FedEx ANCA Facility

Final Environmental Assessment

February 2024

THIS PAGE IS INTENTIONALLY LEFT BLANK.

FedEx ANCA Facility

Final Environmental Assessment

February 2024

Approved By:

Kristi Ponozzo **Environmental Protection Specialist** **Alaskan Region**	**Date**

THIS PAGE IS INTENTIONALLY LEFT BLANK.

TABLE OF CONTENTS

Figures

Tables

Appendices

THIS PAGE IS INTENTIONALLY LEFT BLANK.

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The purpose of the National Environmental Policy Act (NEPA) process is to fully consider and disclose to the public the environmental effects of a proposed federal action and its reasonable alternatives. This Environmental Assessment (EA) identifies and evaluates potential environmental effects related to the proposed relocation, construction, and operation of the FedEx Express (FedEx) ANCA Facility at Ted Stevens Anchorage International Airport (ANC or Airport).

The Federal Aviation Administration (FAA) is the lead federal agency to ensure compliance with NEPA for airport development actions. This EA is prepared in accordance with NEPA, as amended, Council of Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA*, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, 1050.1F Desk Reference, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, applicable Executive Orders (EOs), and other applicable federal, state, and local requirements.

1.2 PROJECT BACKGROUND

1.2.1 Description of Existing Airport

The Airport is located adjacent to the Cook Inlet in Alaska on the westernmost mainland point of the Municipality of Anchorage, the populated urban area known commonly as Anchorage, Alaska. ANC covers 4,210 acres of land, not including Lake Hood Airport, and is located approximately four miles southwest of downtown Anchorage (see **Figure 1-1** for the location of the Airport). The Airport is generally bounded by Point Woronzof Road and Airport Maintenance Road to the west, Raspberry Road to the south, Jewel Lake Road to the east, and Northern Lights Boulevard to the north.

The Airport is owned and operated by the State of Alaska Department of Transportation and Public Facilities (DOT&PF). In the National Plan of Integrated Airport Systems (NPIAS), the FAA classifies the Airport as a medium hub, primary commercial service airport (FAA, 2022a).

1.2.2 Existing Runways and Passenger Terminal Building

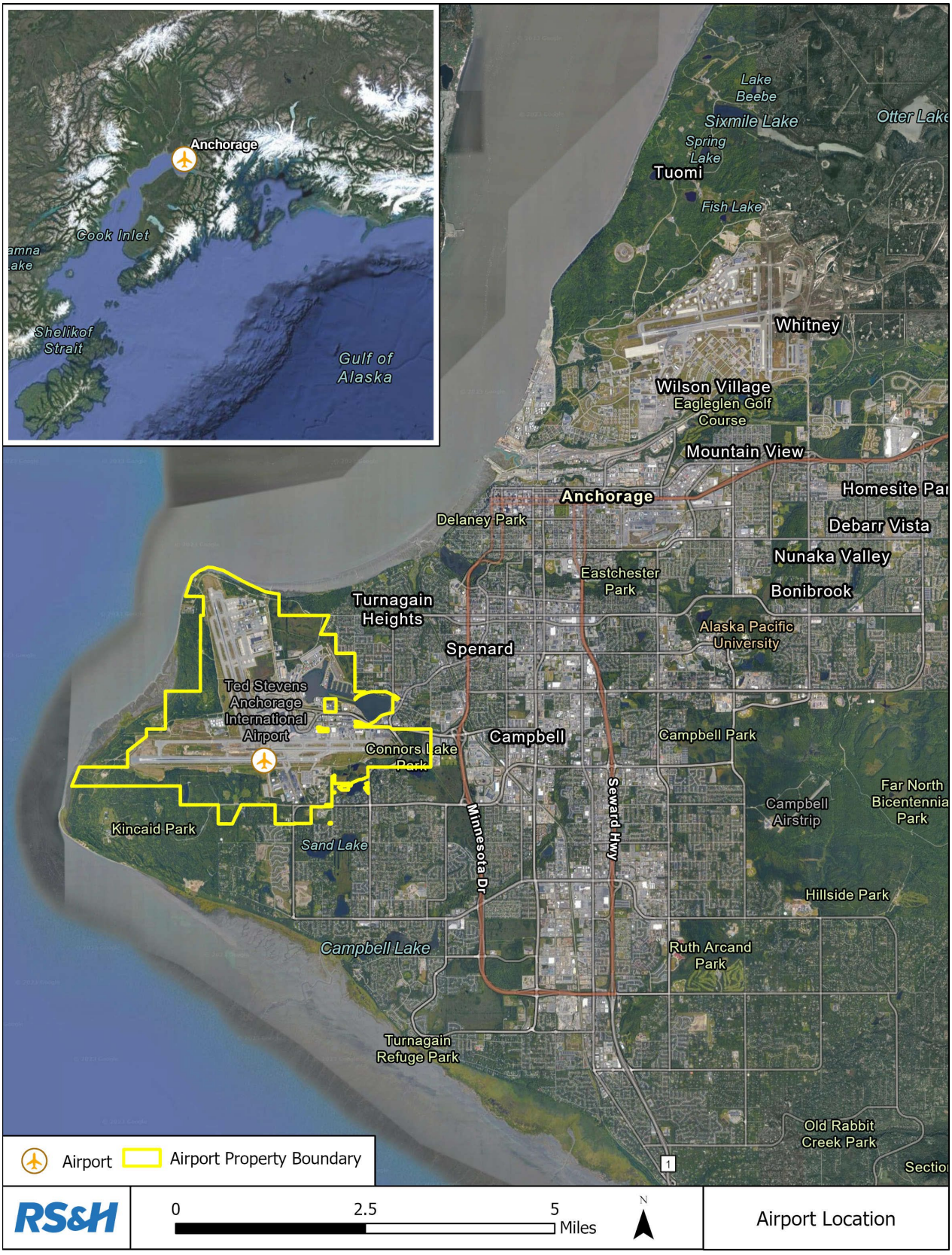
1.2.2.1 Existing Runways

The Airport has three runways; two parallel runways (7L-25R and 7R-25L) oriented in an east-west direction and a single runway (15-33) oriented in the north-south direction. Runway 7L-25R is 10,600 feet long and 150 feet wide; Runway 7R-25L is 12,400 feet long and 200 feet wide; and Runway 15-33 is 10,865 feet long and 150 feet wide (FAA, 2023).

1.2.2.2 Existing Passenger Terminal Buildings

The Airport's terminal area is comprised of the North and South terminals. The South Terminal serves Concourse A, Concourse B, and Concourse C. The North Terminal largely handles international flights, charter flights, and military flights and has eight aircraft gates.

Figure 1-1 Airport Location



The South Terminal is a four-level structure that provides facilities for passenger processing, inbound and outbound baggage, and 27 aircraft gates for passenger boarding and deboarding. Gates within Concourse A are ground-loading, and one gate within Concourse B has been turned into a concessions space.

The North Terminal is a three-level structure that provides facilities for passenger boarding and deboarding, ticketing/check-in lobby, passenger security screening, inbound and outbound baggage, cargo processing, concessions, and eight aircraft gates.

The South Terminal is connected to the North Terminal via a weather-protected, enclosed, connected corridor that extends from the north side of Concourse C to the south side of the North Terminal baggage claim area.

1.2.3 Existing FedEx Cargo Facilities

ANC is the third busiest cargo airport in the world. Cargo carriers at the Airport provide cargo and mail services to approximately 30 destinations. FedEx operates a major air cargo handling facility at the Airport. The Airport also serves as FedEx's primary courier delivery services processing center for the State of Alaska including the local Anchorage market area.

FedEx's existing operations area is accessible via Rockwell Avenue off of North Tug Road and Postmark Drive (see **Figure 1-2** for the FedEx operations area) and consists of 12 cargo aircraft parking positions, various ground service storage areas located adjacent to the main cargo processing buildings, and a taxilane that extends from Taxilane U to Taxiway T.

FedEx currently occupies buildings 115,116,120, 121, and 123 (see **Figure 1-2**) at North Airpark, which is a 646-acre area located north of the passenger terminal complex and east of Taxiway R. The majority of the buildings in the North Airpark are used for cargo purposes. The existing FedEx facilities at the Airport include space for the following activities: warehousing, equipment maintenance, ground service equipment storage and maintenance, cargo processing and sortation, aircraft storage, office work, employee training, snow storage, and employee parking. In addition, there is a dedicated fire suppression water system for the FedEx facilities.

On an average day, FedEx has 26 wide-body flights arriving or departing from the Airport, and six outbound feeder flights and five inbound feeder flights. Their sorting facility processes between 5,000 to 7,000 packages per hour and between 60,000 and 180,000 packages a day.

1.2.4 Aviation Activity

The FAA publishes the annual Terminal Area Forecast (TAF) for each airport in the federal system. TAF data is reported based on the FAA fiscal year, which is October through September.

The FAA released the 2022 TAF, which was the most recent version when the preparation of this EA began. There were 282,587 aircraft operations that took place in the 2021 fiscal year; and there are 315,067 aircraft operations forecast for 2026 fiscal year, when the Proposed Action would become operational (FAA, 2022b). Of the total aircraft operations in 2021, 128,674 operations were by cargo air carriers. FedEx, with an average of 26 flights a day to and from the Airport, encompassed about seven percent of all air carrier operations that occurred in the 2021 fiscal year.

Figure 1-2 Existing FedEx Operations Area

1.3 PURPOSE AND NEED FOR PROPOSED ACTION

The following section discusses the purpose of and need for the Proposed Action.

1.3.1 Purpose of the Proposed Action

The purpose of the Proposed Action is to provide suitable FedEx air cargo facilities at ANC to accommodate existing and future demand for cargo operations, increase operational efficiencies through new and improved cargo and airline support facilities, and be consistent with the Airport's long-term plans. The purpose and need of the FAA's action is to evaluate the DOT&PF request to update their ALP associated with the proposed FedEx ANCA Facility project and meet its statutory obligations under 49 U.S.C. 47101 and Section 163 of the 2018 FAA Reauthorization Act.

1.3.2 Need for the Proposed Action

The existing FedEx ANCA Facility at ANC is inadequate to meet FedEx's requirements for a delivery and sortation support facility. The existing facility does not provide the space needed for existing international and regional FedEx operations to occur efficiently as the facility was not designed to accommodate both operations at the existing level of demand. Simultaneous operations by numerous cargo aircraft, ground support, loading, and surface vehicles must be accommodated within pre-determined time periods that are predicated by next-day delivery schedules. FedEx has determined that to meet its operational goals, the integration of additional sorting facilities that would separate regional and international operations is required.

FedEx has indicated that simultaneous operations by numerous cargo aircraft, ground support, loading, and surface vehicles must be possible within pre-determined time periods that are predicated by next-day delivery schedules. Current air cargo facilities have historically met this need, but not resourcefully. Regular processing delays require that the proposed separation of facilities is necessary to maintain efficient operation.

1.4 SCOPE OF ENVIRONMENTAL ANALYSIS

The contents of each section of this EA are summarized below:

- Chapter 1 – Purpose and Need, provides a brief description of the Airport and the Proposed Action, its purpose and why it is needed.
- Chapter 2 – Alternatives, provides an overview of the identification and screening of alternatives considered as part of the environmental evaluation process.
- Chapter 3 – Affected Environment and Environmental Consequences, describes existing environmental conditions within the project study area and compares the environmental impacts associated with the Proposed Action, the No Action Alternative, and mitigation options considered.
- Chapter 4 – Cumulative Impacts, identifies and discusses the incremental effects of the Proposed Action on an environmental resource when added to effects on that resource due to past, present, and reasonably foreseeable projects on the Airport and within the vicinity of the Airport.
- Chapter 5 – Conclusion, identifies whether or not the described impacts are significant and summarizes any mitigations that reduce adverse impacts.

- Chapter 6 – List of Agencies Contacted, identifies which agencies have been consulted during the EA process.
- Chapter 7 – List of Preparers
- Chapter 8 – References

1.5 PUBLIC/AGENCY INVOLVEMENT

Under 40 CFR 1501.4, federal agencies are required to involve environmental agencies, applicants, and the public, to the extent practicable, in preparing EAs. The primary components of the agency coordination and public involvement program for the EA include:

- distribution of initial scoping letters to agencies;
- an agency scoping meeting;
- a public scoping meeting;
- publication of the Draft EA for agency and public review;
- a public workshop; and
- preparation of a Final EA that will include responses to comments received on the Draft EA.

Keeping agencies and the public informed and gathering input from each is an essential component of any environmental study. The following sections summarize the agency coordination and public involvement program for this EA.

1.5.1 Cooperating Agencies

There are no cooperating or participating agencies for this EA.

1.5.2 Agency and Organization Coordination

As part of initial scoping coordination efforts, on January 23, 2023, FedEx submitted, via email, invitations to comment on the scope of the EA and attend a scoping meeting on February 16, 2023. In total, eight federal, state, or local agencies and nine community-based organizations were contacted. The comments received were incorporated into the environmental studies where applicable. **Appendix A** includes the requests for comments sent to the agencies and organizations, confirmation of electronic delivery, and copies of responses received.

1.5.3 Public Involvement

1.5.3.1 Scoping

FedEx published a public notice with the Anchorage Daily News on January 23, 2023, announcing that it was holding a public scoping meeting on February 16, 2023, for the Proposed Action. The public scoping meeting was held in person on February 16, 2023, from 6:00 p.m. to 7:30 p.m. Alaska Standard Time (AKST) at the Coast Inn at Lake Hood in Anchorage. There were five attendees at the public scoping meeting. The format of the public scoping meeting was an open house with poster boards for the public to walk through and ask questions at their own pace. The poster boards covered a brief overview of NEPA and the NEPA process, the

purpose and need for the project, and the proposed scope for the environmental analysis of potentially affected resource categories, along with how to provide comments during the 30-day scoping period. Members of the public had an opportunity to ask questions and converse with FedEx staff and the EA consultant team. In addition, members of the public were given the opportunity to submit written comments during the scoping meeting. FedEx received no written comments during the public scoping meeting. A total of two comments, one from an agency and one from a community-based organization, were received during the 30-day comment period that ended on March 20, 2023, at 5:00p.m. AKST. **Appendix A** includes materials from the public scoping meeting and all comments received.

1.5.3.2 Public Draft EA

The Draft EA was available for review by the general public, government agencies, and interested parties for a period of 47 days. The Notice of Availability (NOA) of the Draft EA and information on the scheduled public open house was published in the Anchorage Daily News, notification on the State of Alaska Online Public Notification System and through the State of Alaska GovDelivery, and emailed to parties who had requested notification during the scoping period. The Draft EA was available electronically on the project website (https://bit.ly/ANCA-EA) and on the Airport's website (https://dot.alaska.gov/anc/). Hard copies of the Draft EA were available for public review at the DOT&PF offices (4111 Aviation Avenue, Anchorage, AK 99519) and at the Z.J. Loussac Library (3600 Denali Street, Anchorage, AK 99503).

A public open house was held during the Draft EA comment period on Tuesday, October 17, 2023, from 6:00 p.m. to 7:30 p.m. Alaska Daylight Time (AKDT) at the Coast Inn at Lake Hood in Anchorage (3450 Aviation Ave, Anchorage, AK 99502).

Comments on the Draft EA could be submitted during the comment period in writing at the public open house, electronically to Karin.Bouler@rsandh.com, or via mail to RS&H, Attn: Karin Bouler, 311 California Street, Suite 720, San Francisco, CA 94104. Written comments were accepted until 5:00 PM AKDT on Tuesday, October 31, 2023. The public was advised that before including their address, phone number, e-mail address, or other personal identifying information in their comment, that their entire comment – including their personal identifying information – may be made publicly available at any time.

Copies of the materials from the public open house, comments received during the comment period, and responses to those comments are provided in **Appendix A**.

1.5.4 Summary of Revisions to Draft EA

The following is a summary of the text changes to the EA, reflecting necessary revisions in response to comments or that were initiated to correct the Draft EA.

- The Table of Contents was updated to reflect this additional section (Section 1.5.4), the addition of the cumulative construction noise section (Section 4.1.5), the change of section number of the cumulative water resources section (Section 4.1.6), and any page number changes resulting from the text revisions. The list of appendices was also added to the Table of Contents.
- **Section 1.3.2** was updated to include additional detail as to the "need" for the Proposed Action.

- **Section 1.5.3.2** was updated to provide details of the Draft EA public comment period, including Draft EA availability information, how comments were received, and details of the public open house.
- **Section 1.5.4** was added to summarize the revisions to the Draft EA that are included in the Final EA.
- **Section 2.1.2** was updated to clarify that only regional operations would be moved from the existing FedEx ANCA Facility to the new facility. Domestic operations would remain at the existing facility. The construction of grassed swales and a detention basin was added to the list of components of the Proposed Action. A statement was added indicating that the site is being developed in a manner that inhibits stormwater from interacting with potentially contaminated groundwater.
- **Section 2.1.4** (Table 2-1) was updated to reflect any revisions made to Section 3.
- **Section 3.2** was updated to let the reader know that tribal consultation documentation has been added to Appendix C. The zoning designation was added under Land Use.
- **Section 3.3.2.3** was updated to reference the FAA's Aviation Emissions and Air Quality Handbook to clarify why an emissions inventory is not required for the Proposed Action.
- **Section 3.5.2.3** was edited for clarity purposes, including clarifying that the construction emission estimates would be spread out over two years, rearranging some sentences, and separating paragraphs in the operational discussion. Table 3-3 was added to provide estimates of the social cost of GHG emissions during construction and operation of the Proposed Action.
- **Section 3.6.2.3** was updated to include additional details related to the treatment of contaminated groundwater, during construction and operation, and information related to on-going water quality monitoring that would continue beyond construction.
- **Section 3.8.2.3** was revised to describe noise attenuation in greater detail, to add an evaluation of multiple pieces of construction equipment, and to reference the Airport's FAR Part 150 Compatibility Study Update. Clarification was also added that the Proposed Action would not result in any change to aircraft operations and an approximate distance was added for the proposed aircraft parking apron relative to the existing apron.
- **Section 3.10.4.2** was updated to include information about the on-going water quality monitoring of Postmark Bog.
- **Section 4.0** was updated to refer to the cumulative study area instead of a 3-mile radius and a description of how the cumulative boundary was determined was added. Table 4-1 was updated to revise the construction years for the Cargo and Cold Storage Facility to 2024-2026 from 2023-2025.
- **Section 4.1** was updated add construction noise to the list of environmental categories evaluated for cumulative impacts and to specify that operational noise was not evaluated for cumulative impacts.

- **Section 4.1.1** was revised to remove “and operation” from the first sentence, to add discussion of the Alaska Cargo and Cold Storage Project’s in relation to cumulative construction emissions, and to remove “construction and” from the second to last sentence.
- **Section 4.1.2** was revised to include the CEQ’s interim guidance on cumulative climate analysis and to discuss the Alaska Cargo and Cold Storage Project in relation to cumulative climate impacts, including quantifying the combined greenhouse gas (GHG) emissions for the Alaska Cargo and Cold Storage Project and the Proposed Action.
- **Section 4.1.3** was revised to add “also” following “Reasonably foreseeable projects would . . .”; to correct the title of Section 3.6, to state that the environmental management plan (EMP) details the plan to treat contaminated water and materials onsite; and to discuss the Alaska Cargo and Cold Storage Project in relation to cumulative hazardous materials, solid waste, pollution prevention impacts.
- **Section 4.1.5** was added to discuss cumulative construction noise impacts, specifically in relation to the Alaska Cargo and Cold Storage Project.
- **Section 4.1.6** was renumbered from Section 4.1.5 in order to keep the cumulative discussions in the same resource order as they appear in **Chapter 3**.
- **Section 4.1.6.1** (formerly Section 4.1.5.1) was revised to include additional detail, including the description of the USACE-identified geographic scope for cumulative wetland impacts as well as the USACE determination “that the incremental contribution of the Proposed Action to cumulative impacts in the area are not significant.”
- **Section 4.1.6.2** (formerly Section 4.1.5.2) was revised to add in mention that the Alaska Cargo and Cold Storage Project also has an approved EMP that includes soil handling, stormwater management, and groundwater management procedures at the site and to change “Best Management Practices” to “BMPs” in the second paragraph since the acronym has already been defined. A discussion of long-term management of contaminated soils and groundwater was also added.
- **Section 5.1** (Table 3-1) was revised to account for any revisions made throughout Section 3.
- **Section 5.2** was revised to include the EMP.
- **Section 6.2** was added to include Tribal Consultation.
- **Section 6.3** was renumbered from Section 6.2.
- **Section 6.4** was renumbered from Section 6.3 and was updated to identify Cathy Gleason as the Vice President and Acting President of the Turnagain Community Council.
- **Section 6.5** was renumbered from Section 6.4.
- **Section 8.0** was updated to include the CEQ reference that was added in Section 4.1.2.
- **Appendix C** was updated to include the tribal consultation letters. The title of Appendix C was updated from “Cultural Resources” to “Cultural and Tribal Resources.”

1.6 FEDERAL ACTION REQUESTED

The following federal action and approval is requested from the FAA. The Project Sponsor may not implement the Proposed Action prior to FAA approval.

- Unconditional approval of portions of the Airport Layout Plan (ALP) that depict the Proposed Action.

2.0 ALTERNATIVES TO THE PROPOSED ACTION

This EA discloses the environmental impacts that would result from implementation of the Proposed Action, the reasonable alternatives to the Proposed Action, and the No Action Alternative. The FAA has the responsibility to:

- Identify a range of reasonable alternatives that fulfill the purpose and need for the Proposed Action, as described in Title 40, or the Code of Federal Regulations (CFR), § 1502.14, and FAA Order 1050.1F, paragraph 7-1.1(e). At a minimum, the range of reasonable alternatives will include the Proposed Action and the No Action Alternative.
- Discuss the reasons that an alternative was eliminated from detailed study (40 CFR § 1502.14[a]) (1978).
- Identify the FAA's preferred alternative, unless an applicable law prohibits the expression of such a preference (40 CFR § 1502.14[e]) (1978).

As stated in FAA Order 1050.1F, paragraph 6-2.1(d):

> *"(t)here is no requirement for a specific number of alternatives or a specific range of alternatives to be included in an EA. An EA may limit the range of alternatives to the proposed action and no action when there are no unresolved conflicts concerning alternative uses of available resources. Alternatives are to be considered to the degree commensurate with the nature of the proposed action and agency experience with the environmental issues involved."*

2.1.1 No Action Alternative

Under the No Action Alternative, FedEx would not develop the ANCA Facility and supporting elements and no physical changes to FedEx operations area would occur. All operations would remain at the existing ANCA facility.

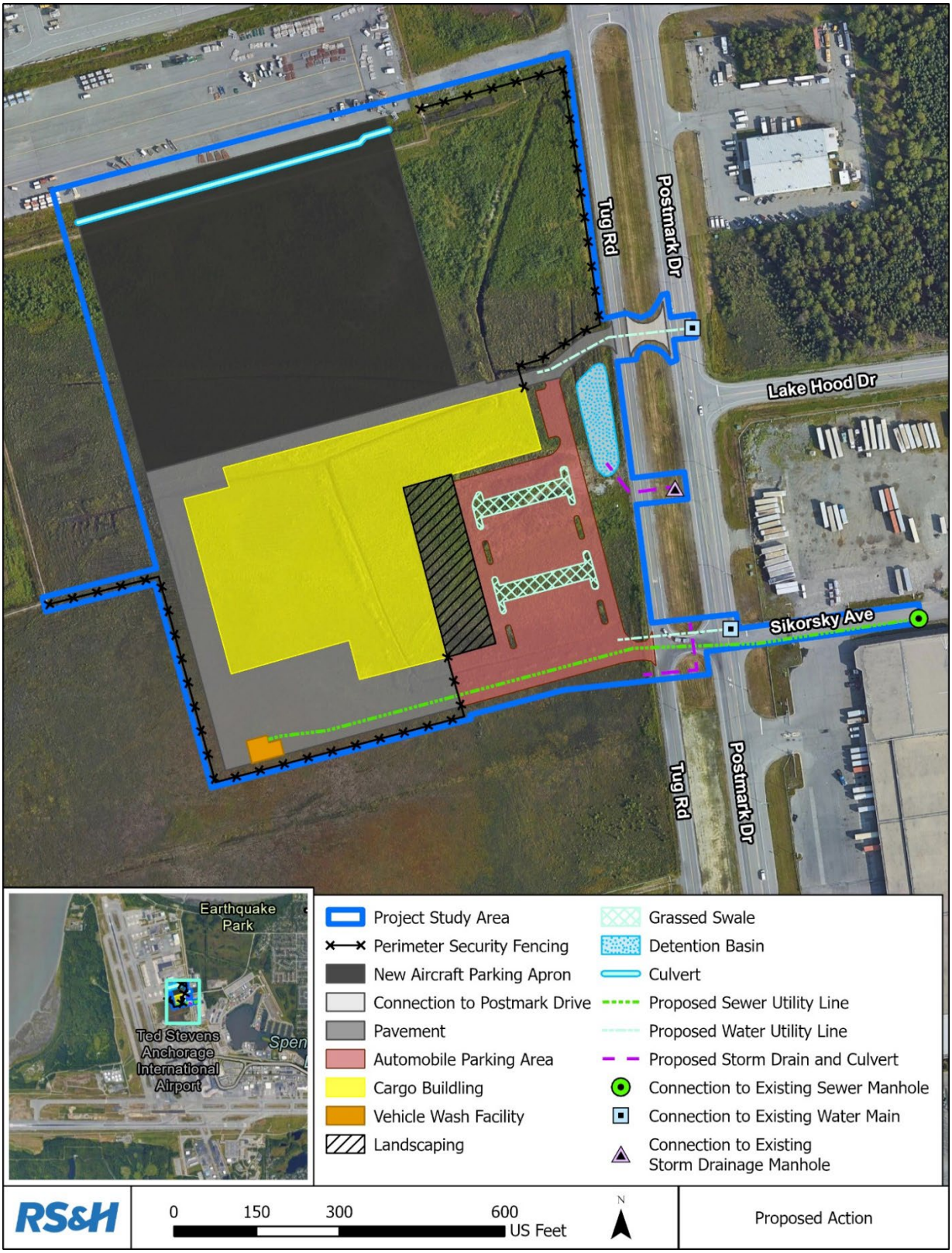
2.1.2 Proposed Action (Preferred Alternative)

The Proposed Action would relocate regional operations at the FedEx ANCA Facility to an adjacent area south of the existing facility and Taxilane U, on a 21.9-acre parcel that has been leased from the Airport. International operations would remain at the existing facility. The separation of regional and international operations would reduce processing delays and allow FedEx to efficiently meet existing consumer demand.

The Proposed Action (see **Figure 2-1**) would consist of the following components:

- construct two new buildings (an approximately 186,000-square-foot package sorting facility and an associated 2,100-square-foot vehicle wash building);
- construct an automobile parking area (261,403 square feet, including paved area surrounding buildings);
- construct a feeder aircraft parking apron (339,924 square feet), which is also referred to as the new aircraft parking apron, and culvert the existing drainage ditch at this location;
- construct a connection to Postmark Drive;

Figure 2-1 Proposed Action



- construct grassed swales and a detention basin to treat the increase in stormwater runoff;
- install new perimeter security fencing; and
- extend the water, storm drain, and sanitary sewer utilities off-site to connect into existing utilities under Tug Road, Postmark Drive, and Sikorsky Avenue.

The site is being developed in a manner that inhibits stormwater from interacting with potentially contaminated groundwater. The buildings would be built on Geopier Rammed Aggregate Piers® (RAP)[1] (Geopier, 2023) south of the ramp extension using a structural slab to reduce surcharging requirements. The parking area would be located east of the building and connected to North Tug Road and Postmark Drive via a short driveway. A silt fence would be placed along the edge of the disturbed area during construction.

Approximately 142,500 cubic yards of classified fill and backfill and 21,642 cubic yards of cut would be required in order to construct the facilities. The cut would remain onsite and be relocated adjacent to the cut areas or to another area of the site. Approximately 6,600 cubic yards of asphalt concrete (AC) pavement would be required as well as 2,900 cubic yards of Portland cement concrete (PCC) pavement.

Once the Proposed Action has been completed regional operations would be managed out of the new facility, with international and conterminous United States operations remaining in the existing facility. Currently, all operations are being managed out of the existing facility.

Construction of the Proposed Action is anticipated to start in May 2024 and be completed by September 2026.

2.1.3 Alternatives Development and Comparison

This section lists the reasonable alternatives, describes the process for screening the alternatives, and the results of the process. Only practicable alternatives are considered in this alternatives analysis. “Practicable” is defined as those that were or could become available and can potentially be implemented with the logistics, technology, and cost that meet the purpose of the Proposed Action.

2.1.3.1 Alternatives Considered but not Carried Forward

Specifications for potential off-site sorting facility locations included appropriately zoned sites greater than 10 acres within a 15-mile radius of the Airport. Three off-site alternative sites were considered for the sorting facility. The potential off-Airport sites are located near each other and are approximately 7.5 miles from the proposed feeder ramp location. **Figure 2-2** shows the location of the off-Airport sites.

[1] Geopier System (RAP) is a ground improvement method that prestrains and prestresses the soil using soil replacement and soil displacement technology to strengthen soft soil and loose soil with very dense, stiff, rock columns constructed by heavy equipment crowd force and vertical impact ramming.

Figure 2-2 Locations of Off-Site Alternatives

Off-Site Alternatives Locations Overview

Option 1

Option 2

Option 3

Option 1 – 151 West 100th Avenue

Option 1 is a 26.62-acre parcel located at 151 West 100th Avenue. The parcel is zoned for industrial uses and is currently used as a small truck terminal. The parcel has relatively level topography and is on-market for sale. Option 1 would be located 7.5 miles from the proposed feeder ramp location and a separate feeder ramp from the sorting facility would be inefficient and would not meet the purpose and need. Therefore Option 1 was not carried forward for further analysis.

Option 2 – 100th and C Street

Option 2 is a 27.26-acre parcel located at the West 100th Avenue and C Street intersection. The parcel is zoned for industrial uses and the current owner has indicated that there is the potential to divide the parcel. The parcel is currently undeveloped other than some utilities and contains deep peat that would require excavation and replacement with appropriate fill material in order to develop. The parcel is currently not on the market for sale. Option 2 would be located 7.5 miles from the proposed feeder ramp location and a separate feeder ramp from the sorting facility would be inefficient and would not meet the purpose and need. Therefore Option 2 was not carried forward for further analysis.

Option 3 – Cook Inlet Region, Inc. (CIRI)

Option 3 is a 19.83-acre parcel located at the C Street and Walter J. Hickel Parkway intersection. The parcel is zoned for industrial uses and the current owner has indicated that there is the potential to divide the parcel. The site has been surcharged for development and utility connections are present at the corner of the parcel. The parcel is currently not on the market for sale. Option 3 would be located 7.5 miles from the proposed feeder ramp location and a separate feeder ramp from the sorting facility would be inefficient and would not meet the purpose and need. Therefore Option 3 was not carried forward for further analysis.

2.1.3.2 Screening Process

The proposed sorting facility is directly tied into the feeder ramp and alternative on-Airport ramps or properties adjacent to the FedEx facility are currently unavailable. As such, the location of the feeder ramp is not considered to have any alternatives and any alternatives that would separate feeder ramp from the sorting facility would be inefficient and would not meet the purpose and need. Therefore, the only reasonable alternatives to assess are the No Action Alternative and the Proposed Action, which is the preferred alternative.

2.1.4 Comparison of Environmental Impacts

Environmental effects of the Proposed Action are discussed in **Chapter 3**. A discussion of the environmental impact categories considered but found to have no impact from the Proposed Action can be found in **Section 3.2**. **Table 2-1** compares the potential environmental effects of the No Action Alternative and the Proposed Action for those environmental categories that may be affected.

Table 2-1 Comparison of Environmental Impacts by Alternative

Resource	No Action Alternative	Proposed Action
Air Quality	No effect	• Not expected to result in an exceedance of any air quality pollutants based on NAAQS standards. • Not considered a "major source of air pollutants."
Biological Resources	No effect	• No removal of any trees or structures that may be used as nesting habitat for migratory birds protected by the Migratory Bird Treaty Act. • No effect on any endangered or threatened species.
Climate	No effect	• Temporary increase in CO_2 emissions over the duration of construction (2,474 metric tons over two years). • No changes to aircraft operations or surface traffic. • The new facility would produce 1,144 metric tons of CO_2 per year, which is not expected to be a significant effect to climate.
Hazardous Materials, Solid Waste, and Pollution Prevention	No effect	• Presence of contaminated groundwater, soil, and peat. • Potential for the Proposed Action to temporarily impact and displace per- and polyfluoroalkyl substances (PFAS)-contaminated groundwater. • Would generate relatively small amounts of solid waste from construction that would be disposed of at the local landfill, which has the capacity to receive the solid waste and be of low significance.
Natural Resources and Energy	No effect	• Temporary increase the consumption of energy and natural resources in the form of fuel, lubricants, and other construction materials necessary to build the proposed facility. • Would extend the water, storm drain, and sanitary sewer utilities off-site to connect into existing utilities under Tug Road, Postmark Drive, and Sikorsky Avenue • Energy demands would not exceed available or future energy supplies.
Noise	No effect	• Construction noise level would not likely be perceptible over typical ambient noise levels of the Airport. • Operation of the Proposed Action would have no effect on noise setting at the Airport.

Visual Resources	No effect	• Light Emissions: Lighting installed would be consistent with that of an airport and would not create annoyance or interfere with normal activities from light emissions or affect the visual character of the area due to the light emissions. • Visual Resources and Character: The proposed facility would be in character with the surrounding Airport uses and would not result in viewshed changes for residents or a community off-Airport property.
Water Resources	No effect	Wetlands: • Proposed Action would affect 14.32 acres of depressional wetlands, which would be mitigated with the purchase of wetland compensatory mitigation credits. • A culvert would be constructed at the existing drainage ditch along the north side of the project study area to continue to allow uninterrupted drainage flow under the proposed new aircraft parking apron. Floodplains: • The Proposed Action would not occur within any existing floodplain. Surface Water: • There are no surface waters within the project study area or on Airport property. • The amount of impervious surfaces would increase by about 18.7 acres and increase the amount and rate of stormwater runoff within the project study area. • The Proposed Action includes grassed swales and a detention basin in order to reduce stormwater runoff and reduce any potential effects to stormwater. Groundwater: • Construction of the Proposed Action may affect groundwater resources.

THIS PAGE IS INTENTIONALLY LEFT BLANK.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

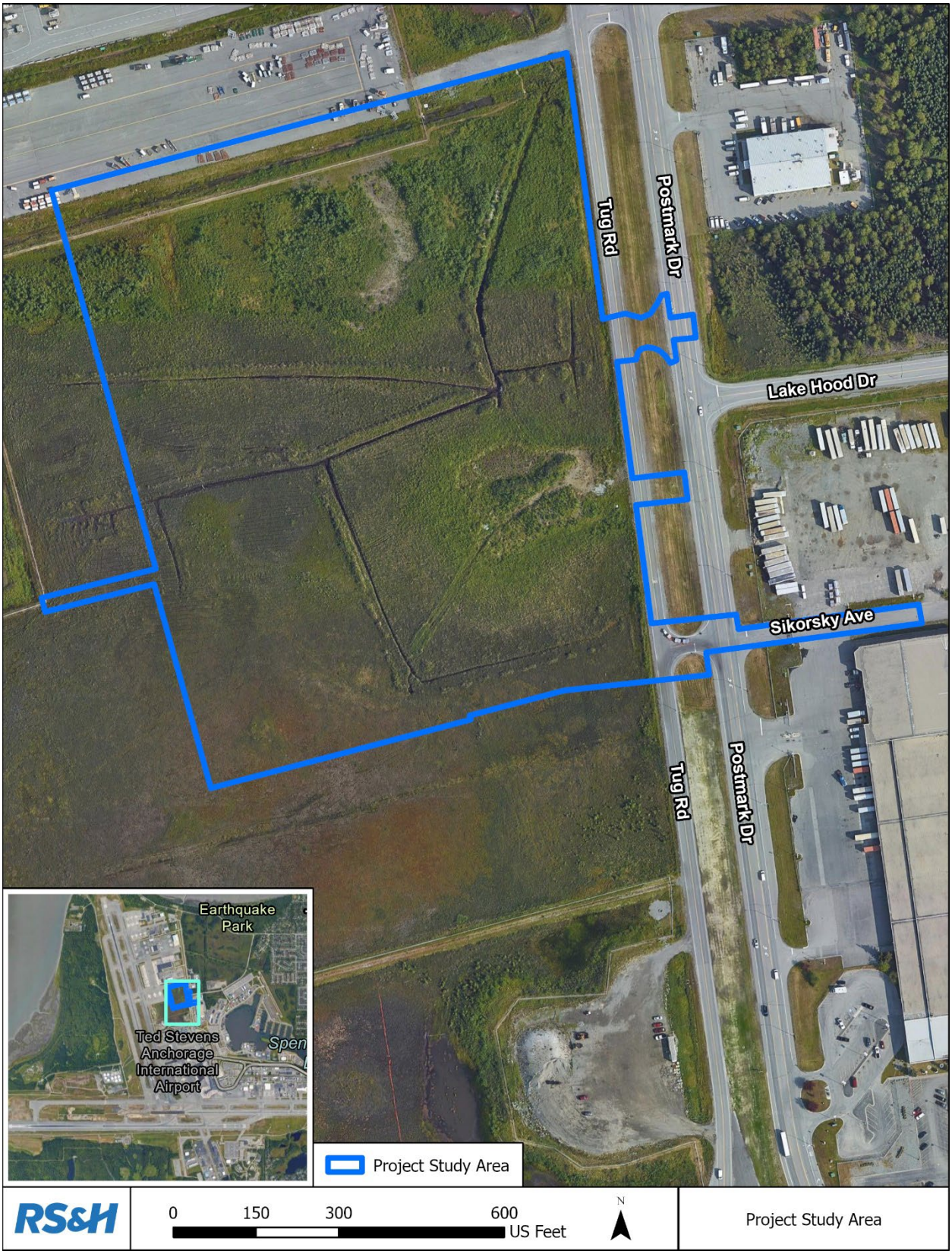
For the purposes of the analysis in this EA, a project study area (see **Figure 3-1**) has been developed and is used to describe the affected environment and the potential environmental consequences associated with the implementation of the Proposed Action..

This section provides an overview of the existing environmental conditions within the project study area. This section also describes the regulations, significance thresholds, methodology used, potential environmental effect that the Proposed Action would have on the affected environment, and any proposed mitigation that would be implemented to minimize impacts from the Proposed Action. As required by FAA Orders 1050.1F and 5050.4B, this EA considers the following environmental resource categories outlined in FAA Order 1050.1F, paragraph 4-1:

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act (U.S. DOT), Section 4(f)
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Natural resources and energy supply
- Noise and noise-compatible land use
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Visual effects
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

Appendix B lists the regulations and significant thresholds associated with each environmental resource category listed above.

Figure 3-1 Project Study Area



3.2 RESOURCE AREAS WITH NO POTENTIAL FOR EFFECTS

Coastal Resources
According to the National Oceanic and Atmospheric Administration (NOAA), the State of Alaska stopped participating in the federal Coastal Zone Management Act in 2011 and no longer has a Coastal Zone Management Plan (National Oceanic and Atmospheric Administration, 2022a). Although the Municipality of Anchorage has its own Coastal Management Plan (Municipality of Anchorage, 2007), it cannot be effectively implemented without a State plan. According to 15 CFR 930.32(a), federal law requires "federal agencies, whenever legally permissible, to consider state management programs as supplemental requirements to be adhered to in addition to existing agency mandates."

According to the U.S. Fish and Wildlife Service (USFWS), the closest Coastal Barrier Resource System to the project study area is Minnesota Point, located approximately 2,450 miles southeast of the Proposed Action (U.S. Fish and Wildlife Service, 2022a). In addition, there are no National Marine Sanctuaries within the project study area. The closest National Marine Sanctuary is the Olympic Coast, located approximately 1,350 miles southeast of the project study area (National Oceanic and Atmospheric Administration, 2022b). Because the Proposed Action would occur entirely on Airport property and is not near any coastal resources, the Proposed Action would not result in impacts to coastal resources.

Department of Transportation Act (U.S. DOT), Section 4(f)
There are no Section 4(f) resources located within the project study area. The closest recreational parks are Earthquake Park, located 0.5-mile northeast of the project study area, and Point Woronzof Park, located about 0.75-mile west of the project study area (Municipality of Anchorage, 2023a). The closest wildlife refuge is Anchorage Coastal Wildlife Refuge, located about 10-miles southeast of the project study area, and the closest state park is 10-miles to the east of the project study area (U.S. Forest Service, 2023). The closest historical resource listed on the National Register of Historic Places (NRHP) is the KENI Radio Building, which is approximately 2.5 miles northeast of the project study area (National Park Service, 2023). Due to the distance from the closest Section 4(f) resources, the Proposed Action would not result in any "use" of a Section 4(f) resource.

Farmlands
According to the U.S. Department of Agriculture, there are no prime, unique, state, or locally important farmlands in/ near the project study area (Natural Resources Conservation Service, 2022). In addition, the Proposed Action does not entail the acquisition and conversion of any farmland. Therefore, the Proposed Action would not affect any farmland resources.

Historical, Architectural, Archeological, and Cultural Resources
For the purposes of this analysis, the Area of Potential Effects (APE) is the same as the project study area. A Cultural Resources Technical Report was prepared to identify cultural resources within the project study area (see **Appendix C**).[2] The APE has been substantially modified and disturbed as the result of previous Airport and road expansion and upgrade projects as well as for water containment and removal. No buildings or other structures are present within the APE.

---

[2] The portions of the project study area for utility connections that are under existing roadways (Tug Road, Postmark Drive, and Sikorsky Avenue) were not included in the pedestrian field survey as they are already paved and inaccessible without demolishing the pavement.

The cultural resources report did not identify any cultural resources and determined that there was low potential for the APE to contain cultural resources.

As no historical, architectural, archaeological, and cultural resources were identified in the cultural resources report, a finding of No Historic Properties Affected was recommended for the Proposed Action. A Findings Letter was sent to the State Historic Preservation Office (SHPO) on July 19, 2023, requesting a finding of No Historic Properties Affected. The SHPO responded with concurrence agreeing to a finding of No Historic Properties Affected on August 18, 2023 (see **Appendix C** for SHPO documentation).

Letters initiating tribal consultation were sent to the Chickaloon Native Village, the Knik Tribal Council, and the Eklutna Native Village on July 19, 2023 (see **Appendix C** for documentation of tribal consultation). No response was received.

Land Use

According to the Municipality of Anchorage, the project study area has a land use designation for “Airport, Railroad, or Port Facilities” (Municipality of Anchorage, 2023b) and is zoned by the Municipality of Anchorage as “Transitional” (Municipality of Anchorage, 2024). The Proposed Action would occur entirely on Airport property on land leased from the Airport to FedEx, would be consistent with the plans and goals of the local community, would not alter the characteristics of the Airport or local community, and would not disrupt any nearby communities or planned development. Therefore, the Proposed Action would not result in any land use impacts.

Socioeconomics, Environmental Justice, Children’s Environmental Health and Safety Risks

The project study area is within Census Tract 23.01 Block Group 1. There are 2,560 people living in the project area census tract. of the 2,560 people, about 15.0 percent identify as minority (American Community Survey, 2020a) and about 0.7 percent are living below poverty level (American Community Survey, 2020b). The project study area census tract has a smaller percentage of minority populations and people living below poverty level compared to the Municipality of Anchorage.

The Proposed Action would not result in the acquisition of land, relocation of residences or businesses, involve off-airport construction, or cause significant environmental impacts that would affect minority and/or low-income populations as identified in Executive Order (EO) 12898 and EO 14096. The Proposed Action would not increase aircraft operations or vehicle traffic. No effects related to socioeconomic, environmental justice, or children’s environmental health and safety are expected as a result of the Proposed Action.

Transportation and Traffic

The major roadways serving the Airport are Northern Lights Boulevard, Point Woronzof Road, West International Airport Road, and Old International Airport Road. The project study area can be accessed through North Tug Road and Postmark Drive which connects to Northern Lights Boulevard, Lake Hood Drive, and International Airport Road and are designated as Class IA (Industrial/Commercial Collector) and Class II (Minor Arterial) roads (Municipality of Anchorage, 2014). The Proposed Action may result in a temporary and minor increase in surface traffic during the construction period; however, construction-related traffic would not result in significant surface traffic impacts due to the temporary nature of construction traffic. Additionally, ANC building permits include restrictions that limit construction traffic along Northern Lights Boulevard, which at Postmark Drive is a west-east minor arterial roadway that passes through the Turnagain community.

The operation of the Proposed Action would not result in any increase in surface traffic congestion or degrade the level of service provided on local roads. The Proposed Action consists of the expansion of FedEx facilities at the Airport and is due to the existing facilities' inability to provide the space needed for existing FedEx operations to occur efficiently. The Proposed Action would partially relocate existing operations and would not result in an increase in operations. Regional operations would be relocated from the existing facility to the new facility, including parking for employees working in regional operations. Therefore, the Proposed Action would not result in significant impacts to transportation and traffic resources.

Wild and Scenic Rivers

According to the Nationwide Rivers Inventory, there are no designated rivers in the National System or under the State Jurisdiction near the project study area. The closest river registered in the Nationwide Rivers Inventory is Little Susitna River, located approximately 18-miles northwest of the project study area (National Park Service, 2022). According to the National Park Service, the closest Wild and Scenic River segment is the Tikakila River, located 100 miles southwest of the project study area (U.S. Geological Survey, 2022).

Due to the distance between the project study area and the closest wild and scenic river segment and river listed in the National Rivers Inventory, the Proposed Action is unlikely to directly or indirectly affect the rivers mentioned above within 0.25-mile of their ordinary high-water mark.

3.3 AIR QUALITY

This section describes the affected environment and the significance threshold(s) pertaining to air quality. This section also identifies potential air quality impacts that may result from the Proposed Action and No Action Alternative.

3.3.1 Affected Environment

The U.S. Environmental Protection Agency (USEPA) set National Ambient Air Quality Standards (NAAQS) for certain air pollutants to protect public health and welfare. The NAAQS consists of primary and secondary standards for six criteria pollutants, which include: Ozone (O_3), Carbon Monoxide (CO), Sulfur Dioxide (SO_2), Nitrogen Oxide (NO), Particulate matter (PM_{10} and $PM_{2.5}$), and Lead (Pb).

Areas found to be in violation of one or more NAAQS of these pollutants are classified as "nonattainment areas." States with nonattainment areas must develop a State Implementation Plan (SIP) demonstrating how the areas will be brought back into attainment of the NAAQS within designated timeframes. Areas where concentrations of the criteria pollutants are below (i.e., within) these threshold levels are classified as "attainment areas." Areas with prior nonattainment status that have since transitioned to attainment are known as "maintenance areas."

According to Alaska Administrative Code (AAC) 18 AAC 50, Anchorage is considered a Class II area. As such, there are designated maximum allowable increases for PM_{10}, nitrogen dioxide (NO_2), and SO_2. Activities in these areas must operate in such a way that they do not exceed listed air quality controls for these compounds. According to the USEPA, a portion of the Municipality of Anchorage is in "maintenance" for CO (U.S. Environmental Protection Agency, 2023a). The project study area is located outside the boundaries of the CO maintenance area (see **Figure 3-2**) and is, therefore, in an area that is in attainment for all air pollutants.

Figure 3-2 Carbon Monoxide Maintenance Area

3.3.2 Environmental Consequences

3.3.2.1 Significance Threshold

FAA Order 1050.1F establishes that an action's effect on air quality would be significant if the action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the Environmental Protection Agency under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.

3.3.2.2 No Action Alternative

Under the No Action Alternative, no physical changes to the project study area would occur. FedEx would continue to operate at the existing location and serve forecast cargo demands. There would be no effect on air quality.

3.3.2.3 Proposed Action

Construction would temporarily result in a minor increase in air pollutant emissions from earth moving activities and construction equipment emissions. However, the Proposed Action is in an area that is in attainment for all air pollutants and, therefore, a construction emissions inventory is not required (FAA, 2015a). Additionally, construction would be temporary and dust during construction would be regulated using Best Management Practices (BMPs) and through compliance with the Alaska Pollutant Discharge Elimination System Construction General Permit. Therefore, the Proposed Action is not expected to result in an exceedance of any air quality pollutants based on NAAQS standards. Due to the temporary nature of construction and the size of the Proposed Action, the Proposed Action would not result in significant air quality impacts.

Because the Proposed Action would relocate partial operations from the existing FedEx facility to the new facility and would not result in an increase in operations, the Proposed Action would not increase emissions from any mobile sources, including aircraft and surface vehicles. The Proposed Action includes the construction of a new building that would introduce a new stationary source of emissions due to the use of natural gas boilers.[3] However, regional operations at the existing FedEx facility would be relocated from the existing facility to the new facility in order to increase operational efficiency. This would minimize any increase in stationary source emissions to a negligible level due to the increased operational efficiencies. In addition, the Proposed Action does not include any changes in aircraft operations and does not include an expansion in landside operations, so the Proposed Action would not be considered a "major source of air pollutants." Therefore, the Proposed Action would not cause or create a reasonably foreseeable emission increase and as identified in the FAA's Aviation Emissions and Air Quality Handbook, an emissions inventory is not required (FAA, 2015a).

3.3.3 Summary of Mitigations

No mitigation measures are proposed.

---

[3] Building emissions related to GHG emissions are discussed in **Section 3.5, Climate**.

3.4 BIOLOGICAL RESOURCES

This section describes the affected environment and the significance threshold(s) pertaining to biological resources. This section also identifies potential biological resource effects that may result from the Proposed Action and No Action Alternative.

3.4.1 Affected Environment

According to Alaska Center for Conservation Science, which is part of the University of Alaska Anchorage, vegetation within the project study area consists largely of wetland and upland communities (Alaska Center for Conservation Science, 2023). There are 14.32 acres of wetlands within the project study area (see **Section 3.10.1** for further discussion of wetlands). Much of the vegetation within the project study area can be characterized as low and high shrubs and dominantly consists of the following vegetative species: Canada bluejoint grass (*Calamagrostis canadensis*), Labrador tea (*Rhododendron tomentosum*), water sedge (*Carex aquatilis*), water horsetail (*Equisetum fluviatile*), marsh cinquefoil (*Comarum palustre*), and willows (*Salix barclayi*) (see **Appendix D**).

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consulting (IPaC), there are no federally listed endangered, threatened, or candidate species or designated critical habitat in or near the project study area (U.S. Fish and Wildlife Service, 2022b). Four migratory birds have the potential to occur within the project study area:

- Bald Eagle (*Haliaeetus leucocephalus*) – breeds February 1 to September 30
- Hudsonian Godwit (*Limosa haemastica*) – breeds May 15 to July 31
- Lesser Yellowlegs (*Tringa flavipes*) – breeds May 1 to August 15
- Short-billed Dowitcher (*Limnodromus griseus*) – breeds June 1 to August 10

The Bald Eagle is also individually protected under the Bald and Golden Eagle Protection Act. There are no state listed endangered, threatened, or candidate species within the project study area (Alaska Department of Fish and Game, 2022).

For non-federally recognized animal species, the Airport has a Wildlife Hazard Management Plan (WHMP) that includes the techniques in use at the ANC to reduce the threat posed by wildlife to aircraft and human health and safety.

3.4.2 Environmental Consequences

3.4.2.1 Significance Threshold

FAA Order 1050.1F establishes that an action's effect on biological resources would be significant if the USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat. The FAA has not established a significance threshold for non-listed species.

3.4.2.2 No Action Alternative

Under the No Action Alternative, no physical changes to the project study area would occur. FedEx would continue to operate at the existing location and serve forecast cargo demands. There would be no effect on biological resources. The WHMP would remain in place and continue to be implemented.

3.4.2.3 Proposed Action

The Proposed Action would not entail the removal of any trees or structures that may be used as nesting habitat for migratory birds protected by the Migratory Bird Treaty Act. Given the absence of habitat for endangered or threatened species within the project study area, the Proposed Action would not affect any endangered or threatened species. The WHMP would remain in place and continue to be implemented.

3.4.3 Summary of Mitigations

No mitigation measures are proposed.

3.5 CLIMATE

This section describes the affected environment and significance threshold(s) pertaining to climate resources. This section also identifies potential impacts to climate that may result from the Proposed Action and no Action Alternatives and any mitigation recommendations, if necessary.

3.5.1 Affected Environment

Although the Airport does not have an Airport-specific climate action plan, the Municipality of Anchorage had previously adopted the Anchorage Climate Action Plan that provides a strategic framework for reducing greenhouse gas (GHG) emissions and adapting to the impacts of climate change. The Municipality had outlined a goal in the climate action plan to reduce greenhouse gas emissions by 80 percent based on 2008 levels by 2050, with an interim goal of 40 percent by 2030 (Municipality of Anchorage, 2019).

The Clean Air Act, administered by the EPA, regulates GHG emissions from surface transportation vehicles and stationary power generation sources. CEQ guidance provided on the consideration of GHG emissions and climate change has recommended that agencies should be guided by a rule of reason, as well as their expertise and experience, in conducting analysis commensurate with the quantity of projected GHG emissions and using GHG quantification tools suitable for the proposed action (Interim Guidance Jan. 9, 2023). The rule of reason and the concept of proportionality caution against providing an in-depth analysis of emissions regardless of the insignificance of the quantity of GHG emissions that the proposed action would cause. As the Proposed Action does not occur within a regulated air shed, nor would it result in a change of operations, the depth of analysis consists of quantitative disclosure of estimated GHG emissions associated with the temporary construction and the long-term operation of the FedEx facility.

The FAA 1050.1F Desk Reference provides limited guidance for qualitatively or quantitatively evaluating GHGs under NEPA, though references the FAA Air Quality Handbook (2015) regarding the establishment of appropriate GHG assessment area boundaries. FAA notes that for project-level actions, the affected environment for climate is defined as the entire geographic

area that could be directly or indirectly affected by the proposed project. While the FAA Air Quality handbook outlines the climate study area in part based on factors including topography, landscape roughness and vegetation, albedo, and values associated with either rural or urban settings, these recommendations are generally applied in assessing pollutants resulting from ongoing airport operations versus construction activities. One model recommended by the FAA for construction project assessment is a former EPA pollutant model, “NONROAD”, now obsolete and replaced by a broader-based model named MOVES3 (U.S. Environmental Protection Agency, 2022a). One variant of MOVES3 (MOVES-Nonroad) is noted as capable of forecasting emissions inventories of off-road equipment generated pollutants as well as modeling their dispersion, with its smallest (and default) modeled study area based on ‘county’ units. For an equivalent of that modeling unit, Alaska substitutes political subdivision referred to as ‘boroughs,’ with ANC located within the Anchorage Borough. MOVES-Nonroad is designed to estimate potential emission from multiple off-road equipment use sectors (construction, agriculture, etc.), with outputs based on detailed inventories of known-populations of county-level nonroad equipment fleets and activities. This information is not obtainable for the Anchorage Borough. However, based on estimates of construction equipment likely to be utilized during construction of the Proposed Action, CO_2 emissions were estimated for construction. For operation, CO_2 emissions were estimated based on a facility-related energy use value of 6 kilowatt hours (kWh) per square foot per year. Consistent with EO 14008, EO 13990, and the 2023 GHG Guidance, this EA examines GHGs as a category of air emissions.

The project study area is currently undeveloped and does not emit any GHGs that may contribute to climate change.

3.5.2 Environmental Consequences

3.5.2.1 Significance Threshold

The FAA has not established significance thresholds for aviation or commercial space launch GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions. However, GHG emissions should follow the basic procedure of considering the potential incremental change in CO_2 emissions that would result from the proposed action and any alternative(s) compared to the no action alternative for the same timeframe, and discuss the context for interpreting and understanding the potential changes. Consistent with the NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196 (Interim Guidance Jan. 9, 2023), the FAA will try when reasonably possible to quantify GHG emissions, compare GHG emission quantities across alternative scenarios, and place emissions in relevant context.

3.5.2.2 No Action Alternative

Under the No Action Alternative, no physical changes to the project study area would occur. FedEx would continue to operate at the existing location and serve forecast cargo demands. There would be no effect on climate.

3.5.2.3 Proposed Action

Construction of the Proposed Action would result in a temporary increase in CO_2 emissions due to the use of heavy construction equipment. The USEPA’s diesel fuel emissions factor of 0.01018 metric ton of CO_2 per gallon of diesel was used (U.S. Environmental Protection Agency, 2023b). The engineer’s estimate for total diesel fuel needed for project construction is

243,000 gallons (see **Table 3-1**). Based on the USEPA diesel fuel emissions factor, the estimated CO_2 emissions from construction of the Proposed Action would be 2,474 metric tons over the duration of construction, which is approximately two years. This is equivalent to the energy use of 156 homes for each year, or 312 homes total (U.S. Environmental Protection Agency, 2023b).

Operation of the Proposed Action would relocate regional FedEx operations from the existing facility to the new facility in order to increase operational efficiency. In addition, the Proposed Action would not increase the amount of surface vehicle activity at the FedEx facility at the Airport, does not include any changes in aircraft operations, and does not include an expansion in landside operations.

The Proposed Action would relocate partial (regional) operations from the existing FedEx facility to the new facility. CO_2 emissions of the proposed new FedEx facility were estimated based on the USEPA's natural gas emissions factor of 0.0053 metric ton of CO_2 (based on therms per square foot per year) (U.S. Environmental Protection Agency, 2023b) and electricity emissions factor of 1067.7 metric ton of CO_2 from the USEPA eGRid (based on kilowatt hours per square foot per year) (U.S. Environmental Protection Agency, 2023b). Based on the facility's estimated energy usage, it would produce 1,144 metric tons of CO_2 per year, which is equivalent to the energy use of 144 homes for one year (see **Table 3-2**). This is not expected to be a significant effect to climate.

Table 3-1 Construction Carbon Dioxide Estimates

Type of Construction Work	Estimated Amount of Fuel (gallons)	Fuel Type	Emission Factor (MT CO_2/gal)	Estimated CO_2 Emissions (metric tons)e
Civil Work	80,000	Diesel	0.01018	814.40
Transport of Fill/Material	113,0000	Diesel	0.01018	1,150.34
Water Handling/Treatment	10,000	Diesel	0.01018	101.80
Light Equipment and Craning	40,000	Diesel	0.01018	407.20
TOTAL	**243,000**	**-**	**-**	**2,473.74**

MT CO_2/gal = metric tons of carbon dioxide per gallon of fuel
CO_2 = carbon dioxide
Source: USEPA Greenhouse Gas Equivalency Calculator, 2023; Roger Hickel Contracting, 2023; ASRC Energy Services, LLC, 2023

Table 3-2 Facility Carbon Dioxide Emissions Estimates

Type of Energy Source	Estimated Amount of Energy Use	Estimated Facility Energy Use Factor	Emission Factor	Estimated CO_2 Emissions (metric tons/year)
Electricity	1,127,502 (kWh/yr)	6 kWh/sf/yr	1,067.7 (lbs CO_2/MWh)	546
Natural Gas	112,750 (therms/yr)	0.6 therms/sf/yr	0.0053 MT CO_2/therm	598
TOTAL	**-**	**-**	**-**	**1,144**

CO_2 = carbon dioxide
kWh/yr = kilowatt hours per year
kWh/sf/yr = kilowatt hours per square foot per year
lbs CO_2/MWh = pounds of carbon dioxide per megawatt-hour
Source: USEPA eGrid, 2023

The CEQ's *NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change* recommends that agencies use the best available social cost of GHG emissions (SC–GHG) estimates to translate climate impacts into the more accessible metric of dollars (Council on Environmental Quality, 2023). The estimation of SC-GHG allows the monetization of climate change effects expected from a Proposed Action. The *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990* released by the Interagency Working Group on Social Cost of Greenhouse Gases (IWG SC–GHG) in February 2021 presents a methodology to estimate the SC-GHG using three discount rates (2.5 percent, 3 percent, and 5 percent) per year (IWG SC-GHG, 2021). The term "discount rate" refers to the reduction or discount in value per year as a future cost or benefit is adjusted to be comparable with a current cost or benefit from a project.

For purposes of this analysis, all three discount rates are presented in **Table 3-3** to provide a range of global social costs from the increase in GHG emissions related to the Proposed Action. The social cost is highest during construction years due to temporary construction activities.

Table 3-3 Estimated Social Cost of Greenhouse Gas Emissions

	Social Cost GHGs (U.S. Dollars)/a/		
Year	5% Discount	3% Discount	2.5% Discount
2024/b/ (construction)	$20,325	$68,474	$100,995
2025/b/ (construction)	$19,932	$67,762	$100,108
2026 (operation)	$18,063	$61,994	$91,745
2031 (operation)	$16,217	$58,516	$87,429

/a/: all values are in 2020 dollars, as provided by the model
/b/: construction emissions were split across two years
Source: IWG SC-GHG, 2021; costofcarbon.org

3.5.3 Summary of Mitigations

No mitigation measures are proposed.

3.6 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

This section describes the affected environment and the significance threshold(s) pertaining to hazardous and toxic materials and waste. This section also identifies potential hazardous and toxic materials and waste effects that may result from the Proposed Action and No Action Alternative.

3.6.1 Affected Environment

According to the Alaska Department of Environmental Conservation's (ADEC's) contaminated sites database, the active contaminated sites within vicinity of the project study area are a permitted underground storage tank (UST) within the existing FedEx operations area and the Airport's Aircraft Rescue and Fire Fighting (ARFF) station and Tanks #19, 20, 21, both about 1,000 feet south of the project study area. The USEPA does not show any superfund sites in the vicinity of the project study area (U.S. Environmental Protection Agency, 2022b). However due to concern over the use of the aqueous film forming foam (AFFF), site investigations have been conducted at the ARFF and within Postmark Bog in which per- and polyfluoroalkyl substances (PFAS) and petroleum hydrocarbons have also been documented within soil, surface water, and/ or groundwater samples. As such, an environmental management plan (EMP) for handling potentially contaminated soil, groundwater, and surface water during construction has been prepared in general accordance with ADEC's March 2017 *Site Characterization Work Plan and*

Reporting Guidance for Investigation of Contaminated Sites and January 2022 *Field Sampling Guidance* document (see **Appendix E**). The EMP also provides procedures to handle, stockpile, sample, and dispose of any excess soil generated during construction. ADEC approved the EMP on July 10, 2023 (see **Appendix E** for approval documentation).

3.6.2 Environmental Consequences

3.6.2.1 Significance Threshold

The FAA has not established a significance threshold for hazardous materials, solid waste, and pollution prevention. Factors to consider include if the action 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 National Priorities List). Contaminated sites may encompass relatively large areas. However, not all the grounds within the boundaries of a contaminated site are contaminated, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site.
- 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 of collection or disposal and/or would exceed local capacity.
- Adversely affect human health and the environment.

3.6.2.2 No Action Alternative

The No Action Alternative does not require any disruption of land or soil. Therefore, it would not affect the hazardous materials that exist at ANC. The No Action Alternative would not increase the amount of cargo aircraft operations, aviation fuel needed, or volume of solid waste generated at the Airport. Therefore, the No Action Alternative would not result in hazardous materials, solid waste, and pollution prevention impacts.

3.6.2.3 Proposed Action

Because the project site is several feet lower in elevation than North Tug Road, Postmark Drive, and Taxilane U, the site would require filling (approximately 142,500 cubic yards) in order to raise the grade of the site an average six feet and channel drainage towards North Tug Road, Postmark Drive, and Taxilane U. Due to the presence of contaminated groundwater, soil, and peat, excavations of soil would be minimized to the extent feasible. The site is being developed in a manner that inhibits stormwater from interacting with potentially contaminated groundwater. As the PFAS plume does not originate within the project study area or within the FedEx operations area, it was determined that the most effective remediation of the site would be to reduce the future migration of the PFAS plume in the groundwater. To minimize excavations, the structures would be supported by piers that would be advanced to 15 to 20 feet below ground surface and the peat within the project study area would be surcharged with non frost susceptible (NFS) fill materials. Any potentially contaminated material and excavated soil would temporarily be stockpiled approximately 1,000 feet north of the project study area at the FedEx snow disposal site. The onsite excavated material would be used as fill material in areas outside

the footprint of the package sorting facility and to backfill the drainage ditches located on the FedEx site.

During the initial fill, excavation, and surcharging activities, there is potential for the Proposed Action to temporarily impact and displace PFAS-contaminated groundwater. As documented in the EMP, the displaced water would be treated at the eastern FedEx property boundary with permeable filter barriers amended with a site-specific blend of activated carbon, mixed with imported NFS fill material. This mixture of Powdered Activated Carbon (PAC) and Colloidal Activated Carbon (CAC) would be used due to the increased adsorption efficiency gained from the smaller particle size of the activated carbon when compared to Granular Activated Carbon (GAC).

The PAC/CAC mixture would filter the PFAS from groundwater through the process of adsorption. The activated carbon would continue to bind and inhibit migration of contaminates as long as there is capacity within the activated carbon. The PFAS capture system is designed to be effective throughout the multi-year construction period capturing PFAS from both the high-flow surcharge water and groundwater. Additionally, the proposed dosage has a 5x capacity of the known PFAS mass found in the groundwater and surrounding soils. In the future the active sorption sites in the activated carbon would fill and the barrier may need to be supplemented. The most likely option would be the injection of additional CAC into the existing permeable barrier to “recharge” the adsorptive capacity. Monitoring is currently planned following installation of the permeable filter barrier and placement of the surcharge and fill material. Temporary monitoring wells would be installed in the vicinity of former locations of Drive Point Wells MW4 and MW5. These temporary wells would be installed approximately five feet west and east of the permeable filter barrier. Groundwater samples would be collected from the temporary wells during non-frozen months. These samples would be analyzed by an ADEC-certified analytical laboratory for PFAS by EPA Method 1633. More information is provided in the EMP in **Appendix E**.

The proposed grassed swales and detention basin would continue to treat stormwater onsite, reducing interaction with the contaminated groundwater. Annual water quality monitoring is currently conducted and would continue to be done in accordance with the Alaska Pollution Discharge Elimination System (APDES) permit issued to ANC and would continue to occur beyond construction of the Proposed Action. Groundwater sampling in the Postmark Bog is conducted annually by DOT&PF. The number of samples and frequency of sampling may increase as more information is gathered about the extent of contamination within the area. The samples are analyzed for PFAS compounds and petroleum hydrocarbons. ADEC is notified if any samples exceed maximum contaminant levels for the targeted analytes. Samples are also collected by DOT&PF from the stormwater system to monitor for potential contamination.

Excess soil which requires off-Airport disposal and/or treatment, would be managed in accordance with all local, State, and Federal regulations. The Contractor and FedEx would be responsible for identifying the proper off-site treatment and/or disposal facilities. An *ADEC Transport, Treatment, Disposal Form for Contaminated Media* would be prepared and submitted to the ADEC for review and approval. Complying with the ADEC requirements related to potentially contaminated groundwater and soil would ensure that there would be no unacceptable risk to human health or the environment.

The Proposed Action would generate relatively small amounts of solid waste from construction that would be disposed of at the local landfill, which has the capacity to receive the solid waste

and be of low significance. The increase in solid waste generated during operation of the proposed facility would be minimal as the Proposed Action has been proposed to relocate existing operations to increase efficiency and would not result in an increase in operations.

3.6.3 Summary of Mitigations

As required by ADEC, an EMP has been prepared that consists of a construction mitigation plan outlining guidelines and BMPs relating to the handling of potentially contaminated soil, groundwater, and surface water that could be encountered during construction (see **Appendix E**). Implementation of these BMPs would reduce and avoid impacts to hazardous materials, solid waste, and pollution prevention and no additional mitigation measures are proposed.

3.7 NATURAL RESOURCES AND ENERGY

This section describes the affected environment and the significance threshold(s) pertaining to natural resources and energy. This section also identifies potential natural resources and energy effects that may result from the Proposed Action and No Action Alternative.

3.7.1 Affected Environment

Utilities at the Airport include electrical, natural gas, stormwater, public water, sewer, solid waste and recycling, and telecommunication services. The Airport's electricity is supplied to all developed areas and provided by the Chugach Electric Association. Natural gas is supplied by ENSTAR Natural Gas Company. The stormwater drainage system is owned, operated, and maintained by DOT&PF. Public water and sewer services are provided by Anchorage Water and Wastewater Utility (AWWU). Solid waste and recycling services are provided by Alaska Waste and the Municipality of Anchorage Solid Waste Services. Lastly, telecommunication services are provided by Alaska Communications Systems.

3.7.2 Environmental Consequences

3.7.2.1 Significance Threshold

The FAA has not established a significance threshold for natural resources and energy supply. Factors to consider include if the action would have the potential to exceed available or future supplies of these resources.

3.7.2.2 No Action Alternative

Under the No Action Alternative, no physical changes to the project study area would occur. FedEx would continue to operate at the existing location and serve forecast cargo demands. There would be no effect on natural resources and energy supply.

3.7.2.3 Proposed Action

Construction and operation of the Proposed Action would not require the use of any rare materials that are in short supply. Construction would temporarily increase the consumption of energy and natural resources in the form of fuel, lubricants, and other construction materials necessary to build the proposed facility; however, all materials needed are readily available and could be met by existing resources. The temporary increase in demand for these resources would not represent a significant impact to natural resources or energy supply.

The Proposed Action would extend the water, storm drain, and sanitary sewer utilities off-site to connect into existing utilities under Tug Road, Postmark Drive, and Sikorsky Avenue, as shown in **Figure 2-1**.

Once in operation, energy in the form of electricity and natural gas would be utilized at the facility. The electricity use at the proposed facility is estimated to be 1,127,502 kWh/year, which equates to the annual electricity use of 94.9 residential homes (U.S. Environmental Protection Agency, 2023c). The natural gas use is estimated to be 112,750 therms/year, which is equivalent to the annual energy use of 75.2 homes (U.S. Environmental Protection Agency, 2023c). These energy demands would not exceed available or future energy supplies.

3.7.3 Summary of Mitigations

No mitigation measures are proposed.

3.8 NOISE

This section describes the affected environment and the significance threshold(s) pertaining to noise. This section also identifies potential noise effects that may result from the Proposed Action and No Action Alternative.

3.8.1 Affected Environment

As defined in Paragraph 11-5.b.(8) of FAA Order 1050.1F, a noise sensitive area is “an area where noise interferes with normal activities associated with its use. Normally, a noise sensitive area includes residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites.” The project study area is located on an existing airport and noise sources in the area are primarily associated with the Airport. Existing land uses in the vicinity of the project study area include Airport uses. The nearest residences are approximately 0.9 mile (4,616 feet) east of the project study area.

3.8.2 Environmental Consequences

3.8.2.1 Significance Threshold

FAA Order 1050.1F establishes that an action’s effect on noise would be significant if the action would increase noise by Day-Night Average Sound Level (DNL) 1.5 decibel (dB) or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB.

3.8.2.2 No Action Alternative

Under the No Action Alternative, no physical changes to the project study area would occur. FedEx would continue to operate at the existing location and serve forecast cargo demands. There would be no effect on noise.

3.8.2.3 Proposed Action

Construction of the Proposed Action would result in varying levels of noise generation subject to change based on the construction intensity and distance to a given receptor. As a logarithmic unit of measurement, the decibel cannot be added or subtracted linearly. Some guidelines for understanding changes in noise levels follow.

- If two sounds of the same level are added, the sound level increases by approximately 3 dB. For example: 60 dB + 60 dB = 63 dB.
- The sum of two sounds of a different level is only slightly higher than the louder level. For example: 60 dB + 70 dB = 70.4 dB.
- Sound from a "point source," such as construction equipment, decreases approximately 6 dB for each doubling of distance.
- Although the human ear can detect a sound change as faint as 1 dB, the typical person does not perceive changes of less than approximately 3 dB.
- A 10 dB change in sound level is perceived by the average person as a doubling, or halving, of the sound's loudness.

Construction noise typically dissipates at a rate of approximately 6 dB for each doubling of distance (between the noise source and the receptor, which is the location that is representative of where the sound would be experienced (e.g., a residence)). Based on anticipated equipment that would be used during construction of the Proposed Action, the typically noisiest construction equipment with mufflers (independent of background ambient noise levels) used during excavation and grading was the basis for this analysis. These pieces of equipment may generate a noise level of approximately 88 dB at 50 feet from the noise source. Based on a sound dissipation rate of 6 dB per doubling of distance, a sound level of 88 dB at 50 feet from the noise source would be approximately 82 dB at a distance of 100 feet, 76 dB at a distance of 200 feet, and so on. That sound dissipation rate and the corresponding attenuation estimates are conservative in that they do not take into account any intervening shielding (including landscaping or trees) or barriers, such as structures or hills between the noise source and noise receptor, which would further reduce noise levels. (Federal Highway Administration, 2006).

