Chapter Three Affected Environment and Environmental Consequences

3.1 Introduction

In accordance with FAA's environmental orders 5050.4B, NEPA Implementing Instructions for Airport Actions and 1050.1F, Environmental Impacts: Policies and Procedures, this chapter describes the existing environmental conditions of the potentially affected geographic areas for the construction of the proposed WAP projects at STL. This chapter also presents the potential environmental effects resulting from implementation of the Proposed Action and the No Action Alternative, and where applicable, a discussion of proposed mitigation measures to avoid and minimize environmental impacts of the Proposed Action.

3.2 Resource Categories Not Affected

Based on proximity of the proposed projects included in the WAP, results of online research and early agency coordination, the Proposed Action would not affect following resource categories.

- **Coastal Resources:** There are no coastal zones in the state of Missouri.
- **Farmlands:** The Proposed Action would occur entirely on existing airport property and would not require the conversion of farmlands to non-agricultural use.
- **Land Use:** The Proposed Action would occur entirely on existing airport property and would not change the current land use designation of the Airport. The airport sponsor has committed to making land use compatible with airport operations (refer to Appendix F for sponsor land use letter).
- **Noise and Noise-Compatible Land Use:** The Proposed Action would not induce or change the number or type of aircraft operations or current runway utilization protocols at STL. Additionally, because the Proposed Action would occur in the central portion of the Airport, away from residential properties or other off-airport noise sensitive resources, construction noise impacts would not be expected.
- **Department of Transportation Act, Section 4(f):** There are no public parks, recreation facilities, or wildlife or waterfowl refuges that are protected under Section 4(f) and no resources protected under Section 6(f) of the Land and Water Conservation Fund in the vicinity of the project area or that would be affected by the Proposed Action. Based on early coordination with the Missouri Department of Natural Resources State Historic Preservation Office (SHPO), no historic properties protected under Section 106 of the Historic Preservation Act are located within the Area of Potential Effect (APE). See Appendix C for FAA and SHPO correspondence.
- **Socioeconomics, Environmental Justice, and Children's Health and Safety Risks:** The Proposed Action would occur entirely on existing airport property. There are no public roadways with through traffic and no population in the project study limits. Other resource

category impacts evaluated in this EA would not be expected beyond the project construction/study limits.

- **Visual Effects Including Light Emissions:** The Proposed Action would occur in the central portion of the Airport, away from residential properties or other off-airport visual resources.
- **Wild and Scenic Rivers:** A review of the Wild and Scenic Rivers System list[18] indicated that there are no designated State or National Scenic Rivers within or immediately adjacent to Airport property.

Therefore, these resources were considered but not analyzed in detail in this environmental assessment.

3.3 Environmental Resources Potentially Affected

This Chapter describes the existing conditions and discloses the potential environmental impacts resulting from the No Action Alternative and Proposed Action for the following resource categories:

- Air Quality
- Biological Resources
- Climate
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Natural Resources and Energy Supply
- Water Resources, including Wetlands, Floodplains, Surface Waters, and Ground Water

3.4 Identification of the Study Area and Analysis Years

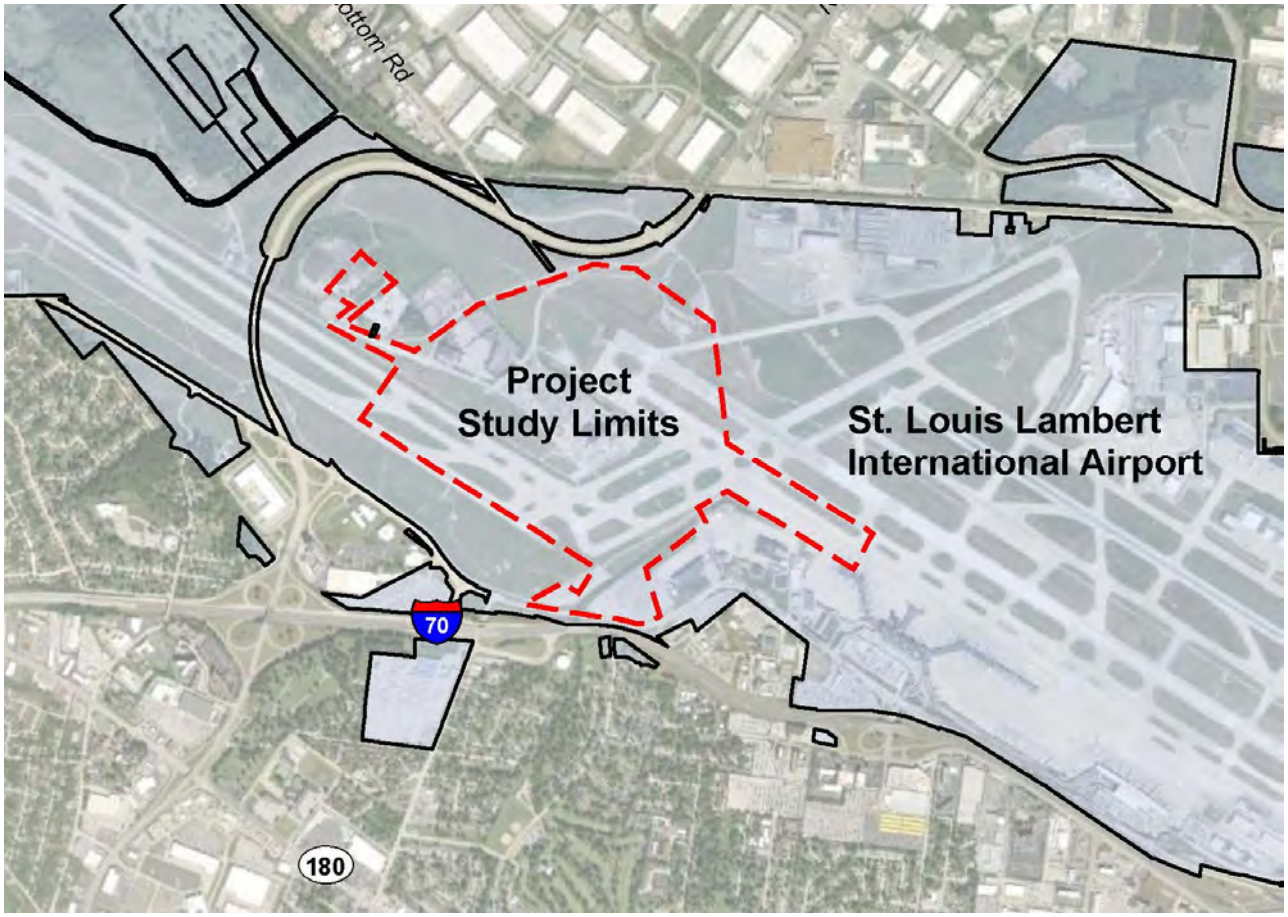
The study limits for the evaluation of the affected environment and environmental consequences encompass approximately 366 acres, located in the central portion of the airfield, as shown in Figure 3-1. This includes areas that may be physically disturbed by construction of the projects included in the Proposed Action, including grading and demolition activities, potential compensatory stormwater storage areas, utilities, and construction haul route and staging/stockpile areas. Due to the proposed projects' location in the interior portion of the Airport, and because the Proposed Action would not induce or change the number or type of aircraft operations or current runway utilization protocols at STL, off-Airport impacts are not expected. Therefore, one study area is referenced in this EA, as depicted in Figure 3-1.

The existing conditions for the affected environment are based on calendar year 2022, or the most recent year when baseline data was available for each of the resource categories evaluated. Construction of the Proposed Action is anticipated to be initiated in 2024 with completion in 2027. Therefore, the environmental consequences analysis discloses the impacts for the projected future condition in 2028, the implementation year when the proposed projects would be completed and operational. In addition, 2033 is used as the basis for analyzing operational emissions for air quality and climate (greenhouse gases), because it represents a condition five years beyond the opening

[18] Department of the Interior, 2023, National Wild and Scenic Rivers System. Available online at: https://www.rivers.gov/missouri.php, Accessed April 20, 2023.

year. The years 2024, 2025, 2026 and 2027 are also used as a basis to evaluate potential air quality impacts associated with construction of the proposed projects.

Figure 3-1: Project Study Area



Source: CMT, 2023.

3.5 Evaluation of the No Action Alternative

The No Action Alternative assumes that there would be no construction of any facilities within the project study limits to address the purpose and need. Because there would be no ground disturbance, no impacts to biological resources; historic, architectural, archaeological or cultural resources; or wetlands, regulated surface waters, other surface waters or groundwater would be expected under this alternative. Further, because there would be no construction activities and no changes in aircraft deicing activities, no impacts on air quality; climate; natural resources and energy supply would be expected under the No Action Alternative. Therefore, mitigation measures are not required for these resource categories under the No Action Alternative.

Under the No Action Alternative, the existing Airfield Maintenance (AFM) campus would be located in the newly delineated floodplain and would continue to be exposed to periodic severe flooding resulting in damage to equipment and facilities, subsequent delays in airfield maintenance tasks and potential contamination issues. Potential impacts of the No Action Alternative are discussed further in Hazardous Materials, Section 3.10 Solid Waste, Section 3.11 Pollution Prevention, and Section 3.14 through Section 3.17 Water Resources. The No Action Alternative is also presented in the Air

Quality and Climate sections to serve as a baseline against which to evaluate the change in emissions with the Proposed Action.

3.6 Air Quality

At the Federal level, under the Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) establishes the guiding principles and policies for protecting air quality conditions in the study area (and throughout the nation). The EPA's primary responsibility is to promulgate and update National Ambient Air Quality Standards (NAAQS) which define outdoor levels of air pollutants that are considered safe for the health and welfare of the public. The EPA's other responsibilities include the approval of State Implementation Plans (SIPs), which are plans that detail how a State will comply with the CAA. The FAA is the primary agency involved in, and responsible for, ensuring that air quality impacts associated with proposed airport projects adhere to the reporting and disclosure requirements of NEPA and the SIP conformity rules of the CAA.

One of the CAA requirements is for the EPA to establish and periodically review the NAAQS. There are NAAQS for six "criteria" air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), and particulate matter (PM). There are standards for two sizes of PM, $PM_{2.5}$ which are particles with a diameter of 2.5 microns or less and PM_{10} which are particles with a diameter of 10 microns or less. There are two sets of standards: Primary Standards provide protection for the health of the public and Secondary Standards provide public welfare protection. The NAAQS and their averaging periods are provided in Appendix B: Air Quality and Climate Assessment.

The EPA designates areas as having air pollutant levels that are either lower than or meeting the NAAQS or higher than the NAAQS. An area with measured pollutant concentrations which are lower/meeting the NAAQS is designated as an attainment area and an area with pollutant concentrations that exceed the NAAQS is designated as a nonattainment area. After air pollutant concentrations in a nonattainment area are reduced to levels that meet or are below the NAAQS, the EPA re-designates the area to be a maintenance area for a period of 20 years.

The General Conformity Rule of the CAA prohibits Federal agencies from permitting or funding non-highway projects that do not conform to a SIP. Because of the area's maintenance and nonattainment designations for St. Louis County, a General Conformity Applicability Analysis is required. An applicability analysis is a comparison of project-related emissions of the pollutant for which an area is designated maintenance and/or nonattainment to *de minimis* threshold levels. If project-related emissions exceed the *de minimis* thresholds, a formal Conformity Determination is required to demonstrate that the project conforms to the applicable SIP. Conversely, if project-related emissions are below *de minimis* thresholds, the project is assumed to conform to the SIP. O_3 is a secondary pollutant meaning it is not directly emitted by any source of pollutants. Instead, nitrogen oxides (NO_x) and volatile organic compounds (VOC) combine in the presence of sunlight to form O_3. Therefore, NO_x and VOCs are considered precursor pollutants for which emissions must be compared to applicable *de minimis* thresholds. For the Proposed Action, the *de minimis* level is 100 tons of both NO_x and VOCs.

