City of Dallas

Dallas Executive Airport



Source: FEMA Maps Panels FM48113C0460, 470, 480, 490

Exhibit B3: 100-YEAR FLOODPLAINS NEAR THE AIRPORT

The airport is currently preparing a Master Drainage Study (HALFF 2012). Based on this study, onsite floodplains have been refined and mapped in further detail in at least four tributary drainages of the airport. Once this study is finalized, it should be used as the basis for any floodplain alteration permits required by future projects proposed in the Airport Master Plan.

HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

There are four primary federal laws that govern the handling and disposal of hazardous materials, chemicals, substances, and wastes, all of which fall under the jurisdiction of the U.S. EPA. The two statutes of most importance to the FAA in proposing actions to construct and operate facilities and navigational aids are the *Resource Conservation 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; CERCLA provides for cleanup of any release of a hazardous substance (excluding petroleum) into the environment. Other laws include the *Hazardous Materials Transportation Act*, which regulates the handling and transport of hazardous materials and wastes, and the *Toxic Substances Control Act* (TSCA), which regulates and controls the use of polychlorinated biphenyls (PCBs) as well as other chemicals or toxic substances in commercial use.

Per FAA Order 1050.1E, Appendix A, thresholds of significance are typically only reached when a resource agency has indicated that it would be difficult to issue a permit for the proposed development. A significant impact may also be realized if the proposed action would affect a property listed on the National Priorities List (NPL).

According to the EPA's Enviromapper EJView Tool, there are several businesses located at the airport that report to the EPA regarding the handling or disposal of hazardous materials under RCRA. There are no Brownfield, Superfund or NPL sites near the airport. [8] The closest Superfund sites to the airport are at least 1.5 miles away.

Construction of airport development projects will result in earthwork disturbances. Some areas planned to be disturbed are currently undeveloped and in a natural state. Other projects involve the reuse of paved or graded areas. In any case, previous construction at the airport has not resulted in the uncovering of hazardous materials; therefore, it is unlikely that future airport development projects will do so. Future airport operations occurring as part of the Airport Master Plan could involve the use of additional hazardous materials at the airport. Airport facilities and businesses will be required to comply with all applicable laws and permitting requirements.

Pollution prevention at the airport is regulated through several laws including the hazardous materials regulations cited above. As discussed further in the Water Quality

[8] http://epamap14.epa.gov/ejmap/ejmap.aspx?wherestr=5303%20Challenger%2C%20Dallas%2C%20Texas , accessed April 10, 2012.

section, water quality concerns are regulated under the *Clean Water Act* (CWA). The airport currently operates under a certified SWPPP specific to practices and procedures related to aircraft and airport-associated businesses and under Texas Pollutant Discharge Elimination System (TPDES) Multi-Sector General Permit TXR05000.

Finally, the creation of additional solid waste is likely to occur as a result of future airport growth. Currently, solid waste is hauled via the Southwest (Oak Cliff) transfer station to the McCommas Bluff Landfill, located approximately 10 miles east at 5100 Youngblood Road.[9] The Oak Cliff transfer station is located on the western side of the airport. No impacts to the capacities and operations of either the Oak Cliff transfer station or the McCommas Bluff Landfill are anticipated as a result of future airport growth.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Historical, architectural, and archaeological resources as well as Native American cultural resources are protected by several different federal laws including, but not limited to, the *Archaeological Resources Protection Act* (ARPA) *of 1979*, the *National Historic Preservation Act* (NHPA) *of 1966*, and the *Native American Graves Protection & Repatriation Act*. In particular, Section 106 of NHPA, as amended, requires the FAA to consider the effects of proposed actions on sites listed on, eligible for listing on, or potentially eligible for listing on, the NRHP. To assist with this determination, an area of potential effect (APE) is defined in consultation with the Texas State Historic Preservation Officer (SHPO). The APE includes the areas that will be directly or indirectly impacted by proposed actions. Once the APE is defined, an inventory is taken of NRHP-eligible properties within the APE and an assessment of impacts is undertaken. The determination regarding significant impacts on protected resources and any appropriate mitigation occurs in consultation with the SHPO as well.