As the nearest residences are approximately 0.9 mile (4,616 feet) east of the project study area, construction noise would attenuate and reduce the sound level of an 88 dB piece of equipment by approximately 39 dB to about 49 dB. With two pieces of 88 dB equipment operating at the same time the construction noise would be approximately 52 dB at the nearest residence, and with three pieces of 88 dB equipment operating at the same time it would be 55 dB. As reported in the Airport's FAR Part 150 Compatibility Study Update, a semi-permanent noise monitor was set up at 3190 Bridle Lane, which is at the approximate location of the nearest residential land use to the project study area (FAA, 2015b). The ambient noise at this monitoring site was recorded at 59.3 dB in the winter and at 64.9 dB in the summer. Therefore, due to the distance from the closest sensitive noise receptor, noise attenuation from the project study area, and typical ambient noise levels, construction noise would not likely be perceptible at the nearest residence to the project study area.

The Proposed Action would be subject to the Anchorage Noise Control Ordinance (AMC 15.70), which requires a Noise Permit for construction work on nights, weekends, or holidays.

Operation of the Proposed Action would not result in an increase in aircraft operations or cargo operations at the Airport. Regional operations would be relocated from the existing facility to the new facility with no increase in operations. Additionally, the proposed facility and aircraft parking apron would be located adjacent to the existing FedEx operations area, with the proposed aircraft parking apron located approximately 375 feet south from the existing apron, so any change in noise due to operations is not anticipated to be perceptible. The Proposed Action would not change airfield configurations, runway uses, flight patterns, or aircraft operations at the Airport. Additionally, the Proposed Action would not result in changes to local traffic patterns or result in additional traffic. Therefore, operation of the Proposed Action would have no effect on the noise setting at the Airport.

3.8.3 Summary of Mitigations

No mitigation measures are proposed.

3.9 VISUAL RESOURCES

This section describes the affected environment and the significance threshold(s) pertaining to visual resources. This section also identifies potential visual resource effects that may result from the Proposed Action and No Action Alternative.

3.9.1 Light Emissions

3.9.1.1 Affected Environment

Airport lighting is characterized by airfield lighting (i.e., runway, taxiway, approach and landing lights) and landside lighting (i.e., security lights, building interior lighting, parking lights, and signage). The project study area can currently be seen by those travelling along North Tug Road and Postmark Drive. The closest residential area is located about 0.9 mile northeast of the project study area. The project study area can be characterized as an undeveloped wetland area with no major light source. However, the project study area is directly surrounded by Airport infrastructure and development and south of existing FedEx facilities which are contributors to light currently emitted by the Airport.

3.9.1.2 Environmental Consequences

Significance Threshold

The FAA has not established a significance threshold for light emissions. Factors to consider include the degree to which the action would have the potential to:

- Create annoyance or interfere with normal activities from light emissions; and
- Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.

No Action Alternative

The No Action Alternative would not result in any changes to the existing project study area and would not add additional light sources to the project study area. Therefore, the No Action Alternative would not result in significant impacts relating to light emissions.

Proposed Action

The Proposed Action would construct the new FedEx facility over the existing undeveloped wetland area. No nighttime construction would be required for the Proposed Action. The Proposed Action would require lighting to be installed for safety and security reasons. Although, the Proposed Action would introduce new light sources to the Airport, the lighting installed would be consistent with that of an airport. In addition, BMPs included in the design of the Proposed Action would minimize light emissions. BMPs could include shielding and angling light sources downwards to focus on the area of development. Lighting for the cargo building would illuminate the interior and exterior of the facility. The new feeder aircraft ramp extension and the automobile parking areas would be illuminated with directional and focused lighting on parking, vehicle, and pedestrian movement areas. The closest light sensitive land use (e.g., a recreational or residential area) is about 0.9 mile northeast of the project study area and does not have a direct line of sight to the project area. Therefore, the Proposed Action would not create annoyance or interfere with normal activities from light emissions or affect the visual character of the area due to the light emissions.

3.9.1.3 Summary of Mitigations

No mitigation measures are proposed.

3.9.2 Visual Resources and Character

3.9.2.1 Affected Environment

The visual character around the project study area can be described as light industrial for Airport and FedEx cargo uses. The project study area itself can be characterized as featureless, low-lying wetlands covered by mesic and hydric tundra; sedge and marsh grasses, alder, birch, and willow shrubs; and cottonwood, aspen, and birch saplings. There are no major visual structures within the project study area. As previously mentioned, the project study area can be seen by those travelling along North Tug Road and Postmark Drive. The closest residential area is located about 0.9 mile northeast of the project study area; however, there is vegetation between the Airport and the closest residential area that prevents direct view of the project study area. There are no designated scenic byways or corridors within the vicinity of the project study area. The closest scenic byway is the Alaska Railroad that runs about two miles east of the project study area (Alaska Department of Transportation and Public Facilities, 2023a). There are trees and structures along the railroad that prevent any direct view of the project study area from this scenic byway.

3.9.2.2 Environmental Consequences

Significance Threshold

The FAA has not established a significance threshold for visual resources and character. Factors to consider include the extent to which the action would have the potential to:

- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;
- Contrast with the visual resources and/or visual character in the study area; and

- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

No Action

The No Action Alternative would not result in any changes to the existing project study area. Therefore, the No Action Alternative would not result in significant impacts relating to l visual resources and character.

Proposed Action

The Proposed Action would occur entirely on Airport property and would construct the new FedEx facility over the existing undeveloped wetland area. The proposed facility would be in character with the surrounding Airport uses. The closest residential area is about 0.9 mile northeast of the project study area and does not have a direct line of sight to the project study area. Therefore, the Proposed Action would not result in viewshed changes for residents or a community off-Airport property.

3.9.2.3 Summary of Mitigations

No mitigation measures are proposed.

3.10 WATER RESOURCES

This section describes the affected environment and the significance threshold(s) pertaining to water resources, including wetlands, floodplains, surface waters, and groundwater. This section also identifies potential water resource effects that may result from the Proposed Action and No Action Alternative.

3.10.1 Wetlands

3.10.1.1 Affected Environment

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredge and/ or fill materials into Waters of the United States (WOTUS), including adjacent wetlands, under Section 404 of the Clean Water Act. Wetlands are defined by EO 11990, *Protection of Wetlands*, as “those areas that are inundated by surface or groundwater with a frequency to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.” Wetlands include swamps, marshes, bogs, and similar areas and exhibit three characteristics: hydrology, hydrophytes (plants able to tolerate various degrees of flooding or frequent saturation), and poorly drained soils.

A wetland may be jurisdictional and considered a WOTUS under federal regulations due to the wetland’s connection to navigable waters or due to the contribution to the watershed (including the downstream navigable water). In other cases, a wetland may be “non-jurisdictional” because it has no such connection and would not be considered a WOTUS. For a wetland to be regulated under the Clean Water Act (CWA), that wetland would have to qualify as a WOTUS, whereas the other applicable statutes, regulations, EOs, and Acts apply to both jurisdictional and non-jurisdictional wetlands.

For the purpose of this EA, a wetlands investigation was conducted for the project study area (see **Appendix D**). As concluded by the investigation and shown in **Figure 3-3**, a total of 15.113 acres of wetlands were identified within the project study area. According to the wetland functional assessment, although the existing wetlands within the project study area were once classified as “Class A” high valuation, palustrine emergent wetlands in 1996, the recent wetland assessment concluded that past permitted dredging, hazardous substance contamination of water, and surrounding developments have since reduced the wetland system connectivity and severely impacted the area’s value to wildlife and surrounding ecosystems. As a result, the wetlands within the project study area no longer hold the same value they once did when they were first classified as “Class A” wetlands.

The wetlands within the project study area belongs to the Hood Creek watershed and was historically part of a contiguous large wetland complex, Turnagain Bog, that is separated from the Knik Arm by the natural bank that exists and abutted Jones Creek, Jones Lake, and Hood Lake.

Refer to **Section 4.1.6.1** for a discussion of the geographic scope for the cumulative effects on wetlands.

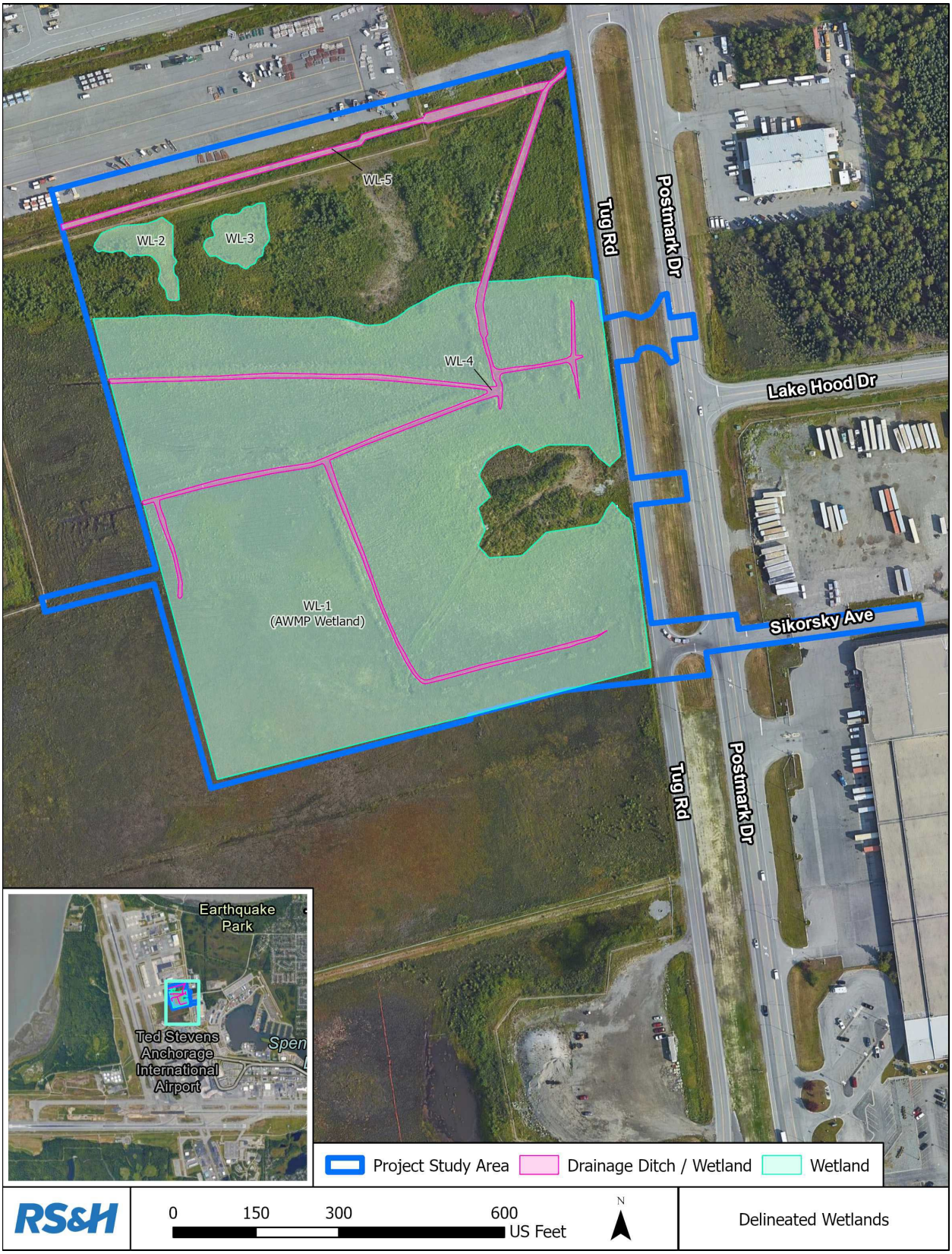
3.10.1.2 Environmental Consequences

Significance Threshold

FAA Order 1050.1F establishes that an action’s effect on wetlands would be significant if the action would:

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

Figure 3-3 Delineated Wetlands



No Action Alternative

Under the No Action Alternative, FedEx would not implement the Proposed Action, and FedEx would continue to operate their existing facilities and serve forecasted cargo operation demands. Therefore, there would be no effect on wetlands.

Proposed Action

Although the Municipality of Anchorage classifies most of the wetlands identified within the project study area as "Class A" wetlands, the recent wetland investigation has concluded the wetlands to no longer hold the value of "Class A" wetlands due to previous development, contamination, and disturbances to the project study area and surrounding areas. Nonetheless, the Proposed Action would affect 14.32 acres of depressional wetlands within the project study area (see **Figure 3-4**). Therefore, it would require mitigation measures to be implemented to reduce impacts to wetland resources. A culvert would be constructed at the existing drainage ditch along the north side of the project study area to continue to allow uninterrupted drainage flow under the proposed new aircraft parking apron.

Refer to **Section 4.1.6.1** for a discussion of the cumulative effects on wetlands.

3.10.1.3 Summary of Mitigations

FedEx and the DOT&PF coordinated to submit a mitigation plan to USACE while applying for a wetlands permit (see **Appendix D**). The Anchorage Debit-Credit Method, developed by the USACE, the USEPA, USFWS, and the Municipality of Anchorage, was used to determine debits created from the Proposed Action. According to the wetland investigation conducted for this EA, direct impacts to wetlands as a result from the Proposed Action were mapped to be 14.32 acres. According to the Anchorage Debit-Credit Method (see **Appendix D**), indirect impacts must be calculated for wetlands bordering within 300 square feet of the direct impact zone to account for disturbances to the overall wetland system. After considering both direct and indirect impacts, the Proposed Action would result in a total of 9.74 debits. The Airport currently holds 8.563 compensatory mitigation credits within the Airport's Klatt Bog wetland band and proposes using the available credits as mitigation for the Proposed Action. As determined through consultation and coordination with USACE and ADEC, an additional 4.092 wetland compensatory mitigation credits will be purchased from Portage Reserve Mitigation Bank (Alaska Railroad).

3.10.2 Floodplains

3.10.2.1 Affected Environment

According to the Federal Emergency Management Agency, the project study area does not occur within the 100-year floodplain (FEMA, 2022). The closest floodplain is located about 0.55-mile northeast of the project study area (see **Figure 3-5**).

3.10.2.2 Environmental Consequences

Significance Threshold

FAA Order 1050.1F establishes that an action's effect on floodplains would be significant if the action would cause notable adverse impacts on natural and beneficial floodplain values.

Figure 3-4 Delineated Wetlands Impacts

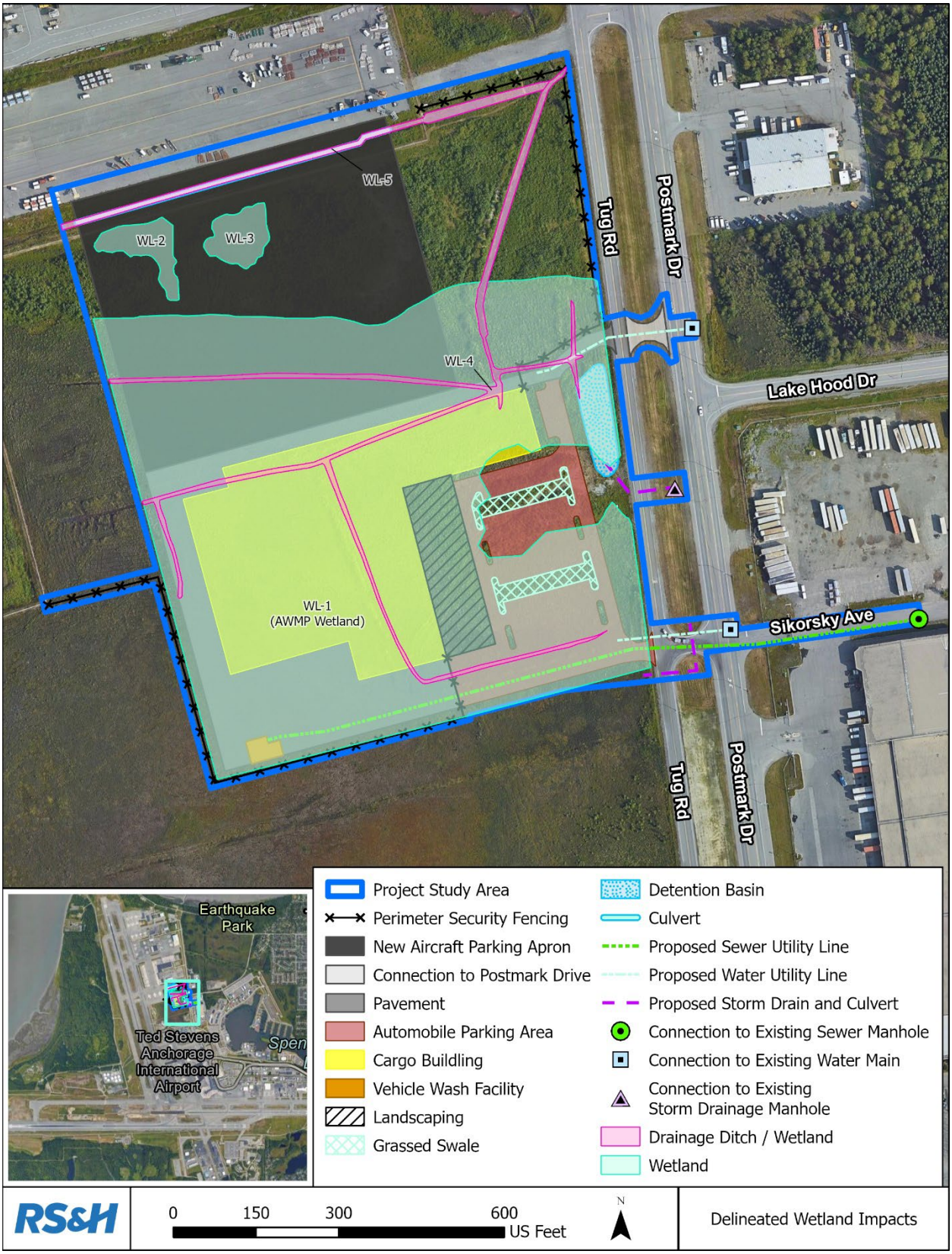
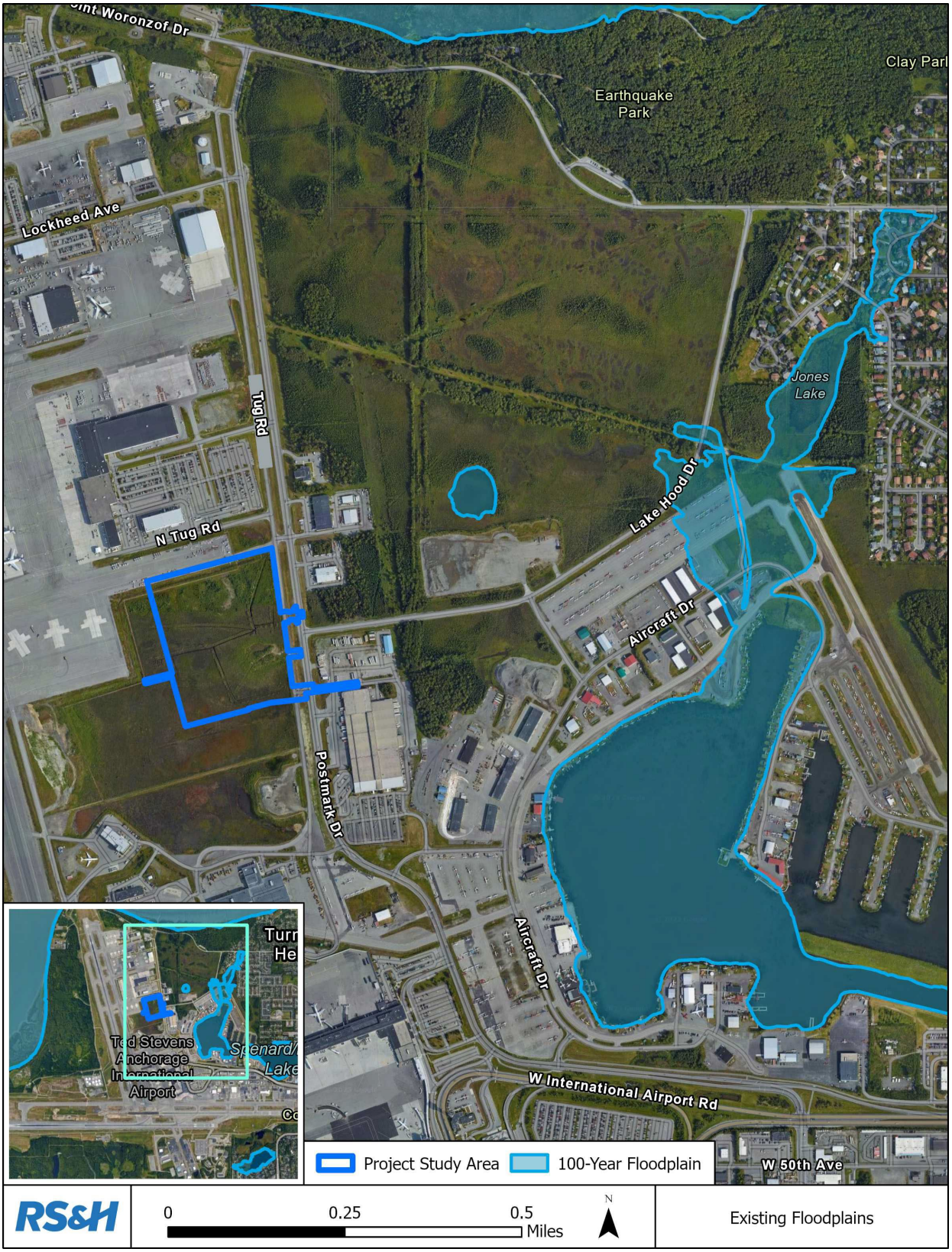


Figure 3-5 Existing Floodplains



No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. FedEx would continue to operate their existing facilities and serve forecasted cargo operation demands. The No Action Alternative would not involve any construction. There would be no effect to floodplains.

Proposed Action

The Proposed Action would not occur within any existing floodplain and, therefore, would not impact any floodplain resource.

3.10.2.3 Summary of Mitigations

No mitigation measures are proposed.

3.10.3 Surface Water

3.10.3.1 Affected Environment

Data from the Municipality of Anchorage shows the closest perennial stream to be Hood Creek, located a little over 0.8 mile northeast of the project study area and the closest lake is about 0.25 mile east of the project study area (see **Figure 3-6**) (Municipality of Anchorage, 2022).

3.10.3.2 Environmental Consequences

Significance Threshold

FAA Order 1050.1F establishes that an action's effect on surface water would be significant if the action would:

1. Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies.
2. Contaminate public drinking water supply such that public health may be adversely affected.

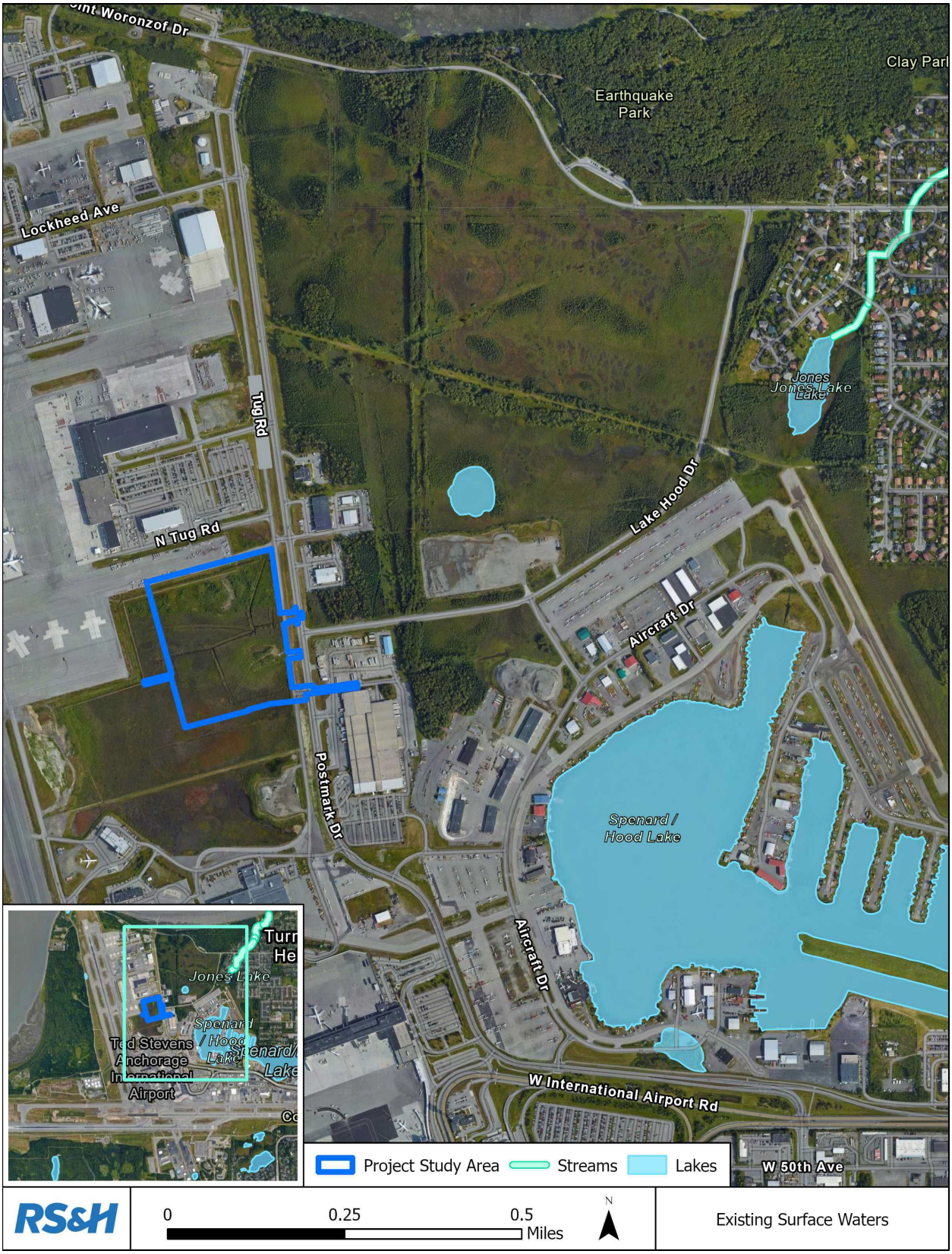
No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. FedEx would continue to operate their existing facilities and serve forecasted cargo operation demands. The No Action alternative would result in no changes to surface waters at or around the Airport. Therefore, no impacts to surface waters would occur with the No Action Alternative.

Proposed Action

There are no surface waters within the project study area or on Airport property. Therefore, the Proposed Action would not result in any direct changes to surface waters. However, the Proposed Action would increase the amount of impervious surfaces within the project study area by about 18.7 acres for the construction of the proposed FedEx facility and increase the amount and rate of stormwater runoff within the project study area. As identified in the EMP prepared for the Proposed Action (**Appendix E**), soil handling during construction would be conducted in a manner that prevents the release of contaminants to surface water and is protective of the water quality standards presented in the ADEC's 18 AAC 70 Water Quality

Figure 3-6 Existing Surface Waters



Standards regulations. Stormwater management procedures would be outlined in the project Stormwater Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control Plan (ESCP) prepared by the Contractor. Additionally, as shown in **Figure 2-1**, the Proposed Action includes grassed swales and a detention basin in order to reduce stormwater runoff and reduce any potential effects to stormwater.

3.10.3.3 Summary of Mitigations

By complying with required BMPs and the guidelines outlined in the SWPPP and ESCP, the Proposed Action is unlikely to cause significant impacts to surface water resources. Therefore, mitigation measures pertaining to surface water resources are not proposed.

3.10.4 Groundwater

3.10.4.1 Affected Environment

Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store and transmit groundwaters to wells, springs, and other water resources (FAA, 2020). The Airport's watershed covers approximately 5,000 acres and includes five sub-watersheds. Each of these sub-watersheds drain to a separate discharge point in Lake Spenard, Lake Hood, Knik Arm or Turnagain Arm (Alaska Department of Transportation and Public Facilities, 2023b).

3.10.4.2 Environmental Consequences

Significance Threshold

FAA Order 1050.1F establishes that an action's effect on groundwater would be significant if the action would:

1. Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies.
2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.

No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. FedEx would continue to operate their existing facilities and serve forecasted cargo operation demands. The No Action Alternative would not result in any excavations in the saturated zone. Therefore, no impacts to groundwater would occur with the No Action Alternative.

Proposed Action

Construction of the Proposed Action would entail ground disturbing activities that may affect groundwater resources. The EMP (see **Appendix E**) outlines management practices that would be taken while handling groundwater. Groundwater generated during construction would be managed in accordance with the terms and conditions of the ADEC Excavation Dewatering Permit, AKG002000. A dewatering and best practices plan would be prepared by the Contractor and submitted to ADEC for approval prior to the start of dewatering. The plan would include details of the treatment system design and processes. The plan would also provide details regarding the collection of periodic sampling of post-treated water, which will include the

collection of at least two performance monitoring samples of effluent water during the active dewatering portions of the project. More information is provided in the EMP in **Appendix E**.

During operation, as shown in **Figure 2-1**, the Proposed Action includes grassed swales and a detention basin in order to reduce stormwater runoff and reduce any potential effects to stormwater. Annual water quality monitoring is currently conducted and would continue to be done in accordance with the APDES permit issued to ANC and would continue to occur beyond construction of the Proposed Action. Groundwater sampling in the Postmark Bog is conducted annually by DOT&PF. The number of samples and frequency of sampling may increase as more information is gathered about the extent of contamination within the area. The samples are analyzed for PFAS compounds and petroleum hydrocarbons. ADEC is notified if any samples exceed maximum contaminant levels for the targeted analytes. Samples are also collected by DOT&PF from the stormwater system to monitor for potential contamination.

3.10.4.3 Summary of Mitigations

By complying with the required terms and conditions of the ADEC Excavation Dewatering Permit and dewatering and best practices plan, the Proposed Action is unlikely to cause significant impacts to groundwater resources. Therefore, mitigation measures pertaining to groundwater resources are not proposed.

THIS PAGE IS INTENTIONALLY LEFT BLANK

4.0 CUMULATIVE IMPACTS

This section describes the potential cumulative effects of the No Action Alternative and the Proposed Action when considered with past, present, and reasonably foreseeable future actions within the cumulative study area (see **Table 4-1** and **Figure 4-1**). The cumulative study area was determined by evaluating the logical physical limits to potential indirect effects of the Proposed Action and then identifying the logical existing boundaries (i.e., water bodies, roadways) that can be used to present those boundaries.

Cumulative effects and their significance may result from individually minor but collectively significant actions that take place over a period of time (40 CFR 1508.7). In determining whether a proposed action will have a significant impact, an EA must include considerations of whether the action is related to other actions with individually insignificant but cumulatively significant impacts [40 CFR 1508.27(b)(7)].

As such, this cumulative impact analysis identifies and considers the effects of past, present, and reasonably foreseeable projects. Past actions are actions that occurred in the past and may warrant consideration in determining the environmental impacts of an action. Present actions are any other actions that are occurring in the same general time frame as the Proposed Action. Reasonably foreseeable future actions are actions that may affect projected impacts of a proposal and are not remote or speculative. The scope and extent of the analysis considers the project type, location, potential to impact resources, and current condition of potentially affected environmental resource impact categories.

Table 4-1 Identified Past, Present, and Reasonably Foreseeable Future Actions

Project	Project Location	Project Description	Project Type	Construction Years
On Airport Projects[a/]				
FedEx Membrane Structure	Airport	Construct an approximately 43,000-square-foot, single-story, membrane fabric structure containing caster decking for package handling	Building	2023
Cargo and Cold Storage Facility	Airport	Construct an energy-efficient, climate-controlled air cargo warehouse facility and hardstand parking for cargo jets	Building	2024-2026
Runway 25R East Safety Improvements	Airport	Construct drainage improvements around the east RSA of Runway 7L/25R to meet FAA standards and prevent ponding east of the existing Tug Road.	Infrastructure	
Taxilanes E1, E3, E/G Intersection Reconstruction	Airport	Reconstruct Taxilanes E1, E3, and E/G intersections and modify existing storm drainage and adjust utilities, as necessary.	Infrastructure	
ANC Gates B4, B6, B7, B8, B9 Rehabilitation and Terminal Loop	Airport	Improve Gates B4, B6, B7, B8, and B9 with joint replacements, joint sealing, concrete repairs,		

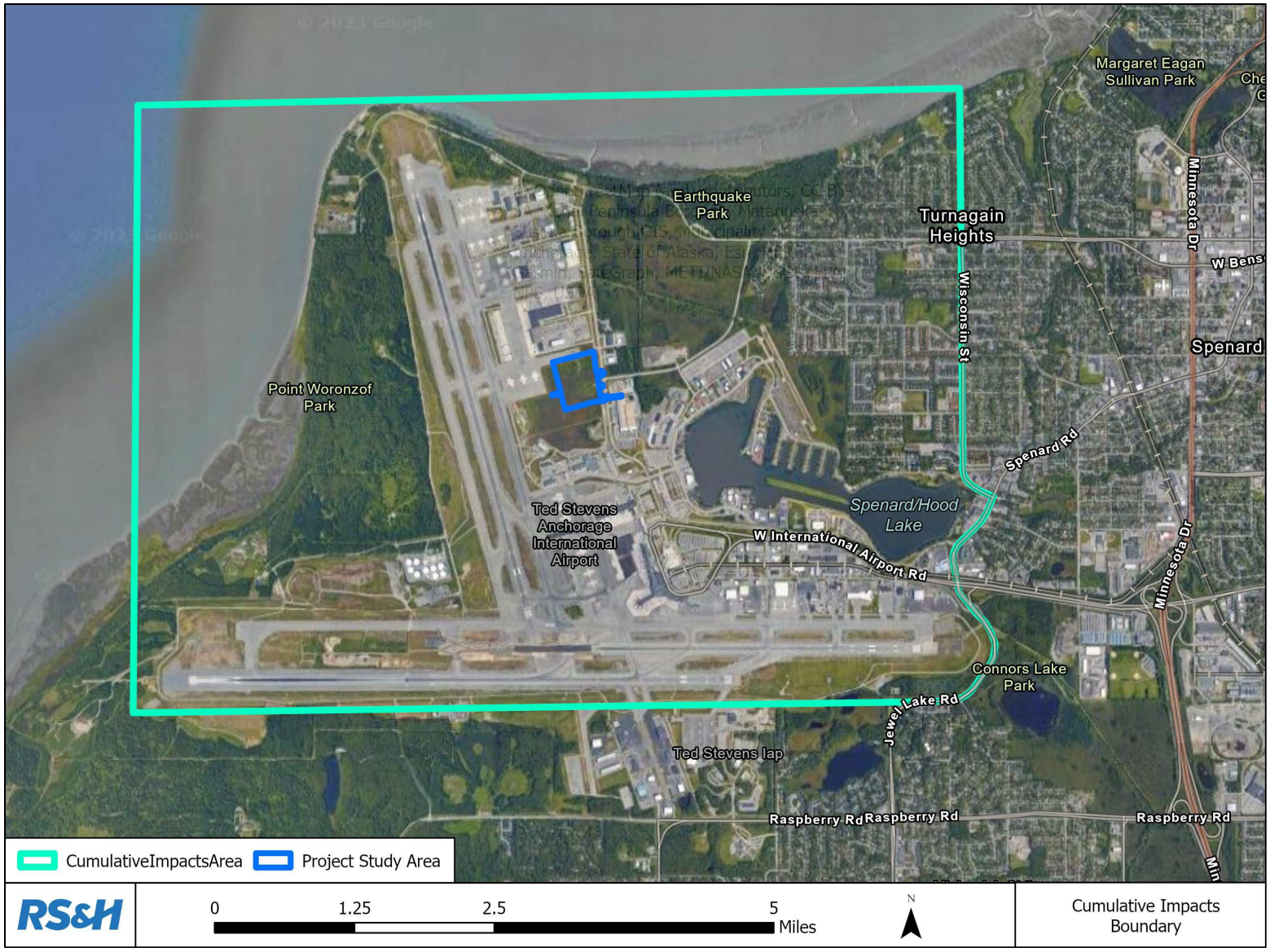
Road Improvements		and concrete handstand replacements.		
Taxilane S Improvements	Airport	Construct Improvements for Taxiway S		
FAA Taxilane Rehabilitation	Airport	Remove, replace, and restripe approximately 5,500 square yards of taxilane pavement	Infrastructure	
Taxiway K and Taxilane E Apron Rehabilitation	Airport	Rehabilitate the apron pavement north of Taxiway K and east of Taxilane E.	Infrastructure	
ANC RWY 7R/25L Joint Repair	Airport	Repair longitudinal joints in the structural section of Runway 7R/25L. There is about 160,000 feet of joints to repair.		
Turnagain Community				
Milky Way Dr Surface Rehab	Milky Way Drive from Aero Ave to Wisconsin St	Rehabilitate worn curbs and overlay the existing pavement along Milky Way Dr.	Infrastructure	No funding yet
Turnagain Parkway Surface Rehabilitation	Turnagain Parkway from Illiamna Ave to Northern Lights Boulevard	Rehabilitate or overlay the pavement along this collector road	Infrastructure	No funding yet
Northern Lights Boulevard Upgrade Phase IV	Northern Lights Boulevard from Postmark Drive to Nathaniel Court	Upgrade Northern Lights Boulevard into an arterial street.	Infrastructure	No work underway yet, but overlay work was recently completed.

/a/ The South Airpark Cargo Improvements Project is outside of the cumulative study area, so is not included in the above list.

4.1 CUMULATIVE IMPACTS TO RESOURCE AREAS

Only environmental categories in which effects could occur through construction or implementation of the Proposed Acton are considered when evaluating cumulative impacts. These include Air Quality; Climate; Hazardous Materials, Solid Waste, and Pollution Prevention; Natural Resources and Energy; Noise (construction only); and Water Resources. Resources that would not be affected by the Proposed Action are not included in the cumulative analysis as the Proposed Action would not contribute to any cumulative impact of these resources. The resources not affected include Biological Resources, operational Noise, and Visual Resources.

Figure 4-1 Cumulative Study Area



4.1.1 Air Quality

Construction of the cumulative projects would result in temporary impacts to air quality in the cumulative impact study area. During demolition and construction activities airport development projects, transportation projects, and other area development projects would generate temporary impacts to regional and local air quality. Generally, the current and proposed projects at ANC are related to airfield pavement rehabilitation, maintenance and joint repairs. Activities like these occur on a fairly regular basis at the Airport, and result in relatively minor amounts of vehicle exhaust and evaporative emissions. The foreseeable off-Airport cumulative projects could generate moderate amounts of construction-related air emissions individually, but the cumulative effect, if any, is not possible to calculate since the timing of these projects is unknown and construction emissions data is not readily available.

For foreseeable on-Airport cumulative projects, the Alaska Cargo and Cold Storage Project at ANC is located adjacent to the project study area and is anticipated to be under construction at the same time as the Proposed Action. While these projects would be under construction at the same time, the Proposed Action's contribution to cumulative air quality effects is not expected to be cumulatively considerable. This is because construction would occur in an area that is in attainment for all NAAQS pollutants and because the temporary, periodic impacts associated with construction would be minimized through the use of environmental controls (i.e., BMPs) that would reduce construction emissions. As such, emissions associated with construction of the Proposed Action would not cumulatively cause an exceedance of the NAAQS or contribute to an increase in frequency or severity of an existing NAAQS violation.

Operation of the Proposed Action would not be considered a "major source of air pollutants" and would not cause or create a reasonably foreseeable emission increase because the increase in operational efficiency would offset the limited increase in emissions due to the natural gas boilers in the new facility, so there would be no contribution to cumulative air quality impacts. ANC currently has a permit and reporting requirements with ADEC. Because there is a threshold for emissions at ANC, cumulative impacts are capped at an approved ADEC rate. Emissions associated with operation of the Proposed Action would not cumulatively cause an exceedance of the NAAQS or contribute to an increase in frequency or severity of an existing NAAQS violation. Cumulative impacts resulting from this project are negligible.

4.1.2 Climate

As described in **Section 3.5, Climate**, construction and operation of the Proposed Project would result in emissions of GHGs. FAA does not provide guidance for cumulative analysis for climate impacts. However, GHG impacts are cumulative in nature and the contributions of one project, or several geographically-related projects are negligible. The CEQ's current interim guidance on GHGs and climate change analysis indicates that "the analysis and public disclosure of cumulative effects can be accomplished by quantifying GHG emissions and providing context for understanding their effects …" (Council on Environmental Quality, 2023). The GHG emissions anticipated from the Proposed Action are disclosed in **Section 3.5.2.3**.

For disclosure purposes, the adjacent Alaska Cargo and Cold Storage Project estimates that construction would result in 969 metric tons of CO_2 emissions over the two-year construction period, which is equivalent to the energy use of 122 homes for one year. The Proposed Action has estimated 2,473.74 metric tons of CO_2 emissions over the two-year construction period, which is equivalent to the energy use of 312 homes for one year. Combined the two projects

would result in 3,442.74 CO_2 emissions over two years, which is equivalent to the energy use of 434 homes for one year.

Relating to operational GHG emissions, the Alaska Cargo and Cold Storage Project has identified GHG emissions related to jet emissions, which would not increase as a result of the Proposed Action, and refrigeration emissions, which would not occur under the Proposed Action. Therefore, the Proposed Action's contribution to GHG impacts is not cumulatively considerable.

4.1.3 Hazardous Materials, Solid Waste, and Pollution Prevention

Construction and operation of the Proposed Action and cumulative projects would adhere to all applicable federal, State, and local environmental laws and regulations. It is assumed that past projects complied with the relevant laws and regulations and no release of hazardous materials, pollution, or solid waste occurred. Reasonably foreseeable projects would also be required to adhere to all applicable federal, State, and local environmental laws. As discussed in **Section 3.6, Hazardous Materials, Solid Waste, and Pollution Prevention**, compliance with the EMP and existing federal, State, and local regulations pertaining to hazardous materials and human health and safety would ensure that there would be no impacts as a result of the Proposed Action. Because the site is contaminated with PFAS/PFOS, the EMP details the plan to treat contaminated water and materials before it is allowed to move offsite. The Alaska Cargo and Cold Storage Project also has an approved EMP that includes treating contaminated soil and water at the site. Annual water quality monitoring is currently conducted and would continue to be done in accordance with the APDES permit issued to ANC and would continue to occur beyond construction of the Proposed Action. Groundwater sampling in the Postmark Bog is conducted annually by DOT&PF. The number of samples and frequency of sampling may increase as more information is gathered about the extent of contamination within the area. The samples are analyzed for PFAS compounds and petroleum hydrocarbons. ADEC is notified if any samples exceed maximum contaminant levels for the targeted analytes. Samples are also collected by DOT&PF from the stormwater system to monitor for potential contamination. Therefore, as both the Proposed Action and the Alaska Cargo and Cold Storage Project would comply with their respective EMPs and the Proposed Action would reduce the existing contamination through the treatment of onsite groundwater, no cumulative impacts would occur regarding hazardous materials, pollution prevention, and solid waste.

4.1.4 Natural Resources and Energy

The Proposed Action would use commonly available natural resources during construction. None of the building materials that would be employed by the Proposed Action or any of the cumulative projects is considered to be unusual or in short supply. The Proposed Action would not generate excessive demands on local energy supplies. The demands for natural resources and use of the local energy supply, when considered with past, present, and reasonably foreseeable development projects, are not expected to have substantial cumulative natural resource and energy supply-related impacts.

4.1.5 Noise (Construction)

The Proposed Action would not result in an increase in operational activity and the proposed facility is located adjacent to the existing facility. Therefore, the Proposed Action would not contribute to cumulative operational noise impacts, including traffic, and only construction noise is addressed in this section.

Because construction of the Proposed Action would occur at the same time as construction of the Alaska Cargo and Cold Storage Project, there is potential for cumulative construction noise to reach levels above those level associated with construction of the Proposed Action. However, construction noise is temporary in nature and is subject to the Anchorage Noise Control Ordinance (AMC 15.70), which identifies a construction sound level limit of 80 dB within a residential property boundary or within a noise-sensitive zone during any one hour of the identified daily period, depending on season. If construction noise levels are higher than anticipated or occur outside of identified daily periods, AMC 15.70 requires a Noise Permit that could include conditions that the Municipality of Anchorage determines to be appropriate. Therefore, due to the distance to the closest noise-sensitive land use (residential use approximately 0.9 mile or 4,616 feet away), even with both projects running construction equipment at the same time (refer to **Section 3.8.2.3** for a discussion on noise attenuation), it is unlikely that construction noise would reach 80 dB within a residential property boundary and cumulative impacts related to construction noise would not be cumulatively considerable.

4.1.6 Water Resources

4.1.6.1 Wetlands

The Proposed Action would affect 14.32 acres of depressional wetlands, which will be mitigated for through the purchase of compensatory mitigation bank credits. The Alaska Cargo and Cold Storage Project at ANC would affect approximately 21.6 acres of wetlands within the Postmark Bog. A USACE Individual Permit was obtained for the Alaska Cargo and Cold Storage Project and requires the project sponsor to obtain 23.965 wetland credits.

USACE identified the geographic scope for the wetlands cumulative effects assessment is within the city of Anchorage, specifically the area immediately surrounding the Proposed Action, including the Airport and the Turnagain Arm residential neighborhood, commercial, and institutional developments to the west of the Airport which are encompassed by a portion the Knik Arm-Frontal Cook Inlet Watershed. These areas all drain to the same area of Cook Inlet. The geographic scope was not chosen to be the entire Knik Arm-Frontal Cook Inlet Watershed, as that watershed is over 200,000 acres in size and includes all of Cook Inlet and lands across Cook Inlet. Assessing cumulative impacts at such a large scope would serve to dilute the Proposed Action's cumulative impacts.[4] Combined, the Proposed Action and the Alaska Cargo and Cold Storage Project would permanently fill in 36.02 acres of wetlands, which constitutes the majority of the subject wetland.

The Proposed Action would add cumulatively to the area of developed land and impervious surface within the city of Anchorage. Increases in impervious surface would directly increase urban runoff pollutant contribution, and without the wetland's ability to store runoff, such runoff could potentially reach Cook Inlet faster. However, the Proposed Action would not be expected to result in an increase in development of the area, as the directly surrounding area has almost been maximally developed.

While the cumulative loss of Postmark Bog wetlands could be considered cumulatively considerable, as previously mentioned, the wetland investigation (**Appendix D**) concluded the following: (1) the wetlands can no longer be considered in an "undisturbed" state and past

[4] Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Standard Individual Permit Application; CEPOA-RD (File Number, POA-2021- 00209).

permitted dredging, contamination of the water, and surrounding developments have not only reduced system connectivity but also severely affected the value to wildlife and the surrounding ecosystems; (2) the contamination and location of the Postmark Bog at the Airport both severely reduces the safety of preserving the area for migratory bird habitat; (3) the area is actively managed to reduce bird activity in the area; and (4) the water quality has been significantly reduced as it is considered part of a large area-wide PFAS plume. Additionally, the Proposed Action includes remediation of the PFAS contamination on the site as well as grassed swales and a detention basin in order to reduce stormwater runoff. Further, USACE, as the jurisdictional regulatory agency, has determined that the purchase of mitigation credits would offset the impact and that the incremental contribution of the Proposed Action to cumulative impacts are not significant. Therefore, the cumulative impact of the Proposed Action on wetlands would not be cumulatively considerable.

Other regional projects may also affect wetland resources in the region. However, until specific project plans are known, it is not possible to quantify the specific cumulative effects on wetlands from the Proposed Action combined with the other projects in the cumulative project list. USACE requires mitigation for unavoidable impacts to jurisdictional wetlands and would require any of the projects in the cumulative project list to offset the loss of wetlands.

4.1.6.2 Surface Water and Groundwater

Construction and operation of the Proposed Action would have the potential for water quality issues such as increased surface runoff, downstream erosion, and potential discharges of pollutants, such as accidental spills. However, as identified in the EMP prepared for the Proposed Action (**Appendix E**), soil handling during construction would be conducted in a manner that prevents the release of contaminants to surface water and is protective of the water quality standards presented in the ADEC's 18 AAC 70 Water Quality Standards regulations. Stormwater management procedures would be outlined in the project SWPPP and ESCP prepared by the Contractor. Groundwater generated during construction would be managed in accordance with the terms and conditions of the ADEC Excavation Dewatering Permit, AKG002000. A dewatering and best practices plan would be prepared by the Contractor and submitted to ADEC for approval prior to the start of dewatering. The plan would include details of the treatment system design and processes. The plan would also provide details regarding the collection of periodic sampling of post-treated water, which will include the collection of at least two performance monitoring samples of effluent water during the active dewatering portions of the project. The Alaska Cargo and Cold Storage Project also has an approved EMP that includes soil handling, stormwater management, and groundwater management procedures at the site.

In terms of long-term groundwater contamination management, annual water quality monitoring is currently conducted and would continue to be done in accordance with the APDES permit issued to ANC and would continue to occur beyond construction of the Proposed Action. Groundwater sampling in the Postmark Bog is conducted annually by DOT&PF. The number of samples and frequency of sampling may increase as more information is gathered about the extent of contamination within the area. The samples are analyzed for PFAS compounds and petroleum hydrocarbons. ADEC is notified if any samples exceed maximum contaminant levels for the targeted analytes. Samples are also collected by DOT&PF from the stormwater system to monitor for potential contamination. Additionally, required water quality and stormwater BMPs were followed for past projects, and reasonably foreseeable projects would implement the same

practices to minimize potential for water quality impacts; therefore, no cumulative impacts would occur.

5.0 CONCLUSION

The impacts associated with the FedEx ANCA Facility have been discussed and analyzed throughout this EA and it has been determined that there would be no significant impacts as a result of this project. A Finding of No Significant Impact (FONSI) will be prepared. Wetland mitigation credits will be purchased to account for impacts to wetlands. No other mitigation is required.

5.1 SUMMARY TABLE OF ENVIRONMENTAL IMPACTS

Table 5-1 Summary Table of Environmental Impacts

Environmental Resource	Proposed Action	No Action
Air Quality	The Proposed Action is not expected to result in an exceedance of any air quality pollutants based on NAAQS standards. Due to the temporary nature of construction and the size of the Proposed Action, the Proposed Action would not result in significant air quality impacts.	None
Biological Resources	None. The Proposed Action would not affect any endangered or threatened species	None
Climate	Based on the USEPA diesel fuel emissions factor, the estimated CO_2 emissions from construction of the Proposed Action would be 2,474 metric tons over the duration of construction which is approximately two years. This is equivalent to the energy use of 156 homes for each year, or 312 homes total. Based on the facility's estimated energy usage, it would produce 1,144 metric tons of CO_2 per year. The global social cost from the increase in GHG emissions related to construction of the Proposed Action ranges from $19,932 to $100,995 in a given year, depending on year and discount rate used. The global social cost from the increase in GHG emissions related to operation of the Proposed Action ranges from $16,217 to $91,745 in a given year, depending on year and discount rate used. This is not expected to be a significant effect to climate.	None
Hazardous Materials, Solid Waste, and Pollution Prevention	Implementation of BMPs and continued annual monitoring of groundwater from Postmark Bog would reduce and avoid impacts to hazardous materials, solid waste, and pollution prevention.	None
Natural Resources and Energy	Construction and operation would not require the use of any rare materials that are in short supply. Construction would temporarily increase the consumption of energy and natural resources in the form of fuel, lubricants, and other construction materials necessary to	None

	build the proposed facility; however, all materials needed are readily available and could be met by existing resources. The temporary increase in demand for these resources would not represent a significant impact to natural resources or energy supply. Once in operation, the energy demands would not exceed available or future energy supplies.	
Noise	Construction would result in varying levels of noise generation subject to change based on the construction intensity and distance to a given receptor. However, due to distance from sensitive receptors, the noise level would not likely be perceptible over typical ambient noise levels of the Airport. The Proposed Action would not change airfield configurations, runway uses, flight patterns, or aircraft operations at the Airport. Additionally, the Proposed Action would not result in changes to local traffic patterns or result in additional traffic. Therefore, operation of the Proposed Action would have no effect on noise setting at the Airport.	None
Visual Resources	None. The Proposed Action would not create annoyance or interfere with normal activities from light emissions or affect the visual character of the area due to the light emissions. The Proposed Action would not result in viewshed changes for residents or a community off-Airport property.	None
Wetlands	The Proposed Action would affect 14.32 acres of depressional wetlands within the project study area	None
Floodplains	None. The Proposed Action would not occur within any existing floodplain	None
Surface Water	There are no surface waters within the project study area or on Airport property. The Proposed Action would increase the amount of impervious surfaces within the project study area by about 18.7 acres and increase the amount and rate of stormwater runoff within the project study area. Soil handling during construction would be conducted in a manner that prevents the release of contaminants to surface water and is protective of the water quality standards presented in the ADEC's 18 AAC 70 Water Quality Standards regulations. Stormwater management procedures would be outlined in the project SWPPP and ESCP prepared by the Contractor. Additionally, the Proposed Action includes grassed swales and a detention basin in order to reduce stormwater runoff and reduce any potential effects to stormwater.	None

Groundwater	Construction of the Proposed Action would entail ground disturbing activities that may affect groundwater resources. The EMP (see Appendix E) outlines management practices that would be taken while handling groundwater. Groundwater generated during construction would be managed in accordance with the terms and conditions of the ADEC Excavation Dewatering Permit, AKG002000. A dewatering and best practices plan would be prepared by the Contractor and submitted to ADEC for approval prior to the start of dewatering. Groundwater from Postmark Bog would continue to be monitored annually.	None

5.2 SUMMARY OF MITIGATION MEASURES

Mitigation measures are necessary to minimize impacts to wetlands. The following mitigation measure will be implemented to account for the loss of 14.32 acres of depressional wetlands due to the construction and implementation of the Proposed Action:

- The Airport currently holds 8.563 compensatory mitigation credits within the Airport's Klatt Bog wetland band and proposes using the available credits as mitigation for the Proposed Action. An additional 4.092 wetland compensatory mitigation credits will be purchased from Portage Reserve Mitigation Bank (Alaska Railroad).
- As required by ADEC, an EMP has been prepared that consists of a construction mitigation plan outlining guidelines and BMPs relating to the handling of potentially contaminated soil, groundwater, and surface water that could be encountered during construction (see **Appendix E**). Implementation of these BMPs would reduce and avoid impacts to hazardous materials, solid waste, and pollution prevention and no additional mitigation measures are proposed.

THIS PAGE IS INTENTIONALLY LEFT BLANK

.

6.0 LIST OF AGENCIES CONTACTED

The consultation process includes notifying agencies, organizations, and individuals of various documents that are being produced during the EA process. The following tables list the agencies, organizations, and individuals that received the NOP and will receive notification of the publication of the Draft EA.

6.1 FEDERAL AGENCIES

Table 6-1 lists the federal agencies consulted as part of the EA process.

Table 6-1
Federal Agencies Consulted

Agency	Contact Person	Division
U.S. Army Corps of Engineers	Roberta Budnik	Alaska District
U.S. Fish and Wildlife Service	Sara Boario	Alaska Region
U.S. Environmental Protection Agency	Casey Sixkiller	Region 10

6.2 TRIBAL CONSULTATION

Table 6-2 lists the tribes consulted as part of the EA process.

Table 6-2
Tribes Consulted

Tribe	Contact
Chickaloon Native Village	Chief Harrison
Eklutna Native Village	President Leggett
Knik Tribal Council	Megan Pierce

6.3 STATE OF ALASKA AGENCIES

Table 6-3 lists the state agencies consulted as part of the EA process.

Table 6-3
State Agencies Consulted

State Agency	Contact Person	Division
Alaska Legislature	Matt Claman, Senator	District H
Alaska Legislature	Jennifer Armstrong, Representative	District 16
Alaska Department of Commerce, Community, and Economic Development	Julie Sande, Commissioner	
Alaska Department of Environmental Conservation	Sam Kito	Division of Water
Alaska Department of Environmental Conservation	Robert Burgess	Contaminated Sites Program

Alaska Department of Environmental Conservation	Willow Weimer	Division of Water
Alaska Department of Environmental Conservation	James Rypkema	Division of Water
Alaska Department of Environmental Conservation	Jason Brune, Commissioner	

6.4 LOCAL ELECTED REPRESENTATIVES

Table 6-4 lists the local representatives consulted as part of the EA process.

Table 6-4
Local Representatives Consulted

Name	Position
Dave Bronson	Mayor
Suzanne LaFrance	Chair
Christopher Constant	Vice Chair
Kameron Perez-Verdia	District 3 Assembly Member
Austin Quinn-Davidson	District 3 Assembly Member
Jason Mellerstig	Sand Lake Chair, Anchorage Community Council
Meg Mielke	Spenard Chair, Anchorage Community Council
Anna Brawley	Turnagain President (former), Anchorage Community Council
Cathy Gleason	Vice President and Acting President, Turnagain Community Council

6.5 OTHER PUBLIC / PRIVATE ENTITIES

Table 6-5 lists other public / private entities consulted as part of the EA process.

Table 6-5
Other Public / Private Entities Consulted

Organization	Contact Person	Position
Anchorage Community Development Authority	Mike Robbins	Executive Director
Alaska Municipal League	Nils Andreassen	Executive Director
Anchorage Chamber of Commerce	Bruce Bustamante	President / CEO
Visit Anchorage	Julie Saupe	President / CEO
Anchorage Economic Development Corporation (AEDC)	Bill Popp	President / CEO
Federation of Community Councils	Gretchen Stoddard	Manager

7.0 LIST OF PREPARERS

The following section presents the list of agencies, firms, and individuals that were primarily responsible for the preparation of this EA. The list of individuals includes their name, location, education, years of experience, and primary responsibility or role during preparation of the EA.

7.1.1 Federal Aviation Administration

The FAA is the lead agency for the preparation of this EA. Responsibility for review and approval of this EA rests with the FAA. The following FAA Staff Members were involved in the preparation of this EA.

Kristi Ponozzo, Environmental Protection Specialist, Alaskan Regional Airports Division

7.1.2 Ted Stevens Anchorage International Airport

Teri Lindseth, Deputy Airport Director

John Johansen, Engineering, Environmental & Planning Manager

Tom Johnston, Environmental Program Manager

Kenton Curtis, Environmental Specialist

7.1.3 Principal Preparers

Responsibility for preparation of this EA rests with FedEx Express. Listed below are the persons responsible for the preparation of this EA.

7.1.3.1 FedEx Express

Steven Zebovitz, P.E., Chief International Environmental Project Engineer

Haden Campbell, P.E., Chief Engineer Environmental Management

7.1.3.2 RS&H, Inc.

Dave Full, AICP, Project Manager, Environmental

Karin Bouler, Deputy Project Manager, Environmental

Audrey Hsu, Environmental and GIS

THIS PAGE IS INTENTIONALLY LEFT BLANK.

8.0 REFERENCES

Alaska Center for Conservation Science. (2023). *Alaska Land Cover and Wetlands (depreciated).* Retrieved January 2023, from University of Alaska: https://composite.accs.axiomdatascience.com/#map

Alaska Department of Fish and Game. (2022). *State of Alaska Special Status Species*. Retrieved March 2022, from The Greate State of Alaska: http://www.adfg.alaska.gov/index.cfm%3Fadfg=specialstatus.akendangered

Alaska Department of Transportation and Public Facilities. (2023a). *Alaska's Scenic Byways*. Retrieved April 2023, from Alaska DOT: https://dot.alaska.gov/stwdplng/scenic/

Alaska Department of Transportation and Public Facilities. (2023b). *Watershed.* Retrieved January 2023, from Ted Stevens Anchorage International Airport: https://dot.alaska.gov/anc/business/environmental/watershed.shtml#:~:text=The%20ANC%20watershed%20or%20drainage,Knik%20Arm%20or%20Turnagain%20Arm.

American Community Survey. (2020a). *B02001: Race.* Retrieved January 2023, from United States Census Bureau: https://data.census.gov/table?t=Race+and+Ethnicity&g=1500000US020200023011_1600000US0203000&d=ACS+5-Year+Estimates+Detailed+Tables&tid=ACSDT5Y2020.B02001

American Community Survey. (2020b). *B17021 Poverty Level Status of Individuals in the Past 12 Months by Living Arrangement.* Retrieved January 2023, from United States Census Bureau: https://data.census.gov/table?t=Income+and+Poverty&g=1500000US020200023011_1600000US0203000&tid=ACSDT5Y2020.B17021

Council on Environmental Quality. (2023). *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change.* Retrieved November 15, 2023, from https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate

FAA. (2015a). *Aviation Emissions and Air Quality Handbook.* Retrieved December 2023, from https://www.faa.gov/sites/faa.gov/files/regulations_policies/policy_guidance/envir_policy/airquality_handbook/Air_Quality_Handbook_Appendices.pdf

FAA. (2015b). *Ted Stevens Anchorage International Airport FAR Part 150 Noise Compatibility.* Retrieved December 2023, from https://dot.alaska.gov/anc/documents/ANC%20FAR%20Part%20150%20Noise%20Compatibility%20Study%20Update.pdf

FAA. (2020). *1050 Desk Reference Chapter 14.* Retrieved June 2023, from FAA: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/14-water-resources.pdf

FAA. (2022a). *National Plan of Integrated Airport Systems, 2021-2025.* Retrieved March 2022, from https://www.faa.gov/airports/planning_capacity/npias/current/media/NPIAS-2021-2025-Appendix-A.pdf

FAA. (2022b). *APO Terminal Area Forecast Detail Report.* Retrieved December 2022, from Terminal Area Forecast (TAF): https://www.faa.gov/data_research/aviation/taf

FAA. (2023). *Aeronautical Information Services, Ted Stevens Anchorage International.* Retrieved December 2022, from FAA: https://nfdc.faa.gov/nfdcApps/services/ajv5/airportDisplay.jsp?airportId=ANC

Federal Highway Administration. (2006). *Roadway Construction Noise Model User's Guide*. Retrieved from https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

FEMA. (2022). *FEMA's National Flood Hazard Layer (NFHL) Viewer*. Retrieved March 2022, from https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-150.017948786452,61.18092716676627,-149.97640673322826,61.19126904110253

Geopier. (2023). *Geopier*. Retrieved from https://www.geopier.com/

IWG SC-GHG. (2021). *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990.* Retrieved January 2024, from https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf

Municipality of Anchorage. (2007). *Anchorage Coastal Management Program*. Retrieved January 2023, from Municipality of Anchorage: muni.org/Departments/OCPD/Planning/Publications/Anc%20Coastal%20Management%20Plan/Full_Doc.pdf

Municipality of Anchorage. (2014, June 24). *Official Streets and Highway Plan.* Retrieved January 2023, from Municipality of Anchorage: https://www.muni.org/Departments/OCPD/Planning/Publications/Documents/OSHP%20Complete%20Document1.26.15.pdf

Municipality of Anchorage. (2019). *Anchorage Climate Action Plan 2019.* Retrieved January 2023, from Municipality of Anchorage: https://www.muni.org/departments/mayor/aware/resilientanchorage/documents/2019%20anchorage%20climate%20action%20plan_4.25.19.pdf

Municipality of Anchorage. (2022). *WMS Streams Hosted*. Retrieved March 2022, from Downloadable Data from MOAGIS: https://data-muniorg.hub.arcgis.com/datasets/wms-streams-hosted/explore?location=61.190391%2C-149.972415%2C15.85

Municipality of Anchorage. (2023a). *Park and Facility Information*. Retrieved March 2023, from Anchorage Parks and Recreation Map Gallery: https://muniorg.maps.arcgis.com/apps/webappviewer/index.html?id=ae59698bf01349f6a6a2d0ad3b15a03c

Municipality of Anchorage. (2023b, 9 1). *Anchorage 2040 Land Use Map*. Retrieved 1 11, 2023, from ESRI ArcGIS Online: https://www.arcgis.com/apps/mapviewer/index.html?webmap=7f87acdc065a49b4b95c7784945b7a26

Municipality of Anchorage. (2024). *My Neigborhood*. Retrieved January 29, 2024, from https://muniorg.maps.arcgis.com/apps/webappviewer/index.html?id=e8cf69139d9d4163a9a4d052c2732f2a

National Oceanic and Atmospheric Administration. (2022a). *Coastal Zone Management Programs*. Retrieved March 2022, from Office for Coastal Management: https://coast.noaa.gov/czm/mystate/#alaska

National Oceanic and Atmospheric Administration. (2022b). *Maps*. Retrieved March 2022, from National Marine Sanctuaries: https://sanctuaries.noaa.gov/about/maps.html

National Park Service. (2022). *National Rivers Inventory*. Retrieved March 2022, from https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977

National Park Service. (2023). *National Register of Historic Placs*. Retrieved from National Park Service: https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466

Natural Resources Conservation Service. (2022). *Web Soil Survey*. Retrieved March 2022, from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Environmental Protection Agency. (2022a, December). *Latest Version of MOtor Vehicle Emission Simulator (MOVES)*. Retrieved from U.S. Environmental Protection Agency: https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves

U.S. Environmental Protection Agency. (2022b). *Cleanups in My Community Map*. Retrieved March 2022, from EPA: https://cimc.epa.gov/ords/cimc/f?p=cimc:MAP::::71:P71_WELSEARCH:AK|State|AK|||true|true|true|true|true|true||-1|sites|N|basic

U.S. Environmental Protection Agency. (2023a). *Alaska Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. Retrieved May 2023, from Green Book: https://www3.epa.gov/airquality/greenbook/anayo_ak.html

U.S. Environmental Protection Agency. (2023b, June). *eGrid Power Profiler*. Retrieved June 2023, from U.S. Environmental Protection Agency: https://www.epa.gov/egrid/power-profiler#/AKGD

U.S. Environmental Protection Agency. (2023b, May). *Greenhouse Gases Equivalencies Calculator - Calculations and References*. Retrieved June 2023, from U.S. Environmental Protection Agency: https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references

U.S. Environmental Protection Agency. (2023c, May). *Greenhouse Gas Equivalencies Calculator*. Retrieved from U.S. Environmental Protection Agency: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results

U.S. Fish and Wildlife Service. (2022a). *Coastal Barrier Resource System Mapper*. Retrieved March 2022, from U.S. Fish and Wildlife Service: https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/

U.S. Fish and Wildlife Service. (2022b). *Information for Planning and Consultation*. Retrieved March 2022, from IPaC:

https://ipac.ecosphere.fws.gov/location/Q65CZCXWWFGSDDCRBCP4KLLAMQ/resources#wetlands

U.S. Geological Survey. (2022). *Wild & Scenic Rivers*. Retrieved March 2022, from National Parks Service: https://nps.maps.arcgis.com/apps/View/index.html?appid=ff42a57d0aae43c49a88daee0e353142

APPENDIX A.
PUBLIC AND AGENCY OUTREACH

THIS PAGE INTENTIONALLY LEFT BLANK

ANCHORAGE DAILY NEWS
AFFIDAVIT OF PUBLICATION

Account #: 108096 Fed Ex Express - Legal
3620 Hacks Cross Rd, Bldg. B., Memphis, TN 38125

Order #: W0035392 Cost: $300.8

STATE OF ALASKA
THIRD JUDICIAL DISTRICT

Adam Garrigus being first duly sworn on oath deposes and says that she is a representative of the Anchorage Daily News, a daily newspaper. That said newspaper has been approved by the Third Judicial Court, Anchorage, Alaska, and it now and has been published in the English language continually as a daily newspaper in Anchorage, Alaska, and it is now and during all said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a copy of an advertisement as it was published in regular issues (and not in supplemental form) of said newspaper on

01/13/2023

and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is not in excess of the rate charged private individuals.

Signed Adam Garrigus

Subscribed and sworn to before me
this 17th day of January 2023.

Lisa McGuire

Notary Public in and for
The State of Alaska.
Third Division
Anchorage, Alaska

MY COMMISSION EXPIRES

2026-08-04

Lisa M. McGuire
ELECTRONIC NOTARY PUBLIC
STATE OF ALASKA
MY COMMISSION EXPIRES 08-04-2026

Notice of Public Scoping Meeting
FedEx ANCA Facility
Environmental Assessment
Anchorage, Alaska

FedEx Express (FedEx, Project Sponsor), in coordination with Ted Stevens Anchorage International Airport (ANC) and the Federal Aviation Administration (FAA), intends to redevelop and expand the FedEx Cargo Development area at ANC in order to accommodate existing and future demand for cargo operations, increase operational efficiencies, and meet FAA and airport safety requirements. Major components of the proposed project include the construction of the following:

* new feeder aircraft parking apron,
* cargo building,
* automobile parking areas,
* two connections to Postmark Drive, and
* new security and perimeter fencing

Pursuant to the requirements of the National Environmental Policy Act (NEPA) and FAA Order 1050.1F, a Draft Environmental Assessment (EA) will be prepared, The Draft EA will describe the proposed project and the impacts associated with the implementation of the proposed project on environmental resource categories outlined in FAA Order 1050.1F. The Project Sponsor is holding a scoping meeting for the public to provide input regarding the issues to be addressed in the Draft EA. This public scoping meeting will describe the general characteristics of the proposed improvements and identify the environmental resource categories to be analyzed in the Draft EA (the next step in the EA process).

Together with a scoping meeting for regulatory agencies, these meetings will constitute the scoping process for the Draft EA. If an Environmental Impact Statement (EIS) is required by the FAA, these scoping meetings will serve as the scoping session for the EIS. The public scoping meeting will be held at the following time and place:

Thursday February 16, 2023; 6:00 PM - 7:30 PM
Coast Inn at Lake Hood
3450 Aviation Ave.
Anchorage, AK 99502

Emailed comments on the scope of the Draft EA may be sent to Karin Bouler at: Karin.Bouler@rsandh.com.

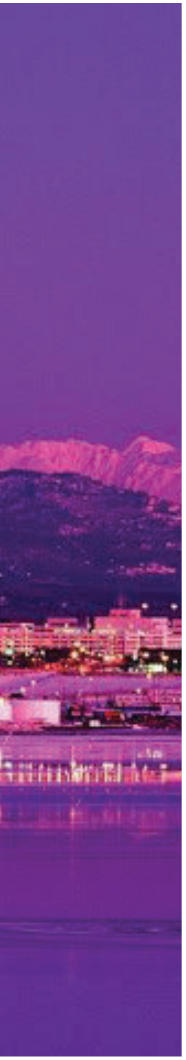
Handwritten comments may also be submitted via U.S. mail at:

RS&H
369 Pine St, Suite 610
San Francisco, CA 94104
Attn: Ms. Karin Bouler

Handwritten and emailed comments must be received by 5pm (Alaska Standard Time) on March 20, 2023.

