



Evansville Regional Airport

Draft Working Paper #6

Airport Master Plan Update

Environmental Overview

June 2025

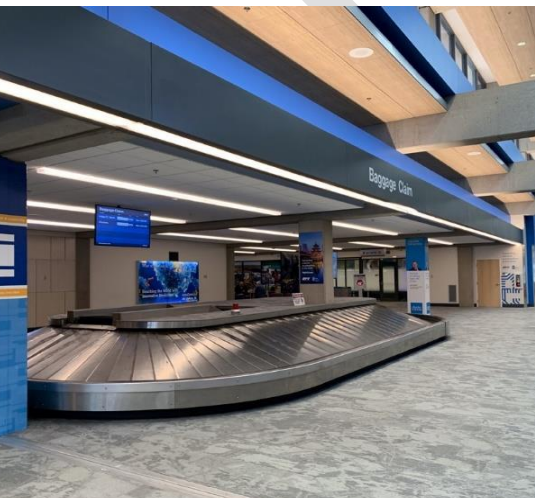
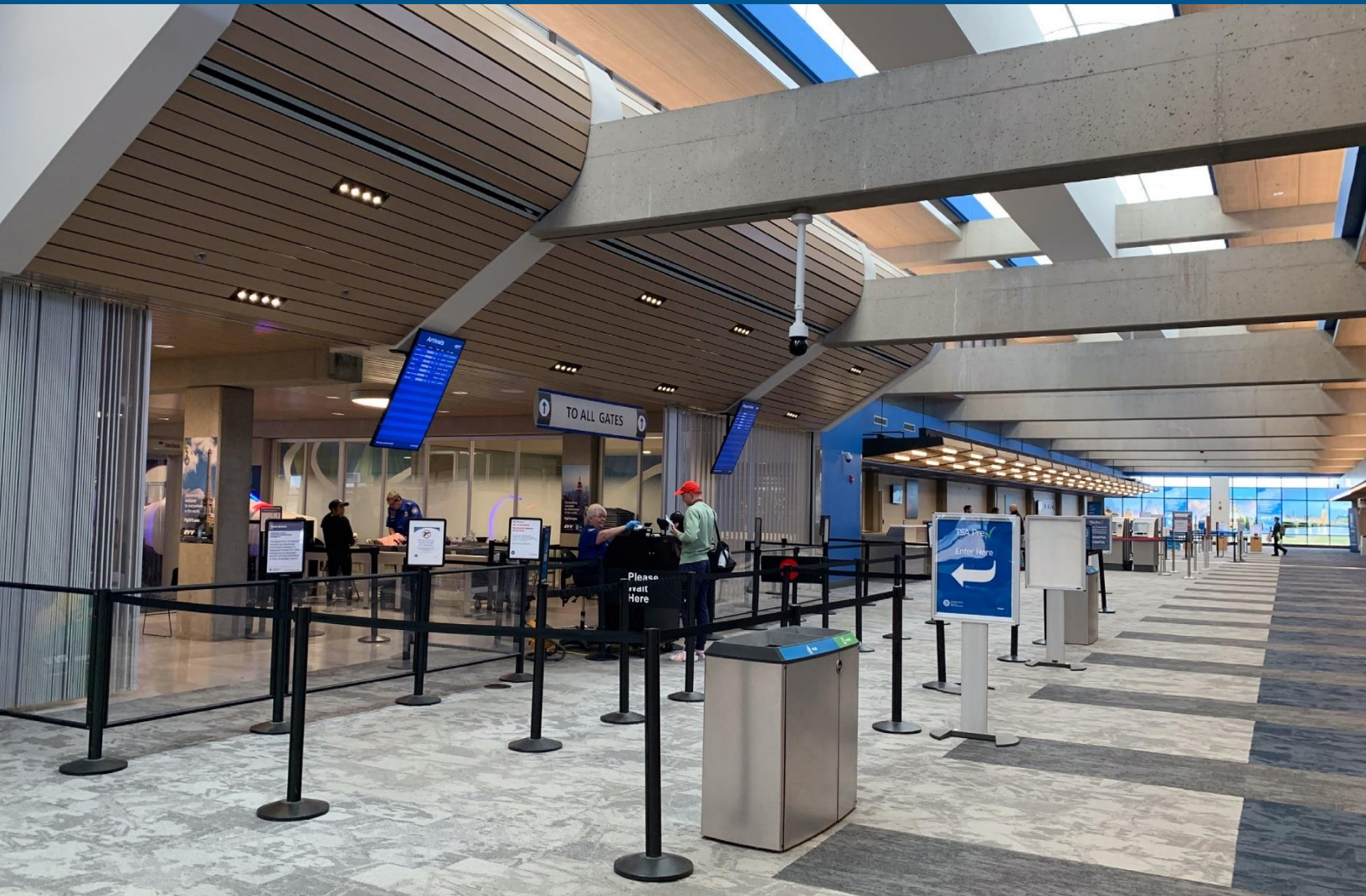


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6 ENVIRONMENTAL OVERVIEW INTRODUCTION

This section provides a preliminary assessment of the environmental factors to be considered as part of the development and implementation of the proposed Master Plan projects. This review was conducted in accordance with FAA Orders 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and 1050.1F, *Environmental Impacts: Policies and Procedures*. This review does not provide a complete investigation sufficient for obtaining environmental permits or compliance with environmental documentation, such as an Environmental Assessment (EA) under the requirements of NEPA, as amended. Publicly available resources in addition to studies performed as part of previous sections of the Master Plan were relied upon to identify potential impacts of study recommendations.

The purpose of this overview is to identify the potential environmental issues and environmentally sensitive areas that may affect future projects at the Evansville Regional Airport (EVV or the “Airport”) and to identify those environmental issues that may require additional analyses and permits prior to implementation.

The environmental impact categories evaluated herein are:

- Compatible Land Use and Zoning
- Airport Noise
- Social and Economic Environment
- Air Quality
- Water Quality
- Department of Transportation Act, Section 303 (i.e., Section 4(f))
- Section 6(f)
- Historic, Architectural, Archaeological, and Cultural Resources
- Biological Resources
- Wetlands and Watercourses
- Floodplains
- Prime and Unique Farmlands
- Hazardous Materials

6.1 COMPATIBLE LAND USE AND ZONING

6.1.1 Compatible Land Use

EVV is located in Evansville, Indiana approximately 3 miles north of downtown Evansville, in Vanderburgh County. Based on a review of the area, land uses surrounding the Airport