Section 102(2) of NEPA also requires environmental review of federally funded projects that have the potential to affect the environment irrespective of location (i.e., maintenance or nonattainment areas). Therefore, emission inventories were prepared to disclose project-related emissions of all criteria air pollutants and precursor pollutants.

3.6.1 Affected Environment

STL is in St. Louis County, Missouri. Based on measured levels of the air pollutants for which there are NAAQS, the EPA designated St. Louis County to be a maintenance area for the 8-hour 2008 O_3 standard, a moderate nonattainment area for the 2015 O_3 standard, and attainment for all the other NAAQS.

3.6.2 Environmental Consequences

This section presents and discusses the potential air quality impacts associated with the Proposed Action. Both the short-term criteria air pollutant and precursor pollutant emissions that would result from construction activities to implement the Proposed Action as well as the long-term operational emissions with the Proposed Action, compared against the No Action Alternative, were estimated.

NO ACTION ALTERNATIVE

No construction activities would occur under the No Action Alternative. Further, no changes in the location of aircraft deicing operations would occur under the No Action Alternative. The operational emissions under the No Action Alternative are discussed later in this section under "Operational Emissions" for comparison against the Proposed Action.

PROPOSED ACTION

Construction Activities

Air pollutant emissions associated with construction activities are temporary and variable depending on project location, duration, and level of activity. These emissions occur predominantly in engine exhaust from operating construction equipment and vehicles at the site (scrapers, dozers, delivery trucks, etc.), from transporting material and supplies to and from the site, and from construction worker vehicles commuting to and from the site. Additionally, fugitive dust emissions (PM_{10}/$PM_{2.5}$) result from site preparation, land clearing, material handling, equipment movement on unpaved areas; and fugitive evaporative emissions (VOCs) occur during the application of asphalt from paving activities.

The construction equipment typically utilized in airport projects is comprised both of on-road licensed vehicles and off-road construction equipment. The former category of vehicles is used for the transport and delivery of supplies, material, and equipment to and from the site and includes construction worker vehicles. The latter category of equipment is operated on-site for activities such as, but not limited to, soil/material handling, site clearing and grubbing.

The Airport Construction Emissions Inventory Tool (ACEIT)[19] was used to estimate construction equipment/vehicle types and activity levels (i.e., hours in use or miles travelled), with the emissions factors for equipment and vehicles updated from EPA's MOtor Vehicle Emission Simulator (i.e., MOVES, Version 3.1)[20] model. MOVES input data used to estimate emissions factors as well as construction schedule and projects, list of equipment/vehicles and activity levels are detailed in

[19] TRB, ACRP Report 102, Guidance for Estimating Airport Construction Emissions (2014), https://www.trb.org/ACRP/Blurbs/170234.aspx.

[20] At the time of the analysis, EPA's MOVES3.1 was the latest version of MOVES. Additional information on MOVES is available at https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves. The website was accessed on August 2, 2023.

Appendix B. Construction is assumed to begin in the spring of 2025 and be completed by the fall of 2027. Fugitive dust emissions were calculated using emission factors within EPA's Compilation of Air Pollutant Emission Factors (AP-42)[21] and evaporative emissions were developed using EPA guidance[22] on asphalt paving.

To comply with disclosure requirements under NEPA, estimates of CO, NO_x, VOC, PM_{10}, $PM_{2.5}$, sulfur oxides (SO_x), and Pb that would occur to construct the Proposed Action are provided in Table 3-1. In addition to being a precursor to O_3, the emission estimates of NO_x and SO_x conservatively estimate emission levels of NAAQS "criteria" air pollutants NO_2 and SO_2.

As shown, the highest construction emissions of NO_x and VOCs would occur in 2026, and are 23.8 tons and 2.5 tons, respectively. Neither of these levels exceed the *de minimis* threshold of 100 tons. Therefore, the air pollutant emissions that would result from the construction of the Proposed Action are exempt from the General Conformity Rule/SIP conformance requirements of the CAA.

Table 3-1: Construction Emissions (Tons) - Proposed Action

Year	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_x	Pb
2025	0.3	0.3	<0.1	6.9	0.7	<0.1	Neg.
2026	14.4	23.8	2.5	11.1	1.8	<0.1	Neg.
2027	4.0	6.4	0.4	8.8	1.0	<0.1	Neg.
De Minimis Thresholds	NA	100	100	NA	NA	NA	NA
Exceeds De Minimis?	**NA**	**No**	**No**	**NA**	**NA**	**NA**	**NA**

Notes: Totals may reflect rounding. Neg. = negligible. NA = Not applicable.

Source: CMT, 2023.

Operational Emissions

Aircraft are the only airport-related source of air emissions that would change as a result of the Proposed Action. Furthermore, the only aircraft operational mode that would be affected by the Proposed Action would be taxiing to reach the deicing facilities. The number of aircraft operations and fleet mix would not change between the No Action Alternative and Proposed Action. Estimates of future year aircraft-related emissions were obtained using the FAA's Aviation Environmental Design Tool (AEDT, Version 3e).[23]

Aircraft emissions were calculated for two future years (2028 and 2033) for the No Action Alternative and Proposed Action to determine the difference in emissions caused by a change in taxiing time. Under the Proposed Action, the air quality analysis conservatively assumes that all aircraft for which deicing would be projected would taxi to the new deicing pad. For the No Action Alternative, aircraft were assumed to taxi a distance based on a central location representative of the existing deicing pad locations. Under both the No Action and the Proposed Action, aircraft were then assumed to taxi from the respective deicing locations to a common runway end (Runway 30L) to conduct a comparative analysis of the change in emissions related to taxiing. Assuming an average aircraft taxi

[21] EPA, Emissions Factors & AP-42, Compilation of Air Pollutant Emission Factors, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. The website was accessed on August 3, 2023.
[22] EPA, Emission Inventory Improvement Program, Asphalt Paving, Chapter 17, Volume III, April 2001.
[23] Additional information on AEDT is available at https://aedt.faa.gov/. The website was accessed on August 3, 2023.

speed of 20 miles per hour, the taxi times for the No Action Alternative and Proposed Action were assumed to be 5.0 minutes and 9.6 minutes, respectively. The future aircraft fleet mix and number of annual aircraft operations modeled in AEDT are detailed in Appendix B.

For disclosure purposes under NEPA, estimates of the aircraft-related operational emissions of CO, NO_x, VOC, PM_{10}, $PM_{2.5}$, and SO_x for the two future years (2028 and 2033), with the No Action Alternative and Proposed Action are provided in Table 3-2. Estimates of Pb were not prepared because the Proposed Action would not affect general aviation aircraft powered by fuel containing Pb. As shown, with the Proposed Action, emissions of CO are conservatively estimated to increase no more than 5 tons in either 2028 or 2033 and emissions of the remaining pollutants/precursors would not increase more than 1 ton. Furthermore, and as stated previously, if the Proposed Action increased annual net emissions of either NO_x or VOC by 100 tons, the General Conformity Rule would be applicable. Because the maximum net increase in emissions of either precursor is less than 1 ton, SIP conformity requirements of the CAA are not applicable to the Proposed Action.

Table 3-2: Aircraft Operational Emissions (Tons) – Future No Action Alternative and Proposed Action

Year/Alternative	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_x
2028 Proposed Action	8.6	1.7	1.0	0.02	0.02	0.4
2028 No Action Alternative	4.5	0.9	0.5	0.01	0.01	0.2
Net Emissions	**4.1**	**0.8**	**0.5**	**0.01**	**0.01**	**0.2**
De Minimis Thresholds	NA	100	100	NA	NA	NA
Exceeds De Minimis?	**NA**	**No**	**No**	**NA**	**NA**	**NA**
2033 Proposed Action	9.8	1.9	1.1	0.03	0.03	0.5
2033 No Action Alternative	5.1	1.0	0.6	0.01	0.01	0.3
Net Emissions	**4.6**	**0.9**	**0.5**	**0.01**	**0.01**	**0.2**
De Minimis Thresholds	NA	100	100	NA	NA	NA
Exceeds De Minimis?	**NA**	**No**	**No**	**NA**	**NA**	**NA**

Notes: Totals may reflect rounding. NA = Not applicable.

Source: CMT, 2023.

Neither the No Action Alternative nor the Proposed Action would result in significant air quality impacts and no mitigation is required.

3.6.3 Proposed Mitigation

Although no mitigation is required, possible best management practices should be taken to reduce fugitive dust emissions by adhering to guidelines included in FAA Advisory Circular (AC), Standards for Specifying Construction of Airports.[24] Methods of controlling dust and other airborne particles could include, but may not be limited to, the following:

- Exposing the minimum area of erodible earth

[24] FAA Advisory Circular (AC)150/5370-10H, Standards for Specifying Construction of Airports, December 21, 2018.

- Applying temporary mulch with or without seeding
- Using water sprinkler trucks
- Using covered haul trucks
- Using dust palliatives or penetration asphalt on haul roads
- Using plastic sheet coverings

3.7 Biological Resources

For purposes of this EA, the term, biological resources, refers to various types of flora and fauna, as well as habitat types that would support these species. This section also addresses Federally listed and state listed threatened or endangered species and their habitats.

The term "endangered species" means any member of the animal kingdom (mammal, fish, or bird) or plant kingdom (seeds, roots, etc.) that is in danger of extinction throughout all or a significant portion of its range. "Threatened species" refers to those members of the animal kingdom or plant kingdom, which are likely to become endangered within the foreseeable future. Section 7 of the *Endangered Species Act of 1973* requires each Federal agency that carries out, permits, licenses, funds, or otherwise authorizes activities that may affect a listed species must consult with the U.S. Fish and Wildlife Service to ensure that its actions are not likely to jeopardize the continued existence of any listed species.[25]

Additional federal laws that may be applicable to the project include the Migratory Bird Treaty Act (MBTA), which prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Secretary of the Interior; and the Bald and Golden Eagle Protection Act, which protects bald and golden eagles from the unauthorized capture, purchase, or transportation of the birds, their nests, or their eggs.

As stated in FAA Order 1050.1F, Exhibit 4-1, a significant impact in this category would result if the U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat. The FAA has not established a significance threshold for non-listed species.

3.7.1 Affected Environment

According to the U.S. Fish and Wildlife Service (USFWS) IPaC Official Species list generated June 20, 2023, the project is located within the known or historic range of the following federally endangered, threatened and candidate species:

- Gray bat (*Myotis grisescens*), endangered
- Indiana bat (*Myotis sodalis*), endangered
- Northern Long-eared bat (*Myotis septentrionalis*), endangered
- Tricolored bat (*Perimyotis subflavus*), proposed endangered

[25] Section 7(a)(2) of the Endangered Species Act of 1973.

- Monarch butterfly (*Danaus plexippus*), candidate
- Decurrent False Aster (*Boltonia decurrens*), threatened

The project is not located within any designated critical habitat areas. Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act.

According to the Missouri Department of Conservation (MDC) Natural Heritage Review, accomplished on June 20, 2023, there are records of three state endangered plants or animals that may occur within the project area or within a one-mile radius of the project area. Upon further review by MDC staff, as documented in the November 15, 2023 Natural Heritage Review Report, it was determined that there are no state-listed endangered species within the project area. MDC's records indicate one state-ranked species withing two miles of the project area, the American Badger. There are no regulatory requirements associated with this state-ranked status.

The project study area was observed for suitable threatened and endangered species habitat. The habitats present were searched for suitability and the presence of species during an on-site evaluation conducted on May 23 and 24, 2023.

Five (5) trees were identified as suitable bat roost trees for the Indiana bat and Northern Long-eared bat. Suitable habitat for the Tricolored bat was identified as live and dead leaf clusters of live or recently dead deciduous hardwood trees. The Monarch butterfly, which is not yet listed or proposed for listing, does not have Section 7 requirements, as it is a candidate species.