Pub: January 13, 2023

THIS PAGE INTENTIONALLY LEFT BLANK



Ted Stevens Anchorage International Airport

FedEx ANCA Facility Development

Environmental Assessment (EA)

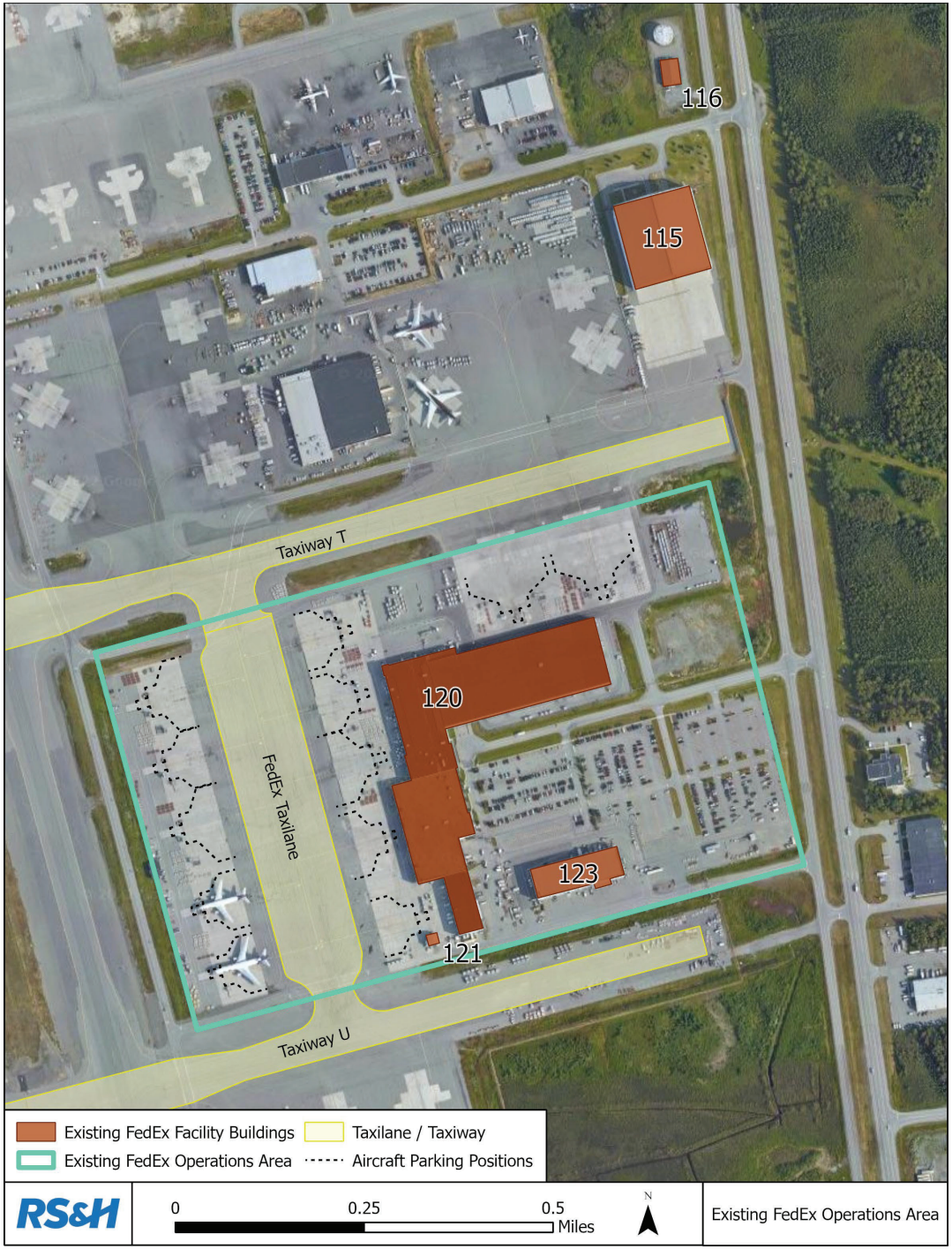
Public Scoping Meeting

February 16, 2023

Proposed Project Location

Existing FedEx Operations Area

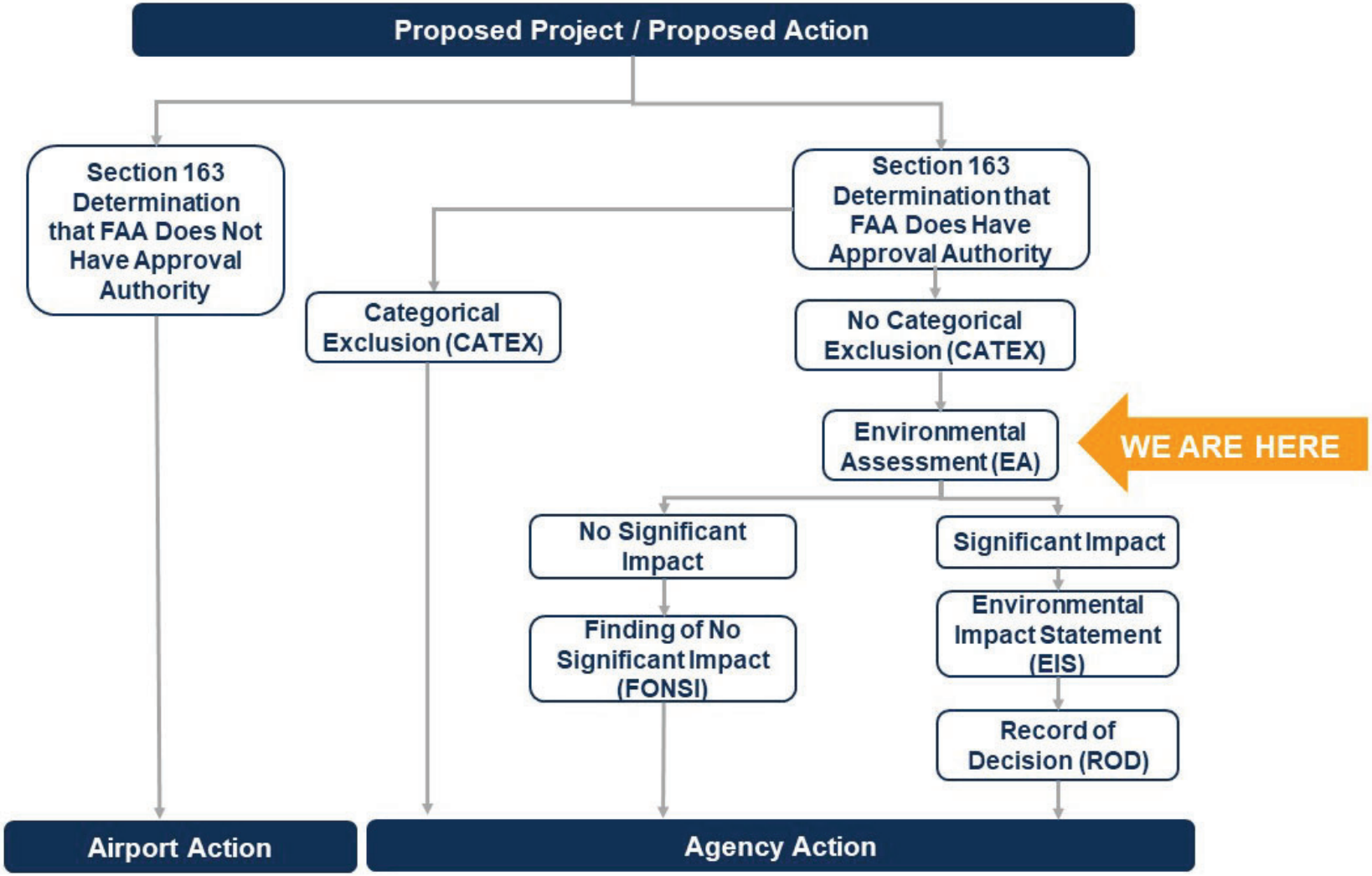
- 12 cargo aircraft parking positions
  - 12 cargo aircraft parking positions, of which 9 are capable of accommodating the Boeing 777-200F aircraft
  - Buildings 115, 116, 120, 121, and 123
  - Warehousing
  - Equipment maintenance
  - Ground service storage and maintenance
  - Cargo processing and sortation
  - Aircraft storage
  - Office work
  - Employee training
  - Snow storage
  - Employee parking
- Taxilane extending from Taxiway T to Taxiway U



What is NEPA?

- NEPA is the National Environmental Policy Act of 1969
- NEPA is a statue that requires federal agencies to consider the environmental affects of their actions in the decision-making process
- The Federal Aviation Administration (FAA) is the lead agency for aviation-related NEPA documentation
- All NEPA documentation follows guidance provided in Council on Environmental Quality (CEQ) Regulations and FAA Orders

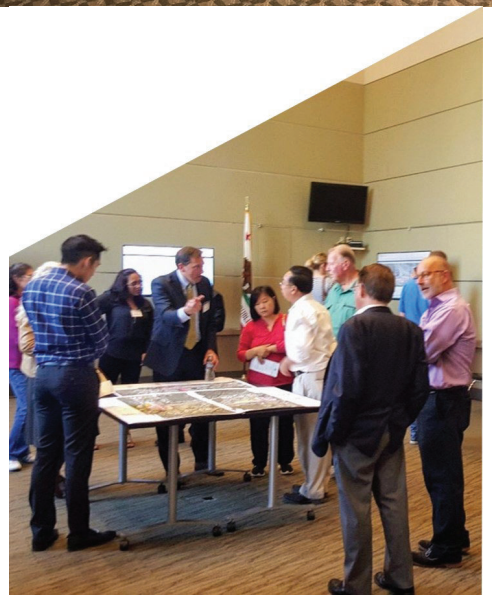
The NEPA Process



The Environmental Process

Scoping and its Benefits

- Provides an opportunity for involvement in the EA process from the start
  - Federal, state, and local agencies, and the public can provide input regarding environmental conditions and concerns
- Information received during scoping helps identify areas of concern
  - Issues that are identified during the scoping process can help determine the level of analyses conducted for each environmental resource in the EA



Purpose and Need of the Proposed Project

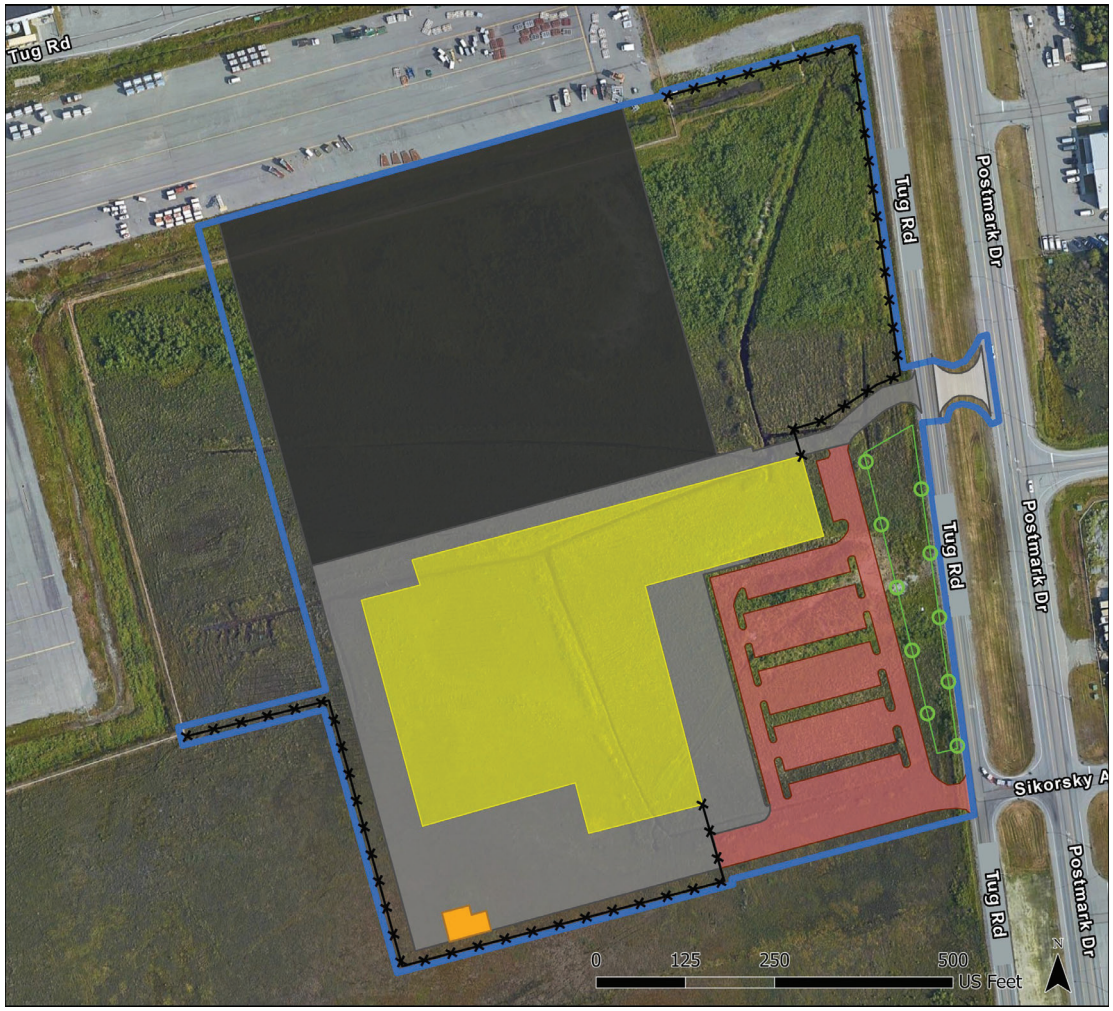
The "purpose" describes the proposed solution to the problem.

– Purpose is to
  - Accommodate existing and future demand for cargo operations,
  - Increase operational efficiencies through new and improved cargo and airline support facilities, and
  - Meet FAA and Airport safety requirements

The "need" describes the problem that is being addressed.

– Need is that
  - The existing FedEx ANCA Facility is inadequate to meet the requirements for a delivery and sortation support facility.
  - The integration of additional sorting facilities is needed to meet FedEx's operational goals

Proposed Project



Legend

- Project Study Area
- Perimeter Security Fencing
- Decorative Barrier Fence
- Vehicle Wash Facility
- Pavement
- New Aircraft Parking Apron
- Connection to Postmark Drive
- Parking Area
- Cargo Buildling

Range of Alternatives to be Analyzed in EA

- Alternative must meet the purpose and need to
  - (1) provide suitable air cargo facilities at ANC to accommodate existing and future demand for cargo operations;
  - (2) increase operational efficiencies through new and improved cargo and airline support facilities; and
  - (3) be consistent with the Airport's long-term plans

Environmental Resource Categories to be Analyzed in EA

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- **Historical, Architectural, Archaeological, and Cultural Resources ***
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- **Water Resources**
  - **Wetlands***
  - Floodplains
  - Surface Waters
  - Groundwater
  - Wild and Scenic Rivers

Note:

* = Environmental resource categories that have been previously identified as needing site surveys and/or additional analysis

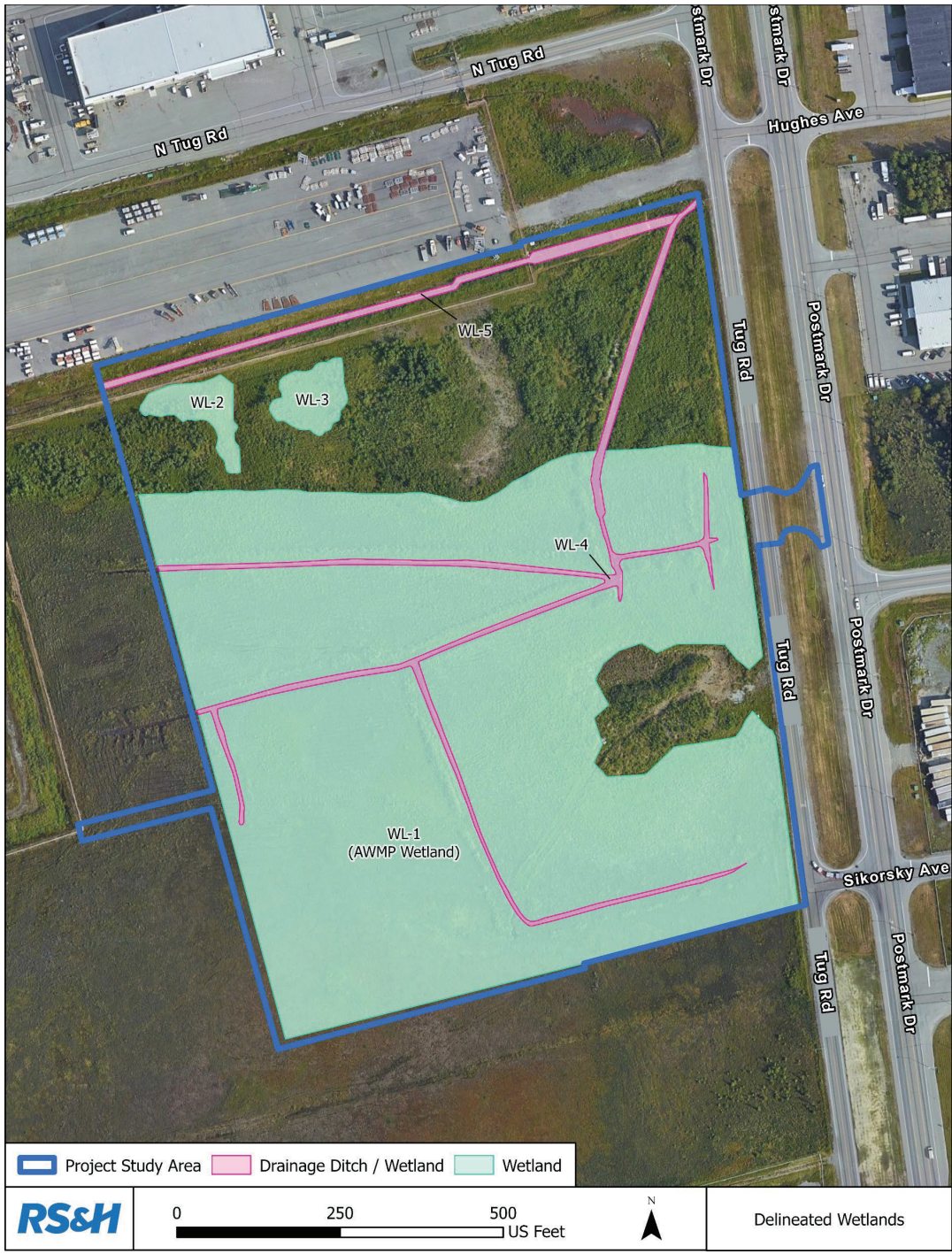
Preliminary List of Special Purpose Laws

- Clean Air Act
- Endangered Species Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Marine Mammal Protection Act
- U.S. Department of Transportation Act – Section 4(f)
- Land and Water Conservation Act
- Farmland Protection Policy Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Pollution Prevention Act
- Resource Conservation and Recovery Act
- Toxic Substances Control Act
- National Historic Preservation Act
- Antiquities Act
- Airport and Airway Improvement Act
- Airport Improvement Program
- Energy Independence and Security Act
- Airport Noise and Capacity Act
- Uniform Relocation Assistance and Real Property Acquisitions Policy Act
- Title VI of the Civil Rights Act
- Clean Water Act
- National Flood Insurance Act
- Safe Drinking Water Act
- Wild and Scenic Rivers Act

Current Wetlands

Legislation:

- Clean Water Act
  - Section 401
  - Section 404
- Anchorage Wetlands Management Plan
- Anchorage Stormwater Manual
- Storm Water Treatment Plan (SWTP)
- Storm Water Pollution Prevention Plan (SWPPP)



Preliminary List of Anticipated Permits, Approvals, Determinations, Certifications, and Consultations

Permit/Approval	Agency
Clean Water Act (CWA) Section 404 Permit	U.S. Army Corps of Engineers
CWA Section 401 Water Quality Certification	Alaska Department of Environmental Conservation
CWA Section 402 Stormwater Construction General Permit	Alaska Department of Environmental Conservation
Alaska Pollutant Discharge Elimination System, General Permit for Excavation Dewatering	Alaska Department of Environmental Conservation
Temporary Water Use Authorization	Alaska State Department of Natural Resources
National Historic Preservation Act Section 106 Consultation	Department of Archaeology and Historic Preservation (Alaska State Historic Preservation Officer [SHPO])
Grading/Land Disturbing Activities Permit	Municipality of Anchorage
Building Permit	Municipality of Anchorage
Building Permit	Ted Stevens Anchorage International Airport

EA Roles and Responsibilities

- Federal Aviation Administration
  - Lead Federal Agency on the EA
  - Ensures compliance with NEPA and special purpose laws and regulations
- Project Sponsor (FedEx Express)
  - Directs work performed by EA consultant
- Federal, State, Local Agencies, Native American Tribes
  - Assists Project Sponsor and FAA by providing environmental resources data, technical assistance, and review in area of expertise
  - Comments on scope of EA
  - Comments on Draft EA
- Public
  - Comments on scope of EA
  - Comments on Draft EA
- EA Consultant
  - Technical analysis
  - Production of EA

EA Next Steps

- Develop and screen Alternatives to analyze in the EA
- Describe existing environmental conditions (Affected Environment)
  - Field studies / site surveys
- Analyze potential environmental effects (Environmental Consequences)
- Publish Draft EA (anticipated Spring 2023)
  - 30-day public comment period on Draft EA
- Respond to comments received on Draft EA (Summer 2023)
- Publish Final EA (anticipated Summer 2023)
- FAA issues decision (anticipated Summer 2023)

How to Provide Scoping Comments

- Fill out comment card
- Send written comments via U.S. Mail to:

  RS&H
  Attn: Karin Bouler
  369 Pine Street, Suite 610
  San Francisco, CA 94104

- Send electronic comments via email to Karin.Bouler@rsandh.com

All comments must be received by 5:00pm AST on March 20, 2023

Stay Informed

Email Karin.Bouler@rsandh.com and request to be added to the project contact list.
Project materials can be downloaded at https://bit.ly/ANCA-EA

PROJECT: FedEx ANCA Facility EA at Ted Stevens Anchorage International Airport

MEETING: Public Scoping Meeting

DATE: February 16, 2023

TIME: 6:00 PM - 7:30 PM

LOCATION: Coast Inn at Lake Hood, 3450 Aviation Ave., Anchorage, AK 99502

Before including your address, e-mail address, or other personal identifying information, be advised that your personal identifying information may be made publicly available at any time. While you can ask us to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. Written requests to withhold personal information may be emailed to: Karin.Bouler@rsandh.com

	NAME	ORGANIZATION	EMAIL ADDRESS	PHONE NUMBER
1	Jean Bielawski	FedEx & live in Airport area	j33jeanb@alaska.net	907-230-3347
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				

PROJECT: FedEx ANCA Facility EA at Ted Stevens Anchorage International Airport

MEETING: Public Scoping Meeting

DATE: February 16, 2023

TIME: 6:00 PM - 7:30 PM

LOCATION: Coast Inn at Lake Hood, 3450 Aviation Ave., Anchorage, AK 99502

Before including your address, e-mail address, or other personal identifying information, be advised that your personal identifying information may be made publicly available at any time. While you can ask us to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. Written requests to withhold personal information may be emailed to: Karin.Bouler@rsandh.com

	NAME	ORGANIZATION	EMAIL ADDRESS	PHONE NUMBER
47	Steve Montoth	TCC	stevensm@ak.net	907 350-3037
48	Scott Lytle	ANC	Scott.Lytle@alaska.gov	907-266-2129
49	Joe Isaacs	TCC	~~Joe~~ Isaacs@GCI.Net	9072231959
50	Frank Part	SOF	FPart@GCI.NET	907.230.4602
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155, 14-D12
Seattle, WA 98101-3144

REGIONAL
ADMINISTRATOR'S
DIVISION

March 20, 2023

Karin Bouler
RS&H
369 Pine Street, Suite 610
San Francisco, CA 94104

Dear Karin Bouler:

The U.S. Environmental Protection Agency has reviewed FedEx Express' (FedEx) January 2023 notice to prepare an Environmental Assessment for the FedEx Facility Development at Ted Stevens Anchorage International Airport (ANC) (EPA Project Number 23-0006-FAA). EPA has conducted its review pursuant to the National Environmental Policy Act and our review authority under Section 309 of the Clean Air Act. The CAA Section 309 role is unique to EPA and requires EPA to review and comment publicly on any proposed federal action subject to NEPA's environmental impact statement requirement.

EPA provides these scoping comments to FedEx because of their coordination with ANC and the Federal Aviation Administration on the proposed project. The EA will evaluate the potential environmental impacts associated with redeveloping and expanding the FedEx Cargo Development area at ANC to accommodate existing and future demand for cargo operations, increase operational efficiencies, and meet FAA and airport safety requirements.

EPA has concerns about potential impacts from project activities to several resource areas, including water quality and aquatic resources, per- and polyfluoroalkyl substances, air quality, environmental justice, public engagement, and climate change. The enclosed Detailed Comments provide greater detail of these and other concerns, as well as recommendations for the EA.

Thank you for the opportunity to provide scoping comments for this project. If you have questions about this review, please contact Susan Sturges of my staff at (206) 553-2117 and sturges.susan@epa.gov or me, at (206) 553-1774 or at chu.rebecca@epa.gov.

Sincerely,

REBECCA CHU

Digitally signed by REBECCA CHU
Date: 2023.03.20 10:27:01 -07'00'

Rebecca Chu, Chief
Policy and Environmental Review Branch

Enclosure

U.S. EPA Detailed Comments on
FedEx Facility Development at Ted Stevens Anchorage International Airport EA Scoping
Anchorage, Alaska
March 2023

Impacts to Water Quality and Aquatic Resources

Clean Water Act Section 404

The proposed project would require a permit under Section 404 CWA from the U.S. Army Corps of Engineers (USACE) for the discharge of dredged or fill material into waters of the U.S. (WOTUS). The proposed project would have direct impacts on freshwater wetlands within the project footprint and indirect impacts on nearby freshwater wetlands and estuarine mud flats outside of the project footprint. Freshwater wetlands and estuarine mud flats are considered special aquatic sites under the CWA Section 404(b)(1) Guidelines (40 CFR 230).

In August 2022, EPA provided comments to the USACE on a public notice for a Department of the Army permit for this project.[1, 2] In summary, EPA expressed concerns regarding:

- Cumulative effects of the loss of approximately 38 acres of wetlands in the areas immediately adjacent to ANC within a short period of time, which are the potential collective impacts from this project and two other projects proposed at ANC, Alaska Cargo and Cold Storage Facility and NorthLink's South Campus Air Cargo Terminal.
- Level of mitigation to fully compensate the potentially adverse impacts to WOTUS.
- Demonstration of compliance with policy and guidance in the Anchorage Wetlands Management Plan (AWMP).[3] The project would impact wetlands identified as Postmark Drive West in the AWMP. The Postmark Drive West wetlands are designated as Class "A" wetlands and a "significant site due to both migratory and nesting bird habitat, stormwater treatment and attenuation values." [4]
- Demonstration of compliance with Section 404 CWA(b)(1) Guidelines.

EPA recommends that the NEPA document:

- Clearly identify any discharges to WOTUS that are known, or likely, to occur that are subject to CWA Section 404. Identify and describe the impact of those discharges, control measures to be employed to address those impacts, and best management practices to prevent discharge of water and pollutants.
- Include sufficient information that can serve as a basis to determine whether the project would satisfy the requirements for the CWA Section 404 permit or identify appropriate measures to mitigate the project's impacts to all WOTUS.
- Describe the regulatory criteria and processes utilized to screen potential alternatives and thoroughly evaluate alternatives that would pose less adverse impacts.
- Include mitigation measures to avoid, minimize, and compensate potentially adverse impacts to WOTUS. Describe how compensatory mitigation will be quantified and provided to offset

1

[1] Jensen, Amy. (August 25, 2022). [Letter from Amy Jensen, US EPA Region 10 to Bryan Herczeg, U.S. Army of Corps of Engineers, 2022]
[2] U.S. Army Corps of Engineers. (July 26, 2022). Public Notice POA-2021-00209.
[3] Municipality of Anchorage. (2014, July). Anchorage Wetlands Management Plan. Available at: https://www.muni.org/Departments/OCPD/Planning/Physical/EnvPlanning/Documents/Anchorage%20Wetlands%20Management%20Plan-2014.pdf. Accessed 3/14/2023.
[4] Ibid, p. 52.

impacts, including the history and availability of credits from the Klatt Bog Wetland Bank, which is proposed for use as compensatory mitigation.[5] Given the AWMP designation of Class "A" for the affected wetlands, EPA recommends updating the wetlands functional assessment to determine the existing value of the wetlands to the municipality and if additional compensatory mitigation is needed to offset impacts.

- Provide the latest update of the status of the CWA Section 404 permit.

CWA Section 401

The CWA provides states and authorized tribes the authority to grant, deny, or waive certification of proposed federal licenses or permits that may discharge into WOTUS. This section of the CWA is an important tool for states and authorized tribes to help protect the water quality of federally regulated waters within their borders, in collaboration with federal agencies. In developing the NEPA analysis, EPA recommends early coordination with the State regarding CWA Section 401 for the purposes of streamlining regulatory processes.

2

CWA Section 303(d)

The CWA requires states to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans called Total Maximum Daily Loads (TMDLs) to improve water quality. EPA recommends the NEPA analysis include information on CWA Section 303(d) impaired waters in the project area and any efforts related to TMDLs. Discuss what effect, if any, project discharges may have on impaired waterbodies. EPA recommends the NEPA analysis describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

3

PFAS

The ANC has conducted sampling on airport property that confirmed the presence of PFAS. The historical use of aqueous film forming foam, a standard firefighting agent that contains PFAS, is a suspected source of PFAS at airports worldwide.[6] The ANC is listed on Alaska Department of Environmental Conservation's PFAS contaminated sites.[7] The USACE's public notice for a Department of the Army permit for this project indicated that "the project design will evaluate management and control options, including possible in-situ mitigation options, such as treatment of the excess water flowing through the initial engineered fill layer using colloidal or granular activated carbon (GAC)."[8]

4

EPA recommends that the NEPA document disclose how the project plans to manage PFAS to avoid contamination of soil, water, and area wetlands. Further, we recommend that the NEPA document include:

- Locations of known or suspected areas of PFAS contamination within the project footprint and nearby proximity, including their contaminant levels.
- Areas proposed for excavation or dewatering that may increase the potential for aquatic resource contamination from PFAS releases.
- A plan for managing any contaminated soil, surface water, groundwater, or wetlands during the construction project.

---

[5] Public Notice POA-2021-00209, p. 3.
[6] https://dot.alaska.gov/airportwater/anchorage/ . Accessed 3/9/2023.
[7] https://dec.alaska.gov/spar/csp/pfas/responses/. Accessed 3/9/2023.
[8] Public Notice POA-2021-00209, p. 2.

- A discussion of the potential for contamination exposure of these pollutants to aquatic resources from the proposed project.
- Necessary measures to avoid, minimize, and compensate for PFAS to support a future permit decision under the CWA.

Project Design

5 EPA recommends the NEPA document discuss avoiding and minimizing creation of new pollution generating impervious surfaces, such as using pervious pavement and other low impact development techniques for managing storm water and avoiding building over groundwater recharge areas; as well as efforts to minimize utilizing pollution generating materials during construction. Consider de-paving areas to mitigate for any new impervious surface needed for the project to achieve no net increase in pollution generating impervious surface. EPA recommends the NEPA document include opportunities to minimize impacts from storm water such as green infrastructure technologies. EPA has information on technologies including permeable paving systems, rainwater harvesting ideas, and bioswales that may be useful for reducing the impacts of development.[9] EPA also has information on pollution generating materials, such as products with inadvertently generated PCBs (iPCBs), and information on products and pollution prevention solutions to reduce the release of iPCBs into the environment.[10]

Air Quality

6 EPA recommends the NEPA document discuss air quality impacts from project construction, maintenance, and operations with respect to criteria air pollutants and air toxics, including diesel particulate matter emissions. Also discuss the direct, indirect, and cumulative impacts of project related air emissions. Disclose current representative background air pollutant concentrations in the areas of the project and compare these concentrations to the state and federal ambient air quality standards. Disclose any other air quality regulations and requirements related to the project.

For air pollutant emissions expected during construction, discuss the potential exposure of these pollutants to nearby sensitive populations, such as residences including communities with environmental justice concerns, park/recreational users, schools, daycares, senior centers/assisted living facilities, hospitals, and other health-care facilities. EPA recommends including a discussion of measures to be taken to minimize air quality impacts on the local environment and decrease exposure of construction-related emissions to neighboring sensitive populations.

Environmental Justice

7 Executive Order 12898 directs federal agencies to identify and address the disproportionately high and adverse human health on environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. Consider incorporating EO 13985 on *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* into FAA's analysis.

[9] https://www.epa.gov/green-infrastructure/what-green-infrastructure#Greenparking. Accessed 3/17/2023.
[10] https://www.epa.gov/sites/default/files/2021-04/documents/p2-pcb-factsheet-508.pdf . Accessed 3/17/2023. Also see https://www.epa.gov/sites/default/files/2021-05/documents/final_pcb_buildings_fact_sheet_05-10-2021_to_upload.pdf . Accessed 3/17/2023; https://www.epa.gov/sites/default/files/2017-06/documents/06072017_final_pcbfast_toolbox_508compliant.pdf. Accessed 3/17/2023; and https://www.newmoa.org/wp-content/uploads/2022/08/PCB_Brochure_2_Final.pdf. Accessed 3/17/2023.

EJScreen is EPA's nationally consistent environmental justice screening and mapping tool.[11] EJScreen offers a variety of powerful data and mapping capabilities that enable users to understand details about the population of an area and the environmental conditions in which they live. The tool provides information on environmental and socioeconomic indicators as well as pollution sources, health disparities, critical service gaps, and climate change data. The data is displayed in color-coded maps and standard data reports which feature how a selected location compares to the rest of the nation and state.

Assessing EJScreen information is a useful first step in understanding or highlighting locations that may be candidates for further review or outreach. EPA considers a project to be in an area of potential environmental justice (EJ) concern when an EJScreen analysis for the impacted area shows one or more of the twelve EJ Indexes at or above the 80th percentile in the nation and/or state. An area may also warrant additional review if other information suggests the potential for EJ concerns. An EJScreen analysis which does not reveal the potential for EJ concerns should not be interpreted to mean that there are definitively no EJ concerns present.

It is important to consider all impacted areas by the proposed action(s). Areas of impact can be focused and contained within a single block group, or they can be broader, spanning across several block groups and communities.[12] Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators.[13] Further review or outreach may be necessary for the proposed action(s). To address these potential concerns, EPA recommends the NEPA document:

- Apply methods from "Environmental Justice Interagency Working Group Promising Practices for EJ Methodologies in NEPA Reviews" report to this project.[14] This report compiles methodologies from current agency practices for integrating EJ considerations in NEPA processes.
- Characterize the project site with specific information or data related to EJ concerns.[15]
- Describe potential EJ concerns for all EJ Indexes at or above the 80th percentile in the state and/or nation.
- Screen for and describe all individual block groups within or intersecting a 1-mile radius of the project.
- Describe individual block groups within the project area in addition to an area-wide assessment.
- As EJScreen does not have data on all factors that may be relevant for identifying EJ concerns, supplement data with county level reports and local knowledge.

[11] EPA's Environmental Justice Screening and Mapping Tool (Version 2.0): https://ejscreen.epa.gov/mapper/. Accessed 3/2/2023.
[12] Agencies should define community as "either a group of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions" (Interim Justice40 Guidance – Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad, January 27, 2021).
[13] EPA's Technical Documentation for EJScreen: https://www.epa.gov/ejscreen/technical-information-about-ejscreen. Accessed 3/2/2023.
[14] Promising Practices for EJ Methodologies in NEPA Reviews: https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf. Accessed 3/2/2023.
[15] For more information about potential EJ concerns, refer to the July 21, 2021, Memorandum for the Heads of Departments and Agencies Interim Implementation Guidance for the Justice40 Initiative: https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf. Accessed 3/2/2023.

Meaningful Public Engagement

EPA recommends the NEPA document detail the opportunities for effective and meaningful public engagement for communities with EJ concerns, as described in the Promising Practices for EJ Methodologies in NEPA reviews. We recommend the following measures to further advance meaningful involvement:

- Carefully review and consider community feedback provided during the NEPA process. Ensure that the NEPA engagement approach is sensitive and responsive to the wellbeing of affected communities.
- Ensure that community feedback is reflected in the decision-making process. Design robust community engagement practices to maximize participation opportunities for communities that would be affected by the project, such as community-based workshops to facilitate discussion and issue resolution. Community-based workshops may also provide an opportunity to identify key issues and milestones for meaningful engagement in the NEPA process for the communities. Community engagement practices examples include:
    - Provide early and frequent outreach and engagement opportunities to collect and incorporate community feedback throughout the NEPA process and to maintain maximum transparency.
    - Ensure that translation/interpretation services are provided to address language barriers for any linguistically isolated populations.
    - Address technology barriers that may prohibit participation from communities affected by the project.
    - Ensure that meetings are scheduled at a time and location that is accessible for community participants, including scheduling meetings after work hours and on weekends as appropriate.
    - Provide ample notice of meetings and commenting opportunities so that community members have sufficient time to prepare and participate.
    - Promote engagement opportunities within appropriate outlets used by affected communities, such as newspapers, radio, and social media.
    - Ensure that all project-related information is conveyed using plain language so that community members of varied reading proficiencies can readily understand the project-related information.

8

Greenhouse Gases and Climate Change

On January 9, 2023, the Council on Environmental Quality (CEQ) published interim guidance to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews.[16] CEQ developed this guidance in response to EO 13990 on *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. This interim guidance is effective immediately. CEQ indicated that agencies should use this interim guidance to inform the NEPA review for all new proposed actions and may use it for evaluations in process, as agencies deem appropriate, such as informing the consideration of alternatives or helping address comments raised through the public comment process. EPA recommends the NEPA document apply the interim guidance as appropriate, to ensure robust consideration of potential climate impacts, mitigation, and adaptation issues.

9

[16] https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate. Accessed 3/17/2023.

TURNAGAIN COMMUNITY COUNCIL

c/o Federation of Community Councils
1057 West Fireweed Lane, Suite 100
Anchorage, Alaska 99503

TO: Karin Bouler, RS&H

FROM: Turnagain Community Council, Acting President Cathy L. Gleason

DATE: March 20, 2023

RE: Scoping Comments on Environmental Assessment for Expansion of FedEx Facility at Ted Stevens Anchorage International Airport

Dear Ms. Bouler:

The Turnagain Community Council (TCC) appreciates the opportunity to submit scoping comments on the Environmental Assessment (EA) for expansion of the FedEx Facility at Ted Stevens Anchorage International Airport (TSAIA). TCC previously submitted comments June 30, 2022, on the TSAIA Lease Agreement ADA-32299 Federal Express Corporation RE: 55-year lease; a hard copy of our comments was provided to RS&H at the scoping meeting in Anchorage on February 16, 2023. Jon Isaacs, Steve Montooth, and Jean Bielawski – TCC members – attended the scoping meeting and had discussions with RS&H staff.

Understanding of the Scope of Expansion

Information on the nature of the proposed Fed-Ex expansion was not evident from project poster boards presented at the February 16th meeting. Based on discussion with RS&H staff, TCC members were told the following:

- The proposed project relocates existing propeller-driven aircraft that serve communities in Alaska and are currently operating behind the main facility.
- It does not increase the hours of operation, the number/type of aircraft or trucks supporting the current operation.
- However, it does relocate those existing aircraft farther to the east and adjacent to Postmark Drive, which means that aircraft noise may be more noticeable to Turnagain neighborhoods.

PFAS Contamination/Class A Wetland Fill Mitigation

TCC members talked to RS&H at the project scoping meeting about PFAS and other contamination at the proposed expansion site. They were told that sampling has been done at Postmark Bog site and it was determined that there is a PFAS plume moving east towards Postmark Drive. There is a proposal to install a carbon remediation system in the ground adjacent to Postmark Drive, but no detail was provided on how it works. At the meeting, they suggested that a runoff collection system be incorporated to prevent deicing fluid and other potential contaminants from flowing off-site and into the adjacent Class A Turnagain Bog wetlands and groundwater system.

Finally, because the proposed expansion is located within Postmark Bog wetlands, TCC members asked what is being considered as part of the wetlands fill permit process to minimize and mitigate filling in Class A wetlands. (Of course, FedEx's proposed expansion, in conjunction with the proposed Alaska Cargo Cold Storage development, will essentially fill the entirety of the remaining Postmark Bog wetlands.) RS&H responded that they are currently working with the Alaska District Corps of Engineers. They were aware of the comments that TCC Vice President Cathy Gleason had submitted in August 2022 on the Alaska Cargo Cold Storage wetland fill permit — this proposed development would be located directly adjacent to the FedEx expansion project in Postmark Bog.

Area of Impact Analysis

TCC has serious concerns regarding the potential for both on-airport and off-airport impacts from the proposed FedEx expansion, particularly with regard to the following:

1) Increased ground noise levels in Turnagain neighborhoods adjacent to TSAIA;
2) Increased Airport-generated heavy truck traffic on West Northern Lights Blvd. through the Turnagain residential neighborhood;
3) Existing PFAS and other contaminants on-site, such as deicing fluids and run-off from routine cargo-related operations — and the potential for additional contamination of the adjacent Turnagain Bog Class A wetlands;
4) Filling remaining Postmark Bog Class A wetlands, and resultant hydrological impacts to Turnagain Bog, Jones Lake and Hood Creek;
5) Increased air quality degradation and odor exposure to nearby public parks, trails, open space and residential neighborhoods; and
6) Proposed FedEx development expansion contributing to even greater *cumulative impacts* that Turnagain neighborhoods and natural areas are already experiencing from Airport development in general — and, specifically, from the continued increase of development and operations of Airport cargo facilities in North Airpark/Postmark Bog.

1 Due to the above significant concerns, TCC requests that the Environmental Assessment area of *cumulative* impact analysis include a broader geographical footprint, i.e., adjacent Turnagain neighborhoods, parks, natural open space and road systems, as well as high value wetlands, other water bodies (Jones Lake, Hood Creek) and groundwater systems adjacent to the expansion site and north/northeast to Cook Inlet.

Issues and Potential Impacts to be Addressed in the Environmental Assessment

As indicated above, there are six issues/impacts of concern TCC has identified that must be addressed in the EA conducted as part of the FedEx cargo facility expansion approval process:

2 1) Increased Ground Noise Levels in Turnagain Neighborhoods Adjacent to TSAIA

Turnagain residents have experienced a *significant and cumulative* increase in cargo plane-related ground noise. This has been a long-term concern of the community as the Airport has grown over time, and as more cargo-related development has encroached on natural buffers on Airport land adjacent to neighborhoods, including naturally wooded areas. TCC is concerned about exposure to further increases in ground noise as a result

of the FedEx expansion operations and other proposed developments in North Airpark, and these *cumulative impacts* need to be addressed. Even though this expansion project may not increase the existing level of prop-driven aircraft operating at FedEx, the proposal to *move these operations closer to adjacent Turnagain neighborhoods* will likely *increase* the noise levels heard in these areas.

MITIGATION: To help mitigate the *increasing and cumulative* ground noise generated by Airport/North Airpark facility operations, TCC requests that an earthen, landscaped berm or other, similar noise barrier be constructed along the west side of Postmark Drive and east of the proposed aircraft operating area of the FedEx development expansion. (TCC has also requested this ground noise mitigation berm as part of the Alaska Cargo Cold Storage facility development along Postmark Dr., if approved, and coordination between these two developments must be required, to ensure consistency in design and functionality.) TCC also requests that mitigation include permanent retaintion of large, wooded areas that still exist between the Airport and the Turnagain neighborhood, to provide important natural noise buffering from increasing ground noise impacts.

2) <u>Increased Heavy Cargo-Related Truck Traffic on West Northern Lights Blvd</u>.

Turnagain residents have also seen a *significant increase* in vehicle traffic on West Northern Lights Blvd. (WNL) from commuters and operaters at North Airpark, including a *major increase* in freight truck traffic documented by Turnagain residents. This road corridor — which was designed and built to *Neighborhood Collector standards* from Wisconsin St. westward — includes Turnagain Elementary School and associated pedestrian crosswalk, and several residential subdivisions. It has become less safe as more large trucks use this road during all hours of the day and night, and travel at unsafe speeds directly adjacent to bike and pedestrian facilities.

3

Residents also complain about exposure to truck diesel exhaust and homes shaking when these large trucks travel right past their homes. TCC is concerned about increased freight truck traffic impacts from additional cargo development proposed at North Airpark, including the FedEx expansion project, and these *significant health and safety impacts* need to be comprehensively addressed.

MITIGATION: It remains to be seen if the proposed FedEx expansion will generate *additional* heavy truck traffic levels and hours of operation that could further impact residents, their homes, and users of the adjacent multi-use trail and sidewalk along WNL in the Turnagain neighborhood; *this is something the FedEx project expansion EA needs to assess.*

Regardless, to address the increasing and *cumulative* health and safety risks posed by North Airpark-generated cargo truck traffic traveling on a section of road located in an almost exclusive neighborhood area, any large truck traffic generated by FedEx/associated business operations *should be required to use International Airport Road — and prohibited from traveling on the section of WNL located within the Turnagain neighborhood.*

And, if more jobs are being created with this FedEx facility expansion, there will likely be additional commuter traffic using WNL at all hours of the day/night, which will also have negative impacts associated with the level of traffic on this section of WNL; *the EA should take this into consideration.*

3) Existing PFAS and Other Contaminants That May Be Generated On-site, Such as Deicing Fluids and Run-off From Routine Cargo-Related Operations

The Airport has stated that PFAS (per-and polyfluoroalkyl substances) contaminates have been identified in Postmark Bog. The accumulation over time in the environment, and in bodies of animals and people, pose definite, *cumulative* health and environmental exposure risks, particularly given the connectivity to Turnagain Bog. Runoff from daily, routine cargo-related operations like those currently occurring at the existing FedEx facility — and also would occur at the proposed facility expansion — have the potential to contribute to greater degradation of water quality within the adjacent wetlands, Jones Lake and Hood Creek, and into runoff that flows into Cook Inlet.

4

MITIGATION: The EA should evaluate and require installation at the FedEx expansion facility systems that have been proven to successfully contain and recover contaminants generated on-site, such as deicing fluids and routine operations runoff — as well as on-site systems that could be used to safely intercept and contain PFAS at the FedEx facility. This could include utilization of a carbon remediation system or other proven manner to capture PFAS contaminants currently found in Postmark Bog under the proposed FedEx expansion development site. *This is essential to ensure that these toxic substances do not migrate into important wetlands and other waterbodies at the Airport, within the Turnagain neighborhood, and into Cook Inlet.*

4) Filling Remaining Postmark Bog Class A Wetlands and Resultant Hydrological Impacts to Turnagain Bog, Jones Lake and Hood Creek

The expansion of the current FedEx facility, which will include a domestic operations center, infrastructure and improvements to support the applicant's warehouse operations as well as aircraft and vehicle parking, is proposed to be located within the Postmark Bog wetland complex, identified in the Anchorage Wetlands Management Plan, July 2014 (AWMP), page 52, as "Site # 26D — POSTMARK DRIVE WEST." The AWMP classifies this wetland as "Class A," the highest wetland value designation. The plan also includes an *Enforceable* and Administrative Policy included in the 2014 description: "Cumulative impacts shall be considered for future fill actions, as the bog has lost approximately 27 acres (1/3 of its size) since 1996."

5

Taking into account not only the proposed FedEx facility expansion development, but also the adjacent proposed Alaska Cargo Cold Storage Facility, *both within the Postmark Bog wetland complex*, the *entire remaining Postmark Bog footprint will be filled and developed*. Not only does this destroy these Class A wetlands in their entirety, but from a hydrological perspective, it will have significant impacts on the hydrological

viability of the adjacent Turnagain Bog wetlands, Jones Lake and Hood Creek.

MITIGATION: The EA must evaluate whether the proposed FedEx cargo facility expansion complies with the Anchorage Wetlands Management Plan Enforceable and Administrative Policy, as stated above. The project's direct, indirect, and *cumulative* impacts — including filling a significant portion of the remaining Class A Postmark Bog wetlands for this proposed FedEx expansion AND the remaining Postmark Bog wetlands that would be filled for the proposed Alaska Cargo and Cold Storage facility, if developed, must be comprehensively identified and addressed. One specific request TCC has put forth is to require **on-site mitigation** (typically not required for Airport wetlands), *requiring permanent preservation of remaining nearby Class A Turnagain Bog wetlands within the TSAIA boundaries.* This level of mitigation is warranted, considering the substantial consequences of filling the remaining acreage of Postmark Bog at the Airport.

In addition to the other *cumulative* impacts identified in these TCC comments, the EA needs to evaluate the *hydrological impacts* as they pertain to the adjacent Turnagain Bog wetlands and other associated waterbodies already mentioned — and include specific actions/requirements that would be required to avoid, minimize, or mitigate hydrological impacts and assure long-term viability of connecting high-value wetlands and connecting waterbodies.

5) <u>Increased Air Quality Degradation and Odor Exposure to Nearby Public Parks, Trails, Open Space and Residential Neighborhoods</u>

Turnagain residents have become all too familiar with exposure to jet fume smells at their homes, generated from cargo-related activity at the Airport, including North Airpark, where the FedEx expansion development is being proposed. It is widely recognized by the medical community that jet fuel exposure can cause a wide range of health problems. With development of additional cargo-related operations in North Airpark — including the proposed FedEx expansion as well as the proposed Alaska Cargo and Cold Storage facility — *cumulative* and negative health impacts to our air quality, and inhalation and exposure to jet fumes, will likely increase with more development, and needs to be comprehensively addressed.

6

MITIGATION: Requirement of permanent air quality monitors (and regular reporting to TCC and other public entities) in key locations at the North Airpark complex as well as locations in West Turnagain neighborhoods, Earthquake Park, and Turnagain Elementary School (or nearby location) is essential to determine jet fuel and other Airport-generated toxin exposure levels from operations at existing facilities as well as additional proposed development, including the FedEx cargo facility expansion. Strong mitigation consideration should include a requirement by the Airport to permanently retain large, wooded areas that still exist between North Airpark and the Turnagain neighborhood, to help absorb carbon dioxides — as well as continue to provide important natural buffering from increasing ground noise impacts, as mentioned above.

6) Overall Project Contributions to Cumulative Impacts that Turnagain Neighborhoods are Experiencing from Airport Development and Operations

Activity from the Airport currently causes *significant impacts* to surrounding residential neighborhoods, recreational assets, and natural open space/wildlife habitat. Development and operations from North Airpark cargo facilities are especially impactful to the nearby Turnagain neighborhood and public areas where people recreate (including the Nationally-recognized Tony Knowles Coastal Trail), and where urban wildlife habitat exists. There are several proposed air cargo-related as well as General Aviation-related development projects under consideration at TSAIA/Lake Hood Seaplane Base; the Environmental Assessment must assess *all of these proposed projects as a whole*, and the increase in *cumulative* impacts they would impose on the neighborhood and nearby natural areas — rather than consider each one independent of the rest. As repeatedly indicated above, increased *cumulative impacts remain a significant concern of Turnagain residents.*

7

Again, thank you for the opportunity for Turnagain Community Council to provide scoping comment on the Environmental Assessment for expansion of Federal Express Corporation operations at TSAIA. These comments were approved at our March 2, 2023, general membership meeting.

TCC asks that TSAIA and FAA give full consideration to our input and mitigation requests for the proposed FedEx expansion proposal — as well as the cumulative impacts from other existing and proposed North Airpark and Lake Hood Seaplane Base development and operations. Please do not hesitate to contact the Council, if you have any questions or would like to discuss in more detail Airport-related impacts that continue to threaten our neighborhood quality of life, health and safety — and potential mitigation requirements/actions TCC has requested, in more detail.

Sincerely,

Cathy L. Gleason

Cathy L. Gleason
Turnagain Community Council Vice President & Acting President
tccpresident@yahoo.com
907-248-0442

APPENDIX A – RESPONSE TO SCOPING COMMENTS

U.S. Environmental Protection Agency Comments

1. Section 3.10.1 of the Environmental Assessment (EA) provides a discussion of the Proposed Action's effect on wetlands, including figures and approved mitigation. A wetland delineation was conducted for the Proposed Action and is included in Appendix D.
2. The Project Sponsor is coordinating with the Alaska Department of Environmental Conservation (ADEC) to obtain the appropriate permits and approvals, specifically related to wetlands and PFAS.
3. There are no impaired waters in or near the project study area.
4. The Project Sponsor has developed an environmental management plan (EMP) in coordination with ADEC to address PFAS in the project study area. PFAS is discussed in Section 3.6 and the EMP is included in Appendix E.
5. The Proposed Action would include new impervious surfaces. As discussed in Section 3.10.3, stormwater treatment facilities, including grassed swales and a detention basin, would be included in the design of the Proposed Action to minimize effects to stormwater and groundwater.
6. A discussion on the Proposed Action's effect on air quality during construction and operation is included in Section 3.3.
7. There are no environmental justice communities in the vicinity of the Proposed Action and none would be affected by the Proposed Action.
8. A public scoping meeting was held on February 16, 2023. A notice was posted to the local newspaper and local community leaders for the Turnagain, Spenard, and Sand Lake were contacted directly in order to notify the local community of the scoping meeting (see Section 6.0 for a list of agencies and local community groups who were contacted). Notification of the Draft EA and public open house has been provided in the local newspaper and to the entities identified in Section 6.0.
9. Climate impacts are discussed in Section 3.5 of the EA.

Turnagain Community Council Comments

1. The cumulative impact study area is included in Section 4.0 and encompasses the Turnagain neighborhood, Hood Creek, Earthquake Park, Point Worzonoff Park, and roadways east to Wisconsin Street.
2. Noise is addressed in Section 3.8 of the EA.
3. The Proposed Action would not result in additional cargo truck traffic or in an expansion of operations. The Proposed Action would relocate some FedEx operations from the existing facility to the new facility in order to increase operational efficiency.
4. The Project Sponsor has developed an environmental management plan (EMP) in coordination with ADEC to address PFAS in the project study area. PFAS is discussed in Section 3.6 and the EMP is included in Appendix E.

5. Section 3.10 of the EA provides a discussion of the Proposed Action's effect on water resources, including figures and approved mitigation. A wetland delineation was conducted for the Proposed Action and is included in Appendix D. Stormwater treatment facilities, including grassed swales and a detention basin, would be included in the design of the Proposed Action to minimize effects to stormwater and groundwater
6. A discussion on the Proposed Action's effect on air quality during construction and operation is included in Section 3.3.
7. Section 4.0 of the EA provides the cumulative impact analysis of the Proposed Action.

ANCHORAGE DAILY NEWS
AFFIDAVIT OF PUBLICATION

Account #: 108096 Fed Ex Express - Legal
3620 Hacks Cross Rd, Bldg. B., Memphis, TN 38125

Order #: W0040607 Cost: $311

STATE OF ALASKA
THIRD JUDICIAL DISTRICT

Lisi Misa being first duly sworn on oath deposes and says that she is a representative of the Anchorage Daily News, a daily newspaper. That said newspaper has been approved by the Third Judicial Court, Anchorage, Alaska, and it now and has been published in the English language continually as a daily newspaper in Anchorage, Alaska, and it is now and during all said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a copy of an advertisement as it was published in regular issues (and not in supplemental form) of said newspaper on

09/15/2023

and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is not in excess of the rate charged private individuals.

Signed Lisi Misa

Subscribed and sworn to before me
this 15th day of September 2023.

Jada L. Nowling

Notary Public in and for
The State of Alaska.
Third Division
Anchorage, Alaska

MY COMMISSION EXPIRES
2024-07-14

Jada L. Nowling
ELECTRONIC NOTARY PUBLIC
STATE OF ALASKA
MY COMMISSION EXPIRES 07/14/2024

Notice of Availability of Draft Environmental Assessment (EA) and Public Workshop
FedEx ANCA Facility
Ted Stevens Anchorage International Airport, Anchorage, Alaska

Pursuant to Title 49, United States Code, § 47106(c)(1)(A), notice is hereby given that FedEx Express (FedEx, Project Sponsor), in coordination with Ted Stevens Anchorage International Airport (ANC) and the Federal Aviation Administration (FAA), intends to relocate the FedEx ANCA Facility at ANC in order to accommodate existing and future demand for cargo operations, increase operational efficiencies, and meet FAA and airport safety requirements. In accordance with the National Environmental Policy Act (NEPA), a Draft Environmental Assessment (EA) has been prepared to disclose the potential economic, social, and environmental impacts of the Proposed Action.

Pursuant to FAA Order 1050.1F and Executive Order 11990, notice is given that the Proposed Action would affect wetlands. Potential wetland impacts and mitigation measures are described in the Draft EA.

Copies of the Draft EA will be available for public examination for a minimum of 30 days from the publication of this notice on the Proposed Action's website https://bit.ly/ANCA-EA and at the following locations: Alaska Department of Transportation & Public Facilities, 411 Aviation Ave, Anchorage, AK 99519 and Z.J. Loussac Library, 3600 Denali Street, Anchorage, AK 99503.

A Draft EA Public Workshop will be held at the following time and place:

Tuesday, October 17, 2023; 6:00 p.m.–7:30 p.m. Alaska Daylight Time (AKDT)
Coast Inn at Lake Hood
3450 Aviation Ave.
Anchorage, AK 99502

Written comments on the Draft EA may be emailed to Karin Bouler at Karin.Bouler@rsandh.com or submitted via U.S. mail to the following address:

RS&H
311 California St, Suite 720
San Francisco, CA 94104
Attn: Karin Bouler

All correspondence must be received no later than 5:00 p.m. AKDT on Friday, October 31, 2023. Be advised that all comments received, including personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Comments on the Draft EA will be addressed, as appropriate, in the Final EA. The Final EA will be made available on the Proposed Action's website https://bit.ly/ANCA-EA and at the following locations: Alaska Department of Transportation & Public Facilities, 411 Aviation Ave, Anchorage, AK 99519 and Z.J. Loussac Library, 3600 Denali Street, Anchorage, AK 99503.

Pub: Sept. 15, 2023

Draft Environmental Assessment (EA) and Public Workshop: FedEx ANCA Facility

Notice of Availability of Draft Environmental Assessment (EA) and Public Workshop

FedEx ANCA Facility

Ted Stevens Anchorage International Airport, Anchorage, Alaska

Pursuant to Title 49, United States Code, § 47106(c)(1)(A), notice is hereby given that FedEx Express (FedEx, Project Sponsor), in coordination with Ted Stevens Anchorage International Airport (ANC) and the Federal Aviation Administration (FAA), intends to relocate the FedEx ANCA Facility at ANC in order to accommodate existing and future demand for cargo operations, increase operational efficiencies, and meet FAA and airport safety requirements. In accordance with the National Environmental Policy Act (NEPA), a Draft Environmental Assessment (EA) has been prepared to disclose the potential economic, social, and environmental impacts of the Proposed Action.

Pursuant to FAA Order 1050.1F and Executive Order 11990, notice is given that the Proposed Action would affect wetlands. Potential wetland impacts and mitigation measures are described in the Draft EA.

Copies of the Draft EA will be available for public examination for a minimum of 30 days from the publication of this notice on the Proposed Action's website https://bit.ly/ANCA-EA and at the following locations: Alaska Department of Transportation & Public Facilities, 4111 Aviation Ave, Anchorage, AK 99519 and Z.J. Loussac Library, 3600 Denali Street, Anchorage, AK 99503.

A Draft EA Public Workshop will be held at the following time and place:

Tuesday, October 17, 2023; 6:00 p.m.–7:30 p.m. Alaska Daylight Time (AKDT)

Coast Inn at Lake Hood
3450 Aviation Ave.
Anchorage, AK 99502

Written comments on the Draft EA may be emailed to Karin Bouler at Karin.Bouler@rsandh.com or submitted via U.S. mail to the following address:

RS&H
311 California St, Suite 720
San Francisco, CA 94104
Attn: Karin Bouler

All correspondence must be received no later than 5:00 p.m. AKDT on Friday, October 31, 2023. Be advised that all comments received, including personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Comments on the Draft EA will be addressed, as appropriate, in the Final EA. The Final EA will be made available on the Proposed Action's website https://bit.ly/ANCA-EA and at the following locations: Alaska Department of Transportation & Public Facilities, 4111 Aviation Ave, Anchorage, AK 99519 and Z.J. Loussac Library, 3600 Denali Street, Anchorage, AK 99503.

Leave a Comment

Revision History

Created 9/18/2023 3:09:57 PM by camcdowell
Modified 9/18/2023 3:14:25 PM by camcdowell

Category:	Public Notices
Sub-Category:	
Location(s):	Anchorage, Central Region, (ANC) Ted Stevens Anchorage International Airport
Project/Regulation #:	
Publish Date:	9/18/2023
Archive Date:	10/31/2023
Events/Deadlines:	

THIS PAGE INTENTIONALLY LEFT BLANK

Ted Stevens Anchorage International Airport

FedEx ANCA Facility Development

Draft Environmental Assessment (EA)

Public Meeting

October 17, 2023

Welcome

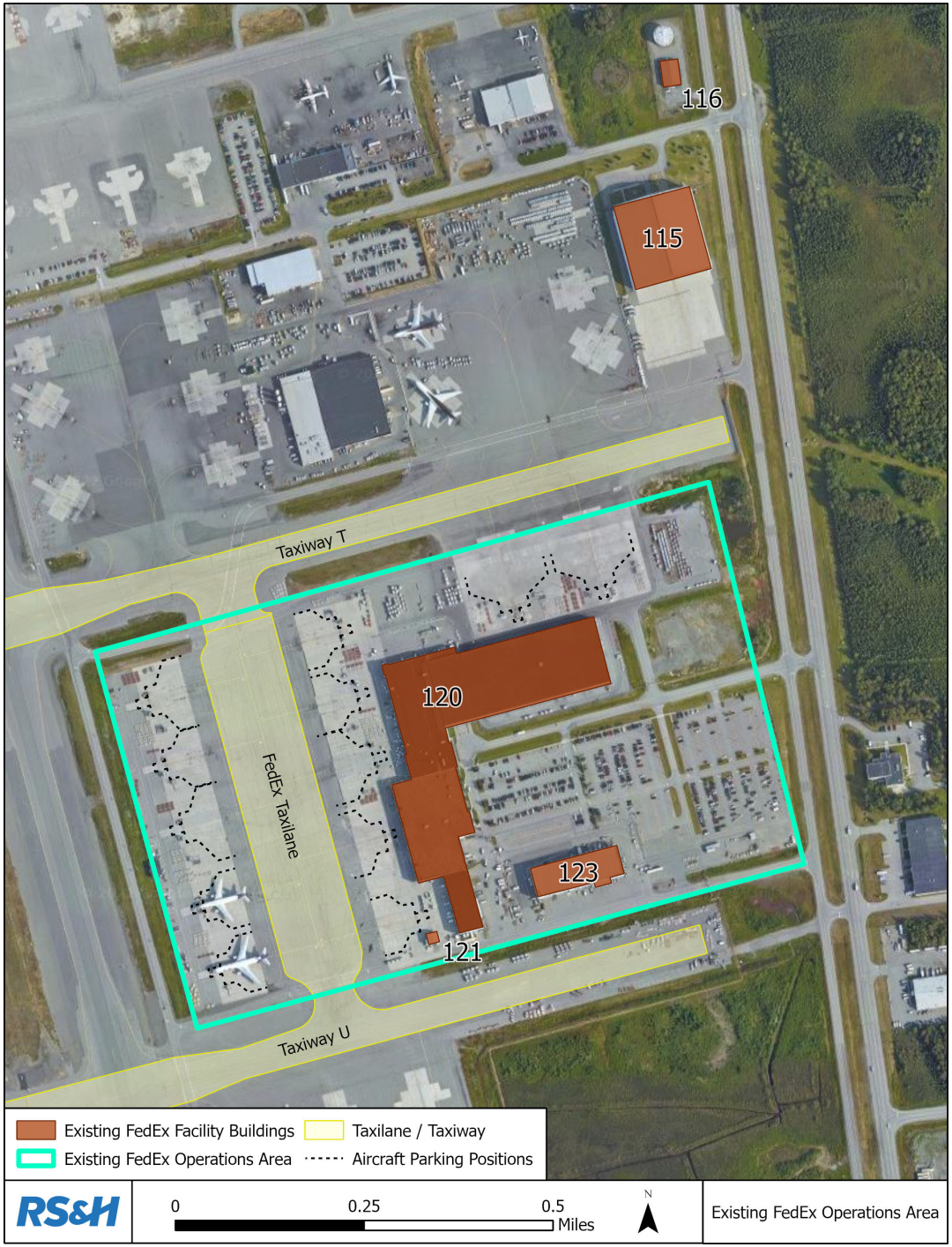
Proposed Project Location

FedEx at ANC

- FedEx operates a major air cargo handling facility at ANC
- ANC FedEx facility is primary courier delivery services processing center for the State of Alaska including the local Anchorage market area
- FedEx has on average 26 wide-body flights arriving or departing from ANC, and six outbound feeder flights and six inbound feeder flights
- FedEx sorting facility processes on average between 5,000 to 7,500 packages per hour and between 60,000 and 180,000 packages a day

Existing FedEx Operations Area

- 12 cargo aircraft parking positions
  - 12 cargo aircraft parking positions, of which 9 are capable of accommodating the Boeing 777-200F aircraft
  - Buildings 115, 116, 120, 121, and 123
  - Warehousing
  - Equipment maintenance
  - Ground service storage and maintenance
  - Cargo processing and sortation
  - Aircraft storage
  - Office work
  - Employee training
  - Snow storage
  - Employee parking
- Taxilane extending from Taxiway T to Taxiway U



Intent of the EA

- Identify, evaluate, and disclose to the public potential environmental effects related to the proposed relocation, construction, and operation of a proposed action
- Determine whether a proposed action has the potential to significantly affect the human environment

The EA Process

Purpose and Need of the Proposed Project

The "purpose" describes the proposed solution to the problem.

– Purpose is to
  - Accommodate existing and future demand for cargo operations
  - Increase operational efficiencies through new and improved cargo and airline support facilities
  - Be consistent with ANC's long-term plans

The "need" describes the problem that is being addressed.

– Need is that
  - The existing FedEx ANCA Facility is inadequate to meet the requirements for a delivery and sortation support facility
  - The integration of additional sorting facilities is needed to meet FedEx's operational goals

Range of Alternatives Analyzed in EA

- Only practicable alternatives are considered in the alternatives analysis
- Specifications for potential off-site sorting facility locations included appropriately zoned sites greater than 10 acres within a 15-mile radius of ANC
- Three off-site alternative sites were considered for the sorting facility
  - None would meet Purpose and Need

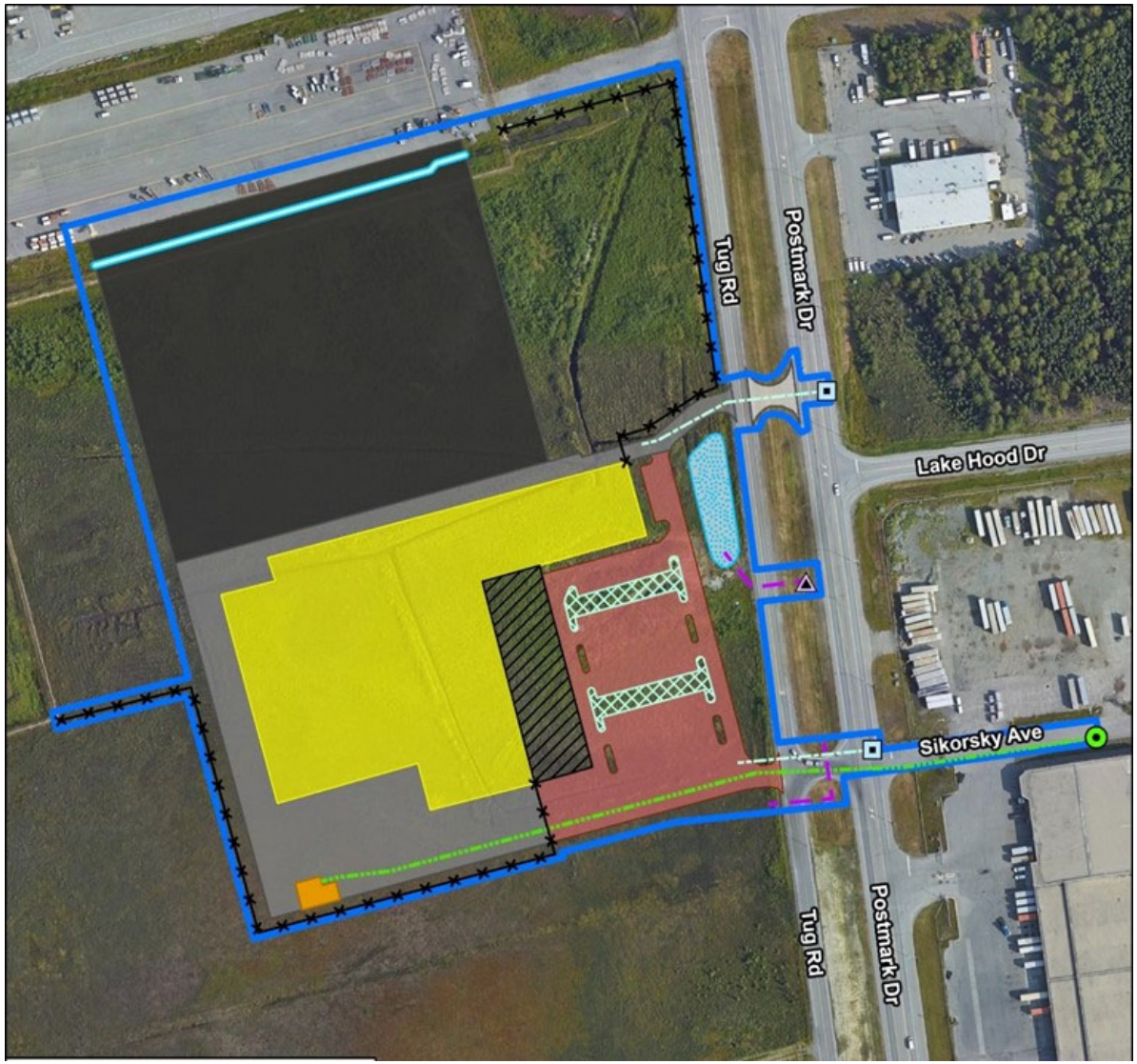
Off-Site Alternatives Locations Overview


Option 1


Option 2


Option 3

Proposed Project



- Project Study Area
- Perimeter Security Fencing
- New Aircraft Parking Apron
- Connection to Postmark Drive
- Pavement
- Automobile Parking Area
- Cargo Buildling
- Vehicle Wash Facility
- Landscaping
- Grassed Swale
- Detention Basin
- Culvert
- Proposed Sewer Utility Line
- Proposed Water Utility Line
- Proposed Storm Drain and Culvert
- Connection to Existing Sewer Manhole
- Connection to Existing Water Main

Environmental Resource Categories Analyzed in EA

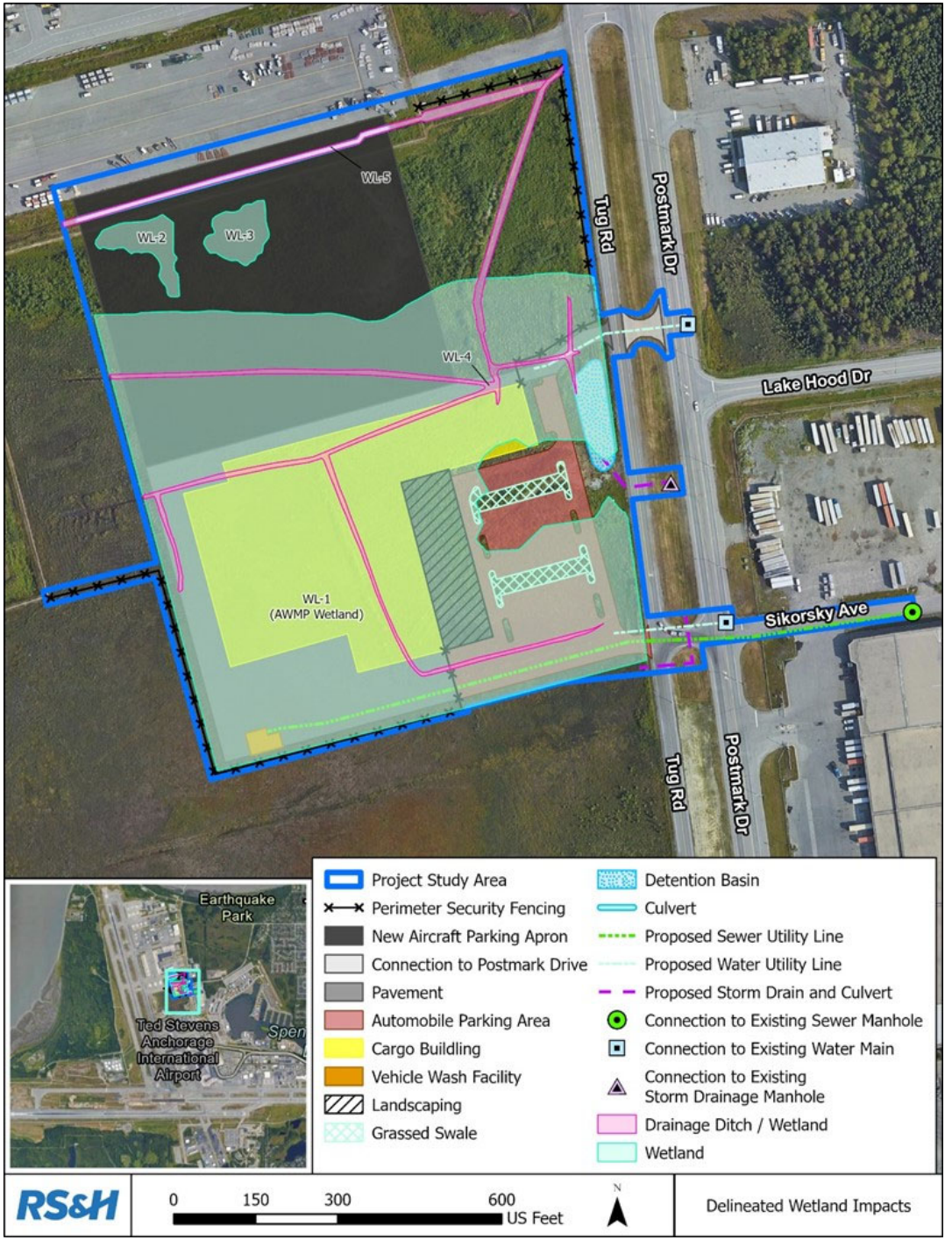
- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- **Hazardous Materials, Solid Waste, and Pollution Prevention***
- **Historical, Architectural, Archaeological, and Cultural Resources***
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- **Water Resources**
  - **Wetlands***
  - Floodplains
  - Surface Waters
  - Groundwater
  - Wild and Scenic Rivers

Note:

* = Environmental resource categories that were identified as needing site surveys and/or additional analysis

Wetlands

- Existing wetlands no longer “high quality” due to previous development, contamination, and disturbances
- The Proposed Action would affect 14.32 acres of depressional wetlands within the project study area
- Compensatory mitigation credits will be purchased from Portage Reserve Mitigation Bank



Hazardous Materials, Solid Waste, and Pollution Prevention

- Per- and polyfluoroalkyl substances (PFAS) and petroleum hydrocarbons have been documented within soil, surface water, and/ or groundwater samples
- An environmental management plan (EMP) for handling potentially contaminated soil, groundwater, and surface water during construction has been approved by Alaska Department of Environmental Conservation's (ADEC)
  - Includes a construction mitigation plan outlining guidelines and best management practices (BMPs) relating to the handling of potentially contaminated soil, groundwater, and surface water during construction

List of Permits, Approvals, Determinations, Certifications, and Consultations

Permit/Approval	Agency
Clean Water Act (CWA) Section 404 Permit	U.S. Army Corps of Engineers
CWA Section 401 Water Quality Certification	Alaska Department of Environmental Conservation
CWA Section 402 Stormwater Construction General Permit	Alaska Department of Environmental Conservation
Alaska Pollutant Discharge Elimination System, General Permit for Excavation Dewatering	Alaska Department of Environmental Conservation
Temporary Water Use Authorization	Alaska State Department of Natural Resources
National Historic Preservation Act Section 106 Consultation	Department of Archaeology and Historic Preservation (Alaska State Historic Preservation Officer [SHPO]) Tribal Consultation
Grading/Land Disturbing Activities Permit	Municipality of Anchorage
Building Permit	Municipality of Anchorage
Building Permit	Ted Stevens Anchorage International Airport

EA Next Steps

- Accept comments on the Draft EA until October 31, 2023
- Respond to comments received on Draft EA (after close of comment period)
- Publish Final EA (anticipated late 2023)
- FAA issues decision (anticipated late 2023)

How to Provide Comments on the Draft EA

- Fill out comment card
- Send written comments via U.S. Mail to:

  RS&H
  Attn: Karin Bouler
  311 California Street, Suite 720
  San Francisco, CA 94104

- Send electronic comments via email to Karin.Bouler@rsandh.com

All comments must be received by 5:00pm AKDT on October 31, 2023

Stay Informed

Email Karin.Bouler@rsandh.com and request to be added to the project contact list.
Project materials can be downloaded at https://bit.ly/ANCA-EA

PROJECT: FedEx ANCA Facility EA at Ted Stevens Anchorage International Airport

MEETING: Draft EA Public Workshop

DATE: October 17, 2023

TIME: 6:00 PM - 7:30 PM AKDT

LOCATION: Coast Inn at Lake Hood, 3450 Aviation Ave., Anchorage, AK 99502

Before including your address, e-mail address, or other personal identifying information, be advised that your personal identifying information may be made publicly available at any time. While you can ask us to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. Written requests to withhold personal information may be emailed to: Karin.Bouler@rsandh.com

	NAME	ORGANIZATION	EMAIL ADDRESS	PHONE NUMBER
1	Cathy Gleason	Turnagain Comm. Council	cath.gleasonTCC@yahoo.com	907-248-0442
2	Daniel Gleason	TCC	dan.gleason@hotmail.com	907-980-1953
3	Bill O'Connell	ADEC	bill.oconnell@alaska.gov	269-3057
4	Jon Isaacs	Turnagain Comm Council	isaacs@gci.net	907 223 1859
5	SAM KITO	ADEC	SAM.kito@alaska.gov	907 269 7542
6	Tom Johnston	ANC	tom.johnston@alaska.gov	907-748-2024
7	FRANK RAY	SLCC	FRANKRAY755@GMAIL.COM	907.230.4662
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				

THIS PAGE INTENTIONALLY LEFT BLANK

TURNAGAIN COMMUNITY COUNCIL
c/o Federation of Community Councils
1057 West Fireweed Lane, Suite 100
Anchorage, Alaska 99503

TO: Karin Boulter
RS&H
FROM: Turnagain Community Council, Cathy Gleason Acting President
DATE: October 31, 2023
RE: **Draft Environmental Assessment for FedEx ANCA Facility**

Sent via Email

Ms. Boulter,

1

Thank you for the opportunity to provide written comments on the Draft Environmental Assessment (Draft EA) for the FedEx ANCA Facility (FedEx Expansion), prepared by RS&H for the Federal Aviation Administration (FAA). These comments are based on review of the Draft EA, our attendance at the October 17, 2023, public open house on the Draft EA, and also reflect concerns identified in our review of the project lease application submitted to Ted Stevens Anchorage International Airport (TSAIA).