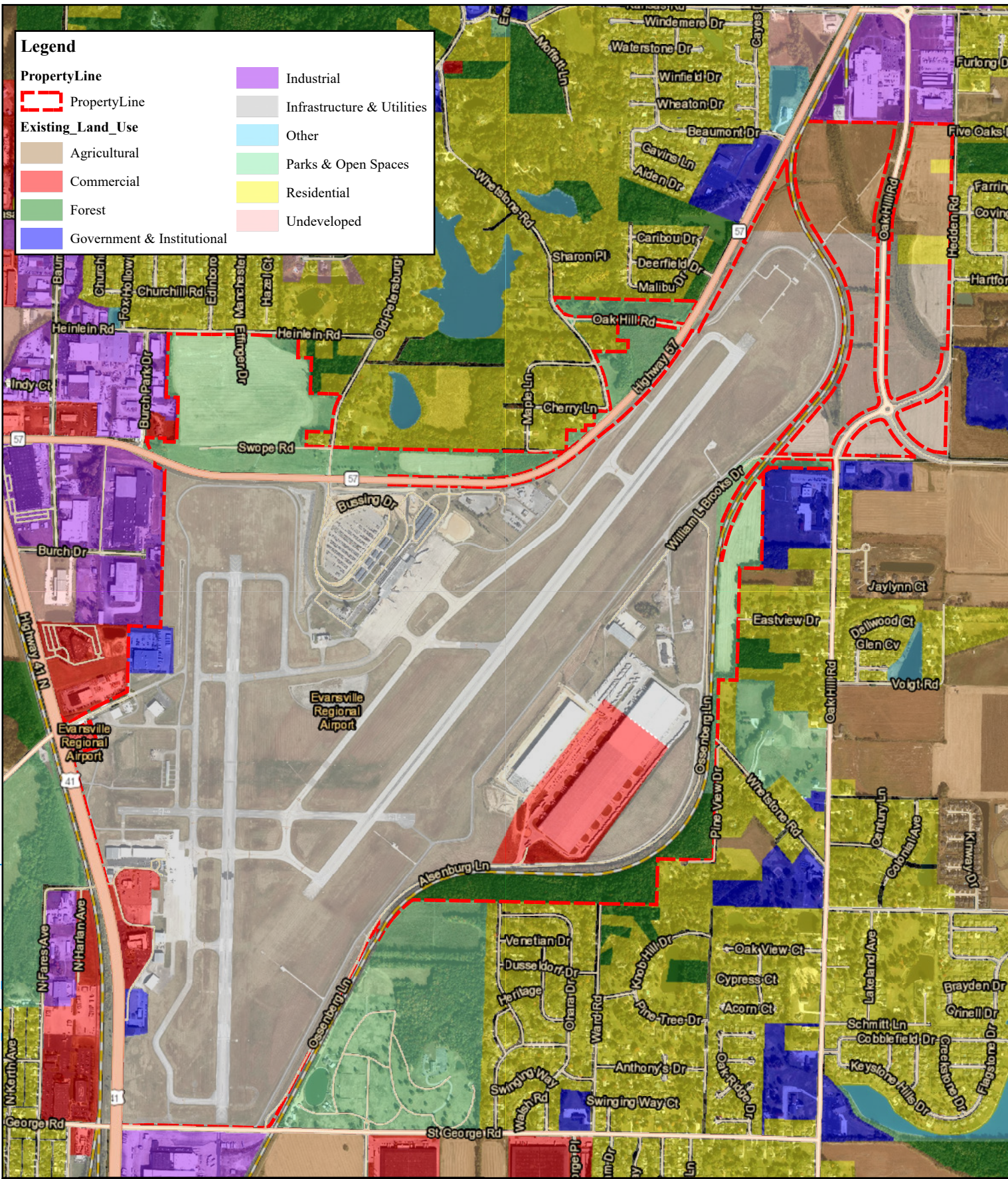
include, Agricultural, Commercial, Forest, Government & Institutional, Industrial, and Parks & Other Open Spaces. North and south of the Airport is predominantly Residential with a small amount of Agricultural, Government & Institutional, and Forest. Southwest of the Airport is predominantly Commercial and Parks & Open Spaces. East of the Airport is predominantly Agricultural with some Residential. West of the Airport is predominantly Industrial and Parks & Open Spaces. **Figure 6-1** depicts land use around the airport.

Land use considerations for this Master Plan are significant given the increased development in the area surrounding EVV. Land use compatibility is of the most concern in the locations immediately beyond runway ends where obstructions may penetrate the Runway Protection Zone (RPZ). The current Runway Protection Zones (RPZ) at EVV are primarily contained to Airport property and is left undeveloped and maintained by the Airport. No forested areas are located in the RPZ. Properties in the RPZ with obstructions to the approach or departure surfaces are eligible for FAA funding for easements or acquisition for safety purposes.

Land uses that may not be compatible with Airport use based on noise sensitivity associated with each use are defined in FAA Order 1050.1F, *Environmental Desk Reference*. Potentially incompatible land uses based on noise sensitivity include residential areas and facilities such as schools, hospitals, and libraries. Potential noise impacts are discussed in detail in **Section 6.2**.

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PropertyLine
 PropertyLine

Existing_Land_Use

Industrial	Infrastructure & Utilities
Other	Parks & Open Spaces
Agricultural	Residential
Forest	Undeveloped
Government & Institutional	



Scale 1" = 2,000'

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Figure 6-1: Land Use Map
EVV Master Plan Environmental Overview
Vanderburgh County, Indiana

Image Source: GRW (2023)
Land Use Source: Evansville Vanderburgh County Comprehensive Plan 2015-2035 Future Land Use
























6.1.2 Zoning

EVV property is primarily zoned as Airport (AIR) with a small portion of agriculture on the northeast. Directly north, southeast, and southwest of EVV consists of Residential Areas. West of EVV is General Industrial. Northwest, east and southeast of EVV is Agriculture. **Figure 6-2** depicts zoning surrounding the Airport. Master Plan recommendations include rezoning land within the airport property to AIR and maintaining consistency with current development at EVV. Impacts to zoning are not anticipated.

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 PropertyLine	 CO-1: Commercial Office-1	 R-2: Residential
Zoning	 CO-2: Commercial Office-2	 R-3: Residential
 A: Agriculture	 CON: Conservancy	 R-3A: Residential
 AIR: Airport	 M-1: Light Industrial	 R-4: Residential
 C-1: Neighborhood Commercial	 M-2: General Industrial	 R-5: Residential
 C-2: Community Commercial	 M-3: Industrial	 W-I: Waterfront Industrial
 C-3: Central Business	 PUD: Planned Unit Development	 W-R: Waterfront Recreational/Residential
 C-4: General Commercial	 R-1: Residential	 <all other values>

