U.S. Department of Transportation
Federal Aviation Administration
Southwest Region

FINDING OF NO SIGNIFICANT IMPACT

Fuel Farm Improvements

Austin-Bergstrom International Airport
Austin, TX

April 2020

1. INTRODUCTION

Austin-Bergstrom International Airport (AUS), located in Austin, TX, is classified by the Federal Aviation Administration (FAA) as a medium-hub airport and is the fifth busiest airport in Texas. Passenger traffic at the airport has followed a consistent upward trend.

2. PURPOSE AND NEED

Pursuant to the National Environmental Policy Act (NEPA) and Federal Aviation Administration (FAA) Orders 1050.1F and 5050.4B, an Environmental Assessment (EA) must include a description of the purpose of a proposed action and the reasons it is needed. The purpose of and the need for the Proposed Action are discussed below.

2.1 Purpose of the Proposed Project

The purpose of the proposed fuel farm improvements is to meet current and anticipated future demand for airline fuel reserves at AUS. Currently the inability to meet fuel reserve requirements has resulted in the airlines "ferrying" fuel into the airport on occasion, thereby increasing operational costs and impacting to the fueling capabilities of other airports. On occasion there is less than two days of fuel reserve at the current facility which is an operational risk.

2.2 Need for the Proposed Project

The need for additional fuel capacity is described within the Airport Master Plan. Jet-A fuel storage requirements were defined for future conditions within the Master Plan. Table 1 in the attached EA describes the fuel deficits. As described within the table, continued growth of the airport results in a continuing need for more fuel capacity. Considering the current and ultimate fueling needs and the airport's planned development within the existing fuel farm footprint, the Airline Consortium (AUS Fuels Company) determined development of the new fuel farm site is needed to allow existing demand to be met while considering future development needs of the airport and fuel farm facility.

3. FEDERAL ACTION

The requested FAA actions include the following:

- Unconditional approval of the Airport Layout Plan (ALP) to depict the proposed improvements pursuant to 49 USC §§40103(b) and 47107(a)(16).

4. ALTERNATIVES

4.1 Proposed Action

A number of alternative fuel farm sites were evaluated within the Airport Master Plan. Based on the airport's future development plans at the current fueling facility, the proposed fuel farm expansion is planned to occur in the area noted as "future fuel farm" within the Airport Master Plan and detailed on the ALP.

Phase one, depicted as projects "1" and "2" on Figure 2 of the attached EA, occurs within the footprint of the existing fuel farm on the east side of Taxiway Charlie, at 3324 Spirit of Texas Drive. To improve the current fuel deficit situation, an additional interim fuel delivery truck offload rack will be constructed to facilitate additional fuel delivery. This will allow three fuel trucks to simultaneously offload fuel, versus the current condition which allows only two trucks to simultaneously offload fuel. Currently 75-80 trucks deliver fuel to the airport each day. Due to the amount of time needed to offload fuel from the trucks to the storage tanks, these operations occur 23 hours per day. Providing the third offload position will allow for additional fuel deliveries with the goal of temporarily reducing the existing fueling deficit. Finally, a new ground service equipment fuel service station will be constructed adjacent to existing load rack facility. These improvements consist of two, separate above ground tanks, one for diesel and one for gasoline. Each tank will be 10,000 gallons.

Phase Two includes the development of the fuel farm in the area recommended within the Airport Master Plan and depicted on the Airport Layout Plan. Specific details are included on Figure 2 of the attached EA (Projects "3" through "11"). As shown, the Proposed Action includes construction of two additional 1.5-million-gallon fuel storage tanks, new offload racks, and supporting infrastructure and equipment. The existing fuel tanks will remain in operation until airfield improvements require them to be removed.

4.2 No Action

The No Action Alternative is the baseline against which the operational, economic and environmental characteristics of the Proposed Action are assessed. In addition, the No Action Alternative is retained for detailed analysis in this EA to fulfill Council on Environmental Quality (CEQ) regulations (40 CFR Part 1502) implementing NEPA, and to comply with FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions.

The No Action alternative involves no improvements to the existing Fuel Facilities. The facility would continue to operate at a deficient level. This results in the periodic need for aircraft to "ferry" fuel to the airport, thereby increasing demand at those airports aircraft arrive from. The No Action alternative does not meet the purpose and need of the project.

5. ENVIRONMENTAL CONSEQUENCES

FAA evaluated the potential impacts associated with the proposed action by following the guidance in FAA Orders 1050.1F and 5050.4B, in accordance with NEPA and CEQ regulations. FAA Orders require the evaluation of specific environmental impact categories. Chapter 5 of the EA provides an analysis of anticipated environmental impacts resulting from the proposed action. In accordance with NEPA, the FAA compared the proposed action alternative to the no build alternative in evaluating potential impacts.

A number of resources will not be impacted by implementation of the proposed action and will not be further discussed in detail in this Finding of No Significant Impact (FONSI). These categories include: Air Quality; Biological Resources; Climate; Coastal Resources; Department of Transportation Act, Section 4(f); Farmlands; Floodplains; Historical, Architectural, Archeological, and Cultural Resources; Natural Resource and Energy Supply; Noise and Noise Compatible Land Use; Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks; Visual Effects/Light Emissions; Water Resources; and Wild and Scenic Rivers.

However, because implementation of the proposed action has the potential to impact the following resource categories, FAA's review is more detailed.

5.1 Hazardous Materials, Solid Waste, and Pollution Prevention

5.1.1 Existing Condition

Neither the existing nor proposed fuel farm sites contain features listed on the National Priority List (NPL). The existing fuel farm operates under numerous permits including, among others, an Austin Fire Department Hazardous Materials Permit; a City of Austin Stormwater Discharge Permit, a State of Texas Pollution Discharge and Elimination System Permit; and a Spill Prevention, Control, and Countermeasure (SPCC) Plan and Facility Response Plan (FRP). Additionally, the existing fuel farm is located within a contaminated groundwater buffer zone attributed to a deed restricted area.

5.1.2 Environmental Consequences

Implementation of the Proposed Action Alternative directly involves the transport of hazardous materials as well as the removal of existing facilities that household hazardous materials as it includes the construction at an existing fuel farm location. Construction and operation of the proposed fuel farm would involve some ancillary use of hazardous materials, including vehicle fuels, jet fuel, oils, transmission fluids, cleaning solvents, and architectural coatings. Compliance with existing federal, state and local regulations and routine precautions would reduce the

potential for accidental releases of a hazardous material to occur and would minimize the impact of an accident should one occur.

The proposed fuel farm site consists of regularly maintained grasses. The site was heavily disturbed during construction of the airport and has not historically been used for any purpose other than open space.

There is a potential to encounter existing hazardous materials at the current fuel farm site during construction as the site is used to house fuel and other hazardous materials. However, no facilities at the current fuel farm are planned to be removed or disturbed, only new equipment will be installed.

All necessary federal, state, and local permits will be obtained prior to construction of the Proposed Action Alternative. Therefore, the project will not violate applicable Federal, state, or local laws or regulations regarding hazardous materials and/or solid waste management. The project will not be constructed on a site listed on the NPL nor will it produce an appreciably different quantity or type of hazardous waste. Final implementation of the proposed action will not generate an appreciably different quantity or type of solid waste or use a different method or collection or disposal and/or would exceed local capacity as the fuel storage facility is simply moving to a different site on the airport. With the use of standard industry project design and construction, it is not anticipated hazardous materials will be released into the environment. Project design will consider all standard industry practices for the construction and operation of the fuel tanks, fuel distribution lines, and associated facilities.

5.2 Cumulative Impacts

Consideration of potential cumulative impacts applies to those impacts resulting from implementation of the Proposed Action. The consideration of cumulative impacts addresses the potential for individually minor but collectively significant impacts to occur over time.

CEQ Regulations, Section 1508.7, define cumulative impacts as the incremental impacts of the action when added to the past, present, and reasonably foreseeable future actions regardless of the agency (federal or non-federal) undertaking such actions. Because the Proposed Action would result in minor construction impacts and have no or minimal impact on other resources, the Proposed Action in combination with other foreseeable projects in the area of potential effect would not reach or exceed thresholds of significance. See Section 5.4.4 of the attached EA for a more detailed analysis.

6. PUBLIC INVOLVEMENT AND AGENCY COORDINATION

Given that no special purpose laws apply and that the Proposed Action does not meet the definition of a project requiring public notification under FAA Order 5050.4B, no agency coordination or public involvement was undertaken.

7. CONDITIONS AND MITIGATION

As prescribed by 40 CFR §1505.3, the FAA shall take steps as appropriate to the action, such as through special conditions in grant agreements, property conveyance deeds, releases, airport layout plan approvals, and contract plans and specifications and shall monitor these as necessary to assure that representations made in the EA and FONSI will be carried out. Specific conditions of approval associated with this project are listed below:

- Construction activities would be subject to requirements of the Texas Pollutant Discharge Elimination System General Permit to Discharge Wastes (TXR150000) for construction sites and the Airport's established Stormwater Pollution Prevention Plan (SW3P).

- Mitigation measures shall be incorporated into the project to include use of best management practices (BMPs) during construction to minimize erosion and sedimentation; controlling runoff; and controlling waste and spoils disposal to prevent ground contamination.

- Mitigation measures shall be incorporated into the project to include use of BMPs during construction to minimize fugitive dust and to minimize mobile and stationary emissions sources.

8. FEDERAL FINDINGS

Throughout the development of the airport, including the proposed improvements described above, the FAA has made every effort to adhere to the policies and purposes of NEPA, as stated in CEQ Regulations for Implementing NEPA, 40 CFR §1500-1508. The FAA has concentrated on the truly significant issues related to the action in question. In its determination whether to prepare an EIS or process the EA as a FONSI, the FAA weighed its decision based on an independent examination of the EA, comments from Federal and state agencies, and all other evidence available to the FAA.

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101 of NEPA and other applicable environmental requirements and, with the required mitigation referenced above, will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to section 102(2)(C) of NEPA. As a result, the FAA has determined that preparation of an EIS is not necessary for this Proposed Action and is therefore issuing this FONSI.

RECOMMENDED
FOR APPROVAL_____ DATE: 4/7/2020
John MacFarlane
Environmental Protection Specialist

APPROVED:_____ DATE: 4/8/2020
Ben Guttery
Manager, Texas Airports
District Office

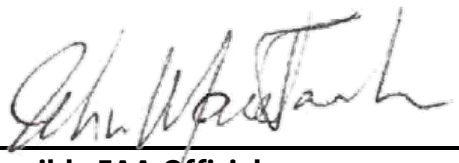
ENVIRONMENTAL ASSESSMENT

Austin-Bergstrom International Airport

Prepared by Centurion Planning and Design

March 2020

This environmental assessment becomes a Federal Document when evaluated, signed, and dated by the responsible FAA Official.



4/6/2020

Responsible FAA Official **Date**

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1.0 INTRODUCTION

Austin-Bergstrom International Airport (AUS) is classified by the FAA as a medium-hub airport and is the fifth busiest airport in Texas. Passenger traffic at the airport has followed a consistent upward trend. The continued increase of passengers has resulted in the need for additional fuel storage by the AUS Airline Consortium. The purpose of this Environmental Assessment (EA) is to document and evaluate the environmental impacts resulting from improvements to the existing commercial airlines' fuel farm, as well as a fuel farm expansion on the west side of the airport . For ease of review the EA is formatted in the following manner:

- Section 2.0 Proposed Action
- Section 3.0 Project Purpose and Need
- Section 4.0 Alternatives
- Section 5.0 Affected Environment and Environmental Consequences
- Section 6.0 Summary of Project Impacts and Mitigation Measures
- Section 7.0 List of Preparers and Document References

1.1 Documentation Requirements and Standards

This EA was prepared in accordance with Section 102(2)(c) of the *National Environmental Policy Act (NEPA) of 1969* (Public Law 91-190, 42 USC 4321 et. Seq.), the Council on Environmental Quality (CEQ) *Regulations for Implementing NEPA* (40 CFR 1500 through 1508) and other relevant CEQ guidance. The FAA is the lead federal agency for the preparation of this EA; therefore, the guidance within FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and Federal Aviation Administration (FAA) Order 5050.4 *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* was followed.

1.2 Requested Federal Action

The Requested Federal (FAA) action is the unconditional approval of the portions of the Airport Layout Plan (ALP) that depicts the Proposed Action as described in Section 2.0.

2.0 PROPOSED ACTION

The AUS Fuel Company has proposed improvements to their existing fuel farm and construction of a new fuel farm area to meet current and anticipated future demand. The City of Austin completed an Airport Master Plan Update in 2018. During this planning process it was determined that future airport improvements are necessary in the area containing the current fuel farm. **Figure 1** contains the ultimate airport development with the existing fuel farm location noted with a red rectangle. As shown, construction of proposed Taxiway Charlie is planned in the area, the limits of the taxiway object free area (TOFA) will fall over the existing fuel farm facility.

A number of alternative fuel farm sites were evaluated within the Airport Master Plan. Based on the airport's future development plans at the current fueling facility, the proposed fuel farm expansion is planned to occur in the area noted as "future fuel farm" within the Airport Master Plan and detailed on the Airport Layout Plan (location identified with a green box and noted as project "26" on **Figure 1**).

The planned configuration of the proposed fuel farm facilities is detailed on **Figure 2**. To meet current fueling needs and facilitate the overall project objectives, the proposed project will be constructed in two phases.

Phase one, depicted as projects "1" and "2" on **Figure 2**, occurs within the footprint of the existing fuel farm on the east side of Taxiway Charlie, at 3324 Spirit of Texas Drive. To improve the current fuel deficit situation, an additional interim fuel delivery truck offload rack will be constructed to facilitate additional fuel delivery. This will allow three fuel trucks to simultaneously offload fuel, versus the current condition which allows only two trucks to simultaneously offload fuel. Currently 75-80 trucks deliver fuel to the airport each day. Due to the amount of time needed to offload fuel from the trucks to the storage tanks, these operations occur 23 hours per day. Providing the third offload position will allow for additional fuel deliveries with the goal of temporarily reducing the existing fueling deficit. Finally, a new ground service equipment fuel service station will be constructed adjacent to existing load rack facility. These improvements consist of two, separate above ground tanks, one for diesel and one for gasoline. Each tank will be 10,000 gallons.

Phase Two includes the development of the fuel farm in the area recommended within the Airport Master Plan and depicted on the Airport Layout Plan. Specific details are included on **Figure 2** (Projects "3" through "11"). As shown, the Proposed Action includes construction of two additional 1.5-million-gallon fuel storage tanks, new offload racks, and supporting infrastructure and equipment. The existing fuel tanks will remain in operation until airfield improvements require them to be removed.