TCC has identified several items associated with the FedEx Expansion project and the project Draft EA and open house panels that we feel are still inadequately addressed and need additional assessment in the Final EA:

2

Proposed Development in Postmark Bog Wetlands/Water Quality & Hydrology Impacts

Wetlands:

Development of the proposed approximately 21.9-acre FedEx Expansion facility will pose additional impacts to Class A wetlands in this area that *need to be more adequately addressed in the Final EA.* While we recognize that Postmark Bog Class A wetlands on the project site are degraded in function and value, and contaminated with PFAS and hydrocarbons as stated in the EA, the primary function of the Postmark Bog wetland is stormwater runoff attenuation from Airport impervious surfaces. *The impacts of loss of these wetlands and how this loss affects storm water attenuation should be addressed.* Considering the multiple cargo facilities that have already been developed at North AirPark in Postmark Bog — as well as the proposed Alaska Cargo & Cold Storage facility also recently out for public comment that would abut the proposed FedEx Expansion project — *the cumulative impacts to Postmark Bog have been/will be substantial, and are not adequately evaluated in the Draft EA, particularly with regard to the effects on stormwater runoff attenuation.*

3

Off-site mitigation (Portage Reserve Mitigation Bank) does not address the localized loss of Postmark Bog wetlands, and potential negative impacts to the adjacent Turnagain Bog wetlands, Hood Creek and Jones Lake. *This is unacceptable and the Final EA should address this important lack of true "mitigation."* TCC objects to mitigation for the fill of Postmark Bog wetlands relying on off-site mitigation and credits, and not require on-site mitigation through setting aside adjacent Turnagain Bog

wetlands, which would preserve wetland functions and values both on the Airport and affecting adjacent waters of the United States. 3

Water Quality & Hydrology:

Given that an impervious surface will be constructed over what is currently wetlands functioning as storm water retention, *it is unclear what the changes and impacts to surface water drainage will be.* If the existing stormwater drainage infrastructure from the site will be maintained, this needs to be described and potential impacts assessed, included treatment of surface water runoff from the proposed facility. 4

The Draft EA indicated that potentially contaminated groundwater will be captured through a granular activated carbon filter; however, *it is unclear how, and how long, this system will actually work.* Does the activated carbon filter work in perpetuity, or does it need replacement — and what happens to the filter that is replaced? In addition, *water quality well monitoring should be conducted "downstream" of the activated carbon filter on a regular basis, to make sure that it is adequately capturing the PFAS contamination.* 5

The Draft EA does not adequately provide information regarding the proposed detention basin on the east part of the facility. Will this be open and accessible to birds and other wildlife? Will the water in the basin contain PFAS contamination that will propose a biological hazard to wildlife? *The final EA needs to address this potential hazard.* 6

TCC supports monthly water quality monitoring of the nearby Fish Creek outfall into Cook Inlet, and Jones Lake within the Turnagain Bog wetland complex. *We request that monitoring also be conducted at the Hood Creek outfall into Cook Inlet as well, due to its flow throughout the Turnagain neighborhood area.* 7

At this point, TCC is not satisfied with the Draft EA's evaluation of cumulative impacts on water quality and hydrology, as they are not adequately addressed and put into context. 8

Air Quality/Odor of Jet and APU Emission Impacts

With development of additional cargo-related operations in NorthAir Park — including the proposed Alaska Air Cargo Cold Storage facility as well as expansion of the FedEx facility — *cumulative and negative health impacts to our air quality and inhalation and exposure to jet fumes generated by these cargo facilities will only increase, affecting the health and well-being of residents in our community.* The impact analysis concludes that overall airport air quality impacts may not increase; however, it moves additional sources of air emissions nearer to the Turnagain neighborhood, and this should be acknowledged. *Providing electric power supply to aircraft hardstands and elimination of APUs will reduce air quality impacts from the proposed development and should be required.* 9

Ground Noise Impacts

Turnagain residents have also been subjected to a significant increase in cargo plane-related ground noise. Turnagain (as well as other West Anchorage) residents started complaining about 24/7 ground noise coming from this Airport area from development and operations at North AirPark. Noises included aircraft taxing, engine run-ups, use of APUs, and other whining, loud sounds. 10

The impact analysis needs to recognize that while overall Airport noise may not increase due to an assumption that the proposed project will not in an increase in the overall number of planes that use the Airport facilities, the development of additional aircraft parking at the proposed project site will generate more noise that can be experienced in Turnagain neighborhoods on the eastern boundary of the Airport. 11

11 TCC requests that the facility the *electric power supply be incorporated into the hardstands to eliminate the use of APUs and the noise they generate.*

12 TCC supports the location of the storage facility building at the FedEx Expansion development site, as it may serve to block some of the ground noise that will be associated with operations at this new facility. *But TCC feels the potential for cumulative noise related impacts has not been adequately addressed in the Draft EA,* so *we also request consideration of a constructed landscaped noise berm or 'decorative' fencing/barrier east of the development along the Postmark* Drive (these have been constructed along other portions of Postmark Drive), *to further provide ground noise mitigation.*

Aesthetic Considerations

13 Parking Lot & Landscaping Locations: As discussed at the FedEx Expansion community public open house on October 17th, *TCC requests that the proposed landscaping directly adjacent to the east side of the building structure be 'swapped' with the parking lot area,* so that the landscaping is closer to Postmark Dr. and provides some visual buffering of the parking lot area.

14 Directional Lighting: Also discussed at the FedEx Expansion community public open house on October 17th was lighting at the facility. *TCC requests that directional lighting be installed, so that the light is not directed outward and skyward.*

Heavy Cargo-Related Truck Traffic on West Northern Lights Blvd. (WNL) Through the Turnagain Residential Area

15 Turnagain residents have seen a significant increase in Airport-related heavy truck traffic on WNL over the years, especially since the previously-posted 'Thru Truck Weight Limited' signs were removed approximately four years ago. This has been a long-term concern for TCC and our community as the Airport has grown over time. *How construction and operated truck traffic will be managed does not seem to be addressed in the Draft EA, along with any potential impacts if they were to use WNL to access the site.*

16 With development of additional cargo-related construction and operations in NorthAir Park — including the proposed FedEx Expansion as well as the Alaska Cargo & Cold Storage facility — *cumulative health and safety impacts generated by Airport-related heavy truck traffic traveling through the Turnagain residential area of WNL will only increase and need to be adequately addressed in the Final EA. TCC requests that all heavy truck and construction equipment traffic associated with project, including construction and operations, avoid using WNL and be required to use International Airport Road as the only approved truck route.*

17 Thank you for considering Turnagain Community Council's comments on the FedEx ANCA Facility Draft Environmental Assessment. TCC looks forward to see how they are addressed in the Final EA. Please contact us if you have any questions regarding these comments.

Sincerely,

Cathy L. Gleason
Turnagain Community Council Vice President and Acting President
907-248-0442
tccpresident@yahoo.com

THIS PAGE INTENTIONALLY LEFT BLANK

PROJECT: FedEx ANCA Facility EA at Ted Stevens Anchorage International Airport (ANC)

MEETING: Public Draft Meeting

DATE: October 17, 2023

TIME: 6:00 PM - 7:30 PM AKDT

LOCATION: Coast Inn at Lake Hood, 3450 Aviation Ave., Anchorage, AK 99502

FedEx in coordination with the Federal Aviation Administration (FAA) and ANC has prepared an Environmental Assessment (EA) for the FedEx ANCA Facility project at ANC.

Comments:

1 One main item on this project on the existing 12 parking spaces is:
1) when the planes are taxiing West the jet noise goes straight into the Turnagain neighborhood. Please put in some type of noise abatement, like diversion fences, berms, trees or walls

2 Another issue is mitigating PFAS contamination - the University of Missouri has just published in Chemical Engineering an article to do a chemical/physical process to catalyze PFAS to basic elements. Please look into this process to mitigate the PFAS in this area. Look into a pilot program. (cont)

Comments are not limited to this form. Please attach any additional sheets as necessary.

Name: Daniel Gleason

Address: 4211 Bridle Circle

City, State, Zip: Anchorage, Ak, 99517

Email: dan.gleason@hotmail.com

Before including your name, address, e-mail address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. Written comments may be mailed to: RS&H, 311 California St, Suite 720, San Francisco, CA 94104, Attn: Karin Bouler or emailed to: karin.bouler@rsandh.com.

Comments on the Draft EA will be accepted through 5:00 PM AKDT, Thursday, October 31, 2023.

PROJECT: FedEx ANCA Facility EA at Ted Stevens Anchorage International Airport (ANC)

MEETING: Public Draft Meeting

DATE: October 17, 2023

TIME: 6:00 PM - 7:30 PM AKDT

LOCATION: Coast Inn at Lake Hood, 3450 Aviation Ave., Anchorage, AK 99502

FedEx in coordination with the Federal Aviation Administration (FAA) and ANC has prepared an Environmental Assessment (EA) for the FedEx ANCA Facility project at ANC.

Comments:

(cont) FedEx could help take credit for helping w/ development and have good public relations win,

Comments are not limited to this form. Please attach any additional sheets as necessary.

Name: _____

Address: _____

City, State, Zip: _____

Email: _____

Before including your name, address, e-mail address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so. Written comments may be mailed to: RS&H, 311 California St, Suite 720, San Francisco, CA 94104, Attn: Karin Bouler or emailed to: karin.bouler@rsandh.com.

Comments on the Draft EA will be accepted through 5:00 PM AKDT, Thursday, October 31, 2023.

APPENDIX A – RESPONSE TO COMMENTS ON THE DRAFT EA

Turnagain Community Council Comments

1. The comments submitted on the FedEx ANCA Facility project are acknowledged and addressed individually below. Revisions to the Draft EA are summarized in Section 1.5.4 of the EA.

2. The commenter incorrectly states the size of the proposed FedEx facility. The parcel on which the FedEx facility would be constructed is 21.9 acres, but the proposed components of the Proposed Action total approximately 18.7 acres.

   As discussed in Section 3.10.3 of the Final EA, the Proposed Action includes grassed swales and a detention basin to reduce stormwater runoff and reduce any potential effects to stormwater resulting from the Proposed Action. Additionally, through the onsite treatment of PFAS-contaminated soil, groundwater, and surface water, stormwater leaving the project study area would be less contaminated than the existing stormwater that is attenuated through the existing wetlands.

   Impacts to wetlands as a result of the Proposed Action are identified in Section 3.10.1 of the Final EA and cumulative impacts to wetlands are addressed in Section 4.1.6.1 of the Final EA. These sections adequately and accurately describe the impacts associated with the Proposed Action.

3. As stated in Section 3.10.1.3 of the Final EA, 8.563 compensatory mitigation credits will come from the existing Klatt Bog credits held by the Airport. The remaining 4.092 compensatory mitigation credits will be purchased from Portage Reserve Mitigation Bank. The U.S. Army Corps of Engineers (USACE) has approved this purchase as acceptable mitigation as the project study area is within the service area for the Portage Reserve Mitigation Bank.

4. The site is being developed in a manner that inhibits stormwater from interacting with potentially contaminated groundwater. This is in an effort to reduce the future migration of the PFAS plume in the groundwater. Annual water quality monitoring is currently conducted and would continue to be done in accordance with the APDES permit issued to ANC and would continue to occur beyond construction of the Proposed Action. Groundwater sampling in the Postmark Bog is conducted annually by DOT&PF. The number of samples and frequency of sampling may increase as more information is gathered about the extent of contamination within the area. The samples are analyzed for PFAS compounds and petroleum hydrocarbons. Alaska Department of Environmental Conservation (ADEC) is notified if any samples exceed maximum contaminant levels for the targeted analytes. Samples are also collected by DOT&PF from the stormwater system to monitor for potential contamination.

5. Granular activated carbon will not be used for this project. Instead, a mixture of Powdered Activated Carbon (PAC) and Colloidal Activated Carbon (CAC) would be used due to the increased adsorption efficiency gained from the smaller particle size of the activated carbon when compared to Granular Activated Carbon (GAC).

The PAC/CAC mixture would filter the PFAS from groundwater through the process of adsorption. The activated carbon would continue to bind and inhibit migration of contaminates as long as there is capacity within the activated carbon. The PFAS capture system is designed to be effective throughout the multi-year construction period capturing PFAS from both the high-flow surcharge water and groundwater. Additionally, the proposed dosage has a 5x capacity of the known PFAS mass found in the groundwater and surrounding soils. In the future the active sorption sites in the activated carbon would fill and the barrier may need to be supplemented. The most likely option would be the injection of additional CAC into the existing permeable barrier to "recharge" the adsorptive capacity. Monitoring is currently planned following installation of the permeable filter barrier and placement of the surcharge and fill material. Temporary monitoring wells would be installed in the vicinity of former locations of Drive Point Wells MW4 and MW5. These temporary wells would be installed approximately five feet west and east of the permeable filter barrier. Groundwater samples would be collected from the temporary wells during non-frozen months. These samples would be analyzed by an ADEC-certified analytical laboratory for PFAS by EPA Method 1633.

The proposed grassed swales and detention basin would continue to treat stormwater onsite, reducing interaction with the contaminated groundwater. Annual water quality monitoring is currently conducted and would continue to be done in accordance with the Alaska Pollution Discharge Elimination System (APDES) permit issued to ANC and would continue to occur beyond construction of the Proposed Action. Groundwater sampling in the Postmark Bog is conducted annually by DOT&PF. The number of samples and frequency of sampling may increase as more information is gathered about the extent of contamination within the area. The samples are analyzed for PFAS compounds and petroleum hydrocarbons. ADEC is notified if any samples exceed maximum contaminant levels for the targeted analytes. Samples are also collected by DOT&PF from the stormwater system to monitor for potential contamination.

6. The proposed detention basin would be open and accessible to birds and other wildlife; however, ANC has an active program to limit wildlife's utilization of on-airport habitats. The proposed detention basin is designed to manage stormwater runoff as opposed to groundwater. The elevation of the detention basin is high enough that groundwater infiltration is not anticipated. Additionally, the proposed detention basin is hydraulically downgradient of the permeable filter barrier. Therefore, groundwater moving through the peat should come into contact with the GAC in the permeable filter barrier prior to the unlikely scenario of daylighting in the proposed detention basin.

7. Annual water quality monitoring is done in accordance with the Alaska Pollution Discharge Elimination System (APDES) permit issued to ANC. Under the APDES permit, samples are not required to be collected from Fish Creek, Jones Lake, or Hood Creek. These waterbodies are currently slated to be sampled to study PFAS contamination around the Airport. Additional sampling requirements at these locations would be determined on the results of that investigation.

8. The cumulative analysis for water resources is discussed in Section 4.1.6 of the Final EA and has been revised to include discussion of the Alaska Cargo and Cold Storage Project.

9. As discussed in Section 3.3 and Section 4.1.1 of the Final EA, operation of the Proposed Action would not result in any air quality effects, so there would be no contribution to cumulative air quality impacts. ANC currently has a permit and reporting requirements with ADEC. Because there is a threshold for emissions at ANC, cumulative impacts are capped at an approved ADEC rate. Emissions associated with operation of the Proposed Action would not cumulatively cause an exceedance of the National Ambient Air Quality Standard (NAAQS) or contribute to an increase in frequency or severity of an existing NAAQS violation.

   The commenter's assertion that it should be a requirement to provide electric power supply to aircraft hardstands is acknowledged. However, because no air quality impacts would occur as a result of the Proposed Action, no mitigation is required.

10. The commenter's assertion that there has been an increase in cargo plane-related ground noise is acknowledged. As stated in Section 3.8.2.3 of the Final EA, the Proposed Action would not result in an increase in air cargo operations.

11. As discussed in Section 3.8 of the Final EA, operation of the Proposed Action would not result in an increase in aircraft activity as regional operations would be moved from the existing facility to the new facility. Additionally, the proposed facility and aircraft parking apron would be located adjacent to the existing FedEx operations area, so any change in noise due to operations is not anticipated to be perceptible. The Proposed Action would not change airfield configurations, runway uses, flight patterns, or aircraft operations at the Airport. Additionally, the Proposed Action would not result in changes to local traffic patterns or result in additional traffic. Therefore, operation of the Proposed Action would have no effect on noise at the Airport.

    The commenter's assertion that it should be a requirement to provide electric power supply to aircraft hardstands is acknowledged. However, because no noise impacts would occur as a result of the Proposed Action, no mitigation is required.

12. A cumulative noise section (Section 4.1.5) has been added to the Final EA. The Proposed Action would not result in an increase in aircraft operations and the proposed facility is located adjacent to the existing facility and, therefore, the Proposed Action would not contribute to a cumulative operational noise impact. Therefore, only construction noise is addressed in this section.

    The commenter's suggestion of a constructed landscaped noise berm or 'decorative' fencing/barrier east of the development along the Postmark Drive to provide ground noise mitigation is acknowledged. However, because no noise impacts would occur as a result of the Proposed Action, no mitigation is required.

13. The commenter's suggestion to swap the parking lot area with the location of proposed landscaping adjacent to the east side of the building structure is acknowledged and will be considered during final design, if feasible.

14. The Proposed Action does not include any uplighting that would produce light pollution. Additionally, all exterior building and parking lighting has full cutoffs and does not cross the property boundary.

15. Construction-related truck traffic and operational-related cargo traffic is required to follow posted signs and traffic laws. Because no significant traffic would occur as a result of the

Proposed Action, limiting truck access to West Northern Lights Boulevard is not necessary.

16. The Proposed Action would not result in additional cargo truck traffic or in an expansion of operations. The Proposed Action would relocate regional FedEx operations from the existing facility to the new facility in order to increase operational efficiency. Construction-related air quality cumulative discussion is included in Section 4.1.1 of the Final EA. Because no significant traffic would occur as a result of the Proposed Action, limiting truck access to West Northern Lights Boulevard is not necessary.
17. All comments in the Turnagain Community Council's comment letter have been addressed above. Any revisions to the Draft EA are summarized in Section 1.5.4 of the Final EA.

Daniel Gleason Comments

1. As discussed in Section 3.8 of the Final EA, the Proposed Action would not result in any operational noise effects. Therefore, noise abatement is not required. The commenter's suggestion to include fences, berms, trees, or walls is acknowledged and will be considered during final design, if feasible.
2. Per- and polyfluoroalkyl substances (PFAS)-contaminated soil, groundwater, and surface water will be treated as specified in the environmental management plan (EMP), which has been approved by the ADEC and prepared in general accordance with ADEC's March 2017 *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites* and January 2022 *Field Sampling Guidance* document.

APPENDIX B.
REGULATORY FRAMEWORK

THIS PAGE INTENTIONALLY LEFT BLANK

This appendix contains the federal, state, and local regulations that apply to the Proposed Action for each resource category that may have potential impacts associated with the Proposed Action as identified in FAA Order 1050.1F.

B.1 AIR QUALITY

The Clean Air Act (CAA) of 1963 was the first federal legislation to regulate air pollution; the CAA has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990. The U.S. Environmental Protection Agency (U.S. EPA) is responsible for implementing certain portions of the CAA, including requirements on mobile sources of air pollutants (e.g., motor vehicles, airplanes, or equipment that can be moved from one location to another). State and local agencies implement other portions of the CAA, such as requirements on stationary sources of air pollutants (e.g., factories, refineries, boilers, and power plants).

The most applicable CAA requirements involve attainment of the NAAQS for the following "criteria pollutants": ozone (O_3); nitrogen dioxide (NO_2); carbon monoxide (CO); sulfur dioxide (SO_2); particulate matter, with particles less than 10 microns in diameter (PM_{10}); and lead (Pb). The NAAQS were amended in July 1997 to include an 8-hour standard[1] for O_3 and to adopt a national standard for $PM_{2.5}$ (fine particulate matter, with particles less than 2.5 microns in diameter).

B.2 BIOLOGICAL RESOURCES

Relevant federal laws, regulations, Executive Orders (EOs) and other guidance relevant to the protection of biological resources include:

- Bald and Golden Eagle Protection Act (16 United States Code (U.S.C.) §§ 668 et seq.)
- Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544)
- Fish and Wildlife Coordination Act of 1980 (16 U.S.C. § 661-667d)
- Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.)
- Marine Mammal Protection Act (16 U.S.C. § 1361 et seq.)
- Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703 et seq.)
- Executive Order (EO) 13112, *Invasive Species* (64 Federal Register (FR) 6183)
- EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (66 FR 3853)
- EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species* (81 FR 88609)

[1] The 8-hour standard is the average concentration over 8 hours for a criteria air pollutant.

- Council on Environmental Quality (CEQ) Guidance on Incorporating Biodiversity Considerations into Environmental Impact Analysis under NEPA (CEQ, 1993)

The following regulations implement the federal acts that protect biotic communities:

- 50 Code of Federal Regulations (CFR) Part 22 implements the Bald and Golden Eagle Protection Act
- 50 CFR Parts 17 and 402 implement the ESA
- 50 CFR Part 600 implements the Magnuson-Stevens Fishery Conservation and Management Act
- 50 CFR Parts 18 and 216 implement the Marine Mammal Protection Act
- 50 CFR Part 21 implements the MBTA

B.3 CLIMATE

Relevant federal laws, regulations, and EOs that relate to climate include:

- CAA (42 U.S.C. §§ 7408, 7521, 7571, 7661 et seq.)
- EO 13514, *Federal Leadership in Environment Energy and Economic Performance* (74 FR 52117)
- EO 13653, *Preparing the United States for the Impacts of Climate Change* (78 FR 66817)
- EO 13693, *Planning for Federal Sustainability* (80 FR 15869)

The following regulations implement the federal acts related to climate:

- 40 CFR Parts 60, 85, 86, and 600 implement the CAA
- Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document implements EO 13514

B.4 COASTAL RESOURCES

Relevant federal laws, regulations, Executive Orders (EOs) and other guidance relevant to the protection ofcoastal resources include:

- Coastal Barrier Resources Act (CBRA) (16 U.S.C. § 3501 et seq.)
- Coastal Zone Management Act (CZMA) (16 U.S.C. §§ 1451-1466)
- National Marine Sanctuaries Act (16 U.S.C. § 1431 et seq.)
- EO 13089, *Coral Reef Protection* (63 FR 32701)
- EO 13547, *Stewardship of the Ocean, Our Coasts, and the Great Lakes* (75 FR 43201-43027)

The following regulations implement the federal acts related to climate:

- U.S. DOI Coastal Barrier Act Advisory Guidelines, 57 FR 52730 implements the CBRA
- 15 CFR Part 930, subparts C and D, and 15 CFR part 923 implements the CZMA
- 15 CFR Part 922, subparts F through R implements the National Marine Sanctuaries Act

B.5 U.S. DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F)

Section 4(f) of the U.S. DOT Act[2] provides protection for special properties, including publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic and archaeological sites. Section 4(f) of the U.S. DOT Act provides that: the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned park, recreational area, or wildlife or waterfowl refuge of national, state, or local significance or land from a historic site of national, state, or local significance, as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use.

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act[3] protects lands that were either purchased or developed as recreational areas using LWCF funds. LWCF resources are managed by the National Park Service (NPS) and coordinated with each state. The NPS must approve projects that propose to acquire or convert Section 6(f) resources, including airport development projects, and the project proponent must replace any acquired or converted LWCF resources with lands that are equal to or greater in value, equivalent in recreational usefulness, and equivalent in location.

B.6 FARMLANDS

Relevant federal laws, regulations, and EOs that relate to farmlands include:

- Farmland Protection Policy Act (FPPA) (7 U.S.C. §§ 4201-4209)
- CEQ Memorandum on the Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act (45 FR 59189)
- State and local regulations

The following regulations implement the federal acts related to Farmlands:

- 7 CFR Parts 657-658 implement the FPPA

B.7 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Relevant federal laws, regulations, and EOs that relate hazardous materials, solid waste, and pollutionprevention include:

---

[2] 49 U.S.C. § 303.

[3] 16 U.S.C. §§ 4601-4604 et seq.

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601-9765)
- Emergency Planning and Community Right to Know Act (42 U.S.C. §§ 11001-11050)
- Federal Facilities Compliance Act (42 U.S.C. § 6961)
- Hazardous Materials Transportation Act (49 U.S.C. §§ 5101-5128)
- Oil Pollution Act (33 U.S.C. §§ 2701-2762)
- Pollution Prevention Act (42 U.S.C. §§ 13101-13109)
- Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §§ 6901-6992k)
- Toxic Substances Control Act (TSCA) (15 U.S.C. §§ 2601-2697)
- EO 12088, *Federal Compliance with Pollution Control Standards* (43 FR 47707)
- EO 12580, *Superfund Implementation* (52 FR 2923), (61 FR 45871), and (68 FR 37691)
- CEQ Memorandum on Pollution Prevention and the National Environmental Policy Act
- FAA Orders and Advisory Circulars

The following regulations implement the federal acts related to hazardous materials, solid waste, andpollution prevention:

- 40 CFR Parts 300, 311, 355, 370, and 373 implement CERCLA
- 40 CFR Parts 350-372 implement the Emergency Planning and Community Right to Know Act
- 40 CFR Part 22 implements the Federal Facilities Compliance Act
- 49 CFR Parts 100-185 implement the Hazardous Materials Transportation Act
- 40 CFR Parts 109-116 implement the Oil Pollution Act
- 58 FR 6478 implements the Pollution Prevention Act
- 40 CFR Parts 240-299 implement RCRA
- 40 CFR Parts 745, 761, and 763 implement TSCA

In a regulatory context, the terms "hazardous wastes," "hazardous substances," and "hazardous materials"have very specific meanings as described below.

- **Hazardous Wastes**: Subpart C of RCRA defines hazardous wastes (sometimes called characteristic wastes) as solid wastes that are ignitable, corrosive, reactive, or toxic. Examples include waste oil, mercury, lead or battery acid. In addition, Subpart D of RCRA contains a list of specific types of solid wastes that the USEPA has deemed

hazardous (sometimes called listed wastes). Examples include degreasing solvents, petroleum refining waste, or pharmaceutical waste.

- **Hazardous Substances**: Section 101(14) of CERCLA defines this term broadly. It includes hazardous wastes, hazardous air pollutants, or hazardous substances designated as such under the Clean Water Act (CWA) and TSCA and elements, compounds, mixtures, or solutions, or substances listed in 40 CFR Part 302 that pose substantial harm to human health or environmental resources. Pursuant to CERCLA, hazardous substances do not include any petroleum or natural gas substances and materials. Examples include ammonia, bromine, chlorine, per- and polyfluoroalkyl substances (PFAS), or sodium cyanide.
- **Hazardous Materials**: According to 49 CFR Part 172, hazardous materials are any substancescommercially transported that pose unreasonable risk to public health, safety, and property. These substances include hazardous wastes and hazardous substances as well as petroleum and natural gas substances and materials. As a result, hazardous materials represent hazardous wastesand substances. Examples include household batteries, gasoline, or fertilizers.

B.8 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) (54 U.S.C. §§ 300101 et seq.) establishes the Advisory Council on Historic Preservation (ACHP). The ACHP oversees federal agency compliance with the NHPA.The NHPA also established the National Register of Historic Places (NRHP), which the National Park Service (NPS) oversees. Other applicable statues and EOs include:

- American Indian Religious Freedom Act (42 U.S.C. § 1996)
- Antiquities Act of 1906 (54 U.S.C. §§ 320301-320303)
- Archeological and Historic Preservation Act (54 U.S.C. §§ 312501-312508)
- Archeological Resources Protection Act (16 U.S.C. §§ 470aa-470mm)
- USDOT Act, Section 4(f) (49 U.S.C. § 303)
- Historic Sites Act of 1935 (54 U.S.C. §§ 320101-320106)
- National Historic Preservation Act (54 U.S.C. § 300101 et seq.)
- Native American Graves Protection and Repatriation Act (25 U.S.C. §§ 3001-3013)
- Public Building Cooperative Use Act (40 U.S.C. §§ 601a, 601a1, 606, 611c, and 612a4)
- EO 11593, *Protection and Enhancement of the Cultural Environment* (36 FR 8921)
- EO 13006, *Locating Federal Facilities on Historic Properties in Our Nation's Central Cities* (61 FR26071)

- EO 13007, *Indian Sacred Sites* (61 FR 26771)
- EO 13175, *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249)
- USDOT Order 5650.1, *Protection and Enhancement of the Cultural Environment*
- Executive Memorandum, Government-to-Government Relations with Native American Tribal Governments, and Executive Memorandum on Tribal Consultation (65 FR 67249)

The following regulations implement the federal acts related to historical, architectural, archaeological,and cultural resources:

- 43 CFR §§ 7.7 and 7.32, and 25 CFR § 262.7 implement the American Indian Religious FreedomAct
- 43 CFR Part 3 implements the Antiquities Act of 1906
- 36 CFR Parts 68 and 79, and Guidelines for Archaeology and Historic Preservation: Standards and Guidelines, 48 FR 44716 implement the Archeological and Historic Preservation Act
- 43 CFR Part 7, 36 CFR Part 79, and 25 CFR Part 262 implement the Archaeological ResourcesProtection Act
- 23 CFR Part 774 implements the USDOT Act – Section 4(f)
- 36 CFR Part 65 implements the Historic Sites Act of 1935
- 36 CFR Parts 60, 62.1, 65, 68, 73, 78, 79, and 800 implement the NHPA
- 43 CFR Part 10 and 25 CFR § 262.8 implement the Native American Graves Protection andRepatriation Act
- 41 CFR Parts 101-117 implement the Public Building Cooperative Use Act

B.9 LAND USE

Various statutes, regulations, and EOs relevant to land use include:

- Airport and Airway Improvement Act of 1982, and subsequent amendments (49 U.S.C. § 47107(a)(10))
- Airport Improvement Program (49 U.S.C. § 47106(a)(1))
- Airport Safety, Protection of Environment, Criteria for Municipal Solid Waste Landfills
- State and local regulations

The following regulations implement the federal acts related land use:

- 40 CFR § 258.10 implements the Airport Safety, Protection of Environment, Criteria for Municipal Solid Waste Landfills

B.10 NATURAL RESOURCES AND ENERGY SUPPLY

Statues and EOs that are relevant to natural resources and energy supply impacts include:

- Energy Independence and Security Act (42 U.S.C. § 17001 et seq.)
- Energy Policy Act (42 U.S.C. § 15801 et seq.)
- EO 13834, *Efficient Federal Operations* (83 FR 23771)

B.11 NOISE AND NOISE-COMPATIBLE LAND USE

Statutes and EOs that are relevant to noise and noise-compatible land use impacts include:

- Airport and Airway Improvement Act of 1982 (49 U.S.C. § 47101 et seq.)
- Airport Noise and Capacity Act of 1990 (49 U.S.C. §§ 47521-47534, §§ 106(g), 47523-47527)
- Aviation Safety and Noise Abatement Act of 1979 (49 U.S.C. § 47501 et seq.)
- Section 506 of the FAA Modernization and Reform Act of 2012, *Prohibition on Operating CertainAircraft Weighting 75,000 Pounds or Less Not Complying with Stage 3 Noise Levels* (49 U.S.C. §§ 47534)
- The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1968 (49 U.S.C. § 44715)
- The Noise Control Act of 1972 (42 U.S.C. §§ 4901-4918)
- State and local noise laws and ordinances

The following regulations implement the federal acts related to noise and noise-compatible land use:

- 14 CFR Part 161 implements the Airport Noise and Capacity Act of 1990
- 14 CFR Part 150 implements the Aviation Safety and Noise Abatement Act of 1979
- 14 CFR Part 91 implements Section 506 of the FAA Modernization and Reform Act of 2012
- 49 CFR Part 821 and 14 CFR Parts 21, 36, 91, 119, 135, and 150 implement The Control andAbatement of Aircraft Noise and Sonic Boom Act of 1968
- 40 CFR Part 209 implements The Noise Control Act of 1972

B.12 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

B.12.1 Socioeconomics

The Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970,[4] is the primary statue related to socioeconomic impacts.

B.12.2 Surface Traffic

There are no federal statutory or regulatory requirements that apply to surface traffic impacts. The following sections describe the applicable state, regional, county, and local regulations governing surface traffic.

B.12.3 Environmental Justice

Relevant statutes, EOs, memorandums, and guidance related to environmental justice include:

- Title VI of the Civil Rights Act of1964, as amended (42 U.S.C. §§ 2000d-2000d-7)
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629)
- CEQ Guidance: "*Environmental Justice: Guidance Under the National Environmental Policy Act*"
- Memorandum of Understanding on Environmental Justice and EO 12898
- USDOT Environmental Justice Strategy[5]
- USDOT Order 5610.2(a), *Environmental Justice in Minority and Low-Income Populations* (77 FR27534)
- Promising Practices for EJ Methodologies in NEPA Reviews, Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee

The following regulation implements the federal acts related to environmental justice:

- 28 CFR § 42.401 implements Title VI of the Civil Rights Act, as amended

B.12.4 Children's Environmental Health and Safety Risks

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks,*[6] is the primary Executive Order related to children's environmental health and safety risks. The Executive Order directs federal agencies to identify and assess environmental health

---

4 42 U.S.C. § 61 et seq., implemented by 49 CFR Part 24.

5 https://www.transportation.gov/policy/transportation-policy/environmental-justice-strategy

6 62 *Federal Register* 19885, April 23, 1997.

risks and safety risks that may disproportionately affect children, consistent with the agency's mission.

B.13 VISUAL EFFECTS

There are no federal statutory or regulatory requirements for adverse effects resulting from light emissions or visual impacts.

B.14 WATER RESOURCES

Water resources includes the following subsections: wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers.

B.14.1 Wetlands

Statutes and EOs that are relevant to wetlands include:

- Clean Water Act (CWA) (33 U.S.C. §§ 1251-1387)
- Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667d)
- EO 11990, *Protection of Wetlands* (42 FR 26961)
- USDOT Order 5660.1A, *Preservation of the Nation's Wetlands*
- State statutes protecting wetlands

The following regulation implements the federal act related to wetlands:

- 33 CFR Parts 320-332 and 40 CFR Parts 230-233 implement the CWA as it pertains to wetlands

B.14.2 Floodplains

Relevant statutes and EOs pertaining to floodplains include:

- National Flood Insurance Act (42 U.S.C. § 4001 *et seq.*)
- EO 11988, *Floodplain Management* (42 FR 26951)
- USDOT Order 5650.2, *Floodplain Management and Protection*
- State and local statutes protecting floodplains

The following regulation implements the federal act related to floodplains.

- 44 CFR Part 60 implements the National Flood Insurance Act

B.14.3 Surface Waters

Relevant regulations and statues pertaining to surface waters include:

- CWA (33 U.S.C. §§ 1251-1387)
- Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667d)

- Rivers and Harbors Act (33 U.S.C. §§ 401 and 403)
- Safe Drinking Water Act (42 U.S.C. §§ 300(f)-300j-26)
- State statutes protecting surface waters[7]

The following regulations implement the federal acts related to surface water.

- 40 CFR Parts 110-112, 116, 117, 122, 125, 129-131, 136 and 403 implement the CWA as it pertains to surface waters
- 33 CFR Parts 114-118 and 320-332 implement the Rivers and Harbors Act
- 40 CFR Parts 141-149 implement the Safe Drinking Water Act

B.14.4 Groundwater

Relevant regulations and statues pertaining to groundwater include:

- Safe Drinking Water Act (42 U.S.C. §§ 300(f)-300j-26)
- State statutes protecting surface waters

The following regulation implements the federal act related to groundwater.

- 40 CFR Parts 141-149 implement the Safe Drinking Water Act

B.15 CUMULATIVE IMPACTS

Cumulative impacts are the total combined impacts on the environment from a proposed action and other known or reasonably foreseeable actions. Significance of cumulative impacts is determined in the same manner as the significance of direct and indirect impacts of each environmental category in the environmental consequences section.

[7] IDAPA 58.01.25, *Rules Regulating the Idaho Pollutant Discharge Elimination System Program*.

APPENDIX C.
CULTURAL AND TRIBAL RESOURCES

THIS PAGE INTENTIONALLY LEFT BLANK

From: Hellmich, Amy S (DNR) <amy.hellmich@alaska.gov>
Sent: Friday, August 18, 2023 4:11 PM
To: Bouler, Karin
Cc: Price, Kathy E (DOT); Ponozzo, Kristi M (FAA); Campbell, Kendall D (FAA); Johnston, Thomas S (DOT)
Subject: RE: FAA-ANC, FedEx Facility: Section 106 Consultation

3130-1R FAA / 2023-00877

Good afternoon,

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated July 17, 2023) concerning the subject project on July 24, 2023. Following our review of the documentation provided, we concur with the finding of No Historic Properties Affected. Please note that our office may need to re-evaluate our concurrence if changes are made to the project's scope or design.

As stipulated in 36 CFR 800.3, other consulting parties such as the local government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes, or other consulting parties may cause our office to re-evaluate our comments and recommendations. Please note that our response does not end the 30-day review period provided to other consulting parties.

Should unidentified historical or archaeological resources be discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4), in consultation with our office. Please note that some resources can be deeply buried or underwater, and that fossils are considered cultural resources subject to the Alaska Historic Preservation Act.

This email serves as our office's official correspondence for the purposes of Section 106. Thank you for the opportunity to review and comment. Please contact me at (907) 269-8724 or amy.hellmich@alaska.gov if you have any questions or we can be of further assistance.

Best regards,
Amy Hellmich

Amy Hellmich
Alaska State Historic Preservation Office
Office of History and Archaeology
Direct: (907) 269-8724
amy.hellmich@alaska.gov
Teleworking – Email is the best method of communication.

From: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>
Sent: Monday, July 24, 2023 11:14
To: 'Karin.Bouler@rsandh.com' <Karin.Bouler@rsandh.com>
Cc: Price, Kathy E (DOT) <kathy.price@alaska.gov>; Kristi.M.Ponozzo@faa.gov; Campbell, Kendall D (FAA) <Kendall.D.Campbell@faa.gov>; Johnston, Thomas S (DOT) <tom.johnston@alaska.gov>;

Hellmich, Amy S (DNR) <amy.hellmich@alaska.gov>
Subject: FW: FAA-ANC, FedEx Facility: Section 106 Consultation

Good morning,

The Office of History and Archaeology/Alaska State Historic Preservation Office received your documentation, and its review has been logged in with Amy Hellmich under 2023-00877. Our office has 30 calendar days after receipt to complete our review and may contact you if we require additional information. Please contact the project reviewer or me by email if you have any questions or concerns.

Best,
Sarah

Sarah Meitl
Review and Compliance Coordinator
Alaska State Historic Preservation Office
Office of History and Archaeology
907-269-8720

From: Bouler, Karin <Karin.Bouler@rsandh.com>
Sent: Wednesday, July 19, 2023 4:58:28 PM
To: Bittner, Judith E (DNR) <judy.bittner@alaska.gov>
Cc: Price, Kathy E (DOT) <kathy.price@alaska.gov>; Ponozzo, Kristi M (FAA) <kristi.m.ponozzo@faa.gov>; Campbell, Kendall D (FAA) <Kendall.D.Campbell@faa.gov>; Johnston, Thomas S (DOT) <tom.johnston@alaska.gov>
Subject: FAA-ANC, FedEx Facility: Section 106 Consultation

Dear Ms. Bittner,

Please see the attached letter and accompanying cultural resources report for the FedEx ANCA Facility Project at Anchorage International Airport (ANC). If you have any questions or need any additional information, please contact Kristi Ponozzo (cc'd here, kristi.m.ponozzo@faa.gov), representative of the Federal Aviation Administration (FAA), which is serving as the federal lead agency.

Thank you,
Karin

Karin Bouler
Sr. Environmental Planner/Project Manager
311 California St., Suite 720, San Francisco CA 94104
O 415-780-4603 | M 916-849-9375
Karin.Bouler@rsandh.com
rsandh.com | Facebook | Twitter | LinkedIn | Blog

Stay up-to-date with our latest news and insights.

U.S. Department
of Transportation

**Federal Aviation
Administration**

AIRPORTS DIVISION

222 W. 7th Avenue, Box 14
Anchorage, Alaska
99513-7587

In Reply Refer To:
FedEx ANCA Facility
Finding of No Historic Properties Affected
ATTENTION: This finding contains no DOE(s)

17 July 2023

Ms. Judith Bittner
State Historic Preservation Officer
Alaska Office of History and Archaeology
550 W. 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Dear Ms. Bittner:

FedEx, in cooperation with the State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the Alaskan Region Airports Division of the Federal Aviation Administration (FAA), is proposing to expand the FedEx ANCA Facility at Ted Stevens Anchorage International Airport (ANC) in Anchorage, Alaska. The project area is found on Table 1 and Figure 1.

Table 1. Project location

13N	4W	28	Anchorage A-8 NW	Seward

FedEx and DOT&PF on behalf of FAA finds **that no historic properties would be affected** by the proposed project pursuant to 36 CFR§800.4(d)(1), implementing regulations of Section 106 of the National Historic Preservation Act. This submission provides documentation in support of this finding, as required at 36 CFR§800.11(d).

Project Background
This project has not been previously subject to any Section 106 consultation process.

Project Description
The proposed project would relocate local Alaska package sorting operations from the existing FedEx ANCA Facility to an adjacent area south of Taxiway U at ANC, including expansion of an aircraft ramp to support feeder aircraft relocated from the existing facility. The relocation of the local package sorting operations is warranted due to spatial and logistical constraints posed by FedEx's existing aircraft apron and facility (see Figure 2).

Area of Potential Effect (APE)
The Area of Potential Effect (APE) is the area where earthmoving activities would occur (see Figure 3).

Identification Efforts
Stephen R. Braund & Associates (SRB&A) conducted literature reviews (both pre-field and post-field) to inform the methods, results, analysis, and discussion sections of the Cultural Resources Technical Report (see Attachment A). The goals of the literature review are to characterize the geographic and social landscape, establish a general cultural chronology of human habitation in the region, and describe the known cultural resources that exist in the project area. SRB&A examined books, articles, and other materials related to archaeology, anthropology, ethnohistory, and associated disciplines (e.g., geomorphology, history) to update knowledge of the region, particularly as it relates to the project area. SRB&A's historic context results summarizes information and events from precontact times up through a time period ending 50 years from the present (e.g., 1970s) because 50 years is generally regarded as an acceptable cut off point between historical and more modern events.

SRB&A also reviewed the Alaska Department of Natural Resources (ADNR), Office of History and Archaeology (OHA) Integrated Business Suite (IBS) AHRS database in order to identify previously documented cultural, archaeological, and historic sites, and determine the extent and results of previous cultural resource survey efforts within the project area. The AHRS database contains reported historic and prehistoric sites that have been recorded on state, federal and private lands in Alaska and is maintained by the OHA. The inventory archives the locations and associated documentation for previously identified objects, structures, buildings, sites, districts, and travel routes under the general provision that they be over 50 years old.

Additional Identification Efforts

Field Survey
SRB&A's survey methods are aimed at collecting adequate information to locate, identify, and describe archaeological and/or historic resources encountered during a survey. This is generally accomplished by means of targeted pedestrian survey of high potential areas and pedestrian survey of low and moderate potential areas as crews navigate between high potential locations. Subsurface shovel testing is discretionary and may be conducted in high-potential areas that display evidence of substantial sediment accumulation or suggest the presence of subsurface cultural deposits. Encountered sites are documented through both paper forms, notebooks, and photographs, as well as detailed GPS data, consistent with industry standard practices. SRB&A's field survey and analysis includes:

- targeted pedestrian survey of high potential landforms in the Project area as identified through SRB&A's in-field assessment for archaeological or historical potential, with transects spaced between 3 feet and 33 feet (1 meter [m] to 10m) (depending on the landform size);
- pedestrian survey of low and moderate potential areas as crews navigate between high potential locations with transects spaced no more than 49ft (15m) apart;
- discretionary subsurface testing 20 inches (in) x 20in (50 centimeter [cm] x 50cm), with excavated sediment screened through 1/4in hardware mesh;

- documentation of daily survey activities through field notes, photographs, and GPS tracks;
- documentation of sites through paper forms, notebooks, photographs, and detailed GPS data;
- post-field analysis of identified cultural resources and artifacts; and
- detailed reporting of the survey results and analysis of cultural resource sites identified.

GPS Data Collection

SRB&A field crews used a mapping-grade GPS unit with sub-meter accuracy (Trimble™ TDC600 with R1 Global Navigation Satellite System [GNSS] receiver) to collect precise spatial data during field surveys. The mapping-grade GPS was used to record:

- Survey tracks of each crew member
- Photo points
- Feature points (individual artifacts, cairns, hearths)
- Feature lines and polygons (tent rings, surface depressions, cache pits)
- Site polygons (preliminary boundaries of identified sites based on landform extent, distribution of
- cultural material, or other factors)
- Subsurface tests (both positive and negative)

Site Documentation

In order to determine if previously undocumented cultural resources eligible for listing in the National Register of Historic Places (NRHP) are present within the Project area, SRB&A conducted a pedestrian survey of the project area, which includes discretionary subsurface testing, and documents and evaluates any previously unrecorded cultural resources identified. SRB&A's evaluation level of effort for site documentation included:

- site, artifact, and subsurface test locations recorded in photographs, fieldnotes, and GPS
- waypoints;
- metal detector sweeps at possible historic features to identify historic artifacts;
- mapping of visible features, artifacts, and subsurface test placements;
- photographs of the site, features, and artifacts;
- descriptions of artifact provenience, type, and the distribution of cultural materials and any associated organic samples;
- chronology (e.g., radiocarbon analysis, law of superposition/site occupation analysis, or typological analysis of artifacts); and
- preliminary assessment of site formation and site integrity based on stratigraphy and other site characteristics.

The Archaeologist-Cultural Resources Specialist (PQI) at SRB&A believes that this level of identification is sufficient for this project.

Finding of Effect

The terrain in the project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings. The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and

roadways. Because these portions of the project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. In summary, SRB&A's pedestrian field survey of the project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Based on the results of SRB&A's literature review of previous surveys and known AHRS sites and SRB&A's field survey of the project area, SRB&A recommends that the FAA make a determination of "No Historic Properties Affected" (36 CFR 800.4[d][1]) for the proposed project.

Please direct your concurrence or comments to me at 907-271-3665 or by e-mail at Kristi.m.ponozzo@faa.gov.

Sincerely,

Prepared by:

Randy Tedor
Cultural Resource Specialist -Archaeologist (PQI)
Stephen R. Braund & Associates

Approved by:

Kristi M. Ponozzo
Alaska Region Airports Division
Federal Aviation Administration
222 West 7th Avenue, MS #14
Anchorage, AK 99513
Phone: 907-271-3665
Fax: 907-271-2851
Email: Kristi.m.ponozzo@faa.gov

Enclosures:

Figure 1: Location and Vicinity Map.
Figure 2: Proposed Project
Figure 3: Area of Potential Effects Map.

Attachment 1: Cultural Resources Technical Report

Electronic cc w/ Enclosures:

Kathy Price, DOT&PF, Statewide Cultural Resources Manager

Figure 1: Project Location

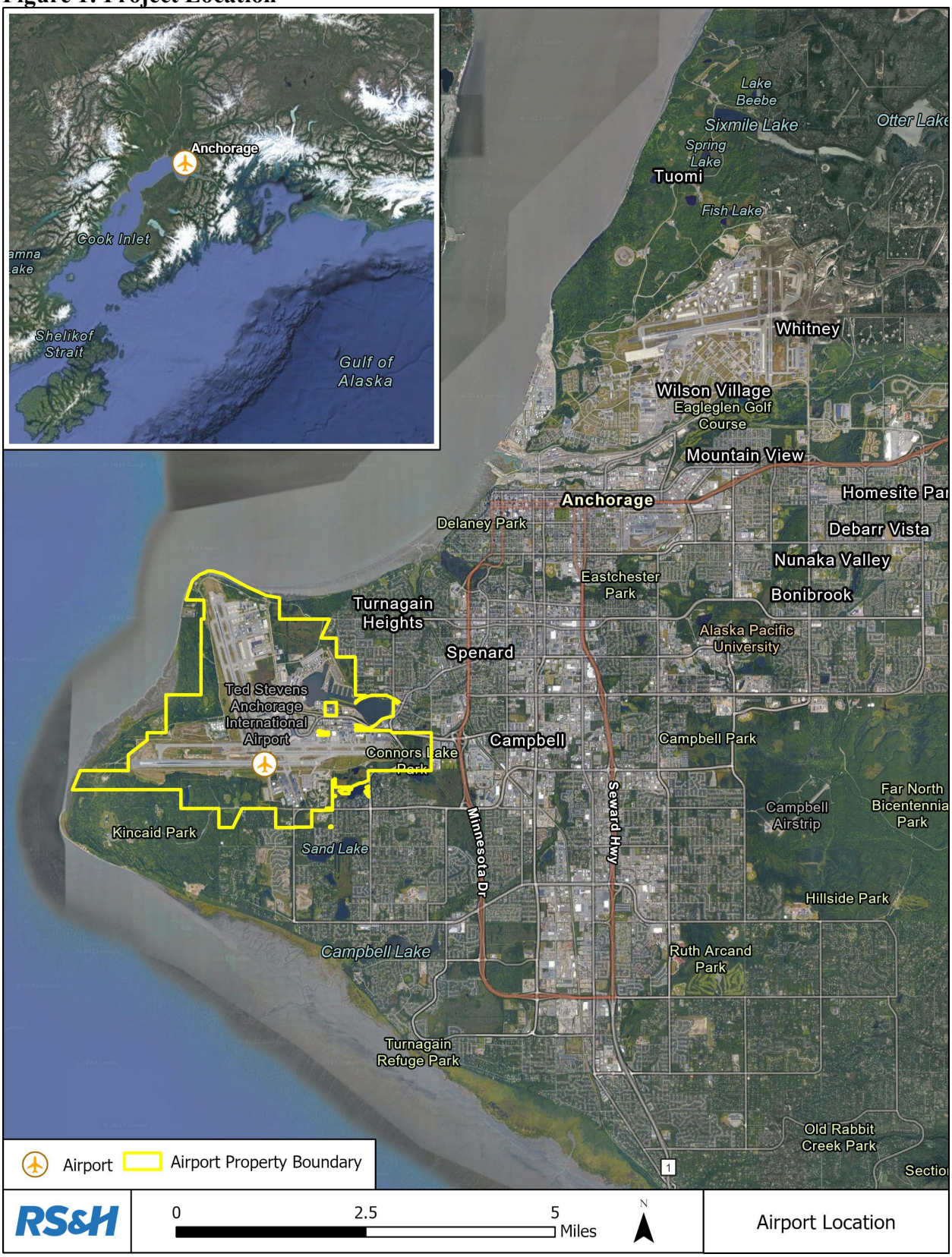


Figure 2: Proposed Project

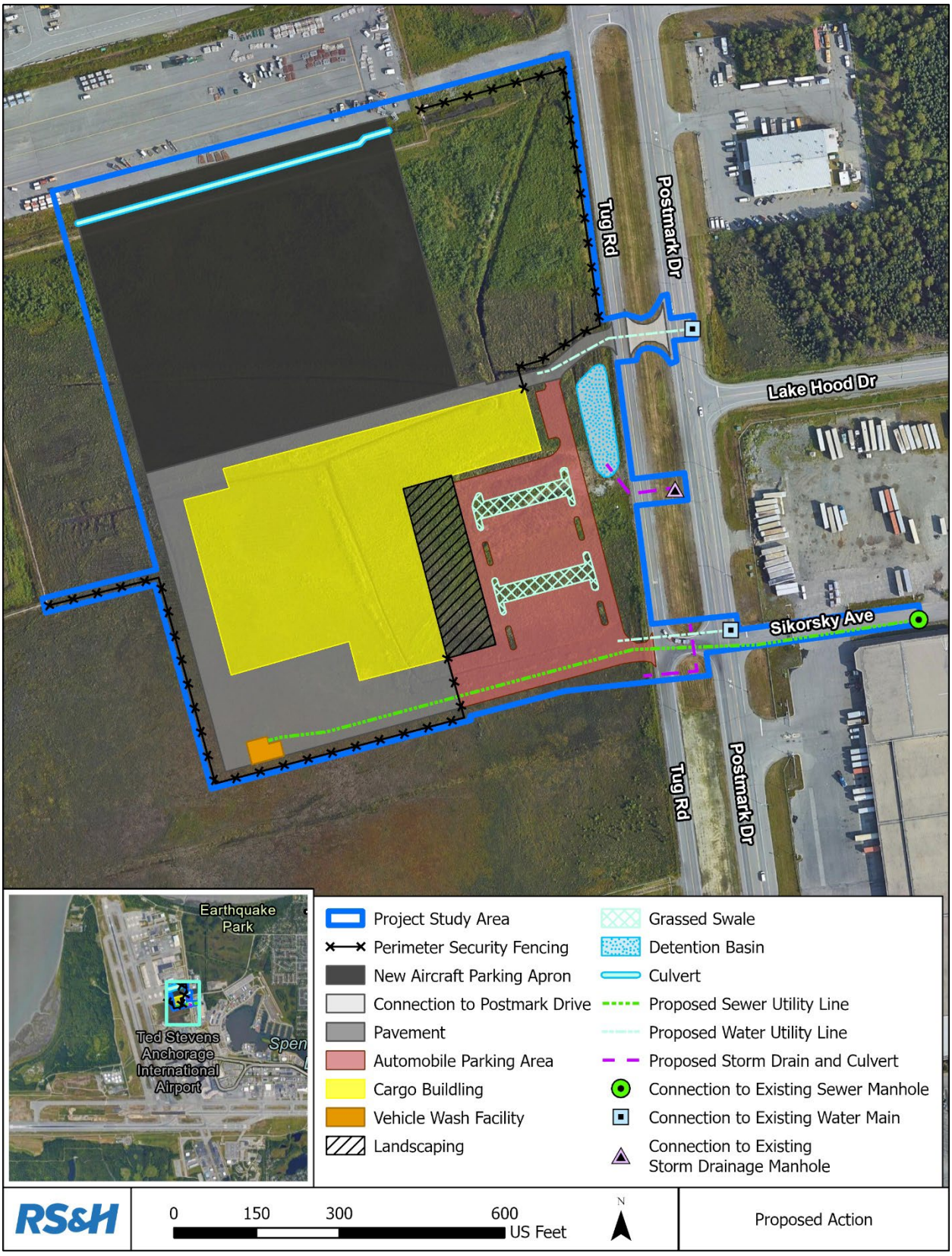
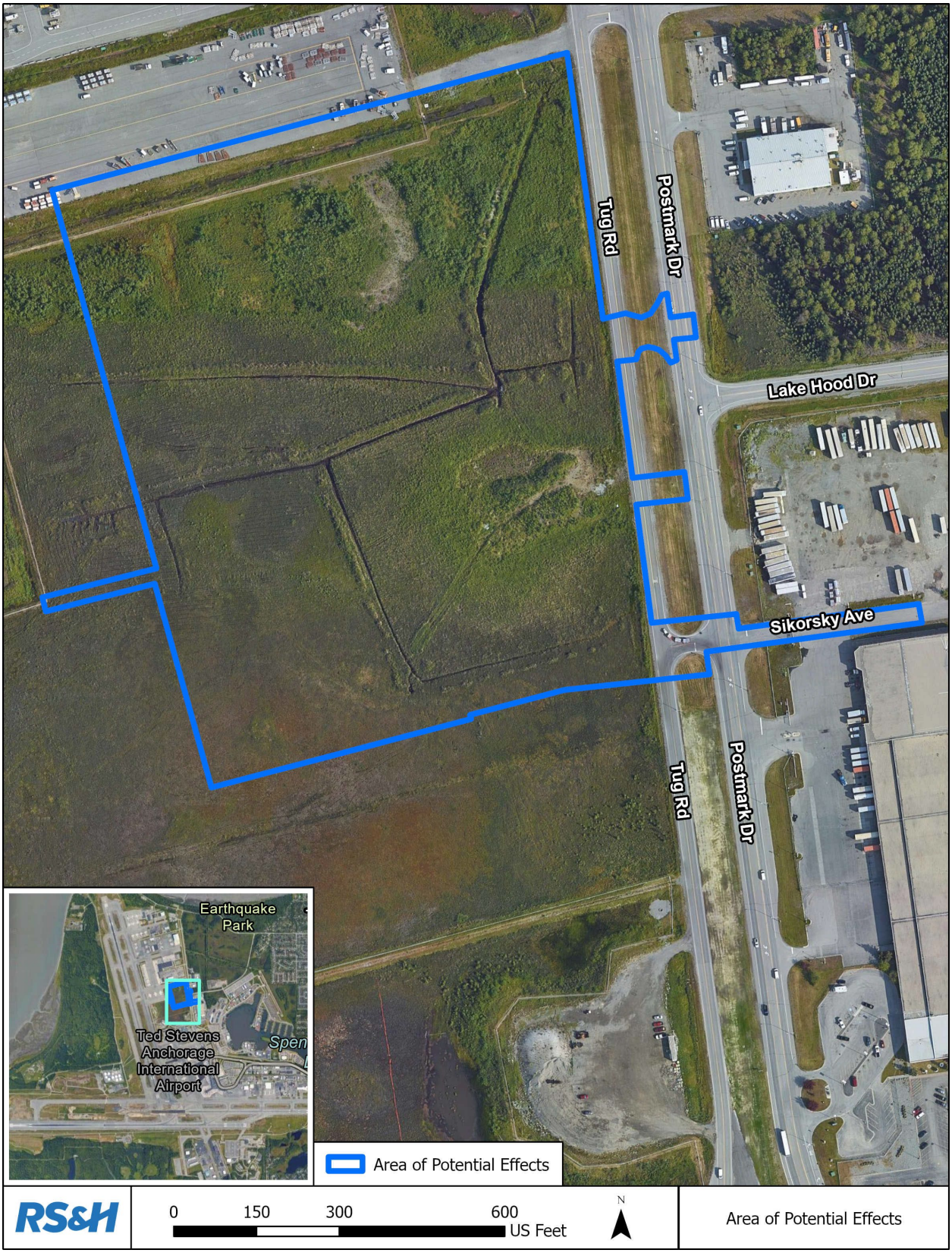


Figure 3: Area of Potential Effects



ATTACHMENT A: CULTURAL RESOURCES TECHNICAL REPORT

Cultural Resources Technical Report
for ANC FedEx NEPA Documentation Project

Prepared for:

RS&H
369 Pine St, Suite 610
San Francisco, CA 94104

Prepared by:

Stephen R. Braund & Associates
P.O. Box 10-1480
Anchorage, Alaska, 99510-1480
907-276-8222
907-276-6117 (fax)
info@srbak.com

November 1, 2022

This page intentionally left blank

EXECUTIVE SUMMARY

This report describes the methods and results of a cultural resource literature review and Phase I cultural resources survey within an approximately 22-acre Project area for a proposed FedEx packaging facility and feeder ramp located at the Ted Stevens Anchorage International Airport (TSAIA) (hereafter "Project"). RS&H contracted Stephen R. Braund and Associates (SRB&A) to complete a cultural resources background literature review and field survey to identify and summarize previous cultural resource surveys in the vicinity of the Project; identify existing Alaska Heritage Resource Survey (AHRS) within the Project area; conduct field investigations to determine if previously undocumented archaeological or historic resources exist within the Project area, and provide recommendations for historic properties and potentially adverse effects. This report presents the results of this effort. SRB&A staff contributing to this report included Stephen Braund, Iris Hilsinger, Paul Lawrence, and Randy Tedor. This report fulfills both the reporting requirements needed to address Section 106 and SRB&A's State of Alaska Cultural Resources Investigation Permit (SCRIP) #2022-75 permit requirements.

The proposed Project would relocate local Alaska package sorting operations from the existing FedEx ANC Airport Facility to an adjacent area south of Taxiway Uniform at TSAIA, including expansion of an aircraft ramp to support feeder aircraft relocated from the existing facility. The relocation of the local package sorting operations is warranted due to spatial and logistical constraints posed by FedEx's existing aircraft apron and facility. The Project is located on the southwest corner of the intersection of North Tug Road and Hughes Avenue in Anchorage, Alaska at the TSAIA. This project is a federal undertaking because it requires authorization from the Federal Aviation Administration (FAA).

SRB&A's previous survey review identified four reports primarily associated with other Anchorage airport infrastructure projects, none of which intersected the proposed parcel for this Project. SRB&A also conducted a search of the AHRS database to identify any previously documented AHRS sites that exist within the Project area. The database lists no AHRS sites within the Project area, and the nearest one is nearly a half mile to the east near Lake Hood. On September 23, 2022, SRB&A conducted pedestrian field survey of the Project area. The terrain in the Project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings. The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and roadways. Because these portions of the Project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. SRB&A's pedestrian field survey of the Project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Based on the results of SRB&A's literature review of previous surveys and known AHRS sites and SRB&A's field survey of the Project area, SRB&A recommends that the FAA make a determination of "No Historic Properties Affected" (36 CFR 800.4[d][1]) for the proposed Project and seek concurrence on this determination from the State Historic Preservation Officer (SHPO).

TABLE OF CONTENTS

LIST OF MAPS

LIST OF TABLES

LIST OF FIGURES

LIST OF PHOTOGRAPHS

LIST OF ACRONYMS AND ABBREVIATIONS

AAF	Army Air Field
AEC	Alaska Engineering Commission
ADNR	Alaska Department of Natural Resources
ADOT&PF	Alaska Department of Transportation and Public Facilities
AHRS	Alaska Heritage Resources Survey
ARR	Alaska Railroad
CFR	Code of Federal Regulations
cm	centimeters
DOE	Determination of Eligibility
FAA	Federal Aviation Administration
ft	foot/feet
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
IBS	Integrated Business Suite
in	inch
m	meter
MTRS	Meridian Township Range Section
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHA	Office of History and Archaeology
SCRIP	State of Alaska Cultural Resources Investigation Permit
SHPO	State Historic Preservation Officer
SRB&A	Stephen R. Braund & Associates
TSAIA	Ted Stevens Anchorage International Airport
UAMN	University of Alaska Museum of the North
USGS	U.S. Geological Survey

INTRODUCTION

This report describes the methods and results of a cultural resource literature review and Phase I cultural resources survey within an approximately 22-acre Project area for a proposed FedEx packaging facility and feeder ramp located at the Ted Stevens Anchorage International Airport (TSAIA) (hereafter "Project"). RS&H contracted Stephen R. Braund and Associates (SRB&A) to complete a cultural resources background literature review and field survey to identify and summarize previous cultural resource surveys in the vicinity of the Project; identify existing Alaska Heritage Resource Survey (AHRS) within the Project area; conduct field investigations to determine if previously undocumented archaeological or historic resources exist within the Project area, and provide recommendations for historic properties and potentially adverse effects. This report presents the results of this effort. SRB&A staff contributing to this report included Stephen Braund, Iris Hilsinger, Paul Lawrence, and Randy Tedor.

PROJECT DESCRIPTION

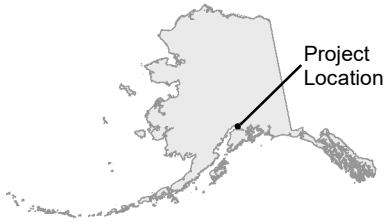
The proposed Project would relocate local Alaska package sorting operations from the existing FedEx ANC Airport Facility to an adjacent area south of Taxiway Uniform at TSAIA, including expansion of an aircraft ramp to support feeder aircraft relocated from the existing facility. The relocation of the local package sorting operations is warranted due to spatial and logistical constraints posed by FedEx's existing aircraft apron and facility. The Project is located on the southwest corner of the intersection of North Tug Road and Hughes Avenue in Anchorage, Alaska at the TSAIA (Map 1; Figure 1). The proposed Project would be located on 22 acres of land within Section 28, Township 13N, Range 4W, Seward Meridian; U.S. Geological Survey (USGS) Quad Anchorage A-8 NW. The Alaska Department of Transportation and Public Facilities (ADOT&PF) is the state land management agency for the parcel.

REGULATORY INFORMATION

This project is a federal undertaking because it requires authorization from the Federal Aviation Administration (FAA). Therefore, the project must address the requirements of Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 Code of Federal Regulations [CFR] 800), including consultation with the State Historic Preservation Officer (SHPO) and other interested parties. SRB&A conducted the fieldwork on State of Alaska lands under State of Alaska Cultural Resources Investigation Permit (SCRIP) #2022-75. SRB&A acquired a curation agreement with the University of Alaska Museum of the North [UAMN], Fairbanks Alaska for any potential artifacts recovered from the Project area. This report fulfills both the reporting requirements needed to address Section 106 and SRB&A's SCRIP #2022-75 permit requirements.

