Final Environmental Assessment
Kiana Airport Safety Improvements

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State Project Number 63179

FINAL ENVIRONMENTAL ASSESSMENT

Kiana Airport Safety Improvements
State Project Number 63179

Prepared for:

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This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA Official.

Responsible FAA Official — Date: 6/26/15

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LIST OF ACRONYMS

ADEC.....Alaska Department of Environmental Conservation
ADF&G .....Alaska Department of Fish and Game
APDES .....Alaska Pollutant Discharge Elimination System
APE .....Area of Potential Effect
BIA.....Bureau of Indian Affairs
BMPs .....Best Management Practices
CFR.....Code of Federal Regulations
CGP .....Construction General Permit
ADEC.....Alaska Department of Environmental Conservation
DOT&PF .....Alaska Department of Transportation and Public Facilities
DRO.....diesel range organics
DWPA.....Drinking Water protection Area
EA .....Environmental Assessment
EFH .....Essential Fish Habitat
FAA .....Federal Aviation Administration
ft. .....foot or feet
GRO.....gasoline range organics
Kiana Airport .....Bob Baker Memorial Airport
NANA.....NANA Regional Corporation
NAVAIDs .....Navigational Aid System
NEPA.....National Environmental Policy Act
NMFS.....National Marine Fisheries Service
NAB.....Northwest Arctic Borough
NRHP.....National Register of Historic Places
NWATP .....Northwest Alaska Transportation Plan
OFA .....Object Free Area
PAPI.....Precision Approach Path Indicator
PWS .....Public Water System
REIL.....Runway End Identifier Light
SHPO .....State Historic Preservation Office
SWCA.....SWCA Environmental Consultants, Inc.
SWPPP.....Storm Water Pollution Prevention Plan

U.S. .....United States

USACE .....U.S. Army Corps of Engineers

USFWS .....U.S. Fish and Wildlife Service

1 INTRODUCTION

Kiana is a remote northwest Alaska community located within the Northwest Arctic Borough (NAB) on the north bank of the Kobuk River, approximately 60 miles east of Kotzebue. Kiana is not connected to neighboring communities by a road. Air transport is the most reliable method to provide the community with essential services such as passenger transportation, bypass mail, cargo delivery, and medical evacuations. The Kiana Airport is located adjacent to the community at approximately 66°58'33.44" North Latitude and 160°26'11.52" West Longitude (Sections 4, 5, 6, 8, and 9, Township 18 N, Range 8 W, and Sections 31 and 32, Township 19 N, Range 8 W, Kateel River Meridian) as depicted in Figures 1, 2a, and 2b (Chapter 9, *Figures*).

The Alaska Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Federal Aviation Administration (FAA), proposes to improve safety and efficiency of the Bob Baker Memorial Airport (Kiana Airport) in Kiana, Alaska. Existing facilities at the Kiana Airport include a 3,400-foot (ft.) runway with a deteriorating surface, a deficient 100-ft. by 500-ft. apron, a snow removal equipment building, a private general aviation hangar, and ageing lighting systems.

2 PURPOSE AND NEED

The purpose of the proposed project is to improve safety and efficiency of the Kiana Airport by bringing the airport to FAA standards for the Beechcraft 1900, the design aircraft (DOT&PF, 2015). Due to Kiana's remote location, goods and services can only be delivered to the community by barge or aircraft. Barge transport to Kiana is hindered by shallow Kobuk River waters during the ice-free summer months (July, August, and September), and is inaccessible by barge during the winter months when the Kobuk River freezes over; therefore, air cargo is essential to delivering goods and services to the community. The runway's current 3,400-ft. length limits the type of cargo aircraft that can service Kiana Airport, so larger aircraft (such as Beechcraft 1900, DC-6, and C-130 Hercules) can only land partially loaded, which limits the amount of delivered goods and services to the community. A 4,000-ft. runway would allow for larger aircraft to access Kiana, greatly increasing cost efficient transportation of passengers and cargo.

The Beechcraft 1900 is identified in the Northwest Alaska Transportation Plan (NWATP) as the design aircraft for future planning purposes with a recommended 4,000-ft. runway design. The NWATP identifies Kiana as one of the four main air carrier routes from the Kotzebue Airport serving surrounding communities. Noorvik, a community eight miles from Kiana with similar population size, currently has a 4,000-ft. runway and, unlike Kiana, is able to utilize a fully-loaded Beechcraft 1900 to deliver essential community needs. The Beechcraft 1900 is operated out of Noorvik by Bering Air twice a week during

the school year, with occasional charters during the summer months for Bureau of Land Management fire fighters, and by Ravn Alaska roughly ten times a year. Ravn Alaska also services the surrounding communities with daily scheduled flights and charters and has four Beechcraft 1900's, along with eight Dash 8's, in their aircraft fleet. Since Kiana has similar population size and community needs as Noorvik, it is anticipated the Beechcraft 1900 would also utilize the Kiana runway if lengthened to 4,000-ft.

Apron expansion and setback from active airspace is needed to remove existing penetrations to the object free area (OFA) and Federal Aviation Regulations Part 77 Transitional Surface. Additionally, drainage improvements are needed to ensure a stable integrity of the runway surface. The existing runway's deteriorating surface causes operational problems that result in frequent runway closures during the spring breakup due to soft runway conditions from poor drainage. Currently, the Kiana Airport does not provide a designated area for snow storage and the snow storage areas used interfere with spring drainage. There is a need for a designated area for snow storage that would accommodate runoff from spring drainage, and provide sufficient maintenance operating space. Also, airport lighting was installed 25 years ago and is in need of replacement.

3 PROPOSED ACTION

Proposed safety and efficiency improvements to the Kiana Airport (Proposed Action) include the following elements (Figures 2a and 2b) and are described in detail in the below sections:

- Runway Skew and Extension
- Runway, Taxiway, and Apron Resurfacing
- Apron Expansion
- Drainage Improvements
- Material Site and Haul Route Development
- Navigational Aids (NAVAIDs) and Lighting
- Right-of-Way Acquisition
- Dust Control

3.1 Runway Skew and Extension

To achieve adequate runway length to meet FAA standards the existing 3,400-ft. runway would be skewed approximately 3 degrees north from runway end 24 and lengthened 600 ft. for a total 4,000-ft. runway length. The new skewed runway would increase the apron setback while utilizing the existing apron. This would also increase the efficiency of cargo aircraft and enhance the safety of aircraft operations by removing existing penetrations to the OFA and Part 77 Transitional Surface.

3.2 Runway, Taxiway, and Apron Resurfacing

The existing gravel runway, taxiway, and apron would be graded and resurfaced to correct surface deficiencies for takeoffs, landings, and taxiing, as well as allow for year-round operations.

