

**Creve Coeur Airport, 1H0  
St. Louis, Missouri**

**AIP Project Number: 18-113P1-1**

**ENVIRONMENTAL ASSESSMENT (EA)  
FOR  
Obstruction Removal**

***FINAL July 2018***

Prepared by: Jviation, Inc.

For: Creve Coeur Airport Improvement Corp.

This environmental assessment becomes a Federal document when evaluated, signed, and dated by the Responsible MoDOT Official.



Responsible MoDOT Official

July 11, 2018

Date

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## 1.0 PURPOSE AND NEED

### 1.1 Introduction

This Environmental Assessment (EA) has been prepared to comply with the requirements of the National Environmental Policy Act (NEPA). It complies with the requirements set forth in the Federal Aviation Administration (FAA) Order 5050.4B, FAA Order 1050.1F, as well as applicable Executive Orders (E.O.'s), Council on Environmental Quality (CEQ) regulations implementing NEPA, and other federal, state, and local requirements.

### 1.2 Purpose and Need

The purpose of the Proposed Action is to ensure the Airport provides a safe operating area by complying with current FAA airspace and safety standards and clearing obstructions from the approach and departure paths.

The Proposed Action is needed to address obstructions identified in an obstruction analysis completed as part of the Airport Layout Plan in 2017. The obstruction analysis found current and future obstructions (trees) occur within the approach and departure paths of Runway 16/34. If left unaddressed, the obstructions create a significant safety threat to aircraft operating at the Airport and put the Airport in non-compliance with FAA airspace and safety standards.

### 1.3 Proposed Action

The Proposed Action is the removal of obstructions (trees) penetrating Part 77 Surfaces at the Creve Coeur Airport. Existing trees over 30 feet tall and those with the potential to grow more than 30 feet tall in the near future will be cut and the stump treated to prevent re-growth, leaving the cut portion of trees and stumps in place to minimize environmental impacts.

A tree height of 30 feet was determined by Jviation to be the obstruction and removal threshold for the Proposed Action. Per the Missouri Department of Conservation's information on tree growth (<https://mdc.mo.gov/trees-plants/tree-seedlings/tree-growth-information>), tree species are categorized by their general size (height) in four categories: <10 feet, <30 feet, 30-60 feet, and > 60 feet. Jviation found that tree species in the 30-60 and >60 were most likely to impede the approach and departure paths of the Airport. Further, Jviation prepared an obstruction analysis that depicts trees that obstruct the 34:1 approach and departure path. The obstruction analysis drawings can be found in **Appendix C**.

## 2.0 ALTERNATIVES

### 2.1 Introduction

This chapter discusses the most reasonable alternatives for the removal of obstructions. As discussed in **Section 1.2**, the primary purpose of the Proposed Action is to improve airport safety by guaranteeing no obstructions are within the approach and departure paths. Further, in compliance with FAA guidance and regulations associated with the NEPA, a No Action Alternative is also included.

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**2.2 No Action Alternative**

The No Action Alternative, would leave the existing approach and departure paths in their current state, which would leave obstructions in the approach and departure path. Therefore, the No Action Alternative would not meet the Purpose and Need as defined in **Section 1.2**.

Although the No Action Alternative would not meet the Purpose and Need for the Proposed Action, this alternative was retained for further analysis in this EA. The No Action Alternative is kept in the analysis for environmental baseline comparative purposes, to fulfill CEQ regulations (40 CFR Part 1502) implementing NEPA, and to comply with FAA Order 5050.4B, FAA Order 1050.1F.

**2.3 Alternative A: Obstruction Removal (Proposed Action)**

Alternative A, also the Proposed Action, proposes the removal of obstructions (trees) within the arrival path of Runway 16/34 (see **Figure 2-1** for Proposed Action). The removal of obstructions from the arrival path ensures a safe operating area at the Airport now and in the near future. This alternative meets the Purpose and Need of this EA as discussed in **Section 1.2**. Trees within the project area that are over 30 feet tall and those with the potential to grow over 30 feet tall will be removed. The cut portion of the trees will be left lying and tree stumps will not be removed. In an effort to further reduce impacts to the project area, no wheeled or tracked equipment will be allowed in the area. No ground disturbance is anticipated.

FIGURE 2-1 PROPOSED ACTION



Source: Jviation and Google Earth, 2018

## 3.0 AFFECTED ENVIRONMENT

### 3.1 Introduction

For the purposes of describing the existing conditions in the airport area and comparing the relative impact of the alternatives, a study area was developed for this EA (see **Figure 2-1**). The study area was established through practical planning techniques based on the location of project alternatives. The study area includes the area containing the obstructing trees, and encompasses all areas required by the NEPA and the environmental impact categories described in FAA Order 1050.1F, and FAA Order 5050.4B.

### 3.2 Airport Location and Vicinity

The Creve Coeur Airport (1H0 or the Airport) is a privately-owned, public-use airport located within the city limits of Maryland Heights, MO and approximately 18 miles to the northwest of the City of St. Louis, MO. The airport sits along the Missouri River, east of State Highway 364 and west of State Highway 141 as shown on **Figure 3-1**.

The Airport is classified by the FAA as a general aviation airport with a regional role, and is designated as a reliever to St. Louis Lambert International Airport (STL). The Airport does not have commercial passenger service and is used by corporate and general aviation aircraft. According to FAA Form 5010, there are 122 based aircraft at 1H0.

As shown in **Figure 3-1**, the Airport has two runways; Runway 16/34 and a turf Runway 07/25. Other airport facilities include:

- Taxiways
- Aircraft Parking Aprons
- Hangars
- Navigation aids (NAVAIDs) and communications facilities
- Aviation fuel storage and dispensing
- Airport service roads, fencing
- Airport maintenance equipment and storage facilities
- Terminal building
- Road access and auto parking
- Utilities
- Non-aeronautical development situated on-airport



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FIGURE 3-1 AIRPORT LOCATION



Source: Jviation and Google Earth, 2018

### 3.3 Existing/Planned Land Uses & Zoning

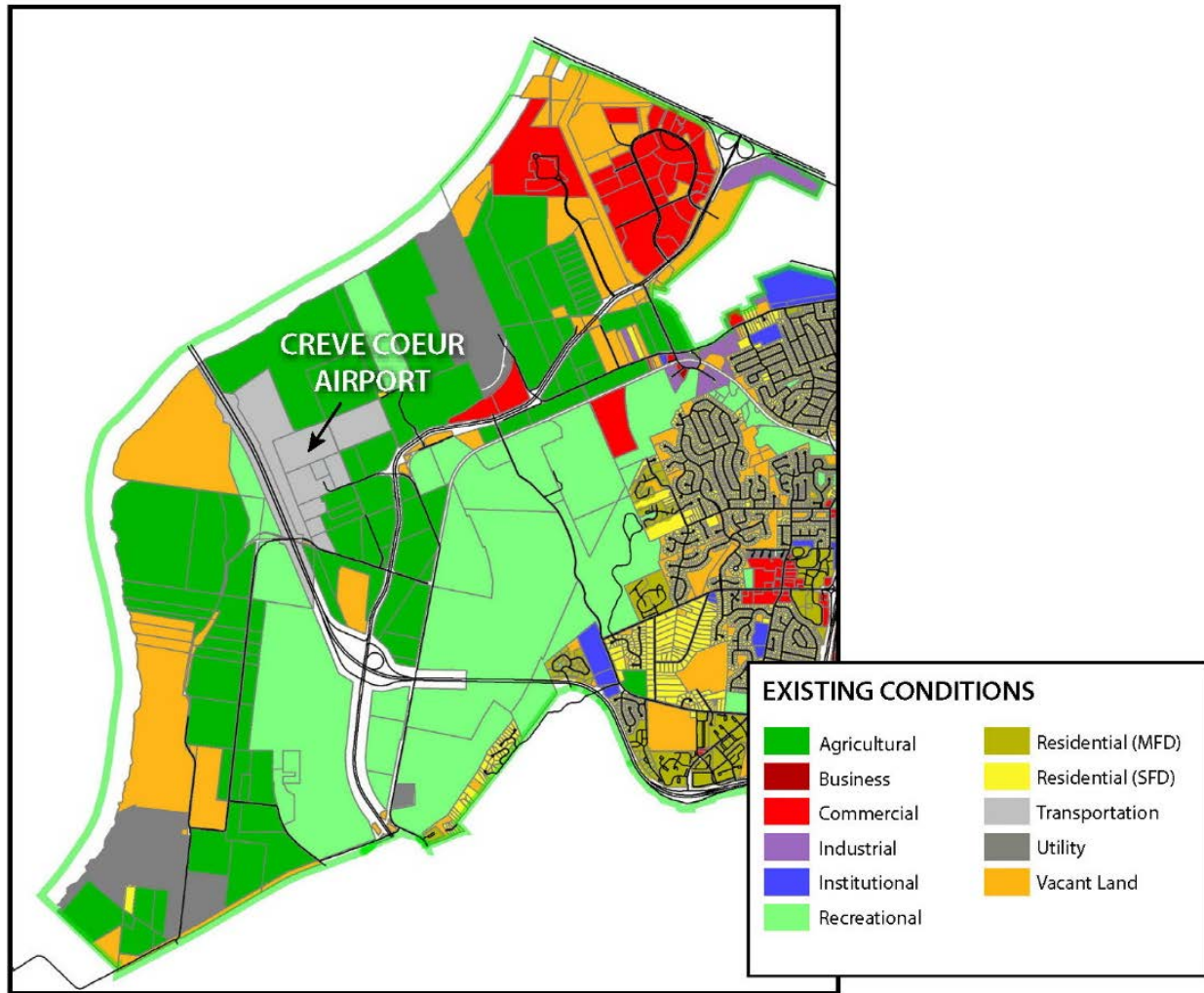
#### *Industrial/Commercial Activities*

The Airport is located within the City of Maryland Heights, MO and is included in their zoning code and land use plan. The current zoning plan specifically addresses “air navigation and airports.”<sup>1</sup> The Airport is located in the Howard Bend Area, and is shown in grey on **Figure 3-2** and is designated as “Transportation” land use. The predominant existing land uses in the vicinity of the Airport are agricultural, vacant, and recreational, as well as the Missouri River, which are compatible with aircraft and airport operations in terms of noise.

<sup>1</sup> Maryland Heights Municipal Code, Chapter 25, Article 19, <http://www.marylandheights.com/departments/community-development/zoning-code>, Enacted July 6, 2017

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FIGURE 3-2 – EXISTING LAND USE MAP



Source: Maryland Heights Comprehensive Plan

### 3.3.2 Residential Areas, Schools, Churches, & Hospitals

The study area is largely located in an open area surrounded by agricultural land. As stated previously, the Airport itself is zoned as transportation and the adjacent areas are zoned for agriculture, recreation, and vacant land.