150°0'0"W

Project Area



Stephen R. Braund & Associates
P.O. Box 10-1480
Anchorage, Alaska 99510-1480
(907) 276-8222 info@srbak.com

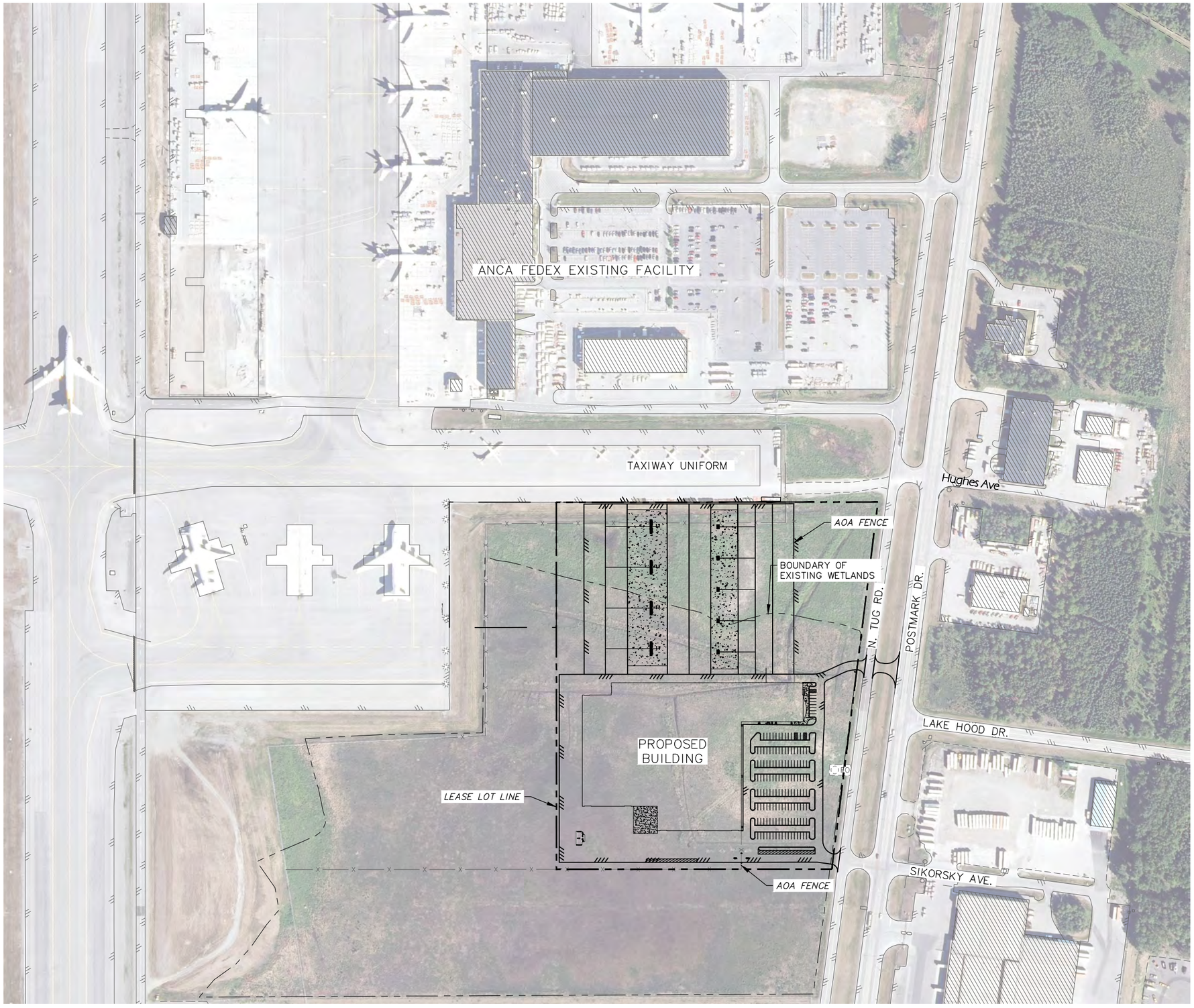
0 0.25 0.5 1 Mile

USGS Mapsheet Anchorage A-8, UTM Zone 6N, NAD83
MTRS within Project Area: S013N004W|28

SRB&A
Stephen R. Braund & Associates

Map 1: TSAIA FedEx Project Overview

Date: 10/25/2022



1 **OVERALL SITE PLAN FIGURE 1**
SCALE: GRAPHIC

150' 0 150' 300'

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

POSTMARK DRIVE,
ANCHORAGE, ALASKA

SCHEMATIC DESIGN

JOB NO.	73138.00
DATE:	8/31/2022
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

OVERALL SITE PLAN FIGURE 1

SHEET NO.
1

This page intentionally left blank.

METHODS

Literature Review

SRB&A conducts ongoing literature reviews (both pre-field and post-field) to inform the methods, results, analysis, and discussion sections of their reports. Goals of the literature review are to characterize the geographic and social landscape, establish a general cultural chronology of human habitation in the region, and describe the known cultural resources that exist in the Project area. SRB&A examines books, articles, and other materials related to archaeology, anthropology, ethnohistory, and associated disciplines (e.g., geomorphology, history) to update knowledge of the region, particularly as it relates to their Project areas. SRB&A's historic context results generally summarize information and events from precontact times up through a time period ending 50 years from the present (e.g., 1970s) because 50 years is generally regarded as an acceptable cut off point between historical and more modern events.

SRB&A also reviews the Alaska Department of Natural Resources (ADNR), Office of History and Archaeology (OHA) Integrated Business Suite (IBS) AHRS database in order to identify previously documented cultural, archaeological, and historic sites, and determine the extent and results of previous cultural resource survey efforts within the Project area. The AHRS database contains reported historic and prehistoric sites that have been recorded on state, federal and private lands in Alaska and is maintained by the OHA. The inventory archives the locations and associated documentation for previously identified objects, structures, buildings, sites, districts, and travel routes under the general provision that they be over 50 years old. The purpose of the AHRS is to permanently archive and preserve the known locations of existing cultural resource sites so that they may be accounted for during project planning. By using the AHRS as a planning tool, agencies and project proponents can avoid costly project delays and prevent unnecessary destruction of these non-renewable resources.

Listing on the AHRS does not, in and of itself, provide protection for sites; however, it does allow project proponents and agencies to make informed decisions when planning projects. Certain limitations do exist, however. For one, the database only contains reported sites and just because an area has no reported sites does not mean there are no cultural resources present in that location. In addition, the AHRS system has been in use for many decades, and the quality and precision of site location data, especially from early years prior to the wide-spread availability of Global Positioning System (GPS) receivers (circa 2000), has resulted in the incorrect or inaccurate placement of many sites, some of which are only approximations that were plotted by hand on 1:250,000 scale U.S. Geological Survey (USGS) maps that can be off as much as 500 feet (ft) from their originally reported AHRS coordinates (Hays et al. 2013). Because of these potential locational limitations, SRB&A expands their review for sites located outside but in close proximity to the Project area (e.g., within approximately 500ft). Based on the AHRS card's descriptions regarding location (e.g., AHRS fields of date recorded, locational reliability) and/or potential for subsurface remains, SRB&A makes a determination of whether or not to include the site in the literature review. For example, sites with definitive accuracy that are outside the Project area are not included, but sites with ambiguous location reliability in close proximity to the Project area are included. In another example, a historical church building that is located outside a Project area but has potential for subsurface historical material within the Project area is included in the review.

An additional component of the OHA AHRS/IBS system is the Document Repository which is a digital archive of previous cultural resources survey reports and related information associated with state and

federal undertakings authorized under state and federal permits. The reports outline background research, field and analytical methods, and survey results of previous cultural resource investigations that have been digitally archived and can be queried in a variety of ways (i.e., by associated AHRS number, author, USGS map number, or Meridian, Township, Range, Section [MTRS] locations) to research and compare the results of previous field investigations that may have intersected any portion of a proposed Project area. SRB&A's review of these reports informs decisions regarding the need for additional survey and/or follow-up field studies, for site re-identification efforts, the site types that may be encountered during field survey, and the characterization and overall archaeological potential for unidentified sites within a Project area.

Field Survey

SRB&A's survey methods are aimed at collecting adequate information to locate, identify, and describe archaeological and/or historic resources encountered during a survey. This is generally accomplished by means of targeted pedestrian survey of high potential areas and pedestrian survey of low and moderate potential areas as crews navigate between high potential locations. Subsurface shovel testing is discretionary and may be conducted in high-potential areas that display evidence of substantial sediment accumulation or suggest the presence of subsurface cultural deposits. Encountered sites are documented through both paper forms, notebooks, and photographs, as well as detailed GPS data, consistent with industry standard practices. SRB&A's field survey and analysis includes:

- targeted pedestrian survey of high potential landforms in the Project area as identified through SRB&A's in-field assessment for archaeological or historical potential (see Table 1), with transects spaced between 3ft and 33ft (1 meter [m] to 10m) (depending on the landform size);
- pedestrian survey of low and moderate potential areas as crews navigate between high potential locations with transects spaced no more than 49ft (15m) apart;
- discretionary subsurface testing 20 inches (in) x 20in (50 centimeter [cm] x 50cm), with excavated sediment screened through 1/4in hardware mesh;
- documentation of daily survey activities through field notes, photographs, and GPS tracks;
- documentation of sites through paper forms, notebooks, photographs, and detailed GPS data;
- post-field analysis of identified cultural resources and artifacts; and
- detailed reporting of the survey results and analysis of cultural resource sites identified.

GPS Data Collection

SRB&A field crews use a mapping-grade GPS unit with sub-meter accuracy (Trimble™ TDC600 with R1 Global Navigation Satellite System [GNSS] receiver) to collect precise spatial data during field surveys. The mapping-grade GPS is used to record:

- Survey tracks of each crew member
- Photo points
- Feature points (individual artifacts, cairns, hearths)
- Feature lines and polygons (tent rings, surface depressions, cache pits)
- Site polygons (preliminary boundaries of identified sites based on landform extent, distribution of cultural material, or other factors)
- Subsurface tests (both positive and negative)

Table 1: SRB&A Levels of Landscape Potential

Level of Prehistoric and Historic Archaeological Site Potential	Landscape Characteristic
High and Moderate	• Well drained and stable terrain (e.g., dry terrain without a topographic prominence) • Defined topographical rise on level terrain (e.g., terraces, moraines, ridges) • Level terrain near breaks in slope • Rock shelters and caves (i.e., natural shelter) • Adjacent confluences of rivers and streams • Adjacent lakes • Adjacent travel routes (e.g., rivers, streams, wetland edges and passes) • Adjacent areas that congregate game (e.g., natural game corridors, grazing areas, perennial and relict ice patches, mineral licks, salmon-bearing streams) • In or adjacent to old growth or mature vegetation • Adjacent resources (e.g., potable water, toolstone, concentrations of plants of known ethnographic use) • Location that offers protection from prevailing wind and/or drifting snow • Same landform has a known cultural resource site • Any of the above characteristics that were present in the past, but not today (e.g., relic lake shores and river channels) • Ecotones (e.g., transitional area between wetlands and forested areas)
Low	• Poorly drained areas (e.g., seasonally wet tundra, wetlands) • Recent geologic features (e.g., active river floodplains or islands) • Areas with steep inclines (i.e., >15°) • Talus slopes • Areas where ground surface and subsurface have been destroyed • Recent dry lakes or stream beds

Table adapted from (Farvacque 2008)

Stephen R. Braund & Associates 2021

Site Documentation

In order to determine if previously undocumented cultural resources eligible for listing in the National Register of Historic Places (NRHP) are present within the Project area, SRB&A conducts pedestrian survey of the Project area, which includes discretionary subsurface testing, and documents and evaluates any previously unrecorded cultural resources identified. If a previously unrecorded cultural resource is identified in the Project area, it is documented using an "evaluation" level of effort approach (ADNR OHA 2019), which SRB&A subsequently uses to develop a determination of eligibility (DOE) recommendation for NRHP listing, and the location and information about the site are submitted to the AHRS. SRB&A's evaluation level of effort for site documentation includes:

- site, artifact, and subsurface test locations recorded in photographs, fieldnotes, and GPS waypoints
- metal detector sweeps at possible historic features to identify historic artifacts
- mapping of visible features, artifacts, and subsurface test placements

- photographs of the site, features, and artifacts
- descriptions of artifact provenience, type, and the distribution of cultural materials and any associated organic samples
- chronology (e.g., radiocarbon analysis, law of superposition/site occupation analysis, or typological analysis of artifacts)
- preliminary assessment of site formation and site integrity based on stratigraphy and other site characteristics

This level of effort is not intended to fully delineate the spatial extent of a resource in the Project area, and additional survey or evaluation work may be required if complete delineation is necessary to relocate or reposition Project components.

Artifact Collection Protocols

As noted above, SRB&A acquired a curation agreement with the UAMN for any potential artifacts recovered from the Project area. Unless otherwise specified, SRB&A follows University of Alaska Museum guidelines when processing artifacts collected as part of a Project for curation (UAMN 2016).

RESULTS

Literature Review

Environment Context

The Project area is located along the eastern edge of a broad outwash plain that is divided by Knik Arm, north of Anchorage. The topography of the Project area from the Chugach Mountains to the headwaters of Cook Inlet was shaped by four separate glacial advances and retreats (Karlstrom 1964) that carved out a wide u-shaped valley where the Project area is located. The headwaters of Cook Inlet were glaciated until approximately 12,000 years ago. Prior to 12,000 years ago, thick masses of glacial ice emanating from the Alaska, Talkeetna, and Chugach ranges covered upper Cook Inlet with ice fields nearly 4,000 feet in thickness. As glaciers receded, silt and sand laden outwash filled in river channels and helped to level the flood plain while draining the Chugach foothills and mountain ranges north and east of the Project area (Dilley and Dilley 2000).

By approximately 8,000 years ago, the region's glaciers had retreated into their respective valleys, allowing vegetation to develop into the communities currently found in the Project area and surrounding region (Karlstrom 1964). Poorly drained low-lying areas developed spruce bogs and muskeg deposits, while well drained upland areas promoted growth of the mixed spruce-birch boreal forest. The most widespread available tree species are coniferous, broadleaf, and mixed forests composed of differing combinations of black, white, and Sitka spruce; quaking aspen; balsam poplar; black cottonwood; and paper birch (Gallant et al. 1995). Other important vegetation communities in the region include low scrub, tall scrub, low scrub bog, mesic graminoid, graminoid herbaceous, and wet forb herbaceous taxa (Gallant et al. 1995).

Prehistory of Southcentral Alaska

The earliest documented archaeological sites in southcentral Alaska are located within the upper Susitna watershed near the foothills of the Talkeetna Mountains (Dixon 1985; Dixon, Mulliken, and Potter 2018;

Hays et al. 2013; Greiser et al. 1986; Wygal and Goebel 2012). The lithic tool kits and radiocarbon dates from a number of sites in the region show affinities with the American Paleoarctic tradition and the Northern Archaic tradition. Hunting and butchering tools found at multiple sites in the region were designed to harvest and process large and medium-sized land mammals such as caribou, moose, elk, and sheep (Esdale 2008). Materials recovered from archeological sites dating to the mid-to-late Holocene (approximately 4,000 to 1,000 years ago) in upper Cook Inlet and the Kenai Peninsula reflect broad-based subsistence strategies that included both marine and terrestrial resources.

In 1975, Doug Reger began investigating the archaeology of Cook Inlet and later developed a cultural chronology for the region based on excavations at the multicomponent Beluga Point site (Reger 1981). The Beluga Point site is located on the north shore of Turnagain Arm, approximately 20 miles from Anchorage, and is the oldest dated site in the Municipality. The lithic tool assemblage from the earliest component at Beluga Point indicates that the site occupants produced formal and expedient tools using a core and blade technique that fashioned microblades, blade-like flakes, and bifaces from blade blanks. Even though the disturbed context of the Beluga Point site made radiocarbon analysis somewhat tentative, Reger attributed the earliest component to the Denali Complex (8,000-10,000 years ago), which is a core and blade complex originally identified in interior Alaska (West 1967, 1981). Reger attributed the cultural remains from component two at Beluga Point, to the Ocean Bay/Takli cultures from Kodiak Island and the Alaska Peninsula (Clark 1984; Reger 1981). The component dates to approximately 4,000 years ago.

The youngest component at Beluga Point contains ground slate artifacts that resemble tools from both the Kachemak and Koniag traditions from the Kenai Peninsula and Kodiak Island, and is dated between 650-790 years ago (Reger 1981). The appearance of ground slate tools in archaeological sites in Cook Inlet and the Gulf of Alaska are associated with the early Kachemak tradition between 2,500 and 1,000 years ago. Riverine Kachemak toolkits indicate a heavier seasonal reliance on salmon and other fish resources, as evidenced by numerous small, notched pebble net sinkers and barbed fish points made from antler and bone. Riverine Kachemak assemblages also include ground slate ulus (*uluq*) and spear points as well as chipped stone arrow points (Dixon 1996).

Ethnohistory of Cook Inlet

Archaeological and linguistic evidence suggests that an Athabascan-speaking Dena'ina population was present in upper Cook Inlet by approximately 1,500 to 1,000 years ago. Large multi-room houses and storage pit features are common at Dena'ina sites, but there is a noticeable absence of diagnostic lithic artifacts. Copper tools from the Copper River region also begin to appear in Dena'ina sites dated to 1,000 years ago and later (Reger 1981; Reger and Boraas 1996; Reger 1998; Reger 2003). In addition to a clear emphasis on seasonal salmon fishing and storage, late prehistoric Dena'ina subsistence also involved hunting snowshoe hare, red squirrel, waterfowl and ground birds, beaver, moose, sheep, and caribou.

The first reported Euro-American contact with the Dena'ina people of Cook Inlet occurred in 1778 when James Cook arrived at the inlet in search of a Northwest Passage (Fall 1981b; Kari and Fall 2003a; Fall 1987; Kari and Fall 1987; Townsend 1981). However, Cook reported that the inhabitants already possessed items of European manufacture and assumed that they were indirectly trading with the Russians. In 1799, the Tsar of Russia granted the Russian American Company exclusive possession of the established trading

posts in Alaska, and from this time forward, the Dena'ina often served as middlemen between the Russian traders and the Ahtna of interior Alaska. The establishment of fur trading posts in several locations in Cook Inlet such as Tyonek, Knik, and Kenai, the Dena'ina of the coastal area shifted emphasis from subsistence hunting and trapping to fur trapping for trade and later became intermediaries in trade with neighboring Dena'ina bands, Ahtna from the Copper River area, and the Upper Tanana.

Explorers from Great Britain, Russia, and America who first encountered the upper Cook Inlet region provide corroborating accounts of numerous indigenous settlements and fish camps closer to sources of fresh water along both sides of Knik Arm and inland towards the head of Cook Inlet. The people encountered by these explorers were the *K'enaht'ana*, or Knik Arm Dena'ina, speakers of the Upper Cook Inlet dialect of the Athabascan language (Fall 1981a). Prior to the arrival of the first Europeans in upper Cook Inlet in the late eighteenth century, the indigenous Dena'ina Athabascans resided in fish camps and winter villages that dotted both shores of Knik Arm. Documented Dena'ina cultural resources in upper Cook Inlet include place names, fish camps (e.g., *Tak'at*, Eklutna School Fish Camp, *Tuq'eyghił'ut*), trails, winter villages, cemeteries/burials, looped trees, and cache pits. Kari and Fall (2003b); Fall et al. (2003), and SRB&A (2006) provide depictions of locations and descriptions for these fish camps, village sites, and place names. At the end of the nineteenth century and beginning of the twentieth century, Ship Creek and the area that would become the Municipality of Anchorage (MOA) was occupied by the Dena'ina, who fished and hunted in the area (Fall 1981a; Kari and Fall 2003a; Chandonnet 1979, 1991; Stephan 2001; Fall et al. 2003).

In 1930, Frederica de Laguna, a young anthropologist from Bryn Mawr College, conducted an archaeological survey of Cook Inlet (De Laguna 1996). She did not spend any time surveying at Anchorage, but she noted the following information based on her informants' knowledge:

> *The native name for Anchorage is Xa'tikiuct (Theodore Sasha, Kenai). This suggests that there may have been an older village here. I was not able to identify the town of "Zdluiat", which Petroff located on his map a little north of the present site of Anchorage. It may be the same place where house pits or 'fortifications' have been seen, on the north bank of Ship Creek, opposite Anchorage (de Laguna 1975, 140).*

Cornelius Osgood was also researching an ethnography of the Dena'ina at this time, but was primarily working with Kenai, Tyonek, and Iliamna informants and thus these data are not directly applicable to the Knik Arm Dena'ina (Osgood 1966).

SRB&A's review of indigenous placenames identified five Athabascan designations documented in the vicinity of the Project area (Table 2; Map 2). As shown on Map 2, the majority of place names nearest the Project area are concentrated along the coastline and or waterbodies (e.g., Lake Hood, Hood Creek). No placenames are within or adjacent to the Project area.

Table 2: Indigenous Placenames

Placename	Literal Translation	Location Description	Source
Niłkidal'iy	"The Ones (Lakes) That Are Joined Together"	Lake Spenard and Lake Hood	Kari and Fall 2003:334
Nen Giłgedi	"Rotten Land"	Bank in Earthquake Park area east of Hood Creek	Kari and Fall 2003:334
Nuch'ishtunt	"Place Protected From Wind"	Point Woronzof	Kari and Fall 2003:334
Niłkidal'iy Betnu	"Stream Of The Ones (Lakes) That Are Joined Together"	Hood Creek	Kari and Fall 2003:334
Q'is Kaq'	"Birchbark Mouth"	Creek half mile beyond Point Woronzof, creek at the end of east-west runway	Kari and Fall 2003:338

Stephen R. Braund & Associates, 2022

Cook Inlet History

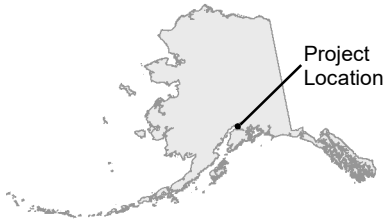
After the transfer of Alaska from Russia to the United States in 1867, the fur trade experienced increased competition, which raised fur prices. Canneries became prevalent throughout the region during the 1880s (Townsend 1981) which, coupled with the high prices of fur during the 1890s, resulted in a depletion of local resources and an increased reliance on a cash economy by the Dena'ina. Gold prospecting began in the Susitna River drainage and the upper inlet in the late nineteenth century, resulting in the establishment of the Willow Creek and Turnagain Arm mining districts.

Historical Development of the Anchorage Bowl

The development of Anchorage, from its inception in 1915, caused the displacement of Dena'ina from traditional camps and harvest locations. In the past, fish camps with drying racks, smokehouses, and accommodations were located on Ship Creek, Campbell Creek, Chester Creek and Point Woronzof. As Anchorage grew, Dena'ina families moved their fish camps away from the emerging urban area and were excluded or discouraged from revisiting many traditional areas. Throughout much of the development of the Anchorage area, non-Natives expended little effort to consult with tribal members about impacts to Dena'ina traditional uses of the area. Knik Arm and Cook Inlet continue to be culturally important to the Knik Arm Dena'ina. The Dena'ina place great value on maintaining the ability to gather, harvest, process, and share traditional foods and on maintaining cultural ties to significant landforms and waterways (SRB&A 2006, 2005).

Homestead Period

Much of the Anchorage area was originally available for homesteading throughout the late nineteenth and first half of the twentieth centuries. Homesteading was a federal government program designed to open the western territories to settlement by non-Natives and to establish farming communities. Around the turn of the twentieth century, homesteading lands were available in the vicinity of Anchorage, and government land surveys began. By 1910, 500 homesteaders were registered in the Matanuska Valley and by 1914, 130 homesteaders, mostly of Scandinavian descent, appear on the commissioner's records at Knik (SRB&A 2008). However, most homesteading in the Anchorage area did not occur until Alaska Railroad (ARR) construction was well under way (SRB&A 2008). Before 1915, the town of Knik was the major Euro-American community in upper Cook Inlet. The mouth of Ship Creek was referred to as "Knik Anchorage."



Project Area

Q is Kaq Indigenous Placename (n=5)
Source: Kari and Fall 2003

0 0.25 0.5 1 Mile

UTM Zone 6N, NAD83

Stephen R. Braund & Associates
P.O. Box 10-1480
Anchorage, Alaska 99510-1480
(907) 276-8222 info@srbak.com

SRB&A
Stephen R. Braund & Associates

Map 2: Indigenous Placenames in the Vicinity of the TSAIA FedEx Project

Date: 10/25/2022

Alaska Railroad

From the early 1920s to the late 1930s, the Anchorage area saw the development of the ARR. Hundreds of people rushed to the mouth of Ship Creek in the spring of 1915, anticipating work with the announcement of the Seward to Ship Creek to Fairbanks railroad route. The forested floodplain was clear-cut for tent frames, cabins, and firewood. Due to public safety and public health (sanitation, disease, potable water) concerns, the Alaska Engineering Commission (AEC) decided to establish a planned town site on the south bluff of Ship Creek. After the AEC selected Anchorage as a railroad construction site, commercial activities and ocean transport shifted to Anchorage from Knik. Knik declined rapidly in population, as well as in social and economic importance (Seager-Boss 2000, 2003). Despite high expectations, the economy in the Territory of Alaska did not surge with completion of the long-awaited railroad. Instead, it stagnated between the two World Wars, with a declining population and little economic development.

Military Base Development and the Dena'ina

The period from 1938 to 1945 in the Anchorage area was characterized by the eviction of homesteaders from military land that set aside for the Fort Richardson-Elmendorf Army Air Field (AAF). The displacement of the Dena'ina from their traditional camps in the Anchorage area, which began with railroad construction at Ship Creek in 1915, continued with the destruction of *Tak'at* by the U.S. military during construction of Fort Richardson and Elmendorf AAF, the loss of houses and camps along Chester Creek (*Chanshtnu*), and the ban on fishing at Point Woronzof (*Nuch'ishtunt*) in 1945 (Kari and Fall 2003b; SRB&A 2005). The establishment of Fort Richardson-Elmendorf AAF and wartime security concerns created a permanent barrier to customary Dena'ina travel along the east side of Knik Arm through military lands, as well as a prohibition on entering lands traditionally used for subsistence activities. In a short period, the Dena'ina of upper Cook Inlet were disallowed from fishing at their traditional camps, some of the best fishing locations in upper Cook Inlet, and alienated by the threat of "deadly force" and legal action from using upland hunting areas and camps.

WWII and the Cold War Period

After the attack on Pearl Harbor in December 1941, the Imperial Japanese Army and Navy attacked and occupied the Aleutian Islands of Attu and Kiska and bombed Dutch Harbor in 1942. Fort Richardson-Elmendorf AAF became the headquarters for the newly formed 11th Air Force (February 5, 1942), which fought the Aleutian Islands campaign along with Navy and Army forces resulting in the Japanese defeat in the Aleutians in 1943. The entry of the United States into World War II had far-reaching consequences throughout the Alaska Territory. Prior to the war, the Territory was poorly known. After the Aleutian Campaign, construction of the Alaska Highway, and the construction and use of a series of northern route airbases supporting the Lend-Lease Program's conveyance of military aircraft to then-ally the USSR, the Territory's geography and strategic importance were more clear to planners in Washington, D.C. Tens of thousands of military personnel served in Alaska, dozens of airfields were built, the Alcan (Alaska) Highway was constructed, and billions of dollars were spent on other civilian and military projects (Bush 1984).

Gun emplacements and observation posts in the Anchorage area remain in place today. In 2005, Charles Mobley reported the remains of an improvised military observation post (TYO-00102), constructed of 55-gallon drums and wood, on the western end of Fire Island, overlooking Shelter Bay (Mobley 2005). Similarly constructed, ad hoc reinforced positions are present on Elmendorf Air Force Base today as

remnants of that historic period or as relics of past training programs for military personnel from WWII and throughout the Cold War era.

Previous Surveys

SRB&A searched the Document Repository on the OHA Integrated Business Suite for previous surveys that fell within the Project's related MTRS (S013N004W28). SRB&A's review identified four reports primarily associated with other airport infrastructure projects, none of which intersected the proposed parcel for this Project. The closest surveys/reports to the Project area included two findings of No Historic Properties Affected in support of a reconstruction of Taxiway U and a new 208-stall parking lot project directly to the north of the current Project, and a finding of No Historic Properties Affected in support of the Echo Parking Phase II project to the east of the current Project. It was unclear from the documentation of the previous three projects whether any field survey had occurred associated with the findings. The final document identified by SRB&A included a 1975 field survey for a proposed Tesoro Gas Pipeline route situated to the west of the airport along the coastline. During that survey, one site was documented along the bluff edge consisting of house pits, storage pits, and grave remains.

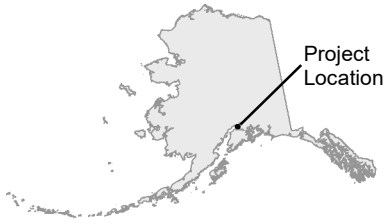
Previously Documented Sites

SRB&A conducted a search of the AHRS database to identify any previously documented AHRS sites that exist within the Project area. The database lists no AHRS sites within the Project area and the nearest one is nearly a half mile to the east near Lake Hood.

Field Survey Results

On September 23, 2022, two SRB&A staff, Randy Tedor and Paul Lawrence, conducted pedestrian field survey of the Project area (Map 3). The terrain in the Project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings (Photograph 1; Figure 2). The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and roadways. Field survey did not identify any cultural resources in the Project area and indicated, that overall, the area has low potential for cultural resources.

The Project area has been substantially modified and disturbed as the result of previous airport and road expansion and upgrade projects and use for water containment and removal (see Map 4). By the 1990s, the northern portion of the Project area had been heavily modified and reworked. Then sometime between 2002 and 2007, several manufactured linear drainage channels were installed in the area (Photograph 2 and Photograph 3) to assist with water runoff and drainage, and the slightly elevated areas in the eastern portion of the Project area were cleared of vegetation, leveled, and recontoured. Prior ground disturbance in these areas resulted in sparse vegetation cover and exposure of the underlying substrate, which allowed for SRB&A to examine the subsurface deposits for buried cultural resources (Photograph 4). The subsurface deposits are made up of well-drained, unstratified brown silty sands with occasional pea gravels. SRB&A identified no cultural resources during pedestrian survey of these areas and excavated no shovel tests due to ample subsurface exposure, evidence of previous disturbance, and/or heavily saturated wetland areas.



Project Area

Pedestrian Survey

0 100 200 400 Feet

UTM Zone 6N, NAD83

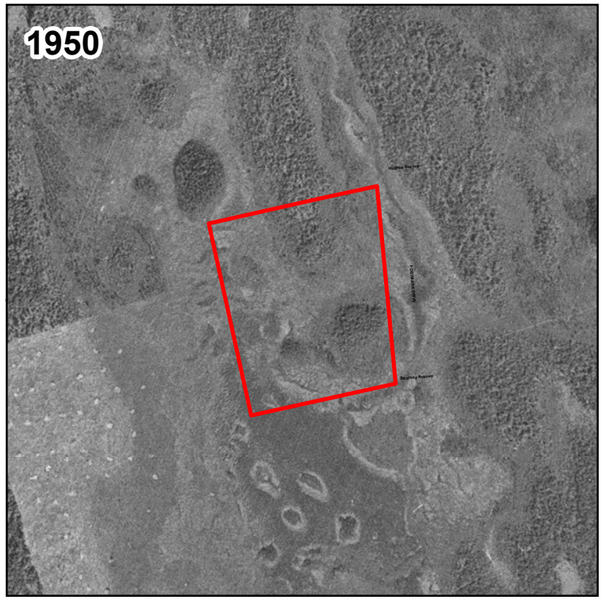
Stephen R. Braund & Associates
P.O. Box 10-1480
Anchorage, Alaska 99510-1480
(907) 276-8222 info@srbak.com

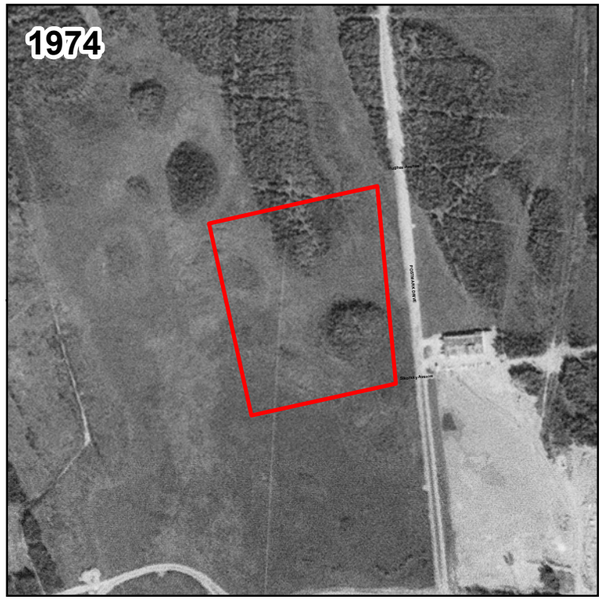
SRB&A
Stephen R. Braund & Associates

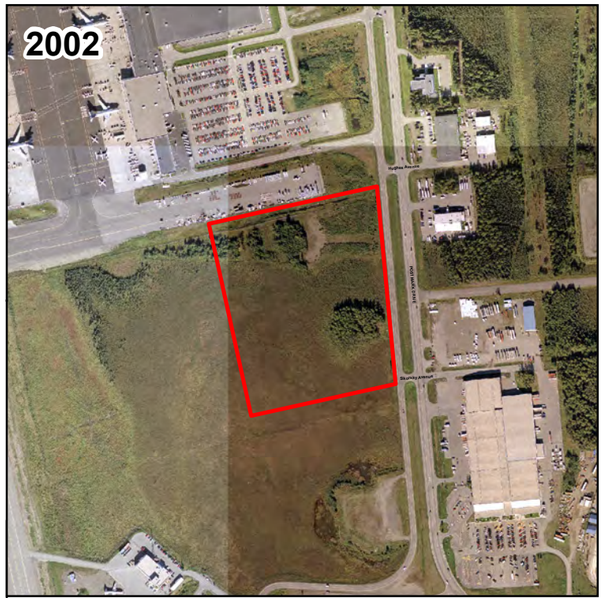
Map 3: TSAIA FedEx Project Cultural Resource Survey

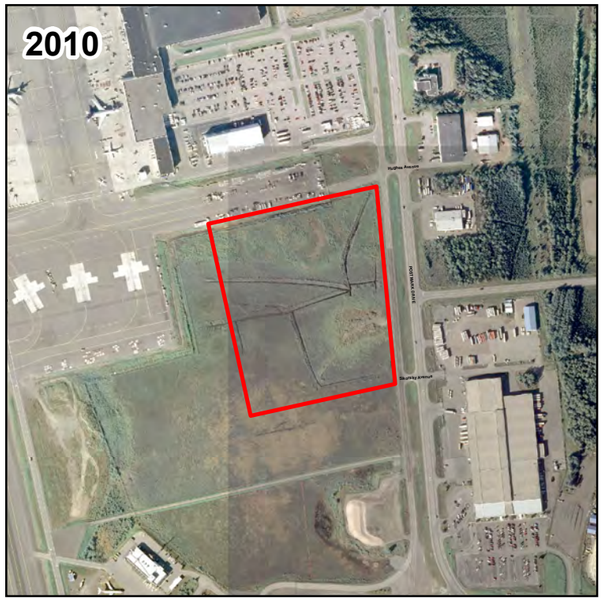
Date: 10/25/2022

THIS PAGE INTENTIONALLY LEFT BLANK









Project Area

0 500 1,000 2,000 Feet

UTM Zone 6N, NAD83
Source: Imagery from USGS EarthExplorer

Stephen R. Braund & Associates
P.O. Box 10-1480
Anchorage, Alaska 99510-1480
(907) 276-8222 info@srbak.com

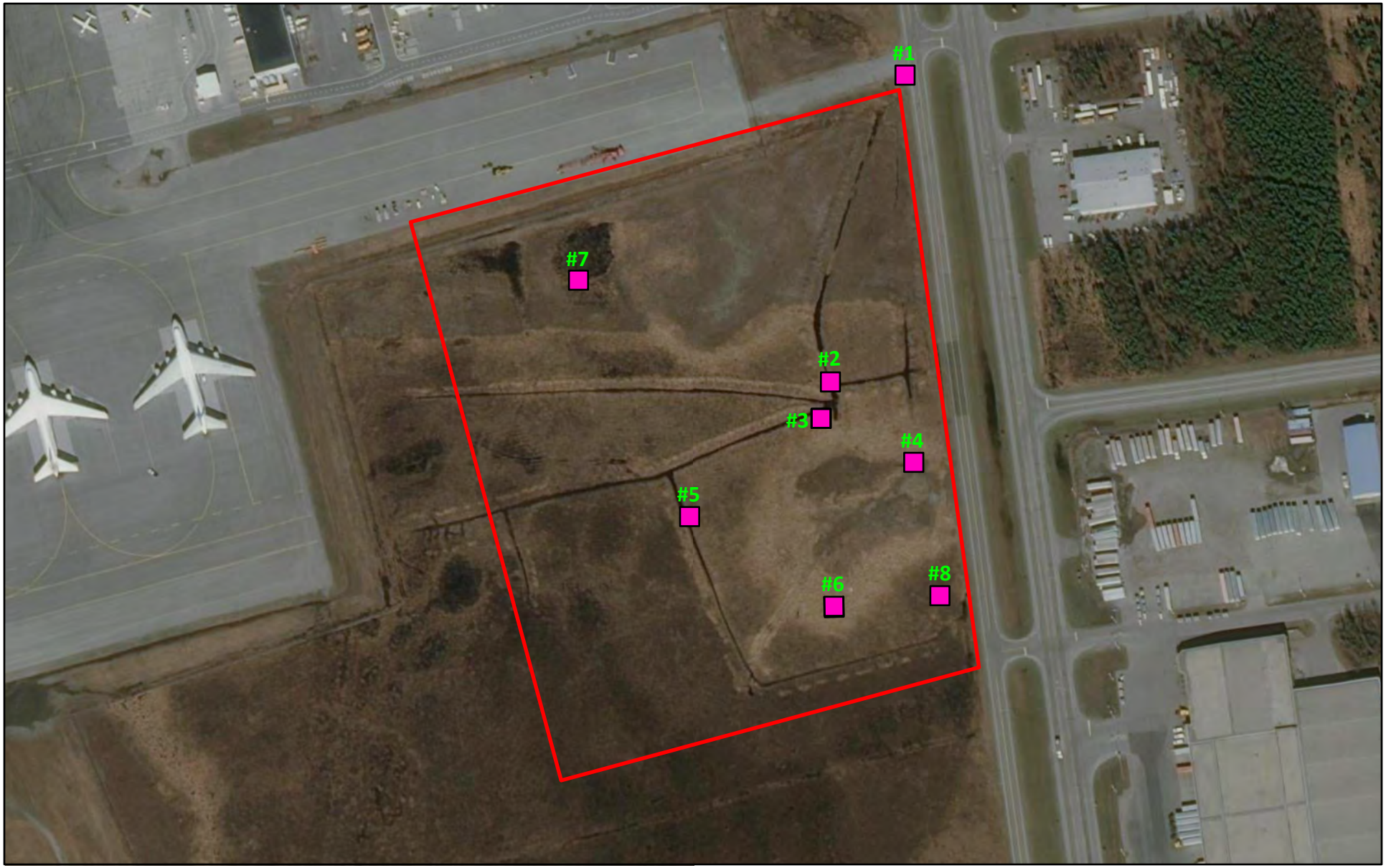
SRB&A
Stephen R. Braund & Associates

Map 4:
TSAIA FedEx Project Area Modifications Over Time

Date: 10/26/2022

This page intentionally left blank.

Figure 2: Photo Key for Report Photographs



10/28/2022

Photo Point

Project Area

Citations

1.2m Resolution Metadata

1:6,417

0 0.03 0.05 0.1 mi

0 0.04 0.08 0.16 km

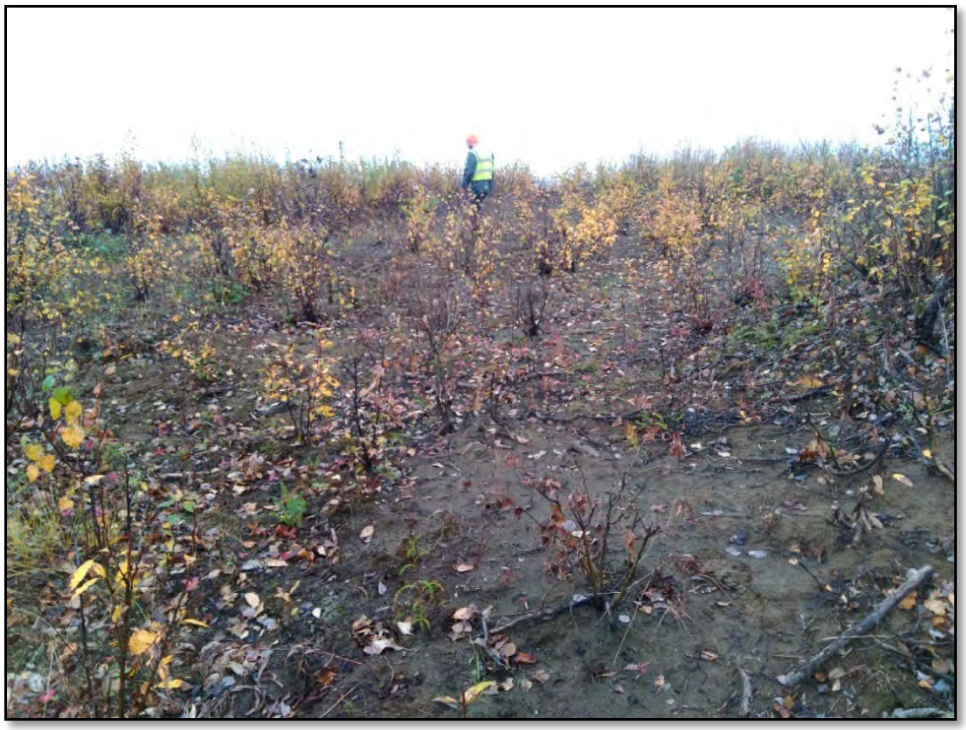
Maxar, Microsoft

SRB&A

Photograph 1: Overview of Project area showing setting in drainage basin between runway on right and North Tug Road on left, view southwest

Photograph 2: Drainage channel and large upright culvert near center of Project area, view south

Photograph 3: Linear, north-south trending drainage channel in western portion of Project area, view north



Photograph 4: Survey of subsurface exposure within previously disturbed area in the northeastern portion of the Project area, view southwest

The southern and western portion of the Project area are featureless wetlands covered by hydric tundra, sedge and meadow grasses, and small scrub birch and willow shrubs (Photograph 5 and Photograph 6). At the time of the survey, most of these portions of the Project area were covered by standing water (Photograph 7). Several white PVC monitoring stakes were observed across the western and southern portion of the Project area (Photograph 8), which revealed an unstratified gray fine-grained silty clay substrate resembling the description of the Bootlegger Cove Clay (Drew 1966). The clay is a late Pleistocene shallow marine deposit that underlies areas surrounding Knik Arm, Point Woronzof and Turnagain Arm.

Because these portions of the Project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. In summary, SRB&A's pedestrian field survey of the Project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Photograph 5: Featureless wetland with areas of standing water in western portion of Project area, view northwest

Photograph 6: Featureless wetland with areas of standing water in the southern portion of Project area, view northwest

Photograph 7: Large sections of the Project area were saturated and covered with standing water, plan view

Photograph 8: Monitoring stake showing gray silty clay substrate in western and southern portion of the Project area, view northeast

SUMMARY AND RECOMMENDATIONS

On September 23, 2022, SRB&A conducted pedestrian field survey of the Project area. The terrain in the Project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings. The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and roadways. Because these portions of the Project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. In summary, SRB&A's pedestrian field survey of the Project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Based on the results of SRB&A's literature review of previous surveys and known AHRS sites and SRB&A's field survey of the Project area, SRB&A recommends that the FAA make a determination of "No Historic Properties Affected" (36 CFR 800.4[d][1]) for the proposed Project and seek concurrence on this determination from the SHPO.

REFERENCES

ADNR OHA, (Alaska Department of Natural Resources Office of History and Archaeology). 2019. Cultural Resources Investigations and Report Outline. Anchorage, Alaska.

Bush, Col. J. D. Jr. 1984. Narrative Report of Alaska Construction, 1941-1944. U.S. Army Engineer District Alaska. Anchorage, Alaska. In *Facsimile 1984 of a report written by Col. James D. Bush, Jr. during November and December, 1944*.

Chandonnet, A. 1979. *The Once and Future Village of Ikluat/Eklutna*. Chicago, Illinois: Adams Press.

Chandonnet, A. 1991. *On the Trail of Eklutna*. Anchorage, Alaska: User Friendly Press.

Clark, Donald W. 1984. "Prehistory of the Pacific Eskimo Region." In *Handbook of North American Indians*, edited by David Damas. Washington D.C.: Smithsonian Institution.

de Laguna, F. 1975. *The Archaeology of Cook Inlet, Alaska*. 2nd ed. Anchorage: Alaska Historical Society.

De Laguna, F. 1996. "Cook Inlet Adventures and Afterthoughts: Alaska 1930." In *Adventures Through Time: Readings in the Anthropology of Cook Inlet, Alaska*, edited by N. Y. Davis and W. E. Davis, 65-88. Anchorage, Alaska: Cook Inlet Historical Society.

Dilley, L. M., and T. Dilley. 2000. *Guidebook to the Geology of Anchorage, Alaska*. Anchorage, Alaska: Publication Consultants.

Dixon, E. James. 1985. "Cultural Chronology of Central Interior Alaska." *Arctic Anthropology* 22 (1):47-66.

Dixon, E. James, Katherine Mulliken, and Ben A. Potter. 2018. "The Early Holocene-aged Component at the Jay Creek Ridge Site, Middle Susitna River Valley, Alaska AU - Reuther, Joshua D." *PaleoAmerica*:1-5. doi: 10.1080/20555563.2018.1554963.

Dixon, G. 1996. "Tiq'atl'ena Bena (Hewitt Lake) Archaeological Research Project." In *Adventures Through Time: Readings in the Anthropology of Cook Inlet, Alaska*, edited by N.Y. Davis and W.E. Davis, 65-88. Anchorage, ALaska: Cook Inlet Historical Society.

Drew, Isabella M. 1966. "Properties of the Bootlegger Cove Clay of Anchorage, Alaska." Ph.D., Department of Geology, Columbia University.

Esdale, Julie A. 2008. "A Current Synthesis of the Northern Archaic." *Arctic Anthropology* 45 (2):3-38.

Fall, J. 1981a. Traditional Resource Uses in the Knik Arm Area: Historical and Contemporary Patterns. Anchorage, Alaska.

Fall, J. A. 1987. "The Upper Inlet Dena'ina: Patterns of Leadership Among an Alaskan Athabaskan People, 1741-1918." *Anthropological Papers of the University of Alaska* 21 (1-2):1-80.

Fall, J., N. Y. Davis, W. E. Davis, and Dena'ina Team. 2003. An Overview of Dena'ina Athabascan Uses of Sites on and near Elmendorf Air Force Base, Alaska. Anchorage, Alaska.

Fall, J.A. 1981b. "Patterns of Upper Inlet Tanaina Leadership, 1741-1918."Thesis (PhD), University of Wisconsin-Madison.

Farvacque, R. N. R. 2008. Archaeological Impact Assessment of Peace River Coal Inc. Roman Coal Mine. BC HCA Permit Report 2007-0320. In *Roman Coal Mine Project Environmental Assessment Report Volume 3, Section 17: Archaeology*. Vancouver, British Columbia: Prepared for BC Environmental Assessment Office.

Gallant, Alisa L., Emily F. Binnian, James M. Omernik, and Mark B. Shasby. 1995. Ecoregions of Alaska. Washington: United States Government Printing Office.

Greiser, T. W., S. T. Greiser, G. H. Bacon, D. F. Gallacher, Thomas A. Foor, and J. A. Fall. 1986. Sample Survey and Predictive Model Refinement for Cultural Resources Located Along the Susitna Hydroelectric Project Linear Features.

Hays, Justin M., Carol Gelvin-Reymiller, Peter M. Bowers, Charles M. Mobley, Taylor Brelsford, and Tom Bundtzen. 2013. Susitna-Watana Hydroelectric Project (FERC No. 14241) Cultural Resources Study. Prepared for the Alaska Energy Authority.

Kari, J. , and J. A. Fall, eds. 2003a. *Shem Pete's Alaska: The Territory of the Upper Cook Inlet Dena'ina*. Fairbanks, Alaska: University of Alaska Press.

Kari, J., and J. A. Fall. 1987. Shem Pete's Alaska. The Territory of the Upper Cook Inlet Dena'ina. Fairbanks, Alaska.

Kari, James M., and James A. Fall. 2003b. *Shem Pete's Alaska: the Territory of the Upper Cook Inlet Dena'ina*. Revised second ed. Fairbanks, Alaska: University of Alaska Press.

Karlstrom, Thor N. V. 1964. *Quaternary geology of the Kenai Lowland and glacial history of the Cook Inlet region, Alaska*, *Geological Survey (U.S.). Professional paper,*. Washington,: U.S. Govt. Print. Off.

Mobley, C. M. 2005. Cultural Resource Investigations for the Fire Island Wind and Transmission Line Project, Cook Inlet, Alaska. Report prepared for URS Corporation and Chugach Electric Association. Anchorage, AK.

Osgood, Cornelius. 1966. *The Ethnography of the Tanaina*, *Yale University Publications in Anthropology*. New Haven: Human Relations Area Files Press.

Reger, D. 1981. "A Model for Culture History in Upper Cook Inlet, Alaska." Ph.D. Dissertation Thesis (PhD), Department of Anthropology, Washington State University.

Reger, D. 2003. "Upper Cook Inlet Prehistory: the Archaeological Evidence." In *Shem Pete's Alaska: The Territory of the Upper Cook Inlet Dena'ina*, edited by Kari and Fall, 15-16 S. Fairbanks, Alaska: University of Alaska Press.

Reger, D., and Alan Boraas. 1996. *An Overview of the Radiocarbon Chronology in Cook Inlet Prehistory*. Edited by N. Yaw and W.E. Davis, *Adventures through Time: Readings in the Anthropology of Cook Inlet, Alaska*. Anchorage: The Cook Inlet Historical Society.

Reger, D. R. 1998. "Archaeology of the Northern Kenai Peninsula and Upper Cook Inlet." *Arctic Anthropology* 35 (1):160-171.

Seager-Boss, F. 2000. Old Knik Townsite Archaeological Survey and Inventory Phase II. Palmer, Alaska.

Seager-Boss, F. 2003. "Knik Archaeological Excavations." In *Shem Pete's Alaska: The Territory of the Upper Cook Inlet Dena'ina*, edited by Kari and Fall. Fairbanks, Alaska: University of Alaska Press.

SRB&A, (Braund, Stephen R. & Associates). 2005. Determination of eligibility for the Knik Arm Crossing Project: Tak'at, Anchorage, Alaska. Anchorage, Alaska: Prepared for HDR Alaska, Inc.

SRB&A, (Braund, Stephen R. & Associates). 2006. Knik Arm Crossing Project, Section 106 Report Determination of eligibility for the National Register of Historic Places. In *Volume I: Literature Review and Recommendations*. Anchorage, Alaska: Prepared for HDR Alaska, Inc.

SRB&A, (Braund, Stephen R. & Associates). 2008. Birchwood Airport Expansion, Cultural Resources Survey Report. Anchorage, Alaska: Stephen R. Braund & Associates.

Stephan, A. 2001. Cheda (Athabascan for Grandma). Anchorage, Alaska: Todd Communications.

Townsend, J. B. 1981. "Tanaina." In *Subarctic*, edited by William C. Sturdevant. Washington, D.C.: Smithsonian Institution Press.

UAMN, (University of Alaska Museum of the North). 2016. "Curation Guidelines." Last Modified February 2016, accessed September 21, 2021. https://www.uaf.edu/museum/collections/archaeo/pdfs/Curation-Guidelines_2016.pdf.

West, Frederick Hadleigh. 1967. "The Donnelly Ridge Site and the Definition of an Early Core and Blade Complex in Central Alaska." *American Antiquity* 23 (3):360-382.

West, Frederick Hadleigh. 1981. *The Archaeology of Beringia*. New York: Columbia University Press.

Wygal, B. T., and T. Goebel. 2012. "Early Prehistoric Archaaeology of the Middle Susitna Valley, Alaska." *Arctic Anthropology* 49 (1):45-67.

U.S. Department
of Transportation

**Federal Aviation
Administration**

AIRPORTS DIVISION

222 W. 7th Avenue, Box 14
Anchorage, Alaska
99513-7587

19 July 2023

Chief Harrison
Chickaloon Native Village
P.O. Box 1105
Chickaloon, AK 99674

Dear Chief Harrison:

FedEx ANCA Facility, Anchorage, Alaska, Government-to-Government Consultation Initiation

FedEx, in cooperation with the State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the Alaskan Region Airports Division of the Federal Aviation Administration (FAA), is proposing to expand the FedEx ANCA Facility at Ted Stevens Anchorage International Airport (ANC) in Anchorage, Alaska.

We have determined that this proposed action is an "undertaking" subject to Section 106 of the National Historic Preservation Act. This proposed action is also subject to the National Environmental Policy Act (NEPA) and the FAA will be coordinating its review under Section 106 with the NEPA process. An Environmental Assessment (EA) has been initiated and is under development.

Consultation Initiation

With this letter, Ms. Kristi Warden, FAA Alaska Regional Office, Airports Division Regional Director, is offering to consult on concerns that uniquely or significantly affect your Tribe related to the potential action described below. This is being completed pursuant to Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments" and FAA's Order 1210.20 "American Indian and Alaska Native Tribal Consultation Policy and Procedures" is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

Early identification of Tribal concerns will allow the FAA and the airport owner and operator to consider ways to avoid and minimize potential impacts to Tribal resources and/or cultural practices as project planning and alternatives are developed and refined. We would be pleased to discuss details of the proposed project and its potential impacts with you.

Project Information

Project Background

This project has not been previously subject to any Section 106 consultation process.

Project Description

The proposed project would relocate local Alaska package sorting operations from the existing FedEx ANCA Facility to an adjacent area south of Taxiway U at ANC, including expansion of

an aircraft ramp to support feeder aircraft relocated from the existing facility. The relocation of the local package sorting operations is warranted due to spatial and logistical constraints posed by FedEx's existing aircraft apron and facility (see Figure 2).

Area of Potential Effect (APE)
The Area of Potential Effect (APE) is the area where earthmoving activities would occur (see Figure 3).

Identification Efforts
Stephen R. Braund & Associates (SRB&A) conducted literature reviews (both pre-field and post-field) to inform the methods, results, analysis, and discussion sections of the Cultural Resources Technical Report (see Attachment A). The goals of the literature review are to characterize the geographic and social landscape, establish a general cultural chronology of human habitation in the region, and describe the known cultural resources that exist in the project area. SRB&A examined books, articles, and other materials related to archaeology, anthropology, ethnohistory, and associated disciplines (e.g., geomorphology, history) to update knowledge of the region, particularly as it relates to the project area. SRB&A's historic context results summarizes information and events from precontact times up through a time period ending 50 years from the present (e.g., 1970s) because 50 years is generally regarded as an acceptable cut off point between historical and more modern events.

SRB&A also reviewed the Alaska Department of Natural Resources (ADNR), Office of History and Archaeology (OHA) Integrated Business Suite (IBS) AHRS database in order to identify previously documented cultural, archaeological, and historic sites, and determine the extent and results of previous cultural resource survey efforts within the project area. The AHRS database contains reported historic and prehistoric sites that have been recorded on state, federal and private lands in Alaska and is maintained by the OHA. The inventory archives the locations and associated documentation for previously identified objects, structures, buildings, sites, districts, and travel routes under the general provision that they be over 50 years old.

Additional Identification Efforts
Field Survey
SRB&A's survey methods are aimed at collecting adequate information to locate, identify, and describe archaeological and/or historic resources encountered during a survey. This is generally accomplished by means of targeted pedestrian survey of high potential areas and pedestrian survey of low and moderate potential areas as crews navigate between high potential locations. Subsurface shovel testing is discretionary and may be conducted in high-potential areas that display evidence of substantial sediment accumulation or suggest the presence of subsurface cultural deposits. Encountered sites are documented through both paper forms, notebooks, and photographs, as well as detailed GPS data, consistent with industry standard practices. SRB&A's field survey and analysis includes:

- targeted pedestrian survey of high potential landforms in the Project area as identified through SRB&A's in-field assessment for archaeological or historical potential, with transects spaced between 3 feet and 33 feet (1 meter [m] to 10m) (depending on the landform size);

- pedestrian survey of low and moderate potential areas as crews navigate between high potential locations with transects spaced no more than 49ft (15m) apart;
- discretionary subsurface testing 20 inches (in) x 20in (50 centimeter [cm] x 50cm), with excavated sediment screened through 1/4in hardware mesh;
- documentation of daily survey activities through field notes, photographs, and GPS tracks;
- documentation of sites through paper forms, notebooks, photographs, and detailed GPS data;
- post-field analysis of identified cultural resources and artifacts; and
- detailed reporting of the survey results and analysis of cultural resource sites identified.

GPS Data Collection

SRB&A field crews used a mapping-grade GPS unit with sub-meter accuracy (Trimble™ TDC600 with R1 Global Navigation Satellite System [GNSS] receiver) to collect precise spatial data during field surveys. The mapping-grade GPS was used to record:

- Survey tracks of each crew member
- Photo points
- Feature points (individual artifacts, cairns, hearths)
- Feature lines and polygons (tent rings, surface depressions, cache pits)
- Site polygons (preliminary boundaries of identified sites based on landform extent, distribution of
- cultural material, or other factors)
- Subsurface tests (both positive and negative)

Site Documentation

In order to determine if previously undocumented cultural resources eligible for listing in the National Register of Historic Places (NRHP) are present within the Project area, SRB&A conducted a pedestrian survey of the project area, which includes discretionary subsurface testing, and documents and evaluates any previously unrecorded cultural resources identified. SRB&A's evaluation level of effort for site documentation included:

- site, artifact, and subsurface test locations recorded in photographs, fieldnotes, and GPS
- waypoints;
- metal detector sweeps at possible historic features to identify historic artifacts;
- mapping of visible features, artifacts, and subsurface test placements;
- photographs of the site, features, and artifacts;
- descriptions of artifact provenience, type, and the distribution of cultural materials and any associated organic samples;
- chronology (e.g., radiocarbon analysis, law of superposition/site occupation analysis, or typological analysis of artifacts); and
- preliminary assessment of site formation and site integrity based on stratigraphy and other site characteristics.

The Archaeologist-Cultural Resources Specialist (PQI) at SRB&A believes that this level of identification is sufficient for this project.

Finding of Effect
The terrain in the project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings. The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and roadways. Because these portions of the project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. In summary, SRB&A's pedestrian field survey of the project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Based on the results of SRB&A's literature review of previous surveys and known AHRS sites and SRB&A's field survey of the project area, SRB&A recommends that the FAA make a determination of "No Historic Properties Affected" (36 CFR 800.4[d][1]) for the proposed project.

Consulting Parties
Concurrence from SHPO on the "No Historic Properties Affected" has been requested. Government-to-Government Consultation has also been submitted to the Eklutna Native Village and the Chickaloon Native Village.

FAA Contact Information
If you wish to provide comments related to this proposed project or engage in consultation with Ms. Warden, please contact **Kendall Campbell, Regional Tribal Consultation Official**, at the address above, at 907-271-5030, or by e-mail at kendall.d.campbell@faa.gov.

Sincerely,

Kendall Campbell
Regional Tribal Consultation Official

Enclosures:

Figure 1: Location and Vicinity Map.
Figure 2: Proposed Project
Figure 3: Area of Potential Effects Map.

Attachment 1: Cultural Resources Technical Report

Cc:

Lisa Wade, Chickaloon Native Village, Executive Director
Jessica Winnestaffer, Chickaloon Native Village, Environmental Stewardship Coordinator
Thomas Johnston, DOT&PF, Regional Environmental Manager

Figure 1: Project Location

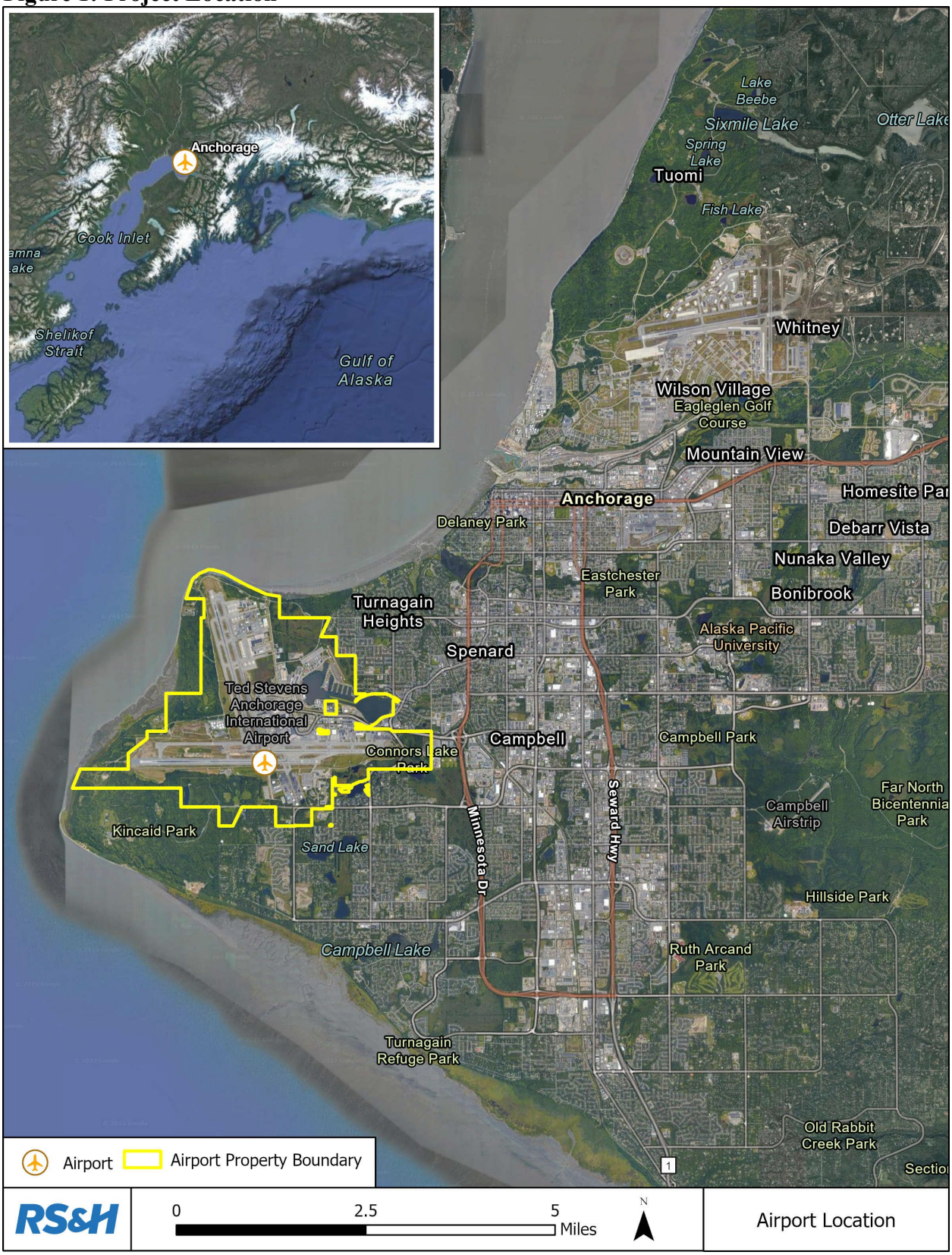


Figure 2: Proposed Project

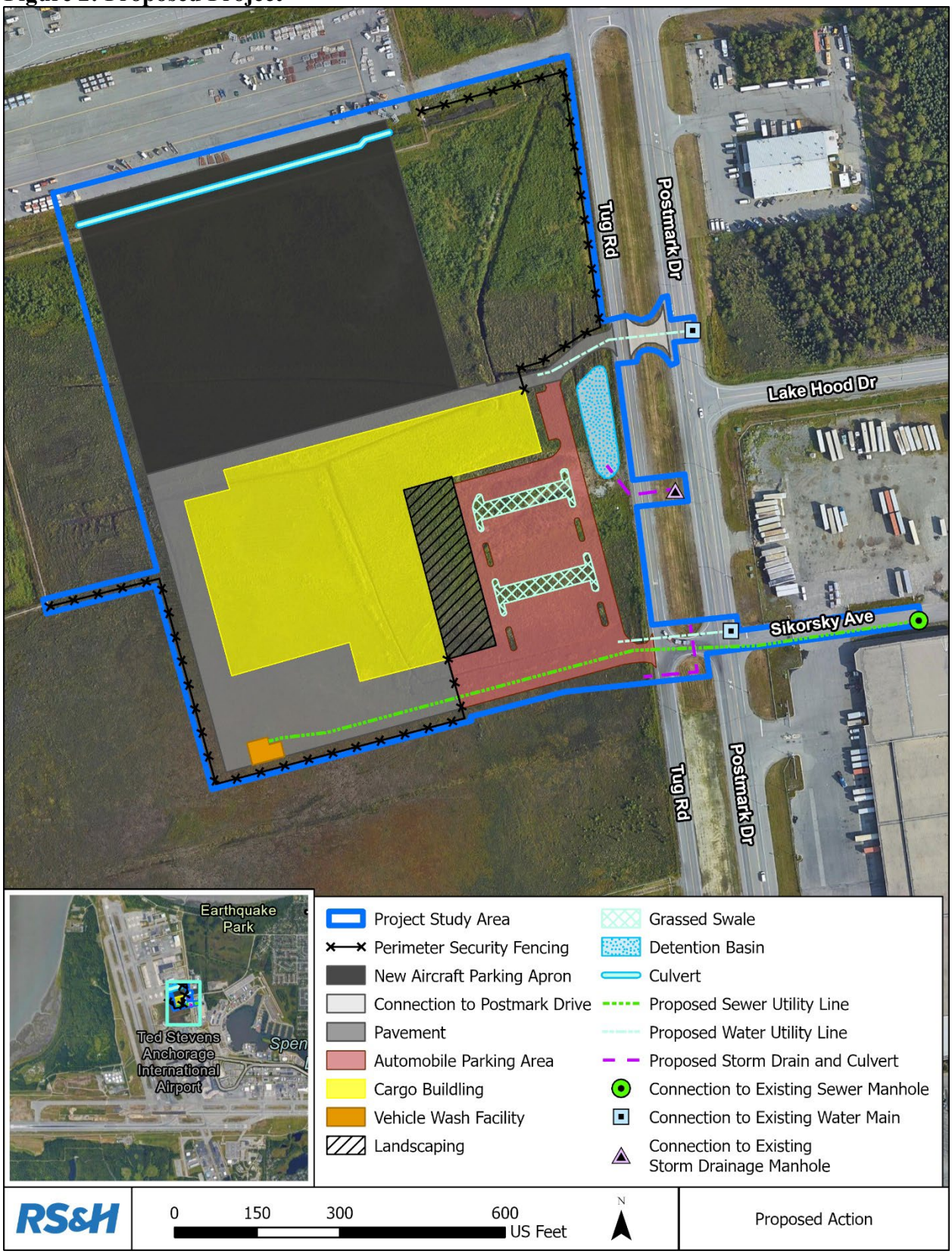
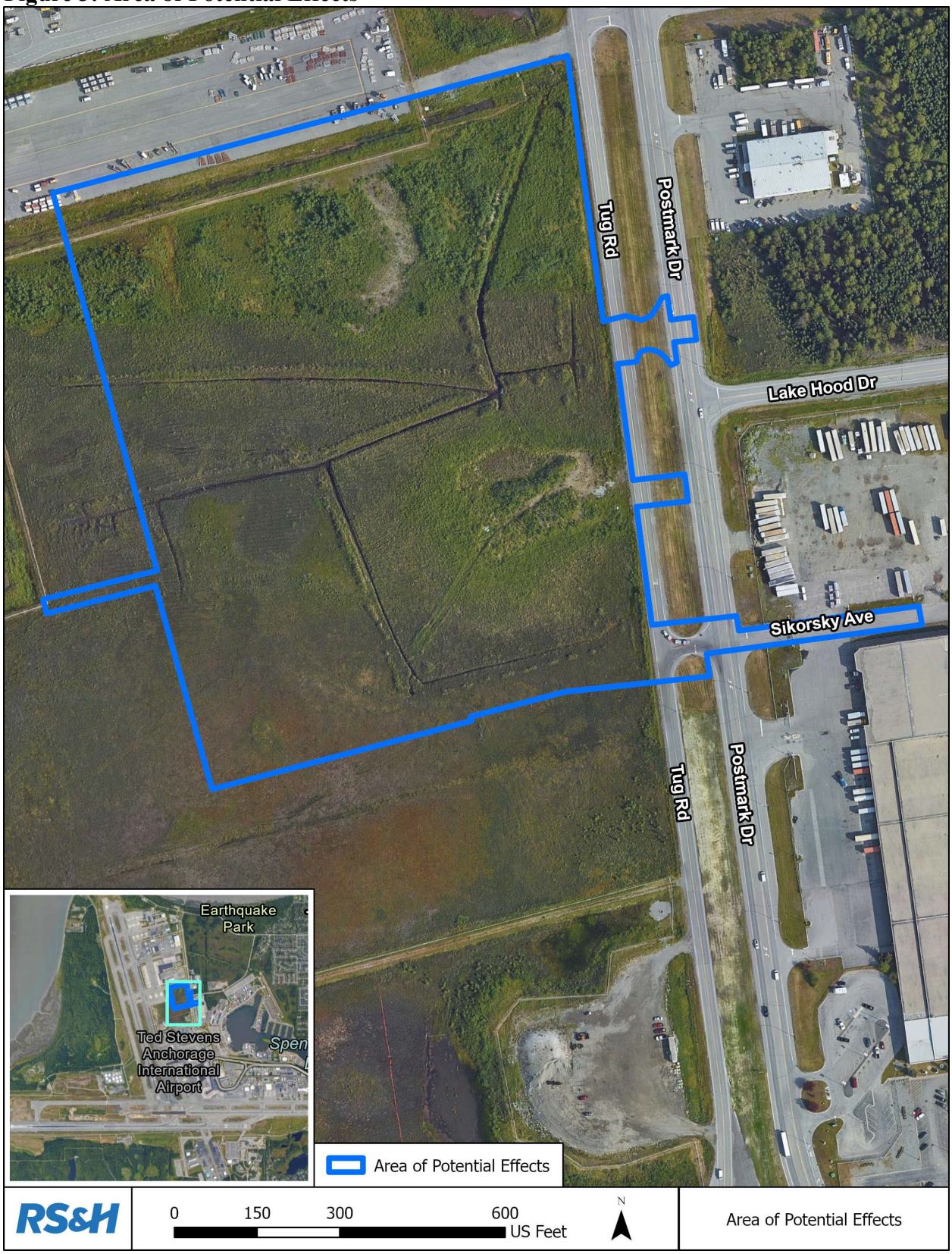


Figure 3: Area of Potential Effects



ATTACHMENT 1: CULTURAL RESOURCES TECHNICAL REPORT

U.S. Department
of Transportation

**Federal Aviation
Administration**

AIRPORTS DIVISION

222 W. 7th Avenue, Box 14
Anchorage, Alaska
99513-7587

19 July 2023

President Leggett
Eklutna Native Village
26339 Eklutna Village Road
Chugiak, AK 99567

Dear President Leggett:

FedEx ANCA Facility, Anchorage, Alaska, Government-to-Government Consultation Initiation

FedEx, in cooperation with the State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the Alaskan Region Airports Division of the Federal Aviation Administration (FAA), is proposing to expand the FedEx ANCA Facility at Ted Stevens Anchorage International Airport (ANC) in Anchorage, Alaska.

We have determined that this proposed action is an "undertaking" subject to Section 106 of the National Historic Preservation Act. This proposed action is also subject to the National Environmental Policy Act (NEPA) and the FAA will be coordinating its review under Section 106 with the NEPA process. An Environmental Assessment (EA) has been initiated and is under development.

Consultation Initiation

With this letter, Ms. Kristi Warden, FAA Alaska Regional Office, Airports Division Regional Director, is offering to consult on concerns that uniquely or significantly affect your Tribe related to the potential action described below. This is being completed pursuant to Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments" and FAA's Order 1210.20 "American Indian and Alaska Native Tribal Consultation Policy and Procedures" is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

Early identification of Tribal concerns will allow the FAA and the airport owner and operator to consider ways to avoid and minimize potential impacts to Tribal resources and/or cultural practices as project planning and alternatives are developed and refined. We would be pleased to discuss details of the proposed project and its potential impacts with you.

Project Information

Project Background

This project has not been previously subject to any Section 106 consultation process.

Project Description

The proposed project would relocate local Alaska package sorting operations from the existing FedEx ANCA Facility to an adjacent area south of Taxiway U at ANC, including expansion of

an aircraft ramp to support feeder aircraft relocated from the existing facility. The relocation of the local package sorting operations is warranted due to spatial and logistical constraints posed by FedEx's existing aircraft apron and facility (see Figure 2).

Area of Potential Effect (APE)
The Area of Potential Effect (APE) is the area where earthmoving activities would occur (see Figure 3).

Identification Efforts
Stephen R. Braund & Associates (SRB&A) conducted literature reviews (both pre-field and post-field) to inform the methods, results, analysis, and discussion sections of the Cultural Resources Technical Report (see Attachment A). The goals of the literature review are to characterize the geographic and social landscape, establish a general cultural chronology of human habitation in the region, and describe the known cultural resources that exist in the project area. SRB&A examined books, articles, and other materials related to archaeology, anthropology, ethnohistory, and associated disciplines (e.g., geomorphology, history) to update knowledge of the region, particularly as it relates to the project area. SRB&A's historic context results summarizes information and events from precontact times up through a time period ending 50 years from the present (e.g., 1970s) because 50 years is generally regarded as an acceptable cut off point between historical and more modern events.

SRB&A also reviewed the Alaska Department of Natural Resources (ADNR), Office of History and Archaeology (OHA) Integrated Business Suite (IBS) AHRS database in order to identify previously documented cultural, archaeological, and historic sites, and determine the extent and results of previous cultural resource survey efforts within the project area. The AHRS database contains reported historic and prehistoric sites that have been recorded on state, federal and private lands in Alaska and is maintained by the OHA. The inventory archives the locations and associated documentation for previously identified objects, structures, buildings, sites, districts, and travel routes under the general provision that they be over 50 years old.