3.7.2 Environmental Consequences

NO ACTION ALTERNATIVE

No physical development would occur for the No Action Alternative. Therefore, no impacts to federally listed species, state listed species or migratory birds would occur.

PROPOSED ACTION

The proposed project is located in a highly developed area. However, suitable habitat for the federally listed Indiana bat, Northern long-eared bat, and tricolored bat is present within the project area. Up to 3.6 acres of trees may be removed. The trees to be removed are located within 100 feet of existing pavement, scattered throughout a disturbed area on airport property, and most trees are saplings. Five (5) trees were identified as suitable bat roost trees for the Indiana bat and Northern Long-eared bat. The project sponsor commits to clear the identified suitable bat roost trees during the inactive season, between November 1 and March 31. Therefore, the Proposed Action may affect, but is not likely to adversely affect the Indiana, Northern long-eared and Tricolored bats.

No large rivers or suitable habitat for the gray bat, decurrent false aster, or pallid sturgeon are within the project area; therefore, the project is expected to have no effect on these species near the project site. There are no Section 7 requirements for the Monarch butterfly as it is a candidate species.

Prior to tree removal and demolition of structures, including buildings, bridges, and/or culverts, nesting surveys would be conducted to avoid injury to eggs or nestlings Therefore, bird species protected by the Migratory Bird Treaty Act (MBTA) are not expected to be impacted by this project.

A request for concurrence on the effect determinations was submitted to the USFWS on September 11, 2023. The USFWS concurred with the FAA's effects determinations noted above on September 28, 2023. A copy of the Aquatic and Ecological Resources Report and associated USFWS and MDC correspondence is included in Appendix D: Aquatic and Ecological Resources.

The No Action Alternative would have no impact on biological resources and the Proposed Action would not have significant impacts to any federal or state listed species.

3.7.3 Proposed Mitigation

The project sponsor commits to clear the identified suitable bat roost trees during the inactive season, between November 1 and March 31. Nesting bird surveys would also be conducted prior to tree removal and demolition of structures.

3.8 Climate

Although there are currently no Federal standards for aviation related greenhouse gas (GHG) emissions, it is well-established that GHG emissions can affect climate.[26, 27, 28] Consistent with Executive Order 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, the Council on Environmental Quality (CEQ) issued interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change.[29]

Following procedures currently detailed in FAA's 1050.1F Desk Reference, GHG emissions should be quantified in a NEPA document when there is a reason to quantify emissions for air quality purposes or when changes in the amount of aircraft fuel used are computed/reported. The FAA does not have a threshold of significance for climate, and thus, the information presented in this section is for informational purposes only.

3.8.1 Affected Environment

On their website, St. Louis County acknowledges that addressing the problems created by climate change is a challenge for all St. Louis County communities.[30] Additionally, the City of St. Louis, located just south-southeast of STL, includes GHG emissions due to operations at STL in their GHG emissions inventories.

3.8.2 Environmental Consequences

For disclosure purposes, project-related GHG emissions were estimated. Specifically, GHG

[26] Global Change Research Act of 1990, Pub. L. 101–606, Sec. 103 (November 16, 1990).

[27] Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (December 15, 2009).

[28] EPA finalized findings that GHG emissions from certain classes of engines used in aircraft contribute to the air pollution that causes climate change endangering public health and welfare under section 231(a) of the Clean Air Act, https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-finding-greenhouse-gas-emissions-aircraft The website was accessed on August 3, 2023.

[29] Guidance on Consideration of Greenhouse Gases, CEQ, https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html The website was accessed on August 28, 2023.

[30] St. Louis County Municipal Climate Action Plans at https://stlouiscountymo.gov/st-louis-county-departments/planning/stlco-2050/rfp-resources/plans/municipal-climate-action-plans/.The website was accessed on August 3, 2023.

emissions that would result from the construction of the Proposed Action as well as the operation of the Proposed Action, compared to those of the No Action Alternative, were estimated. The three primary airport-related GHGs that were inventoried are CO_2, methane (CH_4), and nitrous oxide (N_2O). Total GHG emissions are presented in metric tons of CO_2 equivalent (CO_2e) using Global Warming Potentials (GWPs) of 1 for CO_2, 28 for CH_4, and 265 for N_2O. GWPs are used to derive CO_2e for the purpose of comparing the relative climate effects of the other GHGs to that of CO_2.

NO ACTION ALTERNATIVE

No construction activities would occur under the No Action Alternative. Thus, only total CO_2e emissions associated with the operational emissions for the No Action Alternative for both forecast years are presented in Table 3-3. As previously stated, there are no standards by which the emissions of GHG can be evaluated. Therefore, the emission estimates are provided for disclosure purposes only.

PROPOSED ACTION

Similar to the air quality analysis, GHG emissions from the construction and operation of the Proposed Action were evaluated. GHG emissions from construction activities, such as off-road construction equipment, and on-road vehicles operating on-site, and off-site (i.e., from transporting material and supplies to and from the site, and from construction worker vehicles commuting to and from the site), were evaluated using ACEIT and EPA's MOVES for construction years 2025 through 2027. Furthermore, GHG emissions from aircraft taxiing to the new deicing pad were estimated for future years 2028 and 2033 using the FAA's AEDT, as taxiing would be the only aircraft operational mode that would be affected by the Proposed Action.

The total CO_2e emissions, associated with the construction and operation of the Proposed Action, are presented in Table 3-3. As previously stated, there are no standards by which the emissions of GHG can be evaluated. Therefore, the emission estimates are provided for disclosure purposes only.

Table 3-3: Construction and Aircraft Operational GHG Emissions (Metric Tons)

Year/Scenario (Source)	CO_2e
2025 Proposed Action (Construction)	211
2026 Proposed Action (Construction)	10,955
2027 Proposed Action (Construction)	3,254
2028 Proposed Action (Operation)	1,201
2028 No Action Alternative (Operation)	631
2028 Net Emissions	**570**
2033 Proposed Action (Operation)	1,363
2033 No Action Alternative (Operation)	716
2033 Net Emissions	**647**

Note: Construction emissions evaluated using ACEIT and MOVES3.1 modeling tools; and operational emissions modelled using AEDT3e.

Source: CMT, 2023.

3.8.3 Proposed Mitigation

The FAA has not identified specific factors to consider in making a significance determination for GHG emissions; therefore, no mitigation measures are required to mitigate the potential increase in GHGs attributed to the Proposed Action.

3.9 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 have been enacted, including the following: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). 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 material within the limits of the proposed improvements or the acquisition of properties that contain hazardous materials.

3.9.1 Affected Environment

STL currently uses a variety of hazardous materials, such as vehicle and aviation fuels and solvents stored in the existing AFM campus area. A review of the on-line environmental database, the Missouri Department of Natural Resources environmental site tracking and research tool (E-START), was conducted to identify sites and facilities located in the proposed project areas that may be of environmental concern from both a site contamination and a NEPA perspective. The online database contains information about the following types of sites in Missouri:

- Superfund[31] (National Priorities List (NPL))
- Hazardous Waste Treatment, Storage and Disposal Facilities[32]
- Brownfields/Voluntary Cleanup Program (BVCP)[33]
- Brownfield Assessments[34]

[31] Superfund is a United States federal environmental remediation program established by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The program is administered by the Environmental Protection Agency.

[32] Hazardous waste management facilities receive hazardous wastes for treatment, storage or disposal. These facilities are often referred to as treatment, storage and disposal facilities, or TSDFs.

[33] A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. The Brownfields/Voluntary Cleanup Program (BVCP) addresses and oversees brownfield cleanups and promotes redeveloping brownfields for the department. This is done through three different programs: Brownfield Assessments, Voluntary Cleanup and Long-Term Stewardship.

[34] Assessment Grants provide funding for a grant recipient to inventory, characterize, assess, conduct a range of planning activities, develop site-specific cleanup plans, and conduct community engagement related to brownfield sites.

- Petroleum and Hazardous Substance Storage Tank Facilities[35]

The E-START database[36] was reviewed to identity any of the above listed facilities in the proposed project area. From the database, there was one hazardous substance investigation/cleanup site and seven regulated petroleum and hazardous substance storage facilities. The one cleanup site was a painting business that is an inactive VCP. The remaining facilities listed were petroleum based underground storage tank (UST) facilities. Five of the USTs were closed and/or removed and the Missouri Department of Natural Resources (MDNR) issued "no further action warranted" letters. The two remaining UST facilities, one was closed administratively by MDNR in 2009 and the other was closed, but no "No Further Action" letters were located. Five of the USTs were closed prior to 2004. In 2009, MDNR developed a risk-based corrective action rule to codify the process for remediation, decisions at contaminated sites. The Missouri Risk-Based Corrective Action (MRBCA) Process rule, found in Code of State Regulations 10 CSR 25-18.018, became effective on Oct. 31, 2009. The rule is used to guide the investigation, risk assessment and cleanup of contaminated sites. Due to this rule, some prior closed/remediated sites may require additional remediation prior to construction.

3.9.2 Environmental Consequences

NO ACTION ALTERNATIVE

With the No Action Alternative, the existing conditions at STL would remain in place. There would be no construction of any facilities at the Airport and the existing AFM campus would not be relocated. Periodic severe flooding within the existing AFM campus area would likely continue under the No Action, which could cause potential contamination issues from flooded fuel storage tanks, maintenance equipment or other hazardous materials that may be stored in the existing AFM campus area. Storm water discharges would continue to be managed in accordance with the Airport's NPDES Permit under the No Action Alternative.

PROPOSED ACTION

The Proposed Action includes demolition of facilities in the existing AFM campus, including the removal and/or the relocation of existing fuel tanks. During the removal or relocation, it is possible that unknown fuel spills and hazardous soil may be encountered. These materials are not considered to be uncommon and disposal practices exist to handle and dispose of the materials safely; therefore, no significant impact is anticipated. It would be the responsibility of STL to ensure that the contractor would arrange for the transportation and disposal of all hazardous materials that would be created from the demolition in accordance with all applicable regulations. Additional surveying and testing would occur prior to demolition to ensure all hazardous materials are identified and properly disposed of to prevent contamination. Sites of potential soil contamination would be tested to determine if contaminated soils exist. Any contaminated soil would be properly disposed of and/or remediated per all applicable regulations.

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[35] Petroleum is any petroleum in any form, including but not limited to crude oil, fuel oil., mineral oil, sludge, oil refuse, and refined products. Hazardous Substances: The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) defines "hazardous substance" by reference to the following authorities: Clean Water Act (CWA) section 311 ("CWA Hazardous Substances"); CWA section 307(a) ("CWA Toxic Pollutants"); Clean Air Act (CAA) section 112 ("CAA Hazardous Air Pollutants (HAPs)"); Resource Conservation and Recovery Act (RCRA) section 3001 ("RCRA Hazardous Wastes"), and Toxic Substance Control Act (TSCA) section 7 (currently no substances are designated under this authority). CERCLA section 102(a) also gives EPA authority to designate additional hazardous substances not listed under the statutory provisions cited above.

[36] E-Start: Accessed at https://apps5.mo.gov/ESTARTMAP/map/init_map.action, August 27, 2023.

Some of the areas under consideration for this prospective redevelopment project may have been sites of airport activities which involved hazardous materials. Airport activities which typically included the use of hazardous materials included aircraft maintenance, firefighting training, vehicle and aircraft fueling, fuel storage, and deicing. Consequently, prior to any land surface disturbance (i.e., cut and fill work during site preparations, foundation and utility installations, etc.), it is anticipated that soil and near surface groundwater will be evaluated for the presence of hazardous materials, to assure for their proper management should they be encountered.

During demolition activities, there is also a potential for asbestos-containing materials (ACM) or lead-based paint (LBP) to be encountered. Contractors should follow all federal, state and local laws, regulations and ordinances regarding the demolition, removal, handling, and disposal of ACM and material containing LBP.