3.3 Apron Expansion

The existing apron would be expanded and set back from active airspace to remove existing penetrations to the OFA and Part 77 Transitional Surface as well as reduce aircraft congestion.

3.4 Drainage Improvements

Drainage would be improved by replacing culverts, reestablishing the drainage ditch along the north side of the runway, and grading the runway to drain as needed. Improving drainage around the runway would allow for a stable runway surface and minimize future deterioration of the runway due to saturated embankments. Additionally, the Proposed Action would provide a designated area at the airport for

increased snow storage to accommodate spring drainage runoff and provide sufficient operating space for airport maintenance vehicles.

3.5 Material Site and Haul Route

A new material site and haul route would be developed to provide fill material for construction of the airport improvements. The undeveloped material site is located approximately 2.8 miles northwest of Kiana. The proposed temporary access haul route would be extended 2.8 miles from the end of the existing sewage lagoon road to the material source.

3.6 Navigational Aids and Lighting

Existing Precision Approach Path Indicators (PAPI) and Runway End Identifier Lights (REIL) would be replaced with the runway skew, in addition to replacing ageing lighting systems at the airport.

3.7 Right-of-Way Acquisition

Accommodation of the new runway protection zone for the runway skew and extension on the west end of the runway would require additional lands abutting the northern airport property boundary through a right-of-way acquisition process.

3.8 Dust Control

To reduce fugitive dust, and ensure integrity of the surface course, dust control on the airport operational surfaces would be provided.

3.9 Identification of Federal Action Requested

Federal Actions requested of the FAA by the DOT&PF include the following:

- Approval of the revised Airport Layout Plan; and
- Participation in funding through the FAA's Airport Improvement Program for the proposed improvements to Kiana Airport.

4 ALTERNATIVES

4.1 Alternatives Considered but Dismissed

To improve safety and efficiency at the Kiana Airport the proposed alternative must provide adequate runway length (4,000 ft.), correct surface deficiencies, and an expanded apron. Multiple runway, material site, and material site road alternatives, which meet these needs, were considered but dismissed, and are summarized further in Table 1 and shown in Appendix A.

Table 1 – Alternatives Considered but Dismissed

Runway and Apron Alternatives		
Alternative	**Description**	**Rationale for Dismissing Alternative**
Option 1	Lengthen runway 600 ft., and relocate the existing apron to meet the FAA desired setback. Apron relocation sites were evaluated southwest and northeast of the existing runway.	Southwest apron relocation was disliked by the community as it conflicts with community expansion plans. Extensive fill would be required for construction. Northeast apron relocation partially located on poor foundation soils. Both apron relocation options would require land acquisition and high material costs ($6.3 and $12.3 million respectively).
Option 2	Lengthen runway 600 ft., and relocate existing runway 170 ft. north and 200 ft. west to meet the FAA desired apron setback.	Fair to poor foundation soils and would require extensive over-excavation. Little to no potential for reusing excavated soils. High material cost ($9.2 million).
Option 3 (Current Proposed Alternative)	Lengthen runway 600 ft. and skew existing runway 3 degrees north to meet the FAA desired apron setback.	N/A; carried forward for further evaluation.
Option 4	Lengthen runway 600 ft. and skew existing runway 9.5 degrees north from a point 1,500 ft. from the Runway 24 threshold to meet the FAA desired apron setback.	New airport boundary limits would be required on Native Allotment lands. Additional environmental studies and geotechnical work would be required outside of airport property. High material cost ($10.8 million).
Option 5	Lengthen runway 600 ft. and skew existing runway 9.5 degrees north to meet the FAA desired apron setback.	New airport boundary limits would be required on Native Allotment lands. Additional environmental studies and geotechnical work would be required outside of airport property. High material cost ($18 million).
Option 6	Lengthen runway 600 ft. and skew existing runway 16 degrees north to meet the FAA desired apron setback.	New airport boundary limits would be required on Native Allotment lands. Additional environmental studies and geotechnical work would be required outside of airport property. High material cost ($12.2 million).

Option 7	Lengthen runway 600 ft. and skew existing runway 23.5 degrees north to meet the FAA desired apron setback.	Long taxiway and access road would be required. Extreme excavation (20-ft.) and Part 77 surfaces would need to be cleared to 7:1; therefore, impractical to build. New airport boundary limits would be required on Native Allotment lands. Additional environmental studies and geotechnical work would be required outside of airport property. High material cost ($26 million).
Material Site Alternatives (DOT&PF, 2012)		
Alternative	**Description**	**Rationale for Dismissing Alternative**
A-1 (Current Proposed Alternative	Approximately 2 miles northwest of Kiana.	N/A; carried forward for further evaluation.
A-2	Approximately 4 miles southwest of Kiana.	Accessibility is difficult and long distance from project area.
A-3	Approximately 4.5 miles southwest of Kiana along the Kobuk River.	Long distance from project area.
A-4	Approximately 2 miles northwest of Kiana along the Kobuk River.	Culturally sensitive area.
A-5	Approximately 0.5 mile north of Kiana.	Kiana community doesn't want to exhaust the resources of the material site as it is used by the community.
A-6	Approximately 1 mile west of Kiana.	Not enough available suitable material to support the project.
Material Site Access Road Alternatives		
Upper Access (Current Proposed Alternative)	Road that follows the upper trail between the Kiana Airport and the A-1 material site.	N/A; carried forward for further evaluation.
Lower Access	Road that follows the lower trail between the Kiana Airport and the A-1 material site.	Traverses more wetland areas than the upper trail.

4.2 Proposed Action Alternative

The Proposed Action would extend the runway length and correct surface deficiencies, in addition to expanding the apron to improve safety and efficiency. The Proposed Action would meet FAA standards while minimizing environmental impacts and keeping the project's cost within available funding. Additional Proposed Action elements are described further in Chapter 3, *Proposed Action*.

4.2.1 Permits or Clearances

The permits and/or clearances listed below would be obtained prior to construction of the Proposed Action to comply with all applicable federal, state, and local regulations:

- Consultation with the State Historic Preservation Office (SHPO), tribes, and other consulting parties to avoid adverse effect to cultural and historic resources.
- U.S. Army Corps of Engineers (USACE) Section 404 permit for fill in wetlands and waters of the U.S.
- Alaska Department of Environmental Conservation (ADEC) 401 Certificate of Reasonable Assurance to certify that the Proposed Action would meet State water quality standards.
- Alaska Pollutant Discharge Elimination System General Permit for Construction Activities for potential storm water discharge from the project into wetlands or waters of the U.S. (to be obtained by the construction contractor).
- Storm Water Pollution Prevention Plan (SWPPP) to manage storm water associated with more than one acre of ground disturbance (to be developed by the construction contractor, reviewed by DOT&PF, submitted to ADEC for approval, and implemented throughout construction).
- Alaska Department of Fish and Game (ADF&G) Title 16 Fish Habitat Permit for work in or over resident fish streams (if resident fish are found during fish trapping) within the Proposed Action area.
- Consultation with the U.S. Fish & Wildlife Service (USFWS) to comply with Section 7 of the Endangered Species Act.
- NAB Title 9 Permit to comply with NAB land use regulations.