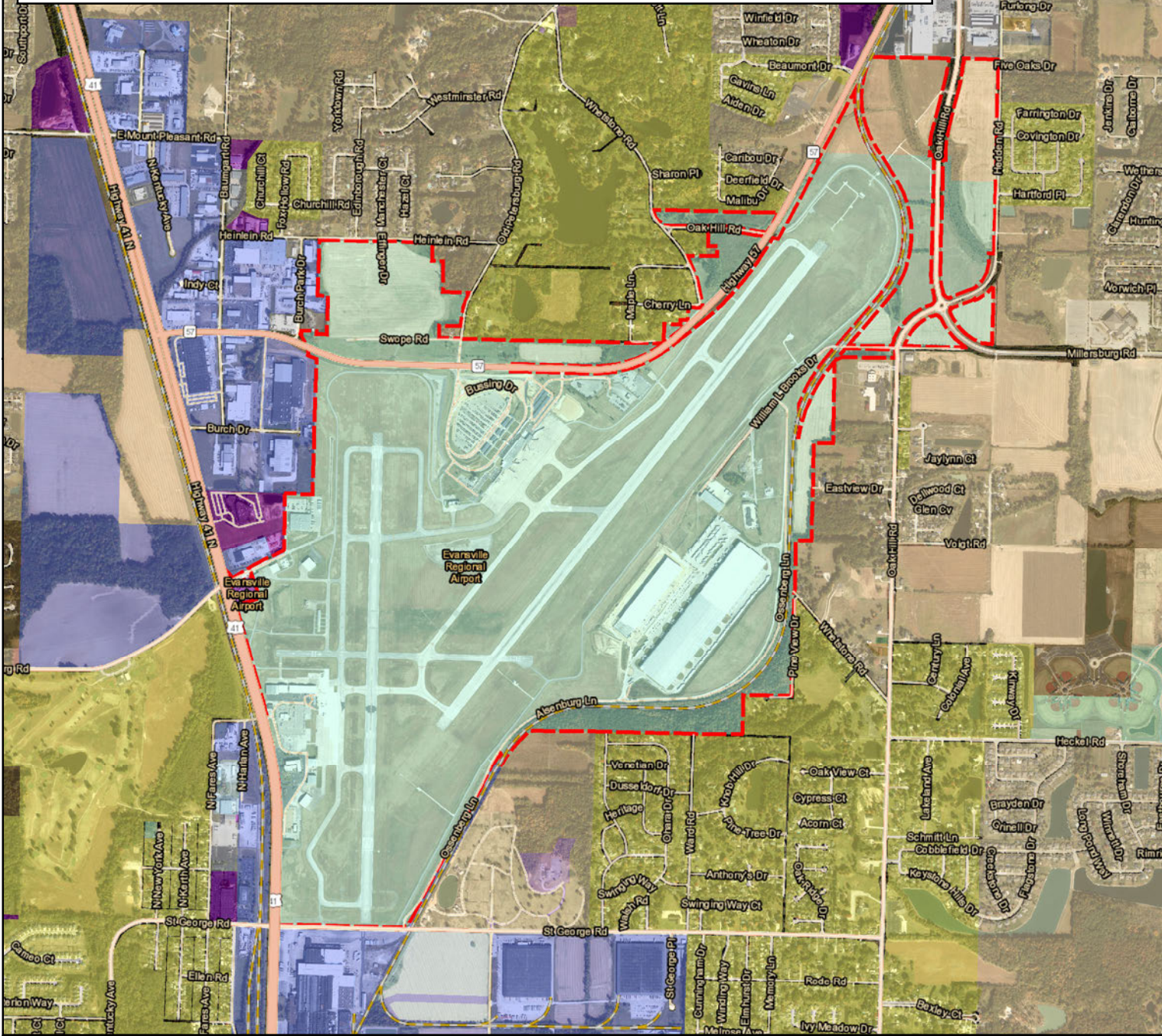


Figure 6-2: Zoning Map

EVV Master Plan Environmental Overview
Vanderburgh County, Indiana

Scale 1" = 2,000'

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Image Source: GRW (2023)
Land Use Source: Evansville Vanderburgh County Comprehensive Plan 2015-2035 Future Land Use

6.2 AIRPORT NOISE

At EVV, the surrounding industrial, commercial, and residential areas near the Airport each experience some amount of Airport noise. Airport and aircraft noise are regulated at the federal level, and the impact parameters to communities have to be over 65 DNL before they are considered a significant impact. Additionally, impacts are determined based on average airport noise levels, rather than peak noise levels that may occur during a single-event aircraft takeoff; this noise metric is represented as the day-night average noise level (DNL). All land uses are considered compatible with noise levels of less than 65 DNL.

At EVV, it is known that noise disturbance occurs, including within locations on and off Airport property. In a previous Master Plan, noise contours were taken into consideration for the year 2006. That study concluded that in no case is any off-Airport property exposed to a DNL of 70 dB or above. This creates an environment around EVV in which noise disturbance does occur, but the level of noise is considered acceptable by federal standards. Schools, hospitals, nursing homes, and churches are not significantly impacted by noise. Depending on the action, a noise analysis may be recommended should future Airport expansion occur.

6.3 SOCIAL AND ECONOMIC ENVIRONMENT

6.3.1 Socioeconomic Resources

According to FAA Order 1050.1F, *Environmental Desk Reference*, socioeconomic is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action and alternative(s). Social and induced socioeconomic impacts are typically defined as disruptions to surrounding communities, such as shifts in patterns of population movement and growth, changes in public service demands, loss of tax revenue, and changes in employment and economic activity stemming from airport development. These impacts may result from the closure of roads, increased traffic congestion, acquisition of business districts or neighborhoods, and/or by disproportionately affecting low-income or minority populations.

Development anticipated at EVV does not have the potential for these types of broad impacts. There will be no impacts to housing that would result in the relocation of residents; no impacts or relocation of businesses that would create severe economic hardship on the community; no substantial loss to the community tax base. Past FAA studies have identified that the social and induced socioeconomic impacts are not normally significant unless substantial impacts are anticipated in other categories (e.g., noise, land use, property acquisition), and this would not be the case with the Master Plan projects being considered at EVV.

6.3.2 Environmental Justice

The U.S. Environmental Protection Agency (EPA) defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Title VI of the Civil Rights Act of 1964 was enacted to protect

against discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance.

Executive Order 12989, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” enacted in 1994, requires all federal agencies to identify and address the disproportionately high and/or adverse human health environmental impacts of their programs and policies on minority and low-income populations and communities. The guidance provides six principles for consideration of environmental justice, which are: 1) composition of affected area and whether there are low-income populations, minorities, or Indian tribes, 2) public health and industry data for assessment of environmental hazards, 3) recognition of interrelated cultural, social, occupational, historical, or economic factors that could amplify environmental effects, 4) encouragement of public participation and accommodations to overcome linguistic, cultural, institutional, geographic, and other barriers, 5) meaningful community representation with awareness of diverse constituencies, and 6) soliciting tribal representation.

The Council on Environmental Quality’s (CEQ) “Environmental Justice Guidance Under the National Environmental Policy Act” provides guidance to federal agencies on how to determine the presence of low-income and minority populations within an appropriate unit of geographic analysis. The guidance defines the identification of a minority population where either “(a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.”

To assess the presence of minority and/or low-income populations near the Airport, an environmental justice (EJ) analysis was completed using the U.S. Census Bureau website. Vanderburgh County was selected as the Community of Comparison (COC) as it is representative of the area surrounding the Airport. Census tracts 35, 102.01, 102.02, and 102.03 contains the Airport and, depending on the action, could be an Affected Community (AC). Per CEQ guidance, ACs that **are greater than 50 percent minority or low-income are automatically designated as EJ populations**. The AC’s surrounding EVV do not have minority or low-income populations greater than 50 percent. ACs are also designated as EJ populations if the low-income or minority populations are 125 percent (125%) of the COC. **Table 6-1** displays the EJ analysis for EVV. According to the U.S. Census Bureau, 2019 American Community Survey (ACS) 5-Year Estimates, **Census Tracts 35, 102.01, 102.02, and 102.03 do not represent an EJ population.**

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Table 6-1 – EVV EJ Analysis

	Community of Comparison	Affected Community: #1	Affected Community: #2	Affected Community: #3	Affected Community: #4
	Vanderburgh County	Census Tract: # 35	Census Tract: # 102.01	Census Tract: # 102.02	Census Tract: # 102.03
Minority Persons					
Total:	181,291	3,292	11,896	3,104	8,822
White Alone	151,571	2,726	10,327	2,934	8,555
Minority	29,720	566	1,569	170	267
% Minority	16.39%	17.19%	13.19%	5.48%	3.03%
125% of COC	20.49%				
Impacted EJ Community		No	No	No	No
Low-Income					
Total:	174,643	2,745	11,849	3,104	8,822
Income in the Past 12 Months Below Poverty Level	29,122	252	262	110	1,268
% Low-Income	16.68%	9.18%	2.2%	3.5%	14.4%
125% of COC	20.84%				
Impacted EJ Community		No	No	No	No

Source: U.S. Census, 2019 ACS Survey (5-year estimate). CHA, 2024.

A more detailed analysis may be required to fully assess environmental impacts in the future, including those to potential environmental justice populations, as future demographic and economic characteristics of the surrounding area may be different at the time of project implementation.

6.3.3 Children’s Health and Safety

Executive Order 13045, “Protection of Children from Environmental Health Risks and Safety Risks” requires that federal agencies make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children. Such disproportionate impacts would be likely to occur at schools, day care centers, or similar facilities with higher concentrations of children. Oak Hill Elementary School, located approximately 0.15 miles east of the Airport, is the only such facility within 1 mile of the Airport.

Although a school is located east of EVV, the projects identified in this Master Plan would primarily occur on Airport property and, as identified above, away from areas where children are likely to be present on a consistent basis. The Master Plan recommendations will have no anticipated impact on children’s health and safety. As discussed above, a separate noise study will identify noise levels in neighborhoods and at schools near the Airport.