Additional Identification Efforts
Field Survey
SRB&A's survey methods are aimed at collecting adequate information to locate, identify, and describe archaeological and/or historic resources encountered during a survey. This is generally accomplished by means of targeted pedestrian survey of high potential areas and pedestrian survey of low and moderate potential areas as crews navigate between high potential locations. Subsurface shovel testing is discretionary and may be conducted in high-potential areas that display evidence of substantial sediment accumulation or suggest the presence of subsurface cultural deposits. Encountered sites are documented through both paper forms, notebooks, and photographs, as well as detailed GPS data, consistent with industry standard practices. SRB&A's field survey and analysis includes:

- targeted pedestrian survey of high potential landforms in the Project area as identified through SRB&A's in-field assessment for archaeological or historical potential, with transects spaced between 3 feet and 33 feet (1 meter [m] to 10m) (depending on the landform size);

- pedestrian survey of low and moderate potential areas as crews navigate between high potential locations with transects spaced no more than 49ft (15m) apart;
- discretionary subsurface testing 20 inches (in) x 20in (50 centimeter [cm] x 50cm), with excavated sediment screened through 1/4in hardware mesh;
- documentation of daily survey activities through field notes, photographs, and GPS tracks;
- documentation of sites through paper forms, notebooks, photographs, and detailed GPS data;
- post-field analysis of identified cultural resources and artifacts; and
- detailed reporting of the survey results and analysis of cultural resource sites identified.

GPS Data Collection

SRB&A field crews used a mapping-grade GPS unit with sub-meter accuracy (Trimble™ TDC600 with R1 Global Navigation Satellite System [GNSS] receiver) to collect precise spatial data during field surveys. The mapping-grade GPS was used to record:

- Survey tracks of each crew member
- Photo points
- Feature points (individual artifacts, cairns, hearths)
- Feature lines and polygons (tent rings, surface depressions, cache pits)
- Site polygons (preliminary boundaries of identified sites based on landform extent, distribution of
- cultural material, or other factors)
- Subsurface tests (both positive and negative)

Site Documentation

In order to determine if previously undocumented cultural resources eligible for listing in the National Register of Historic Places (NRHP) are present within the Project area, SRB&A conducted a pedestrian survey of the project area, which includes discretionary subsurface testing, and documents and evaluates any previously unrecorded cultural resources identified. SRB&A's evaluation level of effort for site documentation included:

- site, artifact, and subsurface test locations recorded in photographs, fieldnotes, and GPS
- waypoints;
- metal detector sweeps at possible historic features to identify historic artifacts;
- mapping of visible features, artifacts, and subsurface test placements;
- photographs of the site, features, and artifacts;
- descriptions of artifact provenience, type, and the distribution of cultural materials and any associated organic samples;
- chronology (e.g., radiocarbon analysis, law of superposition/site occupation analysis, or typological analysis of artifacts); and
- preliminary assessment of site formation and site integrity based on stratigraphy and other site characteristics.

The Archaeologist-Cultural Resources Specialist (PQI) at SRB&A believes that this level of identification is sufficient for this project.

Finding of Effect
The terrain in the project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings. The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and roadways. Because these portions of the project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. In summary, SRB&A's pedestrian field survey of the project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Based on the results of SRB&A's literature review of previous surveys and known AHRS sites and SRB&A's field survey of the project area, SRB&A recommends that the FAA make a determination of "No Historic Properties Affected" (36 CFR 800.4[d][1]) for the proposed project.

Consulting Parties
Concurrence from SHPO on the "No Historic Properties Affected" has been requested. Government-to-Government Consultation has also been submitted to the Knik Tribal Council and the Chickaloon Native Village.

FAA Contact Information
If you wish to provide comments related to this proposed project or engage in consultation with Ms. Warden, please contact **Kendall Campbell, Regional Tribal Consultation Official**, at the address above, at 907-271-5030, or by e-mail at kendall.d.campbell@faa.gov.

Sincerely,

Kendall Campbell
Regional Tribal Consultation Official

Enclosures:

Figure 1: Location and Vicinity Map.
Figure 2: Proposed Project
Figure 3: Area of Potential Effects Map.

Attachment 1: Cultural Resources Technical Report

Cc:

Faith Rukovishnikoff, Eklutna Native Village, Tribal Administrator
Thomas Johnston, DOT&PF, Regional Environmental Manager

Figure 1: Project Location

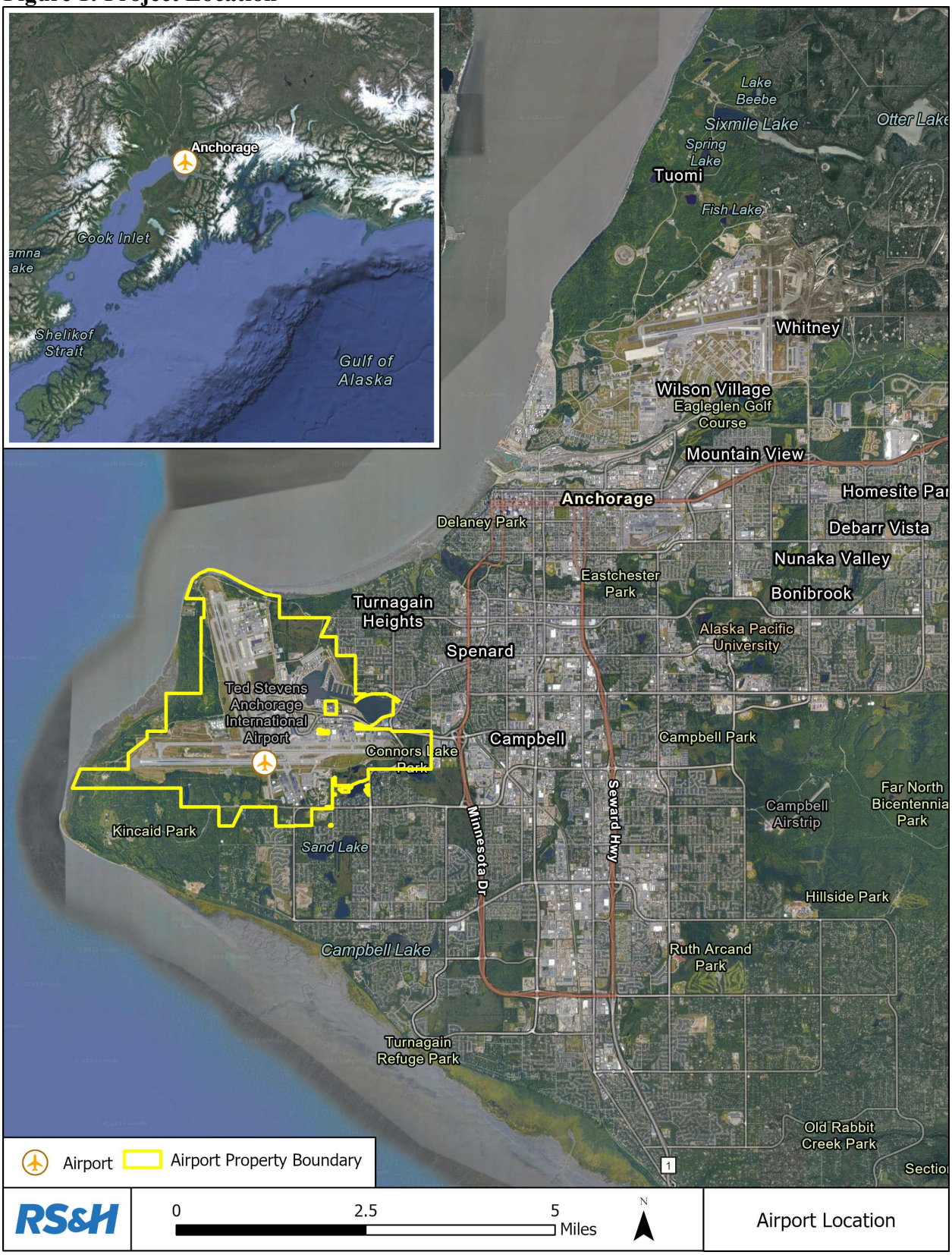


Figure 2: Proposed Project

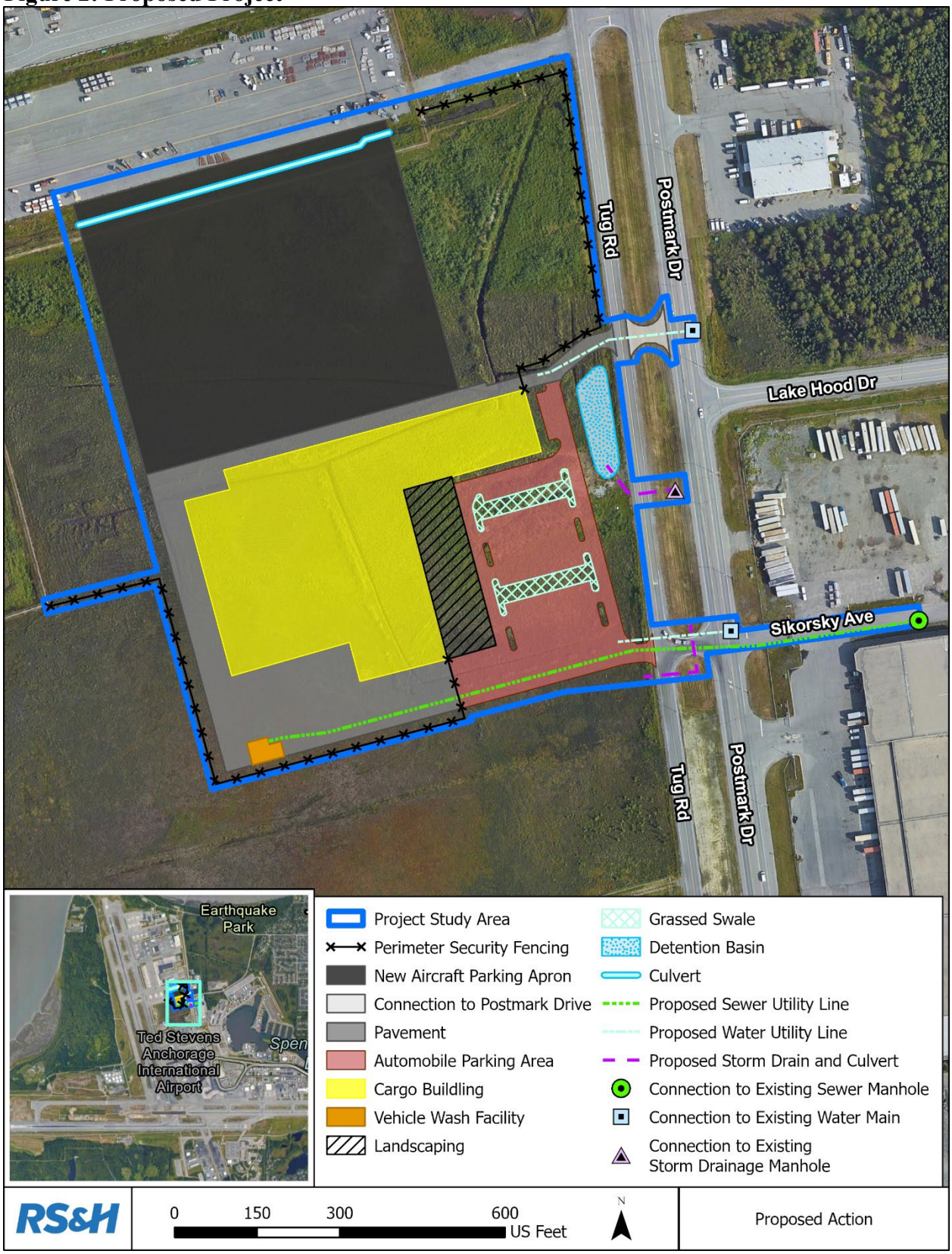
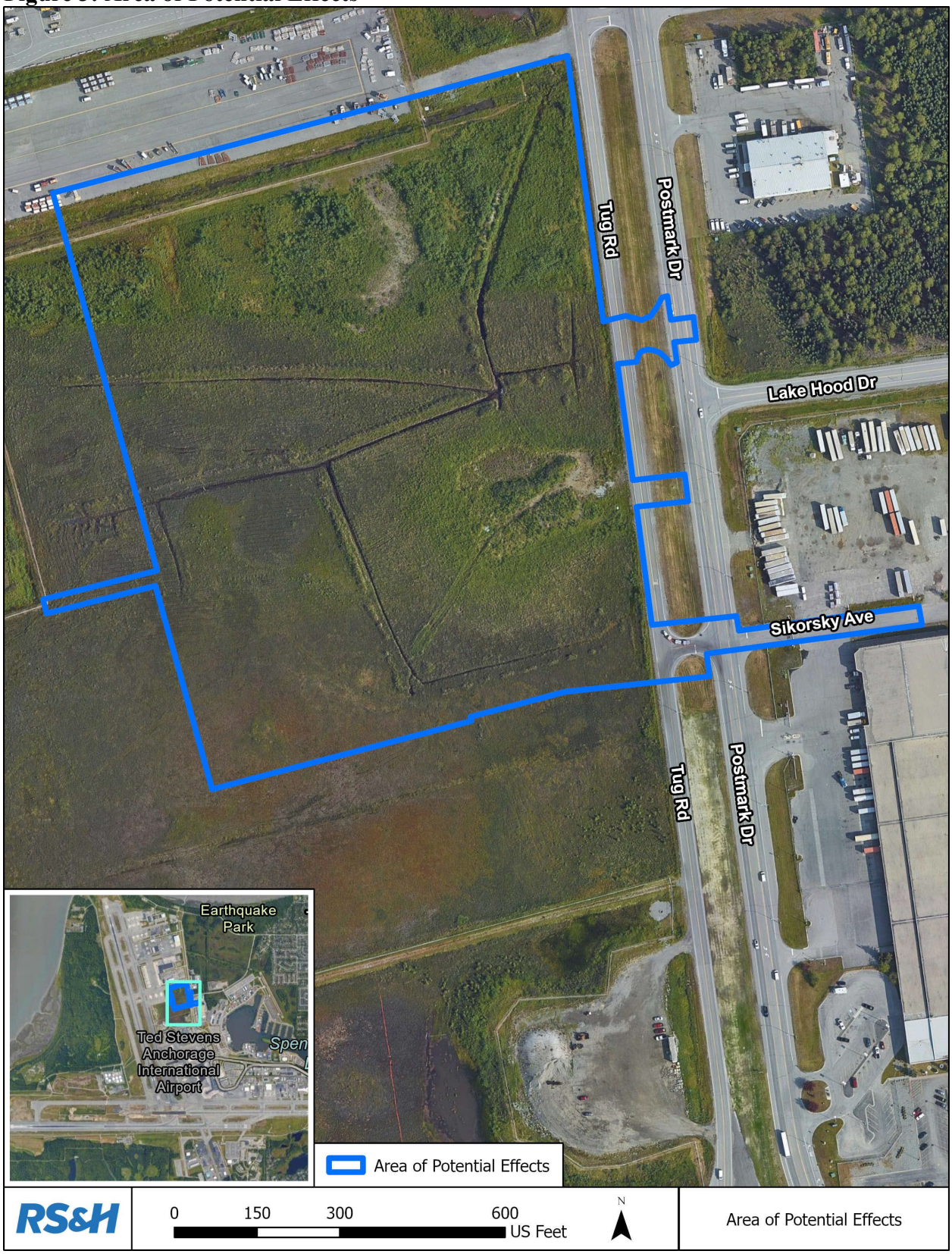


Figure 3: Area of Potential Effects



ATTACHMENT 1: CULTURAL RESOURCES TECHNICAL REPORT

U.S. Department
of Transportation

**Federal Aviation
Administration**

AIRPORTS DIVISION

222 W. 7th Avenue, Box 14
Anchorage, Alaska
99513-7587

19 July 2023

Megan Pierce
Knik Tribal Council
P.O. Box 871565
Wasilla, AK 99687

Dear Ms. Pierce:

FedEx ANCA Facility, Anchorage, Alaska, Government-to-Government Consultation Initiation

FedEx, in cooperation with the State of Alaska Department of Transportation and Public Facilities (DOT&PF) and the Alaskan Region Airports Division of the Federal Aviation Administration (FAA), is proposing to expand the FedEx ANCA Facility at Ted Stevens Anchorage International Airport (ANC) in Anchorage, Alaska.

We have determined that this proposed action is an "undertaking" subject to Section 106 of the National Historic Preservation Act. This proposed action is also subject to the National Environmental Policy Act (NEPA) and the FAA will be coordinating its review under Section 106 with the NEPA process. An Environmental Assessment (EA) has been initiated and is under development.

Consultation Initiation

With this letter, Ms. Kristi Warden, FAA Alaska Regional Office, Airports Division Regional Director, is offering to consult on concerns that uniquely or significantly affect your Tribe related to the potential action described below. This is being completed pursuant to Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments" and FAA's Order 1210.20 "American Indian and Alaska Native Tribal Consultation Policy and Procedures" is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect Tribes.

Early identification of Tribal concerns will allow the FAA and the airport owner and operator to consider ways to avoid and minimize potential impacts to Tribal resources and/or cultural practices as project planning and alternatives are developed and refined. We would be pleased to discuss details of the proposed project and its potential impacts with you.

Project Information

Project Background

This project has not been previously subject to any Section 106 consultation process.

Project Description

The proposed project would relocate local Alaska package sorting operations from the existing FedEx ANCA Facility to an adjacent area south of Taxiway U at ANC, including expansion of

an aircraft ramp to support feeder aircraft relocated from the existing facility. The relocation of the local package sorting operations is warranted due to spatial and logistical constraints posed by FedEx's existing aircraft apron and facility (see Figure 2).

Area of Potential Effect (APE)
The Area of Potential Effect (APE) is the area where earthmoving activities would occur (see Figure 3).

Identification Efforts
Stephen R. Braund & Associates (SRB&A) conducted literature reviews (both pre-field and post-field) to inform the methods, results, analysis, and discussion sections of the Cultural Resources Technical Report (see Attachment A). The goals of the literature review are to characterize the geographic and social landscape, establish a general cultural chronology of human habitation in the region, and describe the known cultural resources that exist in the project area. SRB&A examined books, articles, and other materials related to archaeology, anthropology, ethnohistory, and associated disciplines (e.g., geomorphology, history) to update knowledge of the region, particularly as it relates to the project area. SRB&A's historic context results summarizes information and events from precontact times up through a time period ending 50 years from the present (e.g., 1970s) because 50 years is generally regarded as an acceptable cut off point between historical and more modern events.

SRB&A also reviewed the Alaska Department of Natural Resources (ADNR), Office of History and Archaeology (OHA) Integrated Business Suite (IBS) AHRS database in order to identify previously documented cultural, archaeological, and historic sites, and determine the extent and results of previous cultural resource survey efforts within the project area. The AHRS database contains reported historic and prehistoric sites that have been recorded on state, federal and private lands in Alaska and is maintained by the OHA. The inventory archives the locations and associated documentation for previously identified objects, structures, buildings, sites, districts, and travel routes under the general provision that they be over 50 years old.

Additional Identification Efforts
Field Survey
SRB&A's survey methods are aimed at collecting adequate information to locate, identify, and describe archaeological and/or historic resources encountered during a survey. This is generally accomplished by means of targeted pedestrian survey of high potential areas and pedestrian survey of low and moderate potential areas as crews navigate between high potential locations. Subsurface shovel testing is discretionary and may be conducted in high-potential areas that display evidence of substantial sediment accumulation or suggest the presence of subsurface cultural deposits. Encountered sites are documented through both paper forms, notebooks, and photographs, as well as detailed GPS data, consistent with industry standard practices. SRB&A's field survey and analysis includes:

- targeted pedestrian survey of high potential landforms in the Project area as identified through SRB&A's in-field assessment for archaeological or historical potential, with transects spaced between 3 feet and 33 feet (1 meter [m] to 10m) (depending on the landform size);

- pedestrian survey of low and moderate potential areas as crews navigate between high potential locations with transects spaced no more than 49ft (15m) apart;
- discretionary subsurface testing 20 inches (in) x 20in (50 centimeter [cm] x 50cm), with excavated sediment screened through 1/4in hardware mesh;
- documentation of daily survey activities through field notes, photographs, and GPS tracks;
- documentation of sites through paper forms, notebooks, photographs, and detailed GPS data;
- post-field analysis of identified cultural resources and artifacts; and
- detailed reporting of the survey results and analysis of cultural resource sites identified.

GPS Data Collection

SRB&A field crews used a mapping-grade GPS unit with sub-meter accuracy (Trimble™ TDC600 with R1 Global Navigation Satellite System [GNSS] receiver) to collect precise spatial data during field surveys. The mapping-grade GPS was used to record:

- Survey tracks of each crew member
- Photo points
- Feature points (individual artifacts, cairns, hearths)
- Feature lines and polygons (tent rings, surface depressions, cache pits)
- Site polygons (preliminary boundaries of identified sites based on landform extent, distribution of
- cultural material, or other factors)
- Subsurface tests (both positive and negative)

Site Documentation

In order to determine if previously undocumented cultural resources eligible for listing in the National Register of Historic Places (NRHP) are present within the Project area, SRB&A conducted a pedestrian survey of the project area, which includes discretionary subsurface testing, and documents and evaluates any previously unrecorded cultural resources identified. SRB&A's evaluation level of effort for site documentation included:

- site, artifact, and subsurface test locations recorded in photographs, fieldnotes, and GPS
- waypoints;
- metal detector sweeps at possible historic features to identify historic artifacts;
- mapping of visible features, artifacts, and subsurface test placements;
- photographs of the site, features, and artifacts;
- descriptions of artifact provenience, type, and the distribution of cultural materials and any associated organic samples;
- chronology (e.g., radiocarbon analysis, law of superposition/site occupation analysis, or typological analysis of artifacts); and
- preliminary assessment of site formation and site integrity based on stratigraphy and other site characteristics.

The Archaeologist-Cultural Resources Specialist (PQI) at SRB&A believes that this level of identification is sufficient for this project.

Finding of Effect
The terrain in the project area can be generally characterized as undifferentiated, featureless, low-lying, wetlands covered by mesic and hydric tundra, sedge and marsh grasses, alder, birch, and willow shrubs, and cottonwood, aspen, and birch saplings. The area is currently being used as a retention and drainage basin for water runoff from the surrounding airport infrastructure and roadways. Because these portions of the project area lack features and landforms, are poorly drained, and have a substrate with an age and depositional environment that is not conducive to containing or preserving cultural material, SRB&A excavated no shovel tests during the field survey. In summary, SRB&A's pedestrian field survey of the project area did not result in the identification of cultural resources. Assessment of landscape attributes, geomorphology, and level of previous disturbance of the area indicate that it has low potential for containing cultural resources.

Based on the results of SRB&A's literature review of previous surveys and known AHRS sites and SRB&A's field survey of the project area, SRB&A recommends that the FAA make a determination of "No Historic Properties Affected" (36 CFR 800.4[d][1]) for the proposed project.

Consulting Parties
Concurrence from SHPO on the "No Historic Properties Affected" has been requested. Government-to-Government Consultation has also been submitted to the Eklutna Native Village and the Chickaloon Native Village.

FAA Contact Information
If you wish to provide comments related to this proposed project or engage in consultation with Ms. Warden, please contact **Kendall Campbell, Regional Tribal Consultation Official**, at the address above, at 907-271-5030, or by e-mail at kendall.d.campbell@faa.gov.

Sincerely,

Kendall Campbell
Regional Tribal Consultation Official

Enclosures:

Figure 1: Location and Vicinity Map.
Figure 2: Proposed Project
Figure 3: Area of Potential Effects Map.

Attachment 1: Cultural Resources Technical Report

Cc:

President Al Tellman, Knik Tribal Council, President
Fran Seager-Boss, Knik Tribal Council, Cultural Resources Manager
Thomas Johnston, DOT&PF, Regional Environmental Manager

Figure 1: Project Location

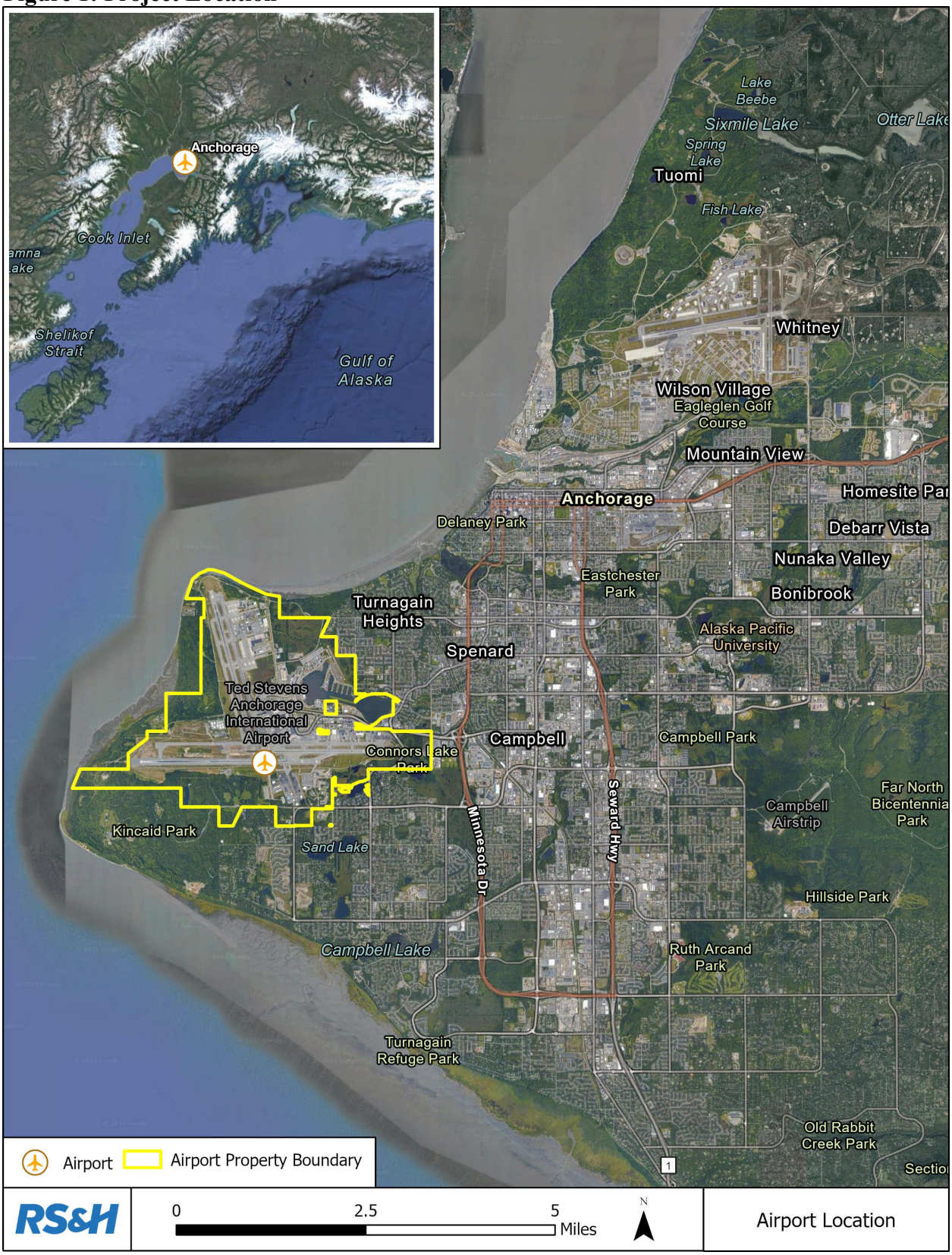


Figure 2: Proposed Project

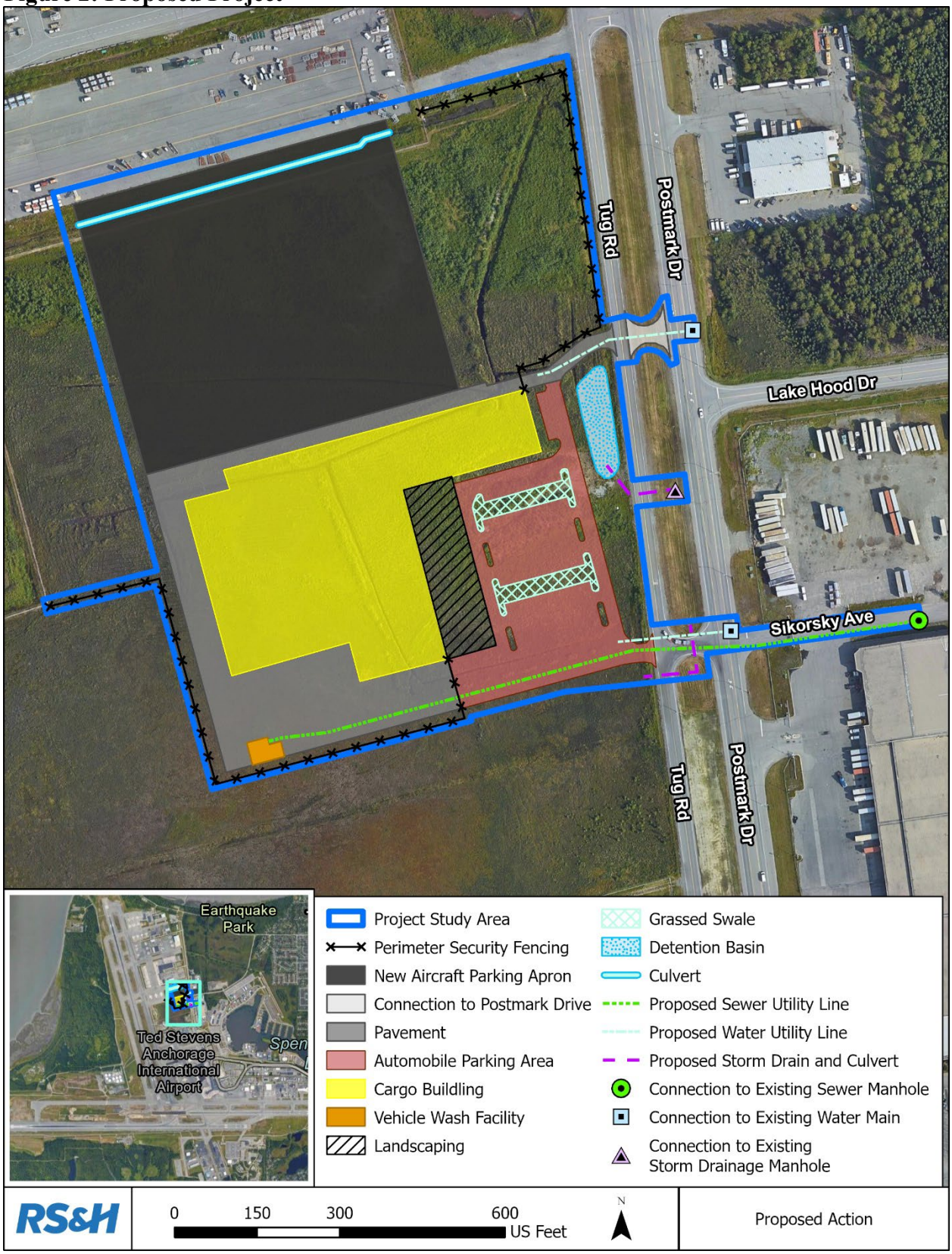
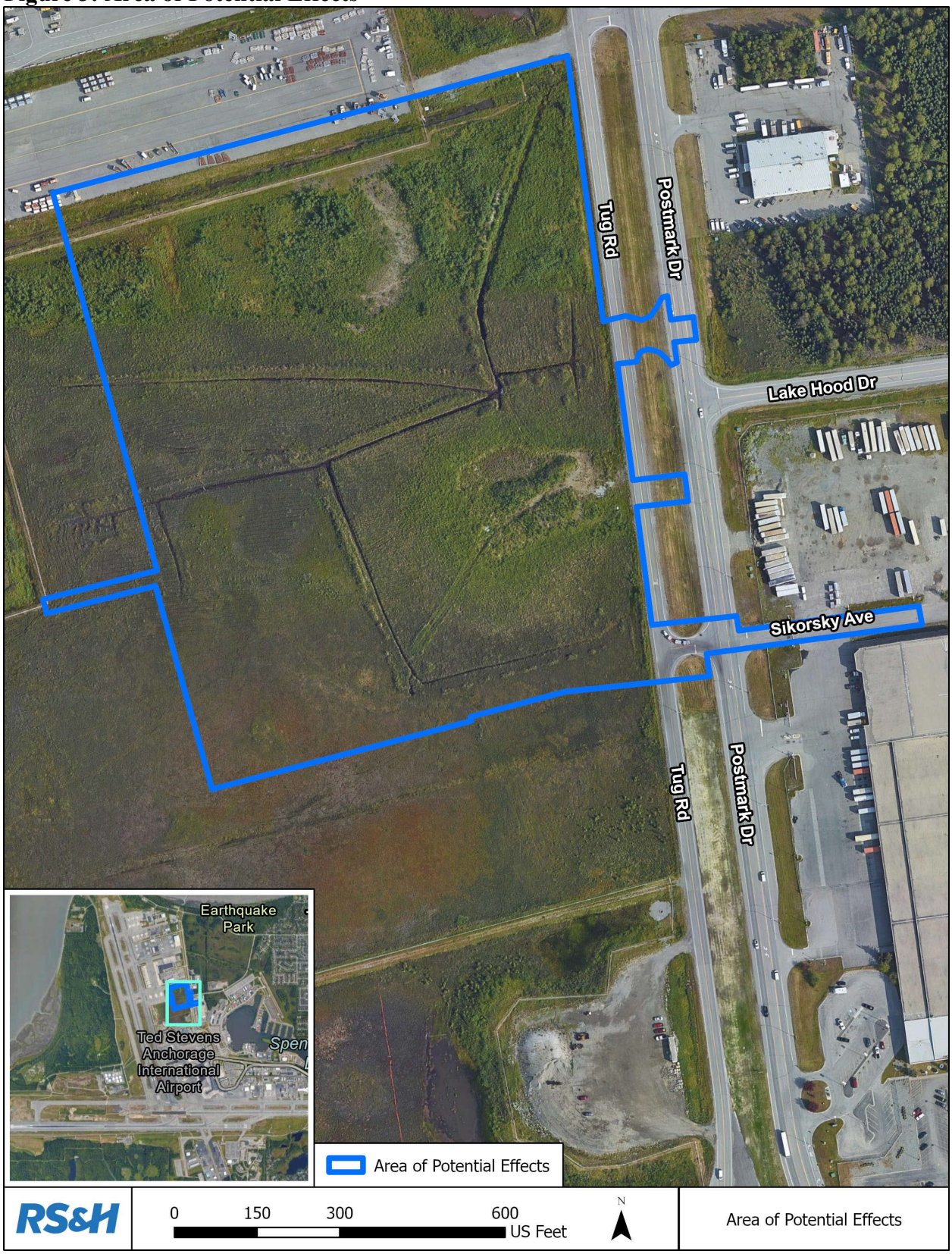


Figure 3: Area of Potential Effects



THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX D.

WETLAND SURVEY REPORT AND MITIGATION PLAN

THIS PAGE INTENTIONALLY LEFT BLANK

Wetland Investigation Report

Ted Stevens Anchorage International Airport Proposed FedEx Express Package Sort Facility/Feeder Ramp Relocation Project

Prepared for

FedEx Express
3620 Hacks Cross Road
Memphis, Tennessee 38125

Prepared by

EA Engineering, Science, and Technology, Inc., PBC
745 W. 4th Avenue, Suite 425
Anchorage, Alaska 99501
907-646-0206

December 2022
Version: DRAFT
EA Project No. 1536315

This page intentionally left blank

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

(Provided in Appendix A)

LIST OF APPENDIXES

LIST OF ACRONYMS AND ABBREVIATIONS

APT	Antecedent Precipitation Tool
AWMP	Anchorage Wetland Management Plan
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
ERDC/CRREL	U.S Army Engineering and Research Development Center Cold Regions Research and Engineering Laboratory
ft	foot (feet)
in.	inch(es)
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHWM	ordinary high water mark
PFAS	per- and polyfluoroalkyl substances
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOUS	Waters of the U.S.

PROJECT SUMMARY

Site Name: FedEx Express

Owner Name: Ted Stevens International Airport

Location: The study area encompasses a 21.9-acre parcel of land located south of the existing FedEx facility on North Tug Road to Hughes Avenue in Anchorage, Alaska.

Legal Description: SE ¼ of Section 28, T 13N, R 4W Anchorage Municipality, Anchorage, Alaska

Field Investigators: Melissa Becker, Courtney Pijanowski, and Kinkela Vicich

Wetlands Identified: Total: 15.113 acres

- (Three) Palustrine, Emergent, Temporarily/Seasonally Flooded (PEMA/C) – 14.313 acres
- (Two) Palustrine, Emergent, Semi permanently Flooded, Excavated (PEMFx) – 0.80 acre

1. INTRODUCTION

EA Engineering, Science, and Technology, Inc., PBC (EA) was contracted by FedEx Express to conduct a wetland investigation and prepare a report for a site (Site) located south of the existing FedEx Ship Center at Ted Stevens International Airport, in Anchorage, Alaska. The boundary of the investigation area is defined in Appendix A, Figure 1. This document summarizes the findings of the wetland investigation conducted between 23 September – 17 October 2022 in accordance with the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region (Version 2.0) (Alaska Regional Supplement)* (ERDC 2007).

The purpose of the study was to investigate and determine the presence of wetlands that may exist and to verify the presence of wetlands that were historically mapped by the Municipality of Anchorage via the *Anchorage Wetlands Management Plan* (2014), which serves as the basis for decision-making regarding wetland management by the Anchorage Assembly. The investigation defined wetlands and waterways that may be Waters of the United States (WOUS); which are subject to the U.S. Army Corps of Engineers' (USACE) regulatory jurisdiction under the Clean Water Act Section 404.

1.1 INVESTIGATION AREA

The investigation area encompasses a 21.9-acre parcel of land located south from the existing Federal Express facility on North Tug Road to Hughes Avenue within Ted Stevens International Airport in Anchorage, Alaska (see Appendix A, Figure 1). In 2007, a USACE permit (POA-2021-00209) was issued to drain areas of the parcel. The impacts of this action are still seen on the site. There are several drainage ditches crossing throughout the investigation area. An area with naturally higher topography along the eastern edge of the investigation area shows signs of disturbance from past excavation work and possible fill material. The ground slopes down away from the developed areas to the north and east to a large flat area.

2. METHODS

2.1 DESKTOP REVIEW

EA collected data from multiple resources prior to the field investigation to assist in identifying potential wetlands and/or waterways within the investigation. The desktop review was conducted using the Municipality of Anchorage Wetland Management Plan (AWMP), U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), U.S. Geological Survey (USGS) topographic maps, Natural Resources Conservation Service (NRCS) Web Soil Survey, USACE Antecedent Precipitation Tool (APT), National Oceanic and Atmospheric Administration (NOAA) climate data, as well as current and historic aerial imagery provided through Google Earth to identify potential Waters of the U.S. (WOUS), including wetlands, and areas historically prone to wetland development. The following is a summary of the desktop review.

2.1.1 Municipality of Anchorage Wetland Management Plan

EA utilized geospatial data for mapped wetland areas provided by the Municipality of Anchorage as a resource to confirm the presence or absence of wetlands on the site. The parcel is divided into mapped wetland and upland areas. The AWMP map depicts a large freshwater wetland area that covers approximately 15.25 acres of the southern portion of the investigation area. See Appendix A, Figure 2.

2.1.2 National Wetlands Inventory

The U.S. Fish and Wildlife Service National Wetlands Inventory indicates that most of the investigation area is Freshwater Emergent Wetland, with some Freshwater Forested/Shrub Wetland (USFWS 2020). The NWI map depicts three aquatic resources within the investigation area. The NWI resources are summarized below. See Appendix A, Figure 3.

- **Palustrine, Emergent/Scrub-Shrub, Persistent, Seasonally Flooded (PEM1/SS1C)** – The NWI map depicts a large emergent/scrub-shrub, seasonally flooded wetland comprising approximately half of the investigation area, mainly in the southwest portion.

- **Palustrine, Scrub-Shrub, Persistent, Needle-Leaved Evergreen, Broad-Leaved Deciduous, Seasonally Saturated (PSS4/1B)** – The NWI map depicts the above-described wetland transitioning into an emergent/scrub-shrub wetland in the southeast portion of the investigation area.

- **Palustrine, Scrub-Shrub, Broad-Leaved Deciduous/Emergent, Persistent, Seasonally Saturated (PSS1/EM1B)** – The NWI map depicts a scrub-shrub/emergent seasonally saturated wetland bordering the north and west boundaries of the large emergent/scrub-shrub wetland in the center of the investigation area.

2.1.3 Topographic Map

The USGS 2019 topographic map depicts a large wetland area comprising the majority of the investigation area. The investigation area is generally flat with a gentle slope from north to south. The approximate elevation of the investigation area is 100 feet above mean sea level. See Appendix A, Figure 4.

2.1.4 Soil Survey

The NRCS Web Soil Survey identified three soil units within the investigation area:

- 406— Cryorthents and Urban Land, 0 to 5 percent slopes
- 407— Cryorthents and Urban Land, 5 to 20 percent slopes
- 424—Icknuun peat, 0 to 3 percent slopes

According to the NRCS Anchorage Area Hydric Soils list, all the mapped soil units are considered hydric. See Appendix A, Figure 5.

2.1.5 Antecedent Precipitation

According to NOAA's APT, 2022 is currently ranked as Anchorage's fifth wettest year-to-date, with the wettest August and second wettest July on record creating non-typical site conditions, which could impact hydrology determinations. The APT indicates climatic conditions and precipitation based on a 30-day rolling total at the Site as of 22 September 2022 were not considered to be normal. This data implies that observations on 23 and 29 September and 17 October 2022 were made in "wetter than normal" conditions.

2.2 INVESTIGATION METHODS

The formal wetland investigation was conducted in accordance with the "Routine Determination" procedures outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual* and Alaska Regional Supplement (ERDC 2007). This procedure involves a three-parameter approach that includes the identification of hydrophytic vegetation, hydric soil, and wetland hydrology. All three criteria are generally required for an area to be considered a wetland. Sample locations were determined in consultation with USACE using aerial imagery and visual observations of areas that supported a hydrophytic plant community, where applicable, as well as characteristics of wetland hydrology. The evaluations conducted were based on the following definitions and primary field indicators.

2.2.1 Hydrophytic Vegetation

Hydrophytic plants are adapted to live in areas where the soil saturation and/or inundation is of sufficient duration during the growing season to influence the plant community composition. To meet the hydrophytic vegetation parameter, it must be determined that the site's present vegetation is composed primarily of hydrophytic plant species. Plant species that are commonly found in wetlands under normal environmental conditions in Alaska have been categorized by

USACE in in the *2020 Alaska Regional Wetland Plant List* (USACE 2020) and the *Common Plants in the Anchorage Area* List (USACE 2017). Each plant listed is categorized by a regional wetland indicator or "hydrophytic" status in one of five categories as provided in Table 2-1.

Table 2-1. Wetland Plant Indicator Status

Wetland Indicator	Abbreviation	Probability to Occur in Wetlands
Obligate Wetland	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands
Facultative	FAC	Occur in wetlands or non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands
Obligate Upland	UPL	Almost never occur in wetlands

Source: U.S Army Engineering and Research Development Center Cold Regions Research and Engineering Laboratory (ERDC/CRREL) TR-12-11 - The National Wetland Plant List (ERDC 2012).

The dominance and/or prevalence test is be used to determine if the area meets the hydrophytic vegetation parameter. An area is considered to have a dominance of hydrophytic vegetation if greater than 50 percent of the dominant plant species are OBL, FACW, or FAC on the regional list of plant species that occur in wetlands. The prevalence index, a weighted-average wetland indicator status of all species in the sample, was also used and must score lower than 3.0 to indicate hydrophytic vegetation. Dominant and non-dominant species were noted on field data forms, along with their wetland indicator status, stratum, and cover percent (Appendix B).

2.2.2 Hydric Soils

Hydric soils are formed under conditions of saturation, flooding, or ponding long enough during the growing season that the upper part of the soil profile develops anaerobic conditions. The anaerobic conditions create the accumulation of organic matter and the reduction, translocation, or accumulation of iron and other reducible elements.

Soil profiles were collected using a sharpshooter/spade from a depth ranging from 0 to 20 inches (in.). The soil core's value/chroma was then compared to those provided in the Munsell Soil Color Charts (Munsell Color 2000). This value, along with a description of the soil texture or consistency, was recorded on the field data forms. Features and/or indicators of hydric soil conditions that were identifiable when sampling were also noted on field data forms (Appendix B).

2.2.3 Wetland Hydrology

Wetland hydrology is defined by the presence of water at or above the ground surface for sufficiently long periods during the growing season. Wetland hydrology supplies the moisture required to support wetland vegetation and creates conditions necessary for the formation of hydric soil characteristics. A variety of information sources may be used to help identify potential areas with wetland hydrology. These sources include topographic maps to assist in locating low lying areas or drainage courses; aerial photographs to identify areas of ponded water; and soil surveys to identify soils in poorly drained hydrologic groups.

Features and/or indicators of wetland hydrology that were identified when sampling were noted on field data forms (Appendix B).

2.2.4 Wetland Area Designation

Field-delineated wetland boundaries were determined based on the USACE wetland delineation process by completing paired sample points, where possible, and investigating vegetation, soil, and hydrology parameters. Information from the soil samples was combined with plant species observations and hydrological characteristics to determine the wetland/upland boundary of present wetlands. Note that in areas where standing water was up to a foot deep, USACE recommended to assume soils were hydric if the area had hydrophytic vegetation and wetland hydrology, thus classifying the area as a wetland. Routine wetland determination field data forms were used to summarize observations on vegetation, soils, and hydrology for both the wetland and upland sample points. Copies of these data forms are included in Appendix B. Site photographs were taken to document field conditions at the time of the investigation and are included in Appendix C. Sample Points are shown in Appendix A, Figure 6.

3. RESULTS

3.1 FIELD INVESTIGATION

EA conducted a field investigation on 23 and 29 September 2022, and 17 October 2022 to determine if wetland areas were present in the previously mapped uplands and if the area with possible fill material had been impacted. Seven sample sites were chosen throughout the parcel based on their representation of the areas in question. At locations without the presence of standing water, soil sample points were collected and a wetland determination data form (Appendix B) was completed in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the *Alaska Regional Supplement* (ERDC 2007). In locations where standing water was present the area was assessed by observing vegetation and hydrology. EA scientists confirmed the Municipality of Anchorage's wetland determinations of 13.88 acres and identified three additional wetland areas, totaling 0.687 acres within the investigation area. In addition, an area possibly impacted by previous fill and construction activities within AWMP designated wetland areas was determined to be degraded upland, totaling 0.90 acres. Documentation for the wetland investigation findings is included in Appendix B and Appendix C of this document. The following sections provide a brief narrative for the identified wetlands.

3.1.1 Wetland Areas and Waterways Identified

Wetland and waterway communities were characterized and described using the Cowardin classification system (Cowardin et al. 1979). This system classifies wetlands by hydrologic system, principal vegetative cover, flooding frequency and duration, and substrate, where appropriate. The following sections describe background information and the results of the field investigation. Five areas meeting all three criteria for wetland classification were identified in the investigation area and no waterways. The location of the wetlands are mapped and displayed in Appendix A, Figure 6. Portions of some wetlands may extend beyond the investigation area; however, only wetland boundaries within the investigation area were delineated.

Table 3-1. Wetlands Delineated within Investigation Area Boundary

Wetland Number	Sample ID	Cowardin Class	Area (acres)
WL-1 (AWMP Wetland)	SP-1, SP-2, SP-6, and SP-7	PEMA/C	13.88
WL-2	SP-4	PEMA/C	0.217
WL-3	SP-3 and SP-5	PEMA/C	0.216
WL-4	Drainage Ditch	PEMFx	0.546
WL-5	Drainage Ditch	PEMFx	0.254
		Total:	15.113

Palustrine, Emergent, Temporarily/Seasonally Flooded (PEMA/C)
Palustrine, Emergent, Semi-permanently Flooded, Excavated (PEMFx)

The following provides a brief narrative for the identified wetlands:

PEMA/C Wetland 1 (WL-1)
PEMA/C wetland occupying the southern three-quarters of the investigation area, with the exception of an isolated upland area on the eastern boundary. Three sample points confirmed the presences of hydric soils, hydrophytic vegetation, and wetland hydrology. Soils consisted of heavy organics and peat materials throughout soil profiles. Canada bluejoint grass (*Calamagrostis canadensis*) and Labrador tea (*Rhododendron tomentosum*) were dominant vegetative species across the wetland area. High water tables and saturation were present at 1-7 in below the surface, indicating wetland hydrology. See Appendix C, Photos 3 - 4, and 9- 12.

PEMA/C Wetland 2 (WL-2)
PEMA/C wetland located in the northwest corner of the investigation area, approximately 27 feet north of the northern boundary of the main area of WL-1 within a depression. Dominant vegetative species included water sedge (*Carex aquatilis*), water horsetail (*Equisetum fluviatile*), and marsh cinquefoil (*Comarum palustre*), all of which are obligate wetland species. Alaska gleyed, Alaska Redox, and Alaska gleyed pores were all present as indicators of hydric soils. High water tables and saturation were present and surface water was pooled in about 15 percent ground cover of the plot, indicating wetland hydrology. See Appendix C, Photo 7.

PEMA/C Wetland 3 (WL-3)
PEMA/C wetland located in a depression in the northwest corner of the investigation area, approximately 60 feet east of WL-2. Dominant vegetative species included willows (*Salix barclayi*) and Canada bluejoint grass, both facultative species. Surface water was present throughout much of the area with depths up to six in. See Appendix C, Photos 5 - 8.

PEMFx Wetland 4 (WL-4)
Relic system of drainage ditches traversing the investigation area from north to south and east to west. These ditches are no longer in use but contained standing water at the time of investigation. These semi-permanently flooded, excavated ditches have no ordinary high water mark (OHWM)

or obvious flow pattern. Note that a portion of this wetland was delineated by USACE in 2021, as indicated on Figure 6.

PEMFx Wetland 5 (WL-5)
Relic drainage ditch adjacent to Taxiway-U, spanning the entire length (east to west) of the northern investigation boundary. The drainage ditch held standing water at the time of inspection. The drainage ditch had an OHWM ranging in width from 10 feet to 15 feet. Within the previous ditch area, water sedge, a wetland obligate sedge, was the dominant species, covering over 50 percent of the total area. Standing water, sometimes over 1.5 foot (ft) deep, was present throughout the entire ditch area. No particular flow pattern was visible. Standing sheen and iron bacteria precipitate were present throughout. See Appendix C, Photos 17 and 18.

4. CONCLUSION

4.1 RESULTS

All three wetland indicators (vegetation, soil, and hydrology) were clearly evident throughout the area mapped by the Municipality of Anchorage as wetlands, except for the section of land with a higher elevation impacted by possible fill/disturbance. This area may have been filled in the past or disrupted by construction activity.

The U.S. Environmental Protection Agency (EPA) provided comments during the initial permit application public notice that there were potential sections of the upland area, two adjacent concave landforms that appeared to be inundated, that should be classified as wetland instead of upland. Both concave landforms questioned by EPA were determined to be wetlands and were traced by global positioning system to accurately capture the area that should no longer be classified as upland. The small wetland to the west was determined to be 0.216 acre, while the adjacent wetland to its east was 0.217 acre. The drainage ditches (PEMFx wetlands) were determined in part by USACE in 2021, by EA after field investigation, and reclassified by EA after filed investigation total 0.80 acre of wetland. The total wetland area within the investigation boundary is 15.11 acres.

4.2 WETLAND FUNCTIONAL ASSESSMENT

The 2014 AWMP provides a detailed assessment of wetlands throughout Anchorage and categorizes designated wetlands according to resource value. Each wetland area listed in the AWMP has been evaluated for each of the four wetland functions: hydrology, habitat, species occurrence, and social function. The USACE has accepted the method and resulting designations are consistent with USACE policies and the Clean Water Act.

The wetlands within the investigation area are included in the AWMP as Site # 26D Postmark Drive West and is described by the Municipality of Anchorage as providing significant stormwater treatment and attenuation, as well as habitat for migratory and nesting birds. The assessment scores in all four functional categories lead to a classification of the site as “Class A”, which has the highest resource values.

Observations from the site visit show clear indications of disturbance. While “Class A” wetlands are considered to be most valuable in an undisturbed state, this site has experienced intense levels of disturbance over time, not accurately captured in its current classifications. Past permitted dredging, contamination of the water, and surrounding developments have not only reduced system connectivity but also severely impacted this area’s value to wildlife and the surrounding ecosystems. Contamination and location on airport grounds both severely reduce safety of preserving the area for migratory bird habitat, and the area is actively managed to reduce bird activity in the area. Water quality has been significantly reduced as it is considered part of a large area-wide per- and polyfluoroalkyl substance (PFAS) plume associated with a source approximately 1,000 ft south of the site, likely resulting from historical use of aqueous film forming foam at the airport and at the airport fire station facility. Soil and water samples collected from the proposed site and adjacent sites contain PFAS at levels above Alaska

Department of Environmental Conservation cleanup levels. In addition, some surficial soil samples from the proposed site contained diesel range organics or residual range organics exceeding Alaska Department of Environmental Conservation cleanup levels. It is evident that this piece of land can no longer be considered in an "undisturbed" state. In addition, Canada bluejoint grass (*Calamagrostis canadensis*), a species which indicates a non-naturalized area according to the AWMP, is a dominant species in the plant community of the investigation area. The wetland does not function as it did in the past and has undoubtedly been negatively impacted. The wetlands in the investigation area no longer hold the same value they once did when first classified as "Class A" wetlands in 1996.

5. REFERENCES

United States Army Corps of Engineers, Antecedent Precipitation Tool available at: https://github.com/jDeters-USACE/Antecedent-Precipitation-Tool/releases/tag/v1.0.19 Accessed November 2022.

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Final. January.

USACE. 2017. *Common Plants in the Anchorage Area.* 15 August.

USACE. 2020. *Alaska Regional Wetland Plant List.*

Google Earth. 2022. Anchorage Area 1982 through 2021. http://www.google.com/earth/ Accessed September 2022.

Municipality of Anchorage. 2014. *Anchorage Wetland Management Plan.* July.

Munsell Color (Firm). 2000. *Munsell Soil Color Charts*. New Windsor, New York.

U.S. Army Engineer Research and Development Center (ERDC) Cold Regions Research and Engineering Laboratory (CRREL). 2012. The National Wetland Plant List, ERDC/CRREL TR-12-11.

ERDC. 2007. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region (Version 2.0).* U.S. Army Engineer Research and Development Center, Vicksburg, MS.

U.S. Fish and Wildlife Service (USFWS). 2020. US Fish and Wildlife national Wetlands Inventory On-Line Mapper available at: http://www.fws.gov/wetlands/Data/mapper.html. Accessed September 2022.

United States Geological Survey (USGS). 7 ½ Minute Topographic Quadrangle Map. Database available at: https://apps.nationalmap.gov/downloader/#/productGroupSearch Accessed November 2022.

This page intentionally left blank

Appendix A

Figures

This page intentionally left blank

Legend

Project Area (Lease Area)

Map Date: 12/5/2022
Projection: WGS 1984 EPSG Alaska Polar Stereographic

N

0 80 160
US Feet

Data Sources:

FedEx Express Wetland Investigation
Ted Stevens Anchorage International Airport, Anchorage, Alaska

Investigation Area Boundary Map

Figure 1

Path: F:\Industrial & Other\Industrial\FedEx\1536312 - Fed Ex Wet Del\GIS\GIS\FedEx Wetland Delineation.aprx | 12/5/2022 | mdrelicharz

This page intentionally left blank.

Legend

- Project Area (Lease Area)
- Municipality of Anchorage Wetland Management Plan Wetland

Map Date: 12/5/2022
Projection: WGS 1984 EPSG Alaska Polar Stereographic

N

0 80 160
US Feet

Data Sources:
Municipality of Anchorage Wetland Management Plan

FedEx Express Wetland Investigation
Ted Stevens Anchorage International Airport, Anchorage, Alaska

Municipality of Anchorage Wetland Management Wetlands Map

Figure 2

This page intentionally left blank.

Legend

Project Area (Lease Area)

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

Map Date: 12/5/2022
Projection: WGS 1984 EPSG Alaska Polar Stereographic

N

0 80 160
US Feet

Data Sources:
Municipality of Anchorage Wetland Management Plan

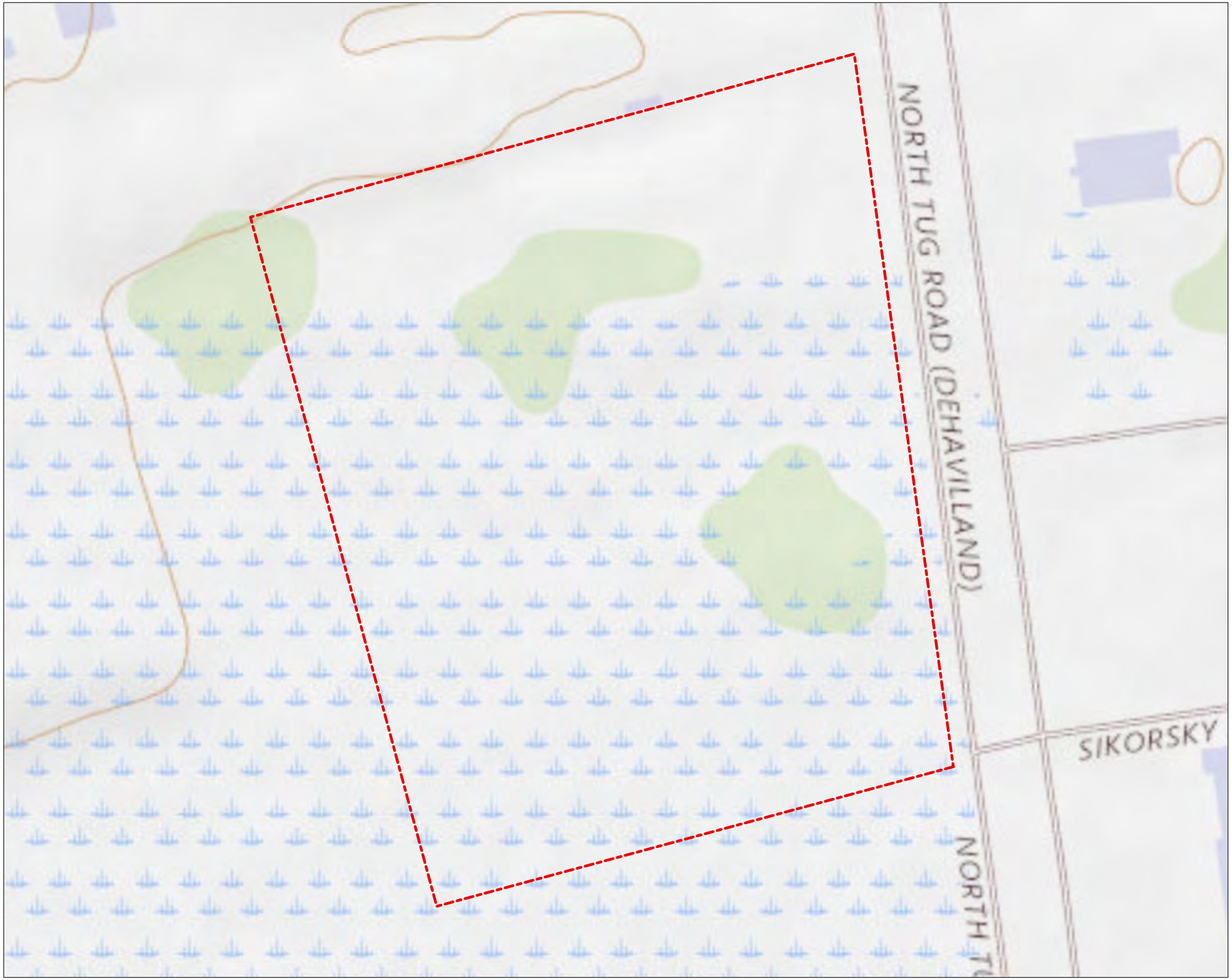
FedEx Express Wetland Investigation
Ted Stevens Anchorage International Airport, Anchorage, Alaska

National Wetland Inventory Map

Figure 3

Path: F:\Industrial & Other\Industrial\FedEx\1536312 - Fed Ex Wet Del\GIS\GIS\FedEx Wetland Delineation.aprx | 12/5/2022 | mdrelicharz

This page intentionally left blank.



Legend

Project Area (Lease Area)

Map Date: 12/5/2022
Projection: WGS 1984 EPSG Alaska Polar Stereographic

N

0 80 160
US Feet

Data Sources:
USGS Topographic Map: ESRI 2022

FedEx Express Wetland Investigation
Ted Stevens Anchorage International Airport, Anchorage, Alaska

USGS Topographic Map

Figure 4

Path: F:\Industrial & Other\Industrial\FedEx\1536312 - Fed Ex Wet Del\GIS\GIS\FedEx Wetland Delineation.aprx | 12/5/2022 | mdrelicharz

This page intentionally left blank.

Legend

Project Area (Lease Area)

Soil Unit

- 406 - Cryorthents and Urban Land, 0 to 5 percent slopes (Hydric)
- 407 - Cryorthents and Urban land, 5 to 20 percent slopes (Hydric)
- 424 - Icknuun peat, 0 to 3 percent slopes (Hydric)

Map Date: 12/5/2022
Projection: WGS 1984 EPSG Alaska Polar Stereographic

N

0 80 160
US Feet

Data Sources:
Web Soil Survey

FedEx Express Wetland Investigation
Ted Stevens Anchorage International Airport, Anchorage, Alaska

Soils Map

Figure 5

This page intentionally left blank.

Legend

- Project Area (Lease Area)
- Sample Point

Category

- PEMA/C - 14.313 ac
- PEMFx - 0.80 ac
- PEMFx - USACE Identified

Note: Portions of some wetlands may extend beyond the investigation area; however, only wetland boundaries within the investigation area were delineated.

Map Date: 12/12/2022
Projection: WGS 1984 EPSG Alaska Polar Stereographic

N

0 80 160
US Feet

Data Sources:

FedEx Express Wetland Investigation
Ted Stevens Anchorage International Airport,
Anchorage, Alaska

Delineated Wetlands and Waterways Map

Figure 6

Path: F:\Industrial & Other\Industrial\FedEx\1536312 - Fed Ex Wet Del\GIS\GIS\FedEx Wetland Delineation.aprx | 12/12/2022 | mdrelicharz

This page intentionally left blank.

Appendix B

Wetland Determination Data Forms

This page intentionally left blank

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/23/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 1

Investigator(s): M. Becker, C. Pijanowski, K. Vicich | Landform (hillside, terrace, hummocks, etc.): Slight hillside

Local relief (concave, convex, none): Convex | Slope (%): -

Subregion: Southcentral | Lat: 61.18585 | Long: -149.99179 | Datum: WGS84

Soil Map Unit Name: Icknuun Peat | NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: ____	20% of total cover: ____		
Sapling/Shrub Stratum			
1. Betula papyrifera	75	Y	FAC
2. Myrica gale	5	N	OBL
3. Rhododendron groenlandicum	2	N	FAC
4.			
5.			
6.			
Total Cover:	82		
50% of total cover: 41	20% of total cover: 16.4		
Herb Stratum			
1. Calamagrostis canadensis	90	Y	FAC
2. Equisetum arvense	10	N	FAC
3. Chamaenarion angustifolium	3	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	103		
50% of total cover: 51.5	20% of total cover: 20.6		

Plot size (radius, or length x width) ____ % Bare Ground ____

% Cover of Wetland Bryophytes ____ (Where applicable) Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	
FAC species	177	x 3 =	531
FACU species	3	x 4 =	12
UPL species		x 5 =	
Column Totals:	185 (A)		548 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	5 YR 2.5/1	100					organics	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Faint hydrogen sulfide odor. Stopped digging once Hydrogen Sulfide indicator was met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes X No ____ Depth (inches): 1 inch

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 1 inch

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Faint hydrogen Sulfide odor.

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/23/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 2

Investigator(s): M. Becker, C. Pijanowski, K. Vicich | Landform (hillside, terrace, hummocks, etc.): None

Local relief (concave, convex, none): None | Slope (%): -

Subregion: Southcentral | Lat: 61.18534 | Long: -149.99187 | Datum: WGS84

Soil Map Unit Name: Icknuun Peat | NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: ____		20% of total cover: ____	
Sapling/Shrub Stratum			
1. Betula nana	60	Y	FAC
2. Rhododendron tomentosum	5	N	FACW
3. Vaccinium oxycoccos	3	N	OBL
4. Myrica gale	10	N	OBL
5. Vaccinium uliginosum	5	N	FAC
6.			
Total Cover:	83		
50% of total cover: 41.5		20% of total cover: 16.6	
Herb Stratum			
1. Calamagrostis canadensis	70	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	70		
50% of total cover: 35		20% of total cover: 14	

Plot size (radius, or length x width) 5ft Radius | % Bare Ground 0

% Cover of Wetland Bryophytes ____ (Where applicable) | Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	13	x 1 =	13
FACW species	5	x 2 =	10
FAC species	135	x 3 =	405
FACU species	0	x 4 =	
UPL species	0	x 5 =	
Column Totals:	153 (A)		428 (B)

Prevalence Index = B/A = 2.80

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 3/2	100						Organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

High in organics, faint Hydrogen Sulfide odor at bottom of 16in sample. Stopped digging once Hydrogen Sulfide indicator was met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): ____

Water Table Present? Yes x No ____ Depth (inches): 1 in

Saturation Present? (includes capillary fringe) Yes x No ____ Depth (inches): 1 in

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

25ft from old drainage ditch.

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/23/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 3

Investigator(s): M. Becker, C. Pijanowski, K. Vicich | Landform (hillside, terrace, hummocks, etc.): None

Local relief (concave, convex, none): Concave | Slope (%): -

Subregion: Southcentral | Lat: 61.18729 | Long: -149.99385 | Datum: WGS84

Soil Map Unit Name: Icknuun Peat | NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: ____	20% of total cover: ____		
Sapling/Shrub Stratum			
1. Salix barclayi	75	Y	FAC
2. Myrica gale	5	N	OBL
3.			
4.			
5.			
6.			
Total Cover:	80		
50% of total cover:	40	20% of total cover:	16
Herb Stratum			
1. Calamagrostis canadensis	40	Y	FAC
2. Equisetum fluviatile	5	N	OBL
3. Equisetum palustre	3	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	48		
50% of total cover:	24	20% of total cover:	9.6

Plot size (radius, or length x width) 5ft radius | % Bare Ground 15

% Cover of Wetland Bryophytes ____ (Where applicable) | Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	3	x 2 =	6
FAC species	115	x 3 =	345
FACU species	0	x 4 =	
UPL species	0	x 5 =	
Column Totals:	128 (A)		361 (B)

Prevalence Index = B/A = 2.82

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Surface water has 15% cover

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Soil not sampled due to standing water. Per conversations with USACE, assume hydric soil is present since hydrophytic vegetation and wetland hydrology is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 3

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/23/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 4

Investigator(s): M. Becker, K.Vicich | Landform (hillside, terrace, hummocks, etc.): None

Local relief (concave, convex, none): Concave | Slope (%): -

Subregion: Southcentral | Lat: 61.18716 | Long: -149.99466 | Datum: WGS84

Soil Map Unit Name: Icknuun peat | NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: ____	20% of total cover: ____		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
Total Cover:	0		
50% of total cover: ____	20% of total cover: ____		
Herb Stratum			
1. Carex aquatilis	85		OBL
2. Equisetum fluviatile	20		OBL
3. Comarum palustre	5		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	110		
50% of total cover: 55	20% of total cover: 22		

Plot size (radius, or length x width) 5ft Radius | % Bare Ground 5

% Cover of Wetland Bryophytes ____ (Where applicable) | Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 110	x 1 =	110
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: 110 (A)		110 (B)

Prevalence Index = B/A = 1

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Standing water has 5% plot cover

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	5BG 5/1	70	2.5 YR 4/6	30	C	PL	silty organics	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Stopped digging once Hydric Soil indicators (Alaska Gleyed, Alaska Redox, Alaska Gleyed Pores) were met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 2 in

Water Table Present? Yes X No ____ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/27/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 5

Investigator(s): M. Becker, K. Vicich | Landform (hillside, terrace, hummocks, etc.): None

Local relief (concave, convex, none): Concave | Slope (%): -

Subregion: Southcentral | Lat: 61.18752 | Long: -149.99397 | Datum: WGS84

Soil Map Unit Name: Icknuun Peat | NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: ____		20% of total cover: ____	
Sapling/Shrub Stratum			
1. Salix barclayi	40	Y	FAC
2. Myrica gale	5	N	OBL
3.			
4.			
5.			
6.			
Total Cover:	45		
50% of total cover:	22.5	20% of total cover:	9
Herb Stratum			
1. Calamagrostis canadensis	40	Y	FAC
2. Carex aquatilis	10	N	OBL
3. Equisetum palustre	3	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	53		
50% of total cover:	26.5	20% of total cover:	10.6

Plot size (radius, or length x width) 5ft Radius | % Bare Ground 45

% Cover of Wetland Bryophytes ____ (Where applicable) | Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	3	x 2 =	6
FAC species	80	x 3 =	240
FACU species	0	x 4 =	
UPL species	0	x 5 =	
Column Totals:	98 (A)		261 (B)

Prevalence Index = B/A = 2.66

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Open water covers 45% of plot

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Soil not sampled due to standing water. Per conversations with USACE, assume hydric soil is present since hydrophytic vegetation and wetland hydrology is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 5

Water Table Present? Yes ____ No ____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): _____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water covers entire plot and surrounding area

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/27/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 6

Investigator(s): M. Becker, K. Vicich | Landform (hillside, terrace, hummocks, etc.): None

Local relief (concave, convex, none): None | Slope (%): 0

Subregion: Southcentral | Lat: 61.18639 | Long: -149.99429 | Datum: WGS84

Soil Map Unit Name: Icknuun Peat | NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: ____	20% of total cover: ____		
Sapling/Shrub Stratum			
1. Betula nana	40	Y	FAC
2. Myrica gale	15	N	OBL
3. Rhododendron groenlandicum	10	N	FAC
4. Vaccinium uliginosum	8	N	FAC
5. Rhododendron tomentosum	5	N	FACW
6. Vaccinium oxycoccos	2	N	OBL
Total Cover:	80		
50% of total cover: 40	20% of total cover: 16		
Herb Stratum			
1. Calamagrostis canadensis	70	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	70		
50% of total cover: 35	20% of total cover: 14		

Plot size (radius, or length x width) 5ft Radius | % Bare Ground 3

% Cover of Wetland Bryophytes ____ (Where applicable) | Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	17	x 1 =	17
FACW species	5	x 2 =	10
FAC species	128	x 3 =	384
FACU species	0	x 4 =	
UPL species	0	x 5 =	
Column Totals:	150 (A)		411 (B)

Prevalence Index = B/A = 2.74

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Standing water 3% cover

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10 YR 3/2	100					Peat	All organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

Consistent peat/organics material throughout.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): ____

Water Table Present? Yes x No ____ Depth (inches): 1in

Saturation Present? (includes capillary fringe) Yes x No ____ Depth (inches): 1in

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Small amounts of surface water present in pools, not consistent cover

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: FedEx Express | Borough/City: Anchorage | Sampling Date: 9/27/2022

Applicant/Owner: FedEx/TSIA | Sampling Point: 7

Investigator(s): M. Becker, K. Vicich | Landform (hillside, terrace, hummocks, etc.): Hummock

Local relief (concave, convex, none): Convex | Slope (%): 0

Subregion: Southcentral | Lat: 61.18600 | Long: -149.99422 | Datum: WGS84

Soil Map Unit Name: Icknuun Peat | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:
This year is currently ranked as Anchorage's 5th wettest year to date, with the wettest August and second wettest July on record (NOAA).