Records of SHPO consultation are included in Appendix B, and summarized in Section 5.6.2, *Historic, Architectural, Archeological, and Cultural Resources.*

4.3 No Action Alternative

Under the No Action Alternative no airport improvements would occur. The existing deficiencies would remain present at the airport. This alternative would not improve runway length or surface, and the cargo limitations and seasonal closures would not be reduced.

The No Action Alternative would make no improvements to the apron, which does not currently meet FAA safety standards for minimum setback and does not allow for increased snow storage or near-term and future airport growth. The stated purpose and need to meet FAA standards would not be met by this alternative.

4.3.1 Permits or Clearances

The No Action alternative would not impact protected resources. No permits or clearances would be needed under the No Action alternative.

4.4 Summary of Alternatives' Environmental Consequences

The Proposed Action would have no significant adverse impacts in any resource category. A summary of environmental effects relevant to the Proposed Action and No Action Alternatives are outlined in Table 2. Resource categories not identified in the project area are not discussed in Table 2. Chapter 5 provides a detailed discussion of the affected environment and environmental consequences of each resource category.

Table 2 – Comparison of Alternatives' Environmental Effects

Resource Category	Potential Environmental Effects	
	Proposed Action	**No Action**
Compatible Land Use	• Increase separation distance between active airspace and residential homes.	• None.
Construction	• Temporary air quality degradation from heavy equipment operation and hauling/placement of fill material minimized through Best Management Practices (BMPs). • Minimal solid waste generation during construction. • Temporary noise increase from construction machinery and vehicle activity. • Temporary water quality impacts from release of sediment and runoff during excavation and fill activities minimized through BMPs. • No fish or wildlife impacts. • Temporary plant impacts during construction. • Temporary vehicle and aircraft delays/detours during construction.	• None.
Fish, Wildlife, and Plants	• No fish impacts. • Negligible impacts to 135 acres of wildlife habitat due to abundance of similar surrounding habitat. • Plant impacts within the runway skew, apron expansion, material site, and haul route.	• None.
Hazardous Materials, Pollution Prevention, and Solid Waste	• Minimal solid waste generation during construction. • No hazardous materials impacts.	• None.
Historic, Architectural, Archaeological, and Cultural Resources	• None.	• None.
Wetlands	• Negligible impacts to 97 acres of wetlands due to abundance of similar surrounding habitat.	• None.
Socioeconomic Impacts and Environmental Justice	• Acquire three Native Allotments. • Temporary construction easement through NANA Regional Corporation (NANA) lands. • Positive socioeconomic impact (e.g., real estate transactions, and possible construction employment). • Provide more reliable air travel and access (e.g., daily flights, and medical evacuation).	• Continued penetrations to the OFA and Part 77 transitional surface by runway approaches. • Continued substandard airport, including limited opportunities for safe travel.

5 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

5.1 Overview

This section describes the existing environmental, social, and economic setting that would be affected by the Proposed Action and establishes a baseline for the comparison and selection of alternatives organized by resource categories identified in FAA Orders 1050.1E and 5050.4B.

This section also analyzes the environmental impacts of the Proposed Action and the No Action Alternatives in terms of direct, indirect, and cumulative effects. Direct effects are caused by the action and occur at the same time, whereas indirect effects are caused by the action and occur later in time or farther removed in distance. Cumulative impacts are the impacts on the environment that result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Past projects used in the evaluation of cumulative impacts for the Proposed Action include tank farm work, and the landfill road project. A proposed project is a reasonably foreseeable project. Cumulative impacts are not evaluated for the No Action Alternative since this alternative does not change the existing environment.

This Environmental Assessment (EA) is issue-based, meaning that only resource categories identified as an issue through project development and agency and public involvement are evaluated in detail. Table 3 summarizes the resource categories that were identified as non-issues and are not evaluated further in this EA:

Table 3 – Non-issue Resource Categories

Resource Category	Evaluation
Air Quality	• Kiana has no non-attainment areas for national air quality criteria pollutants and does not have a State Implementation Plan for any air quality concerns. • Based on FAA guidelines, it is not necessary to complete an Air Quality Analysis for airports servicing less than 1.3 million passengers and less than 180,000 operations annually. The Proposed Action and No Action Alternatives would not increase aircraft operations beyond these thresholds; therefore, an Air Quality Analysis would not be completed for the project area. • Temporary impacts from construction are described in Section 5.3.
Coastal Resources	• The Alaska Coastal Management Program expired on June 11, 2011 and is no longer in effect. Although a state coastal consistency determination is no longer required, the NAB Coastal Management Plan was evaluated for "Important Resource Use Areas" to ensure no impacts within the project area.

Resource Category	Evaluation
U.S. Department of Transportation (DOT) Act, Section 4(f)	• There are no DOT Section 4(f) properties within the project area. The Selawik National Wildlife Refuge is located south of the proposed action along the Kobuk River and the Kobuk Valley National Park is over 15 miles away.
Farmlands	• There are no prime or unique farmlands in Kiana, as defined by the Farmland Protection Policy Act of 1981.
Floodplains	• According to the USACE (1987), the community of Kiana is on a bluff and has had no recorded flooding of structures. • The airport is over 100 feet above the Kobuk River and 100 feet above an unnamed stream at the west end of the runway. • The community participates in the National Flood Insurance Program but is not mapped by the Federal Emergency Management Agency.
Natural Resources and Energy Supply	• The Proposed Action and No Action Alternatives would not change the long term energy requirements for Kiana. It is anticipated that the Proposed Action would require a temporary increase in fuel demands during construction. • Fill material, construction materials, and natural resources are required for construction. Adequate supplies are expected to be available within a local material site, with some specialized material being imported. The Proposed Action and No Action Alternatives would not cause demands exceeding available or future natural resource or energy supplies.
Light Emissions and Visual Impacts	• The Proposed Action and No Action Alternatives would not change the overall visual character of the airport or measurably increase light emissions to the surrounding community. • The visual or aesthetic resources of the project area range from disturbed lands, consistent with small community development, to undisturbed lands comprised of rolling taiga forest, tundra, ponds, and streams. The Proposed Action and No Action Alternatives would not alter the overall visual character of these resources.
Noise	• The Proposed Action and No Action Alternatives are not expected to result in increased airport noise impacts to the community. • Temporary impacts from construction are addressed in Section 5.3.
Secondary (Induced) Impacts	• No changes or shifts of population movement or growth or public service demands are expected as a result of the Proposed Action or No Action Alternatives.
Children's Environmental Health and Safety Risks	• The Proposed Action and No Action Alternatives would not adversely affect children's health and safety and is not adjacent to either the Kiana School or the Boys and Girls Club building.
Water Quality	• There are no ADEC designated impaired waterbodies in the project area. • No private drinking water wells are located within the project area. • The Proposed Action and No Action Alternatives would not adversely affect the community water supply, sourced from the Kobuk River, and would not have long-term effects on water quality. The ADEC delineated a drinking water protection area for the Kiana water system, which overlaps the community of Kiana and a portion of the project area. Proposed Action elements are sited away from the community water supply; therefore, adverse effects are not anticipated. • No sole source aquifers are located in Alaska. • Construction impacts and potential mitigation measures are identified in