Under the Proposed Action, STL would continue to store and use vehicle and aviation fuels and solvents in the relocated AFM campus. However, the storage of these potential hazardous materials would be located outside of the floodplain. STL would comply with federal, state and local laws that control the use, generation, disposal, and monitoring of hazardous materials and would obtain and comply with applicable permits. Therefore, no significant impacts related to hazardous materials would be expected from construction and operation of the Proposed Action.

3.9.3 Proposed Mitigation

No mitigation is required. However, all federal, state, and local laws and regulations that control the use, generation, disposal, and monitoring of hazardous materials would be followed and applicable permits would be obtained, as required.

3.10 Solid Waste

Environmental concerns related to solid waste disposal range from adequate landfills for normal urban trash and garbage to the safe disposal of industrial waste.

3.10.1 Affected Environment

Solid waste in the project area is generated by activities associated with the operations of the Airport and one existing office building. The Airport collects this solid waste and evaluates it to determine where it is to be disposed of. Solid and semi-solid waste, such as garbage and other rubbish is transported to a permitted landfill. The Airport also has a recycling program that includes construction material and food waste composting.

3.10.2 Environmental Consequences

NO ACTION ALTERNATIVE

The No Action Alternative assumes that there would be no construction of any facilities at the Airport to address the purpose and need.

PROPOSED ACTION

The Proposed Project would create a temporary increase in solid waste generated during construction of the Proposed Action, primarily associated with demolition activities. However, the project would neither generate an unmanageable volume of solid waste nor affect the Airport's existing solid waste management program. There would be no substantial change in solid waste generated by the proposed operations within the relocated AFM campus when compared to the No Action Alternative. The increase in solid waste produced by the Proposed Action would not exceed the capability of the existing waste management facilities.

Neither the No Action Alternative nor the Proposed Action would result in significant solid waste impacts and no mitigation is required.

3.10.3 Proposed Mitigation

No mitigation is required. However, the Sponsor would seek to recycle as much material as practicable, from the demolition of the AFM facilities and existing pavement areas. Material that is not suitable for recycling would be disposed of using existing disposal measures, including sending solid waste to a permitted landfill.

3.11 Pollution Prevention

Pollution prevention describes methods used to avoid, prevent, or reduce pollutant discharges or emissions.

3.11.1 Affected Environment

The Airport and its tenants implement pollution prevention measures specific to their operations and material storage areas in accordance with the requirements of their respective Storm Water Pollution Prevention Plans (SWPPPs) and Spill Prevention, Control, and Countermeasure (SPCC) Plans. The SWPPP requires routine inspections and monitoring/reporting of storm water discharges from the airport in accordance with the National Pollutant Discharge Elimination System (NPDES) permit No. MO-0111210 issued by Missouri Department of Natural Resources (MDNR).

The Metropolitan St. Louis Sewer District (MSD) maintains and operates the wastewater collection and treatment systems provided to STL. A glycol drainage system catches deicing runoff fluid from several deice locations within the Airport's terminal apron, then pumps and directs the glycol/water runoff to an aboveground storage tank located east of I-170. The runoff is then pumped to the MSD for treatment in accordance with the approved release rates. This existing glycol collection system is manually activated during the winter months when deicing is required.

3.11.2 Environmental Consequences

NO ACTION ALTERNATIVE

The No Action Alternative assumes that there would be no construction of any facilities at the Airport to address the purpose and need. However, periodic severe flooding within the existing AFM campus would likely continue under the No Action Alternative, which could cause potential contamination issues from flooded fuel storage tanks, maintenance equipment or other hazardous materials used

for maintenance and operations that are stored in the existing AFM campus area. Existing deicing operations would continue to occur as described in the previous section. Potential storm water discharges would continue to be managed in accordance with the Airport's NPDES Permit under the No Action Alternative.

PROPOSED ACTION

Best Management Practices (BMPs) would be implemented during construction to limit runoff and erosion to ensure there would be no significant impacts due to the Proposed Action. The Proposed Action would result in a net increase of approximately four (4) acres of impervious surfaces, which considers existing pavements/structures proposed for removal and new proposed pavements and structures. However, the Proposed Action includes stormwater collection system improvements, including a new connection from the proposed West Deicing Pad to the existing MSD glycol collection system. The West Deicing Pad and associated glycol collection system will be designed specifically for aircraft deicing and will not rely on manual activation. Therefore, the concentration of collected spent deicing fluid is anticipated to increase when compared to the existing collection process under the No Action Alternative.

The proposed stormwater and glycol collection facilities will be designed and permitted in coordination with federal, state and local agencies, as required, and in accordance with the requirements of the NPDES permit issued by MDNR. STL would update its SWPPP and SPCC plan to reflect facility changes and maintain compliance with applicable regulatory requirements.

Neither the No Action Alternative nor the Proposed Action would result in significant impacts.

3.11.3 Proposed Mitigation

The following will be implemented, as required.

- Proposed stormwater and glycol collection facilities will be designed and permitted in coordination with federal, state and local agencies, as required. An update to the Airport's SWPPP and SPCC plan will be prepared to reflect these facility changes.
- BMPs will be implemented during construction to limit runoff and erosion. During design, there would be a construction specific SWPPP that would be completed and approved prior to construction.
- The collection of Spent Aircraft Deice Fluid will be integrated into the design of the West Deicing Pad. The Spent Aircraft Deice Fluid collection process includes a connection to the existing Metropolitan Sewer District's glycol collection system. No changes to Metropolitan Sewer District permitting requirements are anticipated.

3.12 Historic, Architectural, Archaeological and Cultural Resources

This section documents compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA). Section 106 regulations require that federal agencies identify historic properties, assess effects to historic properties, and identify and evaluate alternatives that could avoid, minimize, and/or mitigate any adverse effects on historic properties. The FAA, as the lead federal agency, also consults with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officers (THPO), and other parties throughout the Section 106 process, as appropriate.

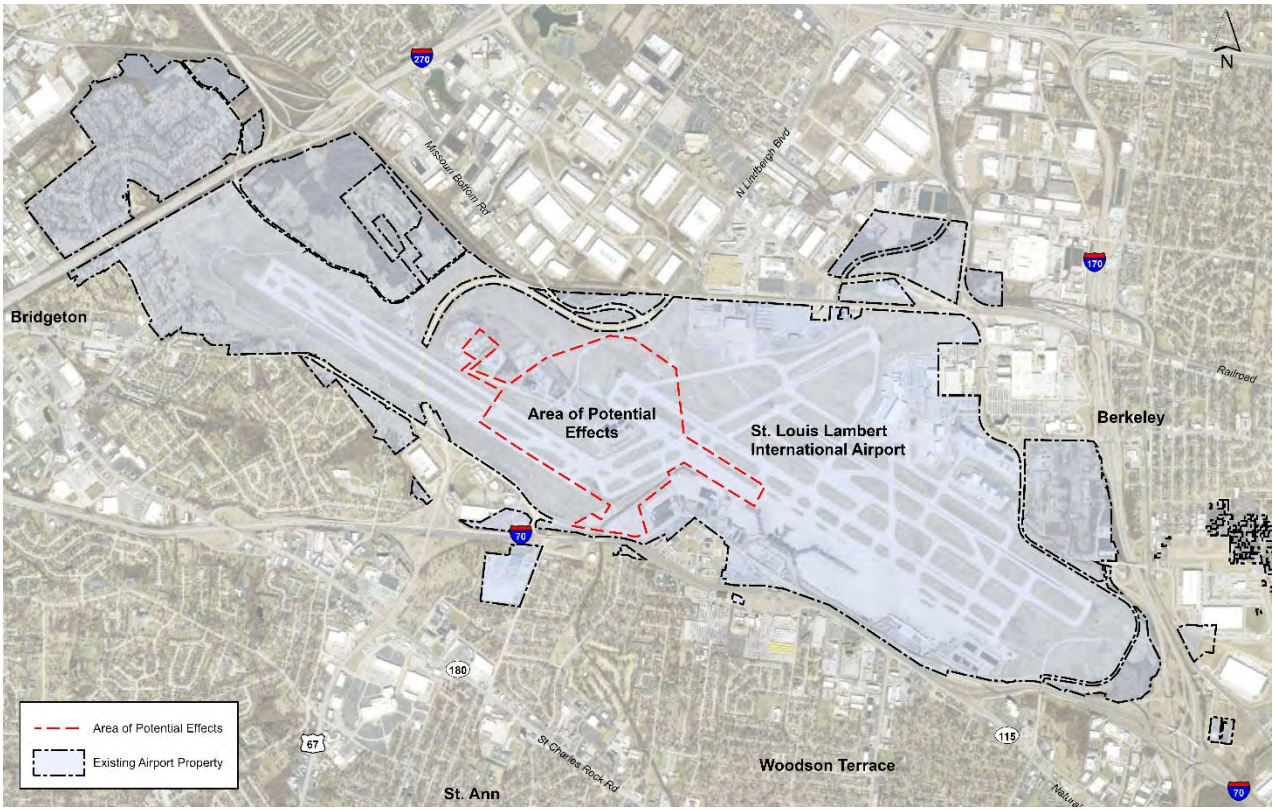
3.12.1 Affected Environment

AREA OF POTENTIAL EFFECTS

The FAA, in consultation with the SHPO/THPO, is responsible for identifying the Area of Potential Effects (APE). The APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."[37]

The Proposed Project would be built on existing Airport property, in areas where similar airport infrastructure and facilities currently exist. Due to the project location in the central portion of the airfield, no changes to the setting beyond airport property are anticipated. Therefore, the APE, as depicted in Figure 3-2 has been identified as the area centered around the existing AFM campus where Project construction and operational activities could occur.

Figure 3-2: Area of Potential Effects



Source: CMT, 2023.

Ground-disturbing activities required for implementation of the Proposed Action would occur in areas previously disturbed through decades of airport improvements. Therefore, a vertical (sub-surface) or archaeological APE has not been delineated.

[37] 36 CFR Part 800.16(d)

IDENTIFICATION OF HISTORIC PROPERTIES

To identify historic properties in the APE, a qualified historian reviewed available information, including data provided by STL; NRHP listings; available historic maps and images (e.g., Sanborn fire insurance maps, historic aerials, historic topographic quadrangles, plat maps); and information derived from in-person and online research at various repositories, historical societies and other sources.

A field survey was conducted on October 3-4, 2022, to evaluate all built resources within the APE and completed NRHP determinations of eligibility on properties constructed in 1981 or earlier. These properties received intensive-level documentation and evaluations using Missouri Department of Natural Resources (MDNR), SHPO Architectural/Historic Inventory Forms. As a result of these evaluations, no properties, in the APE, were determined NRHP-eligible. A copy of the Section 106 Survey Report is included in Appendix C: Section 106 Documentation.

3.12.2 Environmental Consequences

NO ACTION ALTERNATIVE

With the No Action Alternative, there would be no construction or ground disturbing activities. Therefore, no impacts to historical, architectural, archeological, or cultural resources would occur.

PROPOSED ACTION

Consultation was initiated with the SHPO to inform them of the scope of the undertaking and to seek concurrence on a Finding of No Historic Properties Affected. Documentation submitted to the SHPO included a description of the proposed undertaking, identification of the APE and the Section 106 Survey Report, completed by qualified architectural historians. A copy of this documentation was also provided to the City of Bridgeton as a potential interested consulting party.

Section 106 Findings

The MDNR SHPO reviewed the information, as noted above, and provided its concurrence in letter dated March 7, 2023, finding that the proposed project will have **no adverse effect** on historic properties. A copy of the SHPO correspondence is included in Appendix C.

Tribal Coordination

The FAA also initiated consultation with federally recognized tribes with potential interest in the Proposed Action at STL. On December 2, 2022, the FAA sent letters to the identified contacts for these federally recognized tribes describing the proposed undertaking. A copy of the letter and tribal contacts who received correspondence are included in Appendix C. The following two responses were received and are also included in Appendix C.