Cultural resource surveys on undeveloped portions of the airport have not been done. Prior to development of undisturbed areas of the airport, field surveys would be required to make a determination of impact in compliance with the NHPA. This would include a determination of whether or not any affected properties are on, or eligible to be on, the NRHP and the development of appropriate mitigation, as necessary.

LIGHT EMISSIONS AND VISUAL EFFECTS

Airport lighting is characterized as either airfield lighting (i.e., runway, taxiway, approach and landing lights) or landside lighting (i.e., security lights, building interior lighting, parking lights, and signage). In the case of Dallas Executive Airport, the following airfield lighting is in place:

[9] http://www.dallascityhall.com/sanitation/disposal_operations.html , accessed April 10, 2012.

- A rotating beacon that projects two beams of light, one white and one green, 180 degrees apart, located atop the terminal building;
- Medium intensity runway lighting (MIRL) on Runways 13-31 and 17-35;
- Medium intensity taxiway lighting (MITL);
- A four-box visual approach slope indicator (VASI-4) on left sides on both ends of Runway 13-31;
- A four-box precision approach path indicator (PAPI-4) located on right side of Runway 17;
- A runway end identifier lighting (REIL) system (two synchronized flashing lights located laterally on each side of the runway threshold) at each end of Runway 17-35 and on Runway 13 facing the approaching aircraft;
- A lead-in lighting (LDIN) system, located approximately 600 feet beyond the Runway 31 threshold;
- A lighted wind cone located north of the intersection of Runways 13-31 and 17-35; and
- Lighted airfield signs located throughout the airfield system.

All airfield lighting systems at the airport are controlled through a pilot-controlled lighting system (PCL) which allows the pilot to turn on, or increase the intensity of, various airfield systems from the aircraft using the aircraft's transmitter. Limited security and building lights are also present landside.

Visual and lighting impacts relate primarily to the presence of sensitive visual receptors in proximity to the airport. These would normally be residents or users of a designated scenic resource such as a scenic corridor. The visual sight of aircraft, aircraft contrails, or aircraft or airport lighting, especially from a distance that is not normally intrusive, is not assumed to be an adverse impact.

FAA significance thresholds for light emissions are generally when an action's light emissions create an annoyance that would interfere with normal activities. For example, if a high intensity strobe light, such as an REIL, would produce glare on any adjoining site, particularly residential uses, this could constitute a significant adverse impact. For visual effects, an action is considered significant when consultation with federal, state, or local agencies, tribes, or the public shows that visual effects contrast with the existing environments and the agencies state the effect is objectionable.

Dallas Executive Airport is surrounded by a mix of land uses as is shown on Exhibit 1G of the Airport Master Plan. Light-sensitive land use (i.e., residential) is present on three of the four sides of the airport. However, the airport has been an existing land use since the end of World War II. In addition, much of the airport is screened from perimeter roadways and surrounding land uses by wooded areas with mature trees.

Proposed airport development projects under the Airport Master Plan Update include the installation of a new PAPI-4 lighting system on Runway 35 and possible runway extensions. Non-aeronautical development may also occur along Red Bird Lane on the southwest corner of the airport and along South Hampton Road on the airport's eastern perimeter. None of this additional development or lighting is expected to noticeably change the night

appearance of the airport from a distance. Visually, the airport will continue to maintain its appearance as a general aviation airport.

NATURAL RESOURCES AND ENERGY

The FAA considers an action to have a significant impact on natural resources and energy when an action's construction, operation, or maintenance would cause demands that exceed available or future (project year) natural resource or energy supplies. Therefore, in instances when proposed actions necessitate the expansion of utilities, power companies or other suppliers of natural resources and energy would need to be contacted to determine if the proposed project demands can be met by existing or planned facilities.

The use of energy and natural resources will occur both during construction of planned facilities and during operation of the airport as it grows. However, none of the planned development projects at the airport are anticipated to result in significant increases in demand for natural resources or energy consumption beyond what is readily available by service providers.