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum			
1. Rhododendron groenlandicum	60	Y	FAC
2. Betula nana	30	Y	FAC
3. Vaccinium uliginosum	25	N	FAC
4. Myrica gale	10	N	OBL
5. Picea glauca	7	N	FACU
6. Vaccinium oxycoccos	3	N	OBL
Total Cover:	135		
50% of total cover: 67.5	20% of total cover: 27		
Herb Stratum			
1. Calamagrostis canadensis	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	5		
50% of total cover: 2.5	20% of total cover: 1		

Plot size (radius, or length x width) 5ft Radius | % Bare Ground 0

% Cover of Wetland Bryophytes ____ (Where applicable) | Total Cover of Bryophytes ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	13	x 1 =	13
FACW species	0	x 2 =	
FAC species	120	x 3 =	360
FACU species	7	x 4 =	28
UPL species	0	x 5 =	
Column Totals:	140 (A)		401 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	Organics	100					organics	
16-20	10 YR 3/4	100					Loam	Loam with high organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

High percentage of organic materials

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes X No ____ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 7

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C

Site Photographic Log

This page intentionally left blank

Appendix C
Photographic Log
Wetland Delineation – FedEx Express, Ted Stevens International Airport, Anchorage, AK

1 - Photo depicts sample point 1 with vegetation dominated by *Betula papyrifera* and *Calamagrostis canadensis*

2 - Photo depicts sample point 1 soil sample.

3 - View looking south towards sample poin2. Photo depicts vegetation dominated by *Betula nana* and *Calamagrostis canadensis*

4 - Photo depicts sample point 2 soil sample.

5 - View looking northwest towards sample point 3.

6 - Photo depicts standing water at sample point 3.

Appendix C
Photographic Log
Wetland Delineation – FedEx Express, Ted Stevens International Airport, Anchorage, AK

7 - View looking northwest towards sample point 4.

8 - View looking east from sample pointsample point 5. Photo depicts standing water throughout area.

9 - View looking northeast at sample point 6.

10 - Photo depicts sample point 6 soil sample.

11 - View looking northwest at sample point 7.

12 - Photo depicts sample point 7 soil sample.

Appendix C
Photographic Log
Wetland Delineation – FedEx Express, Ted Stevens International Airport, Anchorage, AK

13 - View looking west towards a disturbed uplands area.

14 - View looking east at a disturbed uplands area. Photo depicts old fill material.

15 - View looking south into a disturbed upland area. Photo depicts upturned earth along its the border.

16 - View looking east at drainage ditch adjacent to taxiway U.

17- View looking west at drainage ditch adjacent to taxiway U.

18- View looking northwest at drainage ditch adjacent to taxiway U.

This page intentionally left blank

Supplemental Information: Mitigation Plan (Revised December 29, 2022)

U.S. Army Corps of Engineers (USACE)
Department of Army (Wetlands) Permit

TSAIA/FedEx Express Package Sort Facility/Feeder Ramp Relocation Project
POA-2021-00209

Applicants Names (Co-Applicants)

Ted Stevens Anchorage International Airport
Craig Campbell, Airport Manager
craig.campbell@alaska.gov
P.O. Box 196960
Anchorage, Alaska 99519
(907) 266-2529

FedEx Express
Karen Ellis
kyellis@fedex.com
3620 Hacks Cross Road
Memphis, TN 38125
(901) 434-8465

Component 4 – Baseline Information

A description of the ecological characteristics of the proposed mitigation project site, in the case of an application for a DA permit, the impact site. This may include descriptions of historic and existing plant communities, historic and existing hydrology, soil conditions, a map showing the locations of the impact and mitigation site(s) or the geographic coordinates for those site(s), and other characteristics appropriate to the type of resource proposed as compensation. The baseline information should include a delineation of waters of the United States on the proposed mitigation project site. A prospective permittee planning to secure credits from an approved mitigation bank or in-lieu fee program only needs to provide baseline information about the impact site.

The proposed project location would impact 14.32 acres of depressional wetlands. The Municipality of Anchorage (MOA) Wetland Mapper classifies most of the area as Class A-High Valuation, Palustrine Emergent Wetlands. The wetland scores 128 for hydrology, 87 for habitat, 67 for species occurrence, and 73 for social function. The MOA classified the wetland as Class A because the hydrology value is more than 100 points, habitat value is more than 85 points, species occurrence value is more than 55 points, and social function value is more than 55 points. It is significant due to both migratory and nesting bird habitat, stormwater treatment and attenuation values. The wetland provides high value functions for groundwater recharge, water quality, stormwater attenuation, aesthetic and noise buffer, and habitat values. All fill and excavation work in this wetland shall be conducted and scheduled in a manner to minimize disturbance to migratory birds to the maximum extent.

The subject wetland belongs to the Hood Creek watershed and was historically part of a contiguous large wetland complex (Turnagain Bog) that is separated from the Knik Arm by the natural bank that exists and abutted Jones Creek and abutted Jones Lake and Hood Lake. Construction of Postmark Road and N. Tug Road with the expansion of the Ted Stevens International Airport and related aviation support industries created artificial structures between Postmark Bog and the remaining Turnagain Bog wetland complex. Presently a direct hydrologic surface connection between the subject wetland and Knik Arm is maintained through an emergent wetland that conveys flow from the subject wetland through artificial features; that include a culvert under N. Tug Road which connects to a storm drainpipe that discharges directly into Knik Arm.

The U.S. Department of Agriculture Natural Resources Conservation Service has classified the majority of the site as Icknuun peat, which is very poorly drained, hydric soil. A small portion of the site is classified as Cryorthents and urban land, which is composed of very gravelly sandy loam soil. It is somewhat excessively drained and is a hydric soil (USDA 2021).

Component 5 – Determination of Credits

A description of the number of credits to be provided including a brief explanation of the rationale for this determination. For permittees intending to secure credits from an approved mitigation bank or in-lieu fee program, it should include the number and resource type of credits to be secured and how these were determined.

The project would impact 14.32 acres of Palustrine Emergent wetlands. The U.S. Fish and Wildlife National Wetlands Inventory indicates that the study area is Freshwater Emergent Wetland in the Palustrine system. The Palustrine system includes all nontidal wetlands dominated by trees, shrubs, persistent emergent, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt.

To determine debits created from this project the Anchorage Debit-Credit Method, developed by the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS) and the Municipality of Anchorage (MOA), was used. The steps which were followed to calculate debits and a more detailed description of the process can be found in the Anchorage Debit-Credit Method manual (ADCM-April2011.pdf (muni.org)).

Direct impacts to wetlands were mapped to be 14.32 acres. Based on the Relative Ecological Value (REV) score the direct impacts had a debit ratio of 1.5 debits/acre, producing 9.55 debits. The REV value of REV 2 (1.5 acres/debit) was determined based on inundation type (from the Municipality of Anchorage's wetland map), and whether it was natural or non-naturalized. The proposed project area clearly exhibits physical, chemical, and biological characteristics that differ significantly from natural/unimpacted areas and its historical conditions, making it a non-naturalized area based on the Anchorage Debit-Credit Method's definition and therefore REV 2.

According to the Anchorage Debit-Credit Method, indirect impacts must be calculated for wetlands bordering within 300 square feet of the direct impact zone to account for disturbances to the overall system. The new indirect disturbance factor was calculated through post project land usage type and proximity of surrounding existing development. The eastern side of the project is included in the existing impacts from the developed area of North Tug Road, whereas the southern and western edges of the project border undisturbed wetland and wetland within the existing indirect impact zones of past developments. The northern edge of the project area does not border any wetland areas aside from an inactive drainage ditch delineated by the USACE. The total area of 14.02 acres of indirect impacts (created by measuring the area of surrounding delineated wetlands out 300 square feet from the project boarder) is then multiplied by the new indirect impacts factor of 0.02 to produce 0.19 debits. The sum of debits created by direct and indirect impacts is equal to 9.74 debits.

TSAIA holds 8.56 compensatory mitigation credits within the Airport's Klatt Bog wetlands bank and proposes using the available credits as mitigation for the project. The U.S. Fish and Wildlife National Wetlands Inventory indicates the Klatt Bog area is in the Palustrine system.

Attachment 1. Debit Workbook from Anchorage Debit-Credit Method

Spreadsheet 1: List of Polygons

Debit-Producing Project					
Project Name:	TSAIA/FedEx Express Package Sort Facility/Feeder Ramp Relocation	POA #:	2021-00209	Date:	12/12/2022
Applicant:	Ted Stevens Anchorage International Airport/ FedEx Express	Watershed:	Knik Arm	Prepared by:	K. Vicich (EA Engineering, Science, and Technology Inc., PBC)

S.	T.	U.	V.	W.	X.	Y.	Z.
Landform	REV	Polygon ID	Polygon Description	Dominant Indirect Impacts Factor	Size Factor	Aggregate Indirect Impacts Factor (Col W$^{Col\ X}$)	Polygon Size
Wetlands	1						
	2	Direct Impact (ID #1)	inundated through June; >2500sf; non-naturalized	0.90	0	1.00	14.32
		New Indirect Impact (ID #2)	inundated through June; >2500sf; non-naturalized	0.90	0	1.00	14.02
	3						
	4						

Spreadsheet 2a: Debits for Development & Construction Activities

Project Name:	TSAIA/FedEx Express Package Sort Facility/Feeder Ramp Relocation	POA #:	2021-00209	Watershed:	Knik Arm	Date:	12/12/2022
Applicant:	Ted Stevens Anchorage International Airport/ FedEx Express	Name of Waterway/Aquatic Area:		Turnagain Bog		Prepared by:	K. Vicich (EA Engineering, Science, and Technology Inc., PBC)

Affected Polygons								Direct Impacts			New Indirect Impacts				Z.	Note # (if nec)
K.	L.	M.	N.	O.	P.	Q.	R.	S.	T.	U.	V.	W.	X.	Y.		
Landform	REV	Description	Debit Ratio	Impacts Permanent or Temporary? (P or T)	Temporary Impacts: Financial Assurance? (Y or N)	Temporary Impacts: Duration of Impacts (in days)	Aggregate Existing Indirect Impacts Factor	ID# (if nec)	Size	Debits	ID#(if nec)	Size	New Indirect Impacts Factor	Debits	Total Debits (Col U+Col Y)	
Wetlands	1															
	REV 1 Sub-totals								0.00 ac	0.000		0.00 ac		0.000	0.000	
	2	inundated through June; >2500sf; non-naturalized	1.5	P	N/A	N/A	1.00	1	14.32 ac	9.55	2	14.02 ac	0.02	0.19	9.74	
	REV 2 Sub-totals								14.32 ac	9.55		14.02 ac		0.19	9.74	
	3															
	REV 3 Sub-totals								0.00 ac	0.000		0.00 ac		0.000	0.000	
	4															
	REV 4 Sub-totals								0.00 ac	0.000		0.00 ac		0.000	0.000	

Column U Debits = (Col T/Col N) * Col R

Column Y Debits = (Col W/Col N) * Col R * Col X

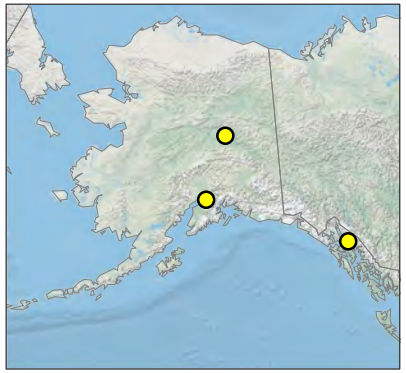
Spreadsheet 6: Project Debit-Credit Summary

Debit-Producing Project							
Name of Project:	TSAIA/FedEx Express Package Sort Facility/Feeder Ramp Relocation				Watershed:	Knik Arm	
Applicant:	Ted Stevens Anchorage International Airport/ FedEx Express				POA #:	2021-00209	
Prepared by:	K. Vicich (EA Engineering, Science, and Technology Inc., PBC)				Date:	12/12/2022	
Size of Direct Impacts:	Waterways	Subtidal Zone	Intertidal Zone	Waterbodies	Wetlands	Uplands	Total Non-waterways
					14.32		14.32 ac

Project Debits Summary							
	Number of Debits per Landform						
S.	T.	U.	V.	W.	X.	Y.	Z.
REV	Subtidal Zone	Intertidal Zone	Waterways	Waterbodies	Wetlands	Uplands	Total Debits (T+U+V+W+X+Y)
1	N/A						0.00
2					9.74		9.74
3		N/A					0.00
4	N/A	N/A					0.00
Totals	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Project Debit-Credit Balance									
Q.	R.	Number of Credits by Project Type					X.	Y.	Z.
		S.	T.	U.	V.	W.			
REV	Debits	Restoration	Enhancement	Establishment	Preservation	Total (S+T+U+V)	Net (W-R)[1]	Redistribution of Excess Credits[2]	Balance (X+Y)[1]
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	9.74	0.00	0.00	0.00	0.00	0.00	-9.74		
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4	0.00	N/A	0.00	N/A	0.00	0.00	0.00		
Totals	9.74	0.00	0.00	0.00	0.00	0.00		0.00	-9.74

[1]Positive numbers represent net credits and negative numbers net debits.
[2]Credits offset debits on a one-to-one basis, regardless of REV (or cost).



N

0 2,000 4,000

Feet

Streets
Lakes
STREAMS
WETLANDS

Applicant: FedEx
File No.: POA-2021-00209
Waterway: Postmark Bog
Proposed Activity: Fill
Section: 28 Township: 13N
Range: 4W Meridian: Seward
Lat: 61.186469
Long: -149.992191
Figure 1 of 7 Date: 12/2022

Document Path: C:\Users\jnewberry\Documents\FedEx_anc\Permit_Wetlands_VicinityMap.mxd

N

0 200 400 600 800 Feet

- Lease Area (21.9 Acres)
- Proposed Parking
- Proposed Ramp Extension
- Disturbed Wetlands (14.32 Acres)
- Undisturbed Wetlands
- 10 ft Elevation Contours
- Streets
- Lakes
- Building

Plan View #1
Applicant: FedEx
File No.: POA-2021-00209
Waterway: Postmark Bog
Proposed Activity: Fill
Section:28 Township:13N Range:4W
Meridian: Seward
Lat: 61.186469 Long: -149.992191
Figure 2 of 5 Date: 12/2022

Document Path: J:\JobsData\73138.00 ANCA FedEx Sorting Facility\00 CADD 2019\04 GIS\00 Project Database\FedEx_Wetlands.aprx

Wetland Impact
Building Wash Bay:
0.02 acres

Wetland Impact
Paved Parking,
Sidewalks, Driveways
and other Paved areas:
4.36 acres

Wetland Impact
Swales, Grassed
Islands, Side Slopes,
Landscaped Areas:
1.48 acres

Wetland Impact
Sedimentation Basin:
0.50 acres

Undisturbed
Wetland

Wetland Impact
Feeder Ramp:
3.80 acres

Wetland Impact
Building: 4.16 acres

PROPOSED
BUILDING
(181,000 S.F.)

PROPOSED
FEEDER RAMP
(TOTAL 7.2 ACRES)

CONNECTION TO
TAXIWAY U

TAXIWAY U

Uplands

Uplands

Undisturbed
Wetland

EXISTING WETLAND BOUNDARY

EXISTING WETLAND BOUNDARY

SEDIMENTATION
BASIN

N TUG ROAD

POSTMARK DRIVE

D 5
C 5
A 4
B 4

60' 0 60' 120'

Wetlands Impacted:

Paved Areas:	
Feeder Ramp:	3.80 acres
Other Paved Areas:	4.36 acres
Building:	4.18 acres
Grassed Areas:	
Sedimentation Basin:	0.50 acres
Grassed Swales and Islands:	1.48 acres
Total:	**14.32 acres**

Plan View # 2
Applicant: FedEx
File No.: POA-2021-00209
Waterway: Postmark Bog
Proposed Activity: Fill
Section:28 Township:13N Range:4W
Meridian: Seward
Lat: 61.186469
Long: -149.992191
Figure 3 of 7 Date: 12/2022

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

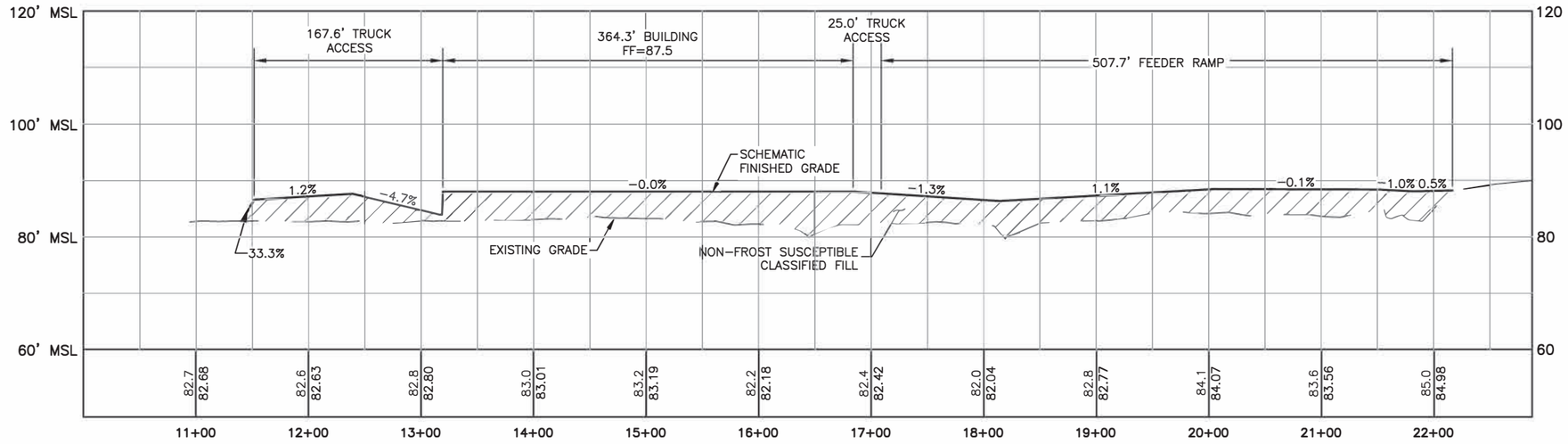
PROJECT: 48801.01
STATUS: PRELIM

FEDEX SORTING FACILITY

PLAN VIEW

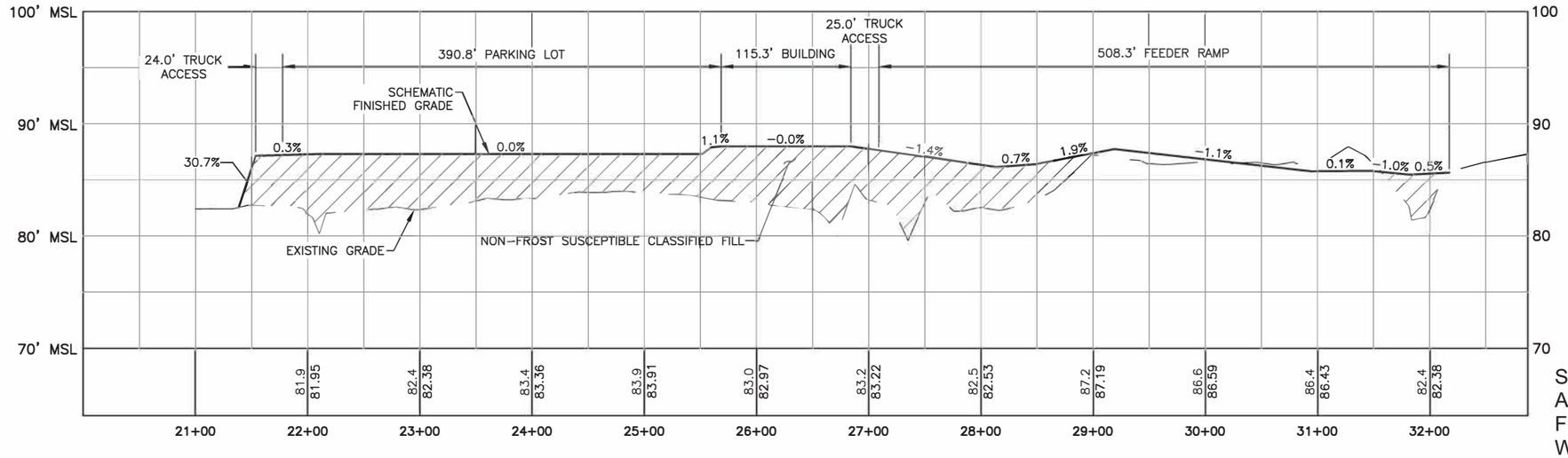
DATE 11/2022
SCALE GRAPHIC
FIGURE 3

File: J:\JobsData\48801.00 FedEx ANC Sorting Facility Site Analysis\00 CADD 2019\02 Figures\48801.00 Fed Ex Sections.dwg



A/4 SOUTH-NORTH SECTION – ALIGNMENT A

NTS



B/4 SOUTH-NORTH SECTION – ALIGNMENT B

NTS

NOTES:
1. EXISTING SURFACE IS BASED ON CRW FIELD SURVEY CONDUCTED IN JANUARY, 2021.
2. PROPOSED SURFACE IS BASED ON SCHEMATIC GRADING.
3. PROPOSED BUILDING WILL BE CONSTRUCTED ON PILES (DEPTH TO BE DETERMINED) WITH STRUCTURAL SLAB. APRON AND PARKING AREAS WILL BE CONSTRUCTED BY SURCHARGING SOILS AND PLACING CLASSIFIED FILL.

South-North Sections
Applicant: FedEx
File No.: POA-2021-00209
Waterway: Postmark Bog
Proposed Activity: Fill
Section:28 Township:13N
Range:4W Meridian: Seward
Lat: 61.186469
Long: -149.992191
Figure 4 of 7 Date: 12/2022

PROJECT: 48801.01
STATUS: PRELIM

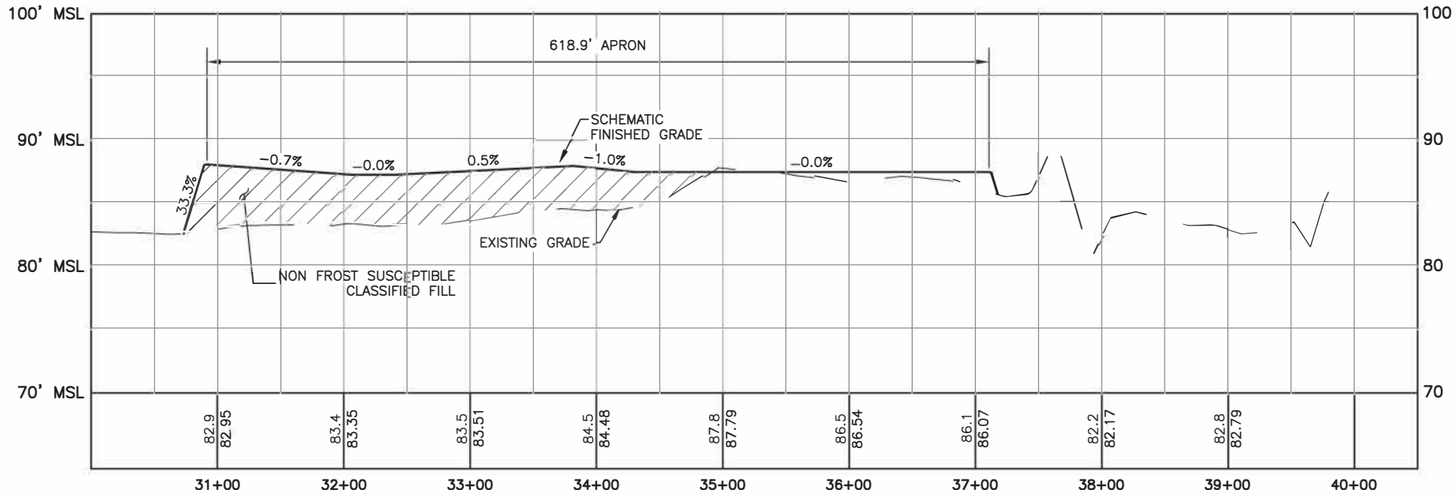
CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX SORTING FACILITY

SOUTH-NORTH SECTIONS

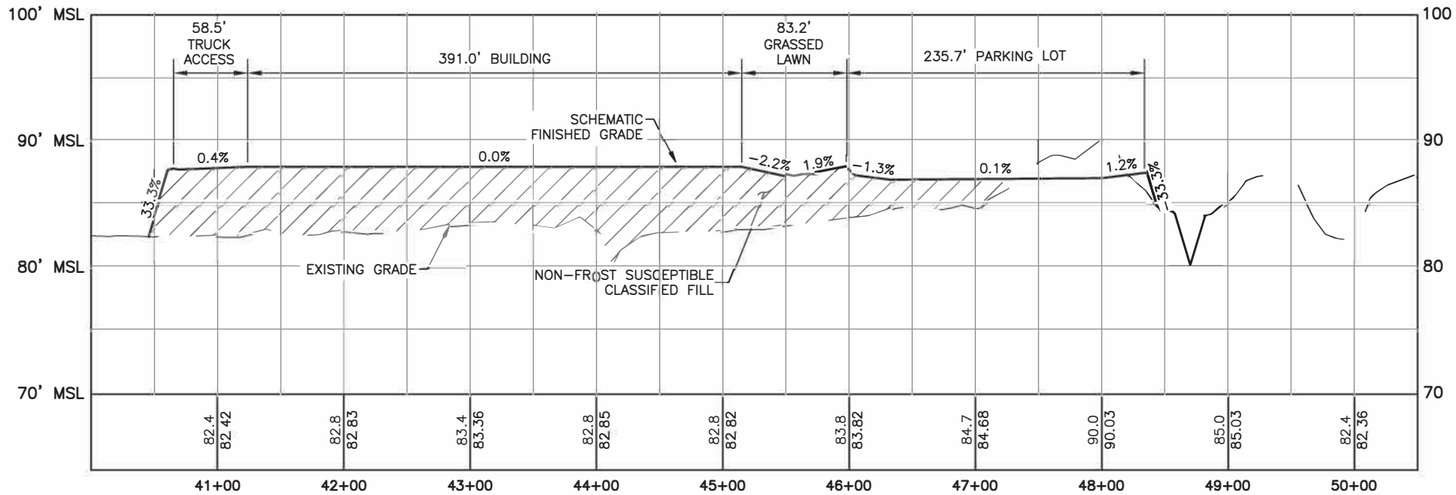
DATE 12/2022
SCALE GRAPHIC
FIGURE 4

File: J:\JobsData\73138.00 ANCA FedEx Sorting Facility\00 CADD 2019\02 Figures\73138.00 Fed Ex Sections.dwg



C/5 EAST–WEST SECTION – ALIGNMENT C

NTS



D/5 EAST–WEST SECTION – ALIGNMENT D

NTS

NOTES:
1. EXISTING SURFACE IS BASED ON CRW FIELD SURVEY CONDUCTED IN JANUARY, 2021.
2. PROPOSED SURFACE IS BASED ON SCHEMATIC GRADING.
3. PROPOSED BUILDING WILL BE CONSTRUCTED ON PILES (DEPTH TO BE DETERMINED) WITH STRUCTURAL SLAB. APRON AND PARKING AREAS WILL BE CONSTRUCTED BY SURCHARGING SOILS AND PLACING CLASSIFIED FILL.

East-West Sections
Applicant: FedEx
File No.: POA-2021-00209
Waterway: Postmark Bog
Proposed Activity: Fill
Section:28 Township:13N
Range:4W Meridian: Seward
Lat: 61.186469
Long: -149.992191
Figure 5 of 7 Date: 12/2022

PROJECT: 48801.01
STATUS: PRELIM

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX SORTING FACILITY

EAST–WEST SECTIONS

DATE 12/2022
SCALE GRAPHIC
FIGURE 5

File: J:\JobsData\73138.00 ANCA FedEx Sorting Facility\00 CADD 2019\02 Figures\73138.00 Fed Ex Sections.dwg

TAXIWAY UNIFORM

USABLE MATERIAL

A

60" STRUCTURAL SECTION, AREA REQUIRING EXCAVATION

BOUNDARY OF EXISTING WETLANDS

STRUCTURAL SECTION LIMITS OF EXCAVATION

ORGANIC MATERIAL

ORGANIC MATERIAL

ORGANIC MATERIAL

B

USABLE MATERIAL

ORGANIC AND USABLE MATERIAL

PROPOSED FEDEX FACILITY

50" STRUCTURAL SECTION, AREA REQUIRING EXCAVATION

ORGANIC MATERIAL

46" STRUCTURAL SECTION, AREA REQUIRING EXCAVATION

DETENTION BASIN, GRADE TO DRAIN

46" STRUCTURAL SECTION, AREA REQUIRING EXCAVATION

NORTH ACCESS DRIVEWAY

N. TUG RD.

POSTMARK DR.

LAKE HOOD DR.

SIKORSKY AVE.

Excavation Plan Overview
Applicant: FedEx
File No.: POA-2021-00209
Waterway: Postmark Bog
Proposed Activity: Fill
Section:28 Township:13N Range:4W
Meridian: Seward
Lat: 61.186469
Long: -149.992191
Figure 6 of 7 Date: 12/2022

SUMMARY OF WORK			
EXCAVATION AREA	ORGANIC MATERIAL, CUBIC YARD	USABLE NON-ORGANIC MATERIAL, CUBIC YARD	TOTAL VOLUME OF MATERIAL, CUBIC YARD
A	7,032	13,449	20,481
B	1,837	1,075	2,913
TOTAL:	8,870	14,524	23,394

NOTES:

1. EXISTING DRAINAGE DITCHES WILL BE FILLED WITH ORGANIC MATERIAL FROM EXCAVATION AREAS.

1 **EXCAVATION PLAN OVERVIEW - PHASE I**
SCALE: GRAPHIC

0 80' 160'
HORIZONTAL SCALE IN FEET

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

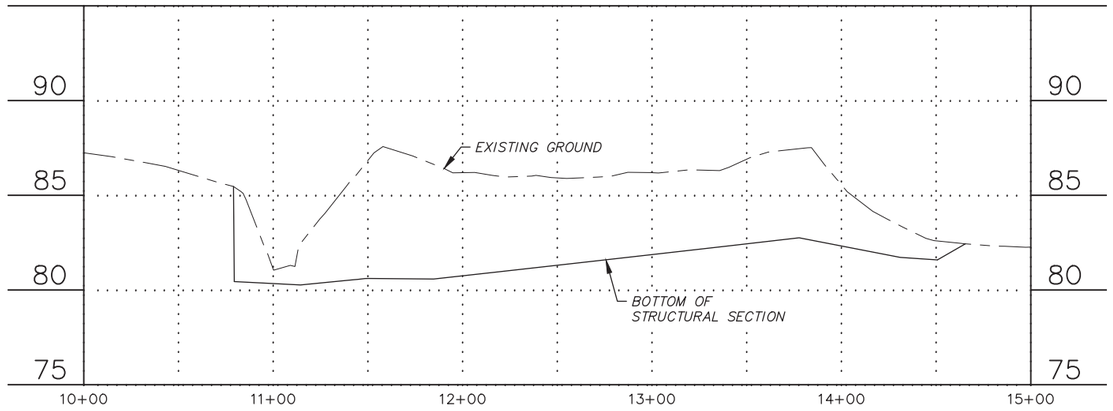
POSTMARK DRIVE, ANCHORAGE, ALASKA

65% DESIGN DEVELOPMENT

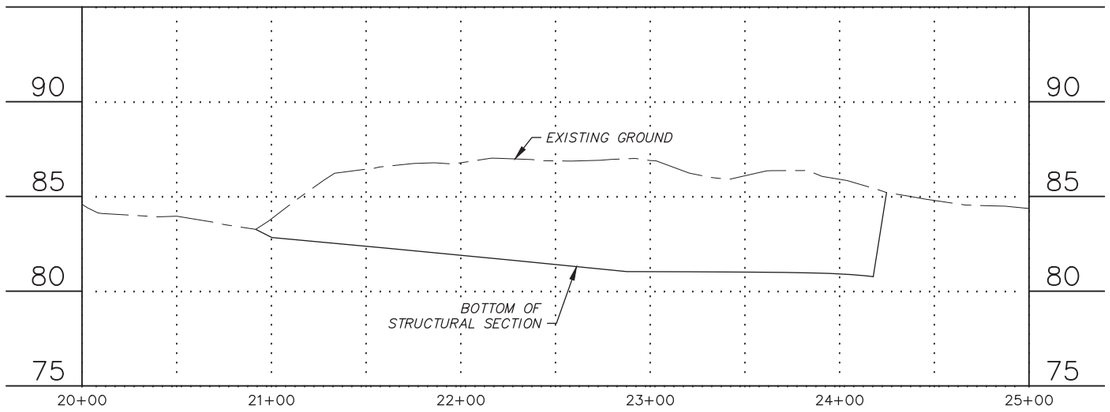
JOB NO.	73138.00
DATE:	9/26/2022
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

EXCAVATION PLAN OVERVIEW - PHASE I

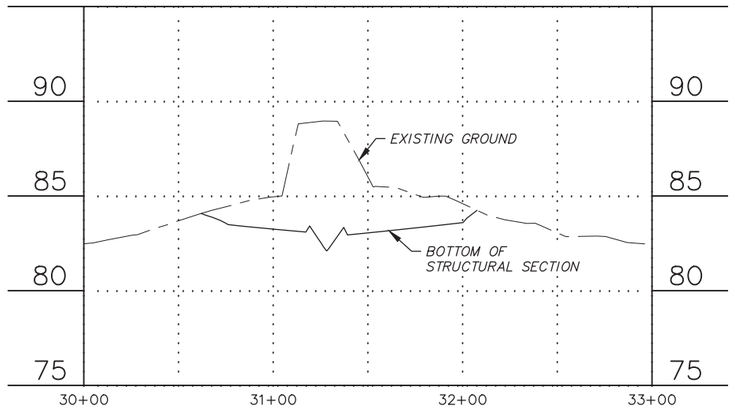
SHEET NO.
C510



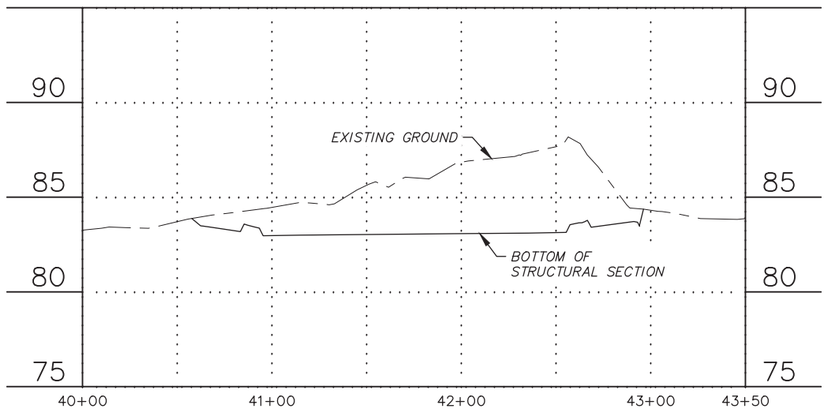
1 **CUT SECTION - NORTH SOUTH**
SCALE: GRAPHIC



2 **CUT SECTION - WEST EAST**
SCALE: GRAPHIC



3 **CUT SECTION - NORTH SOUTH**
SCALE: GRAPHIC



4 **CUT SECTION - WEST EAST**
SCALE: GRAPHIC

Excavation Cut Sections
Applicant: FedEx
File No.: POA-2021-00209 Waterway:
Postmark Bog Proposed Activity: Fill
Section:28 Township:13N Range:4W
Meridian: Seward
Lat: 61.186469
Long: -149.992191
Figure 7 of 7 Date: 12/2022

0 5' 10'
VERTICAL SCALE IN FEET

0 40' 80'
HORIZONTAL SCALE IN FEET

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

POSTMARK DRIVE, ANCHORAGE, ALASKA

65% DESIGN DEVELOPMENT

JOB NO.	73138.00
DATE:	9/26/2022
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

EXCAVATION CUT SECTIONS

SHEET NO.
C511

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX E.
ENVIRONMENTAL MANAGEMENT PLAN

THIS PAGE INTENTIONALLY LEFT BLANK

From: Burgess, Robert A (DEC) <robert.burgess@alaska.gov>
Sent: Monday, July 10, 2023 4:27 PM
To: O'Connell, Bill A (DEC) <bill.oconnell@alaska.gov>; Steven Zebovitz <shzebovitz@fedex.com>; Kito, Sam (DEC) <sam.kito@alaska.gov>
Cc: Johansen, John E (DOT) <john.johansen@alaska.gov>; Dan McMahon <dan.mcmahon@shanwil.com>; Haden Campbell <haden.campbell@fedex.com>; Weimer, Willow A (DEC) <willow.weimer@alaska.gov>; Rypkema, James (DEC) <james.rypkema@alaska.gov>; Johnston, Thomas S (DOT) <tom.johnston@alaska.gov>
Subject: [EXTERNAL] RE: FedEx Proposed ANCA Relocation Project - Revised Environmental Management Plan

Hello Haden and Steve.

The DEC has reviewed the revised EMP and responses to comments and the plan is approved via this email.
Please note that regulatory standards may change in the near future and it is possible that this approval will be affected by updated standards for PFAS.

Please let me know if you have any questions or concerns.

Thank you,
Robert

THIS PAGE INTENTIONALLY LEFT BLANK

SUBMITTED TO:
Alaska Department of
Environmental Conservation
610 University Avenue
Fairbanks, Alaska 99709

BY:
Shannon & Wilson
5430 Fairbanks Street, Suite 3
Anchorage, Alaska 99518

(907) 561-2120
www.shannonwilson.com

ENVIRONMENTAL MANAGEMENT PLAN

Proposed FedEx Sort Facility/Feeder Ramp Relocation

TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT,
ANCHORAGE, ALASKA

SHANNON & WILSON

May 2023

Shannon & Wilson No: 109433-002

PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Submitted To: Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, Alaska 99709
Attn: Mr. Robert Burgess

Subject: ENVIRONMENTAL MANAGEMENT PLAN, PROPOSED FEDEX SORT FACILITY/FEEDER RAMP RELOCATION, TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT, ANCHORAGE, ALASKA

Shannon & Wilson prepared this Revised Environmental Management Plan (EMP) on behalf of FedEx Express (FedEx). This document constitutes the EMP for handling potentially contaminated soil, groundwater, and surface water that may be encountered during construction of the proposed FedEx Sort Facility/Feeder Ramp located at the Ted Stevens Anchorage International Airport (TSAIA). The plan also includes remediation of surface water/groundwater mobilized during construction.

Sincerely,

SHANNON & WILSON, INC.

Dan P. McMahon, PMP
Vice President

CONTENTS

CONTENTS

Exhibits

Figures

Appendices

ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AFFF	aqueous film forming foam
ARFF	Aircraft Rescue and Fire Fighting
AK	Alaska Method
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAC	colloidal activated carbon
COC	chain-of-custody
COPC	contaminants of potential concern
CRW	CRW Engineering Group LLC
cy	cubic yard
DRO	diesel range organics
DQO	data quality objective
EA	EA Engineering, Science, and Technology, Inc.
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FedEx	FedEx Express
GRO	gasoline range organics
HFPO	hexafluoropropylene oxide
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LHA	lifetime health advisory
LOQ	limit of quantitation
MDL	method detection limit
mg/kg	milligram per kilogram
MQO	Measurement Quality Objectives
MS/MSD	matrix spike/matrix spike duplicate
NFS	non-frost susceptible
ng/L	nanograms per liter
NOI	Notice of Intent
PAC	powdered activated carbon
PAHs	polynuclear aromatic hydrocarbons
PFAS	per- and polyfluoroalkyl substances
PFBS	perfluorobutane sulfonic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PID	photoionization detector
ppm	parts per millions

ACRONYMS

%R	percent recovery
QEP	Qualified Environmental Professional
Regenesis	Regenesis® Remediation Services
RPD	relative percent difference
RRO	residual range organics
RSE	Restoration Science & Engineering
SF	square foot
SIM	selective ion monitoring
SourceStop™	SourceStop
SWPPP	Storm Water Pollution Prevention Plan
TSAIA	Ted Stevens Anchorage International Airport
VOCs	volatile organic compounds
µg/kg	micrograms per kilogram
µg/L	micrograms per liter

1 INTRODUCTION

This document constitutes the environmental management plan (EMP) for handling potentially contaminated soil, groundwater, and surface water that may be encountered during construction of the proposed FedEx Express (FedEx) Sort Facility/Feeder Ramp located at the Ted Stevens Anchorage International Airport (TSAIA). The project will also include off-property excavation activities associated with the construction of access driveways and utility connections. Excess soil, either generated during on- or off-property excavation activities, which cannot be used as on-property fill, may require off-TSAIA disposal. If excess soil is generated, this EMP provides procedures to handle, stockpile, sample, and dispose of the soil. The plan also includes remediation of surface water/groundwater mobilized during construction.

Shannon & Wilson has prepared this EMP in general accordance with Alaska Department of Environmental Conservation's (ADEC's) March 2017 *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites* and January 2022 *Field Sampling Guidance* document. It is currently anticipated that Walsh Construction (Walsh) will conduct the construction project on behalf of FedEx. If another contractor is selected, the ADEC will be notified. Prior to implementing the project, the FedEx selected contractor is required to provide the regulating Agencies, additional information which is outlined in this document.

2 SITE DESCRIPTION

The subject parcel is a 21.94-acre TSAIA lease lot located west of North Tug Road and Postmark Drive within the Postmark Bog. Taxiway Uniform is located north of the site. The FedEx Shipping Center is located further north of the site and the TSAIA Aircraft Rescue and Fire Fighting (ARFF) facility is located further southwest. A vicinity map showing the site and the surrounding area is included as Figure 1. Site plans showing the subject property are included as Figures 2 and 3. Design drawing are provided in Appendix A. The design drawings presented in the Contract Documents should be relied upon for project related requirements.

Dewatering trenches were previously advanced across the subject property. The trenches discharge to a storm drain outfall, located on the northeast portion of the subject property, which ultimately discharges to the Cook Inlet. As a result, the subject property is considered a jurisdictional wetland. To evaluate peat thickness at the site, CRW Engineering Group LLC (CRW) advanced numerous peat probes in 2021 and 16 boreholes at the site in 2022. With the exception of the northern portion of the subject property, peat was encountered in each borehole. The maximum thickness of the peat was 13 feet.

3 PROJECT DESCRIPTION

The project generally consists of constructing an approximately 186,000 square foot (SF) package sorting structure, a 2,100 SF wash bay structure, an aircraft apron, aircraft hardstands, vehicle parking areas, and associated utilities. The project is being designed by MCG Explore Design under contract to FedEx. A site plan is included as Sheet C100 in Appendix A.

In general, the site is several feet lower in elevation than the adjacent Tug Road/Postmark Drive and Taxiway Uniform. Therefore, the site will require filling to provide drainage toward Tug Road/Postmark Drive and Taxiway Uniform. Imported non-frost susceptible (NFS) fill (approximately 142,500 cubic yards [cy]) will be used to raise the grade of the site, on average, approximately six feet in elevation.

Due to the presence of peat and contaminated soil and groundwater, the project will minimize the excavation of soil. As a result, the structures will be founded on Geopier Ram Aggregate Piers, which will be advanced to approximately 15 to 20 feet below ground surface (bgs). To support vehicle and aircraft loads outside the limits of the building areas and reduce the amount of post construction long term and differential settlement, the peat will also be surcharged with NFS fill material.

In general, the north/northeastern portion of the site does not require surcharging. In this area, approximately 11,000 cy of surficial material will be excavated and relocated on-site to create a structurally suitable subbase for the aircraft apron. In addition, approximately 3,000 cy of material will be excavated from areas east and south of the structure and relocated on site. Installation of on-site utilities will also require the excavation and on-site relocation of approximately 3,800 cy of material. During the on-site excavation and soil relocation activities, vegetation will be cleared and placed on-site with the relocated excavated material.

The water, storm sewer and sanitary sewer utilities will be extended off-site across Tug Road and Postmark Drive to connect into existing utilities. In addition, access driveways connections to Tug Road and Postmark Drive will also be constructed. These activities will result in off-property excavations, estimated to generate between 500 and 1,000 cy of soil. The material generated during construction of the access driveways and the utility connections will be temporarily stockpiled approximately 1,000 feet north of the site at the FedEx snow disposal site. The utilities are shown on Sheet C305 in Appendix A and the temporary stockpile storage area is shown on Figure 1.

The on-site excavated material will be used as fill material in areas outside the footprint of the package sorting structure. The on-site material will be placed on the ground surface prior to placement of the imported NFS fill and surcharge material. The on-site excavated material will also be used to backfill the drainage ditches located on the property. The surcharge material will consist of imported granular fill and the height of the surcharge will vary between 0.5 and 9 feet. The proposed excavation/fill plan and the surcharge plan are shown on Sheets C510 and C520, respectively, in Appendix A. Cross sections showing post-construction conditions are shown on Sheets C301 and C302 in Appendix A.

During the latter stages of construction, there is a potential that additional native soil may be generated during installation of hydrants, landscaping, and other site features. This material will be placed near the southeast corner of the structure and covered with asphalt. The approximate location of this on-site soil placement area is shown on Sheet C300 in Appendix A.

Soil handling during construction will be conducted in a manner that prevents the release of contaminants to surface water and is protective of the water quality standards presented in the Alaska Department of Environmental Conservation's (ADEC's) 18 Alaska Administrative Code (AAC 70) Water Quality Standards regulations. Storm water management procedures will be outlined in the project Storm Water Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control Plan (ESCP) prepared by the Contractor.

4 BACKGROUND

The ARFF facility, located south of the site, is an ADEC listed contaminated site. According to the ADEC contaminated sites database, due to concern over the potential use of aqueous film forming foam (AFFF), site investigation activities have been conducted at the ARFF facility and within Postmark Bog. As part of these efforts a groundwater monitoring well, identified as "NW Well" was advanced on the southwest portion of the subject property. Per- and polyfluoroalkyl substances (PFAS) and petroleum hydrocarbons have been documented within soil, surface water, and/or groundwater samples collected as part of these efforts.

In March 2020, Restoration Science & Engineering (RSE) on behalf of CRW, collected 43 soil samples from the Postmark Bog for TSAIA. Thirteen of the samples were collected from the subject property. With the exception of two samples collected from the subject property, each sample contained concentrations of perfluorooctanoic acid (PFOA) and/or perfluorooctane sulfonate (PFOS) exceeding the ADEC Method Two cleanup levels.

In August 2020, RSE advanced 19 soil borings within Postmark Bog. Five of the borings were advanced within the subject property. Samples collected from the borings were analyzed for PFAS, gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Concentrations of PFOS exceeding the ADEC Method Two cleanup level was documented in samples collected from two of the borings advanced within the subject property. DRO and RRO were also detected in samples at concentrations exceeding the ADEC Method Two cleanup levels.

In October 2021, EA Engineering, Science, and Technology, Inc. (EA) advanced and sampled eight test borings, and collected one surface water sample within the subject property. The soil samples were analyzed for PFAS and DRO/RRO, both with and without silica gel cleanup. Two of the soil samples contained concentrations of PFOS (maximum of 0.0741 J milligrams per kilogram [mg/kg]) exceeding the ADEC Method Two cleanup level of 0.0030 mg/kg. One soil sample contained a concentration of DRO (446 mg/kg) which exceeds the ADEC Method Two cleanup level of 250 mg/kg. The corresponding DRO sample analyzed using the silica gel cleanup method did not exceed the ADEC Method Two cleanup level. The surface water sample contained 0.149 micrograms per liter (µg/L) PFOS and 0.0588 µg/L PFOA. The sample results are summarized on figures provided in Appendix B.

In August 2022, Shannon & Wilson installed four drive point wells (MW1 through MW4), collected five surface water samples, and collected groundwater samples from the drive points and a pre-existing monitoring well (NW Well). The surface water samples were

collected from the draining ditches located on the northern portion of the property. At least one surface water sample contained concentrations of RRO (maximum 2,740 B micrograms per liter [µg/L]), PFOS (maximum 2,700 nanograms per liter [ng/L]), and PFOA (maximum 780 ng/L) exceeding the ADEC Table C cleanup levels of 1,100 µg/L, 400 ng/L, and 400 ng/L, respectively. At least one groundwater sample contained concentrations of RRO (maximum 3,200 µg/L) and RRO with silica gel cleanup (2,400 µg/L) exceeding the ADEC Table C cleanup level of 1,100 µg/L. In addition, one groundwater sample contained concentrations of PFOS (3,400 ng/L) and PFOA (480 ng/L) exceeding the ADEC Table C cleanup levels of 400 ng/L and 400 ng/L, respectively. The sample locations and results are presented on Figures 2 and 3.

5 ROLES AND RESPONSIBILITIES

The EMP will be implemented by the Contractor and their selected subcontractors. Prior to or during construction, the Contractor will provide any proposed changes to this approved work plan to FedEx and the regulatory stakeholders. This information will be provided in a technical memorandum for final approval by FedEx and the regulatory stakeholders prior to implementation of this work plan. No material deviations to this work plan will be implemented in the field prior to notifying FedEx and receiving approval from ADEC. "Material Deviations" is defined as those variances that are likely to impact the type, volume, or quality of data.

5.1 Contractor

The Contractor will be responsible for implementing the EMP and providing assurance that appropriate resources, including a Qualified Environmental Professional (QEP), are retained and mobilized to the site when required. The qualifications of the Environmental Consultant and individual(s) performing the role of the QEP will be provided by the Contractor to FedEx and the regulatory stakeholders. The Contractor will also be responsible for proper management of excavated soil and encountered surface water and groundwater in accordance with this EMP, and all appropriate State and Federal regulations. The Contractor will also provide decontamination methods for equipment, including characterization, storage, and disposal of generated decontamination fluids and solids, if applicable.

5.2 Environmental Consultant

The Environmental Consultant, provided by the Contractor, will conduct field screening and soil sampling, for any soil generated on- or off-property which requires off-property disposal, and water sampling associated with dewatering. Sampling activities for this project will be conducted by a QEP, as defined by the ADEC. In accordance with 18 AAC 75.333(b)(5) a QEP must meet one or more of the following minimum educational qualification and experience requirements:

(A) has a four-year undergraduate or a graduate degree from a nationally or internationally accredited postsecondary institution in environmental science or another related scientific field, and has at least one year of professional experience in contaminated site characterization and cleanup activities under the direct supervision of a qualified environmental professional completed after the degree described in this subparagraph was obtained;

(B) has a four-year degree from a nationally or internationally accredited postsecondary institution in any field or a two-year associate degree from a nationally or internationally accredited postsecondary institution in environmental science or another related scientific field, and has at least three years of professional experience in contaminated site characterization and cleanup activities under the direct supervision of a qualified environmental professional completed after a degree described in this subparagraph was obtained;

(C) is certified as an environmental technician under an apprenticeship program with a registration under 29 CFR Part 29, and has at least three years of professional experience in contaminated site characterization and cleanup activities under the direct supervision of a qualified environmental professional completed after the certification described in this subparagraph was obtained.

The Contractor will provide FedEx and regulatory stakeholders with qualifications of the individuals who will serve as the project QEP.

5.3 Regulatory Agency

The ADEC and EPA will be responsible for making regulatory determinations regarding the site. The ADEC is the lead regulatory agency for requirements associated with 18 AAC 70, 18 AAC 75, and 18 AAC 83 and will be responsible for overall project oversight, and for making regulatory determinations under the ADEC Contaminated Sites program and Division of Water. The primary ADEC contacts, mailing addresses, phone numbers, and e-mail addresses are listed below.

ADEC
Contaminated Sites Program
Division of Spill Prevention and Response
555 Cordova Street
Anchorage, AK 99501

ADEC Project Manager:
Mr. Robert Burgess
Email: Robert.Burgess@alaska.gov
Phone: 907-451-2153

Division of Water
Storm Water Program
555 Cordova Street
Anchorage, AK 99501

Mr. Sam Kito
Email: sam.kito@alaska.gov
Phone: 907-269-7542

6 CONTAMINANTS OF POTENTIAL CONCERN AND REGULATORY LEVELS

If soil and/or groundwater analytical samples are collected, the sample results will be compared to the applicable ADEC and/or EPA regulatory criteria in effect at the time of the construction efforts. Details regarding when soil and/or water samples will be collected is presented in Sections 7 and 8.

6.1 Contaminants of Potential Concern

The primary Contaminants of Potential Concern (COPCs) for the site are PFAS, DRO, and RRO. In addition, GRO, benzene, and toluene have been detected in soil and/or groundwater within Postmark Bog at concentrations less than the ADEC cleanup levels. Based on the documented petroleum contamination at the site, GRO, volatile organic compounds (VOCs), and polynuclear aromatic hydrocarbons (PAHs) are considered secondary COPCs for the site.

6.2 Regulatory Levels

PFOS and PFOA are two PFAS commonly found at sites where AFFF were used. Due to their persistence, toxicity, and bioaccumulative potential, these compounds are of increasing concern to environmental and health agencies. In May 2016 the U.S. Environmental Protection Agency (EPA) published a recommended Lifetime Health Advisory (LHA) level of 70 ng/L for the sum of PFOS and PFOA in drinking water. In June 2022 the EPA published interim LHAs of 0.004 ng/L for PFOA and 0.02 ng/L PFOS, and final LHAs of 2,000 ng/L for perfluorobutane sulfonic acid (PFBS), and 10 ng/L for hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt (together referred to as "GenX chemicals").

The ADEC Contaminated Sites Program published groundwater-cleanup levels of 400 ng/L for PFOS and PFOA in November 2016. On October 2, 2019, ADEC published a Technical Memorandum which includes additional PFAS analytes to the testing requirements. Per ADEC direction, the action level remains 70 ng/L for the sum of PFOS and PFOA. Current ADEC soil cleanup levels are 3.0 micrograms per kilogram (µg/kg) for PFOS and 1.7 µg/kg for PFOA.

Surface water and groundwater samples will be compared to 18 AAC 75.341 *Table C, Groundwater Human Health Cleanup Levels* and the ADEC drinking water action level (for PFAS). Soil samples will be compared to AAC 75.341 Tables B1, *Method Two – Migration to Groundwater,* and B2, *Method Two – Under 40-Inch Zone – Migration to Groundwater.* The

current drinking water action level, ADEC groundwater cleanup levels, and ADEC soil cleanup levels are summarized in Exhibit 6-1 below.

Exhibit 6-1: COPCs, Regulatory and Laboratory Reporting Limits

Method	Analyte	Regulatory Soil Limit[a] (mg/kg)	Regulatory Water Limit[b] (µg/L)	ADEC Drinking Water Action Level (µg/L)
PFAS Analytes				
EPA 1633[c]	PFOS	0.0030	0.4	0.07
	PFOA	0.0017	0.4	
Petroleum Analytes				
AK 101	GRO	300	2,200	NA
AK 102	DRO	250	1,500	NA
AK 103	RRO	10,000	1,100	NA
VOC Analytes				
EPA 8260D	Various	Analyte Specific	Analyte Specific	NA
PAH Analytes				
EPA 8270D-SIM	Various	Analyte Specific	Analyte Specific	NA

Notes:

a. 18 AAC 75 *Table B2. Method Two - Petroleum Hydrocarbon Soil Cleanup Levels – Under 40-Inch Zone - Migration to Groundwater* or *Table B1. Method Two - Soil Cleanup Levels Table - Migration to Groundwater*.

b. 18 AAC 75 *Table C. Groundwater Cleanup Levels*

ADEC = Alaska Department of Environmental Conservation; AK = Alaska Method; DRO = diesel range organics; EPA = U.S. Environmental Protection Agency; GRO = gasoline range organics; mg/kg = milligram per kilogram; µg/L = microgram per liter; NA = not applicable; PFAS = per- and polyfluoroalkyl substances; PFOA = perfluorooctanoic acid; PFOS = perfluorooctanesulfonic acid; RRO = residual range organics; SIM = selective ion monitoring

7 CONSTRUCTION MITIGATION PLAN

During the initial fill and surcharging activities, there is a potential that PFAS-impacted groundwater may be temporarily displaced. The displaced water will be treated at the eastern property boundary with permeable filter barriers amended with a site-specific blend of activated carbon, provided by Regenesis® Remediation Services (Regenesis), mixed with imported NFS fill material. In addition, the site-specific blend of activated carbon will be applied to the NFS fill and surcharge material placed along the southern property boundary and in the area of a proposed access driveway located near the east-central portion of the property.

The site-specific blend of amendments will consist of SourceStop™ (SourceStop) colloidal activated carbon (CAC), in conjunction with powdered activated carbon (PAC). The combined treatment approach will reduce the leachability of PFAS by increasing the sorptive capacity of the fill material, which will reduce the migration of PFAS contamination. The treatment adsorbs PFAS contamination and removes it from groundwater. The goal of the treatment is to minimize displacement of PFAS-impacted groundwater off-site to the east and south during the construction activities.

The amended NFS fill material will be placed into trenches on the eastern portion of the property, as well as zones of the lower lifts of NFS fill charge material along the southern portion of the property and the approximately 5,000 square foot access driveway. It is anticipated that as the underlying organic material consolidates beneath the NFS fill and surcharge material, the amended material will become submerged and act as a permeable filter barrier.

The approximate locations of the permeable filter barrier trenches and amendment application areas are shown on Sheet C500 in Appendix A. It is anticipated that the permeable filter barrier will be installed in mid-2024, followed by placement of the amended subbase placement during the subsequent site filling task.

7.1 Permeable Filter Barrier Trench

It is anticipated that the permeable filter barrier trench along the eastern property boundary will be advanced by the Contractor using a backhoe on tundra mats. If the ground surface is frozen, tundra mats will not be used. The permeable filter barrier trench will be approximately 4 feet wide. The permeable filter barrier trench will be advanced approximately 5.5 feet below the existing groundwater level, which is an elevation of approximately 81 feet. The excavated material will be placed in the fill areas shown on Sheet C510 in Appendix A.

The PAC will be mixed in with the fill material to achieve a homogeneous mix followed by the SourceStop which will coat the fill material in a thin layer of CAC. The imported fill material will be placed directly on the ground surface adjacent to the trench and the PAC will be mixed into the fill material using a backhoe, at a ratio of approximately 88 pounds of PAC to 1 cy of fill material. Alternatively, the PAC may be mixed into the fill material at the Anchorage Sand & Gravel's Klatt Pit facility immediately prior to transport to the site. SourceStop mixed with water at a ratio of approximately 1:1 to 1:3 SourceStop to water will be sprayed onto the fill material with a high-volume water pump to evenly coat the fill material as the material is backfilled in lifts. When applying the SourceStop, the fill material will be turned over several times to further promote distribution and coating of the material. Detailed instructions on the amendment application procedures are provided as Appendix C. The permeable filter barrier location will be surveyed during installation and included in as-built drawings which will be submitted to the ANC leasing office and/or engineering department.

7.2 Initial Fill Areas

The PAC will also be mixed into the first two feet of engineered NFS fill placed within a 10-foot-wide treatment area (approximately 7,200 square feet) located on the south portion of the property. In addition, the PAC will also be mixed into the first two feet of engineered NFS fill placed within the proposed access driveway located near the east-central portion of the property (5,000 square feet).

While the PAC-integrated NFS fill material is being placed and compacted, SourceStop will also be applied to evenly coat the material. The approximate locations of the surcharge mitigation areas are shown on Sheet C500 in Appendix A.

7.3 Baseline Sampling

Prior to installation of the permeable filter barrier, groundwater samples will be collected in the vicinity of the trench. Currently, Drive Point Wells MW1 and MW4 are located west of the of the southern portion of the proposed permeable filter barrier trench. During the summer of 2023, an additional drive point well, designated MW5, will be installed west of the northern portion of the permeable filter barrier trench.

Drive Point Well MW5 will be installed using hand tools in the approximately location shown on Sheet C500 in Appendix A. The well will consist of a 2-inch nominal inside diameter stainless-steel drive point. The lower portion of the well will consist of an approximately 5-foot section of 0.010-inch stainless-steel slotted well screen. The screen will extend approximately 2.5-feet below the soil/groundwater interface, which is assumed to be

approximately 2 to 4 bgs. The new drive point well will be left undisturbed in the ground for at least 1 hour to allow groundwater to accumulate.

Prior to sampling, depth-to-water, with respect to the ground surface, will be measured with an electronic water level indicator in Drive Point Wells MW1, MW4, and MW5. Grab groundwater samples will be collected with disposable polyethylene bailers from the drive point wells. The wells will not be purged or developed prior to sampling, therefore the groundwater samples collected from the drive point wells will be of screening level quality. Analytical samples will be collected by transferring water directly from the bailer into the laboratory supplied containers. The samples will be analyzed by an ADEC-certified analytical laboratory for PFAS by EPA Method 1633. For quality control purposes, one duplicate sample will also be submitted for analysis.

Following sampling, it is assumed that the existing drive point wells will be destroyed by the planned construction activities.

7.4 Performance Monitoring

Following installation of the permeable filter barrier and placement of the surcharge and fill material, temporary monitoring wells will be installed in the vicinity of former locations of Drive Point Wells MW4 and MW5. The locations of the former wells will be determined based on survey measurements provided by CRW. The wells will be installed approximately 5 feet west and east of the permeable filter barrier. The temporary wells will be installed using a drill rig, which will be provided by a drilling subcontractor that will be selected at a later date. The temporary monitoring wells will consist of 2-inch diameter, polyvinyl chloride pipe. The lower portion of each well will consisted of a 5-foot pre-pack well with a 0.010-inch slotted well screen and silica sand. Drill cuttings generated during installation of the wells will be used to backfill the borings or landspread adjacent to the temporary wells.

Grab groundwater samples will be collected from the temporary wells during non-frozen months. It is assumed that two groundwater samples will be collected from each temporary well. The temporary wells will be removed once paving of the site occurs.

The samples will be collected with disposable polyethylene bailers. The wells will not be purged or developed prior to sampling, therefore the groundwater samples collected from the wells will be of screening level quality. Analytical samples will be collected by transferring water directly from the bailer into the laboratory supplied containers. The samples will be analyzed by an ADEC-certified analytical laboratory for PFAS by EPA Method 1633. For quality control purposes, one duplicate sample will also be submitted for analysis.

8 HANDLING OF SOIL

As part of the pre-construction excavation and fill placement activities, soil will be excavated from various locations on the property and relocated on-site for use as fill beneath surcharge material. During construction, the fill material will be covered by additional structural fill, concrete, and/or asphalt. Therefore, screening and sampling of on-site soil will not be conducted unless excess soil is generated that requires off-site disposal.

The project also includes off-property excavation activities associated with the construction of access driveways and utility connections. For planning purposes, approximately 220 cy of peat will be generated during construction of the two access driveways. In addition, approximately 250 to 750 cy of soil/peat may be generated during installation of the off-site utility connections. To date, environmental samples have not been collected from this material. Without characterization, it is assumed that the material cannot be disposed on-property. Therefore, the soil generated during construction of the access driveways and the off-site utility connections will be handled, stockpiled, sampled, and disposed as outlined below. Alternatively, the material may be pre-characterized by FedEx, to assist with development of disposal options and possibly determine whether on-site relocation of these soils is feasible. If FedEx selects to pre-characterize the material, the ADEC will be notified, and a work plan will be developed. Results of the pre-characterization activities will be used to modify this plan.

8.1 Stockpile Construction

Excess soil stockpiles will be constructed in accordance with 18 AAC 75.370 and prevent the migration of contaminants to surface water. The material will be temporarily stockpiled approximately 1,000 feet north of the site at the FedEx snow disposal site. All excavated excess soil shall be placed directly on an impermeable surface (i.e. asphalt or concrete) surface or a minimum 10-mil liner, for further screening, sampling, and characterization prior to removal from the site. The bottom liner will meet the specifications presented in Table D of 18 AAC 75.370. Stockpiled excess soil will be covered with a 6-mil liner to prevent precipitation runoff from or onto the stockpiled soil. The stockpiles will be inspected, weekly at a minimum, and maintained until the soil is placed back into the excavation or transported off-site for disposal/treatment. The Contractor will provide FedEx and regulatory stakeholders a figure showing proposed stockpile construction details. The locations and quantities of the excess soil stockpiles will be noted and documented in the summary report (see Section 11).

8.2 Analytical Soil Sampling

Field screening and analytical samples will be collected from the stockpiled excess soil in accordance with the frequency specified in Table 2A of the ADEC's January 2022 *Field Sampling Guidance* document. The QEP will conduct field screening of the excess soil stockpiles with a photoionization detector (PID) to detect the presence of petroleum hydrocarbon contamination. Field screening will be accomplished with a hand-held PID that measures total volatile compounds present as vapors, as a semi-quantitative indication of hydrocarbon presence. The PID will be calibrated daily using a response factor for benzene and 100 parts per million (ppm) isobutylene-in-air standard gas, or as directed by the PID's instruction manual. Additional calibration checks may be performed during the day, as deemed appropriate. One headspace screening sample will be collected per 10 cy of stockpiled excess soil. Field headspace screening samples will be collected at least 18 inches beneath the exposed surface of the excess soil stockpile.

Two analytical samples will be collected from the first 50 cy of stockpiled excess soil from the areas with the highest PID screening levels, and one analytical sample will be collected from the next 50 cy of stockpiled excess soil for a total 100 cy stockpile. For excess soil stockpiles greater than 100 cy, three analytical samples will be collected from the first 100 cy plus one additional sample for each additional 200 cy or portion thereof.

Soil samples for laboratory analysis will be collected in laboratory-supplied jars in decreasing order of volatility. For each volatile sample, at least 25 grams of soil, but no more than what can be completely submerged with 25-milliliters of methanol, will be placed into a pre-weighted, 4- ounce jar with a septa lid. A 25-milliliter aliquot of methanol containing laboratory-added surrogates will be added to the sample jar to submerge the soil sample. For each non-volatile sample, the laboratory-supplied jar will be completely filled with soil taking care to avoid pieces of gravel and debris. Sample jars will be filled using decontaminated stainless-steel spoons, placed in coolers with ice packs, and transferred to the laboratory using chain-of-custody procedures.

Analytical samples will be submitted to an ADEC-certified analytical laboratory for testing of GRO by Alaska Method (AK) 101, DRO by AK 102, RRO by AK 103; PAHs by EPA Method 8270D Selective Ion Monitoring (SIM), VOCs by EPA Method 8260D, and PFAS by EPA Method 1633. One duplicate sample will be collected and submitted per 10 primary analytical samples. A laboratory trip blank will accompany each cooler which contains volatile samples. The trip blanks will be analyzed for GRO by AK 101 and VOCs by EPA Method 8260D.

8.3 Soil Disposal

Excess soil which requires off-TSAIA disposal and/or treatment, will be managed in accordance with all Local, State, and Federal regulations. The Contractor and FedEx will be responsible for identifying the proper off-site treatment and/or disposal facilities. The Environmental Consultant will prepare and submit an *ADEC Transport, Treatment, Disposal Form for Contaminated Media* to the ADEC for review and approval.

9 HANDLING OF GROUNDWATER

Groundwater generated during the project will be managed in accordance with the terms and conditions of the ADEC Excavation Dewatering Permit, AKG002000. Discussions with potential on-site water treatment vendors are currently ongoing. The ADEC will be notified of the selected vendor. A dewatering and best practices plan will be prepared by the Contractor and submitted to ADEC for approval prior to the start of dewatering. The plan will include details of the treatment system design and processes. The plan will also provide details regarding the collection of periodic sampling of post-treated water, which will include the collection of at least two performance monitoring samples of effluent water during the active dewatering portions of the project.

Prior to commencing dewatering activities, FedEx and the regulatory stakeholders will be notified. The Contractor will provide the FedEx and regulatory stakeholders a figure depicting the proposed dewatering discharge areas and submit a Notice of Intent (NOI) to the ADEC, which will include the dewatering plan and the best management practices plan. Dewatering and/or discharging groundwater cannot occur without ADEC approval.

A delegation letter will be issued to the Contractor authorizing them to sign and submit the Excavation Dewatering General Permit, NOI, Best Management Practices Plan, and related permit reports on behalf of FedEx. The signature authority is limited to permit tasks performed under contract and is required to ensure technical accuracy of submissions. The final execution of all paperwork shall be subjected to FedEx review and approval prior to submission to regulatory stakeholders. A copy of the NOI, Best Management Practices Plan, inspection forms, reports, and other associated permit documentation executed by the Contractor, under the Alaska Pollutant Discharge Elimination System Excavation Dewatering General Permit, shall be kept as part of the final permit records.

It is assumed that dewatering will be required during installation of the permeable filter barrier on the eastern portion of the property (Section 7) and the installation of buried utilities. The utilities are shown on Sheet C305 in Appendix A. Based on discussions with the ADEC, it is assumed that the treated water may be discharged into storm drains located beneath/adjacent to Postmark Drive that ultimately discharge to Cook Inlet. ADEC has also indicated that the treatment system will need to be designed to treat combined PFOA and PFOS to 70 ng/L.

Due to lengthy turnaround timelines, it is impracticable to collect samples and receive PFAS sample results, prior to discharge. At the request of the ADEC, at least two performance monitoring samples will be collected from effluent water during the active dewatering

portions of the project. It is also assumed that ADEC may require the periodic monitoring of non-PFAS related contaminants (i.e., petroleum hydrocarbons) during dewatering. Details regarding the proposed sampling program will be provided in the dewatering plan.

10 CHEMICAL QUALITY CONTROL PROCEDURES

Chemical data quality for this project will be assessed by comparing quality control sample results to pre-established numerical data quality objectives (DQOs). Quality control will be performed in accordance with ADEC's August 2022 Technical Memorandum Guidelines for Data Reporting. The Contractor will provide list of the appropriate sample containers, preservation, and holding times for each analytical method applicable to this project. The Contractor's selected analytical laboratory will provide numerical DQOs for soil and water. These DQOs will be provided to FedEx and the regulatory Agencies. If the laboratory method detection limit (MDL) for any analyte does not meet the applicable ADEC soil and/or groundwater cleanup levels, FedEx and the regulatory Agencies will be notified. In cases where the MDL exceeds the regulatory limit, a note will be added to the ADEC laboratory data review checklist and the associated results tables in the summary report.

10.1 Quality Control Samples

Quality control samples will include field and laboratory quality control samples.

10.1.1 Field Samples

Field quality control samples will be collected and analyzed to document reliability of the sampling and handling procedures. The quality control samples will consist of field duplicates and trip blanks.

Duplicate samples will be collected and analyzed at a frequency of one sample for every ten project samples, per matrix. Duplicate samples will be tested for the same parameters as the corresponding primary samples. The duplicate samples will be submitted to the laboratory as blind duplicates and will be numbered in the same manner as the project samples. Field duplicate samples will be collected from as close in time and location as practicable to the project samples.

Trip blank samples, prepared by the project laboratory, will accompany each sample cooler containing samples for volatile analysis. The trip blank sample will remain in the cooler during the entire sampling process. Evaluation of the analytical results of the trip blank samples will determine if volatile contaminants have been introduced to the samples from an external source or from cross-contamination during sample transport and analyses.

10.1.2 Laboratory Samples

Laboratory quality control samples include method blanks, laboratory control samples/laboratory control sample duplicates (LCS/LCSD), matrix spikes/matrix spike

duplicates (MS/MSD), and surrogates. The MS/MSD samples will be selected by the laboratory and separate project samples specifically for MS/MSD analysis will not be collected. LCS/LCSD, MS/MSD, surrogate quality assurance data, and qualifiers not meeting laboratory's DQOs will be noted in the laboratory reports.

10.2 Measurement Quality Objectives for Chemical Data

Data quality for this project will be assessed using internal laboratory procedures and field quality control data, in general accordance with the EPA's National Functional Guidelines for Inorganic Data Review and National Functional Guidelines for Organic Data Review. The quantitative Measurement Quality Objectives (MQOs) for this project will be used to assess precision and accuracy.

10.2.1 Precision

Precision is the mutual agreement of discrete measurements of the same property, under similar conditions. For the purposes of this program, precision will be expressed as the relative percent difference (RPD) between primary and duplicate quality control samples, including the MS/MSD and LCS/LCSD results. The RPD will be calculated by dividing the absolute difference between the values by their mean and multiplying by 100:

$$RPD = \frac{(|X_1 - X_2|)}{\frac{(X_1 + X_2)}{2}} \times 100$$

Where X_1 and X_2 are the primary and duplicate values, respectively.

10.2.2 Accuracy

Accuracy is the degree of agreement of a measured value with the true or expected value of the measured quantity. The accuracy of control sample measurements is generally expressed as a percent recovery (%R). For surrogates and samples without a background level of the analyte in the sample matrix, such as reference materials and LCS, the percent recovery is calculated from:

$$\%R = \frac{X}{T} \times 100$$

Where X is the measured concentration and T is the true or expected concentration.
The percent recovery for measurements in which a known amount of analyte is added to an environmental sample (such as MS/MSD) is calculated from:

$$\%R = \frac{X - B}{T} \times 100$$

Where B is the background concentration of the spiked analyte in environmental sample and X and T are as defined above.