- The Tribal Historic Preservation Officer (THPO) for the Eastern Shawnee Tribe responded that the project proposes no adverse effect or endangerment to known sites of interest to the Eastern Shawnee Tribe.
- The Osage Nation Historic Preservation Office (ONHPO) requested previous Phase I archaeological survey documentation conducted within the APE. After review and consideration of this documentation, the ONHPO requested archaeological monitoring during construction of the Proposed Action. Based on coordination with the ONHPO, a

Memorandum of Agreement (MOA) would not be required. However, monitoring would be a mitigation requirement that must be implemented and is further described in Section 3.12.3 Proposed Mitigation.

Neither the No Action Alternative nor the Proposed Action would result in significant impacts to historical, architectural, archeological, or cultural resources. The Missouri SHPO indicated that the Proposed Action would have no adverse effect on historic properties. Therefore, no further coordination with the SHPO is required unless the scope of work changes or archaeological remains are discovered during the course of the project.

3.12.3 Proposed Mitigation

No mitigation is required. However, the ONHPO requested archaeological monitoring. Therefore, the following steps will be implemented as part of the project:

A project archaeologist will:

- Create a monitoring plan noting project activities and locations requiring active monitoring by the project archaeologist and including a process for discovery of resources or human remains.
- Provide contractor training to identify resources.
- Develop requirements for daily archaeological monitoring records, weekly summary, and project final report.
- Send weekly monitoring reports to Osage Nation unless something is found.
- Coordinate each item above with the Osage Nation as developed.
- Contact SHPO, Tribes and FAA if resources are discovered during construction.

A copy of the correspondence with the ONHPO and the Monitoring Report Template are included in Appendix C.

3.13 Natural Resources and Energy Supply

This section presents the analysis of potential impacts to natural resources and energy supplies of the Proposed Action in comparison to the No Action Alternative. Natural resources may be impacted by a construction project and may require dirt, rock, or gravel that could diminish or deplete a supply of those and other natural resources. In addition, the operation of an airport requires energy supplies in the form of electricity, natural gas, aviation fuel, diesel fuel, and gasoline. There are two primary sources of energy consumption at an airport – stationary facilities and aircraft operations. Stationary facilities use utility energy (electricity and natural gas) to provide lighting, cooling, heat, and hot water to buildings, the airfield, and parking areas. Aircraft operations and ground support equipment (GSE) consume fuel energy including jet fuel (Jet A), low-lead aviation gasoline (AvGas), unleaded gasoline, and diesel fuel to operate the aircraft and power GSE.

3.13.1 Affected Environment

STL is served by utilities that include potable water distribution, wastewater collection, stormwater drainage, natural gas, aviation fuel (via pipeline and truck shipment), communications, glycol and electric/power. The primary sources of electrical and natural gas energy consumption in the study

area include the existing AFM facilities, equipment storage and fuel farm, lighting in the parking lots and airfield lighting. Electrical power is provided to STL by Ameren UE and natural gas service is provided by Spire Inc. The Missouri American Water Company owns and maintains the potable water lines that serve the Airport.

3.13.2 Environmental Consequences

NO ACTION ALTERNATIVE

The No Action Alternative assumes that there would be no construction of any facilities at the airport to address the purpose and need and no changes in deicing operations would occur. No impacts to energy supply and natural resources would be expected under the No Action Alternative

PROPOSED ACTION

The objective of the assessment is to determine whether the Proposed Action would have the potential to exceed the local resources or energy supply as compared to the No Action Alternative. The replaced AFM facilities, proposed deicing facilities and associated support infrastructure would require electricity and natural gas for heating, cooling, and interior and exterior lighting of the new facilities. In addition, the Proposed Action would require new water and wastewater utility lines. The proposed new facilities and utilities would replace older, less efficient facilities, which would achieve a reduction in energy use. The consumption of potable water would not differ from the No Action Alternative. The fuel usage associated with the project would increase due to the additional taxiing distance to the proposed West Deicing Pad when compared to the No Action Alternative. However, the Proposed Action would not consume a notable quantity of natural resources, nor would it exceed local supplies for fuel and energy. Therefore, no significant impacts to natural resources or the local energy supply would occur as a result of the Proposed Action.

During the construction of the Proposed Action, items such as concrete, asphalt, crushed stone, fuel oil, and gasoline would be used. All materials needed for construction may be purchased from area firms or manufacturers who specialize in these materials. The proposed project would not involve the use of any unusual materials or of those in short supply. The construction activities associated with the project would also require the use of fuels for construction equipment, asphalt pavements, and the excavation/import of any fill material required. However, the additional fuel consumption associated with construction activities would not result in demands for fuel that would exceed available or future supply capacity.

Neither the No Action Alternative nor the Proposed Action would result in significant impacts to energy generation or availability of natural resources.

3.13.3 Proposed Mitigation

No mitigation would be required.

3.14 Water Resources - Wetlands and Waters of the U.S.

Wetlands are defined as those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth

and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats and natural ponds.[38] Waters of the U.S. are regulated surface waters that require the presence of an ordinary high-water mark (OHWM) and the stream must be a perennial, intermittent or ephemeral tributary with ultimate connection to downstream Section 10 Traditional Navigable Waters (TNW). Additional information regarding wetlands and waters of the U.S., including current regulatory information and guidance, is presented in Appendix D: Aquatic and Ecological Resources.

FAA Order 1050.1F Exhibit 4-1 establishes that significant impacts would occur if the action would: (1) Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers; (2) Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected; (3) Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public); (4) Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands; (5) Promote development of secondary activities or services that would cause the circumstances listed above to occur; or (6) Be inconsistent with applicable state wetland strategies.

3.14.1 Affected Environment

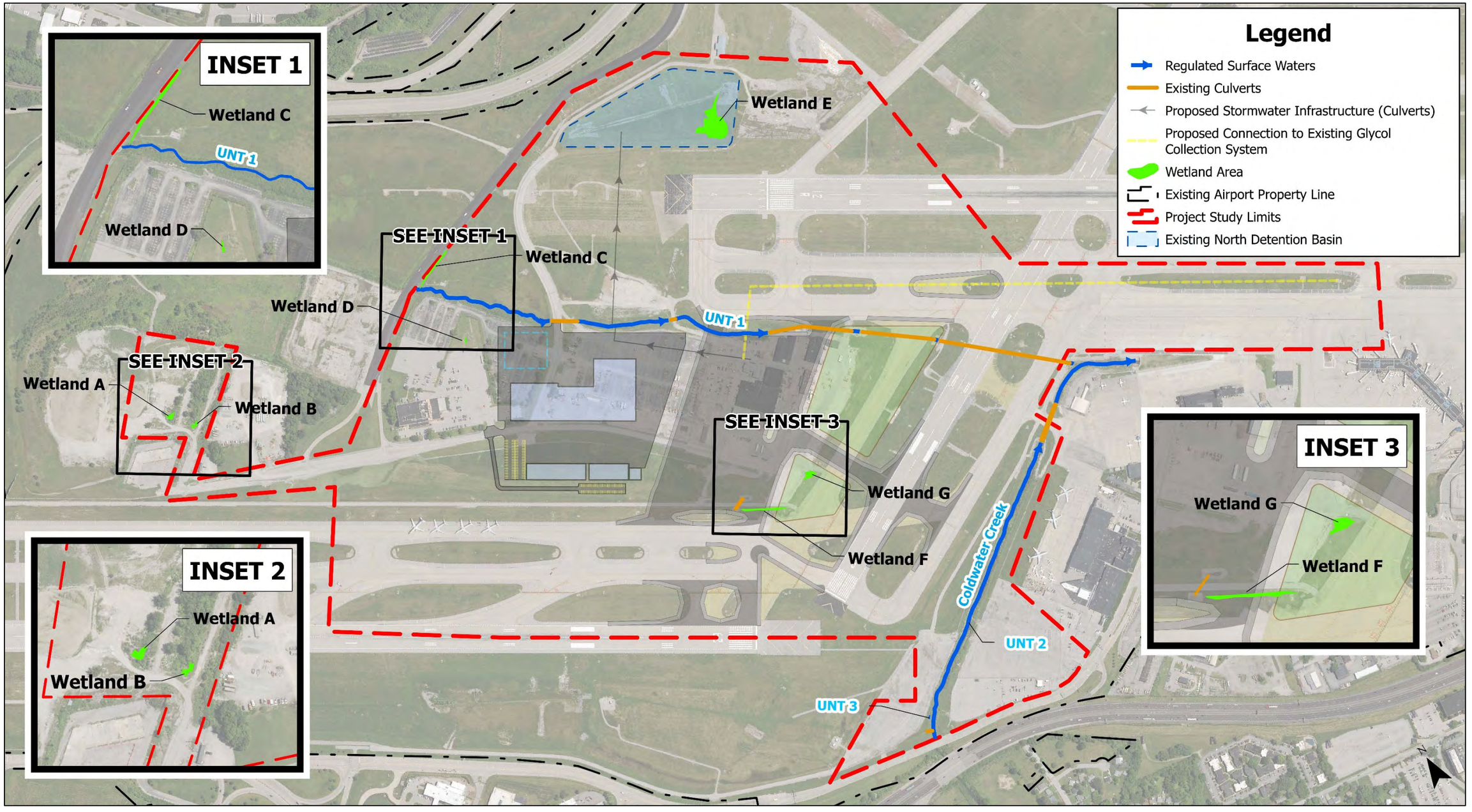
The project study area was investigated for the presence of wetlands and regulated surface water resources during an on-site evaluation conducted by CMT personnel on May 23 and 24, 2023. As depicted in Figure 3-3, seven wetlands and four streams were identified within the study area: Coldwater Creek, and three unnamed tributaries to Coldwater Creek.

Coldwater Creek is a perennial tributary of the Missouri River and is likely federally jurisdictional. The three unnamed tributaries (UNT 1, UNT 2 and UNT 3) were identified as perennial streams that flow to Coldwater Creek and ultimately to the Missouri River, and are also likely jurisdictional waters of the U.S.

All seven wetlands within the project area, totaling approximately 0.714 acre, were identified as severely degraded, low-quality wetlands. Two forested wetlands and one emergent wetland (A, B & G), totaling approximately 0.084 acre, are likely not considered jurisdictional due to the lack of apparent hydrologic connectivity to known waters of the U.S. The remaining four emergent wetlands (C, D, E and F), totaling approximately 0.63 acre, are possibly exempt from federal regulation because they are incidental features in constructed ditches and stormwater basins. These wetlands appear to have been constructed in upland areas in non-hydric soils. Based on a review of historic aerial imagery and topographic maps, there is no evidence of historic drainage or wetland features at these locations. Although all the wetlands delineated in the project area are likely non-jurisdictional, the final determination of jurisdictional waters is ultimately made by the United States Army Corps of Engineers (USACE).

[38] Federal Executive Order 11990 - Protection of Wetlands, May 24, 1977.

Figure 3-3: Wetlands and Regulated Surface Waters Map



Source: CMT, 2023

A request for concurrence with the water's delineation for the project was submitted to the USACE St. Louis District on August 24, 2023. This correspondence included a summary of pertinent information from the Aquatic and Ecological Resources Report. A copy of the request and associated materials is provided in Appendix D: Aquatic and Ecological Resources.

3.14.2 Environmental Consequences

NO ACTION ALTERNATIVE

The No Action Alternative assumes the existing conditions at STL would remain in place. Therefore, there would be no impacts to wetlands or streams not already occurring or expected to occur.

PROPOSED ACTION

The Proposed Action may impact up to 0.672 acre of wetlands (A, B, D, E, F and G) as summarized in Table 3-4. No impacts to Wetland C are anticipated.

Table 3-4: Wetland Resources

Wetland ID	Preliminary USACE Jurisdictional Status	Wetland Type	Acres within Study Area	Potential Acres of Impact
Wetland A	Isolated - Likely not jurisdictional	Forested	0.024	0.024
Wetland B	Isolated - Likely not jurisdictional	Forested	0.015	0.015
Wetland C	Possibly Exempt	Emergent	0.042	0
Wetland D	Possibly Exempt	Emergent	0.003	0.003
Wetland E	Possibly Exempt	Emergent	0.531	0.531
Wetland F	Possibly Exempt	Emergent	0.054	0.054
Wetland G	Isolated - Likely not jurisdictional	Emergent	0.045	0.045
		TOTALS	**0.714**	**0.672**

Source: CMT, 2023.