6.4 AIR QUALITY

The Clean Air Act Amendments (CAAA) of 1990 require the EPA to set National Ambient Air Quality Standards (NAAQS) for six “criteria” pollutants considered harmful to public health and the environment. The NAAQS identify two types of air quality standards: primary and secondary. Primary standards provide public health protection, including protecting the health of "sensitive"

populations, such as asthmatics, children, and the elderly. Secondary standards were established to provide public welfare protection, including protection against impaired visibility and damage to animals, soils, crops, vegetation, and buildings. The six “criteria air pollutants” established by the EPA to protect public health and welfare include:

- ✈ Ozone (O₃)
- ✈ Carbon monoxide (CO)
- ✈ Particulates (PM₁₀ and PM_{2.5})
- ✈ Sulfur dioxide (SO₂)
- ✈ Nitrogen dioxide (NO₂)
- ✈ Lead (Pb)

Indiana has adopted the national standards implemented by the EPA and has developed a State Implementation Plan (SIP) to attain and maintain these standards. Vanderburgh County is in the Evansville (Indiana)-Owensboro-Henderson (Kentucky) Interstate Air Quality Control Region. The Indiana Department of Environmental Management (IDEM) is the agency responsible for the SIP, designation activities for the NAAQS, transportation conformity activity, regional haze, and general air quality planning. When violations of air quality standards are detected, IDEM’s Office of Air Quality is required to make plans to bring the area back into compliance with the standards; if they are not, the EPA has the authority to issue sanctions to the area. According to the EPA Greenbook, Vanderburgh County is in attainment for all criteria air pollutants.

Section 176(c) of the CAAA requires that Federal actions conform to applicable federal and state air quality plans and, ensure that the actions will not:

- ✈ Cause or contribute to any new violation of any standard in any area
- ✈ Increase the frequency or severity of any existing violation of any standard in any area
- ✈ Delay timely attainment of any standard of any required interim emission reductions or other milestones in any area.

No air quality modeling was conducted as part of this study. However, if proposed Airport improvements require air quality modeling, it would be conducted during preparation of environmental reviews under NEPA documentation (i.e., before construction) to ensure that NAAQS violations do not occur as a result of the project. The results of the air quality modeling will establish if the above requirements are met and/or if any additional actions are required to ensure compliance.

In the short-term, construction projects could result in minor impacts to air quality in the immediate vicinity of EVV related to the use of construction vehicles and equipment. It is anticipated that pollutants from the use of such vehicles and equipment would include volatile organic compounds (VOCs), nitrogen oxide (NO_x), and CO.

6.5 WATER QUALITY

Water quality standards applicable to EVV are established under the federal Clean Water Act (CWA) and implemented by IDEM. These regulations include requirements for controlling discharges into surface water and groundwater, develop wastewater treatment management plans and practices, and establish permitting requirements for discharges (Section 402 of the

CWA) and dredged and fill materials (Section 404 of the CWA). Existing surface and ground water quality at EVV are described below and are shown in **Figure 6-3**.

6.5.1 Surface Water

As designated by the US Geological Survey (USGS), EVV is located within the Highland-Pigeon watershed (HUC_8 05140202). Little Pigeon Creek and several unnamed tributaries run adjacent to the western boundary of EVV and Firlick Creek runs throughout and adjacent to the northeastern boundary of EVV. As part of Section 303(d) of the CWA, states must establish water quality standards (WQS) for waters within their borders. The WQSs designate a use for certain waterbodies, establish water quality criteria, and set requirements for protecting and maintaining waterbody health. Designated uses identify how people, aquatic communities, and wildlife use the waterway. According to the Indiana Impaired Waters e303d Tool, water resources north and northeast of EVV, including Firlick Creek, have a designation of “unassessed”. Water resources to the west of EVV have a designation of “assessed”. A designation of “assessed” indicates that there is information available on whether the waterway supports a designated water use. Little Pigeon Creek and its unnamed tributaries are all used for recreational and ecological purposes. Recreational uses include swimming, boating, fishing, rafting, and surfing. Ecological uses signify that the aquatic life maintains the ecological integrity of water resource. Little Pigeon Creek has been assessed as “impaired”, and several tributaries surrounding EVV have been assessed as “not impaired”.

In order to assess waterbody health, IDEM first designates all waterbodies in Indiana as one of the five following categories:

- ➔ Category 1: All designated uses are supported, and no use is threatened
- ➔ Category 2: Available data indicates that some but not all designated uses are supported
- ➔ Category 3: Available data is insufficient to make a use support determination
- ➔ Category 4: Available data indicates that at least one designated use is impaired or threatened, but a total maximum daily load (TMDL) is not required because
 - a TMDL has been completed that will result in attainment of applicable WQS
 - other pollution control requirements are expected to result in WQS compliance
 - or impairment is not caused by a pollutant
- ➔ Category 5: At least one designated use is impaired or threatened and a TMDL is required

Indiana’s 303(d) list is comprised of all waters in Category 5. Waters that do not meet the WQS are defined as “impaired”. Waters that currently meet the WQS but are at risk of exceeding them are defined as “threatened”. Indiana’s Section 303(d) List of Impaired Waters has been provided to the EPA. Construction projects at EVV should include Best Management Practices (BMPs) that limit impacts to nearby waterways.

Additionally, construction projects at the Airport that disturb one acre or more of total land area or smaller than one-acre but that are part of a larger plan, must obtain a permit under the Indiana Construction Stormwater General Permit (CSGP) through IDEM.

As part of the Evansville Regional Airport master plan update, the project team has identified areas within the development boundary that intersect with FEMA-designated Special Flood Hazard Areas (SFHAs). To support future development and ensure regulatory compliance, the team is evaluating the feasibility of remapping these flood zones through FEMA's Letter of Map Change (LOMC) process.

This process may include submitting a Letter of Map Amendment (LOMA) or Letter of Map Revision Based on Fill (LOMR-F), depending on site-specific conditions such as natural ground elevation or engineered fill. Supporting documentation will include certified elevation data, hydrologic and hydraulic analyses, and coordination with local floodplain administrators.

The remapping effort aims to:

- ➔ Accurately reflect current topographic and drainage conditions;
- ➔ Reduce unnecessary regulatory burdens on developable parcels;
- ➔ Maintain consistency with FEMA's National Flood Insurance Program (NFIP) standards;
- ➔ Ensure that future development does not increase flood risk to adjacent properties or downstream areas.

This proactive approach aligns with the airport's long-term resilience and land use planning goals, while also supporting economic development opportunities within the region.

6.5.2 Groundwater

EVV is located within the Carbondale Group Aquifer System. The Carbondale Group consists mostly of shales and sandstones with some limestone and commercially important coals. This aquifer system is not very susceptible to contamination in areas where overlying clay materials are present. In some areas, outwash, alluvial, and lacustrine materials overlie the bedrock surface and are at moderate to high risk from surface contamination. According to the Source Water Proximity Determination Tool, the Airport is not located in a designated wellhead protected area. The EPA's sole source aquifer mapping tool, used to identify aquifers that are the sole or principal drinking water source for an area, indicates that EVV is not located in a sole source aquifer.

6.5.3 Stormwater

Stormwater throughout the Airport is captured and conveyed through a series of encapsulated and open drainage ditches. The jurisdictional status of these should be assessed on a case-by-case basis.

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Scale 1" = 1,500'

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Image Source: GRW (2023)

Figure 6-3: Water Resources Map

EVV Master Plan Environmental Overview
Vanderburgh County, Indiana

6.6 DEPARTMENT OF TRANSPORTATION ACT, SECTION 303

Section 303 of the U.S Department of Transportation (DOT) Act of 1966 (49 USC 303, commonly referred to as Section 4(f)) provides for the protection of publicly owned recreational resources and requires the analysis of potential impacts to these resources arising from DOT actions. Resources protected include public parks and recreation areas, as well as wildlife and waterfowl refuges or management areas of national, state, or local significance. This section also applies to historic sites of national, state, or local significance as determined by the official that has jurisdiction over these historic resources. Such sites include those that are listed or eligible for inclusion in the National Register of Historic Places (NRHP), as well as those identified by appropriate state or local agencies as having historic significance.