SECONDARY (INDUCED) IMPACTS

FAA Order 1050.1E, Appendix A, states that secondary impacts should be addressed when the proposed project is a major development proposal that could involve shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity due to airport development.

Based on the forecast analysis summarized in Exhibit 2E of this Airport Master Plan Update, the airport is expected to have an average growth in annual operations of approximately four percent through the year 2031. An approximate three to four percent average annual growth in based aircraft is also expected (i.e., three additional aircraft per year.) An average annual four percent growth at the airport for the next 20+ years would not be expected to result in secondary impacts on the City or County of Dallas.

SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Socioeconomic impacts known to result from airport improvements are often associated with relocation activities or other community disruptions, including alterations to surface transportation patterns, division or disruption of existing communities, interferences with orderly planned development, or an appreciable change in employment related to the project. Social impacts are generally evaluated based on areas of acquisition and/or areas of significant project impact, such as areas encompassed by noise levels in excess of 65 DNL.

Per FAA Order 1050.1E, Appendix A, the thresholds of significance for this impact category are reached if the project negatively affects a disproportionately high number of minority or low-income populations or if children would be exposed to a disproportionate number of health and safety risks. E.O. 12898, *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations,* and the accompanying Presidential Memorandum, and DOT Order 5610.2, *Environmental Justice*, require FAA to provide for meaningful public involvement by minority and low-income populations as well as analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse.

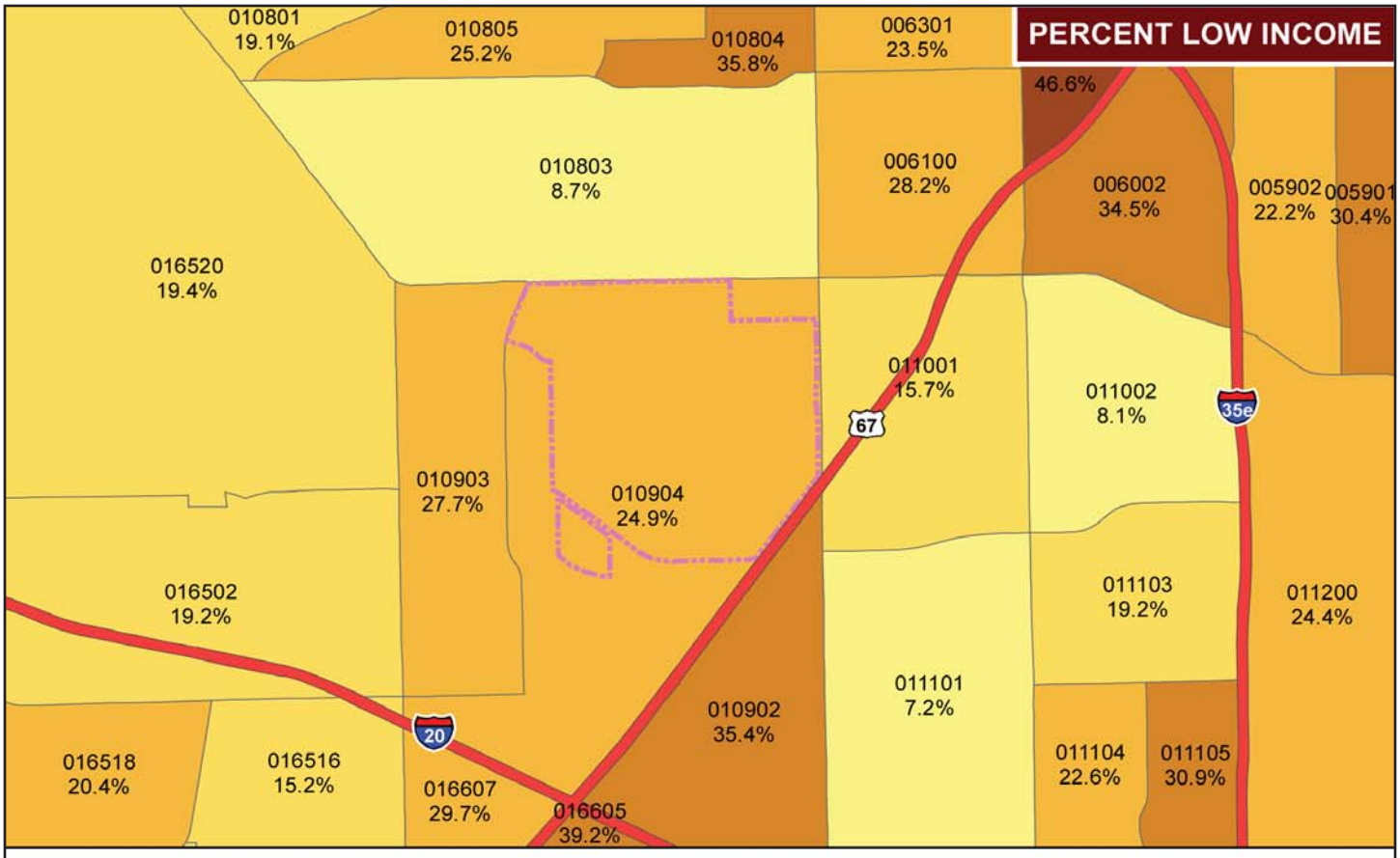
Pursuant to E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* federal agencies are directed to identify and assess environmental health and safety risks that may disproportionately affect children. These risks include those that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products to which they may be exposed.