No impacts to Coldwater Creek, or the two small stream segments (UNT 2 and UNT 3) located in the southeast portion of the study area are anticipated from the Proposed Action. However, up to 1,800 linear feet of stream impacts (UNT 1) could occur, primarily associated with construction of the West Deicing Pad and new stormwater infrastructure (culverts). Placement of fill materials for installation of culverts and a diversion weir, as well as channel improvements and bank stabilization along a section of the stream (UNT 1), adjacent to the new AFM facilities, is also required as part of the Proposed Action. Further information regarding the proposed stormwater improvements is included in Section 3.15.3 of Floodplains and in Appendix E: WAP Stormwater Technical Memo.

A Section 404 permit processed through the USACE St. Louis District will be necessary to comply to the Clean Water Act for proposed impacts to waters of the US (UNT 1). The full extent of the impacts will be determined during the design and permitting phase of the project; however, it is anticipated that the project would require a Section 404 Individual Permit due to the length of potential stream impacts. The MDNR (Water Protection Program) is responsible for issuance of 401 Water Quality Certification as part of the Section 404 Permit to ensure the action complies with water quality standards in the State of Missouri.

3.14.3 Proposed Mitigation

The No Action Alternative would have no impacts to wetlands or waters of the U.S. and no mitigation is required.

Unavoidable impacts to jurisdictional wetlands and waters of the U.S. as a result of the Proposed Action will be mitigated in accordance with USACE Section 404/401 permit requirements. It is anticipated that impacts could be offset through the purchase of credits at a USACE approved mitigation bank or as part of an In Lieu Fee (ILF) Mitigation Program.[39]

3.15 Water Resources - Floodplains

Floodplains are low-lying, flat or nearly flat areas of land adjacent to rivers, streams, and other water courses, that are periodically inundated with water due to natural events. Floodplains perform many important functions included in wildlife habitat, food chain support, nutrient retention and removal, and erosion control. A 100-year flood has been adopted by the Federal Emergency Management Agency (FEMA) as the base flood for floodplain management purposes. A 100-year flood is a flood having a one percent chance of occurring in any given year.

Longitudinal encroachment of transportation projects on designated floodplains requires a formal review under Executive Order 11988, Floodplain Management. Executive Order 11988 directs Federal agencies to "take actions to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare and restore and preserve the natural and beneficial value served by floodplains." U.S. DOT Order 5650.2, Floodplain Management and Protection, contain procedures for implementing the Executive Order and establish a policy of avoiding actions within the 100-year floodplain.

Section 5(e) of Executive Order 14030[40] reinstated Executive Order 13690[41] which established a Federal Flood Risk Management Standard (FFRMS)[42] to manage current and future flood risk by incorporating anticipated changes in future flood risk into certain federally funded projects to ensure that those projects last as long as intended. The FFRMS identifies various approaches for establishing the flood elevation ("how high") and corresponding flood hazard area ("how wide") used for project evaluation. One approach to evaluating flood risk includes identifying the 500-year floodplain, the area subject to flooding by a flood having a having a 0.2 percent chance of occurring in any given year.

Because federal funding is proposed to be used for the Proposed Action, evaluation of potential climate-related financial flood risk is based on the 500-year floodplain limits, as directed by Executive

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[39] An ILF compensatory mitigation program is one that involves the restoration, establishment, enhancement, and/or the preservation of aquatic resources through funds paid to a non-profit natural resource management entity or to a governmental (federal, tribal, state, or local) body by a USACE permit recipient in order to satisfy compensatory mitigation requirements outlined in the USACE permit.

[40] Executive Order 14030, Climate-Related Financial Risk, May 20, 2021.

[41] Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, January 30, 2015.

[42] Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, October 8, 2015

Order 14030. The 100-year floodplain encroachment is also presented in this EA for comparison against the No Action Alternative, as required by FAA Order 1050.1F.

FAA Order 1050.1F Exhibit 4-1 establishes that significant impacts would occur if the action would cause notable adverse impacts on the natural and beneficial floodplain values.

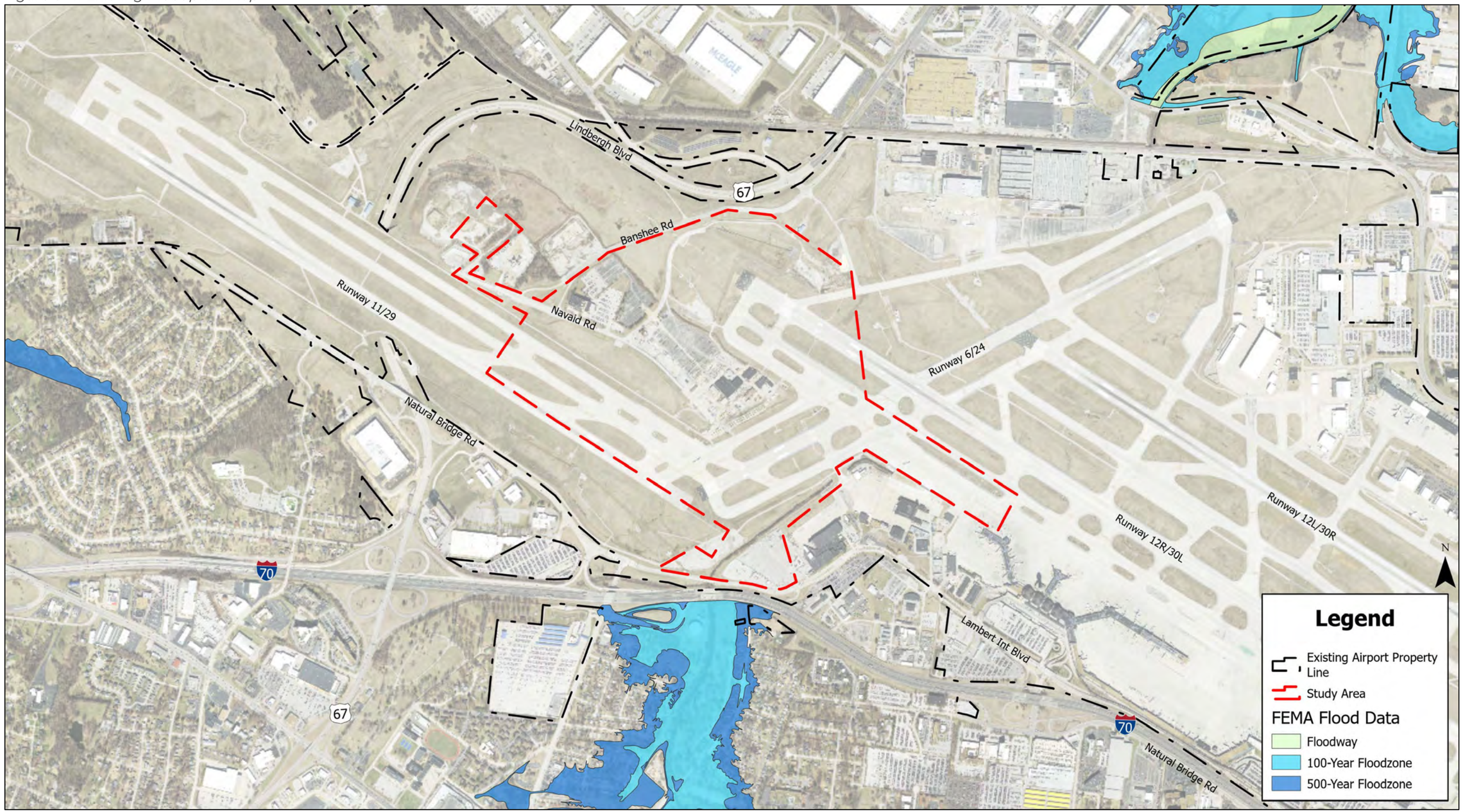
3.15.1 Affected Environment

According to the current floodplain maps,[43] effective at the time of this evaluation, the project study area is depicted in an area of minimal flood hazard, outside of the existing 100-year and 500-year floodplains, as shown on Figure 3-4. However, as previously discussed in Chapter One, Purpose and Need, periodic severe flooding has occurred within the existing AFM campus area.

The Missouri State Emergency Management Agency (SEMA), in cooperation with FEMA, is currently in the process of updating the floodplain maps across many counties in the State of Missouri. The revised floodplain maps in the vicinity of the Airport, including participating communities in St. Louis County and unincorporated St. Louis County, are anticipated to become effective in late 2023.[44] Therefore, the revised (preliminary) 100-year and 500-year floodplain limits generated by SEMA, as shown in Figure 3-5, are the basis for evaluating potential floodplain encroachments in this EA. Based on these newly delineated floodplain limits, approximately 82 acres of the project study limits are located within the 100-year floodplain and approximately 100 acres are within the 500-year floodplain.

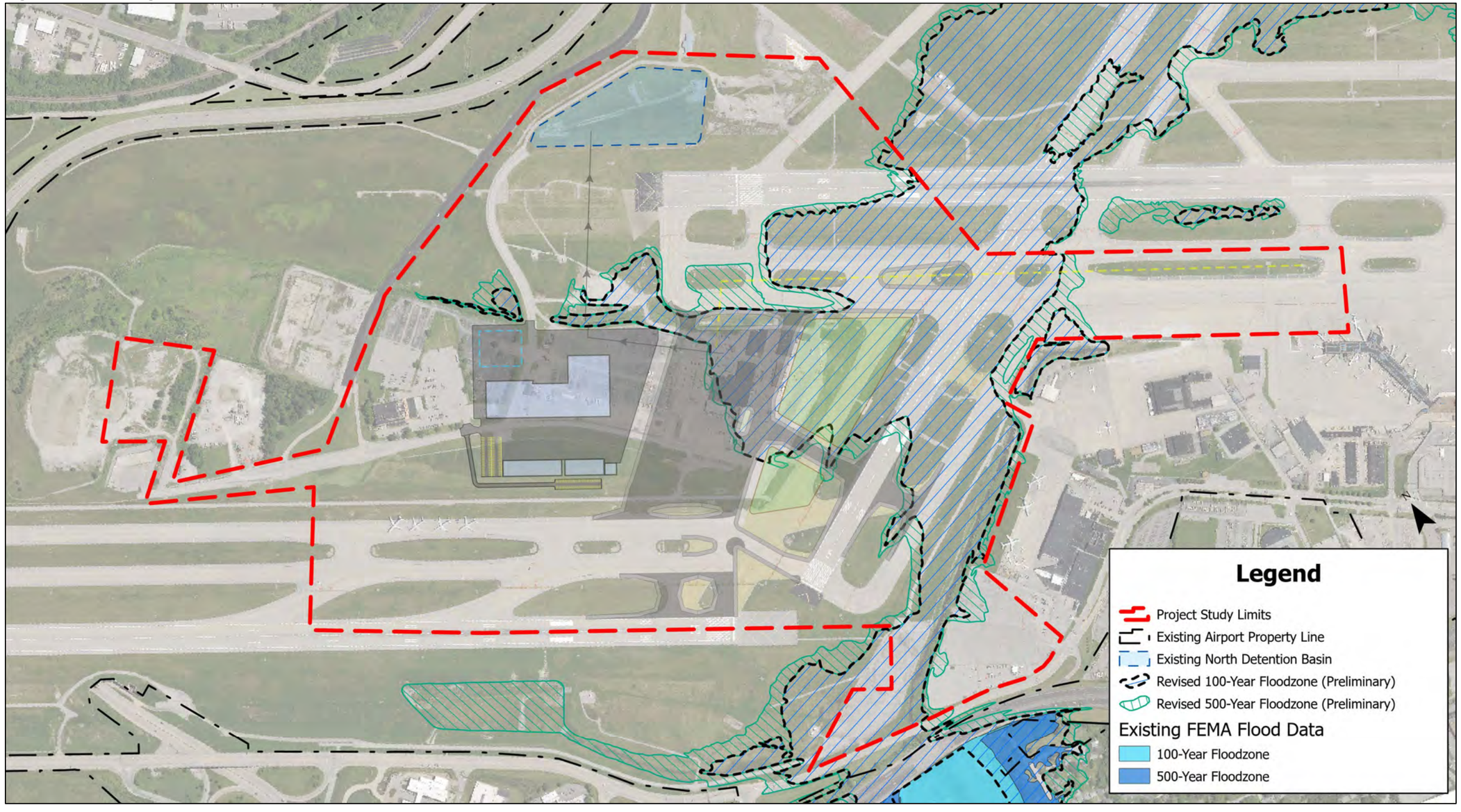
[43] FEMA, Flood Insurance Rate Maps, Panel 29189C0063K & 29189C0182K, effective 2/4/2015.
[44] Further information regarding the status of the updated Missouri SEMA FIRMs can be reviewed at: https://missouri-sema-outreach-amecei.hub.arcgis.com/, accessed on September 18, 2023.