According to online resources from Vanderburgh County, the City of Evansville, and the Indiana Department of Natural Resources (DNR), there are no public parks or wildlife/waterfowl refuges within a 0.5-mile radius of Airport property. Based on review of the Evansville Trails Coalition Map, three bicycle lanes are within the vicinity of EVV on the east. Oak Hill Road's Dedicated Bicycle Lane and Millersburgh Road Sidepath pass through Airport property. Heckel Road's Bicycle Sidepath is 0.25 miles from Airport property. The NRHP spatial database indicates that there is one NRHP resource, Hooker-Ensle-Pierce House, located east of Airport property. In addition, SHAARD database identifies several historic resources within the vicinity of EVV, as shown in **Figure 6-4. Section 6.8** will further identify historic resources. Impacts to parks or recreational resources are not anticipated as a result of the actions proposed in the Master Plan.

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6.7 SECTION 6(F) RESOURCES

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreational resources. Section 6(f) of this Act prohibits the conversion of lands purchased with LWCF monies to a non-recreation use. Review of the LWCF website revealed no LWCF projects on or around Airport property.

6.8 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) of 1966 protects properties that are listed or determined to be eligible for inclusion in the NRHP. The NHPA requires Federal agencies to consider the effects of their undertakings on historic properties and to consult with the State Historic Preservation Office (SHPO) and other parties to develop and evaluate alternatives and modification to the undertaking that could avoid or minimize potential impacts to historic resources.

In order to consider the effect an undertaking may have on properties that are eligible or are listed on the NRHP, an APE must first be identified. According to 36 CFR Part 800.16(d), the APE is the geographic area or areas within where an undertaking may directly or indirectly alter the character or use of historic properties. Such changes may include physical destruction, damage, or alteration of a property; change in the character or the property’s use or of physical features within its setting that contribute to its historic significance; and introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features.

Typically, in the EA process, an early coordination letter would be sent to the SHPO, which for undertakings at EVV would be the Indiana DNR Division of Historic Preservation & Archaeology (DHPA). This package would detail the project as well as the purpose and need and request input on potential resources within or near the project area. Once recommended resource assessments have been completed, the FAA would then conduct formal consultation with the DHPA, where the DHPA would conclude if any NRHP listed or eligible properties would be affected by the proposed undertaking. In all cases, if any archeological artifacts or human remains were uncovered during construction, demolition, or earthmoving activities, construction in the immediate area would be stopped and the DHPA would be notified immediately.

As documented, one NRHP-listed resource, Hooker-Ensle-Pierce House, is located next to EVV. This resource is described as a dogtrot house, two log cabins connected by a breezeway, and acted as a teaching facility. There are also several other state historic resources within the APE.

Notable historic resources within the APE:

- ➔ Dress Field
- ➔ Republic Aviation Corporation
- ➔ Bethlehem Christian Church
- ➔ John Carson House

Cemeteries within the APE:

- Sunset Memorial Park
- Bethlehem United Church of Christ
- Igleheart-Cooksey

Historic sites identified as “Contributing” within the APE:

- | | |
|--------------------------------|-----------------------------|
| → House (163-195-15072) | → John Ahlas House |
| → Kratz House | → Rauchenbach House |
| → House (163-195-15082) | → Alenxander Perry House |
| → Bethlehem Christian Cemetery | → House (163-195-16007) |
| → Ray Rothlei House | → George Veight House |
| → James Stafford Kreger House | → House (163-195-16009) |
| → House (163-195-15044) | → Heilmann Farm |
| → House (163-195-15043) | → Blake Foster House |
| → Webb House | → William A McCutchan House |
| → August Hartig House | → Effinger Tenent House |
| → Schlensker House | → Heinlein House |

Coordination with the DHPA will be required to confirm the presence and/or absence of state listed historic and archaeological resources on or near Airport property prior to planned developments/improvements.

6.9 BIOLOGICAL RESOURCES

6.9.1 Biotic Communities

The town of Evansville is within the Wabash Ohio Bottomlands (Woods, AJ, et al). This region has features including low-gradient rivers, adjacent terraces, lakes and wetlands. This area naturally supported bottomland forests and forested swamps. Most of the forests have been cleared for agriculture. Corn, soybeans, wheat, alfalfa and livestock are produced in the region. Localized flooding is common in the region.

Upland biotic communities on Airport property are predominantly areas of maintained grass. Maintained airfield grass heights encourages a thick monoculture of grass and eliminates broadleaf weed species. Removing tree and shrub species reduces food sources. Aquatic habitats are not abundant on EVV, and those present are limited to drainage features that do not support an abundant habitat for obligatory aquatic wildlife. Wetlands are discussed further in **Section 6.10**. EVV engages in wildlife management to reduce/mitigate the presence of species that

potentially pose a hazard to aircraft operations under a Wildlife Hazard Management Plan and a cooperative agreement with the United States Department of Agriculture – Wildlife Services.

For implementation of Master Plan recommendations, a more detailed environmental analysis would be conducted to assess potential impacts to biotic communities in the areas where development activities and improvements are proposed. Field surveys may be required.

6.9.2 Threatened and Endangered Species

Section 7(c) of the Endangered Species Act of 1973 (16 USC 1531 et sec.) requires that the potential impacts to rare, threatened, and endangered species of flora and fauna and their critical habitats be identified to avoid adverse impacts to these species.

According to the USFWS Information for Planning and Conservation (IPaC) website, several federally protected species have the potential to be present at EVV.

Federally listed species that could be impacted by proposed projects at EVV include the following species:

- The Indiana Bat (*Myotis sodalis*), an endangered species
- Tricolored Bat (*Perimyotis subflavus*), a proposed endangered species
- Whooping Crane (*Grus americana*), an experimental population
- Monarch Butterfly (*Danaus plexippus*), a candidate species

No critical habitat has been designated for the Indiana Bat, Tricolored Bat, Whooping Crane, or the Monarch Butterfly.

The IPaC also identifies seventeen migratory birds classified as Birds of Conservation Concern within the boundaries of the Airport. These species include:

- Bald Eagle (*Haliaeetus leucocephalus*)
- Black-billed Cuckoo (*Coccyzus erythrophthalmus*)
- Bobolink (*Dolichonyx oryzivorus*)
- Cerulean Warbler (*Dendroica cerulea*)
- Chimney Swift (*Chaetura pelagica*)
- Eastern Whip-poor-will (*Antrostomus vociferus*)
- Field Sparrow (*Spizella pusilla*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- Henslow’s Sparrow (*Ammodramus henslowii*)
- Kentucky Warbler (*Oporornis formosus*)
- Lesser Yellowlegs (*Tringa flavipes*)
- Prairie Warbler (*Dendroica discolor*)

- Prothonotary Warbler (*Protonotaria citrea*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Rusty Blackbird (*Euphagus carolinus*)
- Semipalmated Sandpiper (*Calidris pusilla*)
- Wood Thrush (*Hylocichla mustelina*)

The State of Indiana lists their state endangered species by county. Vanderburgh County State Endangered Species include:

Fauna

- Sheepnose mussel (*Plethobasus cyphus*)
- American Burying Beetle (*Nicrophorus americanus*)
- Marbled Underwing Moth (*Catocala marmorata*)
- Hellbender (*Cryptobranchus alleganiensis alleganiensis*)
- Eastern mud turtle (*Kinosternon subrubrum subrubrum*)
- Copperbelly water snake (*Nerodia erythrogaster neglecta*)
- Upland sandpiper (*Bartramia longicauda*)
- Sedge wren (*Cistothorus platensis*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Cerulean warbler (*Setophaga cerulea*)
- Barn owl (*Tyto alba*)
- Golden-winged warbler (*Vermivora chrysoptera*)
- Evening bat (*Nycticeius humeralis*)
- Swamp rabbit (*Sylvilagus aquaticus*)