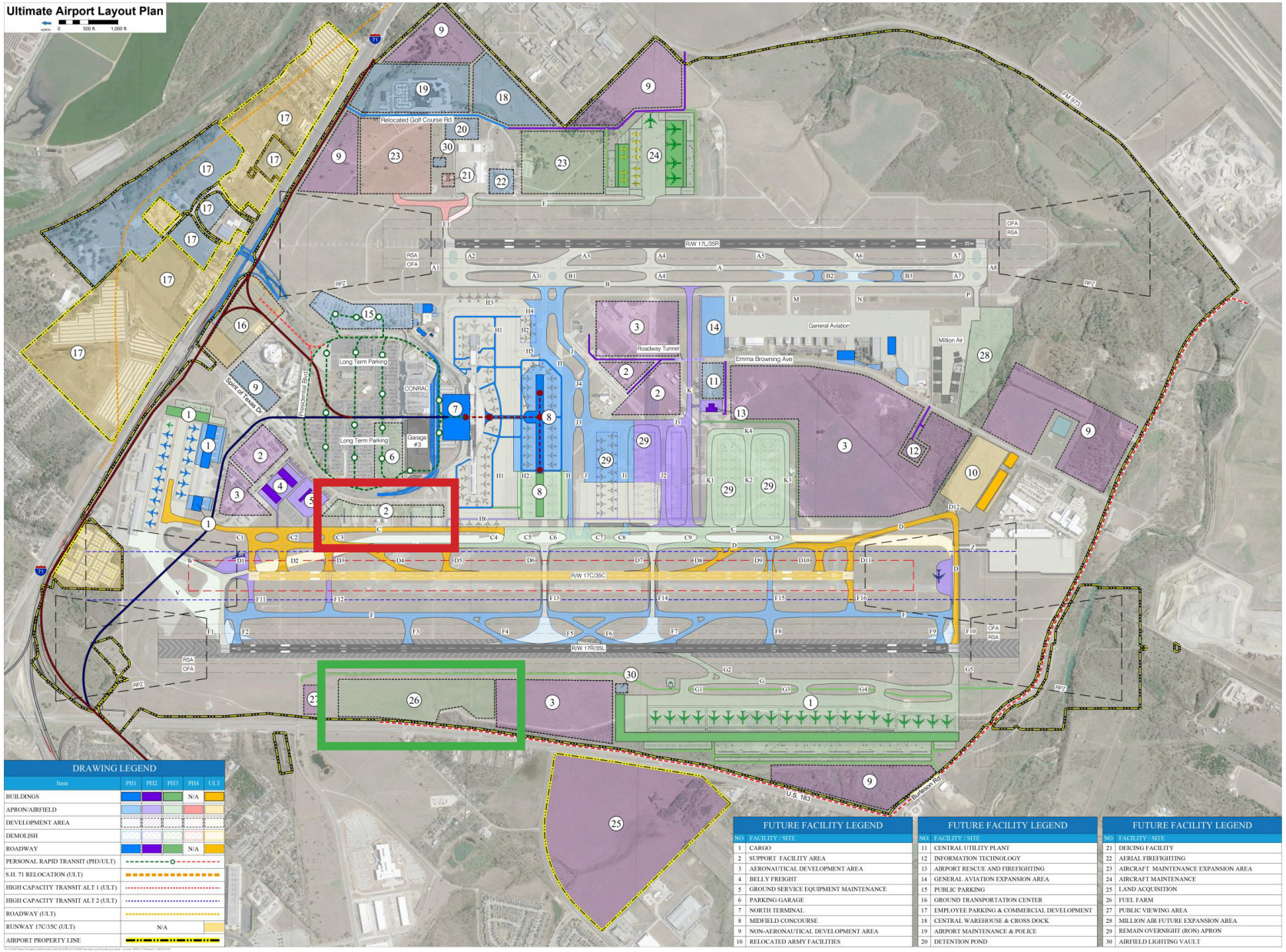


FIGURE NOTES:

Graphic obtained from Austin-Bergstrom International Airport (ABIA) Master Plan, Draft, December 2018

Current fuel farm location in proximity to planned Taxiway Charlie

Proposed fuel farm location as identified in the 2019 Airport Master Plan Update

FIGURE 1
Ultimate Airport Layout Plan

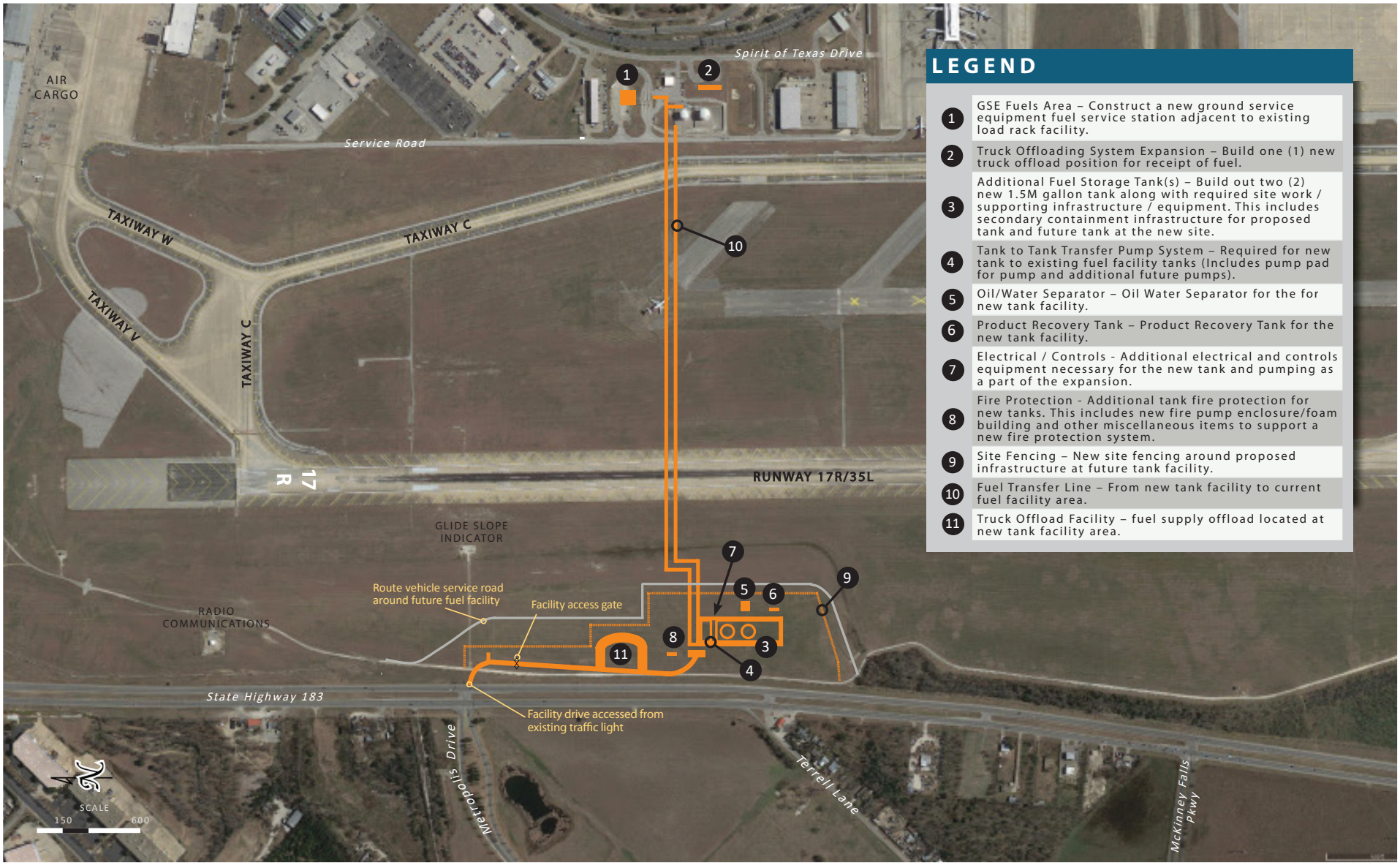


FIGURE 2
Proposed Action

A tank to tank transfer pump system is required for new tanks to transfer fuel to the existing fuel farm. This system consists of two pipelines which will be directionally drilled (bored) beneath the existing runway and taxiway. This allows for the transfer of fuel from the tanks in the new fuel farm to the existing fuel farm tanks. This construction method will allow for limited impacts on aircraft operations as well as the ability to avoid a wetland area located on the eastern boundary of the proposed fuel farm facility.

At the request of the City of Austin, to improve the current level of traffic on Spirit of Texas Drive, this project will ultimately result in all fuel deliveries to the airport occurring via the new fuel facility on State Highway 183. According to the current fuel farm operator, up to 75-80 fuel trucks utilize Spirit of Texas Drive daily. Removing these fuel deliveries from Spirit of Texas Drive will result in improvements to the current traffic situation. When Phase Two of the project is complete, all three fuel offloading facilities located at the current site will be removed.

The method of fueling on-airport, aircraft fueling vehicles will not change. Fuel will be pumped via the proposed fuel transfer line from the proposed fuel farm expansion to the existing fuel farm where on-airport fuel trucks will be filled.

3.0 PROJECT PURPOSE AND NEED

The purpose of the proposed fuel farm improvements is to meet current and anticipated future demand for airline fuel reserves at AUS. Currently the inability to meet fuel reserve requirements has resulted in the airlines "ferrying" fuel into the airport on occasion, thereby increasing operational costs and impacting to the fueling capabilities of other airports. On occasion there is less than two days of fuel reserve at the current facility which is an operational risk.

The need for additional fuel capacity is described within the Airport Master Plan. Jet-A fuel storage requirements were defined for future conditions within the Master Plan. **Table 1** describes the fuel deficits. As described within the table, continued growth of the airport results in a continuing need for more fuel capacity.

TABLE 1
Jet-A Fuel Requirements

YEAR	FUEL DEMAND (MILLION GALLON)	FUEL DEFICIT (MILLION GALLON)
2017	1.2	-
2019	2.1	- 0.9
2022	2.3	- 1.1
2027	2.6	- 1.4
Beyond 2027	3.5	- 2.3

Source: Landrum & Brown analysis, *Austin-Bergstrom International Airport (ABIA) Master Plan, Draft,* December 2018

To address the deficits, the Master Plan identified ultimate facility requirements. As described in **Table 2**, future demand will require the installation of expanded facilities to meet projected demand. These requirements were revisited and refined by Burns & McDonnell Engineers during preparation of the project Fuel Farm Master Plan. Table 2 also includes these refined numbers.

Considering the current and ultimate fueling needs and the airport's planned development within the existing fuel farm footprint, the Airline Consortium (AUS Fuels Company) determined development of the new fuel farm site is needed to allow existing demand to be met while considering future development needs of the airport and fuel farm facility.

TABLE 2 **Proposed Fuel Farm Facility Requirements**			
	EXISTING	MASTER PLAN LONG TERM	FUEL FARM MASTER PLAN RECOMMENDATIONS
Number of Jet Fuel Tanks	**2**	4	4
Fuel Tank Capacity (millions of gallons)	**1.2**	4	4
Refueler Loading Positions (400 gal/min each)	**5**	6	5
Refueler Storage Parking Positions	**14**	20	14
Refueler Transfer Pumps/Refueler Transfer Pump Spares	**4/1**	6/1	5/1
Oil/water Separator	**1**	2	2
Truck offloading Positions (300 gal/min each)	**2**	4	3
Tank to Tank Transfer Pumps	**5**	4	2
Operations Building (Sq. ft.)	**2,500**	2,500	2,500
Staff Auto Parking (Stalls)	**14**	14	14

Items noted in BOLD reflect a current deficiency.

Source: Landrum & Brown analysis, *Austin-Bergstrom International Airport (ABIA) Master Plan, Draft,* December 2018. Burns & McDonnell *Fuel Farm Master Plan*, September 2019

4.0 PROJECT ALTERNATIVES

Council on Environmental Quality (CEQ) states that the alternatives analysis is the "heart of the environmental document" (40 CFR 1502.14). The alternatives analysis compares the expected environmental impacts of the No Action, Proposed Action, and other reasonable alternatives (if any).

The recently completed Airport Master Plan evaluated alternative locations for a new fuel farm. After considering the level of environmental impact resulting from development of the identified site, it was determined that the evaluation of additional locations is not necessary. Two alternatives, the Proposed Action and the No Action alternatives, are described below.

4.1 Proposed Action (Preferred) Alternative

The Proposed Action Alternative is described in detail within Section 2.0 and depicted on **Figure 2**. This alternative meets the stated purpose and need for improved fuel facilities at AUS and is reasonable to implement. Environmental impacts resulting from implementation of this alternative include:

- Temporary construction related impacts – noise, air quality, water quality. These impacts will be minimized through the implementation of Best Management Practices as described in Section 5.4.1.
- Social impacts resulting from the need to modify the Highway 183/Metropolis Drive interchange. Planned improvements include the addition of a 4th signal at the intersection as well as acceleration and deceleration lanes.

Statutory or regulatory requirements for alternative implementation are included in **Table 3**.