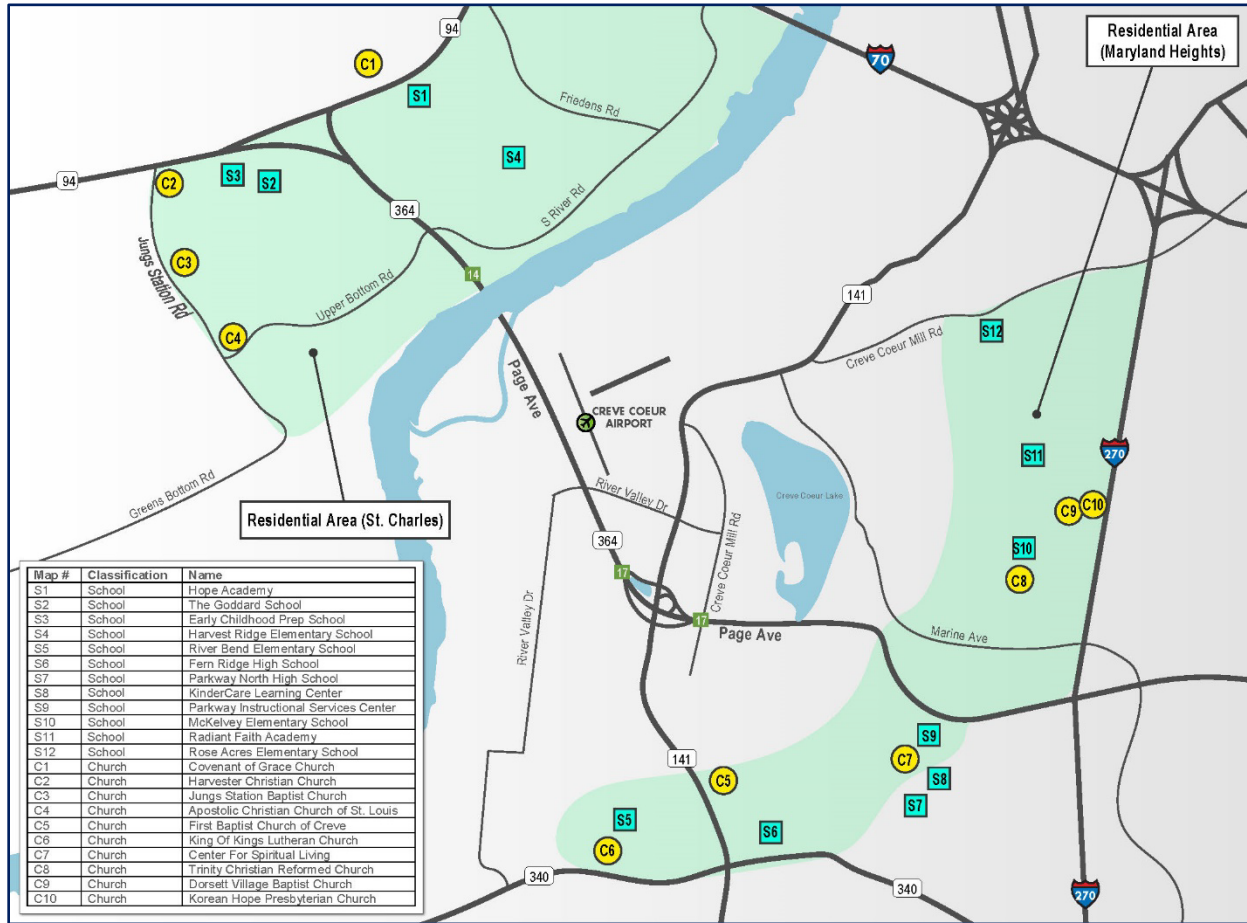
The nearest residential area, located on the east side of the Missouri River, is the City of St. Charles, MO which is approximately a half mile to the west of the study area. This area includes several schools and churches as shown in **Figure 3-3**. This area does not include any hospitals.

A second residential area is located within Maryland Heights and to the south and east of the study area approximately two and a half miles. This area also includes numerous schools and churches; no hospitals are located in the area. See **Figure 3-3** for location of schools and churches.



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FIGURE 3-3 - SCHOOLS AND CHURCHES IN PROXIMITY TO STUDY AREA



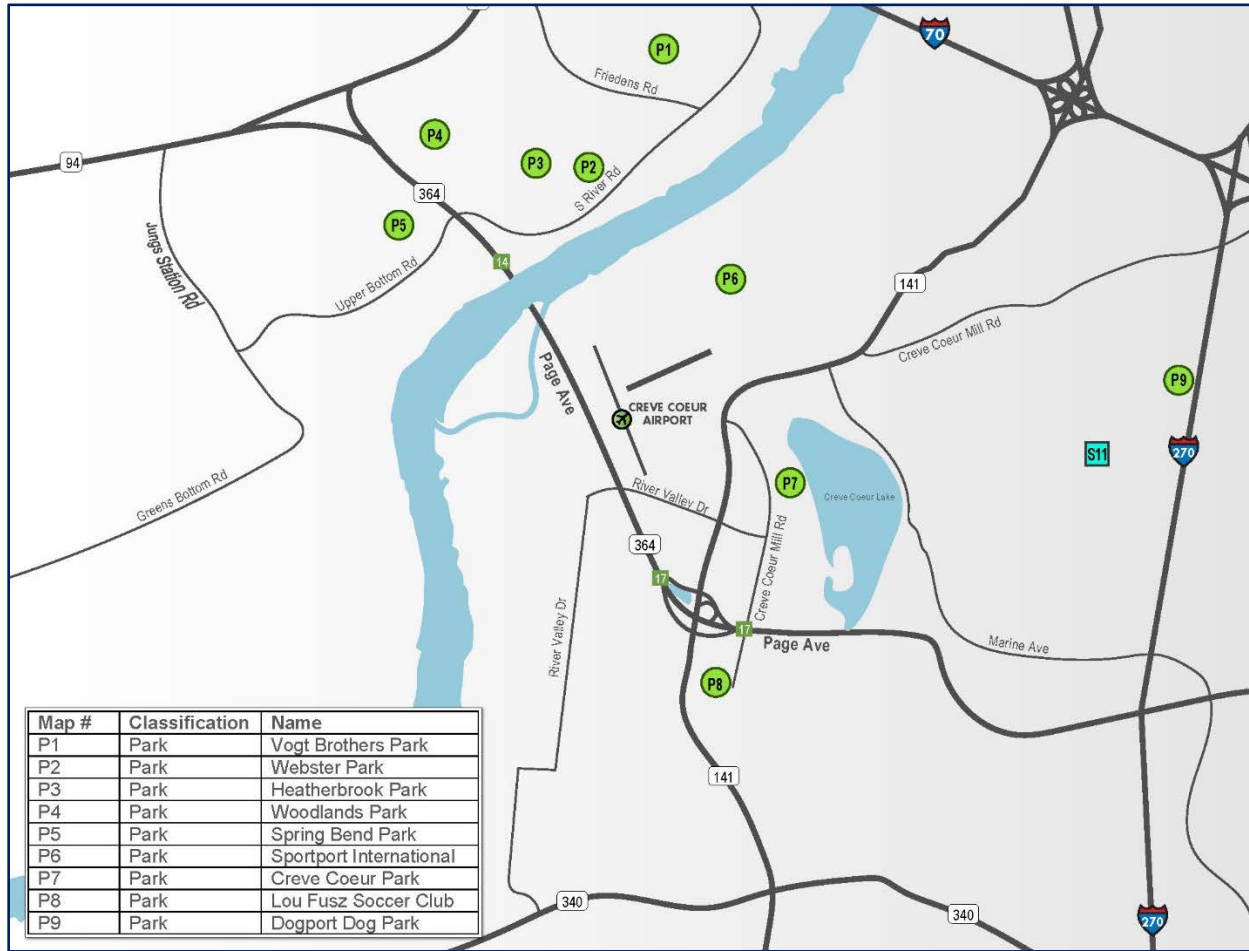
Source: Google Earth, Accessed January 2018

### 3.3.3 Publicly-owned Parks, Recreational Areas, Wildlife & Waterfowl Refuges

The nearest publicly-owned park and recreation area is the Creve Coeur Park, located approximately half a mile to the east of the Airport. The cities of St. Charles and Maryland Heights include numerous parks/recreation areas. Parks within proximity to the study area are shown in **Figure 3-4**. No wildlife and waterfowl refuges were found within proximity of the study area.

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FIGURE 3-4 PARKS AND RECREATION AREAS WITHIN PROXIMITY TO STUDY AREA



Source: Google Earth, Accessed January 2018

### 3.3.4 National/State Forests, Wilderness Areas, Wild & Scenic Rivers, Nationwide Rivers Inventory

Portions of the study area contain forested areas; however, none of these areas are designated state or national forest, nor do they contain any designated wilderness areas.

The state of Missouri has one river, the Eleven Point River, with a segment of the river designated as Wild and Scenic. This segment is more than 150 miles south of the study area. Numerous rivers throughout the state are included in the Nationwide Rivers Inventory, three of which are located approximately 30 miles from the study area; the Civre River, West Fork; Bourbeuse River; and the Meramec River. The study area sits along the Missouri River; however, the portion of the river in proximity to the project is not designated as a protected river.

### 3.3.5 Federally-listed/State-listed Threatened & Endangered Species/Habitat

The U.S. Fish and Wildlife Service's (USFWS) Information, Planning, and Conservation (IPaC) System was used to identify species of concern within the study area. It is found that various species listed by the USFWS as being threatened, endangered, or candidates may be found near IH0. Identified species are depicted in **Table 3-1**.

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**TABLE 3-1 THREATENED AND ENDANGERED SPECIES – 1H0**

Group	Species	Scientific Name	Status
Fishes	Pallid Sturgeon	Scaphirhynchus albus	Endangered
Flowering Plants	Decurrent False Aster	Boltonia decurrens	Threatened
Mammals	Gray Bat	Myotis grisescens	Endangered
	Indiana Bat	Myotis sodalist	Endangered
	Northern Long-eared Bat	Myotis septentrionalis	Threatened

Source: USFWS, Information, Planning, and Conservation System, Species Report, <https://ecos.fws.gov>, accessed January 2018

The Airport’s close proximity to water makes it a favorable bird habitat. The IPaC report found the potential for numerous Migratory Birds to occur within the study area. This includes the species listed in **Table 3-2**.

**TABLE 3-2 POTENTIAL MIGRATORY BIRDS - 1H0**

Species	Scientific Name	Breeding Season
American Bittern	Botaurus lentiginosus	Breeds Apr 1 to Aug 31
American Golden-plover	Pluvialis dominica	Breeds elsewhere
Bald Eagle	Haliaeetus leucocephalus	Breeds Oct 15 to Aug 31
Black-billed Cuckoo	Coccyzus erythrophthalmus	Breeds May 15 to Oct 10
Bobolink	Dolichonyx oryzivorus	Breeds May 20 to Jul 31
Buff-breasted Sandpiper	Calidris subruficollis	Breeds elsewhere
Cerulean Warbler	Dendroica cerulean	Breeds Apr 21 to Jul 20
Eastern Whip-poor-will	Antrostomus vociferous	Breeds May 1 to Aug 20
Golden Eagle	Aquila chrysaetos	Breeds elsewhere
Henslow’s Sparrow	Ammodramus henslowii	Breeds May 1 to Aug 31
Hudsonian Godwit	Limosa haemastica	Breeds elsewhere
Kentucky Warbler	Oporornis formosus	Breeds Apr 20 to Aug 20
Least Bittern	Ixobrychus exilis	Breeds Aug 16 to Oct 31
Lesser Yellowlegs	Tringa flavipes	Breeds elsewhere
Prothonotary Warbler	Protonotaria citrea	Breeds Apr 1 to Jul 31
Red-headed Woodpecker	Melanerpes erythrocephalus	Breeds May 10 to Sep 10
Rusty Blackbird	Euphagus carolinus	Breeds elsewhere
Semipalmated Sandpiper	Calidris pusill	Breeds elsewhere
Short-billed Dowitcher	Limnodromus griseus	Breeds elsewhere
Smith’s Longspur	Calcarius pictus	Breeds elsewhere
Wood Thrush	Hylocichla mustelina	Breeds May 10 to Aug 31