Flora

- Land of gold sedge (*Carex aureolensis*)
- Devil's-bit (*Chamaelirium luteum*)
- Water-purslane (*Didiplis diandra*)
- Bottomland broomrape (*robanche riparia*)
- Blue scorpionweed (*Phacelia ranunculacea*)
- Ovate catchfly (*Silene ovata*)

Vanderburgh County State Threatened Species include the following flora species:

- Social sedge (*Carex socialis*)
- Northern catalpa (*Catalpa speciosa*)
- Green hawthorn (*Crataegus viridis* var. *viridis*)
- Featherfoil (*Hottonia inflata*)
- Blackfoot quillwort (*Isoetes melanopoda*)
- Maryland meadow beauty (*Rhexia mariana* var. *mariana*)
- Bald cypress (*Taxodium distichum* var. *distichum*)
- Catbird grape (*Vitis palmata*)

A more detailed analysis would be conducted prior to implementation of Master Plan recommendations, including formal consultation with federal and state agencies, confirmation of existing species within the project area through surveying, and evaluation of potential impacts to those species and their habitat areas. If appropriate, mitigation measures to address adverse impacts would be pursued. BMPs for erosion and sedimentation would be necessary to mitigate impacts to aquatic species during construction activities.

6.10 WETLANDS AND WATERCOURSES

Wetlands and watercourses at EVV are regulated and protected under both federal and state regulatory programs. It is anticipated that prior to initiating specific projects identified in the Master Plan, a current wetland delineation would be required to determine the federally and state regulated wetland and watercourse boundaries in the project area. Work occurring within designated federal or state wetlands or watercourses will require securing the appropriate permits from the U.S Army Corps of Engineers (USACE) and/or IDEM, as applicable.

The U.S. Department of Transportation Order 5660.1A, Preservation of the Nation's Wetlands, implements Executive order 11990, Protection of Wetlands. The USACE administers Section 404 of the CWA (933 CFR 320-332) which regulates discharges of fill into federal wetlands and waters of the United States. Federally regulated wetlands, as defined in 33 CFR Part 328, are "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." A federal 404 permit may be required from the USACE for projects that include the discharge of dredged or fill material into waters of the U.S. including wetlands. If the USACE determines that water features or wetlands are present but determines that they are not Waters of the U.S., then they are considered Waters of the State. State regulated wetlands are Waters of the State and are regulated under Indiana's State Regulated Wetlands law (Indiana Code 13-18-22). Impacts to state regulated wetlands require State Regulated Wetland Permits from IDEM. IDEM must be contacted to determine which, if any, state authorization(s) is/are needed before an applicant may legally discharge pollutants to wetlands, streams, rivers, lakes, and other Waters.

6.10.1 Wetland and Surface Waters Mapping

In order to identify wetlands and watercourses occurring on EVV property, publicly available online data was reviewed. Wetlands and watercourses were not formally delineated as part of this study. The USFWS National Wetlands Inventory (NWI) map shows NWI Freshwater Forested/Shrub Wetland and Freshwater Pond habitats to the west of Airport property by Thunderbolt Pass Golf Course, with several distributed throughout the 0.5-mile buffer used for the assessment. Three emergent wetland (PEM) habitats are shown on the North, South and West of EVV property. Two Freshwater Pond habitats are shown to the north of EVV property, but the freshwater pond shown located to the north of Runway 18 is no longer present.

Little Pigeon creek and several unnamed tributaries run adjacent to the west of the Airport. While Little Pigeon Creek is not on the 303(d) list, it is designated as “impaired” due to high levels of *E. Coli*. according to the EPA NEPAAssist tool. Firlick creek runs through and adjacent to the Airport on the northeast and is designated as “not impaired”. Wetlands and surface waters present on or near EVV are shown in **Figure 6-3**. Potential impacts to Little Pigeon Creek should be evaluated according to the Lower Pigeon Creek Watershed Management Plan for compliance with any regulatory requirements.

6.11 FLOODPLAINS

Executive Order 11988 defines floodplains as the “lowland and relatively flat areas adjoining inland and coastal waters, including flood prone areas of offshore islands”, including at a minimum, “the area subject to a one percent or greater chance of flooding in a given year”. The intent of Order 11988 is to ensure that floodplains and floodways are kept clear of obstructions and facilities that could restrict or increase flow rates or volumes during flood conditions. Encroachment is defined as any action that would cause the 100-year water surface profile to rise by one foot or more. The 100-year floodplain has been adopted by the Federal Emergency Management Agency (FEMA) as the baseline for floodplain management. Both federal and state laws regulate development within floodplains and floodways.

Indiana utilizes the Floodplain Analysis & Regulatory Assessment (FARA) Tool to show flood risk associated with Indiana waterbodies and provide information specific to local and state floodplain permitting. The Floodway (FEMA Zone AE Floodway, DNR Detailed, DNR Approximate) includes the stream channel and the overbank area necessary to carry the one percent (1%) annual chance flood. Land in this area is considered to have a high flood risk. Construction in the floodway requires a permit from the DNR, Division of Water. Local floodplain ordinances require local construction permits. Flood insurance is strongly recommended and may be required by FEMA.

The Special Flood Hazard Area (FEMA Zone A, FEMA Zone AE without floodway, DNR Approximate without floodway) is considered to have a high flood risk. The water surface at this level is referred to as the Base Flood Elevation (BFE). Construction in the floodway requires a permit from the DNR, Division of Water. Local floodplain ordinances may require local construction permits. Flood insurance is strongly recommended and may be required by FEMA.

The Fringe (DNR Detailed, DNR Approximate, FEMA Zone AE) Area is outside of the floodway but still subject to flooding during the one percent (1%) annual chance flood. The one percent (1%) annual chance flood, also known as the base flood, has a one percent (1%) chance of being equaled or exceeded in any given year. Land in this area is considered to have a high flood risk. Construction in the Floodway permit is not required from the DNR, Division of Water. Local floodplain ordinances may require local construction permits.

The Additional Floodplain Area (0.2% Annual Chance Flood) is considered to have a moderate risk of flooding. These areas are subject to the 0.2% annual chance (500-year) flood. A Construction in the Floodway permit is currently not required from the DNR, Division of Water within these zones. Local floodplain ordinances may require local construction permits. Flood insurance is strongly recommended. Floodplains present on or near EVV are shown in **Figure 6-3**.