TABLE 3
Required Permits and Authorization

Permit/Authorization	Agency
Wetland- Critical Environmental Feature (CEF) as stated within the City of Austin's Environmental Criteria Manual	The Watershed Protection Department may administratively reduce the standard buffer or approve wetland mitigation 505 Barton Springs Rd # 11 Austin, TX 78704 Phone: 512-974-2550
Air Permit By Rule (PBR) 30 TAC 106.478	Texas Commission on Environmental Quality Air Permits Division (MC-163) PO Box 13087 Austin, Texas 78711-3087 Phone: 512-239-1250
The Hydrostatic Test General Permit TXG670000	TCEQ Water Quality Division PO Box 13087 Austin, TX 78711-3087 Phone: 512-239-3700

Permit/Authorization	Agency
National Pollutant Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Plan (SWP3) for Construction Activities TXR150000	TCEQ Water Quality Division PO Box 13087 Austin, TX 78711-3087 Phone: 512-239-3700
NPDES Storm Water Permit and SWPPP for Industrial Activities TXR050000	TCEQ Water Quality Division PO Box 13087 Austin, TX 78711-3087 Phone: 512-239-3700
Wastewater Discharge Permit	City of Austin Austin Water Utility 3907 S. Industrial Drive Suite 100 Austin, TX 78744-1070 Phone: 512-972-1060
Spill Prevention Control and Countermeasure (SPCC) Plan	U.S. EPA Region 6 Main Office 1201 Elm Street, Suite 500 Dallas, TX 75270 Phone: 214-665-2760
Facility Response Plan (FRP)	U.S. Environmental Protection Agency (EPA) Region 6 Main Office 1201 Elm Street, Suite 500 Dallas, TX 75270 Phone: 214-665-2760
Hazardous Materials Storage Permit	TCEQ Industrial and Hazardous Waste Permits Section (MC-130) PO Box 13087 Austin, Texas 78711-3087 Phone: 512-239-2335 Fax: 512-239-2007
Above ground Storage Tank (AST) Construction Notification	TCEQ Petroleum Storage Tank (PST) Registration Team (MC-138) PO Box 13087 Austin, TX 78711-3087 Phone: 512-239-2160 Fax: 512-239-3398
FAA Notifications - Permanent	FAA Southwest Regional Office 10101 Hillwood Parkway Fort Worth, TX 76177 Phone: 817-222-5600 Fax: 817-222-5987

Permit/Authorization	Agency
Construction Safety Phasing Plan (CSPP)	FAA Southwest Regional Office 10101 Hillwood Parkway Fort Worth, TX 76177 Phone: 817-222-5600 Fax: 817-222-5987
Building Permit	City of Austin 505 Barton Springs Road Austin, TX 78704 Phone: 512-974-2000
Electric Permit	City of Austin Development Services Department 505 Barton Springs Road Austin, TX 78704 Phone: 512-974-2000
Mechanical Permit	City of Austin Development Services Department 505 Barton Springs Road Austin, TX 78704 Phone: 512-974-2000
Plumbing Permit	City of Austin Development Services Department 505 Barton Springs Road Austin, TX 78704 Phone: 512-974-2000
City of Austin Site Development Permit	City of Austin 505 Barton Springs Road Austin, TX 78704 Phone: 512-974-2000
Aboveground Hazardous Materials Permit (City of Austin)	Austin Fire Department Emergency Prevention Division 505 Barton Springs Road, Suite 200 Austin, TX 78704 Phone: 512-974-0160
Driveway Access on Highway Right-Of-Way Permit	Texas Department of Transportation (TxDOT) Austin, TX 78761-5462 Phone: 512-832-7000

4.2 No Action Alternative

The No Action alternative involves no improvements to the existing Fuel Facilities. The facility would continue to operate at a deficient level. This results in the periodic need for aircraft to "ferry" fuel to the airport, thereby increasing demand at those airports aircraft arrive from. The No Action alternative does not meet the purpose and need of the project; however, it will be carried forward for comparative purposes.

5.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Federal Aviation Administration (FAA) Orders 1050.1F, Environmental Impacts: Policies and Procedures, and 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, define the form and content of Environmental Assessments (EAs) and require that an impact analysis be conducted for specific categories to determine whether a potential for significant environmental impact from the proposed improvements exists. Impacts are determined by comparing the anticipated local environmental condition after development (implementation of the Proposed Action alternative) to the conditions at and around the airport should no project be developed (implementation of the No Action alternative). The following sections detail those resources not present within the project area followed by a discussion of those resources that may be potentially impacts. As necessary, mitigation measures are discussed which would reduce or eliminate anticipated environmental impacts for each alternative.

5.1 Airport Location

AUS is approximately eight miles southeast of the Austin Central Business District (CBD), as shown in **Figure 3**. The airport is owned by the City of Austin and operated by the Department of Aviation (DOA). AUS occupies approximately 4,242 acres of land bound by State Highway (SH) 71 to the north, Burleson Road to the south, Farm to Market (FM) Road 973 to the east, and U.S. Route 183 to the west. This airport is designated as a primary commercial service airport by the Federal Aviation Administration (FAA). As a commercial service airport, AUS must conform to the rules and regulations under C.F.R Part 139.

FIGURE 3
Airport Location

Source: Adisa

5.2 Project Study Area

The project study area, depicted on **Figure 4**, includes those portions of airport property that could be disturbed during construction of the Proposed Action Alternative. Specifically, the study area includes land that would be physically disturbed during construction. As previously discussed, the proposed fuel lines will be directionally drilled (bored) beneath the runway surface resulting in no surface impacts.

5.3 Resources Not Present in the Study Area

Of the 18 impact categories defined in Appendix A of FAA Order 1050.1F, the following are not present within the project study area:

- *Air quality*. Austin is located in Travis County, Texas. According to the U.S. Environmental Protection Agency *Green Book Nonattainment Areas for Criteria Pollutants*, Travis County is in attainment for all criteria pollutants.

- *Biological/Biotic Resources*. The U.S. Fish and Wildlife Service's iPAC (Information for Planning and Consultation) was consulted to obtain a list of protected species within Travis County, Texas. The iPAC report is included within **Appendix B** along with a table summarizing listed species and their habitat requirements.

  The entire project area is located in a regularly maintained portion of airport property. Grasses are mowed to limit wildlife hazards in accordance with the airports Wildlife Hazard Management Plan. Upon review of the site conditions it was determined that habitat for federally listed species is not present within the project impact area.

  Additionally, the Texas Parks and Wildlife Department was contacted to obtain information regarding state listed species in the project area. A review of GIS data and record occurrences revealed that only one species is listed as possibly occurring in the project area. *Onosmodium helleri* (Heller's Marbleseed), is noted as occurring in the area; however, upon reviewing the listing it was determined that the species is tracked but does not have regulatory listing status.

  Based upon a review of materials received from the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department it has been determined no habitat for state or federally listed species is present in the project area.

- *Coastal Resources*. The airport is not located adjacent to, or near, any coastal resources as the City of Austin is located inland.

- *Department of Transportation: Section 4(f) Resources*. No parks, historic sites, or recreational areas are located in the study area. According to National Register of

FIGURE 4 Project Study Area

Historic Places, the closest historic site is Moore's Crossing Historic District(3.5 miles southeast from the project site) and McKinney Falls State Park (3.5 miles southwest from the project site).

- *Farmland*. The project is located in an urban environment; therefore, the Farmland Protection Policy Act does not apply.

- *Floodplains*. A portion of the airport contains a 100-year floodplain; however, the proposed site of the fuel farm is located outside of the floodplain area. The floodplain is associated with tributaries of Onion Creek. A copy of the floodplain map is included within **Appendix C** and the location of project features in relation to nearby floodplain resources is shown on **Figure 5.**

- *Historical, Architectural, Archeological, and Cultural Resources*. The proposed site for the fuel farm is located in an area that is regularly maintained and was graded as part of the original construction of the airport. The surface is relatively flat and is surrounded by a man-made ditch which was constructed to allow for suitable drainage.

  Field surveys undertaken in the 1990s identified historic and archaeological resources in the vicinity of the airport; however, these resources were located in previously undisturbed treed areas located west of the airport. No resources were identified in the areas that were disturbed for construction of the airport.

  Furthermore, a review of the National Park Service's, National Register of Historic Places (NRHP) on-line mapper did not identify the presence of any listed resources in the vicinity of the proposed fuel farm project.

  After reviewing the aforementioned resources, it was determined that no NRHP-listed historic/cultural resources are listed in, or in the vicinity of, the proposed project area. Additional information regarding this determination is included with the Section 106 Consultation materials included in **Appendix A**. Coordination received from the State Historic Preservation Office on March 3rd 2020 indicated they concur with the project findings.

- *Natural Resources and Energy Supply*. The use of energy resources will be required during construction of the proposed fuel farm; however, this use is considered de minimis due to the overall project size.

- *Noise and Compatible Land Use*. The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts. Construction of the proposed fuel farm will not, in and of itself, result in a

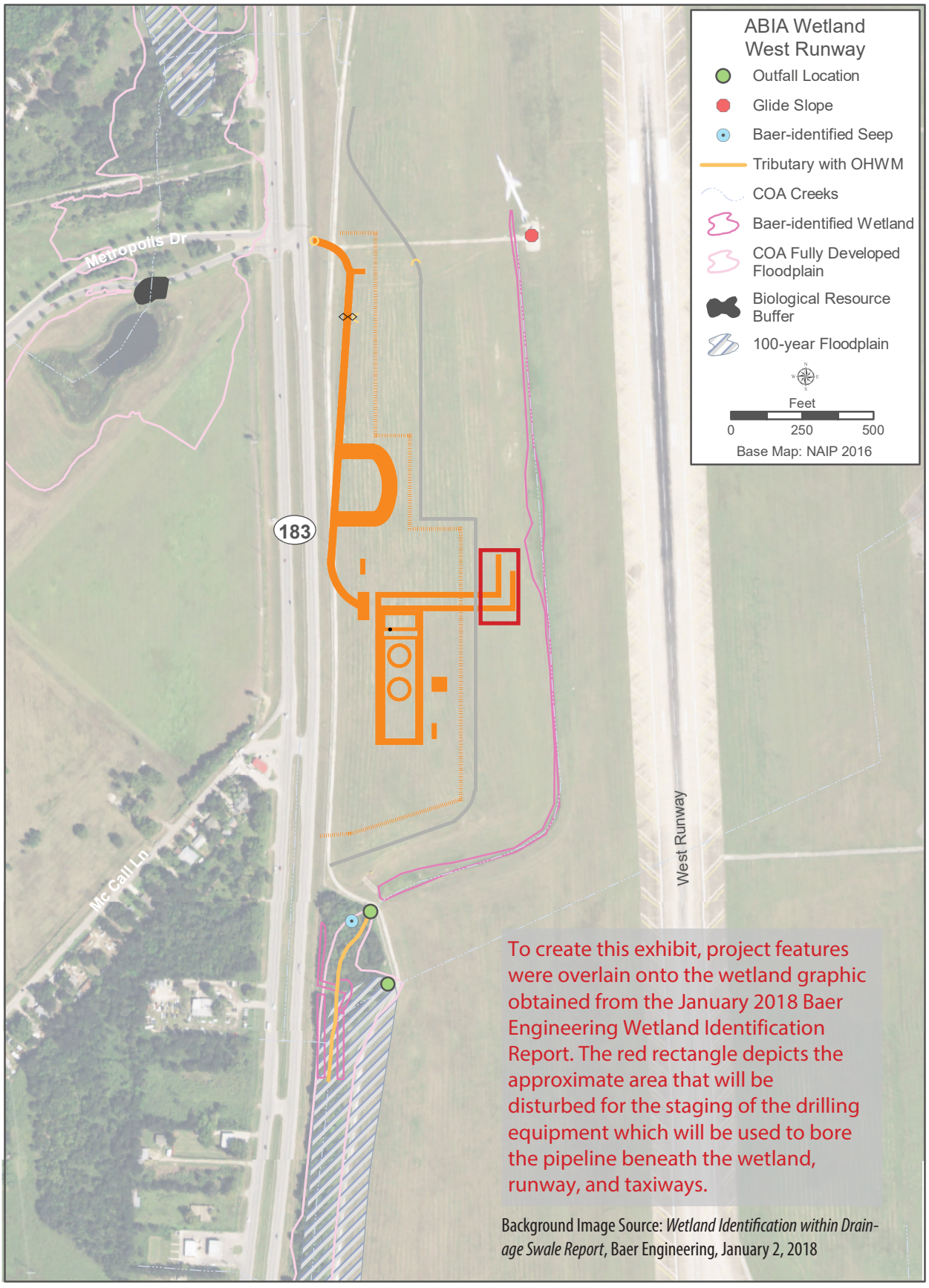


FIGURE 5
Proposed Action Features in Relation to Identified Wetland and Floodplain Resources

change to noise exposure at the airport, the proposed fuel farm improvements are being undertaken to meet existing, and anticipated commercial service fuel demand.

The proposed project would not result in changes to air traffic patterns, a change in the airport fleet mix or an increase in aircraft operations. The proposed project would not change the number or type of operations at the airport, nor would it change flight paths, arrival or departure procedures, or runway use.

Additionally, construction of the proposed improvements will not result in impacts to aircraft operations as staging areas will be located outside of designated runway safety areas. The fuel transfer lines will be directionally drilled beneath the runway and taxiway to ensure no impact to aircraft operations.

- *Visual Effects/Light emissions*. The entire project footprint is contained within the existing airport property line and will visually mimic other aviation uses. Minimal additional light emissions will result as the facility will be lit at night. Neighboring residential uses are buffered from the fuel farm facility by State Highway 183, a four-lane divided highway.
- *Wetlands and Water Resources*. In January 2018, Baer Engineering and Environmental Consulting, Inc. was retained by AUS to evaluate the presence of jurisdictional waters, including wetlands, for a drainage swale located on the west side of Runway 17R-35L. The purpose of evaluating this swale was to provide options to AUS staff for maintaining the vegetation within the swale.

  Upon reviewing the site, it was determined that the drainage swale is considered a wetland under the jurisdiction of the U.S. Army Corps of Engineers. Located upstream of the Onion Creek tributary, the area of the wetland is estimated to be 1.7 acres. The wetland exhibited several hydrologic indicators, obligate and facultative wetland plant species, and surface indicators of hydric soils. Baer Engineering determined a significant nexus occurs between the wetland on the airside and the Onion Creek tributary on the landside of AUS. The Baer Report is located in **Appendix D.**

  Figure 5 depicts the limits of the wetland resource in relation to the proposed fuel farm improvements. As previously discussed, to avoid operational impacts to the runway and taxiway system, the fuel transfer lines will be directionally drilled (bored) beneath the runway surface. The use of the boring method of pipe installation will also allow the identified wetland area to remain undisturbed.

  As depicted on the exhibit, the construction staging area will be located a minimum of 50 feet from the wetland. Prior to construction, a biologist will stake the wetland edge and BMPs will be employed to ensure indirect wetland impacts do not occur.

Best management practices to be employed include the installation of silt fence in the area between the construction staging area and the wetland boundary. Additional protection will be provided through the use of filter socks in areas of higher concentrated flow. To the maximum extent practicable, these BMPs will be managed during construction to ensure silt and sediment does not enter the wetland area. Temporary BMPs will be installed as shown and detailed on the Erosion and Sediment Control Plans and Details to be included in the project design drawings.

After construction is complete, the staging area, as well as the rest of the site, will be restored and erosion and sediment control and BMPs implemented until final stabilization of the site is achieved.

Please note, if future design results in the need to encroach into the wetland, then a written re-evaluation of this document will be completed and submitted to the airport sponsor and FAA for review and approval prior to the start of construction.

- *Wild and Scenic Rivers*. No Wild or Scenic Rivers are located in proximity of the airport. Only one river is listed for the state of Texas and it is near the Texas/Mexico border, The Rio Grande Wild and Scenic River.