Resource Category	Evaluation
	Section 5.3.
Wild and Scenic Rivers	• There are no designated state or federal wild or scenic rivers in the project area. The Salmon River is the nearest designated river and it enters the Kobuk River nearly 40 miles upstream of Kiana. Additionally, the designated wild and scenic reach of the Kobuk River is over 150 miles upstream of Kiana.

5.2 Compatible Land Use

5.2.1 Affected Environment

The existing, developed airport site is directly adjacent to the community of Kiana. The airport has been located at this site since 1958 and the airport property is owned by DOT&PF. Airport improvements are noted as a top priority in the *Kiana Community Comprehensive Development Plan 2006-2016* (NAB, 2006), which was developed by the NAB for the Kiana community. The land surrounding the Kiana Airport consists of Native Village of Kiana, NANA, and Native Allotment lands. No community concerns regarding noise were identified during public scoping for this EA (Chapter 7).

There are no roads connecting Kiana to surrounding communities. Kiana residents travel within the community on dirt roads. Winter trails provide overland access to subsistence use areas north of Kiana when the ground is frozen.

A solid waste landfill and sewage lagoon are located approximately 2,700 ft. and 3,700 ft. northeast of the Kiana Airport, respectively. FAA AC 150/5200-33B recommends a minimum separation distance between wildlife attractants and runways of at least 10,000 ft. for airports that serve turbine-powered aircraft and 5,000 ft. for airports that serve piston-powered aircraft. There are no plans to move either the solid waste landfill or the sewage lagoon at this time.

5.2.2 Environmental Consequences of the Proposed Action

Direct and Indirect Impacts: The Proposed Action would not result in permanent noise impacts and is determined to be a non-issue. Temporary noise impacts would occur during construction and are further discussed in Section 5.3.

The Proposed Action would skew the runway away from residential homes; therefore, increasing the separation distance between the active airspace and residences. The proposed haul route would follow

one of the winter trails used to access subsistence use areas. Following construction completion subsistence users may be able use the haul route to access subsistence use areas year-round.

The Proposed Action would not disrupt current or planned development and the City of Kiana has no zoning laws. The Proposed Action would be compatible with existing land uses and airport improvements would be located within the existing Kiana Airport property boundary. The Proposed Action would not result in any changes from existing land use designations.

The Proposed Action would not bring the runway closer to the solid waste landfill and sewage lagoon and would remain inconsistent with the FAA AC 150/5200-33B recommended minimum separation distance between wildlife attractants and runways. Wildlife hazards are not anticipated to be significant due to low volumes of waste from a population of approximately 360 and the solid waste landfill and sewage lagoon not being in the aircraft approaches of the proposed runway skew.

Cumulative Impacts: The Proposed Action does not conflict with future project land use plans; therefore, is not anticipated to contribute cumulative impacts regarding compatible land use.

5.2.3 Environmental Consequences of No Action Alternative

The No Action Alternative would have no direct or indirect impacts on compatible land use.

5.3 Construction

5.3.1 Environmental Consequences of the Proposed Action

Direct, Indirect, and Cumulative Impacts: Construction impacts would be local and temporary in nature. It is anticipated that construction would occur over two construction seasons. The Proposed Action would cause the following temporary construction impacts:

- *Air Quality:* The operation of heavy equipment and the hauling and placement of fill material may create dust during dry conditions, causing temporary air quality impacts. This effect would be temporary and would be controlled by the BMPs listed in Section 5.10. Additionally, using diesel-fueled construction equipment may temporarily degrade air quality during construction, but is not expected to cause or exceed national ambient air quality standards.
- *Solid Waste:* Construction would generate minimal amounts of solid waste. Solid waste would be properly disposed of in the local existing landfill and would not generate more than the existing landfill can handle.

- *Noise:* Construction machinery and vehicle activity would temporarily increase noise, but would be limited to the airport property, haul route, and material site. The closest residence is approximately 70 ft. south of the apron. The construction contractor will prepare a construction phasing plan that will include timing and the location of hauling activities to minimize impacts to residents as much as possible.
- *Water Quality:* The Proposed Action may result in some construction-related sedimentation and runoff during excavation and fill activities near wetlands. BMPs would be implemented during construction to minimize erosion and sedimentation and are summarized in Section 5.10.
- *Fish, Wildlife, and Plants:* It is anticipated no impacts to fish would result from construction as no known fish streams are near the Proposed Action. Fish trapping will be conducted to determine if resident fish are within the Proposed Action area streams, which would trigger the need for an ADF&G Title 16 Fish Habitat Permit. Sediment and other contaminant release into streams during construction will be minimized by maintaining a minimum 100-ft. riparian buffer surrounding anadromous waters and a minimum 50-ft. riparian buffer surrounding non-anadromous waters and streams. Construction noise would be consistent with current aircraft operation noise at the airport; therefore, construction is not anticipated to have an adverse effect on wildlife. The USFWS migratory bird nesting window to avoid vegetation clearing between May 20 and July 20 will be adhered to, in order to avoid impacts to migratory nesting birds. Following construction, side slopes and disturbed areas will be re-seeded with a native weed-free seed mix.
- *Airport Operations:* Temporary vehicle and aircraft traffic delays and detours may occur during construction activities, but are expected to be minimal. Staged equipment and construction materials may temporarily obstruct airspace. Notices will be published to inform users in advance to avoid or minimize potential conflicts.

Cumulative Impacts: Cumulative impacts may occur if other construction projects overlap with the construction of the Proposed Action, but it is not anticipated other construction projects will occur at the same time.

5.3.2 Environmental Consequences of the No Action Alternative

The No Action Alternative would have no construction impacts.