The acquisition of residences and farmland is required to conform with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (Uniform Act). These regulations mandate that certain relocation assistance services be made available to homeowners/tenants of affected properties. This assistance includes help finding comparable and decent substitute housing for the same cost, moving expenses, and in some cases, loss of income.

The U.S. Census taken in 2010 provides information regarding socioeconomic conditions in the Dallas area. General population and employment data is discussed in Chapter One of the Airport Master Plan update. The percentage of persons living below the poverty level within census tracts that include, or are near, the airport are shown on **Exhibit B4** and range from approximately 9 to 35 percent. Minority populations in areas surrounding the airport range from 64 to 94 percent. This is true of much of this part of the City as is indicated in **Exhibit B4.**

As discussed previously under Compatible Land Use/Noise, south of Red Bird Lane, there is an area planned for non-aviation development that is directly adjacent to a residential neighborhood that may have a high percentage of minority populations. Land use compatibility impacts could occur as a result of future development; therefore, the ultimate development plans and site design for this area should incorporate measures such as landscaping and lighting redirection to reduce impacts to residents in proximity to the site.

No other land use compatibility issues, such as airport operational noise, are anticipated to occur as a result of the Airport Master Plan Update. The airport is an existing land use and no significant adverse impacts are anticipated to occur to the surrounding areas as a result of its continued growth. The study does not involve expanding airport operations beyond the existing airport boundaries. No relocation of housing or businesses would be necessary to implement the recommended development concept plan. Existing communities, transportation patterns, and planned development would not be disrupted. The airport's