5.4 Resources Present Within the Project Study Area

The following sections describe those remaining resources that are present within the project area or will be impacted by construction of the proposed fuel farm facility. Detailed analysis was undertaken for the remaining impact categories which include:

- Construction Impacts
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Socioeconomic Resources

5.4.1 Construction Impacts

Airport construction may cause various environmental effects primarily due to dust, aircraft and heavy equipment emissions, storm water runoff containing sediment and/or spilled or leaking petroleum products and noise. In most cases, these effects are subject to Federal, State, or local ordinances or regulations. Significant construction impacts would most likely occur when unusual circumstances exist (e.g., excavating ecologically sensitive areas, construction-induced traffic congestion that would substantially degrade air quality).

ENVIRONMENTAL CONSEQUENCES

Proposed Action Alternative

Construction of these projects would result in temporary noise, air quality, and water quality impacts. Construction-related noise impacts at airports result from the use of construction equipment. These impacts directly related to the type of construction equipment being used

during each phase of construction. The construction of the fuel farm would result in the most noticeable noise impacts to the proximity of the project.

Air quality impacts resulting from the project primarily relate to the generation of exhaust emissions and fugitive dust. These impacts are a result from the movement of construction equipment and the exposure and disturbance of surface soils during construction of the proposed improvements. These impacts are expected to be both temporary and localized. Mitigation measures, as outlined below, would reduce this impact to levels below significance.

Construction activities also have the potential to result in temporary water quality impacts, particularly suspended sediments, during and shortly after precipitation events in the construction phase. Recommendations established in FAA Advisory Circular (AC) 150/5370-10, *Standards for Specifying Construction of Airports, Item- P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control,* would be incorporated to mitigate potential impacts. These standards, commonly referred to as Best Management Practices (BMPs), include temporary measures to control water pollution, soil erosion, and siltation through the use of berms, fiber mats, gravels, mulches, slope drains, and other erosion control methods. BMPs are described fully in the following Analysis and Mitigation discussion.

Local traffic patterns would be temporarily impacted during the construction of the proposed modifications to Highway 183. During design of the proposed road improvements, efforts would be made to phase the improvements to result in the least impact possible.

Prior to constructing the proposed fuel farm improvements, local and regional permits will be obtained from the City of Austin and the State of Texas. Said permits will include best management practices to minimize potential construction impacts.

The following prevention and mitigation measures would be implemented during construction to minimize or mitigate impacts. Implementation of the mitigation measures, combined with the issuance of a TPDES multi-sector permit and preparation of the accompanying Stormwater Pollution and Prevention Plan (SWPPP), it is not anticipated that implementation of the Proposed Action Alternative would result in significant impacts.

Site Preparation

- Minimize land disturbance.
- Use watering trucks to minimize dust.
- Cover trucks when/if hauling dirt.
- Stabilize the surface of dirt piles if not removed immediately.
- Use windbreaks to prevent accidental dust pollution.
- Limit vehicular paths and stabilize temporary roads.

Construction

- Cover trucks when transferring materials.
- Use dust suppressants on traveled paths which are not paved.
- Minimize unnecessary vehicular and machinery activities.
- Minimize dirt track-out by washing or cleaning trucks before leaving the construction site.

Post Construction

- Revegetate any disturbed land not used.
- Remove unused material.
- Remove dirt piles.
- Revegetate all vehicular paths created during construction to avoid future off-road vehicular activities

Construction Scheduling

- Sequence construction activities so that areas void of vegetation are not exposed for long periods of time.
- Schedule landscaping and other work that permanently stabilizes the area to be done immediately after the land has been graded to its final contour.
- Alter the project schedule to minimize the amount of denuded areas during wet months.
- Construct permanent storm water control facilities early in the project schedule and then utilize these structures for controlling erosion and sedimentation.
- Phase the road improvements to minimize impacts on area traffic.

Limiting Exposed Areas

- Divert or intercept storm water before it reaches long and/or steep slopes.
- Release captured storm water at a slow and controlled rate to prevent damage to downstream drainageways and structures.
- Increase the soil's ability to absorb moisture through vegetative means, surface roughening, and/or mulching.
- Stage grading so that the native vegetation provides a buffer to slow and disperse runoff.

Runoff Velocity Reduction

- Build check dams or other energy dissipation structures in unlined drainage channels to slow runoff vehicles and encourage settlement of sediments.
- Limit slopes to 3:2 where-ever practical.
- Intercept runoff before it reaches steep slopes using diversion dikes, swales, or other barriers.

- Protect slopes with mulches, matting, or other types of temporary or permanent soil stabilization.
- Provide velocity-reducing structures or rip-rap linings at storm water outfalls.

Sediment Trapping

- Direct sediment-laden storm water to temporary sediment traps.
- Construct temporary sediment traps or basins at the drainage outlet for the site.
- Use temporary sediment barriers such as silt fences, straw bale barriers, sandbag barriers, and gravel filter barriers for construction sites with relatively flat slopes that produce sheet flow runoff.

Good Housekeeping

- Schedule regular inspections of storm water and sediment control devices.
- Repair and/or replace storm water and sediment control devices as often as necessary to maintain their effectiveness.

No Action Alternative

Implementation of the No Action Alternative would not result in any construction activities at the airport; therefore, no impacts would occur.

5.4.2 Hazardous Materials, Solid Waste and Pollution Prevention

The Desk Reference for FAA Order 1050.1F states that the description of the existing condition should consider (1) existing contaminated sites at the proposed project site or in the immediate vicinity of a project site; and (2) local disposal capacity for solid and hazardous wastes generated from the proposed action or alternative(s).

Environmental Protection Agency databases and online mapping services were visited to see if any Superfund Sites or Recognized Environmental Conditions (RECs) are present on or in the vicinity of the airport. No sites were identified.

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention in FAA Order 1050.1F; however, the FAA has identified factors to consider in evaluating the context and intensity of potential environmental impacts for hazardous materials, solid waste, or pollution prevention (see Exhibit 4-1 of FAA Order 1050.1F). Factors to consider that may be applicable to hazardous materials, solid waste, and pollution prevention include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential to:

- Violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including, but not limited to, a site listed on the NPL).

- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method or collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

EXISTING CONDITION

Neither the existing nor proposed fuel farm sites contain features listed on the NPL. The existing fuel farm operates under numerous permits including, among others, an Austin Fire Department Hazardous Materials Permit; a City of Austin Stormwater Discharge Permit, a State of Texas Pollution Discharge and Elimination System Permit; and a Spill Prevention, Control, and Countermeasure (SPCC) Plan and Facility Response Plan (FRP). Additionally, the existing fuel farm is located within a contaminated groundwater buffer zone attributed to a deed restricted area.

Proposed Action Alternative

Hazardous Materials. Implementation of the Proposed Action Alternative directly involves the transport of hazardous materials as well as the removal of existing facilities that house hazardous materials as it includes the construction at an existing fuel farm location. Construction and operation of the proposed fuel farm would involve some ancillary use of hazardous materials, including vehicle fuels, jet fuel, oils, transmission fluids, cleaning solvents, and architectural coatings. Compliance with existing federal, state and local regulations and routine precautions would reduce the potential for accidental releases of a hazardous material to occur and would minimize the impact of an accident should one occur.

The *proposed fuel farm site* consists of regularly maintained grasses. The site was heavily disturbed during construction of the airport and has not historically been used for any purpose other than open space.

There is a potential to encounter existing hazardous materials at the *current fuel farm* site during construction as the site is used to house fuel and other hazardous materials. However, no facilities at the current fuel farm are planned to be removed or disturbed, only new equipment will be installed.

The potential for encountering jet fuel contaminated soil during site excavation and grading operations exists due to historical use of the site as jet fuel storage facility. If jet fuel contaminated soil is encountered, investigation/remediation activities will proceed as necessary in accordance with local and state regulations. As previously mentioned, the existing fuel farm is located within a contaminated groundwater buffer zone; however, groundwater is located approximately 30 feet below ground level. It is not anticipated construction impacts will occur at this depth. Therefore, it is not anticipated that any groundwater extraction is required. If it is determined that groundwater extraction is needed, AUS Fuels will coordinate with the City to determine the best manner to manage the extracted water, complying with the deed restriction.

Solid Waste. The process of storing fuel and pumping fuel to the planes generates minimal solid waste (used fuel filters, spent absorbent, etc.) As such, potential impacts related to solid waste disposal would not have an adverse impact to local landfills with the implementation of the proposed project. During and after construction, hazardous and/or solid waste will be recycled if possible or disposed at appropriately permitted waste disposal facilities.

Pollution Prevention. All appropriate and necessary permits will be obtained for the construction and operation of the fuel farm facility.

Conclusion. All necessary federal, state, and local permits will be obtained prior to construction of the Proposed Action Alternative. Therefore, the project will not violate applicable Federal, state, or local laws or regulations regarding hazardous materials and/or solid waste management. The project will not be constructed on a site listed on the NPL nor will it produce an appreciably different quantity or type of hazardous waste. Final implementation of the proposed action will not generate an appreciably different quantity or type of solid waste or use a different method or collection or disposal and/or would exceed local capacity as the fuel storage facility is simply moving to a different site on the airport. Granted the amount of fuel capable of being stored on the site will increase; however, it is not expected this increase will result in significant impacts to solid waste. With the use of standard industry project design and construction, it is not anticipated hazardous materials will be released into the environment. Project design will consider all standard industry practices for the construction and operation of the fuel tanks, fuel distribution lines, and associated facilities.

Permits to be obtained for construction include:

- Air Permit by Rule (PBR)
- COA Site Development Permit
- Hydrostatic Test General Permit
- National Pollutant Discharge Elimination System (NPDES Permit)
- Stormwater Pollution Prevention Plan (SWP3) for Construction Activities
- Wastewater Discharge Permit
- Soil Prevention Control and Countermeasure (SPCC) Plan
- FAA Notifications-Construction
- Construction Safety Phasing Plan (CSPP)
- Building Permit
- Electric Permit
- Mechanical Permit
- Plumbing Permit

5.4.3 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

Socioeconomic impacts known to result from airport improvements are often associated with relocation activities or other community disruptions, including alterations to surface

transportation patterns, division or disruption of existing communities, interferences with orderly planned development, or an appreciable change in employment related to the project. Social impacts are generally evaluated based on areas of acquisition and/or areas of significant project impact, such as areas encompassed by noise levels in excess of 65 DNL. The principal social impacts to be considered are those associated with relocation or other community disruption, transportation, planned development, and employment.

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. An environmental justice analysis considers the potential of Federal actions to cause disproportionately high and adverse effects on low-income or minority populations.

Pursuant to Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks 62 Federal Register 19885, (April 21, 1997), Federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children.

EXISTING CONDITION

All proposed improvements are contained on existing airport property. Project impact areas include the existing fuel farm as well as the fuel farm location defined within the airport master plan.

Proposed Action Alternative

Socioeconomic Impacts. Implementation of the Proposed Action Alternative does not require the acquisition of property, relocation of residents or businesses, or the disruption of existing communities. However, it does require modification of the existing Highway 183/Metropolis Drive intersection to allow for the construction of the proposed fuel farm access road. Currently a signalized T-intersection exists at this point. With construction of the fuel farm access road an additional signal will be required to allow fuel trucks and service vehicles access to the fuel farm, thereby creating a standard, signalized, four-way intersection.

The purpose of the access road to the fuel farm is to provide a point of entry outside of the Airport Operations Area (AOA) for service vehicles as well as fuel trucks delivering fuel to the airport. Currently all fuel is delivered to the airport via Spirit of Texas Drive. At the request of the City of Austin Aviation Department, fuel deliveries will be moved to the new fuel farm location relieving the traffic load on Spirit of Texas Drive and placing fuel delivery trucks on the four lane Highway 183.

Construction of the new access point will require a Driveway Permit from the Texas

Department of Transportation (TxDOT). As part of the inventory process for the project TxDOT was contacted to inquire whether such an intersection would be allowed. Information regarding the vehicle fleet mix and operational levels was provided to TxDOT to assist with their preliminary determination regarding whether a permit could be obtained and identify any design or study requirements. It was assumed a minimum of 3 fuel trucks per hour, 24 – hours per day would visit the site as well as daily visits by service vehicles.

Appendix A contains a copy of correspondence from TxDOT regarding the project. After review of the intersection it was determined that the project is permittable. To ensure the new interchange does not have a negative impact on the current Level of Service (LOS) for Highway 183 for Metropolis Drive a traffic study will be conducted. The purpose of this study is to assist project engineers with the design of any necessary deceleration or acceleration lanes. Should such lanes be required they will be constructed in existing TxDOT right-of-way.

Environmental Justice. Environmental justice impacts are not anticipated as the project is contained primarily on airport property. Any impacts that could arise through the interchange improvements will be mitigated through the addition of a fourth signal at the Highway 183/Metropolis Drive intersection.

Children's Environmental Health and Safety Risks. Risks to children's health and safety are not anticipated as the bulk of the proposed improvements will occur on existing, fenced airport property. Access to the project site is restricted. Any improvements to the interchange will include proper safety fencing, signage, and, if necessary, lighting.

No Action Alternative

No construction will occur with implementation of the No Action Alternative; therefore, no impacts are anticipated.

5.4.4 Cumulative Impacts

Analysis of the cumulative overall impact of a Proposed Action alternative and the consequences of subsequent related actions is required to determine the significance of the impact on the environment resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of the actions originator.

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Cumulative impact analysis considers connected actions, projects related and dependent upon the completion of the proposed airport project, and similar actions or projects having a common geography or timing that provide a basis for considering their impact together with impacts related to the proposed airport project. Cumulative impacts are evaluated on three-time horizons: past actions, present action, and reasonably foreseeable actions. Past actions are actions that occurred in the past and may warrant consideration in determining the environmental impacts of an action. Present actions are those projects which are ongoing and would continue during the implementation of the development alternatives.

Reasonably foreseeable actions, for the purposes of this project, are those that have received local approval for implementation, such as a building permit. Planned projects, such as those outlined within an Airport Master Plan or a community's General Plan that have not begun the program (CIP), are not considered reasonably foreseeable as part of this analysis. The geographic extent of the analysis caries based on the resource category and is, therefore, identified within each of the following sections.

To aid with the cumulative impact analysis, those environmental categories impacted by implementation of the Proposed Action are listed below:

- Construction Impacts
- Socioeconomic Impacts, specifically related to necessary modifications to Highway 183

The cumulative impact to the above listed resources is assessed through a review of recently completed, ongoing, or planned projects at AUS as well as any recent, ongoing, or planned improvements to Highway 183. TxDOT is planning improvements to Highway 183. These improvements are in the conceptual/alternatives phase; therefore, cumulative impacts cannot be addressed at this time. TxDOT is including our improvements within their analysis.