Accuracy will be determined for surrogate, MS/MSD, and LCS/LCSD spike recoveries and results will be included in the laboratory report. The data from each analytical batch will be compared to the laboratory control limits that are provided in each laboratory report, and the method-specified control limits for certain analytes.

10.2.3 Sensitivity

Sensitivity is the ability of the laboratory methods to detect the analyte in the samples. Because the method detection limit is not generally practicable for environmental samples, sensitivity is evaluated using the laboratory limit of quantitation. The limit of quantitation (LOQ) values are effective reporting limits and are based on the method detection limits adjusted for dilutions, matrix inference, and other sample-specific considerations. Note that concentrations less than the LOQ are reported as estimates and concentrations not detected at the maximum detection limit are reported as non-detect at the level of detection.

10.2.4 Comparability/Representativeness

For the purpose of obtaining quality data, the sampling program design facilitates collection of sample data representative of environmental conditions at the project site. Comparability will be maintained by consistency in sampling conditions, selection of sampling equipment and procedures, sample preservation methods, analytical methods, trip blank analysis, and data reporting units.

10.3 Data Assessment

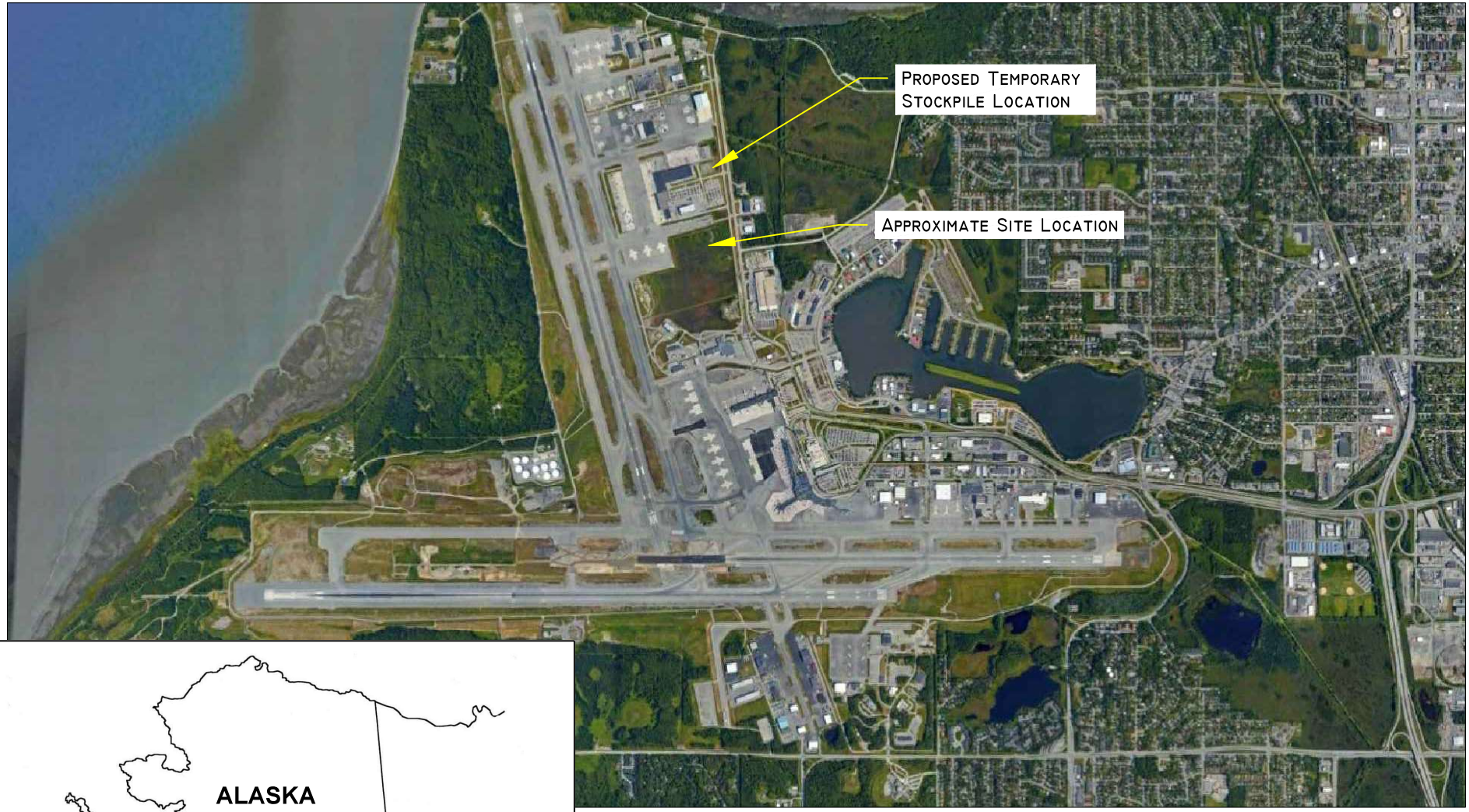
For each chain-of-custody (COC), the project labs will provide a Level II data deliverables package. The data will be reviewed and compared to the project's numerical MQOs. Any MQOs not met, through our evaluation will be identified in the report and the effects, if any, on the usability of the data will be described.

11 REPORTING

The Contractor will maintain notes that discuss earthwork and dewatering activities, areas disturbed, where soil was placed at the site, other soil movements, and whether evidence of contamination was observed and soil screening and sampling activities. When on-site, the Environmental Consultant representative will maintain a bound notebook that will include a description of field activities. As applicable, this notebook will contain the following:

- Documentation of project progress with notes, photographs, and construction manager decisions.
- PID screening results of excess soil stockpiles.
- Dates when material was placed in an excess soil stockpile and volumes.
- Quantity of water generated during dewatering.
- Instrument calibration records.
- Documentation of field observations of excavated soil, including staining, petroleum and/or chemical odors, and/or the presence of free-phase product, if encountered.
- Documentation of field water quality observations during dewatering, including presence of sheen or fuel product on the top of the dewatering sump and/or storage tank, if encountered.

A summary report will be prepared by a QEP to document field activities, sampling data, and the final disposition of excess soil, if generated. Photographs, copies of field notebooks, field sketches, individual laboratory reports, raw data, and ADEC laboratory data review checklists will be included in appendices, as applicable. Field screening and analytical data will be summarized in tables, if soil and/or water samples are collected.



N

0 3,000 6,000

APPROXIMATE SCALE IN FEET

Proposed FedEx Sorting Facility
Anchorage, Alaska

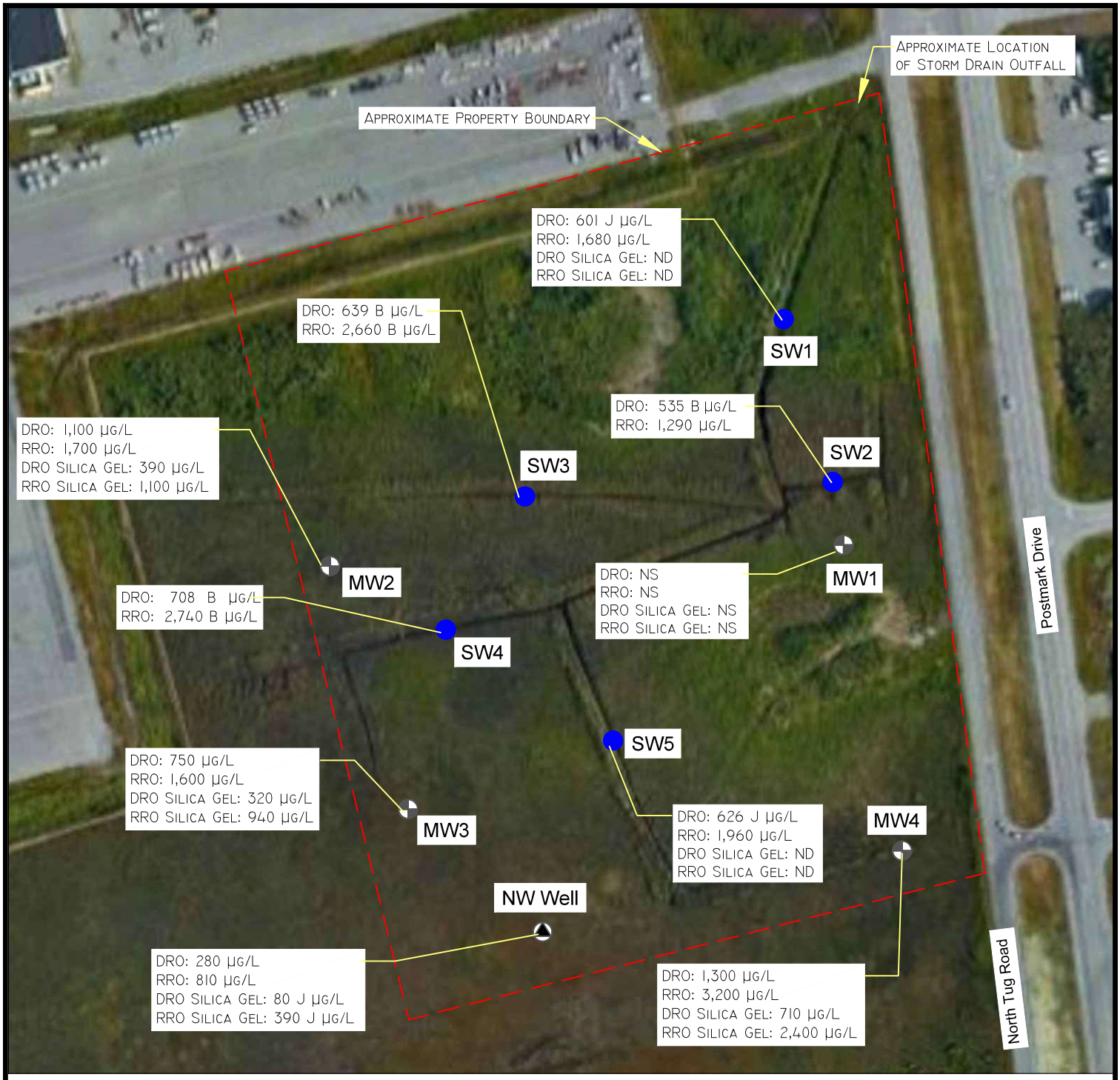
VICINITY MAP

May 2023

109433-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1



LEGEND

Map adapted from aerial imagery provided by GoogleEarth® , Image date: July 2014

SWI — Approximate location of surface water Sample SW1.

MWI — Approximate location of Drive Point MW1.

NW Well — Approximate location of existing Monitoring Well NW Well.

DRO	Diesel Range Organics (µg/L)
RRO	Residual Range Organics (µg/L)
DRO Silica Gel	Diesel Range Organics Silica Gel (µg/L)
RRO Silica Gel	Residual Range Organics Silica Gel (µg/L)

J	Estimated concentration
µg/L	Micrograms per liter
NS	Not sampled
B	Analyte concentration is potentially affected by blank detection.

Note: See laboratory reports and LDRCs for flagging details.

N

0 200 400

APPROXIMATE SCALE IN FEET

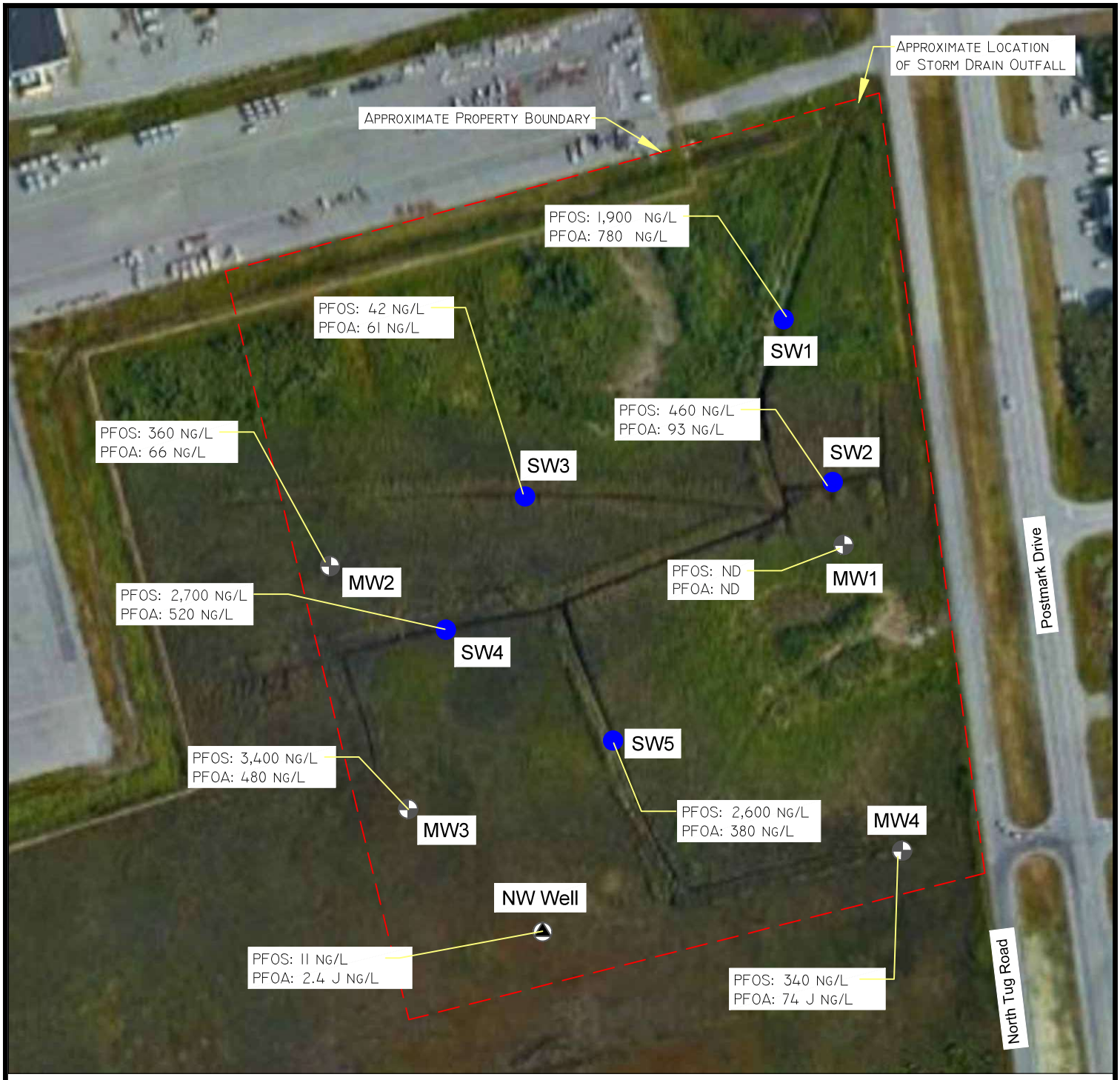
Proposed FedEx Sorting Facility
Anchorage, Alaska

SITE PLAN -
DRO/RRO ANALYTICAL RESULTS

May 2023 109433-001

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 2



LEGEND

Map adapted from aerial imagery provided by GoogleEarth® , Image date: July 2014

SWI — Approximate location of surface water Sample SW1.

MWI — Approximate location of Drive Point MW1.

NW Well — Approximate location of existing Monitoring Well NW Well.

PFOS Perfluorooctanesulfonic acid (µg/L)
PFOA Perfluorooctanoic acid (µg/L)

J Estimated concentration

NG/L Nanograms per liter

ND Not detected

N

0 200 400

APPROXIMATE SCALE IN FEET

Proposed FedEx Sorting Facility
Anchorage, Alaska

SITE PLAN - PFOS/PFOA ANALYTICAL RESULTS

May 2023 109433-001

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 3

APPENDIX A: DESIGN DOCUMENTS

Appendix A

Design Documents

THIS PAGE INTENTIONALLY LEFT BLANK

TAXILANE UNIFORM

AOA FENCE

SNOW STORAGE, TYP.

MH

CB

BOUNDARY OF EXISTING WETLANDS

AOA FENCE

N. TUG RD.

POSTMARK DR.

PROPOSED BUILDING

LEASE LOT LINE

LAKE HOOD DR.

SIKORSKY AVE.

SS

PROPOSED VEHICLE WASH

AOA FENCE

TITLE 21 REQUIREMENTS:

1. *PARKING*

WAREHOUSE (160,000 SF)

1 STALL PER 1,000 SF UP TO 10,000 SF

1 STALL FOR EACH ADDITIONAL 1,250 SF ABOVE 10,000 SF UP TO 50,000 SF

1 STALL FOR EACH ADDITIONAL 1,500 SF ABOVE 50,000 SF

117 STALLS REQUIRED

OFFICE (21,000 SF)

1 STALL PER 350 SF GFA

60 STALLS REQUIRED

TOTAL PARKING SPACES:

177 – LAND BANKING 44 = MINIMUM 133 PARKING SPACES

2. *SNOW STORAGE*

- *15% OF TOTAL AREA USED FOR PARKING, ACCESS DRIVES, WALKWAYS.*

DESIGN:

PARKING COUNT:	*149 STALLS*
ADA COUNT:	*5 STALLS*
	1 VAN ACCESSIBLE
SNOW STORAGE:	*80,000 SF*

LEGEND

- HEAVY DUTY ASPHALT
- PARKING LOT ASPHALT
- APRON PAVING
- PORTLAND CEMENT CONCRETE
- SNOW STORAGE AREA
- PREFERRED ALTERNATIVE ENERGY PARKING (11 TOTAL)

1 **OVERALL SITE PLAN**

SCALE: GRAPHIC

80' 0 80' 160'

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

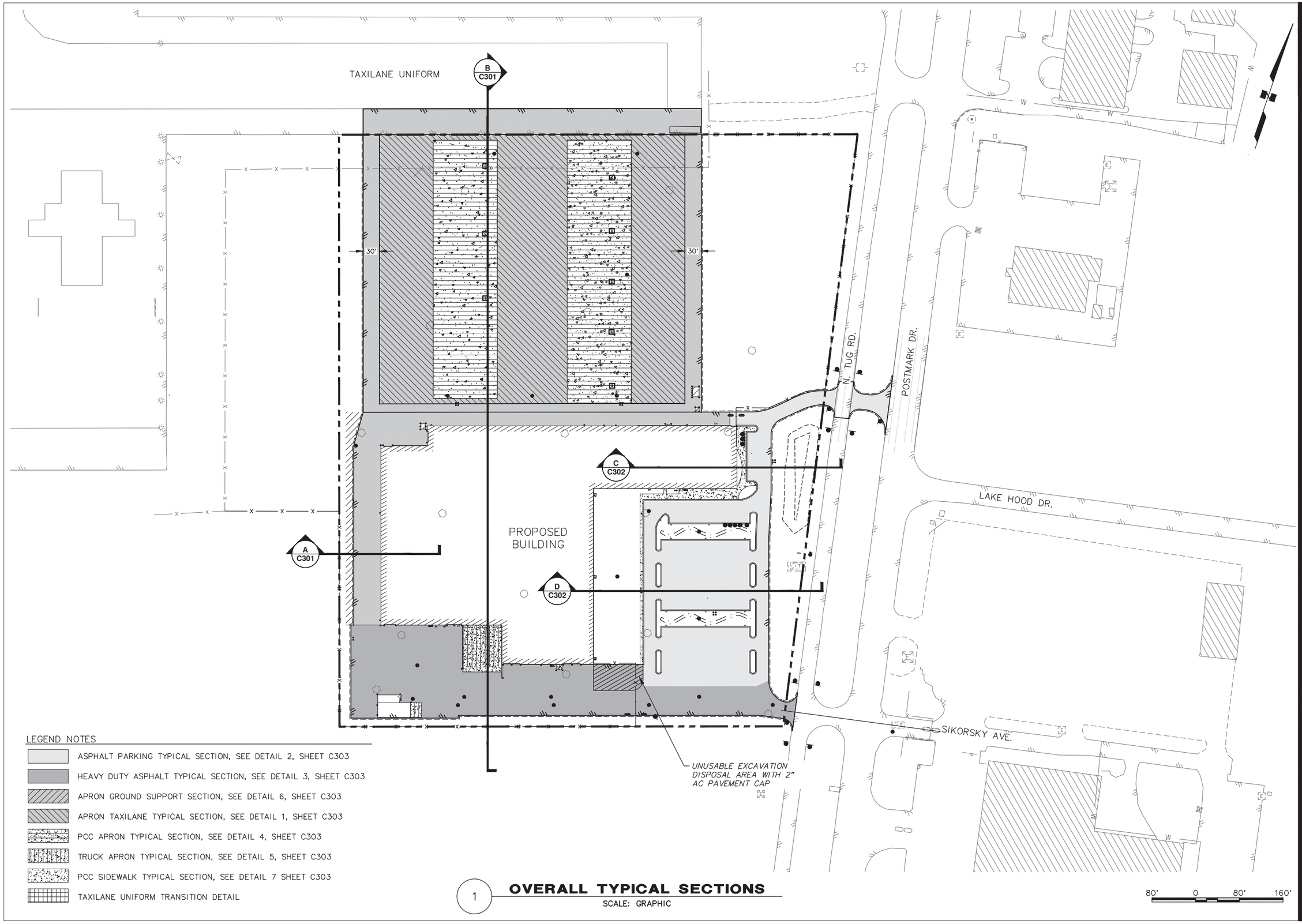
POSTMARK DRIVE,
ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

OVERALL SITE PLAN

SHEET NO.
C100



LEGEND NOTES

- ASPHALT PARKING TYPICAL SECTION, SEE DETAIL 2, SHEET C303
- HEAVY DUTY ASPHALT TYPICAL SECTION, SEE DETAIL 3, SHEET C303
- APRON GROUND SUPPORT SECTION, SEE DETAIL 6, SHEET C303
- APRON TAXILANE TYPICAL SECTION, SEE DETAIL 1, SHEET C303
- PCC APRON TYPICAL SECTION, SEE DETAIL 4, SHEET C303
- TRUCK APRON TYPICAL SECTION, SEE DETAIL 5, SHEET C303
- PCC SIDEWALK TYPICAL SECTION, SEE DETAIL 7 SHEET C303
- TAXILANE UNIFORM TRANSITION DETAIL

1 **OVERALL TYPICAL SECTIONS**
SCALE: GRAPHIC

FOR:
- SUBMITTAL
- PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

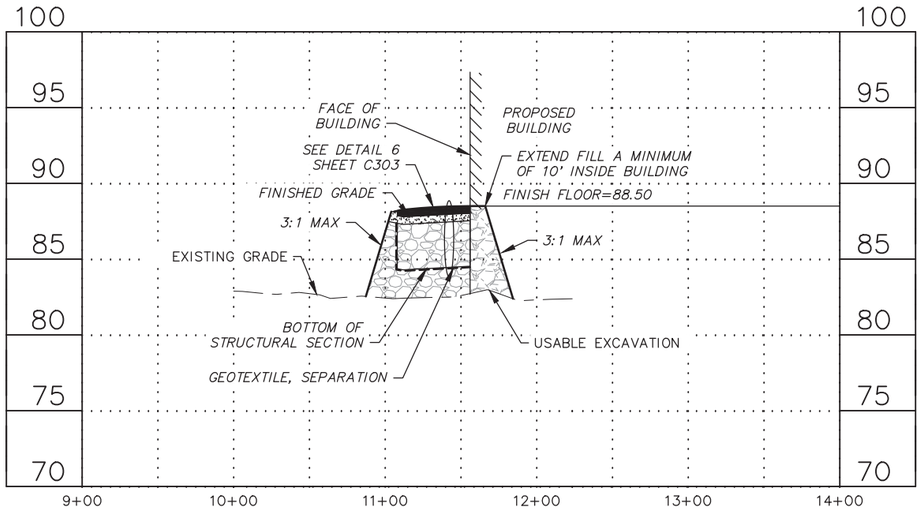
POSTMARK DRIVE,
ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

OVERALL TYPICAL SECTIONS

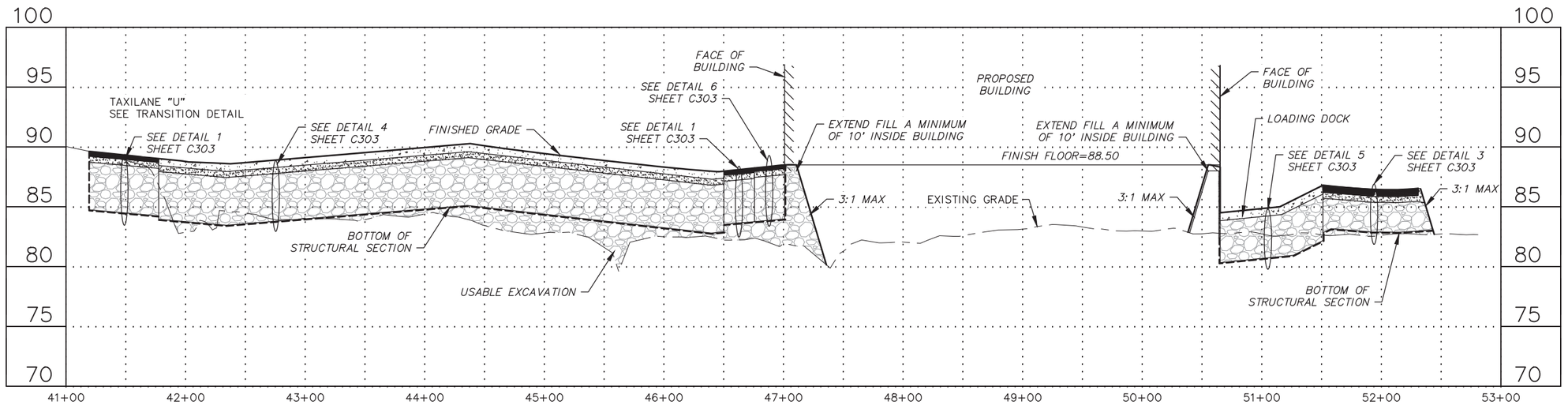
SHEET NO.
C300



A

TYPICAL SECTION - WEST EAST

SCALE: GRAPHIC



B

TYPICAL SECTIONS - NORTH SOUTH

SCALE: GRAPHIC

HORIZ SCALE: 50' 0 50' 100'

VERT SCALE: 5' 0 5' 10'

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

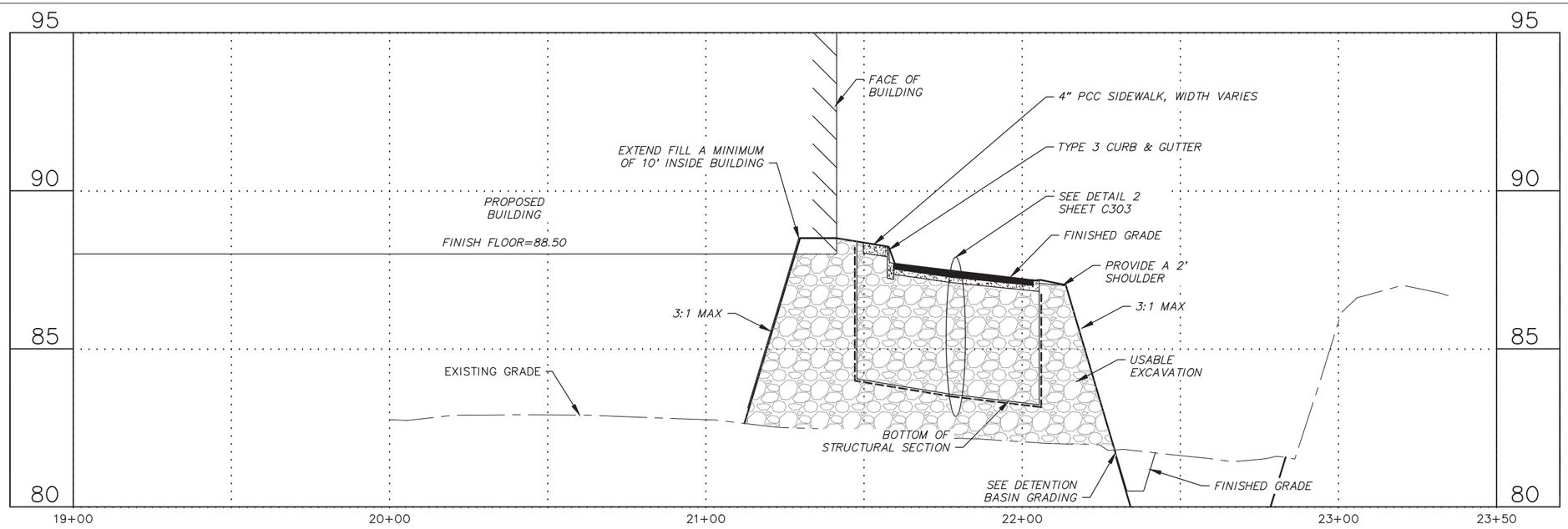
POSTMARK DRIVE, ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

TYPICAL SECTIONS

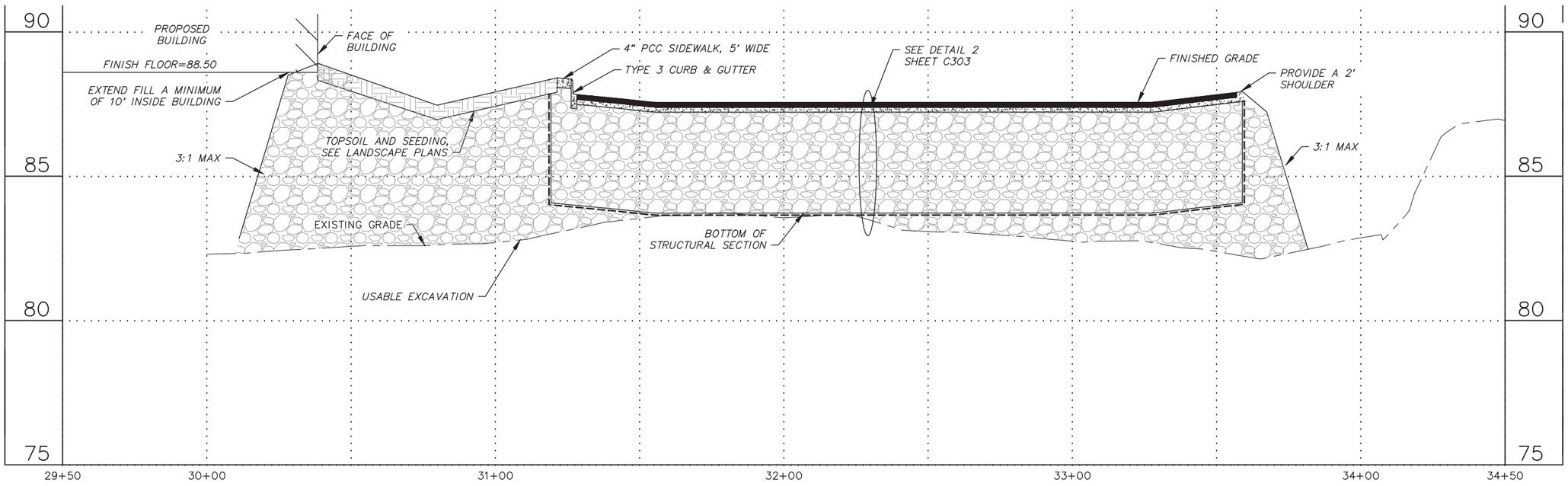
SHEET NO.
C301



C

TYPICAL SECTIONS - WEST EAST

SCALE: GRAPHIC



D

TYPICAL SECTION - EAST WEST

SCALE: GRAPHIC

HORIZ SCALE: 20' 0 20' 40'

VERT SCALE: 2' 0 2' 4'

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

POSTMARK DRIVE, ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

TYPICAL SECTIONS

SHEET NO.
C302

PROPOSED GENERATOR
PROPOSED TRANSFORMER (BY OTHERS)
PROPOSED SWITCHBOARD 10.5' X 2.5' PCC PAD
PROPOSED MECHANICAL CONDENSING UNIT 9.5' X 10.5' PCC PAD
PROPOSED WATER METER
PROPOSED GAS METER
PROPOSED 4–INCH PVC SEWER SERVICE
PROPOSED 4–INCH PVC SEWER SERVICE
PROPOSED BUILDING
GRASSED SWALE
PROPOSED 12–INCH PVC WATER SERVICE
PROPOSED LIGHTING, TYP.
PROPOSED 1,000 GALLON OIL SEPARATOR
GRASSED SWALE
PROPOSED 8–INCH PVC SEWER SERVICE
PROPOSED WATER METER
PROPOSED GAS METER
PROPOSED 4–INCH PVC SEWER SERVICE
PROPOSED 8–INCH PVC SEWER SERVICE
PROPOSED 8–INCH PVC SEWER SERVICE
PROPOSED 18–INCH CMP CULVERT
PROPOSED 24–INCH CMP STORM DRAIN
EXISTING ELECTRICAL
EXISTING FO
DETENTION BASIN
N. TUG RD.
POSTMARK DR.
LAKE HOOD DR.
SIKORSKY AVE.
PROPOSED 18–INCH CMP CULVERT
CONNECT TO EXISTING WATER MAIN
EXISTING 24–INCH CMP STORM DRAIN
PROTECT EXISTING FO VAULT
EXISTING 48–INCH CONCRETE STORM DRAIN
EXISTING 6–INCH GAS MAIN COORDINATE WITH ENSTAR FOR CONNECTION TO NATURAL GAS.
CONNECT TO EXISTING WATER MAIN
EXISTING 16–INCH DI WATER MAIN
CONNECT TO EXISTING SEWER MANHOLE
EXISTING 8–INCH DI SEWER MAIN

1 **UTILITY PLAN**
SCALE: GRAPHIC

50' 0 50' 100'

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562–3252
#AECL882–AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

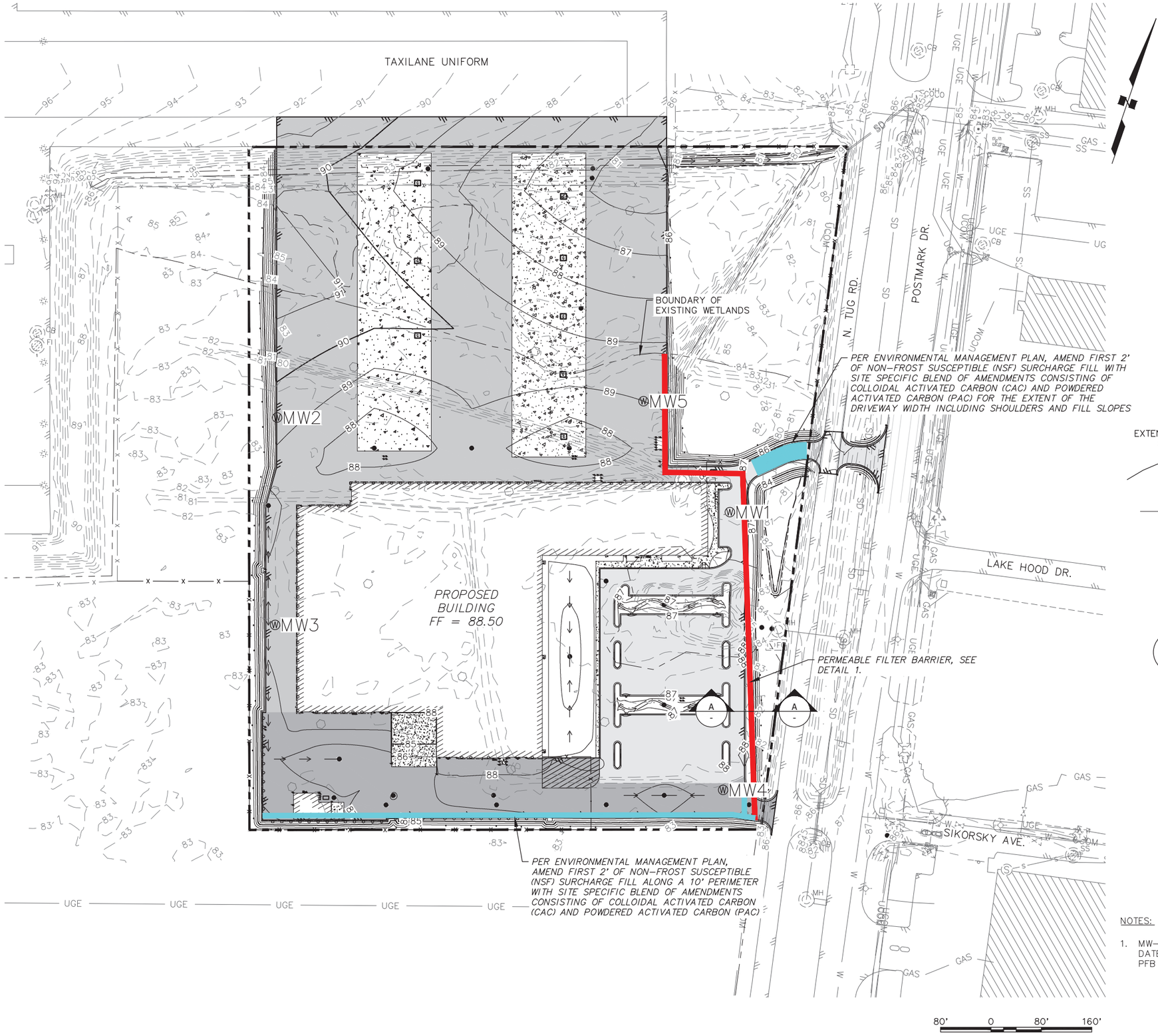
POSTMARK DRIVE,
ANCHORAGE, ALASKA

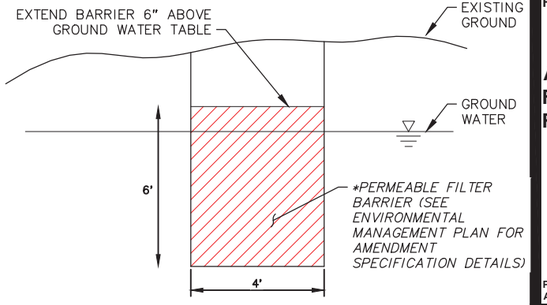
PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

UTILITY PLAN

SHEET NO.
C305





1 **SECTION A-A**
SCALE: NTS

*PERMEABLE FILTER BARRIER AMENDED WITH A SITE SPECIFIC BLEND OF ACTIVATED CARBON MIXED WITH NSF FILL MATERIAL THROUGH THE PEAT ZONE TO A MAXIMUM DEPTH OF 5.5' BELOW THE GROUNDWATER TABLE, PER ENVIRONMENTAL MANAGEMENT PLAN.

NOTES:

1. MW-1, MW-4 AND MW-5 (MW-5 TO BE INSTALLED AT A LATER DATE) WILL BE USED TO CONFIRM HIGH WATER TABLE PRIOR TO PFB INSTALLATION.

FOR:
- SUBMITTAL
- PRICING

CRW ENGINEERING GROUP, INC.
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

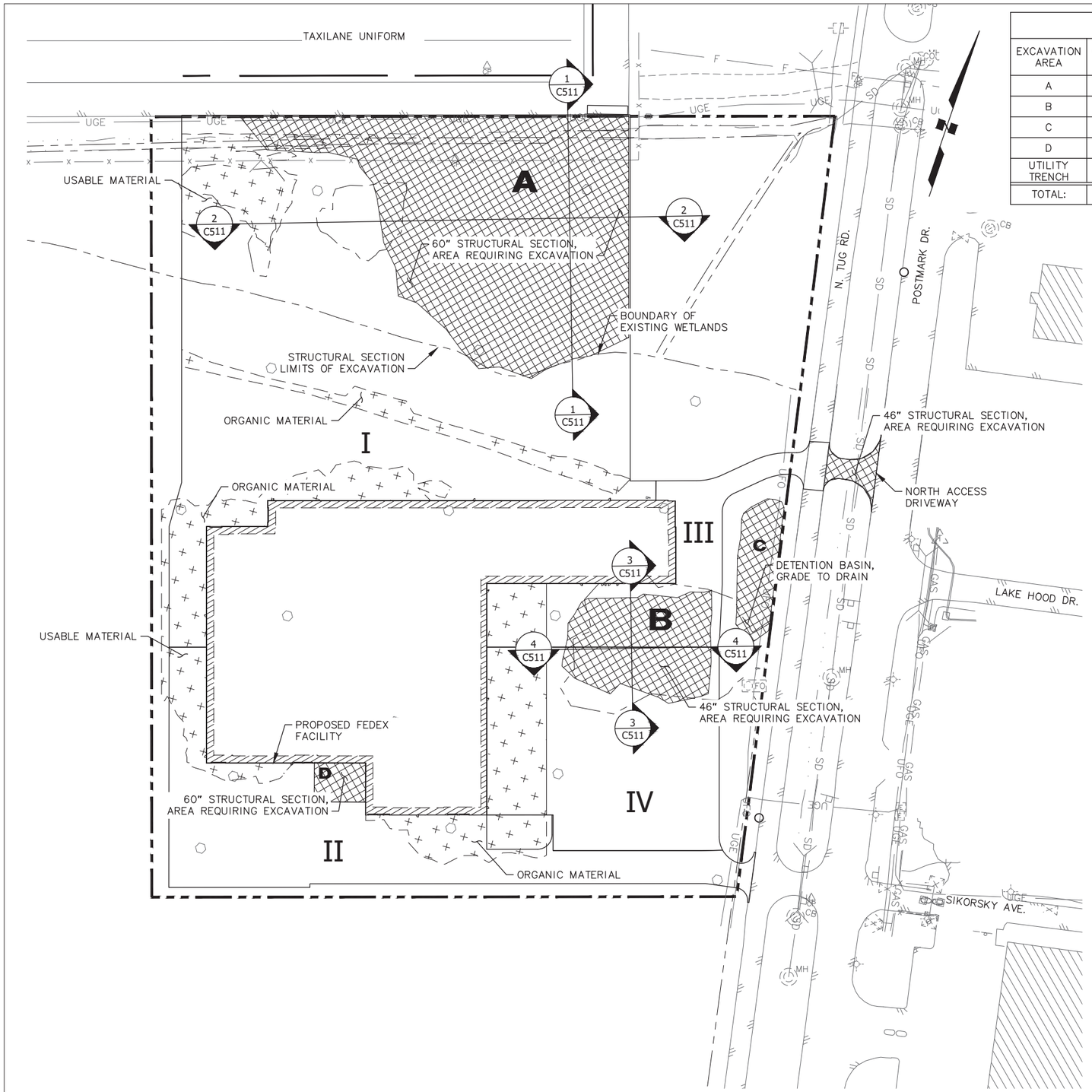
POSTMARK DRIVE,
ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	3/14/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

MITIGATION PLAN

SHEET NO.
C500



EXCAVATION SUMMARY OF WORK

EXCAVATION AREA	ORGANIC MATERIAL, CUBIC YARD	NON-ORGANIC MATERIAL, CUBIC YARD	TOTAL MATERIAL EXCAVATED, CUBIC YARD	TOTAL MATERIAL EXCAVATED WITH 20% SWELL, CUBIC YARD
A	4,428	10,075	14,503	17,403
B	736	987	1,723	2,068
C	151	1,362	1,513	1,816
D	103	0	103	124
UTILITY TRENCH	3,800	0	3,800	4,560
TOTAL:	9,218	12,424	21,642	25,971

GROUND PREPERATION SUMMARY OF WORK

FILL AREA	FILL MATERIAL, CUBIC YARD (SEE NOTE 2)
I	19,770
II	6,996
III	2,184
IV	5,247
TOTAL:	34,167

NOTES:

1. EXISTING DRAINAGE DITCHES WILL BE FILLED WITH ORGANIC MATERIAL FROM EXCAVATION AREAS.
2. FILL MATERIAL IN THE VOLUME OF MATERIAL BETWEEN THE TOP OF THE CONSOLIDATED PEAT AND THE BOTTOM OF THE STRUCTURAL SECTION.

1 **EXCAVATION PLAN OVERVIEW - PHASE I**
SCALE: GRAPHIC

0 80' 160'
HORIZONTAL SCALE IN FEET

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

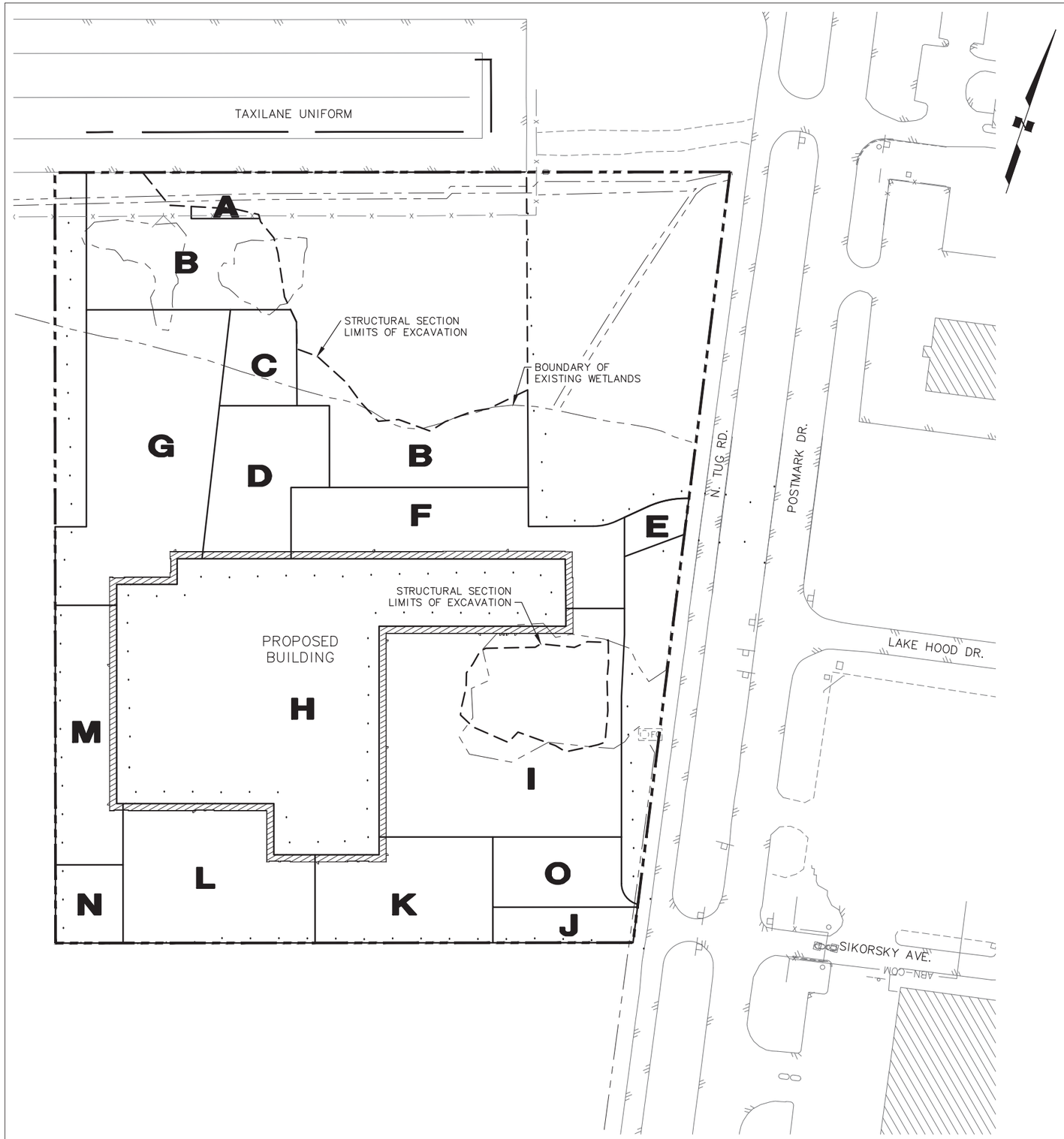
POSTMARK DRIVE,
ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

EXCAVATION PLAN OVERVIEW - PHASE I

SHEET NO.
C510



AREA	SURCHARGE HEIGHT (FT)	EST. SURCHARGE TIME (DAYS)	*SETTLEMENT RANGE (FT)	**AVERAGE SETTLEMENT (FT)
A	2.0	110	0.5 to 1.7	0.9
B	0.5	25	0.3 to 0.6	0.4
C	2.5	160	1.7 to 2.1	1.9
D	4.5	250	2.6 to 3.5	2.8
E	9.0	400	4.5 to 6.5	5.5
F	1.5	75	0.7 to 1.4	1
G	2.0	125	1.0 to 2.0	1.5
H	NO SURCHARGE		0.4 to 2.0	1.2
I	0.5	25	0.3 to 0.4	0.3
J	3.0	175	1.5 to 2.4	2.0
K	3.0	200	2.3 to 2.6	2.4
L	3.0	200	2.3 to 2.5	2.4
M	3.0	175	1.5 to 2.7	2.2
N	3.5	225	2.5 to 4.1	2.9
O	1.3	55	0.7 to 1.1	0.9

*DEPENDENT ON DEPTH OF ORGANICS AND COMBINED LOAD FROM EMBANKMENT AND SURCHARGE

**CONSIDERS IMMEDIATE SETTLEMENT AND PRIMARY CONSOLIDATION ONLY, EXCLUDES SECONDARY COMPRESSION

LEGEND

(A) SETTLEMENT MONITORING PLATE

DRAINAGE ARROW

1 **SURCHARGE PLAN OVERVIEW - PHASE II**

SCALE: GRAPHIC

0 80' 160'

HORIZONTAL SCALE IN FEET

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, LLC
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

POSTMARK DRIVE,
ANCHORAGE, ALASKA

PERMIT SET

JOB NO.	73138.00
DATE:	2/27/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

SURCHARGE PLAN OVERVIEW - PHASE II

SHEET NO.
C520

APPENDIX B: BACKGROUND FIGURES

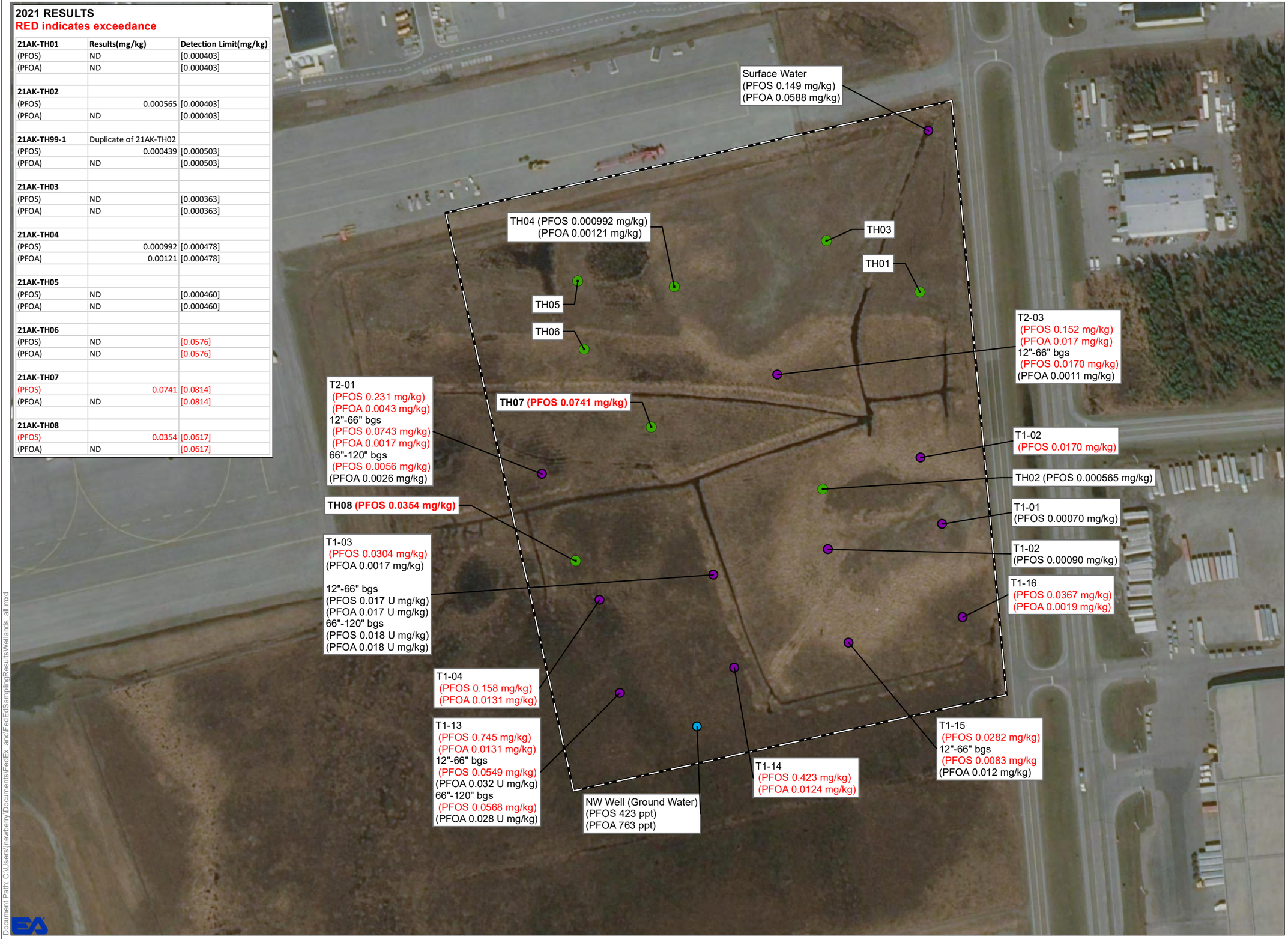
Appendix B

Background Figures

THIS PAGE INTENTIONALLY LEFT BLANK

2021 RESULTS
RED indicates exceedance

21AK-TH01	Results(mg/kg)	Detection Limit(mg/kg)
(PFOS)	ND	[0.000403]
(PFOA)	ND	[0.000403]
21AK-TH02		
(PFOS)	0.000565	[0.000403]
(PFOA)	ND	[0.000403]
21AK-TH99-1	Duplicate of 21AK-TH02	
(PFOS)	0.000439	[0.000503]
(PFOA)	ND	[0.000503]
21AK-TH03		
(PFOS)	ND	[0.000363]
(PFOA)	ND	[0.000363]
21AK-TH04		
(PFOS)	0.000992	[0.000478]
(PFOA)	0.00121	[0.000478]
21AK-TH05		
(PFOS)	ND	[0.000460]
(PFOA)	ND	[0.000460]
21AK-TH06		
(PFOS)	ND	[0.0576]
(PFOA)	ND	[0.0576]
21AK-TH07		
(PFOS)	0.0741	[0.0814]
(PFOA)	ND	[0.0814]
21AK-TH08		
(PFOS)	0.0354	[0.0617]
(PFOA)	ND	[0.0617]



Proposed Lease Area
2021 Soil Sample
2020 Groundwater Sample
2020 Soil Sample

N

0 75 150 300
Feet

PFAS = Per and Polyfluoroalkyl Substances
PFOS = Perfluorooctanesulfonic Acid
PFOA = Perfluorooctanoic Acid
bgs = below ground surface
ppt = parts per trillion

Results in red indicate exceedances of 18 AAC 75, Table B1, Method Two, mitigation to groundwater, under 40-inch zone

Federal Express
Ted Stevens Anchorage International Airport

Wetlands Sampling

Figure 1
PFAS Sample Locations & Results

Document Path: C:\Users\jnewberry\Documents\FedEx_anc\FedExSamplingResultsWetlands_all.mxd

2021 RESULTS

21AK-TH01	Results (mg/kg)	Detection Limit (mg/kg)
DRO (C10 to C25)	ND	[3.73]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[3.73]
RRO (C25 to C36)	ND	[3.73]
RRO (C25 to C36)-Silica Gel Cleanup	ND	[3.73]
21AK-TH02		
DRO (C10 to C25)	ND	[4.01]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[4.01]
RRO (C25 to C36)	6.64	[4.01]
RRO (C25 to C36)-Silica Gel Cleanup	ND	[4.01]
21AK-TH99-1 Duplicate of 21AK-TH02		
DRO (C10 to C25)	ND	[3.60]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[3.60]
RRO (C25 to C36)	11.7	[3.60]
RRO (C25 to C36)-Silica Gel Cleanup	9.11	[3.60]
21AK-TH03		
DRO (C10 to C25)	ND	[3.60]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[3.60]
RRO (C25 to C36)	ND	[3.60]
RRO (C25 to C36)-Silica Gel Cleanup	ND	[3.60]
21AK-TH04		
DRO (C10 to C25)	ND	[3.94]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[3.94]
RRO (C25 to C36)	10.8	[3.94]
RRO (C25 to C36)-Silica Gel Cleanup	5.06	[3.94]
21AK-TH05		
DRO (C10 to C25)	4.81	[3.99]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[3.99]
RRO (C25 to C36)	34.0	[3.99]
RRO (C25 to C36)-Silica Gel Cleanup	17.0	[3.99]
21AK-TH06		
DRO (C10 to C25)	446	[209]
DRO (C10 to C25)-Silica Gel Cleanup	90.5	[52.3]
RRO (C25 to C36)	3,870	[209]
RRO (C25 to C36)-Silica Gel Cleanup	1,370	[52.3]
21AK-TH07		
DRO (C10 to C25)	160	[141]
DRO (C10 to C25)-Silica Gel Cleanup	ND	[70.5]
RRO (C25 to C36)	2,030	[141]
RRO (C25 to C36)-Silica Gel Cleanup	938	[70.5]
21AK-TH08		
DRO (C10 to C25)	141	[68.0]
DRO (C10 to C25)-Silica Gel Cleanup	28.7	[13.6]
RRO (C25 to C36)	1,150	[68.0]
RRO (C25 to C36)-Silica Gel Cleanup	435	[13.6]

TH06 (DRO 446 mg/kg)
(DRO Silica Gel Cleanup 90.5 mg/kg)
(RRO 3,870 mg/kg)
(RRO Silica Gel Cleanup 1,370 mg/kg)

TH04 (RRO 10.8 mg/kg)
(RRO Silica Gel Cleanup 5.06 mg/kg)

TH05 (DRO 4.81 mg/kg)
(RRO 34.0 mg/kg)
(RRO Silica Gel Cleanup 17.0 mg/kg)

POSTMARK DR

N TUG RD

TH03

TH01

T2-03
12"-66" bgs
(DRO 702 mg/kg)
(RR0 10600 mg/kg)

T2-01
12"-66" bgs
(DRO 616 mg/kg)
(RRO 7070 mg/kg)
66"-120" bgs
(DRO 449 mg/kg)
(RRO 5980 mg/kg)

TH07 (DRO 160 mg/kg)
(RRO 2,030 mg/kg)
(RRO Silica Gel Cleanup 938 mg/kg)

T1-02

TH02 (RRO 6.64 mg/kg)
TH99-1(RRO 11.7 mg/kg)
(RRO Silica Gel Cleanup 9.11 mg/kg)

T1-01

T1-02

T1-16

TH08 (DRO 141 mg/kg)
(DRO Silica Gel Cleanup 28.7 mg/kg)
(RRO 1,150 mg/kg)
(RRO Silica Gel Cleanup 435 mg/kg)

T1-15
12"-66" bgs
(DRO 875 mg/kg)
(RRO 8260 mg/kg)

T1-04

T1-14

NW Well (Ground Water)

T1-03
12"-66" bgs
(GRO 15.7 mg/kg)
(DRO 1380 mg/kg)
(RRO 17000 mg/kg)

T1-13
12"-66" bgs
(DRO 796 mg/kg)
(RRO 8260 mg/kg)

- Proposed Lease Area
- 2021 Soil Sample
- 2020 Ground Water Sample
- 2020 Soil Sample

N

0 75 150 300
Feet

DRO = diesel range organics
RRO = residual range organics
bgs = below ground surface

Results in red indicate exceedances of 18 AAC 75, Table B1, Method Two, mitigation to groundwater, under 40-inch zone

Federal Express
Ted Stevens Anchorage International Airport

Wetlands Sampling
Figure 2
DRO/RRO
Sample Locations & Results

Document Path: C:\Users\jnewberry\Documents\FedEx_anc\FedExSamplingResults\Wetlands_allDRORRO.mxd

APPENDIX C: REGENESIS INSTRUCTIONS

Appendix C

Regenesis Instructions

REGENESIS
REMEDIATION SERVICES
Technology-Based Solutions for the Environment

March 20, 2023

To:	Steve Zebovitz, P.E., FedEx
Project:	Ted Stevens Airport, AK
Subject:	Preliminary Technical Proposal to Assist with PFAS Migration Prevention

Thank you for the opportunity to work with FedEx in support of mitigating groundwater contamination migration during construction of an aircraft feeder ramp and package sorting facility. The contamination mitigation is focused on the sequestration of per- and polyfluoroalkyl substances (PFAS) present in an undeveloped Postmark Bog area south of Taxiway Uniform at Ted Stevens Anchorage International Airport (TSAIA). This proposal outlines our approach to achieve long-term sequestration of PFAS impacted groundwater utilizing strategically located fill material barriers amended with a site-specific blend of amendments to reduce the impacts of the surrounding groundwater.

Treatment Approach

Based on our discussions of the site and review of the site data, the approach will comprise permeable filter barriers amended with a site-specific blend of activated carbon mixed with Non-Frost Susceptible (NFS) fill material. The amended NFS fill material will be placed into a trench as well as portions of the construction infrastructure subbase. The site-specific blend of amendments will consist of our patented SourceStop™ (SourceStop) colloidal activated carbon (CAC), in conjunction with powdered activated carbon (PAC). The combined treatment approach will create a significant and long-term reduction in the leachability of PFAS by increasing the sorptive capacity of the NFS fill material, which will effectively eliminate the PFAS contamination migration potential. Essentially, the treatment will adsorb PFAS contamination, remove it from groundwater, and eliminate further displacement during the construction activities, preventing, or drastically reducing discharge of mass from the area. The treatment is a sustainable, passive solution with no ongoing operation cost, no waste, and a safe and easy application.

The trench will be located along the eastern side of the parcel adjacent to Tug Road and act as an infiltration trench preventing PFAS contamination from horizontally migrating offsite. The trench will be excavated down to 6-feet from approximately 6-inches above the top of the seasonal high groundwater elevation while removing the Postmark Bog material and replacing it with the amended NFS fill material. Areas utilizing the amended NFS fill material as part of the subbase will help prevent PFAS contamination from vertically migrating upward as the fill material is place directly over the Postmark Bog material.

Treatment Technology Details

The primary intent is to blend the NFS fill material at a recommended dose rate with activated carbon to create a purifying filter to which PFAS is adsorbed. The site-specific blend consists of SourceStop, a micron-scale CAC in an aqueous suspension and PAC, a dry powder roughly 50 to 250 microns in size. The PAC will provide a significant increase of sorptive capacity in bulk form, while the SourceStop, given the combination of liquid format and

1011 Calle Sombra • San Clemente, CA 92673 • Tel: 949.366.8000 •

particle size, will optimize the treatment through uniform coating, improved penetrations into lower permeability zones, and rapid/highly efficient sorption of PFAS. Owning to the small particle size of the activated carbon in SourceStop, the PFAS contamination is rapidly removed from the groundwater through sorption.

SourceStop offers unique and proprietary properties that are exclusive to the ability to design and engineer the hydrophobicity of an aquifer to manage the retardation and migration of contaminants. The emplacement of micron-scale activated carbon particles will immediately strip the contaminants out of the groundwater and onto the activated carbon particles bound to the aquifer matrix where degradation can then occur, as applicable, converting the polluted aquifer into a purifying filter. ***The practice of these methods and technologies are covered by several granted and pending US and international patents.***

Treatment Process

The site-specific blend is applied through techniques focused on distribution both horizontally and vertically to achieve a consistent homogeneous mix. The PAC will be mixed in with the fill material to achieve a thorough homogeneous mix followed by the SourceStop which will evenly coat the fill material in a thin layer of CAC. The addition of the blend to the fill material is generally conducted in 2-phases:

1. Mechanically mix in the PAC with standard heavy-construction equipment to promote even distribution throughout the fill material. This process can be done directly within the treatment area or separately within a stockpiled area then transferred to the treatment area for placement.
2. Spray apply the SourceStop to evenly coat the fill material while placing into the treatment area. When applying the SourceStop, turning over the fill material several times should be performed to further promote distribution and coating of the material.
    a. The SourceStop should be mixed with water in above-ground mixing tanks and spray applied using a high-volume water pump to facilitate the distribution in fully covering/coating the fill material. The spray application of SourceStop should coincide with incremental lifts during the PAC amended fill material placement.

Preliminary Treatment Application Rates

Soil Treatment Application Summary							
Treatment Location Name	Treatment Locaiton Dimensions (L'xW'xD')		Treatment Location Area (Square Feet)	Treatment Location Volume (Cubic Yards)	Soil Treatment Amendment Blend (Pounds/Cubic Yard)	SourceStop Amount (lbs)	PAC Amount (lbs)
Trench	L (Feet)	750	3000	667	145	37600	59000
	W (Feet)	4					
	D (Feet)	6					
Fill Soil Intergration (Northeast Area)	L (Feet)	100	5000	370	130	15200	33000
	W (Feet)	50					
	D (Feet)	2					
Fill Soil Intergration (Southern Boundary)	L (Feet)	720	7200	533	129	20800	48000
	W (Feet)	10					
	D (Feet)	2					

*Dimensions and Quantities are estimated.

1011 Calle Sombra • San Clemente, CA 92673 • Tel: 949.366.8000 •

The proposal application dose rates above are based on mitigating PFAS contamination migration over the planned construction period and beyond. The effectiveness of the trench barrier shall mitigate PFAS contamination passing through the filter barrier during construction activities.

Project Objectives

- Evaluate and confirm amendment dosage through bench testing
- Assist with the installation of strategically located permeable filter barriers utilizing SourceStop and PAC
- Assist with amending the NFS fill material with SourceStop and PAC

Qualifications and Clarifications

1. Delivery time frames cannot be guaranteed, therefore, REGENESIS will not be responsible for any delays or any resulting increase in cost associated with those delays.
2. REGENESIS will work with FedEx to confirm project objectives, performance/compliance monitoring locations, and PFAS concentrations limit goals.
3. REGENESIS will work with FedEx in considering the utilization of these amendments within the existing trenches near the northeast corner of the parcel to address the contamination.
4. Deposition rates of the CAC may be slow enough to generate “black water” near/surrounding the amended fill material.

We look forward to working with you and further discussing this opportunity. Should you have any questions, please do not hesitate to contact us.

Best Regards,
REGENESIS

Steve Barnes
RRS Director of Operations
574-349-0650
sbarnes@regenesis.com

Maureen Dooley
Vice President Industrial Sector
781-223-5201
mdooley@regenesis.com

Attachments: Site Map and Treatment Summary Sheet

1011 Calle Sombra • San Clemente, CA 92673 • Tel: 949.366.8000 •

SourceStop™ Soil Treatment Summary

Project Name: FedEx, Ted Stevens Airport - AK

Prepared For: Shannon & Wilson

Regenesis Project ID: DaP71582

Soil Treatment Application Summary								
Treatment Location Name	**Treatment Locaiton Dimensions (L'xW'xD')**		**Treatment Location Area (Square Feet)**	**Treatment Location Volume (Cubic Yards)**	**Soil Treatment Amendment Blend (Pounds/Cubic Yard)**	**SourceStop Amount (lbs)**	**PAC Amount (lbs)**
Trench	**L (Feet)**	750	3000	667	145	37600	59000
	W (Feet)	4					
	D (Feet)	6					
Fill Soil Intergration (Northeast Area)	**L (Feet)**	100	5000	370	130	15200	33000
	W (Feet)	50					
	D (Feet)	2					
Fill Soil Intergration (Southern Boundary)	**L (Feet)**	720	7200	533	129	20800	48000
	W (Feet)	10					
	D (Feet)	2					

General Application Approach: The soil amendment blend should be distributed horizontally and vertically as best possible throughout the fill placement. This 2-part blend consists of SourceStop, a micron-scale colloidal activated carbon (CAC, 1-2 microns suspended in water) and powdered activated carbon (PAC, 50-250 microns). The primary intent is to blend the fill material at the recommended dose rates with activated carbon to create a purifying filter to which PFAS is adsorbed. The PAC will be mixed in with the fill material to achieve a thorough homogenous mix followed by the SourceStop which will evenly coat the fill material in a thin layer of colloidal activated carbon. The addition of the blend is generally conducted in 2-phases:

1.) Mechanically mix in the PAC with standard heavy-construction equipment to promote even distribution throughout the fill material. This process can be done direclty within the treatment area or separately within a stockpiled area while then transfered to the treatment area for placement. The PAC is shipped in 1,000 lbs super sacks.
2.) Spray apply the SourceStop to evenly coat the fill material. When applying the SourceStop, we would recommend turning over the fill material, which already has been blended with the PAC, to further promote distribution. SourceStop is shipped in 2,000 lbs totes and 400 lbs drums.

SourceStop Notes: The SourceStop would be mixed with water in above-ground mixing tanks and spray applied using a high-volume water pump to facilitate the distribution in fully covering/coating the fill material. The spray application of SourceStop should coincide with incremental lifts during the PAC amended fill material replacement. The SourceStop will be diluted with water to help with the distribution and coating of the fill material. This will be a variable ratio based on site conditions (1:1 to 1:3 SourceStop to water ratio).

Site Specific Notes: Regenesis Remediation Services (RRS) would provide oversight/management to guide/direct and assist with the installation contractor in applying the amendments at the correct dosage and procedures developed. All equipment would be provided by the installation contractor.

THIS PAGE INTENTIONALLY LEFT BLANK

TAXILANE UNIFORM

BOUNDARY OF EXISTING WETLANDS

PROPOSED BUILDING FF = 88.50

N. TUG RD.

POSTMARK DR.

LAKE HOOD DR.

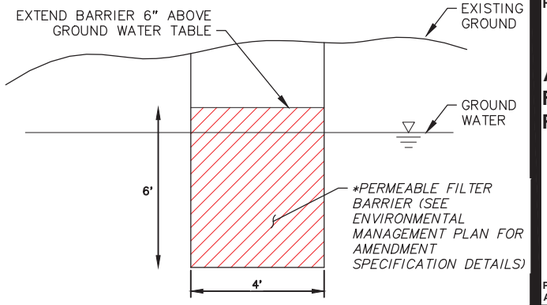
SIKORSKY AVE.

PERMEABLE FILTER BARRIER, SEE DETAIL 1.

PER ENVIRONMENTAL MANAGEMENT PLAN, AMEND FIRST 2' OF NON-FROST SUSCEPTIBLE (NSF) SURCHARGE FILL ALONG A 10' PERIMETER WITH SITE SPECIFIC BLEND OF AMENDMENTS CONSISTING OF COLLOIDAL ACTIVATED CARBON (CAC) AND POWDERED ACTIVATED CARBON (PAC)

PER ENVIRONMENTAL MANAGEMENT PLAN, AMEND FIRST 2' OF NON-FROST SUSCEPTIBLE (NSF) SURCHARGE FILL WITH SITE SPECIFIC BLEND OF AMENDMENTS CONSISTING OF COLLOIDAL ACTIVATED CARBON (CAC) AND POWDERED ACTIVATED CARBON (PAC) FOR THE EXTENT OF THE DRIVEWAY WIDTH INCLUDING SHOULDERS AND FILL SLOPES

80' 0 80' 160'



1 **SECTION A-A**
SCALE: NTS

*PERMEABLE FILTER BARRIER AMENDED WITH A SITE SPECIFIC BLEND OF ACTIVATED CARBON MIXED WITH NSF FILL MATERIAL THROUGH THE PEAT ZONE TO A MAXIMUM DEPTH OF 5.5' BELOW THE GROUNDWATER TABLE, PER ENVIRONMENTAL MANAGEMENT PLAN.

FOR:
SUBMITTAL
PRICING

CRW ENGINEERING GROUP, INC.
3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

FEDEX EXPRESS

ANCA FACILITY RELOCATION

POSTMARK DRIVE,
ANCHORAGE, ALASKA

95% DESIGN SUBMITTAL

JOB NO.	73138.00
DATE:	3/14/2023
PROJ. MGR.:	RLC
DRAWN BY:	CMK
REVIEWED BY:	RLC
REVISIONS:	

MITIGATION PLAN

SHEET NO.
C500

Centreline Sorption Trends

ANCA FedEx proposed sorption trench simulation