5.4 Fish, Wildlife, and Plants

5.4.1 Affected Environment

Fish: The anadromous fish streams closest to the Proposed Action area, according to a search of the ADF&G *Anadromous Waters Catalog* (2015), are the Kobuk River Nazuruk Channel (FDD#331-00-10490) and the Squirrel River (FDD#331-00-10490-2115). Neither is within 500 ft. of the Proposed Action disturbance area. The rivers provide habitat for chum salmon, Chinook salmon, pink salmon, whitefish, and provide spawning habitat for Dolly Varden.

Wildlife: There are no state designated refuges, critical habitat areas, wildlife ranges, or sanctuaries in the Proposed Action vicinity (ADF&G, 2015). The Selawik National Wildlife Refuge is approximately 5 miles south of the Proposed Action. The Western Arctic Caribou Herd typically travels through the Kiana area on its migration between summer calving and over-wintering areas. These animals provide a key subsistence food resource to numerous northwest Alaska communities. Additional important subsistence species include moose and waterfowl. The Kiana locale is beyond the known nesting range for bald eagles (ABR, 2013), and the USFWS indicated there are no known eagle nests in the Proposed Action disturbance area (USFWS correspondence August 29, 2014). Many of the birds that frequent the area are protected under the Migratory Bird Treaty Act.

Needleleaf Forest and Woodland is the dominant wildlife habitat type within the Proposed Action disturbance area which supports numerous landbird and mammal species (ABR, 2013). The second and third most common wildlife habitat types within the Proposed Action disturbance area include Low Birch-Ericaceous Scrub and Low and Tall Willow Scrub which supports a high diversity of wildlife species (ABR, 2013). Other wildlife habitat types within the Proposed Action disturbance area that occur to a lesser extent are Upper Perennial Stream, Fresh Water Pond, Fresh Herb Marsh, Wet Sedge Meadow, Bluejoint Meadow, Tall Alder Scrub, Upland Broadleaf Forest, Human Disturbed Barrens, and Fill.

Plants: The area surrounding the Kiana Airport is dominated by rolling taiga forest and tundra. Much of the airport property is disturbed due to airport operations. A review of the *Alaska Exotic Plants Information Clearinghouse* (UAA, 2015) data portal webpage indicated there are two non-native plant species within the Proposed Action disturbance area. Foxtail barley (*Hordeum jubatum*) and common plantain (*Plantago major*) were observed near the existing taxiway.

5.4.2 Environmental Consequences of the Proposed Action

Direct and Indirect Impacts:

Fish: No direct or indirect impacts to resident or anadromous fish are anticipated from the Proposed Action as no known resident or anadromous fish streams, or essential fish habitat (EFH) are present within the Proposed Action disturbance area. If fish presence is determined through fish trapping efforts within the unnamed drainage east of the material site, a fish passage culvert or enhanced hydrologic design culvert will be installed to ensure suitable fish passage under the proposed haul route.

Wildlife: DOT&PF sent a letter to the USFWS on August 28, 2014, including preliminary biological research results. The USFWS responded on August 29, 2014 that the Proposed Action should avoid all vegetation clearing activities between May 20 and July 20 to avoid impacts to migratory birds and that no known eagle nests are within the Proposed Action area. No permanent impacts to migratory birds or eagles are anticipated as a result of the Proposed Action. Because of the abundance of Needleleaf Forest and Woodland, Low Birch-Ericaceous Scrub, and Low and Tall Willow Scrub habitat surrounding the Proposed Action area, the clearing of approximately 135 acres of these habitat types would have a negligible effect on the sustainability and production rates of migratory birds. Additionally, if an eagle nest is observed within a half-mile of the Proposed Action USFWS will be contacted immediately to determine the appropriate course of action.

Plants: Impacts to plants would be unavoidable for construction of the runway skew, apron expansion, material site, and haul route. Wetland impacts are discussed further in Section 5.7. None of the vegetation that would be directly impacted by the Proposed Action is unique to the surrounding area and none is of special significance to terrestrial mammals in the area. Side slopes and disturbed areas would be re-seeded following construction with a native weed-free seed mix. A mining and reclamation plan will be developed for the material site, as required for project permits and authorizations, to determine appropriate re-vegetation measures.

Cumulative Impacts: Cumulative past and future airport development projects may result in impacts to flora and fauna both directly and indirectly. The impacted habitats in this developed area are not unique and represent a small percentage of available habitats in the surrounding area.

5.4.3 Environmental Consequences of the No Action Alternative

The No Action Alternative would have no effect on fish and wildlife resources.

5.5 Hazardous Materials, Pollution Prevention, and Solid Waste

5.5.1 Affected Environment

A search of the ADEC *Contaminated Sites Database* (2015) identified seven contaminated sites within a mile radius of the Proposed Action (Table 4). Six of the contaminated sites in the area remain active and one site reports cleanup is complete.

Table 4– Contaminated Sites Within a Mile of the Proposed Action

Site Name	Location	Hazard ID	Description	Status
Kiana High School Former Tank Farm	Casonoff St.; 100 ft. North of Kiana High School. ~ 900 ft. from airport property	4614	Diesel range organics (DRO) and gasoline range organics (GRO) in soil, possible	Active
Kiana Elementary School Former	Taylor Rd.; 300 feet NW of Kobuk River; ~790 ft. from airport property	4621	Petroleum in soil, potential for off-site migration of leaks	Active
City of Kiana Former Tank Farm	Cemetery Lane; ~415 ft. from airport property	4618	DRO in soil, 2 prior confirmed spills	Active
Kiana AVEC Power Plant Tank Farm	Cemetery Lane; SE of former AVEC Tank Farm; ~415 ft. from airport property	26145	DRO and benzene in soil	Active
Kiana AVEC Former Tank Farm	Cemetery Lane; immediately NW of new AVEC Tank Farm; ~330 ft. from airport property	4620	DRO and GRO in soil	Active
Kiana Trading Post Former Retail Fuel	Hill St.; 200 feet NW of the Kobuk River; ~330 ft. from airport property	4628	Petroleum in soil, location is fenced	Active
AKARNG Kiana FSA	Near SE End of Airport Runway; S of Dump Rd; inside airport property	3097	DRO in soil, site underlain by continuous permafrost	Cleanup Complete

There is a sewage lagoon northeast of the village (approximately 0.7 mile northeast from airport property; managed by the Alaska Rural Utilities Cooperative) and a Class 3, ADEC-permitted landfill

(approximately 0.5 mile northeast from airport property; operated by Kiana Traditional Council) west of the lagoon.

5.5.2 Environmental Consequences of the Proposed Action

Direct and Indirect Impacts: The Proposed Action is not expected to encounter any contaminated material.

The Proposed Action would generate relatively small amounts of solid wastes from construction that would be disposed of at the local landfill, which has the capacity to receive the solid waste from the Proposed Action. No hazardous materials would be used during construction other than minor amounts of paint and marking materials, and no hazardous waste would be generated.