The Austin Airport has the following Projects ongoing, as can be referred to in **Figure 6:**

- Terminal Apron expansion (Map ID 2, ongoing)
- Consolidated Maintenance Facility (Map ID 6, ongoing)
- Remote Deicing Facility (Map ID 7, ongoing)
- Parking Garage and Admin Building (Map ID 8, recently completed)
- Terminal Expansion (Map ID 9, recently completed)

For the Parking Garage/Admin Building/Terminal Expansion, those projects are substantially complete. If any work is remaining on those projects, it'd be mostly interior finishing with no ground disturbance.

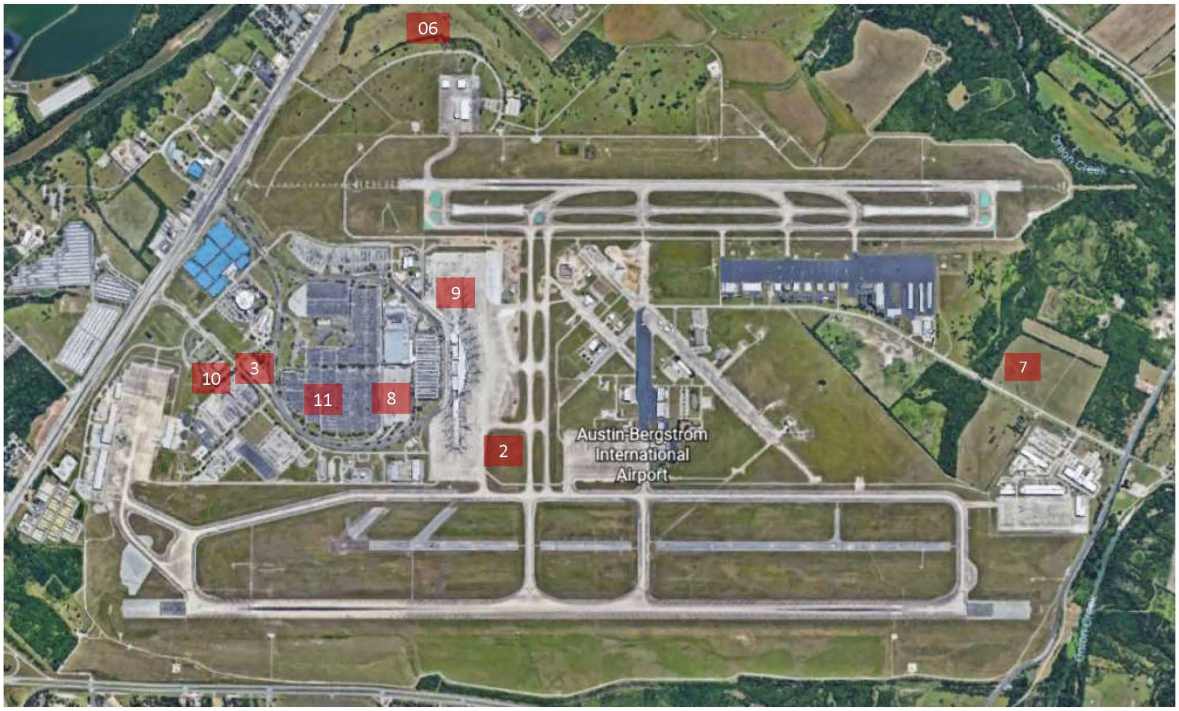
Proposed Action Alternative

As previously mentioned, implementation of the Proposed Action Alternative will result in impacts from construction activities as well as impacts to the intersection of Highway 183 and Metropolis Drive. In regards to the cumulative impact during construction, these impacts will be minimized through the industry-standard use of BMPs during construction. The issuance of the Driveway Permit from TxDOT will mitigate any potential cumulative impacts as the traffic analysis is completed for the existing and anticipated future conditions. TxDOT has not indicated any concerns regarding the cumulative impact of the project's connection to State Highway 183.

No Action Alternative

Implementation of the No Action Alternative would not result in any construction activities at the airport and the current condition will continue; therefore, no impacts would occur.

FIGURE 6
Ongoing Projects at AUS



7.0 SUMMARY OF PROPOSED ACTION IMPACTS AND MITIGATION MEASURES

Implementation of the Proposed Action Alternative will not result in impacts that exceed any of the thresholds established within FAA Orders 1050.1F or 5050.4B. Additionally, no formal, agency required mitigation measures are required.

To minimize potential impacts during construction the BMPs listed in Section 5.4.1 will be employed. Potential impacts resulting from the introduction of an additional access point at the intersection of Highway 183 and Metropolis drive will be minimized with the installation of a 4th traffic signal as well as, if necessary, acceleration and deceleration lanes for fuel trucks that will access the site.

8.0 LIST OF PREPARERS

Persons responsible for the preparation of the document, field surveys and documents are as follows.

Centurion Planning and Design

Molly Waller (Principal Planner), B.S., MCRP
Katy Moran (Planner), B.A., MPA
Russel Pehl (Senior Project Manager), B.S., P.E.
David Alexander (Senior Project Manager), B.S., P.E.

Burns & McDonnell

Dan Eekhoff (Project Manager), B.S., MBA

Austin-Bergstrom International Airport (AUS)

Brian Zinn (Environmental Scientist)
Carrie Stefanelli (Environmental Scientist Sr.)

APPENDIX A
AGENCY COORDINATION

City of Austin
Aviation Department
Austin-Bergstrom International Airport
3600 Presidential Blvd., Ste. 411, Austin, Texas 78719
512/530-2242 Fax: 512/530-6660

January 28, 2020

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
P.O Box 12276
Austin, TX 78711-2276

Subject: Request for Section 106 National Historic Preservation Act and Antiquities Code of Texas Consultation for an AUS Fuels Project, Austin-Bergstrom International Airport (AUS), Austin, Texas

Dear Mr. Wolfe,

The AUS Fuel Company, a leasee to the City of Austin – Department of Aviation (DOA), is proposing fuel farm improvements and an expansion project in the general area depicted on **Figure 1** and shown in detail on the enclosed "Proposed Action" exhibit, **Figure 2 (see attached Figures 1 and 2)**. The project includes improvements to the existing commercial airlines' fuel farm, as well as a fuel farm expansion on the west side of the airport.

This action is subject to the National Environmental Policy Act (NEPA). The FAA is the lead federal agency as the project requires a change to the Airport Layout Plan (ALP) to reflect the proposed improvements once they are constructed. This letter is provided to you to initiate State Historic Preservation Office (SHPO) Consultation for the project. The following pages provide a detailed project description as well as our initial determination regarding project impacts.

Proposed Action

The AUS Fuel Company has proposed improvements to their existing fuel farm and construction of a new fuel farm expansion area to meet current and anticipated future demand. The planned configuration of the proposed fuel farm facilities is detailed on **Figure 2 (attached)**. To meet current fueling needs and facilitate the overall project objectives, the proposed project will be constructed in two phases.

Phase one, depicted as projects "1" and "2", occurs within the footprint of the existing fuel farm, located at 3324 Spirit of Texas Drive. **Phase two,** depicted as projects "3" through "11," includes the development of the fuel farm in the area recommended within the Airport 2040 Master Plan, on the western side of the airport along State Highway (SH) 183. As shown on **Figure 2 (attached)**, the Proposed Action includes construction of two additional 1.5-million-gallon Jet-A fuel storage tanks, ground

support equipment gas/diesel tanks, transfer pipes to connect the existing fuel farm to the western fuel farm expansion, access to the site from SH183, new offload racks, and supporting infrastructure and equipment.

A tank-to-tank transfer pump system is required for the new tanks to transfer fuel to the existing fuel farm. This system consists of two transfer pipes which will be directionally drilled (bored) beneath the existing runway and taxiway system. This construction method will allow for limited impacts on aircraft operations as well as the ability to avoid a wetland area located on the eastern boundary of the proposed fuel farm facility. The wetland is located within a man-made channel on the eastern boundary of the new fuel farm.

Areas of Potential Effect and Proposed Undertaking

Figure 3 (attached) shows the area of potential effect (APE) and depicts those areas that may be disturbed during the construction of proposed improvements (undertaking) at AUS. Disturbance could include the following:

- Vegetation removal
- Grading and/ or fill
- Paving
- Installation of fuel tanks and all supporting equipment

Determination of No Effect

To assist with the determination of effect existing documents were reviewed as well as historic aerial photos of the project site. In the early 1990s cultural resources surveys were completed to support NEPA efforts required for the closure of the Bergstrom Air Force Base (AFB) and conversion of the former base to a civilian airport. The survey findings were documented within two Environmental Impact Statements (EISs), one prepared by the U.S. Air Force for the Disposal and Reuse of Bergstrom AFB and the second prepared by the FAA for construction of proposed improvements as identified in the 1993 Master Plan for the New Austin Airport. (Copies of these EISs are available at the airport upon request.)

The western project area was included in field investigations completed and documented within the January 1991, *Final Report, Cultural Resources Survey of Portions of Bergstrom Air Force Base, Travis County, Texas,* a copy of which is included in this document.

The "Proposed Action" disturbance footprint is included in "Area B" of the enclosed report. Survey findings were as follows:

> "Area B is a wedge of land between the main runway and Highway 183 to the west. A prominent feature in this tract is a channelized drainage ditch 15-20

A review of the Texas Historical Commission Historic Sites Atlas Map did not identify any historical marker, National Registered Properties, cemeteries, or historical districts within the APE.

Based on the current condition of the property, as well as a review of historic aerial photos, Atlas Map, and previously completed field surveys, it has been determined that the project will have no impact on historic or cultural resources.

Inadvertent Discoveries

As stated above, no historic or cultural properties are known to occur in the APE. Nevertheless, if an inadvertent discovery of previously unidentified archaeological resources is made during implementation of the proposed undertaking, the FAA and the City of Austin will require the construction activities in the vicinity of the discovery to stop, and take all reasonable measures to avoid or minimize harm to the property until the FAA and the City conclude consultation with your office.

If the project's construction-related activities unearth potentially human bone, ground-disturbing activities in the area of the discovery would immediately be halted by the FAA and the City while a temporary construction exclusion zone surrounding the site is established to allow further examination and treatment of the find.

Based on the information documented within this letter we have determined that the proposed undertaking will not affect any historic properties or archaeological resources. I am requesting your concurrence with both the APE and our determination. If you have any questions, please feel free to contact me at (512) 530-6628 or via e-mail at: carrie.stefanelli@austintexas.gov. Thank you for your attention to this matter.

Sincerely,

C. Stefanelli

Carrie Stefanelli, Environmental Scientist, Sr.

Enclosures

NO HISTORIC
PROPERTIES AFFECTED
PROJECT MAY PROCEED
by _____
for Mark Wolfe
State Historic Preservation Officer
Date 3/3/20
Track # 202006314

From:	Reed Smith
To:	Russell Pehl
Cc:	Molly Waller; Epigmenio Gonzalez; Jesse Serna
Subject:	RE: Austin Bergstrom - US Hwy 183 and Metropolis Drive
Date:	Tuesday, January 7, 2020 5:07:05 PM
Attachments:	image001.png

Russell: TxDOT has no problem with the airport adding the fourth leg to the Metropolis/US183 intersection for a fueling facility. The configuration of the modified intersection will depend on the traffic and site plan details provided to us.

Thanks,
Reed

Texas Department of Transportation

Reed E. Smith, P.E. | Transportation Engineer
South Travis/Hays Area Office
9725 S. IH 35, Austin, TX 78744
Phone: (512) 282-2113 | Direct: (512) 292-2404

From: Russell Pehl [mailto:Russell@plan.design]
Sent: Tuesday, January 07, 2020 1:51 PM
To: Reed Smith <Reed.Smith@txdot.gov>
Cc: Molly Waller <molly@plan.design>
Subject: Austin Bergstrom - US Hwy 183 and Metropolis Drive
Importance: High

Hey Reed,

Based on information previously provided and discussions we have had, would TxDOT be in support of making US Hwy 183 and Metropolis Drive a four way intersection? We understand that the intersection will need to be signalized and additional project design and study will need to be undertaken.

Thanks,

RUSSELL PEHL, P.E., C.F.M.
CENTURION PLANNING & DESIGN
325.262.5957 (m) | 325.757.1001 (o)
russell@plan.design

APPENDIX B
BIOLOGICAL/BIOTIC RESOURCES

Project Area Evaluation of Species Habitat Presence For U.S. Fish and Wildlife Listing

Species Common Name	Species Scientific Name	Federal Status	State Status	Brief Description of Habitat	Presence of Suitable Habitat
BIRDS					
Golden-cheeked Warbler (=wood)	*Dendroica chrysoparia*	E	E	Junipers, oaks; streamside trees. Breeds on hillsides and slopes in mature woods of Ashe juniper, especially brakes of junipers 10-20' tall interspersed with deciduous trees such as oak, walnut, pecan, and hackberry. In winter in the tropics, found in mountain pine-oak forests.	No
Least Tern	*Sterna antillarum*	E	E	Nesting habitat includes bare or sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with rivers and reservoirs. The birds prefer open habitat and tend to avoid thick vegetation and narrow beaches. Sand and gravel bars within a wide unobstructed river channel, or open flats along shorelines of lakes and reservoirs, provide favorable nesting habitat. Nesting locations are often at the higher elevations away from the water's edge, since nesting usually starts when river levels are high and relatively small amounts of sand are exposed. The size of nesting areas depends on water levels and the extent of associated sandbars and beaches. Highly adapted to nesting in disturbed sites, terns may move colony sites annually, depending on landscape disturbance and vegetation growth at established colonies.	No
Piping Plover	*Charadrius melodus*	E, T	T	These shorebirds live on sandy beaches and lakeshores.	No