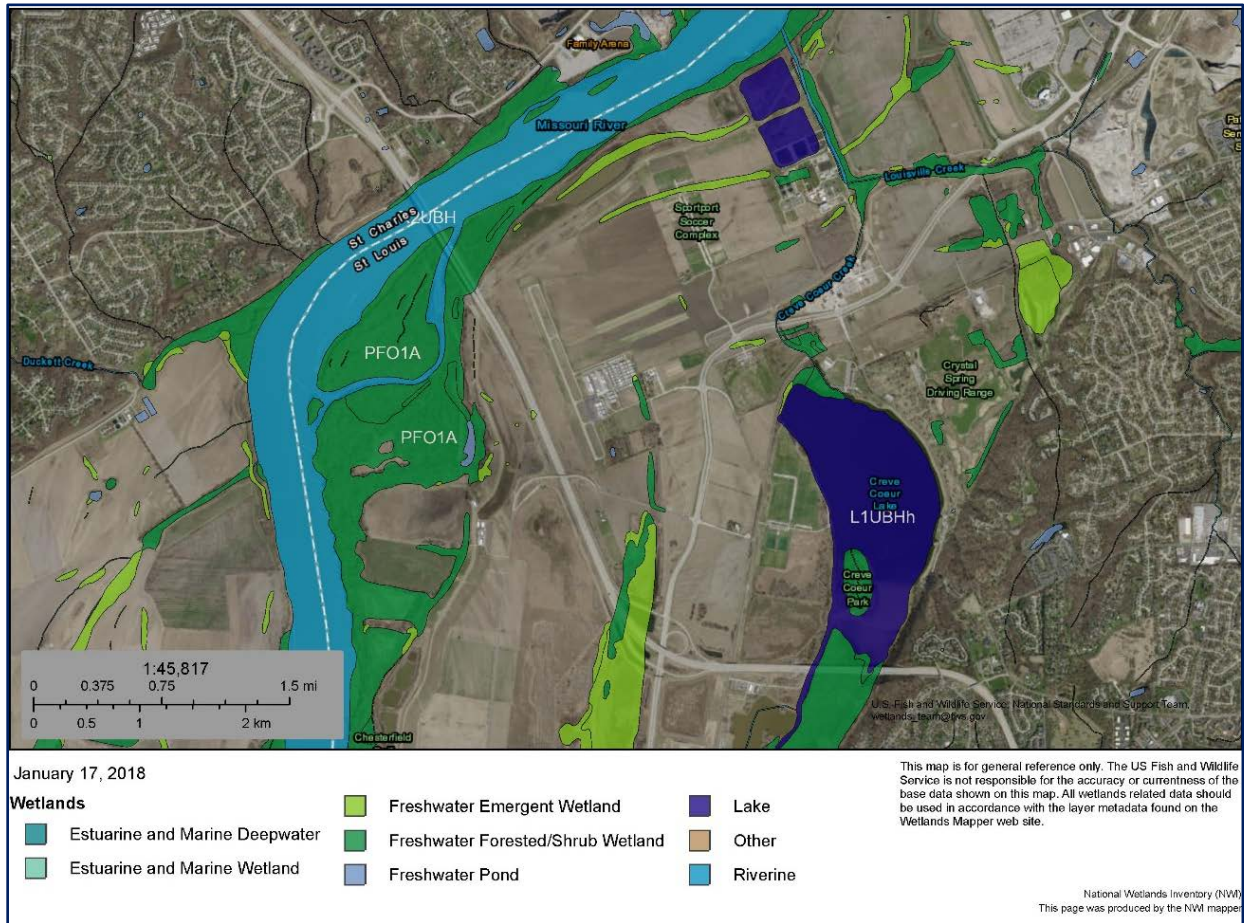
Source: USFWS, Information, Planning, and Conservation System, Species Report, <https://ecos.fws.gov>, accessed January 2018

### **3.3.6 Wetlands, Floodplains, Floodways, Coastal Zones, & Coastal Barriers**

According to the National Wetlands Inventory (NWI) both freshwater emergent and forested/shrub wetlands exist in and near the study area (see **Figure 3-5**).

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**FIGURE 3-5 NATIONAL WETLAND INVENTORY - IHO**



Source: USFWS, National Wetlands Inventory

The Airport is situated near the Missouri River, in the Howard Bend district of the City of Maryland Heights. As noted in the City’s Comprehensive Plan, Stormwater and Flood Controls Framework Document, the district is “named after a curve in the Missouri River, Howard Bend is an 8,600-acre tract of Missouri River bottom land in western Maryland Heights.

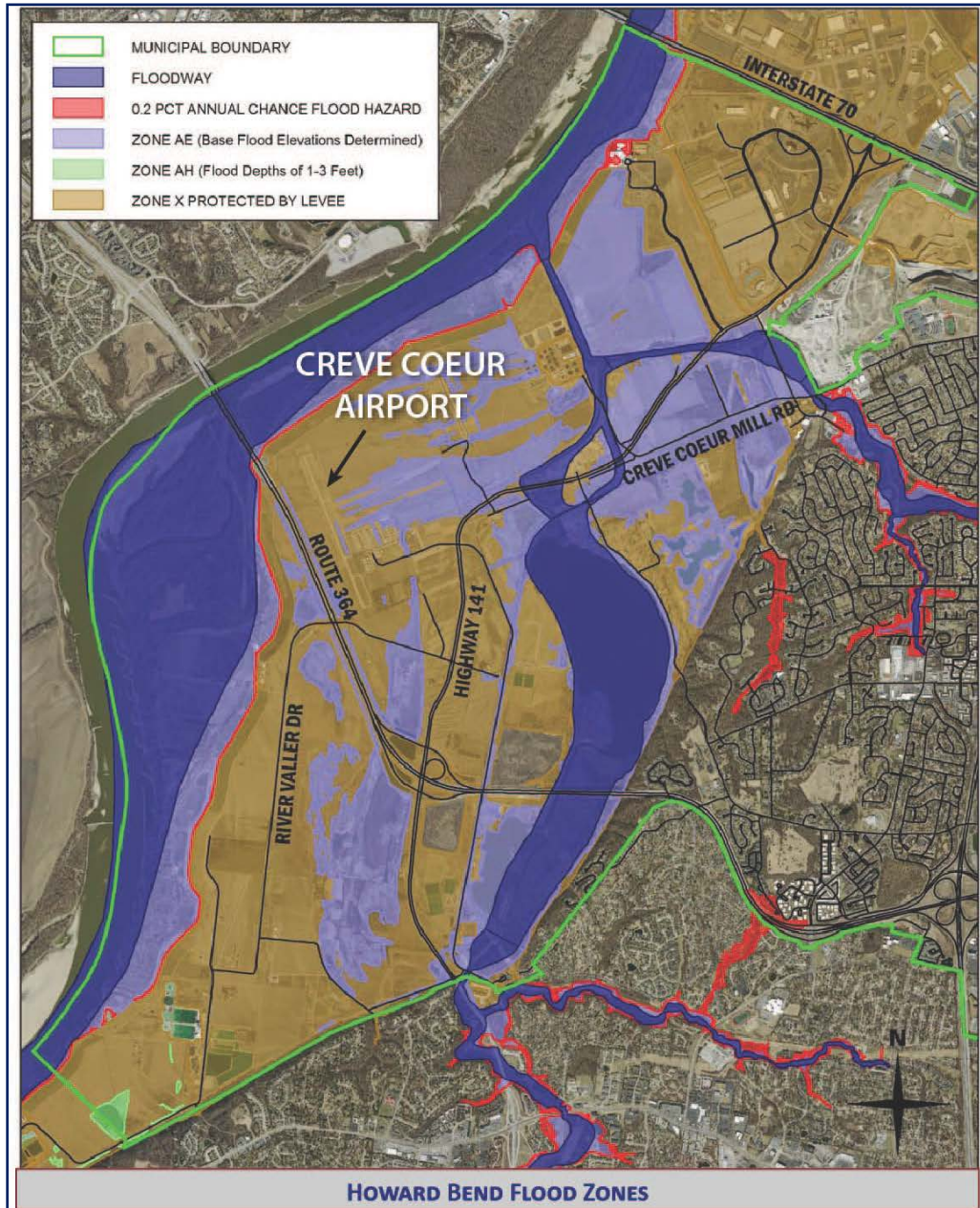
The Howard Bend area is situated in the floodway of the Missouri River (see **Figure 3-6**). The Howard Bend Planning Area is protected by a 500-year levee as certified by the U.S. Army Corps of Engineers and accredited by FEMA. The levee has resulted in FEMA revising the FIRM map panels for this portion of the City of Maryland Heights with the vast majority of the land being classified as Zone X – Levee Protected.

This designation indicates that the properties are protected against the 1% annual chance of flooding (100 year flood), also known as the base flood. There are areas of the development district that remain within the floodplain and are designated as Zone AE (1% annual chance of flooding) and AH (1% annual chance shallow flooding, usually areas of ponding, where average depths are between one and three feet). The majority of these areas are natural ponding areas designated to collect and store rainwater during a high water event on the Missouri River.



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FIGURE 3-6 - FLOOD MAP - IH0



Source: Maryland Heights Comprehensive Plan, Stormwater Management and Flood Controls Framework Document, January 2015

### 3.3.7 Historic, Archeological, or Cultural Resources

For the purposes of this EA, historic, archaeological and cultural resources are districts, sites, buildings, structures, objects, landscapes, and Native American Traditional Cultural Properties (TCPs) that are on or eligible for listing on the National Register of Historic Places (NRHP). The NRHP currently lists nearly 600 properties within St. Louis County; however, none of these properties are located within Maryland Heights.



### 3.4 Affected Political Jurisdiction

As discussed above, the Airport as well as the study area are located within the jurisdiction of the City of Maryland Heights. The Airport is owned and operated by the Creve Coeur Airport Improvement Corporation.

The City of Maryland Heights is situated in St. Louis County, MO, west of the City of St. Louis, along I-70 and I-270, and the Missouri River. The City of Maryland Heights is a third-class statutory city, and is governed by a mayor who serves a four-year term, and a city council made up of eight members. The City is divided into four wards, with two council-people elected from each ward to serve two-year terms.

### 3.5 Demographic Information

As noted in the Maryland Heights 2015 Data Fact Book: “Maryland Heights exists as a middle-income city, with few residents falling below the poverty line or receiving public assistance. Poverty in Maryland Heights is less prevalent than it is in St. Louis County, which itself is more affluent than the rest of the metropolitan area or the State of Missouri. In 2010, only 8.5% of the City’s resident’s fell below the poverty line, compared to 10.9% in the County.” The median household and per capita income for residents in Maryland Heights is lower than the average for St. Louis County (see **Table 3-3**).

TABLE 3-3 MARYLAND HEIGHTS DATA FACTS

	Maryland Heights	St. Louis County	Difference	% Difference
Median Household Income	\$52,221	\$56,847	4,626	8.9%
Per Capita Income	\$28,106	\$33,093	4,987	17.7%

Sources: Maryland Heights and U.S. Census Bureau, 2015

The City of Maryland Heights encompasses 23.42 square miles, and had a population of 27,472 in 2015. The City has a population density of 1,328 people per square mile (sm) compared to the Missouri state average density of 88 people per sm. Creve Coeur is on the western edge of St. Louis County and the City, and is situated on the eastern banks of the Missouri River. The highest density population and employment is situated in the eastern part of Maryland Heights, as well as the eastern portion of St. Louis County.

### 3.6 Past, Present, and Reasonably Foreseeable Future Actions

The most notable past, present, and reasonably foreseeable future projects at 1H0 include:

*Past*

- 2013-2017: Only minor airport maintenance projects

*Present*

- 2018: Runway 16/34 Edge Lighting and Replacement of Runway 16 REILs - no significant environmental impacts

*Future*

- 2019: Airfield drainage improvements
- 2020: Relocate River Valley Road
- 2020: Land acquisition
- 2020: Extend Runway 16/34 by 500 feet
- 2021: Expand south apron
- Off Airport: General infrastructure development around the airport

## 4.0 ENVIRONMENTAL CONSEQUENCES & MITIGATION

### 4.1 Introduction

This chapter discusses potential impacts resulting from the proposed project as well as mitigation options for any impacts that cannot be avoided.

### 4.2 Environmental Impact Categories Not Affected

The No Action, Proposed Action, and reasonable alternatives would not affect:

- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks

### 4.3 Air Quality

The Airport is located in St. Louis County, which is designated by the Environmental Protection Agency (EPA) as a nonattainment area for 8-hour Ozone (marginal) and PM-2.5 (moderate).<sup>2</sup>

#### 4.3.1 No Action Alternative

The No Action Alternative would not result in any changes to the air quality at the Airport.

#### 4.3.2 Alternative A: Obstruction Removal (Proposed Action)

Trimming the obstructing trees is not excluded via Federal Presumed to Conform Actions Under General Conformity. The air quality conditions at the Airport would experience a short-term and temporary increase in emissions during the project resulting from small equipment. Construction-related emissions resulting from tree trimming were calculated using the FAA approved Airport Construction Emissions Inventory Tool (ACEIT). **Figure 4-1** shows the results of the analysis, which are found to be well below the de minimis levels as defined in 40 CFR 93.153(b)(1).

FIGURE 4-1 TOTAL EMISSIONS

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2018	3.078611	1.183452	0.004197	0.157506	0.144905	0.730378	523.5572	0.000333	0.0000299

Notes: Units for Non-Greenhouse Gases Emission: Short Ton. Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton  
Source: Jviation, 2018

<sup>2</sup> U.S. Environmental Protection Agency, Green Book – Nonattainment Status for Each County by Year, [http://www3.epa.gov/airquality/greenbook/anayo\\_mo.html](http://www3.epa.gov/airquality/greenbook/anayo_mo.html), accessed January 2018

## 4.4 Biological Resources (including fish, wildlife, and plants)

As discussed in **Section 3.3.5**, the USFWS IPaC Report found that both federally listed threatened and endangered species as well as migratory birds have the potential to occur within the study area.