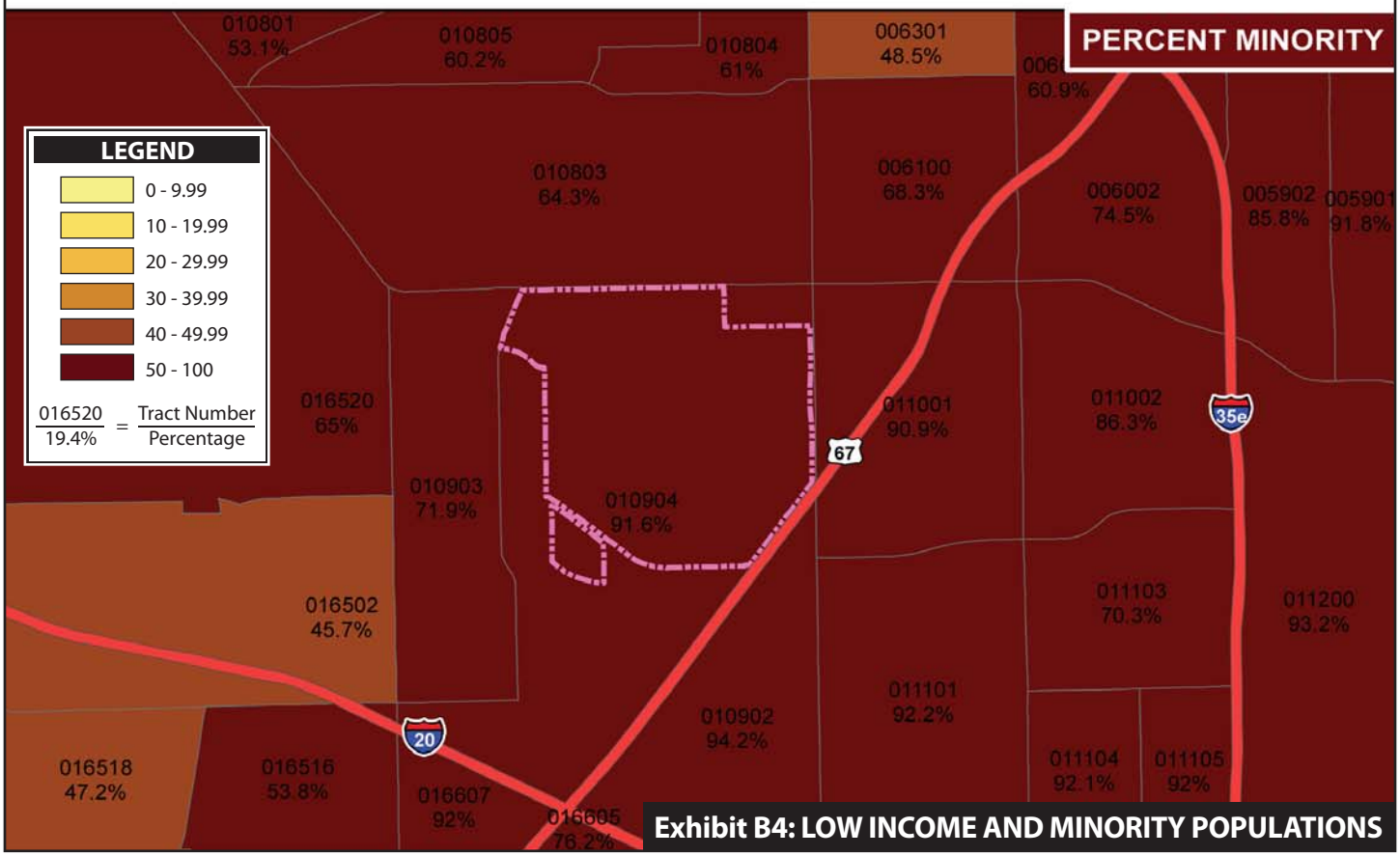


Exhibit B4: LOW INCOME AND MINORITY POPULATIONS

Source: Census Tract data from the year 2010, US Census Bureau, SF1 tables and American Community Survey. Census Tract shapefiles US Census Bureau.

projected four percent average annual growth for the next 20+ years would not significantly change future growth in the Dallas area.

WATER QUALITY

Dallas Executive Airport is located within the Headwaters Fivemile Creek watershed; the closest water body on the EPA's CWA Section 303(d) List of Impaired Waters (reporting year 2008) is the Trinity River, located approximately seven miles to the north and east.[10]

According to the draft Master Drainage Study, the airport is drained on all sides by tributaries of Fivemile Creek. A storm drainage system collects storm water runoff and outfalls to the north into Crow Creek and to the south into South Prong of Fivemile Creek. Part of the southwest area drains to South Prong of Fivemile Creek through culverts along Red Bird Lane. Another area, located east of the runway system, drains to a ditch that extends from the Jet Center of Dallas to U.S. Highway 67 and finally through the culverts underneath U.S. Highway 67. According to the draft drainage study, there are a total of seven different drainage basins on airport property.