Figure 3-4: Existing Floodplain Map



Source: FEMA, Flood Insurance Rate Maps, Panels 29189C0063K & 29189C0182K, effective 2/4/2015.

Figure 3-5: Existing and Revised Floodplain Limits



Sources: Existing Floodzones - FEMA, Flood Insurance Rate Maps, Panel 29189C0044K & 29189C0182K, effective 2/4/2015; Revised 100-Year Floodplain Limits (Preliminary) – Missouri SEMA, 2023.

3.15.2 Environmental Consequences

NO ACTION ALTERNATIVE

Under the No Action Alternative, the existing AFM campus would remain in its current location, within the newly delineated 100-year floodplain. Therefore, periodic severe flooding in this area would likely continue, resulting in damage to equipment and facilities and subsequent delays in airfield maintenance tasks, like the flooding events that occurred in 2022.

PROPOSED ACTION

Under the Proposed Action, up to 36 acres of encroachment, including grading, fill placement, utility relocations, pavement removals and stormwater infrastructure associated with the proposed West Deicing Pad, would occur within the newly delineated 100-year floodplain and up to 41 acres of encroachment would occur within the 500-year floodplain. However, the relocated AFM campus, including all new structures, fuel facilities and equipment storage areas would be located outside of the newly delineated 100-year and 500-year floodplain limits.

During the alternative evaluation process conducted for this EA, refinements to the Proposed Action were made, which included rotating and shifting the West Deicing Pad to the northwest to minimize floodplain encroachments. This refinement also provides additional space between the West Deicing Pad and Runway 6/24 to incorporate compensatory stormwater basins that may be needed to reduce flood levels on the Airport during heavy rain events. Proposed compensatory storage requirements will be identified during the next phase of the project during design. Any new stormwater basins will be designed to drain within 48 hours of an event and will incorporate management techniques and wildlife hazard deterrents to the extent practicable in accordance with FAA AC 150/5200-33C.[45]

During the planning process, analysis of potential stormwater impacts of the West Airfield Program was also conducted to identify alternatives to mitigate flood impacts in the project area. A copy of the stormwater study technical memo is included in Appendix E. Based on this evaluation, the Proposed Action includes installing a large culvert to reroute flow coming into the project area from the existing Coldwater Creek Tributary during heavy rain events to the North Detention Basin, which has excess capacity. A weir with a low flow orifice would be installed across the tributary to divert the majority of flow through the new culvert to the North Detention Basin. The runoff in this tributary currently flows southeastward into Coldwater Creek. The purpose of allowing base flow to continue through the low flow orifice is to preserve the downstream tributary, while reducing potential flooding backups into the west airfield.

Preliminary grading concepts were also developed based on existing ground elevation data collected through aerial mapping that identified a net increase in storage volume is feasible. In the next phase of the project, during design, a flood study will be conducted to further define the proposed stormwater improvements. This study will consider future developments at the Airport, including the Consolidated Terminal Program, as further discussed in Section 3.18, Cumulative Impacts.

Runoff from the proposed West Deicing Pad would also be collected in a proposed culvert and directed to the Coldwater Creek Tributary and up to the North Detention Basin during rain events,

[45] FAA AC 150/5200-33C, Hazardous Wildlife Attractants on or near Airports, February 21, 2020.

outside of the deicing season. Additional information regarding the proposed glycol collection system is included in Section 3.16.3 of Surface Waters.

The Proposed Action would require a floodplain development permit that would be submitted to and approved by the appropriate floodplain administrator. The Airport is also located within the Metropolitan St. Louis Sewer District (MSD) service boundaries; therefore, alteration of any storm drainage channels, site drainage or floodplain encroachments would need to be designed and approved in coordination with MSD.

In summary, the basis for a federal floodplain finding is predicated on the fact that the projects included within the Proposed Action have been diligently reviewed and recommended, and that no other practical alternatives exist. (See Chapter 2, Alternatives). Sufficient evidence exists to support that there is no practical alternative to such construction and that the proposed action includes all practical measures to minimize harm to floodplains. The Proposed Action would not have significant adverse impacts on floodplains.

3.15.3 Proposed Mitigation

The following mitigation measures would be implemented with the Proposed Action, as required.

- Stormwater basins will be designed to drain within 48 hours of an event and will incorporate management techniques and wildlife hazard deterrents to the extent practicable in accordance with FAA AC 150/5200-33C.
- Proposed stormwater management facilities would be designed in coordination with other state and local regulatory agencies, as required, and would be based on a more detailed flood study to be conducted in the next phase of the project.
- Floodplain development permits will be secured in coordination with Federal, state, and local regulatory agencies, as required.

3.16 Water Resources - Surface Water

Surface Waters include streams, rivers, lakes, ponds, estuaries, and oceans. FAA Order 1050.1F Exhibit 4-1 establishes that significant impacts would occur if the action would: Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or contaminate public drinking water supply such that public health may be adversely affected.

3.16.1 Affected Environment

The project is located within the Headwaters Coldwater Creek watershed. The stormwater runoff from the existing project area is through sheet flow into stormwater inlets and culverts that drain into a tributary located on the north side of the existing AFM complex. The tributary flows southeast into a large box culvert that runs under Runway 6/24 and associated airfield pavements and outfalls into Coldwater Creek. According to the MDNR 2020 Section 303 (d) Listed Waters[46], Coldwater Creek has been listed as impaired for chloride from urban runoff and storm sewers.

[46] The term "303(d) list" is short for a state's list of impaired and threatened waters (e.g., stream/river segments, lakes). States are required to submit their list for EPA approval every two years.

The Airport currently controls stormwater pollution in accordance with its Missouri State Operating Permit[47] for stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System. This permit was issued to ensure compliance with Federal and state water quality regulations and contains specific operational and facility management actions to prevent and control the potential for discharge of pollutants into surface and groundwater within existing operational areas of the airport.

The Metropolitan St. Louis Sewer District (MSD) maintains and operates the wastewater collection and treatment systems provided to STL. A glycol drainage system catches deicing runoff fluid from dedicated areas on the Airport's air carrier aprons, within the glycol effluent capture zone, via trench drains, then pumps and directs the glycol/water runoff to an aboveground storage tank located east of I-170. The runoff is then pumped to the MSD facility for treatment in accordance with the approved release rates. This existing glycol collection system is manually activated during the winter months when deicing is required. Deicing on pavements outside of the capture zone is not allowed.

3.16.2 Environmental Consequences

NO ACTION ALTERNATIVE

With the No Action Alternative, the existing conditions at STL would remain in place. Existing deicing operations would continue to occur as described in the previous section. Under the current glycol collection process, manual activation of the system is required during winter months. Therefore, if aircraft deicing is required outside of the typical winter season, there is a potential for unintended discharges of spent deicing fluids to adjacent streams if the system has not been activated. Potential storm water discharges would continue to be managed in accordance with the Airport's NPDES Permit under the No Action Alternative.

PROPOSED ACTION

Water quality can be adversely impacted by several means including construction activities, storm water discharges from impervious surfaces, accidental releases of hazardous substances, and maintenance activities. Potential construction impacts could include disturbance from earthmoving and grading and discharge of contaminants such as fuels and lubricating oils used for construction machinery.

The Proposed Action would result in a net increase of approximately four (4) acres of impervious surfaces, which considers existing pavements/structures proposed for removal and new proposed pavements and structures. Stormwater management facilities to accommodate the additional impervious surfaces will be evaluated in the next phase during detailed design. New stormwater basins, as required, would be designed to drain completely within 48 hours.

MSD's Rules and Regulations[48] state that water quality compliance will be required for all new development and redevelopment projects that disturb an area greater than or equal to one acre. To meet the MSD's rules, and accommodate increased storage volumes, the Proposed Action includes modification of the existing outlet riser structure at the North Detention Basin. This outlet structure is

[47] Missouri State Operating Permit (NPDES) Permit No. MO-0111210, Effective January 1, 2022, Expiration March 31, 2026, Issued by MDNR.

[48] The Metropolitan St. Louis Sewer District, Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities, February 1, 2028.

proposed to be raised so that water would be stored in the basin to meet the MSD 24-hour extended detention requirements but would drain within a 48-hour period to meet FAA guidelines. The North Detention Basin modifications will be designed in the next phase of the project in coordination with FAA, MSD and other state and local agencies, as required.

The Proposed Action also includes a new connection from the West Deicing Pad to the existing glycol collection facility located north of the existing terminal apron. During deicing events, spent deicing fluids and associated runoff would be collected and diverted through this new connection to the existing collection facility, which is pumped to the storage tank. The runoff is then sent to the MSD for treatment. However, unlike the current manually activated system, the proposed West Deicing Pad collection system would be designed to automatically detect when spent deicing fluid would need to be collected for treatment. This proposed system would be more efficient and reduces the potential for unintended releases of spent deicing fluids into adjacent surface waters. Therefore, the Proposed Project could improve potential surface water impacts when compared to the No Action Alternative.

The proposed stormwater infrastructure improvements included in the Proposed Action, including all stormwater basins and the connection to the existing glycol recovery system, will be designed to ensure the Airport operates in accordance with the requirements of the NPDES Permit.

Neither the No Action nor the Proposed Action would result in significant impacts to surface waters.

3.16.3 Proposed Mitigation

The following mitigation measures would be implemented with the Proposed Action, as required.

Proposed stormwater management facilities would be designed in coordination with state and local regulatory agencies, as required. Further, all construction and stormwater permits would be secured in coordination with Federal, state, and local regulatory agencies.

An erosion control plan would be developed based on the FAA's Temporary Air and Water Pollution Soil Erosion and Siltation Control Standards for Specifying Construction on Airports, FAA AC 150/5370-10H. The erosion control plan would incorporate Best Management Practices (BMPs) to minimize impacts to water quality during construction. Depending upon the evaluations and conclusions of the design process for the proposed project, these BMPs could include requirements for erosion control and temporary seeding of all exposed soils, segregation and protection of fuel supplies and hazardous materials, and other measures for the protection of surface and subsurface waters, including periodic meetings between the Airport, resident engineer/architect, and contractor to ensure compliance with the BMPs. These BMPs would be incorporated into the project construction specifications. A Storm Water Pollution Prevention Plan (SWPPP) would be prepared in support of the NPDES permit. Various permanent sediment control measures, including vegetated filter strips, rock riffles, and detention basins, would be evaluated as part of the design process.

3.17 Water Resources - Groundwater

Groundwater, as defined in FAA Order 1050.1F Desk Reference, Section 14.4, is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as to wells, springs, and other water sources.

FAA Order 1050.1F Exhibit 4-1 establishes that significant impacts would occur if the action would: exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or contaminate an aquifer used for public water supply such that public health may be adversely affected.