Species Common Name	Species Scientific Name	Federal Status	State Status	Brief Description of Habitat	Presence of Suitable Habitat
Red Knot	*Calidris canutus rufa*	T	E	Use dry tundra slopes with sparse stunted willow or mountain avens, often far from the coast but usually on warm, sunny slopes facing south or southwest. While incubating, knots forage in wetter habitats, usually not far from the nest. Once young are able to fly, they move toward sedge meadows and lakeshores, feeding heavily in preparation for their long migration.	No
Whooping Crane	*Grus americana*	E	E	Whooping cranes winter on the Aransas National Wildlife Refuge's 22,500 acres of salt flats and marshes. The area's coastal prairie rolls gently here and is dotted with swales and ponds. They summer and nest in poorly drained wetlands in Canada's Northwest Territories at Wood Buffalo National Park.	No
Amphibians					
Austin Blind Salamander	*Eurycea waterlooensis*	E	E	The only known habitat for the Austin Blind Salamander is Barton Springs. Austin Blind Salamanders occupy the habitat below the surface of the springs, where their unique adaptations likely give them a selective advantage in a world of total darkness and limited food.	No
Barton Springs Salamander	*Eurycea sosorum*	E	E	Strictly aquatic, *Eurycea sosorum* may be found among rubble in the spring outflow at Barton Springs	No
Jollyville Plateau Salamander	*Eurycea tonkawae*	T		Its natural habitats are freshwater springs, spring runs, and wet caves of the Buttercup karst system.	No

Species Common Name	Species Scientific Name	Federal Status	State Status	Brief Description of Habitat	Presence of Suitable Habitat
Clams					
Texas Fatmucket	*Lampsilis bracteata*	Candidate	T	The Texas Fatmucket occurs in moderately sized rivers in mud, sand, or gravel, or mixtures of these substrates and sometimes in narrow crevices between bedrock slabs. Live individuals have been found in relatively shallow water, rarely more than 1.5 meters deep, and usually less. The species does not occur in ponds, lakes or reservoirs, suggesting that it is intolerant of deep, low-velocity water created by artificial impoundments.	No
r Texas Fawnsfoot	*Truncilla macrodon*	Candidate	T	Texas Fawnsfoot appears to prefer rivers and larger streams. Living specimens have not been documented in reservoirs suggesting intolerance of impoundment, but has also been found alive in the past in flowing rice irrigation canals. It probably prefers sand, gravel, and perhaps sandy-mud bottoms in moderate flows.	No
Texas Pimpleback	*Quadrula petrina*	Candidate	T	Smooth Pimpleback has been collected in mixed mud, sand, and finer gravels in moderate to large streams, rivers, and some reservoirs. Karatayev and Burlakova (2007, 2008).	No

Species Common Name	Species Scientific Name	Federal Status	State Status	Brief Description of Habitat	Presence of Suitable Habitat
Insects					
Kretschmarr Cave Mold Beetle	*Texamaurops reddelli*	E		The mold beetle inhabits four small, dry, and shallow caves that occur as isolated islands in the Edwards Limestone formation. The largest cave has about 200 ft (61 m) of passage; the other three are much smaller.	No
Tooth Cave Ground Beetle	*Rhadine persephone*	E		The Tooth Cave ground beetle is endemic to two caves in the Edwards Limestone formation. Tooth Cave is up to 100 ft (30 m) in length and contains a greater diversity of fauna than any other cave in Texas. The other known habitat of this beetle is Kretschmarr Cave, which is about 50 ft (15 m) deep. Fauna present in Kretschmarr Cave include the blind millipede *Cambala speobia* and several species of beetles.	No
Arachnids					
Bee Creek Cave Harvestman	*Texella reddelli*	E		Bee Creek Cave harvestmen inhabit underground caves in limestone rock in the Edwards Plateau region in Travis County, Texas. In these caves, the harvestmen are usually found under rocks in total darkness or in dim twilight. The species requires stable temperatures, high humidity, and a steady supply of small invertebrates on which to feed.	No

Species Common Name	Species Scientific Name	Federal Status	State Status	Brief Description of Habitat	Presence of Suitable Habitat
Bone Cave Harvestman	*Texella reyesi*	E		This species inhabits areas of the cave where temperature and humidity are constant. The surface vegetation ranges from pasture land to mature oak-juniper woodland.	No
Tooth Cave Pseudoscorpion	*Tartarocreagris texana*	E		This species is found in two dry, relatively small, limestone caves that have some infiltration of groundwater.	No
Tooth Cave Spider	*Neoleptoneta myopica*	E		The Tooth Cave spider occurs in a single population in one small, dry cave.	No
		Flowering Plants			
Bracted Twistflower	*Streptanthus bracteatus*	Candidate		The bracted twistflower Rocky hillsides and slopes. It is usually found growing under shrubs, but it may not need shade; its present association with shrubs might be because deer have eaten the plants in the open.	No

E= Endangered
T=Threatened

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
Phone: (512) 490-0057 Fax: (512) 490-0974
http://www.fws.gov/southwest/es/AustinTexas/
http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

In Reply Refer To: November 04, 2019
Consultation Code: 02ETAU00-2020-SLI-0206
Event Code: 02ETAU00-2020-E-00451
Project Name: ABIA Fuel Farm Improvements

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that *may* occur within the county of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened

or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

While a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment, the Federal Agency must notify the Service in writing of any such designation. The Federal agency shall also independently review and evaluate the scope and content of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by a federally funded, permitted or authorized activity, the agency is required to consult with the Service pursuant to 50 CFR 402. The following definitions are provided to assist you in reaching a determination:

- *No effect* - the proposed action will not affect federally listed species or critical habitat. A “no effect” determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.
- *May affect, but is not likely to adversely affect* - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. The Federal agency or the designated non-Federal representative should consult with the Service to seek written concurrence that adverse effects are not likely. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.
- *Is likely to adversely affect* - adverse effects to listed species may occur as a direct or indirect result of the proposed action. For this determination, the effect of the action is neither discountable nor insignificant. If the overall effect of the proposed action is beneficial to the listed species but the action is also likely to cause some adverse effects to individuals of that species, then the proposed action “is likely to adversely affect” the listed species. The analysis should consider all interrelated and interdependent actions. An “is likely to adversely affect” determination requires the Federal action agency to initiate formal section 7 consultation with our office.

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

Migratory Birds

For projects that may affect migratory birds, the Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of these species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Migratory birds may nest in trees, brushy areas, or other areas of suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests, or eggs. If project activities must be conducted during this time, we recommend surveying for nests prior to conducting work. If a nest is found, and if possible, the Service recommends a buffer of vegetation remain around the nest until the young have fledged or the nest is abandoned.

For additional information concerning the MBTA and recommendations to reduce impacts to migratory birds please contact the U.S. Fish and Wildlife Service Migratory Birds Office, 500 Gold Ave. SW, Albuquerque, NM 87102. A list of migratory birds may be viewed at https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/communication-towers.php. Additionally, wind energy projects should follow the wind energy guidelines

https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php) for minimizing impacts to migratory birds and bats.

Finally, please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
(512) 490-0057

Project Summary

Consultation Code: 02ETAU00-2020-SLI-0206

Event Code: 02ETAU00-2020-E-00451

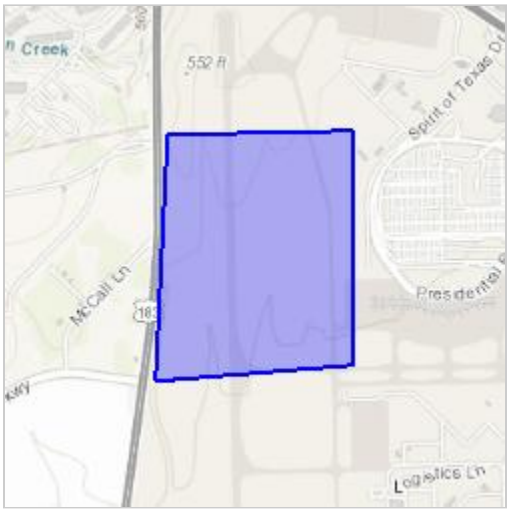
Project Name: ABIA Fuel Farm Improvements

Project Type: TRANSPORTATION

Project Description: Proposed fuel farm improvements.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/30.204450121934542N97.67761888388745W



Counties: Travis, TX

Endangered Species Act Species

There is a total of 18 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 3 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Golden-cheeked Warbler (=wood) *Dendroica chrysoparia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/33	Endangered
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Amphibians

NAME	STATUS
Austin Blind Salamander *Eurycea waterlooensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5737	Endangered
Barton Springs Salamander *Eurycea sosorum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1113	Endangered
Jollyville Plateau Salamander *Eurycea tonkawae* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3116	Threatened

Clams

NAME	STATUS
Texas Fatmucket *Lampsilis bracteata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9041	Candidate
Texas Fawnsfoot *Truncilla macrodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8965	Candidate
Texas Pimpleback *Quadrula petrina* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8966	Candidate

Insects

NAME	STATUS
Kretschmarr Cave Mold Beetle *Texamaurops reddelli* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3140	Endangered
Tooth Cave Ground Beetle *Rhadine persephone* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5625	Endangered

Arachnids

NAME	STATUS
Bee Creek Cave Harvestman *Texella reddelli* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2464	Endangered
Bone Cave Harvestman *Texella reyesi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5306	Endangered
Tooth Cave Pseudoscorpion *Tartarocreagris texana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6667	Endangered
Tooth Cave Spider *Neoleptoneta myopica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2360	Endangered

Flowering Plants

NAME	STATUS
Bracted Twistflower *Streptanthus bracteatus*	Candidate

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/2856

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

From:	Texas Natural Diversity Database
To:	Molly Waller
Cc:	Katy Moran
Subject:	RE: Data Request
Date:	Monday, December 30, 2019 10:56:46 AM
Attachments:	waller_20191224.zip

The Texas Natural Diversity Database (TXNDD) staff provides the following information in response to your request for data. Please read this entire message for important information regarding your request, additional data sources, and project review.

As of June 1, 2019, each information request may contain additional spatial and report information. Be aware of files labeled in the following format (sfpt_(*requestor_name*)_yyyymmdd.zip, sfln_(*requestor_name*)_yyyymmdd.zip, or sfpy_(*requestor_name*)_yyyymmdd.zip). The additional files contain Source Features (observations) of tracked species or communities that haven't been added to an Element Occurrence (EO) record yet. You may also see reports that have file names starting with sf. All data, regardless of the record being an Element Occurrence (EO) or Source Feature (SF) should be considered when evaluating the impact of any project. If you have any questions about Source Feature data or how to use that information, please contact Bob Gottfried at (512)389-8744.

****Your information request area contains known ecologically significant stream segments. Use the links below to obtain these data.****

Your information request includes one or more areas known to contain karst features. Before you begin any project it is highly recommended that you download the GIS shapefiles for the Karst Zones from the USFWS website http://www.fws.gov/southwest/es/austintexas/ and/or contact Jenny Wilson – USFWS at (512)490-0057 x 231 for a review of the project location.

Data

The TXNDD includes federal and state listed and tracked Threatened, Endangered, and Rare species. Please note that **areas where Element Occurrence (EO) and Source Feature (SF) data are absent should not be interpreted as an absence of Threatened, Endangered, and Rare species.** *Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Data from the TXNDD do not provide a definitive statement as to the presence, absence, or condition of special species, natural communities, or other significant features within your project area. These data cannot substitute for an on-site evaluation by qualified biologists.*

Attached documents

The attached .zip file contains several documents that will guide you in appropriate use, restrictions, and interpretation of TXNDD data as well as a reporting form for submitting data to the TXNDD. The .zip file also includes additional supplemental documents. Below is a list of the files in the attached folder:

- **Shapefile** (*eo_[last name of requestor]_yyyymmdd.zip*) of the Threatened, Endangered and Rare species Element Occurrences made from information the TXNDD presently has available for the requested quad(s) (or within the requested county, by requested species when applicable).

- **EO Report** (*eoreport_[last name of requestor]_yyyymmdd.pdf*) of the EOs in the shapefile

mentioned above. The **EO Report** includes more detailed information about each EO than what is contained in the attribute table of the shapefile. Link the information in the shapefile to the information in the **EO Report** by *EO ID*. Note that if the number of records in your request area is large, this report may not be included; however, if, in this circumstance, you would like more detailed information about a particular EO, species, or smaller geographic area, you may request those data.

- **EO List** (*eolist_[last name of requestor]_yyyymmdd.pdf*) for those requests made by USGS 7.5 minute quadrangles. The **EO List** is a list of species for which we have records in the database in the USGS 7.5 minute quadrangles *surrounding* your request area The **EO List** is to inform you of federal and state listed and tracked Threatened, Endangered, and Rare species in the area. Note that the EO list is not included in county requests.

- **SF Report** (*sfreport_[last name of requestor]_yyyymmdd.pdf) of the Source Features* in the shapefile mentioned above. The **SF Report** includes more detailed information about each Source Feature than what is contained in the attribute table of the shapefile. Link the information in the shapefile to the information in the **SF Report** by *Source Feature ID*. Note that if the number of records in your request area is large, this report may not be included; however, if, in this circumstance, you would like more detailed information about a particular Source Feature, species, or smaller geographic area, you may request those data.

- **SF List** (*sflist_[last name of requestor]_yyyymmdd.pdf*) for those requests made by USGS 7.5 minute quadrangles. The **SF List** is a list of species for which we have Source Feature records in the database in the USGS 7.5 minute quadrangles ***surrounding*** your request area. The **SF List** is to inform you of federal and state listed and tracked Threatened, Endangered, and Rare species in the area. Note that the **SF List** is not included in county requests.

- **County List FAQ** (*County_lists_FAQ_20150415.pdf*) produced by the Wildlife Habitat Assessment Program.

- **TXNDD Information** document (*txndd_information.pdf*) that includes a background of the TXNDD, a description of past and current spatial methodology employed, and an explanation of interpretation of the data. Global and subnational (state) conservation ranks are also explained in this document as are the shapefile attributes and EO report sections.

- **TXNDD Reporting Form** (*txndd_reporting_form.doc*) for reporting observations of tracked elements to the Texas Natural Diversity Database. To submit data, fill out this form and send it to TexasNatural.DiversityDatabase@tpwd.texas.gov. Note that you can also submit data in the form of an Excel spreadsheet or written report.

Project Review, Rare Species County Lists, Project Planning, and BMPs

This email cannot substitute for an environmental review of your project by TPWD. For information on project review and to access the county lists of protected species and species of greatest conservation need with potential to occur in the county, please visit the Wildlife Habitat Assessment (WHAB) website at http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/. The WHAB website includes several resources to consider while planning your project to minimize impacts to fish and wildlife resources, including information /guidelines on Wind Energy projects,

Transmission Line projects, Communication Towers, and Karst Zones (Travis, Williamson, and Bexar Counties).

Ecologically Significant Stream Segments
If your information request area contains known ecologically significant stream segments, the data can be obtained by contacting Albert El-Hage (Albert.El-Hage@tpwd.texas.gov).

Critical Habitat
If your information request area contains federally designated critical habitat, the data can be obtained at http://ecos.fws.gov/crithab/.