### 4.4.1 No Action Alternative

The No Action Alternative would not result in any changes to the project area or airport environment; thus, no impacts to the existing biological resources would result.

### 4.4.2 Alternative A: Obstruction Removal (Proposed Action)

Through correspondence with the USFWS it was found that habitat for the Gray Bat, Indiana Bat, and Northern Long-eared Bat is likely present within and near the project area. The habitat is most sensitive in the spring and summer during roosting and foraging. However, the bats hibernate in caves and mines during the fall and winter months. The proposed project will occur between the months of November and March, which is during hibernation. Further, the proposed project will include clearing less than 10 acres of trees which is below the USFWS threshold that requires a presence/absence survey. In an effort to further reduce potential impacts to the bats, the project will only remove trees that are currently 30 feet tall or have the potential to grow to 30 feet. As such, the USFWS issued a determination of "may affect, but is not likely to adversely affect, listed bat species because Creve Coeur Airport (Jviation, Inc.) is committing to clearing the trees during the inactive season, and less than 10 acres will be impacted". The correspondence with the USFWS can be found in **Appendix D**.

## 4.5 Climate

Research has shown there is a direct correlation between fuel combustion and greenhouse gas (GHG) emissions. According to the U.S. EPA aircraft account for 12 percent of all U.S. transportation GHG emissions and three percent of total U.S. GHG emissions.<sup>3</sup> The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.<sup>4</sup> Climate change due to GHG emissions is a global phenomenon, so the affected environment is the global climate.

The scientific community is continuing efforts to better understand the impact of aviation emissions on the global atmosphere. The FAA is leading and participating in a number of initiatives intended to clarify the role that commercial aviation plays in GHG emissions and climate. The FAA, with support from the U.S. Global Change Research Program and its participating federal agencies (e.g., NASA, NOAA, EPA, and DOE), has developed the Aviation Climate Change Research Initiative (ACCRI) in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions. FAA also funds 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. Similar research topics are being examined at the international level by the ICAO.

Although there are no federal standards for aviation-related GHG emissions, it is well-established that GHG emissions can affect climate. The Council on Environmental Quality (CEQ) has indicated that climate should be considered in NEPA analyses and in 2016 released final guidance for federal agencies on how to consider the impacts of their actions on global climate change in their NEPA reviews, a Notice of Availability for which was published on August 5, 2016 (81 FR 51866). However, pursuant to Executive Order 13783, "Promoting Energy

<sup>3</sup> U.S. EPA, Regulations for Greenhouse Gas Emissions from Aircraft, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-aircraft>.

<sup>4</sup> ICAO, Aircraft Engine Emissions, <https://www.icao.int/environmental-protection/Pages/aircraft-engine-emissions.aspx>.

Independence and Economic Growth,” of March 28, 2017, the guidance has been withdrawn for further consideration.

## **4.6 Land Use**

Historically, aircraft related noise is the most common issue related to airports and compatible land uses. Those impacts are discussed in **Section 4.8**. This section describes how the No Action and Proposed Action could potentially affect existing land uses.

As discussed previously, the Airport is designated as transportation by the City of Maryland Heights. The areas surrounding 1H0 are classified as agricultural, vacant, and recreational, as well as the river, which are compatible with airport operations.

### **4.6.1 No Action Alternative**

The No Action Alternative would not result in any changes to the project area or airport environment; thus, no impacts to the existing land uses would result.

### **4.6.2 Alternative A: Obstruction Removal (Proposed Action)**

The proposed project is located in areas designated as agricultural (north area) and vacant land (south area) by the City of Maryland Heights. The proposed project will not change the zoning or land use designations of the area, nor will they change the use of any adjacent land. As such, no impacts to land use within or near the proposed project area are anticipated as a result of the proposed project.

## **4.7 Natural Resources and Energy Supply**

Per Executive Order 13123, Greening the Government through Efficient Energy Management, the FAA must also evaluate projects for significant impacts on energy supply and natural resources. Typical actions that have the potential to cause impacts on natural resources and energy supply include: airside/landside expansion; land acquisition for aviation-related use, new or moved access roadways, remote parking facilities and rental car lots; significant changes in air traffic and airfield operations; and significant construction activity.

### **4.7.1 No Action Alternative**

The No Action Alternative will not result in any changes to the project area, airport operations, or aircraft operations. Therefore, no impacts to natural resource or energy supply would result.

### **4.7.2 Alternative A: Obstruction Removal (Proposed Action)**

The construction phase of Alternative A would use minimal natural resource, such as fuel and water. The increase in use of these resources would be very small when compared to the amount of each resource readily available. Therefore, it is not anticipated that any long-term increase in the use of natural resource or energy would result from Alternative A.

## **4.8 Noise and Noise-Compatible Land Use**

Noise associated with airport activity is of specific importance to the FAA in examining a Proposed Action. Airport development projects that have the potential to change the airport runway configuration(s); aircraft operations, movements, and types; or aircraft flight characteristics can change the future airport-related noise levels.

#### **4.8.1 No Action Alternative**

The No Action Alternative will not result in any changes to the project area, airport operations, or aircraft operations that could result in a change in airport or aircraft related noise. As such, noise and noise-compatible land use impacts are not anticipated as a result of the No Action Alternative.

#### **4.8.2 Alternative A: Obstruction Removal (Proposed Action)**

Alternative A would not result in any changes to the airport or aircraft operations that could result in a change to the existing airport and aircraft related noise at 1H0. However, the trimming of trees will result in construction related noise. The increase in noise will be short-term, temporary, and not within proximity of any noise sensitive areas. Therefore, it is not anticipated that any significant noise impacts or changes to noise-compatible land uses will result from the Proposed Action.

### **4.9 Visual Effects (including light emissions)**

The FAA broadly defines visual effects in two ways: 1) produces light emissions that create annoyance or interferes with activities; or 2) contrasts with, or detracts from, the visual resource and/or the visual character of the existing environment.<sup>5</sup> These effects can be difficult to assess as they often involve subjectivity, thus there are no federal thresholds of significance.

#### **4.9.1 No Action Alternative**

The No Action Alternative would not result in any changes to the project area, airport property, or adjacent properties visual effects, nor would it result in the creation of any new light emissions.

#### **4.9.2 Alternative A: Obstruction Removal (Proposed Action)**

Alternative A includes the removal of trees that are penetrating the arrival and departure paths of runway 16/34. The Proposed Action does not include clear cutting large areas of trees and will leave many trees within the project area standing. As such, it is unlikely that the removal of trees will be significantly noticeable when compared to the existing stand of trees. Further, there are no residences located adjacent to the project areas that may be sensitive to a change in the tree stand. Therefore, it is unlikely that any visual impacts will result from the Proposed Action.

### **4.10 Water Resources**

Water resources include all surface waters and groundwaters—wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers. These resources are crucial in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. The resources do not function separately but rather as a holistic system; as such, they were evaluated for individual impacts as well as impacts to the system as a whole.

#### **4.10.1 No Action Alternative**

The No Action Alternative would not result in any changes to the project area or airport environment; thus, no impacts to the existing land uses would result.

---

<sup>5</sup> FAA, 1050.1F Desk Reference, July 2015



### 4.10.2 Alternative A: Obstruction Removal (Proposed Action)

As discussed previously, according to the NWI, wetlands likely exist within the project area - both in the north and south project areas. Additionally, the northern project area is located within a floodway and the southern area is located within Flood Zone AE. The construction activities will be limited to the following stipulations, which will be included and clearly defined in the construction documents:

- Cutting trees only 30 feet tall or with potential to grow over 30 feet tall
- Leaving tree stumps in place
- Leaving cut trees in place
- Small equipment use; no heavy equipment will be used
- Tree cutting completed with chainsaws

Through coordination with the U.S. Army Corps of Engineers (USACE), it was determined that although wetlands exist within the project area, the type of construction taking place and time of construction (between November 1<sup>st</sup> and March 31<sup>st</sup>) does not warrant a Section 404 permit. The correspondence with the USACE can be found in an **Appendix C**.

### 4.11 Summary of Environmental Impacts

The following table provides a brief summary of environmental impacts results from the No Action and Proposed Action Alternatives.

TABLE 4-1 SUMMARY OF IMPACT CATEGORY DETERMINATIONS AND MITIGATION

Environmental Consequences Impact Category	Proposed Action Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Air Quality	Not Significant	None required	None	None
Biological Resources	Not Significant	Winter Construction Required	None	None
Climate	None	None required	None	None
Coastal Resources	None	None required	None	None
Section 4(f)	None	None required	None	None
Farmlands	None	None required	None	None
Hazardous Materials, Solid Waste, & Pollution Prevention	None	None required	None	None
Historical, Architectural, Archeological, and Cultural Resources	None	None required	None	None
Land Use	None	None required	None	None
Natural Resources and Energy Supply	Not Significant	None required	None	None
Noise and Noise Compatible Land Use	Not Significant	None required	None	None
Socioeconomic, Environmental Justice, & Children's Health	None	None required	None	None
Visual Effects	None	None required	None	None
Water Resources				
Wetlands	None	None required	None	None
Floodplains	None	None required	None	None
Surface Water	None	None required	None	None
Ground Water	None	None required	None	None
Wild and Scenic Rivers	None	None required	None	None
Cumulative Impacts	None	None required	None	None

Source: Jviation, 2018

#### 4.12 Cumulative Impact Analysis

A review of the Proposed Action's effects on environmental resources found that no significant impacts would result from the Proposed Action; when combined with other past, present, and reasonably foreseeable actions has determined that there are no significant cumulative impacts.

## 5.0 APPENDICES

## APPENDIX A: PREPARER & QUALIFICATIONS

The following people were primarily responsible for the preparation of this EA:

**Morgan Einspahr**, LEED GA, Environmental Planner

- Years of Experience: 10
- Education:
  - Master of Science, Environmental Management
  - Bachelor of Science, Aviation Management
- Registration: LEED GA

**Bryan Gregory**, PE, Project Manager

- Years of Experience: 16
- Education:
  - Bachelor of Science, Civil Engineering
- Registration: Professional Engineer, MO

**Joe Pestka**, Project Director

- Years of Experience: 28
- Education:
  - Bachelor of Science, Aviation Management

## APPENDIX B: PUBLIC INVOLVEMENT

Due to the minor scope and lack of construction associated with the Proposed Action, it was determined by MoDOT and FAA that limited public involvement was necessary. The project study area is located on land owned by MoDOT and a private land owner. Both owners were actively involved throughout the EA to ensure all parties were informed and agreed upon all actions.

### 5.1 Draft EA Notice of Availability

The DRAFT EA was available to the public for review and comment for 15 days, from June 6 to June 21, 2018. The DRAFT EA was advertised in the St. Louis Post-Dispatch and available for review online through the airport's website. See **Attachment B1** for Notice of Availability Affidavit.

No comments were received in the public comment period.



**Attachment B1 – Draft EA Notice of Availability Affidavit**

# ST. LOUIS POST-DISPATCH

St. Charles County and Madison County Suburban Journals

## AFFIDAVIT OF PUBLICATION

Jviation Inc  
931 Wildwood Dr, Suite 101  
Jefferson City, MO 65109  
Attn: Cindy Keever

Ad # 2334122 – Notice of Availability Creve Coeur Airport Improvement Corp.  
DRAFT Environmental Assessment

THE ATTACHED ADVERTISEMENT WAS PUBLISHED  
In the St. Louis Post-Dispatch and online STLToday.com on the following dates:  
June 6, 2018.

Notice of Availability  
Creve Coeur Airport  
Improvement Corp.  
DRAFT Environmental  
Assessment

The Creve Coeur Airport in conjunction with MoDOT has released a Draft Environmental Assessment (DEA) for the removal of trees near the Creve Coeur Airport in St. Louis, MO. The DEA has been completed in compliance with the Federal Aviation Administration (FAA) Orders 1050.1F, Environmental Impacts: Policies and Procedures; and 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.

The DEA discusses potential impacts to environmental resource categories as specified in FAA Order 1050.1F, Chapter 4, and in compliance with all applicable federal, state and local environmental laws and regulations.

The DEA will be available for public review and comment for 15 days, ending June 21, 2018, and can be found on the Creve Coeur Airport's website (<http://crevecoeurairport.com/airportinformation.html>).