3.17.1 Affected Environment

Based on a review of the USEPA's National Sole Source Aquifer Database,[49] there are no sole source aquifers in Missouri. There are no public or private drinking water wells or wells used for agricultural purposes within the project area. According to the Missouri Department of Conservation (MDC) Natural Heritage Database search, accomplished on June 20, 2023, St. Louis County has known karst geologic features (e.g., caves, springs, and sinkholes, all characterized by subterranean water movement); however, no known karst features are located within the project area.

3.17.2 Environmental Consequences

NO ACTION ALTERNATIVE

With the No Action Alternative, the existing conditions at STL would remain in place. Potential storm water discharges would continue to be managed in accordance with the Airport's NPDES Permit under the No Action Alternative.

PROPOSED ACTION

The project site is in a well-developed area with public water available. There are no drinking water wells or agricultural wells within the project area. Rainwater infiltration and groundwater flow conditions would not be affected during construction or operations. Construction and operation of the proposed development would abide by all applicable regulations related to spill prevention and control regulations to prevent spills from causing significant adverse impacts to groundwater.

As noted in the previous section, the proposed glycol collection process for the West Deicing Pad would be designed to detect when collection of spent deicing fluid would need to be collected and pumped to the MSD for treatment. Unlike the current glycol collection process, which requires manual activation during the winter months when deicing is required, the proposed system would be more efficient and reduce the potential for unintended releases of spent deicing fluids into adjacent surface waters and groundwater. Therefore, the Proposed Project could improve potential groundwater impacts when compared to the No Action Alternative.

Neither the No Action nor the Proposed Action would result in significant impacts to groundwater resources.

3.17.3 Proposed Mitigation

Mitigation is not required.

[49] USEPA Map of Sole Source Aquifer Locations, https://www.epa.gov/dwssa/map-sole-source-aquifer-locations, Last Updated on May 18, 2023.

3.18 Cumulative Impacts

Cumulative impacts are defined by the CEQ in 40 CFR § 1508.1(g)(3) as: "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

3.18.1 Defining the Study Area and Actions to be Considered in the Cumulative Impact Analysis

The FAA 1050.1F Desk Reference Section 15.2 states "The study area for cumulative impacts analysis is the same area defined for a project's direct and indirect impact analysis." For this EA, there is only one study area as previously defined in Section 3.4. Based on coordination with STLAA, other than the Proposed Action being assessed in this EA, there have been no other projects implemented in the past five years within the project study limits.

The Boeing Company (Boeing) is currently proposing to lease land on two tracts at the Airport to support construction and operation for U.S. defense-related aircraft production and testing. This project has independent utility[50] and is being evaluated under a separate NEPA process. A Final EA has been prepared in coordination with STLAA and FAA to evaluate the potential environmental effects of this proposed project. Although the limits of this project are beyond the study limits of the Proposed Action, environmental resources that could have a cumulative effect when combined with other past, present, and future developments are evaluated in this section.

As identified during the recently completed Airport Master Plan process, STLAA is also proposing to implement terminal improvements at the Airport in the foreseeable future. This project, referred to as the Consolidated Terminal Program (CTP), also has independent utility and will be evaluated by the FAA under a separate NEPA process. However, based on current conceptual plans, the CTP project study limits would likely overlap with the eastern study limits of the Proposed Action along Coldwater Creek. The construction schedule for the CTP may also overlap with the implementation of the Proposed Action being evaluated in this EA and the Boeing project. No other past, present or reasonably foreseeable projects are anticipated that would result in impacts within the study area as previously identified. Therefore, the cumulative impact analysis in this EA focuses on potential resource impacts from implementation of the Proposed Action, the CTP and the proposed Boeing development.

Cumulative impacts must be evaluated relative to the direct and indirect effects of the Proposed Action for each environmental category. Significant cumulative impacts are determined according to the same thresholds of significance used in the evaluation of each environmental category in the environmental consequences discussion. For environmental resources where construction and implementation of Proposed Action would have no environmental impact, there is no potential for an adverse cumulative environmental impact to occur. Therefore, the following discussion of cumulative impacts discusses only those environmental categories where environmental impacts could result from implementation of the Proposed Action.

AIR QUALITY

[50] As stated in FAA Order 5050.4B, a project has independent utility when the project has logical starting and end points and would have a useful purpose without relying on other transportation improvements.

The increase in emissions due to construction and implementation of the Proposed Action would not exceed the applicable thresholds and is therefore not significant. Construction activities associated with the Proposed Action would result in temporary emissions from construction equipment, trucks, and fugitive dust emissions from site demolition and earthwork. However, even when combined with construction activities associated with the Boeing and CTP projects, which could overlap with construction of the Proposed Action, emissions impacts would occur only within the immediate vicinity of the construction sites and would be mitigated through best management practices to reduce emissions, particularly fugitive particle emissions, during construction. Therefore, cumulative impacts on emissions due to construction would not be significant.

Operational air emissions from the Proposed Action would combine incrementally with other projects in the area. An air quality analysis for the Boeing project was conducted, which demonstrated that emissions would be less than the Clean Air Act general conformity *de minimis* thresholds. The air quality analysis for the CTP would be conducted under a separate NEPA process, including an evaluation of cumulative impacts, which would consider the Boeing project and the Proposed Action being evaluated in this EA.

BIOLOGICAL RESOURCES

The Proposed Action could remove up to 3.6 acres of trees, including 5 bat roost trees. The project sponsor commits to clear the identified suitable bat roost trees during the inactive season, between November 1 and March 31. It is often difficult to estimate or predict the impact of future projects until detailed plans are developed, and any requisite environmental analysis conducted. However, future projects at STL, including the Boeing and CTP projects, would require this same commitment if additional roost trees require removal. With implementation of the proposed protection measures, the cumulative impacts to biological resources would be less than significant.

HAZARDOUS MATERIALS, SOLID WASTE AND POLLUTION PREVENTION

The Proposed Action, in combination with other projects at the Airport, including the Boeing and CTP projects, may encounter hazardous materials, unknown fuel spills and contaminated soil during construction, and have the potential for an incremental increase in generation of hazardous wastes. Each of the development programs require demolition of existing facilities. Testing of soils and groundwater in the project areas where potential soil contamination could be encountered would be conducted. If contaminated soils exist, proper disposal and/or remediation of the site would be conducted in accordance with applicable regulations. BMPs would also be implemented during construction activities at the Airport. With proper handling and disposal of hazardous materials and wastes during construction and operation, cumulative impacts to hazardous materials and pollution prevention would be less than significant.

Demolition activities associated with the Proposed Action, Boeing and CTP projects, combined with other potential projects in the area that may occur during the same time, would generate a temporary increase in solid waste during construction. However, the solid waste generated is not expected to exceed the capacity of existing waste management facilities in the St. Louis region. Therefore, no significant cumulative impacts related solid waste management would be anticipated.

WATER RESOURCES

The Proposed Action, in combination with other projects at the Airport, including the Boeing and CTP projects, would have impacts on water quality and water resources, including potential wetlands,

streams, and floodplain encroachments. However, it is reasonable to assume that these projects will require permits, protective measures to avoid and minimize impacts during implementation of the project, and mitigation for unavoidable impacts. Based on past flooding at the Airport, as demonstrated in the newly delineated floodplain, stormwater improvements are being evaluated to minimize impacts of flooding at STL. A flood study will be conducted during the design phase to further define the proposed stormwater infrastructure needs of the Proposed Action. This study will consider other developments at the Airport, including the projects included in the CTP. The north tract of the proposed Boeing project is located within the newly delineated floodplain and would be required to confirm floodplain storage and conveyance capabilities would not decrease. With the proposed stormwater improvements and mitigation measures to be implemented, no significant cumulative impacts to water resources would be expected.

3.18.2 Cumulative Impact Conclusion

NO ACTION ALTERNATIVE

Under the No Action Alternative, the existing conditions at STL would remain in place. STL would continue to operate the Airport using the existing AFM campus and deicing facilities. Other Airport development would be subject to review and approval under NEPA and is not assumed under this alternative.

PROPOSED ACTION

The level of cumulative impacts anticipated to occur within the environmental resource categories evaluated for this EA is not significant due to the types of past, present, and reasonably foreseeable future projects, the extent of the built environment in which they would occur, the lack of certain environmental resources in the area, and the mitigation measures identified for the Proposed Action. Therefore, implementation of the Proposed Action would not result in significant cumulative environmental impacts.

3.19 Summary

This section summarizes the environmental impacts and/or benefits associated with the implementation of the Proposed Action and the No Action Alternative. Table 3-5 summarizes the potential direct and indirect impacts.

Table 3-5: Summary of Impact Category Determinations and Mitigation

Environmental Consequences Impact Category	Proposed Action Impacts	Proposed Action Mitigation	No Action Impacts	No Action Mitigation
Air Quality	Not significant	Implement Best Management Practices (BMPs) during construction activities to reduce fugitive dust emissions.	Not significant	None
Biological Resources	May effect, but not likely to adversely affect federally listed bats	Sponsor commits to clear suitable bat roost trees during the inactive season, between November 1 and March 31. Nesting bird surveys would be conducted prior to tree removal and demolition of structures.	None	None
Climate	Not significant	None required	None	None
Coastal Resources	None	None required	None	None
DOT Section 4(f)/6(f)	None	None required	None	None
Farmlands	None	None required	None	None
Hazardous Materials	Not significant	Conduct soil and groundwater testing to identify any remediation that may be required. If UST closure is required, the work would be carried out in accordance with all federal, state and local regulations. Arrange for the transportation and disposal of all hazardous materials in accordance with applicable regulations.	Not significant	None
Solid Waste	Not significant	Recycle as much material as practicable. Material that is not suitable for recycling would be disposed of using existing disposal measures, including sending solid waste to a permitted landfill.	Not significant	None
Pollution Prevention	Not significant	Design and permit proposed stormwater and glycol collection facilities in coordination with federal, state and local agencies, as required. Implement BMPs during construction to limit runoff and erosion. Prepare construction specific SWPPP during design.	None	None
Historical, Architectural, Archeological, and Cultural Resources	No adverse effect	Archaeological monitoring during construction in coordination with Osage Nation. Contact SHPO, Tribes and FAA if resources discovered during construction.	None	None
Land Use	None	None required	None	None
Natural Resources and Energy Supply	Not significant	None required	None	None

Environmental Consequences Impact Category	Proposed Action Impacts	Proposed Action Mitigation	No Action Impacts	No Action Mitigation
Noise and Noise Compatible Land Use	None	None required	None	None
Socioeconomic, Environmental Justice, & Children's Health & Safety Risks	None	None required	None	None
Visual Effects including Light Emissions	None	None required	None	None
Water Resources-Wetlands and WOTUS	Not significant	Unnamed tributary to Coldwater Creek anticipated to be a jurisdictional water of the United States. Discharges of dredged or fill material will likely require an Individual Permit under Section 404 of the Clean Water Act from USACE and Section 401 Water Quality Certification from MDNR. Mitigation to be determined in coordination with the USACE and MDNR during the permitting process. Permit application and USACE and MDNR approval required prior to construction.	None	None
Water Resources - Floodplains	Not significant	Conduct flood study in coordination with Metropolitan St. Louis Sewer District (MSD) and other resource agencies, as required. Secure Floodplain Development Permit through the appropriate Floodplain Administrator. Design stormwater basins to drain within 48 hours of an event and incorporate management techniques and wildlife hazard deterrents to the extent practicable in accordance with FAA AC 150/5200-33C.	AFM Complex would be within the newly defined 100-year floodplain.	None
Water Resources - Surface Waters	Not significant	Implement Best Management Practices during construction activities to limit runoff and erosion. Ensure the Airport operates in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit.	Not significant	None
Water Resources - Ground Water	Not significant	None required	None	None
Wild and Scenic Rivers	None	None required	None	None
Cumulative Impacts	Not significant	None required	None	None

Source: CMT, 2023.