Should additional contaminated soils and waters be encountered during construction, all work in the contaminated zone would be stopped and the ADEC would be consulted to coordinate appropriate cleanup actions. The contractor would be required to dispose of these soils and water in an ADEC-approved manner; therefore, adverse cumulative impacts would decrease. The Proposed Action would be conducted in accordance with state and federal laws regarding handling, disposal, and spill response for hazardous materials, waste, and substances. Impacts to contaminated soils are not anticipated.

Cumulative Impacts: The nearby Class 3 landfill has the capacity to receive the relatively small amounts of solid wastes generated from the Proposed Action and known foreseeable projects, in addition the Proposed Action would not generate hazardous wastes or contaminated water; therefore cumulative impacts are not anticipated.

5.5.3 Environmental Consequences of the No Action Alternative

The No Action Alternative would not generate any hazardous or solid wastes, nor would it impact known contaminated soils.

5.6 Historic, Architectural, Archaeological, and Cultural Resources

5.6.1 Affected Environment

A cultural and historical resources assessment of the area of potential effect (APE) was conducted by SWCA Environmental Consultants, Inc. (SWCA). The proposed runway extension, apron relocation, airport drainage improvements, material site, and haul route were assessed in 2012. The proposed runway

skew and modified haul route were assessed in 2014. The pedestrian surveys of the APE identified six potential historic sites; including a fuel cache and five debris scatters. Subsurface investigations did not identify any buried pre-contact or historic archeological resources within the APE. All recorded sites are recommended not eligible for listing in the National Register of Historic Places (NRHP) and no additional cultural or historic resource inventories or documentation activities are recommended (SWCA, 2014).

5.6.2 Environmental Consequences of the Proposed Action

Direct and Indirect Impacts: Pursuant to 36 Code of Federal Regulations (CFR) 800.5(b), implementing regulations of Section 106 of the National Historic Preservation Act, DOT&PF on behalf of FAA, found no adverse effect on historic properties by the Proposed Action. To date, no comments have been received from any of the consulting parties. SHPO concurred with this finding on November 25, 2014. This determination was achieved through the following research and correspondence:

- August 14, 2012 – DOT&PF, in cooperation with FAA, initiated consultation with SHPO, NANA, Native Village of Kiana, City of Kiana, and Northwest Arctic Borough (NAB) to identify historic properties that may be affected by the Proposed Action.
- August 2012 – SWCA conducted a literature review within and near the APE as well as a field survey of the APE (material site, haul route, and airport improvements).
- June 9-11, 2014 – SWCA conducted a field survey of the expanded APE (expanded haul route and airport improvements APE).
- November 13, 2014 – DOT&PF, in cooperation with FAA, found that the Proposed Action would have no adverse effect on historic properties and requested comments from SHPO, NANA Regional Corporation, Native Village of Kiana, City of Kiana, and NAB (Appendix B).
- November 25, 2014 – SHPO concurred with DOT&PF's finding of no historic properties affected by the Proposed Action (Appendix B).

If inadvertent discoveries are encountered during construction work in the area will immediately halt and specific measures will be taken to ensure the discoveries are handled appropriately, further discussed in Section 6.1.6.

Cumulative Impacts: The Proposed Action is not anticipated to result in cumulative impacts to historic, architectural, archaeological, or cultural resources.

5.6.3 Environmental Consequences of the No Action Alternative

The No Action alternative would not have any effects on cultural resources.

5.7 Wetlands

5.7.1 Affected Environment

Kiana is located on a bluff overlooking the confluence of the Kobuk and Squirrel rivers, within the Interior Forested Lowlands and Uplands ecoregion (Gallant et al. 1995). This ecoregion has a continental climate, with undifferentiated alluvium and slope deposits over primarily sedimentary rocks (Gallant et al. 1995). Kiana is located in the western portion of the ecoregion, which is underlain by thin to thick permafrost, and dominated by spruce and hardwood forests. No National Wetlands Inventory maps, digital or non-digital, are available for Kiana, or the surrounding area. Available mapping is limited to aerial imagery and topographic contours.

In August 2012, ABR, Inc.—Environmental Research & Services (ABR) performed a wetlands assessment, wetland functional assessment, and wildlife habitat assessment in support of the USACE Section 404 wetland permit application process. Areas surveyed included the material site and airport improvements (ABR, 2013). In July 2014, Stantec completed a desktop wetland delineation for the haul route (Stantec, 2014).

Overall, fifteen Cowardin classes were identified within the study area (two waters of the U.S., eleven vegetated wetlands, and two non-wetlands (i.e., uplands)). According to the delineations, shrub-dominated wetlands are the most common habitat type identified within the study area. Dominant vegetation within shrub-dominated wetlands include *Salix richardsonii* (Richardson's willow), *Picea glauca* (white spruce), *Betula glandulosa* (resin birch), *Vaccinium uliginosum* (bog blueberry), *Calamagrostis canadensis* (bluejoint reedgrass), and *Carex aquatilis* (water sedge). Shrub-dominated wetlands generally occur in water-shedding, convex, sloping landscape positions. The functional assessment for this wetland ranked high for organic matter production and export.

Most functional classes within the study area were ranked high for educational, scientific, recreational, or subsistence use due to the public ownership and evidence of all-terrain vehicle access. All functional classes within the study area were ranked low for uniqueness and special status due to the abundance of similar surrounding habitat. Table 5 summarizes the functional classes and the justification of rankings of all wetlands and waters within the study area.

All wetlands and waters within the study area are likely jurisdictional due to their direct downstream connection to the Kobuk River. See Appendix C for additional information on all observed habitats within the study area.

Table 5 – Functional Classes of Wetlands and Waters

Wetland or Water Type	Functional Class Category*	Functional Class Justification
Upper Perennial Stream (R3UBH)	III	**Low:** Sediment, Nutrient, and Toxicant Removal **Moderate:** Organic Matter Production and Export; General Habitat Suitability **High:** Fish Habitat
Permanently Flooded Pond (PUBH)	III	**Low:** Organic Matter Production and Export; Native Plant Richness **Moderate:** Sediment, Nutrient, and Toxicant Removal; General Habitat Suitability **High:** Flood Flow Regulation; Fish Habitat
Palustrine Flooded Wet Emergent Meadow (PEM1H, PEM1F)	III	**Low:** Organic Matter Production and Export; General Habitat Suitability; Native Plant Richness **Moderate:** Flood Flow Regulation; Sediment, Nutrient, and Toxicant Removal **High:** Erosion Control and Shoreline Stabilization
Lacustrine Flooded Sedge-Grass Marsh (PEM1E, PEM1H)	II	**Low:** N/A **Moderate:** Native Plant Richness **High:** Flood Flow Regulation; Sediment, Nutrient, and Toxicant Removal; Erosion Control and Shoreline Stabilization; Organic Matter Production and Export; General Habitat Suitability; Fish Habitat
Riverine Seasonally Flooded Wet Sedge Meadow (PEM1E)	III	**Low:** Erosion Control and Shoreline Stabilization; Fish Habitat; Native Plant Richness **Moderate:** Flood Flow Regulation; Sediment, Nutrient, and Toxicant Removal; General Habitat Suitability **High:** Organic Matter Production and Export
Palustrine Saturated Graminoid Meadow (PEM1B)	III	**Low:** Flood Flow Regulation; General Habitat Suitability; Native Plant Richness **Moderate:** Sediment, Nutrient, and Toxicant Removal **High: N/A**