6.12 PRIME AND UNIQUE FARMLANDS

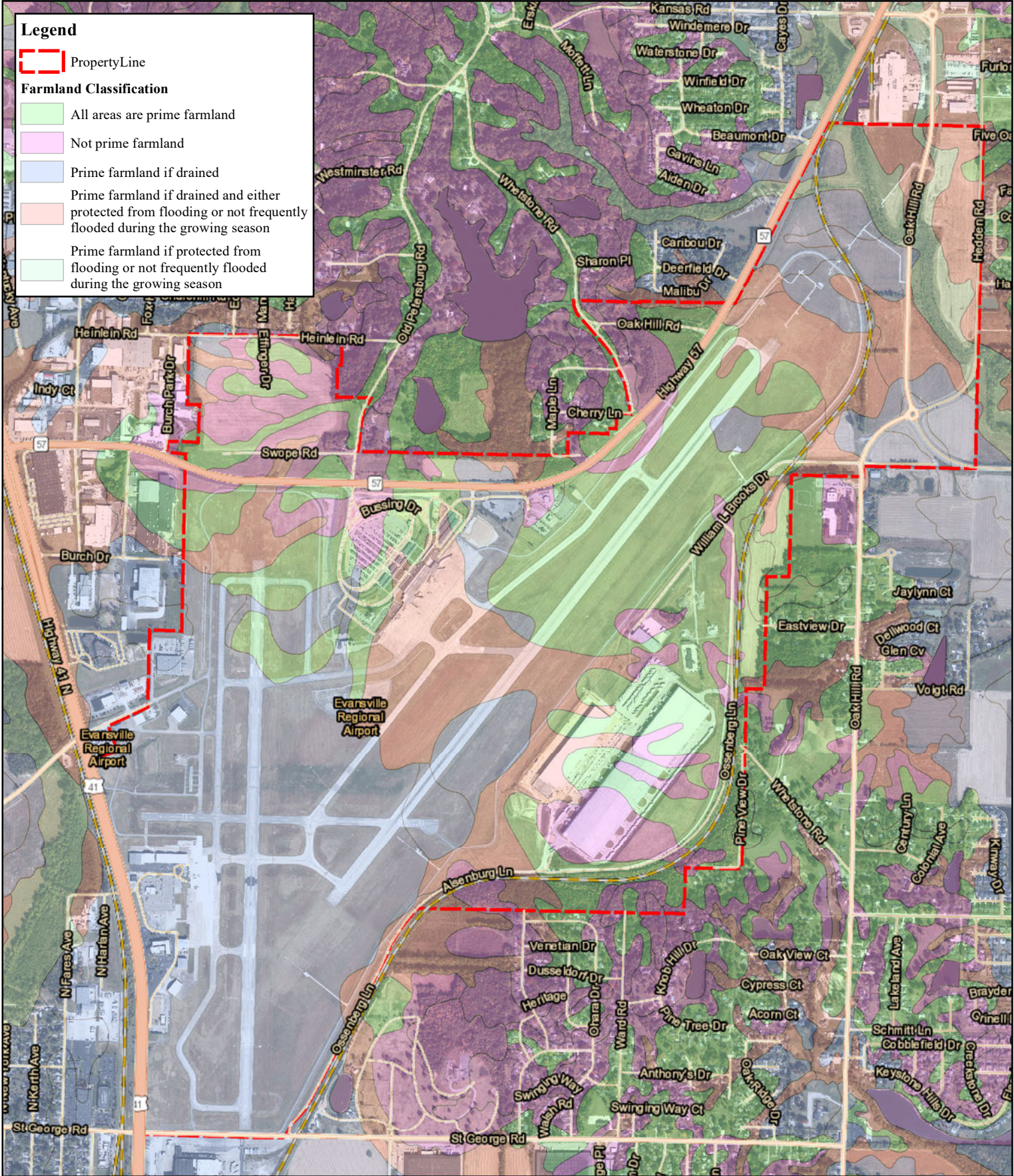
The Farmland Protection Policy Act (FPPA) limits the conversion of significant agricultural lands to non-agricultural uses as a result of federal actions (7 USC § 4201, et seq.). The determination of whether farmlands are subject to FPPA requirements is based on soil type; the land does not have to be actively used for agriculture. Farmland subject to FPPA requirements can be pastureland, forested, or other land types, but not open water or developed urban or transportation areas. The FPPA regulates four types of farmland soils:

- ✈ Prime Farmland
- ✈ Unique Farmland
- ✈ Farmland of Statewide Importance
- ✈ Farmland of Local Importance

Prime farmland is defined by the Natural Resources Conservation Service (NRCS) as “land that has the best combination of physical and chemical characteristics” for agriculture. This includes land with these characteristics used for livestock or timber production but not land that is already urbanized or used for water storage. Unique farmland is defined as “land other than prime farmland that is used for production of specific high-value food and fiber crops,” with such crops defined by the Secretary of Agriculture. Farmland of statewide or local importance is farmland other than prime or unique farmland that “is used for the production of food, feed, fiber, forage or oilseed crops.”

According to the NRCS Web Soil Survey, no unique farmland, farmland of statewide importance, or farmland of local importance is found within Airport property. EVV property mainly consists of soils that are considered prime farmland, prime farmland if drained, and prime farmland if drained and either protected from flooding or not frequently flooded during the growing season. Agricultural production, including corn and soybeans, occurs on the north and northeast area of EVV property. **Figure 6-5** shows farmland classifications of soils at EVV.

Prior to implementation of the airfield recommendations, a project-specific environmental analysis would be conducted to confirm the location of the improvements relative to farmland soils, quantify potential impacts, and to coordinate with the USDA.



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Scale 1" = 1,500'

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Figure 6-5: Prime and Unique Farmlands

EVV Master Plan Environmental Overview
Vanderburgh County, Indiana

Image Source: GRW (2023)

6.13 HAZARDOUS MATERIALS

Hazardous waste is a general term relating to spills, dumping, and releases of substances that could threaten human and animal life. To identify these materials and protect the environment from harmful interaction with hazardous wastes, federal laws and regulations such as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource, Conservation, and Recovery Act (RCRA) have been enacted. CERCLA prescribes a very specific process for the investigation and cleanup of sites listed on the National Priorities List (NPL), also referred to as Superfund sites. RCRA is the public law that creates the framework for the proper management of hazardous and non-hazardous solid waste. Hazardous waste impacts are typically associated with the current or future use, transfer, or generation of hazardous materials within the limits of the proposed improvements or the acquisition of properties that contain hazardous materials. Environmental concerns related to solid waste disposal range from adequate landfills for normal urban trash to the safe disposal of industrial waste.

Based on review of the IndianaMap Viewer, there are no Superfund sites on or surrounding Airport property. Several Hazardous Waste Corrective Sites and RCRA reporting sites surround Airport property.

Berry Global is a RCRA reporting site located on Airport property that is in compliance with RCRA. The Brownfield sites a 52-acre portion of a former Whirlpool manufacturing facility where hazardous substances have been previously found on site. Hazardous waste sites are shown in **Figure 6-6**.

Leaking Underground Storage Tanks (L.U.S.T.) are located on and around Airport property. Information on the L.U.S.T. can be found in **Table 6-2 – L.U.S.T. on Airport Property** and **Table 6-3**.

A total of five documented spill locations are on Airport property with the most recent spill date being 2003.

Table 6-2 – L.U.S.T. on Airport Property

ID	Name	Status
18985	Evansville-Vanderburgh Airport	Closed - 1993
9302	Hertz Rent A Car	Closed - 1995
6429	Tri-State Aero Inc	Violation 5/24/2023
9282	Million Air Evansville	Closed 1999
1610	Evansville-Vanderburgh Airport	Closed-1993

Source: IndianaMap Viewer, 2023; CHA, 2024.