Future development at the airport would create additional impervious surfaces and ground disturbance that could contribute to cumulative water quality impacts. Therefore, future development projects should be evaluated to address their interface with the airport's storm water drainage system and should be incorporated into the airport's SWPPP, based on updated information provided by the drainage study. Airport compliance with TPDES Multi-Sector General Permit TXR05000 will also be required of all new development at the airport.

Short-term water quality issues related to construction of airport development projects have been discussed in the section on Construction Impacts.

WETLANDS AND WATERS OF THE U.S.

Certain drainages (both natural and human-made) as well as wetlands come under the purview of the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA; wetlands are also protected by E.O. 11990, *Protection of Wetlands*. As discussed previously, Dallas Executive Airport contains several tributary drainages to Fivemile Creek. Most of the development projects associated with the Airport Master Plan Update would avoid the drainages on the airport property. However, some fill may be necessary within onsite drainages, especially southwest of the airfield area, to create buildable pads for future development.

Prior to development activities, the City of Dallas should request a jurisdictional delineation from the USACE for any areas that have the potential for wetlands and/or "waters of the U.S." and that could be affected by proposed development. According to the

[10] http://watersgeo.epa.gov/mwm/, accessed April 10, 2012.

NRCS's Web Soil Survey, the soils on the airport are not considered hydric soils.[11] Therefore, wetlands may not be present on the airport; however, this should be confirmed by a field survey prior to development. Communication with resource agencies during preparation of the previous Airport Master Plan indicated that they were concerned about the potential for airport-related impacts to Crow Creek tributaries and riparian areas. The acreage of both direct and indirect impacts to either wetlands or "waters of the U.S." would need to be determined and an appropriate mitigation plan approved by the affected regulatory agencies prior to the disturbance of any jurisdictional areas. An individual or nationwide Section 404 permit may need to be obtained, as appropriate.

WILD AND SCENIC RIVERS

There are no Wild or Scenic Rivers, as designated by the *Wild and Scenic Rivers Act*, as amended, in the vicinity of Dallas Executive Airport. The only Wild or Scenic River designation in Texas is the Rio Grande, located along the southwestern border of the State.[12] Thus, no impacts to designated Wild and Scenic Rivers would occur as a result of proposed airport development.

CONCLUSION

Table B2 summarizes the environmental evaluation for the Airport Master Plan Update for Dallas Executive Airport. In general, the recommended development plan would provide for an additional four percent average annual growth at the airport through the year 2031. Environmental sensitivities at the airport that should be considered include the presence of 100-year floodplains and drainages that are likely to be considered "waters of the U.S." and the potential presence of sensitive biological and cultural resources.

An avigation easement is recommended for offsite portions of the RPZ for Runway 31. In addition, potential land use interface issues may occur between proposed development in the southernmost parcel of airport property and an adjacent residential neighborhood that may contain a high percentage of minority populations.

[11] http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx , accessed April 10, 2012.
[12] http://www.rivers.gov/wildriverslist.html , accessed April 10, 2012.

TABLE B2
Summary of Potential Environmental Concerns
Dallas Executive Airport Master Plan Update