Riverine Seasonally Flooded Low and Tall Willow Scrub (PSS1C)	II	**Low:** Native Plant Richness **Moderate:** Sediment, Nutrient, and Toxicant Removal; General Habitat Suitability; Fish Habitat **High:** Flood Flow Regulation; Erosion Control and Shoreline Stabilization; Organic Matter Production and Export
Palustrine Saturated Low and Tall Willow Scrub (PSS1B, PSS1E)	III	**Low:** N/A **Moderate:** Sediment, Nutrient, and Toxicant Removal; General Habitat Suitability; Native Plant Richness **High:** Organic Matter Production and Export
Palustrine Saturated Needleleaf-Shrub Birch Woodland (PFO4B, PSS1/3B, PSS1/4B, PSS1B)	III	**Low:** N/A **Moderate:** Sediment, Nutrient, and Toxicant Removal; General Habitat Suitability; Native Plant Richness **High: N/A**

***Category II – High to moderate functioning wetlands –** Wetlands that: 1) provide habitat for very sensitive or important wildlife or plants; 2) are difficult to replace (such as bogs); or 3) provide very high functions, particularly for wildlife habitat.

***Category III – Moderate to low functioning wetlands –**Wetlands that are important for a variety of wildlife species and can provide watershed protection functions depending on where they are located. Generally these wetlands will be smaller and/or less diverse in the landscape than Category II wetlands. These wetlands may have experienced some form of degradation, but to a lesser degree than Category IV wetlands.

5.7.2 Environmental Consequences of the Proposed Action

Direct and Indirect Impacts: Executive Order 11990, "Protection of Wetlands," requires there be no practicable alternative to the Proposed Action if it affects wetlands, and that the Proposed Action includes all practicable measures to avoid and minimize harm to wetlands. DOT&PF has determined that there are no practicable alternatives that would result in less impact on wetlands and waters without other significant consequences. The Proposed Action components have been reduced in size as much as possible while still meeting the purpose and need. The Proposed Action is not expected to change area drainage patterns or the surrounding area's ability to retain floodwaters. The impacted wetlands would no longer provide habitat for various wildlife; however, this impact is expected to be minimal due to the abundance of similar surrounding habitat as noted in 5.7.1.

The Proposed Action would impact approximately 97 acres of wetlands and waters through excavation or fill, shown on Figures 3a and 3b, and summarized in Table 6.

Table 6 – Impacts to Wetlands and Waters

Proposed Action Element	Wetlands and Waters Type	Impact Area (acres)	Fill (cubic yards)	Cut (cubic yards)
Runway Skew/Extension & Drainage Improvements	PEM1H	1.2	11,700	1,400
	PEM1B	2.9	31,000	2,500
	PSS1B	8.0	7,600	46,500
	PSS1/3B	4.1	19,700	17,400
Apron Expansion & Aviation Support Area	PEM1F	0.1	600	0
	PSS1B	2.0	28,400	0
Material Site	PSS1C	0.1	0	0
	PSS1B	24.8	0	206,000
	PSS1/3B, PSS1/4B	33.3	0	68,250
Haul Route	R3UB	0.1	0	0
	R2SB	< 0.1	0	0
	PEM	< 0.1	0	0
	PSS, PSS1C	20.4	110,000	0
TOTAL		**97**	**209,000**	**342,050**

Avoidance, minimization, and compensatory mitigation are the primary measures available to conserve wetlands for the Proposed Action. The avoidance and minimization, mitigation, and enhancement measures are listed in Section 5.7.4.

Cumulative Impacts: Present and reasonably foreseeable future airport projects that result in impacts to wetlands would be developed in accordance with the federal rule of *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (33 CFR Part 325 and 332) and would reduce, minimize, or compensate the extent of these impacts. We do not anticipate any significant cumulative impacts to wetlands resulting from past or reasonably foreseeable future projects.

5.7.3 Environmental Consequences of the No Action Alternative

The No Action alternative would not result in impacts to wetlands.

5.7.4 Wetlands Avoidance, Minimization, and Mitigation Measures

The Proposed Action has unavoidable wetland impacts that would permanently impact approximately 97 acres of jurisdictional wetlands and waters of the U.S. The *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* emphasizes a "watershed approach" to include all aquatic resources (water bodies and wetlands) in proposed mitigation plans: *"*[T]*his rule should apply to compensatory mitigation for all types of aquatic resources that can be impacted by activities authorized by DA* [Department of the Army] *permits, including streams and other open waters."*

A request for a Jurisdictional Determination will be submitted concurrently to the USACE, along with a Section 404 individual permit, for unavoidable wetland fill. Concurrent with the Section 404 process, an ADEC Section 401 Water Quality Certification will also be obtained. All stipulations and special conditions of the permits will be followed.

Proposed wetland avoidance and minimization measures for the Proposed Action are listed below:

- The Proposed Action elements are designed with minimal dimensions while serving subject function.
- Side slopes for the haul route are designed as steep as safety and geotechnical considerations for slope stability would allow.
- Proposed Action components are sited to avoid impacts to wetlands by using existing embankments and disturbed areas where practicable.
- The Proposed Action footprint would be staked prior to construction and maintained for the duration of the project to avoid additional impacts to wetlands from construction activities.
- Materials would be stockpiled within the Proposed Action fill footprint, or developed/upland areas, to avoid impacting additional ground.

- Setbacks from water channels and standing water would be maintained for refueling and vehicle maintenance activities to avoid impacts to the waterbodies from an accidental spill.
- Cut slopes would be seeded or otherwise stabilized to prevent erosion.

The DOT&PF will coordinate appropriate compensatory mitigation with the USACE to offset unavoidable impacts to 97 acres of wetlands and waters of the U.S.