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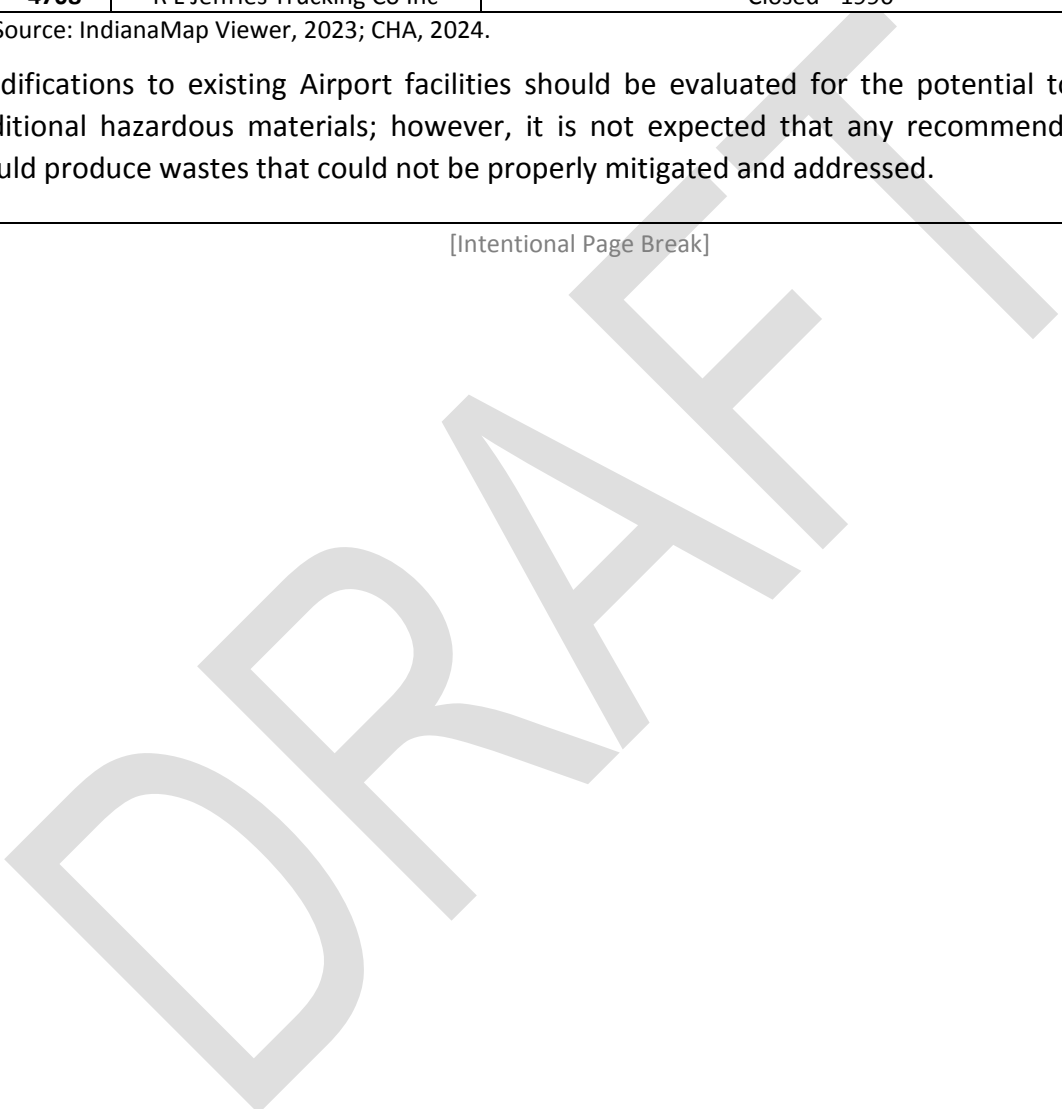
Table 6-3 – L.U.S.T. off Airport Property

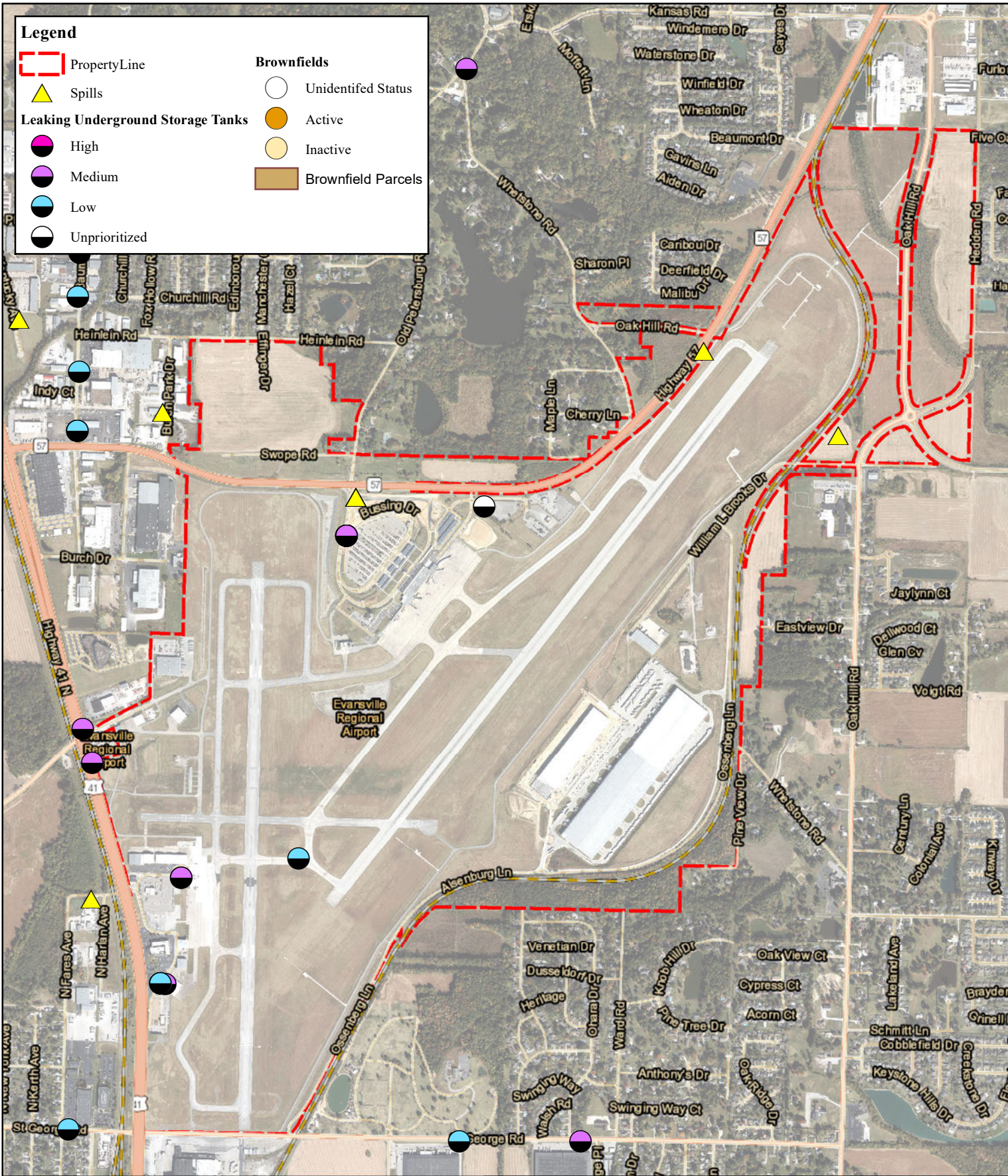
ID	Name	Status
2849	Beatrice Meats	Closed - 2001
8127	Ryder Transportation Services	Closed - 1995
18185	Rudd Equipment Co	Closed - 1992
1111	Circle K #104	Observation wells sampled on a semi-annual basis in 1996.
18597	Atlas Van Lines Inc	Closed – 1993
20726	St George Warehouse	Closed - 1990
5562	Hucks Food Store 147	Closed - 2002
4708	R L Jeffries Trucking Co Inc	Closed - 1990

Source: IndianaMap Viewer, 2023; CHA, 2024.

Modifications to existing Airport facilities should be evaluated for the potential to generate additional hazardous materials; however, it is not expected that any recommended project would produce wastes that could not be properly mitigated and addressed.

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Scale 1" = 1,500'

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Image Source: GRW (2023)

Figure 6-6: Hazardous Waste Map

EVV Master Plan Environmental Overview
Vanderburgh County, Indiana

6.14 SUMMARY

Projects recommended in this Airport Master Plan are anticipated to have some impacts on the environment with concerns generally focused on water quality, wetlands and watercourses, protected species, farmland, and hazardous materials. As noted under each of the resource-specific sections, before implementation of any proposed development project, further environmental documentation will be required to document existing conditions at that time, determine impacts on each resource, and if appropriate, identify mitigation measures to address adverse impacts. Once project dates are available, if appropriate under NEPA, Categorical Exclusions or Environmental Assessments will be prepared in accordance with FAA guidance. Based on the information provided and the types of projects recommended in the Master Plan, it is anticipated that impacts can be successfully mitigated allowing implementation of the recommended plan.

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