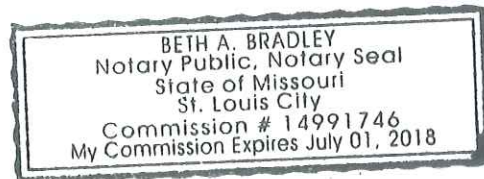
Written comments concerning the DEA may be submitted to Jviation Inc., Attn: Mrs. Morgan Einspahr, 900 S. Broadway, Suite 350, Denver CO 80209 or via email at [morgan.einspahr@jviation.com](mailto:morgan.einspahr@jviation.com).

Dawn M. Dunn

COMPANY REPRESENTATIVE

SWORN TO AND SUBSCRIBED BEFORE ME  
THIS June 7, 2018.

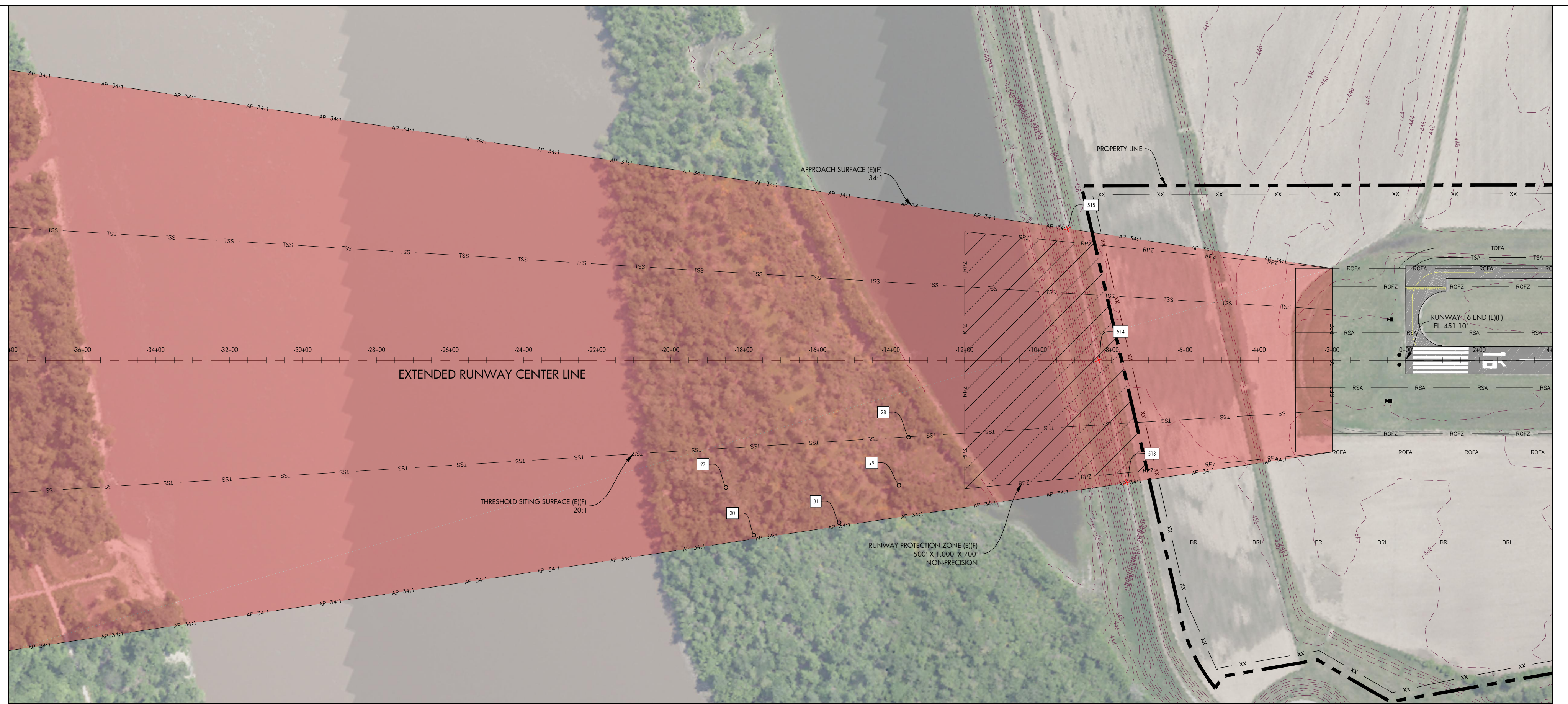
NOTARY PUBLIC, CITY OF ST. LOUIS



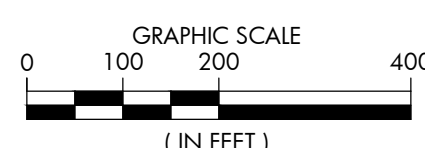
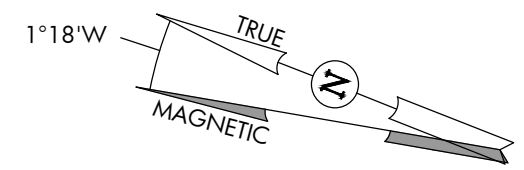
## **APPENDIX C: OBSTRUCTION ANALYSIS**



RUNWAY 16 APPROACH OBSTACLE TABLE							
OBJECT IDENTIFICATION NO.	OBJECT/DESCRIPTION	GROUND SURFACE ELEVATION (MSL)	ABOVE GROUND LEVEL (AGL)	TOP OF OBJECT ELEVATION (AMSL)	SURFACE REFERENCED	EXISTING SURFACE PENETRATION	DISPOSITION
27	TREETOP	445.5'	96.6'	542.1'	RUNWAY 16 APPROACH	8.5'	
28	TREETOP	444.4'	71.2'	515.6'	RUNWAY 16 APPROACH	6.9'	
29	TREETOP	443.5'	72.2'	515.7'	RUNWAY 16 APPROACH	5.7'	
30	TREETOP	444.2'	87.8'	532.0'	RUNWAY 16 APPROACH	2.2'	
31	TREETOP	444.1'	75.4'	519.5'	RUNWAY 16 APPROACH	1.3'	
513	ROAD +10'	468.3'	10.0'	478.3'	RUNWAY 16 APPROACH	10.7'	
514	ROAD +10'	468.5'	10.0'	478.5'	RUNWAY 16 APPROACH	8.7'	
515	ROAD +10'	468.0'	10.0'	478.0'	RUNWAY 16 APPROACH	5.7'	



DRAWING LEGEND		
ITEM	EXISTING	FUTURE
AIRPORT PROPERTY BOUNDARY		
AIRPORT PAVEMENT		
RUNWAY PROTECTION ZONE (RPZ)		
AVIGATION EASEMENT		
EXISTING TERRAIN		
APPROACH SURFACE AREA		
BUILDING RESTRICTION LINE		
RUNWAY OBJECT FREE AREA (ROFA)		
RUNWAY SAFETY AREA (RSA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
TAXIWAY SAFETY AREA (TSA)		
OBJECT FREE ZONE - RUNWAY (ROFZ)		
THRESHOLD SITING SURFACE (TSS)		
FENCE (8' HEIGHT)		
RUNWAY END IDENTIFIER LIGHTS (REIL)		
THRESHOLD LIGHTS		
OBSTACLE MARKER		
ROAD OBSTACLE MARKER		
OBSTACLE PROFILE VIEW		
ROAD/RAILROAD OBSTACLE PROFILE VIEW		
ROAD/RAILROAD PROFILE AT GROUND LEVEL		
30' TREE HEIGHT		



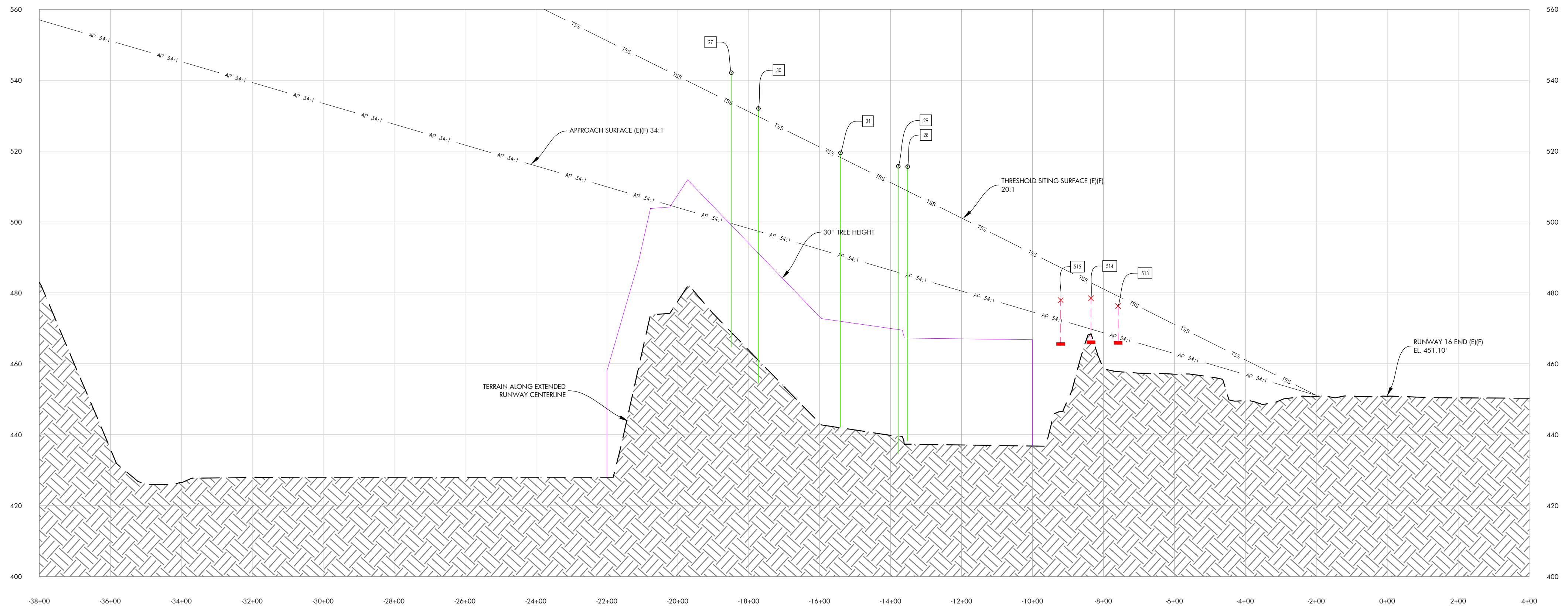
DATE: NOVEMBER 2017  
ANNUAL RATE OF CHANGE: 0.5"W  
SOURCE: U.S. NOAA

PROFILE  
HORIZ: 1" = 200'  
VERT: 1" = 20'

NOTES	
1.	EXISTING AND FUTURE CONDITIONS SHOWN AS (E/F)

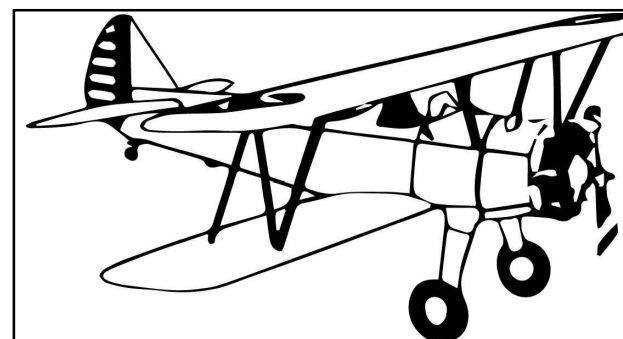
  

SOURCE	
1.	THE SITE PLAN LINE WORK IS BASED ON THE PLANIMETRIC MAPPING COMPILED BY MARTINEZ GEOSPATIAL IN 2016
2.	AGIS MAPPING COMPILED BY MARTINEZ GEOSPATIAL IN 2016
3.	ALL HORIZONTAL COORDINATES - NAD83/2011 ALL VERTICAL COORDINATES - NAVD88



15-1103-APP - 2015 (CD) (P) (AS)

15-1103-APP-AS-APP-15-34-000017.dwg  
Jun 22, 2018 - 11:39am  
Lance Stigge



**CREVE COEUR AIRPORT  
IMPROVEMENT CORP**  
3127 CREVE COEUR MILL RD  
ST LOUIS, MO 63146  
(314) 878-9575

DES:	ISSUE RECORD			
	NO.	BY	DATE	DESCRIPTION
R.L.B.				
R.L.B.				
S.V.B.				
J.T.P.				