FAA Resource Category	Potential Concern	Mitigation Measures
Air Quality	None. FAA projects typically fall within *de minimis* thresholds related to the CAA's General Conformity Rule. In addition, the airport is forecast to have annual operations below the 180,000 threshold under NEPA.	None necessary.
Coastal Resources	None. The airport is not located within a Coastal Zone.	None necessary.
Compatible Land Use/Noise	Potential Impact. Southeast of the airport, the RPZ for Runway 31 would extend over the parking lot of a neighboring commercial area and over one driveway in a residential area. South of Red Bird Lane, there is an area planned for non-aviation development that is directly adjacent to a residential neighborhood. Land use compatibility impacts could occur as a result of future development.	Per FAA regulations, the airport should, at a minimum, seek an avigation easement over offsite areas within the RPZ to ensure that incompatible development is not an issue in the future. The ultimate development plans and site design for the area south of Red Bird Lane should incorporate measures such as landscaping and lighting redirection to reduce impacts to residents in proximity to the site.
Construction Impacts	Potential Impact. Construction of airport projects may create temporary noise impacts to nearby residents. Water quality concerns could occur if there are storm events during construction.	BMPs would be required to minimize dust, emissions, and water quality concerns. Construction should be limited to normal daytime hours.
DOT Act: Section 4(f)	None. No use, including "constructive" use, is anticipated to occur to Section 4(f) resources.	None necessary.
Farmland	None. The airport received a total score of less than 160 points on its Farmland Conversion Impact Rating, which indicates that it is exempt from the requirements of the FPPA because the airport is already committed to urban development.	None necessary.
Fish, Wildlife, and Plants	Potential Impact. There are two federal-endangered species and one state-threatened species that could possibly occur at the airport. Migratory birds protected by the MBTA could also be present.	USFWS and other agencies with expertise in protected species should be contacted as airport development occurs. Biological surveys and mitigation could be necessary.
Floodplains	Potential Impact. There is airport development proposed within the 100-year floodplain.	Compliance with required City of Dallas flood control permits and conditions.
Hazardous Materials, Pollution Prevention, and Solid Waste	None. Prior construction at the airport has not resulted in the uncovering of any hazardous materials and future use of hazardous materials would be required to comply with all applicable laws and permitting requirements. The airport also operates under a TPDES permit and SWPPP. No issues with solid waste disposal currently exist.	None necessary.

TABLE B2 (Continued)
Summary of Potential Environmental Concerns
Dallas Executive Airport Master Plan Update

FAA Resource Category	Potential Concern	Mitigation Measures
Historic, Architectural, Archaeological, and Cultural Resources	Potential Impact. Since not all of the airport property has been surveyed for cultural resources, impacts may occur if potentially eligible cultural resources are disturbed by airport development projects.	Coordination with the Texas SHPO will be needed to determine when surveys are warranted and to approve an appropriate mitigation plan, where necessary. Projects identified on the development concept plan that would occur in previously undisturbed and unsurveyed areas are likely to require a field survey.
Light Emissions and Visual Effects	None. Additional lighting and potential future development are not expected to noticeably change the night appearance of the airport. Visually, the airport will continue to maintain its appearance as a general aviation airport.	None necessary.
Natural Resources and Energy	None. Planned development projects at the airport are not anticipated to result in a demand for natural resources or energy consumption beyond what is available by service providers.	None necessary.
Secondary (Induced) Impacts	None. An annual four percent growth at the airport for the next 20+ years would not be expected to result in secondary impacts on the City of Dallas.	None necessary.
Socioeconomic Impacts, Env. Justice, and Children's Env. Health and Safety Risks	Potential lmpact. South of Red Bird Lane, there is an area planned for non-aviation development that is directly adjacent to a residential neighborhood that could have a high percentage of minority populations. Land use compatibility impacts could occur as a result of future development.	The ultimate development plans and site design for the area south of Red Bird Lane should incorporate measures such as landscaping and lighting redirection to reduce impacts to residents in proximity to the site.
Water Quality	Potential Impact. Future development projects of the Airport Master Plan update would create additional impervious surfaces and ground disturbance that could contribute to cumulative water quality impacts.	All future development should be incorporated into the airport's SWPPP and approved BMPs. Airport compliance with TPDES Multi-Sector Permit TXR05000 will be required of all new development.
Wetlands and Waters of the U.S.	Potential Impact. Most of the development projects associated with the Airport Master Plan update would avoid the drainages on the airport property. However, some fill may be necessary within onsite drainages, especially southwest of the airfield area, to create buildable pads for future development.	The City of Dallas should request a jurisdictional delineation from the USACE for any areas affected by proposed development that have the potential for wetlands and/or "waters of the U.S." The acreage of both direct and indirect impact to either wetlands or "waters of the U.S." would need to be determined and an appropriate mitigation plan approved prior to the disturbance of any jurisdictional areas. An individual or nationwide Section 404 permit may need to be obtained, as appropriate.
Wild and Scenic Rivers	None. The airport is located in a separate drainage basin from the closest designated Wild and Scenic River, the Rio Grande.	None necessary.

REFERENCES

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