TPWD Managed Areas
We are no longer providing Managed Area shapefiles and associated Managed Area Reports. To obtain shapefiles for Wildlife Management Areas and State Park Boundaries, please visit the Texas Parks and Wildlife Department GIS Data Download page (https://tpwd.texas.gov/gis/data/).

Sincerely,

Sandy Birnbaum
Texas Natural Diversity Database manager
Texas Parks & Wildlife Dept.
4200 Smith School Rd.
Austin, TX 78744
Phone: 512-389-8729
Fax: 512-389-4599

Texas Natural Diversity Database information

From: Molly Waller <molly@plan.design>
Sent: Tuesday, December 24, 2019 5:06 PM
To: Texas Natural Diversity Database <TexasNatural.DiversityDatabase@tpwd.texas.gov>
Cc: Katy Moran <katy@plan.design>
Subject: Data Request

Good afternoon. I would like to request available data for a project I am working on at Austin Bergstrom International Airport. The project is located entirely within airport property.

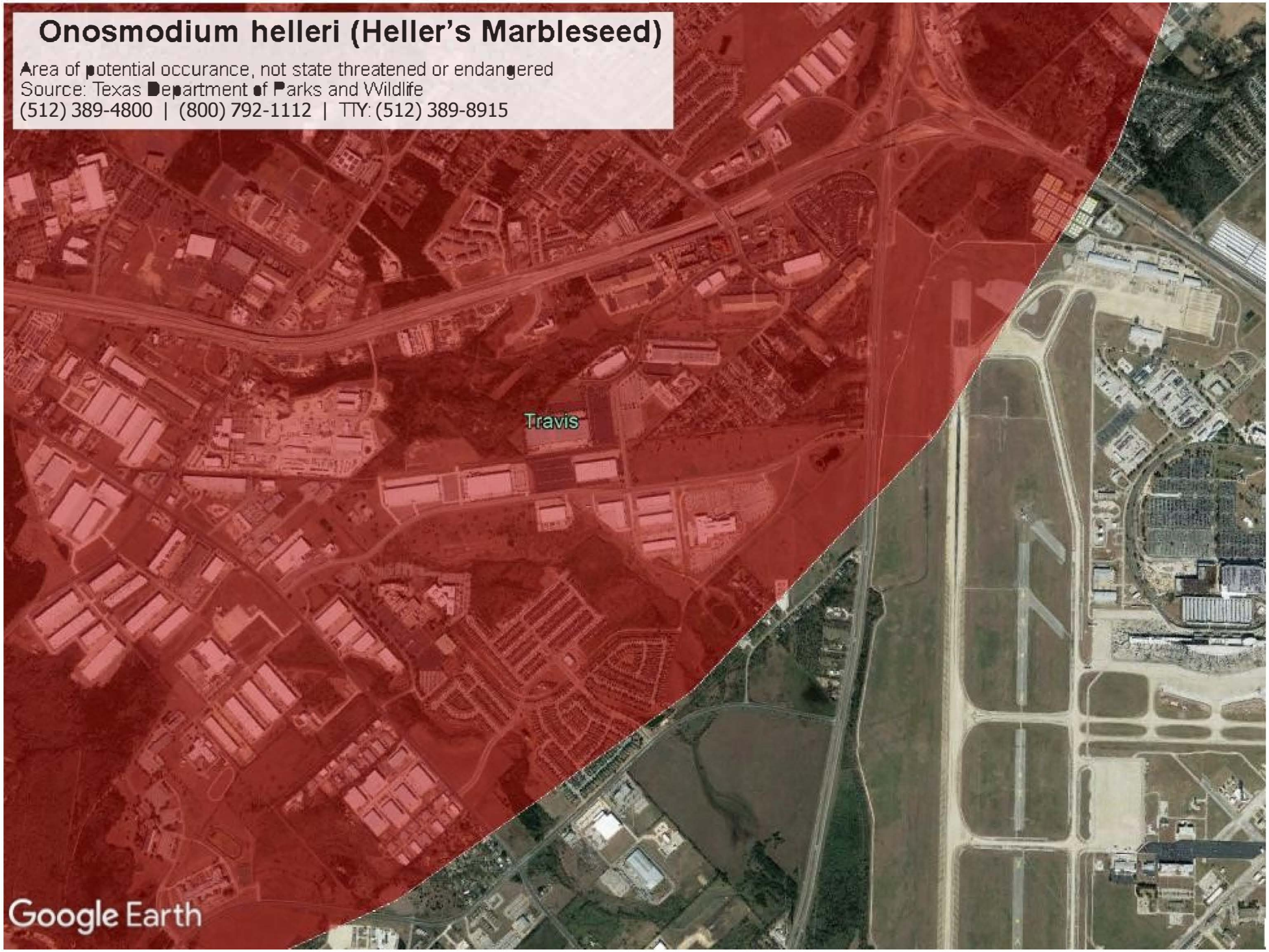
County Name = Travis
USGS Quad Map = Montropolis (24k)
Project type = site development (all upland, regularly maintained site, i.e., mowed)

Thank you!

MOLLY WALLER
CENTURION PLANNING & DESIGN
325.757.1001 (o) | 816.519.4653 (m)
molly@plan.design

Onosmodium helleri (Heller's Marbleseed)

Area of potential occurance, not state threatened or endangered
Source: Texas Department of Parks and Wildlife
(512) 389-4800 | (800) 792-1112 | TTY: (512) 389-8915



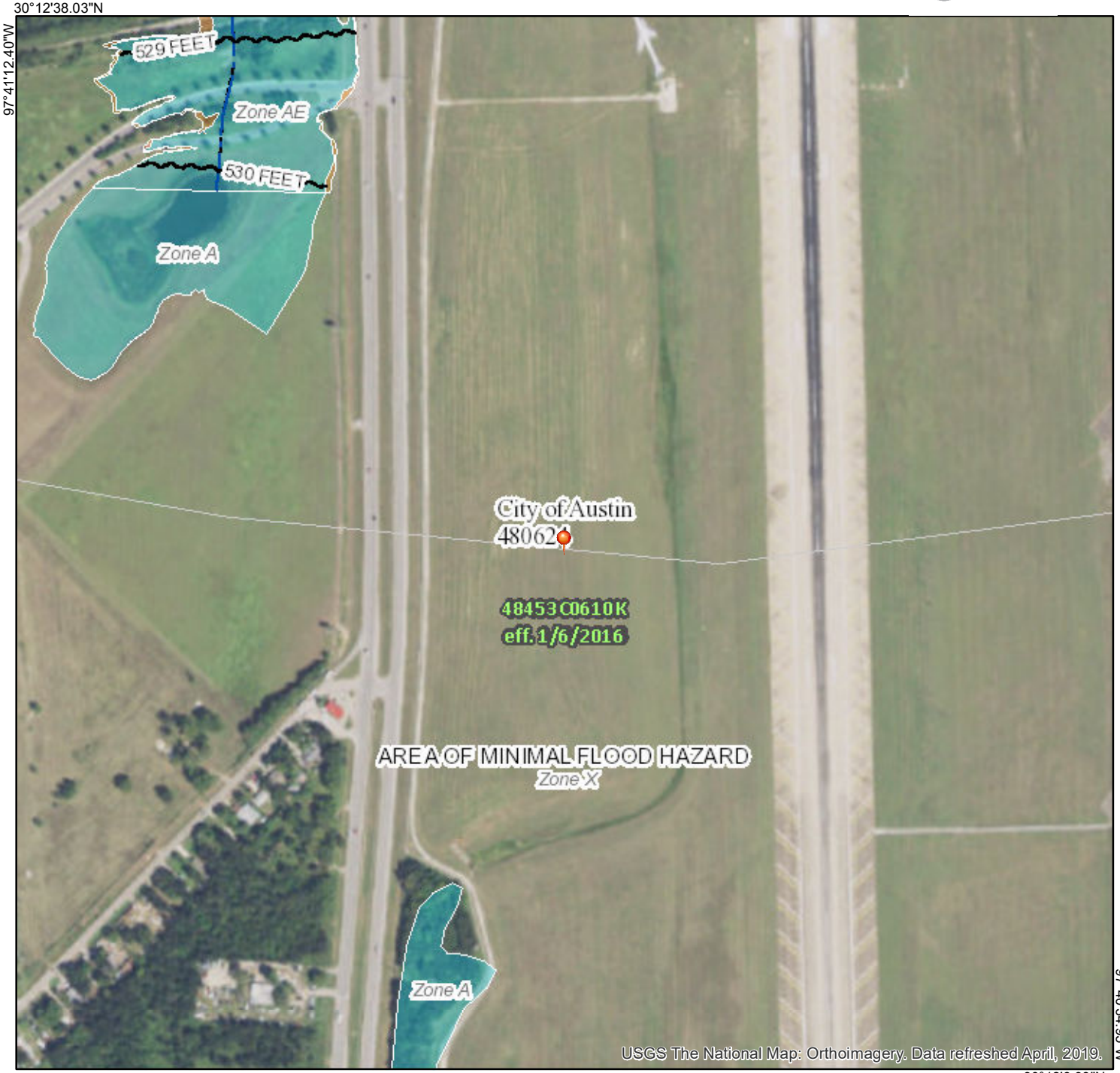
APPENDIX C
FLOODPLAINS

National Flood Hazard Layer FIRMette

FEMA

30°12'38.03"N

97°41'12.40"W



97°40'34.95"W

30°12'6.93"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/24/2019 at 4:51:53 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX D
WETLANDS

Baer Engineering
and Environmental Consulting, Inc.
T.B.P.E. Firm Registration No. F-3181 T.B.P.G. Firm Registration No. 50030A

January 2, 2018

CDM Smith
12357 A Riata Trace Parkway, Suite 210
Austin, Texas 78727

*Deliv*ered via e-*mail to PearsonCR@cdmsmith.com*

Attention: Ms. Candace Pearson

Reference: Wetland Identification within Drainage Swale
Austin Bergstrom International Airport (ABIA), Austin, Texas
Baer Engineering Document No. 162033-8b.012

Dear Ms. Pearson:

Baer Engineering and Environmental Consulting, Inc. (Baer Engineering), is pleased to provide this letter report to CDM Smith (CDM) for the above-referenced project. Baer Engineering evaluated the presence of jurisdictional waters, including wetlands, for the drainage swale at the West Runway following U.S. Army Corps of Engineers (USACE) guidelines. The purpose of evaluating this swale was to provide options to ABIA staff for maintaining the vegetation within the swale. Saturated soils have prevented mowing equipment from accessing the swale. The Federal Aviation Administration (FAA) does not have a direct policy on vegetation height but advises airport authorities to develop vegetation management plans based on the airport's geographic location and types of hazardous wildlife found nearby (FAA 2007). We focused our recommendations on keeping the vegetation in this drainage swale at a height to discourage wildlife, as mandated by ABIA's Wildlife Hazard Management Plan, while maintaining compliance with USACE regulations.

JUSTIFICATION AND METHODS

The USACE holds regulatory jurisdiction over Waters of the U.S. (WOUS), including wetlands, as mandated by Section 404 of the Clean Water Act and defined in the Code of Federal Regulations (CFR), which states:

> *The term waters of the United States means:*
> 1. *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
> 2. *All interstate waters including interstate wetlands;*
> 3. *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:*
>   - i. *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
>   - ii. *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
>   - iii. *Which are used or could be used for industrial purpose by industries in interstate commerce;*
> 4. *All impoundments of waters otherwise defined as waters of the United States under the definition;*

5. *Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;*
6. *The territorial seas;*
7. *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section; and*
8. *Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.*

[(33 CFR §328.3(a); 1984); (GPO, 2007)]

The ordinary high water mark (OHWM) is used to establish USACE jurisdictional boundaries for most non-tidal waters, including creeks and lakes. OHWM is defined in the CFR as follows:

The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

[(33 CFR §328.3(e); 1984); (GPO, 2007)]

Wetlands adjacent to WOUS are provided legal protection from development under the Clean Water Act and its subsequent amendments and Supreme Court Rulings. The USACE holds regulatory jurisdiction over wetlands as explained and legally defined in the CFR, which states:

The term "wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

[(33 CFR 328.3(b); 1984); (GPO, 2007)]

Published guidance titled *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) was released for the purposes of interpreting this legal definition while attempting to determine the extent of jurisdictional wetland boundaries. The USACE manual requires that survey sample points have absolute presence of three key parameters prior to declaring an area as a wetland: hydric soils, hydrophytic vegetation, and specific hydrology characteristics.

In 2010, the USACE implemented the use of a supplemental delineation manual for the Great Plains Region (USACE 2010). This manual provides more information than its 1987 predecessor and is specific to this region. Similar regional supplements have been produced for use throughout the United States and they are divided into groups with broad ecological resemblance. Wetlands discussed in this letter meet the hydrophytic vegetation and hydrology as defined by the CFR and were determined using the guidance from the 2010 USACE regional supplement (Great Plains Region) for Austin, Texas. As a time saving measure we did not conduct soil sampling to check for hydric soils. We assumed hydric soils if the dominate vegetation was Facultative-wetland and Obligate-wetland plant species and hydrologic indicators were present.

Construction activities resulting in the placement or removal of fill materials within WOUS are subject to the regulations and restrictions of the Clean Water Act and its subsequent amendments. The Site contains WOUS including a wetland and an ephemeral stream that connects to Onion Creek, a non-navigable, permanent waterway.

The Site contains no Navigable Waters, as listed by the USACE and protected by Section 10 of the Rivers and Harbors Act.
On June 13, 2017, two Baer Engineering certified wetland delineators estimated the wetland boundary based on identification of hydrophytic vegetation and specific hydrology characteristics. A figure depicting the estimated wetland boundary and tributaries is provided as an attachment to this report.

RESULTS

Two certified wetland delineators from Baer Engineering identified a wetland area within the airside stormwater drainage swale. No Ordinary High Water Mark (OHWM) was observed within this airside swale. We followed the drainage downstream (ABIA landside) to an Onion Creek tributary which *did* exhibit OHWM characteristics. Baer Engineering determined a significant nexus occurs between the wetland on the airside and the Onion Creek tributary on the landside of ABIA.

The Onion Creek tributary (landside) flows through an established riparian area. The tributary is fed by two separate outfalls located approximately 250 feet apart and a seep. Both outfalls had 4 to 6-foot deep pools of water covering >50% of the outfall face, **PHOTOGRAPH 1**. Flowing groundwater from the seep was observed in several places upslope from the tributary, **PHOTOGRAPH 2**. We observed wetland vegetation along the banks of the tributary and surrounding the seep, **PHOTOGRAPH 3**. Baer Engineering did not delineate the landside wetland areas.