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS AIRPORT LAYOUT PLAN BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DERIVED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD HAVE JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

AIRPORT  
LAYOUT PLAN

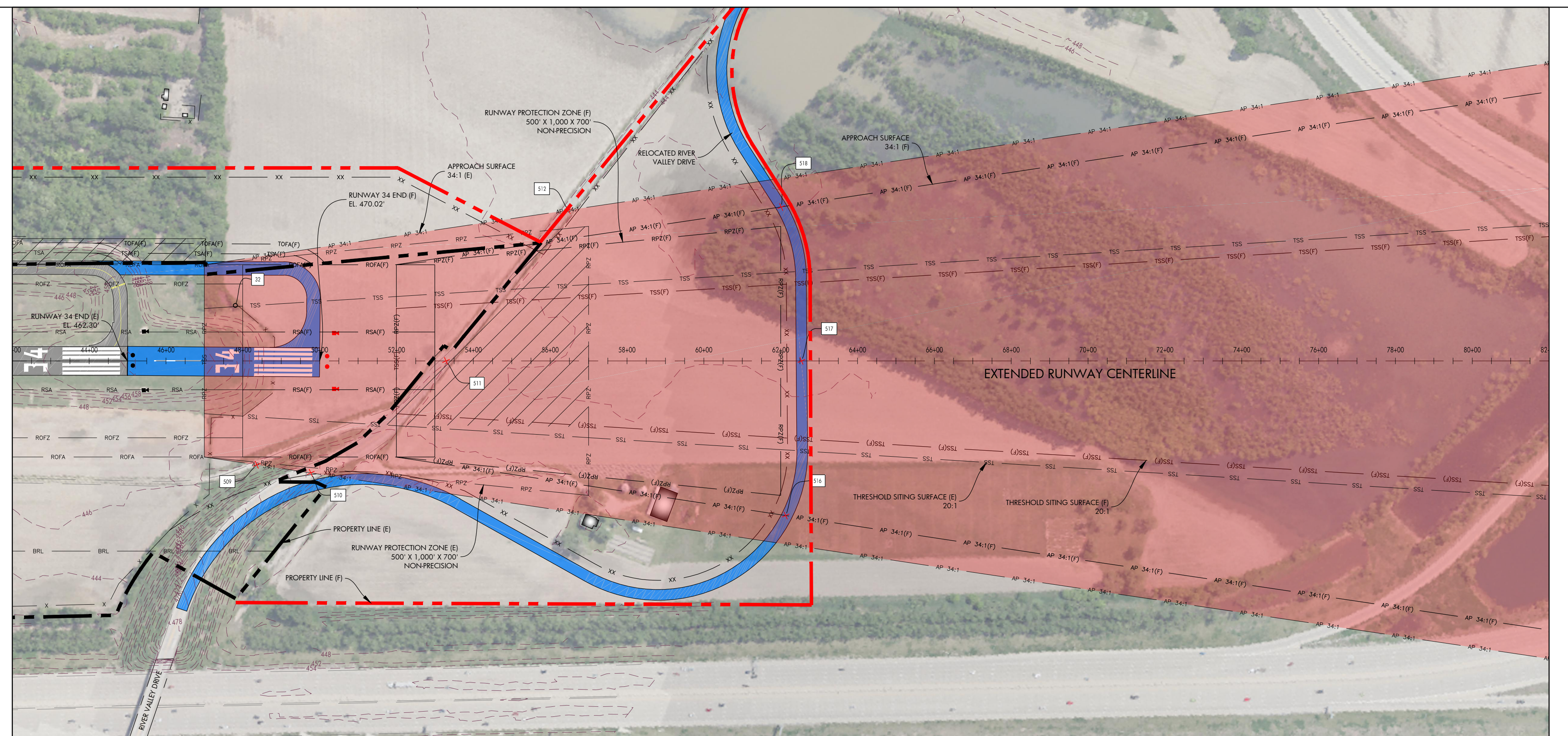
EXHIBIT 1

MODOT PROJ. NO. 15-113P1-1	JVIAATION PROJ. NO. 2015.1H0.01	DATE: JUNE 2018
-------------------------------	------------------------------------	--------------------

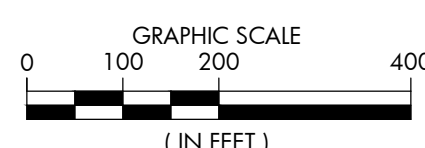
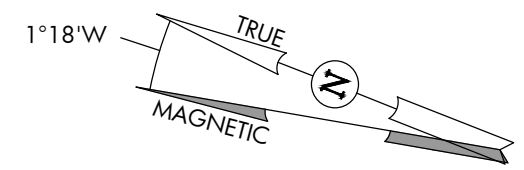
SHEET NO.  
1 of 2



RUNWAY 34 APPROACH OBSTACLE TABLE							
OBJECT IDENTIFICATION NO.	OBJECT/DESCRIPTION	GROUND SURFACE ELEVATION (MSL)	ABOVE GROUND LEVEL (AGL)	TOP OF OBJECT ELEVATION (AMSL)	SURFACE REFERENCED	EXISTING SURFACE PENETRATION	DISPOSITION
32	TREETOP	446.2'	26.6'	472.8'	RUNWAY 34 APPROACH	6.5'	
509	ROAD + 15'	446.3'	15.0'	461.3'	RUNWAY 34 APPROACH	-5.1'	
510	ROAD + 15'	455.3'	15.0'	470.3'	RUNWAY 34 APPROACH	-0.1'	
511	ROAD + 15'	445.9'	15.0'	460.9'	RUNWAY 34 APPROACH	-19.9'	
512	ROAD + 15'	445.2'	15.0'	460.2'	RUNWAY 34 APPROACH	-29.5'	
516	FUTURE ROAD + 15'	444.9'	15.0'	459.9'	RUNWAY 34 APPROACH (F)	-41.9'	
517	FUTURE ROAD + 15'	443.7'	15.0'	458.7'	RUNWAY 34 APPROACH (F)	-45.8'	
518	FUTURE ROAD + 15'	442.1'	15.0'	457.1'	RUNWAY 34 APPROACH (F)	-43.4'	



DRAWING LEGEND		
ITEM	EXISTING	FUTURE
AIRPORT PROPERTY BOUNDARY		
AIRPORT PAVEMENT		
RUNWAY PROTECTION ZONE (RPZ)		
AVIGATION EASEMENT		
EXISTING TERRAIN		
APPROACH SURFACE AREA		
BUILDING RESTRICTION LINE		
RUNWAY OBJECT FREE AREA (ROFA)		
RUNWAY SAFETY AREA (RSA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
TAXIWAY SAFETY AREA (TSA)		
OBJECT FREE ZONE - RUNWAY (ROFZ)		
THRESHOLD SITING SURFACE (TSS)		
FENCE (8' HEIGHT)		
RUNWAY END IDENTIFIER LIGHTS (REIL)		
THRESHOLD LIGHTS		
OBSTACLE MARKER		
ROAD OBSTACLE MARKER		
OBSTACLE PROFILE VIEW		
ROAD/RAILROAD OBSTACLE PROFILE VIEW		
ROAD/RAILROAD PROFILE AT GROUND LEVEL		
30' TREE HEIGHT		



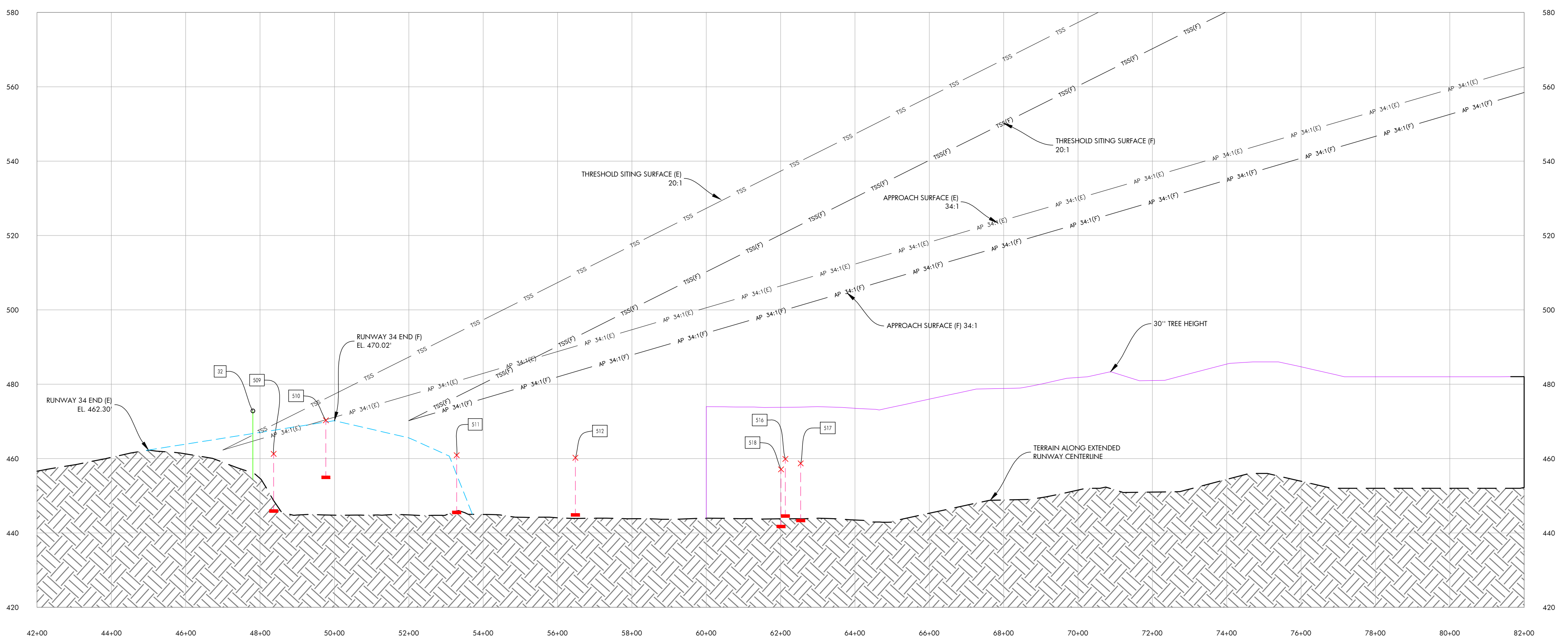
DATE: NOVEMBER 2017  
ANNUAL RATE OF CHANGE: 0°5'W  
SOURCE: U.S. NOAA

PROFILE  
HORIZ: 1" = 200'  
VERT: 1" = 20'

NOTES	
1.	EXISTING AND FUTURE CONDITIONS SHOWN AS (E)(F)
2.	FINAL RIVER VALLEY DRIVE LOCATION TO BE DETERMINED. THE CITY OF MARYLAND HEIGHTS TO MAINTAIN OWNERSHIP OF RIVER VALLEY DRIVE

SOURCE	
1.	THE SITE PLAN LINE WORK IS BASED ON THE PLANIMETRIC MAPPING COMPILED BY MARTINEZ GEOSPATIAL IN 2016
2.	AGIS MAPPING COMPILED BY MARTINEZ GEOSPATIAL IN 2016
3.	ALL HORIZONTAL COORDINATES - NAD83/2011 ALL VERTICAL COORDINATES - NAVD88



15-1103-PLP - 2015 (C) (P) (AS)

**CREVE COEUR AIRPORT  
IMPROVEMENT CORP**  
3127 CREVE COEUR MILL RD  
ST LOUIS MO 63146  
(314) 978-9575

DES:	ISSUE RECORD			
	NO.	BY	DATE	DESCRIPTION
R.L.B.				
R.L.B.				
S.V.B.				
J.T.P.				

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49 U.S.C., SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS AIRPORT LAYOUT PLAN BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DERIVED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE OR WOULD HAVE JUSTIFICATION IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

AIRPORT LAYOUT PLAN	EXHIBIT 2			SHEET NO. 2 of 2
	MODOT PROJ. NO. 15-113P1-1	JVIAATION PROJ. NO. 2015.1H0.01	DATE: JUNE 2018	



## APPENDIX D: AGENCY COORDINATION

- **U.S. Army Corps of Engineers**

The U.S. Army Corp of Engineers (USACE) was contacted early in the planning process to evaluate the potential need for a Section 404 permit. Coordination was completed via phone and email primarily between Morgan Einspahr (Jviation), Kathrine Kelly (USACE), and Robert Gramke (USACE). As discussed previously, it was determined that a Section 404 permit was not required and no further coordination was required. See **Attachment D1** for final determination.

- **U.S. Fish and Wildlife Service**

The U.S. Fish and Wildlife Service (USFWS) was contacted early in the planning process to evaluate potential impacts to threatened and endangered species and their habitat. Coordination was completed via phone and email primarily between Morgan Einspahr (Jviation), Karen Herrington (USFWS), and Shauna Marquardt (USFWS). It was determined that although the northern portion of the project area is considered bat habitat, the acres impacts (<10) does not meet the threshold for a presence/absence survey and construction would occur outside the sensitive habitat timeframe. See **Attachment D2** for final determination.

- **Missouri Department of Transportation – Aviation Department**

A portion of the project area is currently owned by the Missouri Department of Transportation (MoDOT). Jviation worked closely with MoDOT throughout the EA process to ensure they were aware of all potential impacts and given the opportunity to express concerns or provide additional information as necessary. Coordination was completed primarily via phone between Bryan Gregory and MoDOT staff.

- **Tribal Coordination**

Per early project planning between Jviation and MoDOT, it was determined that since no ground disturbance would occur as a result of the Proposed Action, Tribal Coordination was not required. Further, there are no known Tribal interests in the project area.

**Attachment D1 – USACE Coordination**



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
ST. LOUIS DISTRICT CORPS OF ENGINEERS  
1222 SPRUCE STREET  
ST. LOUIS, MISSOURI 63103-2833

April 24, 2018

Regulatory Branch  
File Number: MVS-2017-814

Ms. Morgan Einspahr, LEED GA  
Aviation, Incorporated  
900 South Broadway, Suite 350  
Denver, Colorado 80209

This letter is in response to coordination and review of proposed removal of obstructions to the flight paths near the Creve Coeur Airport. The proposed project includes the removal of any tree over thirty feet tall located in the Northern and Southern Flight Paths. The construction plans dated April 16, 2018 and produced by Aviation, Inc. on behalf of the Creve Coeur Airport Improvement Corporation describe the location of the tree removal and the methods of removal. The project is necessary to meet Federal Aviation Administration (FAA) requirements and this office reviewed the Draft Environmental Assessment prepared by Aviation, Inc. in conjunction with the local Missouri Department of Transportation (MODOT) official. Both of the tree removal areas labeled as Schedule 1 (North Area) and Schedule 2 (South Area) contain wetland resources, but the tree removal methods described in the construction plans and the draft EA do not include land clearing or the deposition of fill material, therefore no permit is required for this activity. The removal only includes trees greater than thirty feet in height or species capable of reaching thirty feet in height and the tree stumps will be treated and remain in place. The project is located at approximately 38.735899, -90.515488, Township 46 North, Range 4 East, in Section 24, Creve Coeur, St. Louis County, Missouri.

Section 404 of the Clean Water Act assigns responsibility to the Secretary of the Army to administer a permit program to regulate the placement of dredged or fill material into waters of the United States. The placement of any dredged or fill material into waters of the United States below the ordinary high water elevation, or in wetlands adjacent to these waters, must be authorized by a Section 404 permit. Based on a review of the construction plans and the draft EA there are wetland resources located in the construction area, but impacts as described above are minimal with no deposition of fill material. Based upon this review, we have determined that **a Department of the Army, Section 404 permit is not required for this project.**

This determination is only applicable to the permit program administered by the Corps of Engineers. It does not eliminate the need to obtain other Federal, state or local

approvals before beginning work. This determination does not convey property rights, nor authorize any injury to property or invasion of other rights.

If you have any questions, please contact Robert Gramke at (314) 331-8817. Please refer to file number 2017-814. The St. Louis District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to go to our Customer Service Survey found on our web site at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey).

Sincerely,

Robert. S. Gramke  
Missouri Section Chief  
Regulatory Branch

**Attachment D2 – USFWS Coordination**

## Morgan Einspahr

---

**From:** Karen Herrington <karen\_herrington@fws.gov>  
**Sent:** Wednesday, April 11, 2018 3:43 PM  
**To:** Kelley, Kathrine A CIV CEMVS CEMVD (US)  
**Cc:** Gramke, Robert S CIV USARMY CEMVS (US); Morgan Einspahr; Marquardt, Shauna  
**Subject:** Re: [Non-DoD Source] Fwd: [EXTERNAL] RE: Federally permitted bat surveyor list

Thank you Katherine. We concur that this project is not likely to adversely affect listed species, and no additional consultation would be required if project plans change if no Corps permit is needed.

Sent from my iPhone

> On Apr 11, 2018, at 5:18 PM, Kelley, Kathrine A CIV CEMVS CEMVD (US) <Kathrine.Kelley@usace.army.mil> wrote:  
>  
> Ms. Herrington:  
>  
> This is in response to Jviation, Inc.' email request submitted on behalf of Creve Coeur Airport, on September 27, 2017, concerning obtaining the Corps initial feeling of what type of permitting/coordination that Creve Coeur Airport would need to do with USACE to clear (cut off) trees from an area adjacent to the runway. The project is located at approximately 38.735899, -90.515488, Township 46 North, Range 4 East, in Section 24, Creve Coeur, St. Louis County, Missouri. The project is also located approximately .142 mile from the Missouri River.  
>  
> We have reviewed the USGS topographic, the National Wetland Indicator and the USDA NRCS Soil Maps, the USFWS emailed determination of April 2, 2018, concerning potential impacts to bat habitat, along with the submitted information from Jviation, Inc. According to the plans and our resource maps, a waters of the United States will not be impacted by this activity. Based upon this review, we have determined that a Department of the Army, Section 404 permit is not required for this project. This determination is applicable only to the permit program administered by the Corps of Engineers. It does not eliminate the need to obtain other Federal, state or local approvals before beginning work. This determination does not convey property rights, nor authorize any injury to property or invasion of other rights.  
>  
> We request USFWS concurrence that this project may affect, but is not likely to adversely affect, listed bat species because Creve Coeur Airport (Jviation, Inc.) is committing to clearing the trees during the inactive season, and less than 10 acres will be impacted.  
>  
> Sincerely,  
>  
> Kathrine Kelley  
> Missouri Project Manager  
> Regulatory Branch  
> USACE, St. Louis District  
> 314-331-8813  
> Email: kathrine.kelley@usace.army.mil  
>  
>  
> -----Original Message-----  
> From: Herrington, Karen [mailto:karen\_herrington@fws.gov]  
> Sent: Monday, April 02, 2018 4:18 PM

> To: Kelley, Kathrine A CIV CEMVS CEMVD (US)  
> <Kathrine.Kelley@usace.army.mil>  
> Cc: Morgan Einspahr <Morgan.Einspahr@jviation.com>; Marquardt, Shauna  
> <shauna\_marquardt@fws.gov>  
> Subject: [Non-DoD Source] Fwd: [EXTERNAL] RE: Federally permitted bat  
> surveyor list

> Kathrine,  
>  
> Please see the string below. Let me know if you have any questions.

> best,

> \_\_\_\_\_

> Karen Herrington  
> Field Supervisor, Missouri Ecological Service Field Office U.S. Fish  
> and Wildlife Service  
> work: (573) 234-5031  
> cell: (850) 348-6495

> \_\_\_\_\_

> ----- Forwarded message -----

> From: Herrington, Karen <karen\_herrington@fws.gov>  
> <mailto:karen\_herrington@fws.gov> >  
> Date: Mon, Apr 2, 2018 at 11:57 AM  
> Subject: Re: [EXTERNAL] RE: Federally permitted bat surveyor list  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com>  
> <mailto:Morgan.Einspahr@jviation.com> >  
> Cc: "Marquardt, Shauna" <shauna\_marquardt@fws.gov>  
> <mailto:shauna\_marquardt@fws.gov> >

> We need the Corps to send us this information along with their determination of effects. We would concur that this project is not likely to adversely affect listed bat species because you are committing to clearing the trees during the inactive season, and less than 10 acres will be impacted. Feel free to share this email string with the Corps permit manager.

> \_\_\_\_\_

> Karen Herrington  
> Field Supervisor, Missouri Ecological Service Field Office U.S. Fish  
> and Wildlife Service  
> work: (573) 234-5031  
> cell: (850) 348-6495

> \_\_\_\_\_



>  
> On Fri, Mar 30, 2018 at 4:19 PM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:  
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>  
> Hi Karen,  
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>  
> Attached is the updated project exhibit showing the project limits on the north side of the airport. As you can see we  
are showing less than 10 acres. Of the 9.6 acres shown, not all the trees in this area will be cleared, only those over 30  
feet tall or with potential to grow over 30 feet. We are limiting clearing to November 1 to March 31. With this  
information, would it be possible to get a clearance letter from USFWS? We have been working with the USACE on this  
project as well and they would like to see the final determination from USFWS. We VERY much appreciate your help and  
guidance as we worked through this project!  
>  
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>  
> My best,  
>  
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>  
> Morgan  
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>  
> From: Herrington, Karen [mailto:karen\_herrington@fws.gov <mailto:karen\_herrington@fws.gov> ]  
> Sent: Thursday, March 29, 2018 9:56 AM  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com  
> <mailto:Morgan.Einspahr@jviation.com> >  
>  
>  
> Cc: Marquardt, Shauna <shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> >  
> Subject: Re: [EXTERNAL] RE: Federally permitted bat surveyor list  
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>  
> If the north area that Shauna referred to is under 10 acres of clearing, winter clearing is the appropriate avoidance  
measure. You can consider her visual assessment your habitat assessment.  
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>  
> Karen Herrington  
>  
> Field Supervisor, Missouri Ecological Service Field Office

>  
> U.S. Fish and Wildlife Service  
>  
> work: (573) 234-5031  
>  
> cell: (850) 348-6495  
>

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> On Thu, Mar 29, 2018 at 10:31 AM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:

>  
> We discussed the project further yesterday and believe we can pull some of the project limits in and be under the 10 acre limit. The design team is working on that today. If that is the case, do we still need to complete the habitat assessment or do we assume it is habitat but guarantee work will be done during the winter months and remain under the 10 acre limit?

>  
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>  
> From: Herrington, Karen [mailto:karen\_herrington@fws.gov <mailto:karen\_herrington@fws.gov> ]  
> Sent: Wednesday, March 28, 2018 2:38 PM

>  
>  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Cc: Marquardt, Shauna <shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> >  
> Subject: Re: [EXTERNAL] RE: Federally permitted bat surveyor

> list

>  
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>  
> Morgan,

>  
> Yes - we recommend the survey if clearing we to occur during  
> the winter months because it is over the 10 acre threshold that Shauna  
> mentioned. You can find information about the survey protocol  
> requirements at the link Shauna previously sent, but the survey season  
> is May 15 to August 15:

> Blocked<https://www.fws.gov/MIDWEST/angered/mammals/inba/surveys/pdf/2017INBASummerSurveyGuidelines9May2017.pdf>  
> <Blocked<https://www.fws.gov/MIDWEST/angered/mammals/inba/surveys/pdf/2017INBASummerSurveyGuidelines9May2017.pdf>>

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>  
> Please give me a call if you have further questions.  
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> Best,  
>  
> Karen

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> Karen Herrington  
>  
> Field Supervisor, Missouri Ecological Service Field Office  
>  
> U.S. Fish and Wildlife Service  
>  
> work: (573) 234-5031  
>  
> cell: (850) 348-6495

>  

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> On Wed, Mar 28, 2018 at 3:05 PM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:

> Thank you for the quick response Karen.

> Are there certain times of years that the survey can be completed?

> Also, I assume you still recommend the survey even if we are planning to complete the clearing during the  
winter months?

> From: Herrington, Karen [mailto:karen\_herrington@fws.gov <mailto:karen\_herrington@fws.gov> ]  
> Sent: Wednesday, March 28, 2018 1:33 PM

> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Cc: Marquardt, Shauna <shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> >  
> Subject: Re: [EXTERNAL] RE: Federally permitted bat

> surveyor list



> Hello Morgan,

> Shauna is on leave until 4/10. Do you need an answer before she returns?