Upstream of the Onion Creek tributary, we estimated the area of the airside wetland to be 1.7 acres. The wetland exhibited several hydrologic indicators, obligate and facultative wetland plant species, and surface indicators of hydric soils. We did not conduct soil sampling. We assumed hydric soils because the dominant vegetation was Facultative-wetland and Obligate-wetland plant species.

The upstream end of the airside wetland is located near the ABIA glide slope antenna (30.210154°, -97.680826°). The wetland continues the length of the drainage swale, approximately 2,800 linear feet. The airside wetland ends at the culvert at the perimeter road. Most of the wetland is between 10 and 15 feet wide, with a 400-foot section widening to 65 feet.

Sections of the wetland had tire ruts from mowing equipment, **PHOTOGRAPH 4**. Other sections of the wetland were not mowed, and water was observed flowing through the vegetation, **PHOTOGRAPHS 5 AND 6**. Water was also observed seeping from the ground around the culvert opening near the perimeter road, **PHOTOGRAPH 7**. Oxidized iron deposits, crawfish burrows, and algae mats were observed within the drainage swale. These are indicators of wetland hydrology, **PHOTOGRAPHS 8, 9, AND 10**.

Several primary and one secondary indicator for wetland hydrology were observed at the Site. The hydrology indicators included:

OBSERVATION OF SURFACE WATER OR SATURATED SOILS (PRIMARY INDICATOR)	EVIDENCE OF CURRENT SOIL SATURATION (SECONDARY INDICATOR)
Surface Water	Crayfish burrows
High Water Table	
Saturated Soils	
Algal Mat	
Iron Deposits	

The following dominant plant species were observed within the wetland area:

SPECIES	WETLAND INDICATOR STATUS
American Water-Willow (*Justicia americana*)	Obligate Wetland
Black Willow (*Salix nigra*)	Facultative Wetland
Broadleaf Cattail (*Typha latifolia*)	Obligate Wetland
California Loosestrife (*Lythrum californicum*)	Obligate Wetland
Canada Wildrye (*Elymus canadensis*)	Facultative Upland
Common Wild Petunia (*Ruellia nudiflora*)	Upland
Curly Dock (*Rumex crispus*)	Facultative
Dallisgrass (*Paspalum dilatatum*)	Facultative
Eastern Gama Grass (*Tripsacum dactyloides*)	Facultative
Fiddle Dock (*Rumex pulcher*)	Facultative Wetland
Fragrant Flatsedge (*Cyperus odoratus*)	Facultative Wetland
Frog Fruit (*Phyla incisa*)	Facultative
Giant Ragweed (*Ambrosia trifida*)	Facultative
Hairy Umbrella-Sedge (*Fuirena squarrosa*)	Obligate Wetland
Lady Bird's Centaury (*Centaurium texense*)	Upland
Marsh Fleabane (*Pluchea odorata*)	Facultative Wetland
River Primrose (*Oenothera jamesii*)	Facultative Wetland
Sensitive Briar (*Mimosa microphylla*)	Upland
Southern Dewberry (*Rubus trivialis*)	Facultative Upland
Tall Thistle (*Cirsium altissimum*)	Upland
Texas Dandelion (*Pyrrhopappus multicaulis*)	Upland
Umbrella Plant (*Cyperus involucratus*)	Facultative Wetland
Water Primrose (*Ludwigia octovalvis*)	Obligate Wetland
Western Umbrella-Sedge (*Fuirena simplex*)	Obligate Wetland
Yellow Puff (*Neptunia lutea*)	Facultative Upland

RECOMMENDATIONS

Baer Engineering estimated the wetland boundaries at the Site. The wetland is connected to an Onion Creek tributary, which does have an OHWM, and therefore this wetland is under USACE jurisdiction. Any placement or removal of fill material within the boundaries of the wetland would require approval from USACE.

Baer Engineering has identified 3 options for the airside wetland:

1. Remove the wetland,
2. Leave the wetland in its existing state; or
3. Maintain low vegetation height in the wetland by hand maintenance.

Option 1: Remove the Wetland Area

Based on our field data, USACE has jurisdiction over the wetland as regulated by the Clean Water Act. USACE provides coverage under their Nationwide Permit (NWP) program for some developmental activities within WOUS but no NWP is applicable for this option. Therefore, ABIA would need to apply for an individual permit to remove the wetland. Impacts to wetlands require compensation at a minimum ratio of 1:1. Baer Engineering understands creating wetlands on or within 5 miles of ABIA operations is not a practical recommendation due to hazards of attracting

wildlife (FAA 2007). Obtaining an individual permit for removing this wetland is likely cost-prohibitive.

In addition to the USACE permitting requirement, the wetland is also subject to City of Austin (COA) requirements. Wetlands are considered Critical Environmental Features (CEFs) by the COA. Impacts within 150-feet of the wetland boundaries require coordination with the COA Watershed Protection Department. Based on the extensive permitting requirements, Baer Engineering does not consider this option feasible.

Option 2: Leave the Wetland in its Existing State
This option includes the recommendation to 1) mow and maintain around the perimeter of the wetland and leave the wetland area intact, and 2) conduct biological surveys to determine the wildlife hazard threat. FAA does not have a direct policy on vegetation height but does advise airport authorities to develop vegetation management plans based on the wildlife hazards for the area. ABIA would be in compliance with FAA regulations if the wetland does not attract hazardous wildlife (FAA 2007).

Baer Engineering recommends conducting systematic wildlife surveys to determine diversity and abundance of wildlife visiting the wetlands. Collection of this type of data will provide ABIA authorities information about the wildlife hazard resulting from leaving the wetlands in place and mowing around them. Methods for the surveys should be consistent and repeatable. Surveys should focus on species that are mobile and known to strike aircraft. A search of the FAA Wildlife Strike Database for ABIA, returned 481 strike reports since January 2013 (FAA 2017). Out of the 481 strikes, 456 were birds, 22 were bats, and 3 were mammals. Although mammal tracks were observed within the wetland area, **Photograph 11**, mammals, excluding bats, appear to be a minimal strike hazard, less than 1%, and should be excluded from the airside by fortifying the perimeter fence. Therefore, we suggest focusing on bird and bat surveys. ABIA could establish a plan for point count surveys along the drainage swale and record birds heard or seen within a set distance (e.g. 150 feet). Point counts should be conducted during the morning hours and for a set period of time (e.g. 5-8 minutes). The observer should indicate where the birds were detected and if they were observed within or flying into the wetland area. Additional information on point count surveys for birds can be obtained from *Standardized North American Marsh Bird Monitoring Protocols* (Conway 2009). Anabat Detection Systems (ADS) can be used to record bat echolocation calls during the Spring and Summer months, when bats are most active. The ADS should be set to begin recording at sunset and stop at sunrise. Recorded calls can be compared to known bat reference calls for identification.

Results from this data collection would provide evidence if the wetland is used by bird or bat species and is therefore a hazard.

Option 3: Maintain Low Vegetation Height in the Wetland by Hand Maintenance
This option includes the recommendation to maintain a low vegetation height within the wetland by using a hand operated rotary cutter (weed trimmer). The soils in this drainage swale appear to be saturated year-round making it difficult to use large lawn mowing equipment. USACE allows the cutting of vegetation as long as the plant root systems are maintained, as stated in the CFR:

> *323.2 (2) The term discharge of dredged material does not include the following:*

> *(ii) Activities that involve only the cutting or removing of vegetation above the ground where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.*
>
> [(33 CFR 323.2(d)(1), (2); 1999); (GPO, 2007)]

ABIA maintenance staff could set the appropriate schedule to maintain the vegetation in the wetland to keep the vegetation at an acceptable height to discourage wildlife.

CONCLUSION

Baer Engineering recommends that ABIA employ Option 2 or 3. Option 2 involves leaving the wetland area in its existing state and conducting systematic surveys to evaluate the hazard this wetland poses on the airport. Option 3 involves maintaining a low vegetation height in the wetland by hand maintenance. Notification to USACE is not required for either option 2 or 3.

If leaving the wetland area intact and conducting systematic surveys (Option 2) is chosen, the ABIA Wildlife Hazard Management Plan (WHMP) will need to be updated. This update will need to include the specific methodology used to evaluate the wildlife hazards and a plan to correct any wildlife hazards identified.

If maintaining low vegetation height in the wetland through the use of a weed trimmer (Option 3) is chosen, we suggest following the U.S. Air Force Guidance Memorandum 91-202, Section 7.3.1.5.10. This memorandum suggests maintaining a grass height between 7 and 14 inches. The ABIA WHMP will need to be updated to include this measure.

QUALIFICATIONS

Field work was performed on June 13, 2017. Conditions observed during field work may not reflect site conditions during the rest of the year. In addition, certain elements may have been hidden by vegetation or other site features. These elements may be observable during a different time of year.

Baer Engineering appreciates this opportunity to provide our consulting services on this project. If you have questions about this proposal, please do not hesitate to call me at (512) 453-3733.

Respectfully submitted,
BAER ENGINEERING AND ENVIRONMENTAL CONSULTING, INC.

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Attachments: Photograph Log
Estimated Wetland Boundary Map

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Photograph 1. View of the outfall face landside of the project area, both outfall faces were over 50% covered with water.

Photograph 2. View of the seep landside of the project area. Wet soils and wetland vegetation was observed surrounding the seep.

Photograph 3. View of landside drainage which exhibited OHWM characteristics. Additionally, wetland vegetation was observed along the edges.

Photograph 4. View of mowed wetland area within stormwater drainage swale. Ruts in the soil were observed, likely from heavy mowing equipment.

Photograph 5. View of unmaintained area of the drainage. Ruts from heavy mowing equipment are shown on the right side of the photograph. Plants in this area were hydrophytic species. Water was observed flowing through the vegetation.

Photograph 6. View of the unmaintained portion of the drainage.

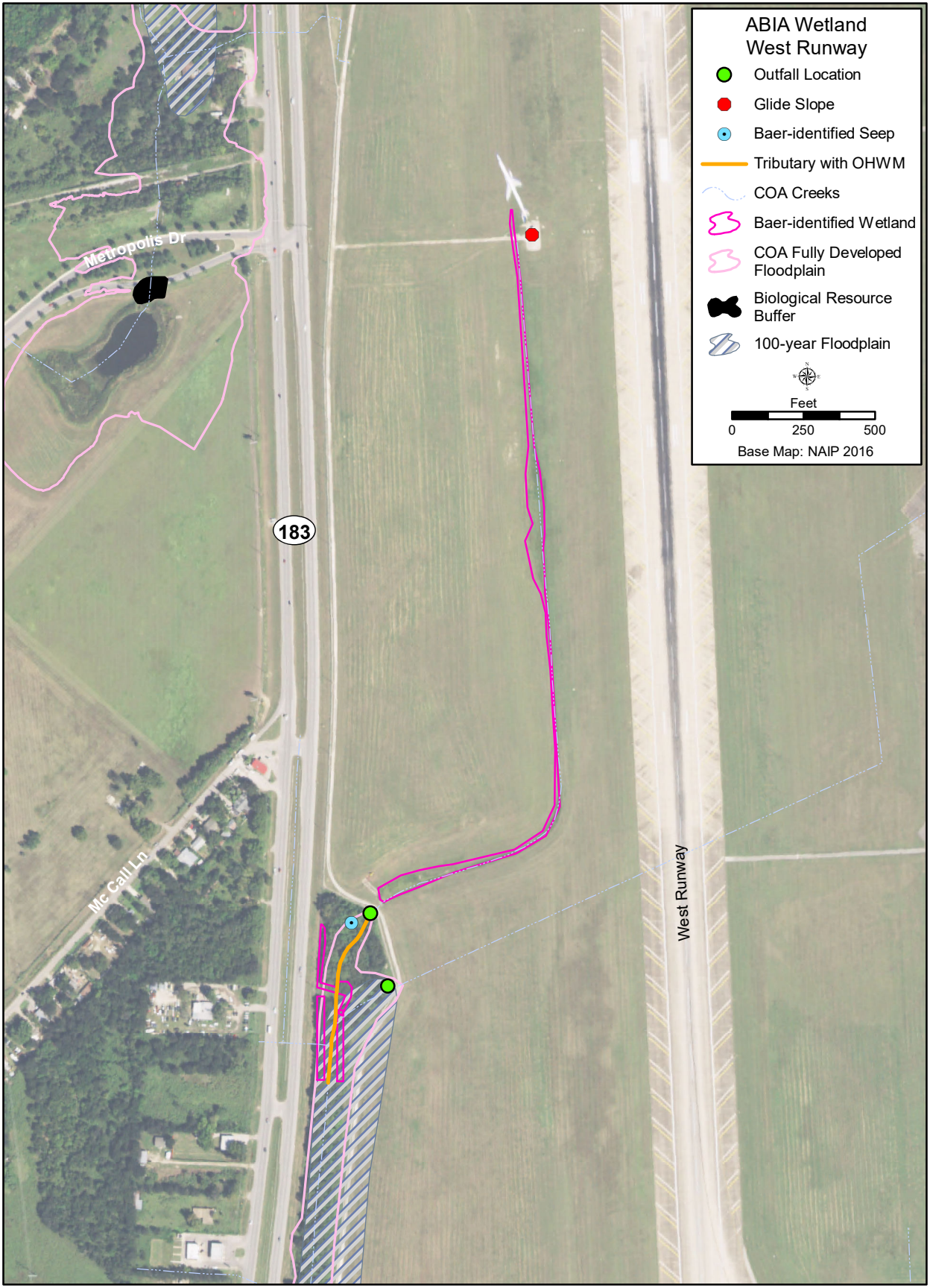
Photograph 7. View of the outfall at the downstream end of the wetland. Water was observed seeping from the soils in this area.

Photograph 8. Crayfish mounds were observed throughout the wetland area. This is a secondary indicator of wetland hydrology.

Photograph 9. View of oxidized iron on the soil surface. This is a primary indicator of wetland hydrology.

Photograph 10. View of oxidized iron on the soil surface and algal deposits. These are primary indicators of wetland hydrology.

Photograph 11. Tracks from a Common Raccoon (*Procyon lotor*) were observed within the drainage area. This species and other meso-mammals should be excluded from the airside portion of ABIA through the perimeter fencing.


ABIA Wetland
West Runway
Outfall Location
Glide Slope
Baer-identified Seep
Tributary with OHWM
COA Creeks
Baer-identified Wetland
COA Fully Developed Floodplain
Biological Resource Buffer
100-year Floodplain
Feet
0
250
500
Base Map: NAIP 2016
Metropolis Dr
183
Mc Call Ln
West Runway