---

> Karen Herrington

> Field Supervisor, Missouri Ecological Service Field

> Office

> U.S. Fish and Wildlife Service

> work: (573) 234-5031

> cell: (850) 348-6495

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> On Wed, Mar 28, 2018 at 8:59 AM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:

> Good morning Shauna,

> We are working on getting the bat habitat assessment arranged as the project will include about 12.5 acres  
> of tree clearing. In looking back through your email and the flow sheet that you sent, it sounds like it is likely that the  
> project area is prime habitat. If it is, what will be our next steps? Will we need to complete a presence/absence surveys?  
> If we're nearly positive that it is prime habitat, is the habitat assessment needed or should we move on to the next step  
> assuming it is prime habitat?

> I'm trying to look ahead both in schedule and costs for the project.

> Your advice is appreciated!

> Morgan

>  
>  
>  
> From: Marquardt, Shauna [mailto:shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> ]  
> Sent: Thursday, March 8, 2018 2:06 PM  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Cc: Karen Herrington <karen\_herrington@fws.gov  
> <mailto:karen\_herrington@fws.gov> >

>  
>  
> Subject: Re: Federally permitted bat surveyor list  
>  
>  
>

> Hi Morgan,  
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>

> Thanks for the map and drone footage. I took a look at the video. I think you've just upped the game of project descriptions. The videos were extremely helpful and I'll get to exactly why. There are procedural differences when you go from 5 to 10 to >10 acres. I've attached a flowchart of the consultation process with our office that reflects those differences. Once you surpass 5 or 10 acres, depending on where you are in proximity to known bat records, winter clearing alone is not an automatic, stand alone conservation measure. It becomes necessary to do a habitat assessment according to the rangewide Indiana bat survey guidance (Appendix A).  
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> Blocked<https://www.fws.gov/MIDWEST/endangered/mammals/inba/surveys/pdf/2017INBASummerSurveyGuidelines9May2017.pdf>  
> <Blocked<https://www.fws.gov/MIDWEST/endangered/mammals/inba/surveys/pdf/2017INBASummerSurveyGuidelines9May2017.pdf>>

> That said, in looking at the drone footage, I can see that the north area is nearly ideal Indiana bat habitat (floodplain timber with lots of dead trees), whereas the south area is not suitable (small diameter willows). Since the south area is not suitable roosting habitat for bats it can be cleared without further consideration. That leaves the north area. When considered independently what is the acreage? This project area does not fall within a known bat buffer so if it is 10 acres or less, it can be cleared in the winter.  
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> ~~~~~

> Shauna Marquardt  
> Fish and Wildlife Biologist

> U.S. Fish and Wildlife Service  
>  
> Missouri Ecological Services Field Office  
> 101 Park DeVille Drive, Suite A  
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> Columbia, MO 65203  
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<Blockedhttps://maps.google.com/?q=101+Park+DeVille+Drive,+Suite+A+%0D%0A+Columbia,+MO+65203+%0D%0A+573&entry=gmail&source=g> /234-2181 (fax)

> ~~~~~  
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> On Thu, Mar 8, 2018 at 2:35 PM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:

>  
> Hi Shauna,  
>

> We finalized the drone footage of the project areas – they can be downloaded via dropbox here:  
<Blockedhttps://www.dropbox.com/sh/difaze4oq3v7u7q/AABXk1GIVtiVufASCaEQ-RToa?dl=0  
<Blockedhttps://www.dropbox.com/sh/difaze4oq3v7u7q/AABXk1GIVtiVufASCaEQ-RToa?dl=0> . I've also included a  
rough sketch of the two areas we will be removing trees.

>  
> It looks like we will be removing more than 5 acres of trees though; looks like ~16.92 acres. If we continue  
with the plan to do winter clearing, does this change anything?

>  
> Thanks!

>  
> Morgan

> From: Marquardt, Shauna [mailto:shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> ]  
> Sent: Friday, February 23, 2018 7:49 AM

> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Subject: Re: Federally permitted bat surveyor list



>  
>  
> Well this is a first! I think our file size limit is something like 25 MB...not very large in the video world. I can access Drop Box, Google Drive etc.

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> ~~~~~

> Shauna Marquardt  
> Fish and Wildlife Biologist  
> U.S. Fish and Wildlife Service  
>  
> Missouri Ecological Services Field Office  
> 101 Park DeVille Drive, Suite A

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> Columbia, MO 65203

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> On Thu, Feb 22, 2018 at 6:07 PM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:

> Hi Shauna,

>  
>  
>  
> We flew the Creve Coeur tree trimming area with a drone last week. I'm hoping it will be helpful and you can determine tree type from them. However, the videos are really large. Do you have a file size limit or do you accept drop box?

> Thanks!

> Morgan

>  
>  
>  
>  
> From: Marquardt, Shauna [mailto:shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> ]  
> Sent: Tuesday, January 30, 2018 12:35 PM

>  
>  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Subject: Re: Federally permitted bat surveyor list

>  
>  
> No need to address Mig Birds in the consultation. We'll just cover listed bats.

>  
> ~~~~~  
>  
> Shauna Marquardt  
> Fish and Wildlife Biologist  
> U.S. Fish and Wildlife Service

> Missouri Ecological Services Field Office  
> 101 Park DeVille Drive, Suite A

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> ~~~~~

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>  
> On Tue, Jan 30, 2018 at 11:56 AM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
> <mailto:Morgan.Einspahr@jviation.com> > wrote:

>  
> Good morning Shauna,

> We are working on the final acreage amount.

>  
>  
>

> In looking at the IPaC report, it lists the potential for migratory birds to be present near the airport and in the project area. Attached is the list of migratory birds and their breeding seasons. In looking at the list, the only bird that will be breeding during our construction season is the Bald Eagle. Do you see any potential impacts to the Bald Eagle or other species or feel there is a need for a survey?

>  
>  
>

> Thank you!

>  
>  
>

> Morgan

>  
>  
>

> From: Marquardt, Shauna [mailto:shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> ]  
> Sent: Monday, January 29, 2018 1:09 PM  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Subject: Re: Federally permitted bat surveyor list

>  
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>

> Hi Morgan,

>  
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>

> Thank you for confirming that tree removal can be implemented from November and March, which minimizes potential impacts to federally listed bats. I'll still need to confirm with you the acreage and have the lead federal agency make an ESA determination, as they are ultimately responsible for ESA issues. If the acreage is less than 5 acres (I believe this to be the case based on our conversation - I just need it in writing from you) AND you do winter clearing, then you are correct that no Habitat Assessment is necessary. However, potential impacts are not being eliminated, they are being minimized. In this case, since suitable habitat is not being avoided (cause for a No Effect call), a determination of may affect, not likely to adversely affect would be appropriate with implementation of the conservation measure of winter tree removal. Once I have confirmation and a determination from the lead Fed agency, I can concur and the project can move forward.

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>  
> Shauna Marquardt  
> Fish and Wildlife Biologist  
> U.S. Fish and Wildlife Service  
>  
> Missouri Ecological Services Field Office  
> 101 Park DeVille Drive, Suite A  
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> Columbia, MO 65203  
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> 573/234-2181 (fax)  
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>  
> On Mon, Jan 29, 2018 at 12:01 PM, Morgan Einspahr <Morgan.Einspahr@jviation.com  
<mailto:Morgan.Einspahr@jviation.com> > wrote:

>  
> Hi Shauna,  
>  
>

> Thank you for talking about the Creve Coeur obstruction removal project with me last week. In talking with the engineers, we are going to bid the project this summer but will require the project be completed during hibernation (November to March). I believe this eliminates the need for a habitat assessment and potential impacts to the bat? If so, is it possible to get a no effect letter from USFWS for the project?

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>  
> Please let me know if you need any more information/exhibits to prepare a letter.  
>  
>

> Thank you!  
>  
>

> Morgan  
>  
>

> Jviation, Inc. | Morgan Einspahr, LEED GA |  
> Environmental Planner | Direct 720.544.6517 | Cell 303.947.2391 |  
> Email Morgan.Einspahr@jviation.com  
> <Blockedhttp://Morgan.Einspahr@jviation.com>  
>

> From: Marquardt, Shauna [mailto:shauna\_marquardt@fws.gov <mailto:shauna\_marquardt@fws.gov> ]

> Sent: Tuesday, January 23, 2018 12:55 PM  
> To: Morgan Einspahr <Morgan.Einspahr@jviation.com <mailto:Morgan.Einspahr@jviation.com> >  
> Subject: Federally permitted bat surveyor list

> Hi Morgan,

> The list we discussed is attached.

> ~~~~~

> Shauna Marquardt  
> Fish and Wildlife Biologist  
> U.S. Fish and Wildlife Service

> Missouri Ecological Services Field Office  
> 101 Park DeVille Drive, Suite A

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**MISSOURI DEPARTMENT OF TRANSPORTATION –  
DEPARTMENT OF AVIATION**

**Finding of No Significant Impact**

**Airport Name and Location**

Creve Coeur Airport  
St. Louis, Missouri

**Proposed Federal Action**

The Proposed Action is the removal of obstructions (trees) penetrating Part 77 Surfaces at the Creve Coeur Airport. Existing trees over 30 feet tall and those with the potential to grow more than 30 feet tall in the near future will be cut and the stump treated to prevent re-growth, leaving the cut portion of trees and stumps in place to minimize environmental impacts.

**Purpose and Need**

The purpose of the Proposed Action is to ensure the Airport provides a safe operating area by complying with current FAA airspace and safety standards and clearing obstructions from the approach and departure paths.

The Proposed Action is needed to address obstructions identified in an obstruction analysis completed as part of the Airport Layout Plan in 2017. The obstruction analysis found current and future obstructions (trees) occur within the approach and departure paths of Runway 16/34. If left unaddressed, the obstructions create a significant safety threat to aircraft operating at the Airport and put the Airport in non-compliance with FAA airspace and safety standards.

**Alternatives**

The Environmental Assessment (EA) identified and evaluated two alternatives (No Action and Alternative A – Obstruction Removal. After careful analysis and consultation with various resource agencies, the Airport selected Alternative A as the preferred alternative. This alternative satisfies the purpose and need while imposing minimal impacts. The No Action alternative does not meet the purpose and need but is included as a baseline of comparison for environmental impacts associated with the Proposed Action.

**Environmental Impact and Reason for the Finding of No Significant Impact**

An EA was prepared pursuant to the provisions of the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations (40 C.F.R. Part 1500-1508). The EA meets the guidelines identified in FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *NEPA Implementing Instruction for Airport Actions*.

The environmental impacts from the Proposed Action are described in the Final Environmental Assessment (FEA), dated July 2018. No thresholds of significance were found to be exceeded. After review of the FEA, the Missouri Department of Transportation (MoDOT) determined that a Finding of No Significant Impact (FONSI) was justified for the proposed airport improvements. The FONSI indicates that this project has been cleared environmentally only. This is not a



notice of final project approval, funding eligibility or availability. The Airport is responsible for compliance with all applicable environmental laws, regulations, and procedures, including any applicable Federal and state permits. This environmental decision is generally valid for three (3) years before re-evaluation could be required, unless conditions changed materially or new information becomes available sooner.

### **Public Involvement**

Public involvement is a crucial step in the NEPA process. The DRAFT EA was made available to the public for review and comment for 15 days, from June 6 to June 21, 2018. The DRAFT EA was advertised in the St. Louis Post-Dispatch and available for review online through the airport's website. No comments were received in the public comment period.

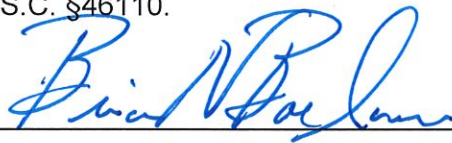
The FEA and FONSI will be available for public and agency review.

### **Environmental Finding and Approval**

I have carefully and thoroughly considered the facts contained in the attached FEA. Based on the information provided, I find the Proposed Action is consistent with existing national environmental policies and objectives of Section 101(a) of the NEPA and other applicable environmental requirements. I also find the Proposed Action will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to Section 102(2)(C) of NEPA. As a result, an Environmental Impact Statement (EIS) will not be prepared for this action.

Having met all relevant requirements for environmental considerations and consultation, the Proposed Action is authorized when all other requirements have been met. These decisions are taken pursuant to 49 U.S.C. §40101, et seq. The MoDOT findings regarding the proposed airport improvements, and any necessary funding, for the Airport, constitute an order of the Administrator, which is subject to review by the Court of Appeals of the United States, in accordance with the provisions of Section 1006 of the Federal Aviation Act of 1958, as amended, 49 U.S.C. §46110.

APPROVED: \_\_\_\_\_



DATE: \_\_\_\_\_

July 11, 2018