5.8 Socioeconomic Impacts and Environmental Justice

5.8.1 Affected Environment

Kiana, a community of 361 residents (according to the 2010 U.S. Census), is located 57 air miles east of Kotzebue on the north bank of the Kobuk River. The residents of Kiana are primarily Inupiat Eskimos (over 90 percent of the population identifies their race as Alaska Native according to the 2010 U.S. Census) and subsistence activities are an integral part of the lifestyle. The site of the community was established as the central village of the Kobuk River Kowagmiut Inupiat Eskimos (Alaska Department of Commerce, Community, and Economic Development, 2015).

There are no roads connecting Kiana with other communities; therefore, major means of transportation to or from the community are plane, small boat, and snow machine. Within the community, numerous residents have vehicles including snow machines, boats, and all-terrain vehicles. Nearly all local residents are dependent on varying degrees of fish and game resources.

Table 7 outlines the properties within and surrounding the Kiana Airport.

Table 7 – Properties Potentially Affected by the Proposed Action (Figure 2a)

Parcel Name	Description
Airport Parcel	Owned by the Alaska Department of Transportation and Public Facilities
AKFF 018855B	Native Allotment, northeast border of the airport
AKFF 018154B	Native Allotment, north-central border of the airport
AKFF 018858	Native Allotment, northwest border of the airport
Native Village of Kiana Lands	Lands bordering western and southwestern of the runway
NANA Lands	Lands north of Kiana and the airport, bordering the northern portion of the Native Allotments and the east border of the easternmost Native Allotment.

5.8.2 Environmental Consequences of the Proposed Action

Direct and Indirect Impacts: The Proposed Action is anticipated to have a positive socioeconomic impact on the community. Economic advantages would arise from real estate transactions and possible employment during construction. Three Native Allotments (outlined in Table 7) adjoining the airport property to the north would need to be acquired to accommodate the runway skew and extension new safety thresholds (OFA and Part 77 transitional surface). The Native Allotments are undeveloped and property would be acquired through coordination with BIA and fee-simple acquisition paid to the allottees. Property will be acquired in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Additionally, the construction contractor may be able to use some local hire if local skills and contractor needs are congruent.

The material site and haul route are located on lands owned by NANA. Use of the land for these purposes would be completed through a temporary construction easement. Use of the material site and haul route would be relinquished back to NANA following completion of construction.

No relocations would be required and the community tax base would not be affected. No disproportionately high or adverse negative effects to low-income or minority populations are expected. The Proposed Action would have a beneficial effect on Kiana residents, who are primarily a minority race (over 90% Alaska Native). The Proposed Action would provide more reliable air travel and access, including medical evacuation, for all residents, including children and low-income minorities. The airport runway would remain open during construction, but minor airport delays could occur during construction.

*Cumulative Impacts***:** The Proposed Action is not anticipated to have cumulative impacts on the socioeconomic environment.

5.8.3 Environmental Consequences of the No Action Alternative

The No Action alternative would have a negative impact on Kiana residents to contend with the difficulties associated with a substandard airport, including limited opportunities for safe travel. The runway approaches would continue to have penetrations to the OFA and Part 77 transitional surface.

6 ENVIRONMENTAL COMMITMENTS AND MITIGATION

The following commitments and mitigation will be included as part of the Proposed Action to reduce environmental impacts:

6.1.1 Air Quality

- Measures to control fugitive dust such as pre-watering sites prior to excavation, applying a dust palliative, controlling construction traffic patterns and haul routes, and covering, or otherwise stabilizing fill material stockpiles, will be implemented during construction.

6.1.2 Water Quality

- The contractor will be required to comply with the APDES CGP and prepare and implement a SWPPP (subject to DOT&PF approval and based on DOT&PF's Erosion Sediment Control Plan).
- BMPs will be followed, which includes use of only clean fill material for the construction of the Proposed Action components; temporary installation of silt fencing while excavation and fill activities occur; and re-vegetation of disturbed areas with native species.
- An ADEC 401 Certificate of Reasonable Assurance will be obtained prior to construction to certify that the Proposed Action will meet State water quality standards.
- Storm water discharges will be controlled within the public water system (PWS) drinking water protection areas (DWPA), whose boundaries partially overlap with the proposed project.
- Within the PWS DWPA, project activities that could significantly change the natural surface water drainage or groundwater gradient will be restricted to protect public drinking water.
- All data related to the project will be made available to ADEC upon request.
- DOT&PF will limit the amount of equipment storage, maintenance and operation, and other potential sources of contamination within Zone A and E of the PWS DWPA.
- BMPs will implemented where equipment storage, maintenance and operation, or other potential sources of contamination is located within a PWS DWPA and that will minimize the potential for contamination to enter the water source used by a PWS.
- DOT&PF will immediately notify the nearby PWS of any identified potential contamination, such as spills or excess erosion.

6.1.3 Construction

- Advance notice of construction and detours will be provided to airport users and local residents.

- The construction contractor will prepare a construction phasing plan that will include timing and the location of hauling activities to avoid and minimize impacts to airport users and local residents.
- A mining and reclamation plan will be developed, as required for project permits and authorizations.

6.1.4 Aircraft Operations

- An air traffic control plan will be developed and implemented to address changes to flight procedures during construction.
- The construction contractor will notify the DOT&PF Project Engineer of any activities that would change available landing surface or NAVAIDs so this information can be broadcast to airport users. The Project Engineer will inform the DOT&PF Airport Manager who will coordinate and issue all required Notices to Airmen.
- Construction activities will be scheduled to minimize delays to aircraft or passengers.
- During construction periods that do not require partial runway closures, the construction contract will require the contractor to conform to FAA safety guidelines and avoid delays to aircraft or passengers.

6.1.5 Hazardous Waste, Pollution Prevention, and Solid Waste

- DOT&PF will require the construction contractor to develop a Hazardous Materials Control Plan to address storage and handling of hazardous materials, including fuel and lubricants, and spill response.
- Construction contracts will include a provision that if contaminated soil or groundwater is suspected or encountered during construction activities, the construction contractor will contact the DOT&PF Project Engineer and stop the work, so that the DOT&PF can coordinate with ADEC in accordance with 18 Alaska Administrative Code 75.300. All contamination will be handled and disposed of in accordance with an ADEC-approved corrective action plan.
- All solid wastes generated during construction will be disposed of at a permitted landfill.

6.1.6 Historical, Archaeological, and Cultural Resources

- The construction contract will contain the provision, *"Should cultural or paleontological resources be discovered as a result of this activity, all work that could impact these resources will*

halt and the DOT&PF Project Engineer and SHPO will be notified immediately." Work will not resume at these sites until Section 106 consultation is conducted with FAA and SHPO.

6.1.7 Fish, Wildlife, Plants, and Subsistence

- Fish trapping will be conducted to determine if resident fish are within the unnamed drainage east of the material site. If resident fish are found an ADF&G Title 16 Fish Habitat Permit application will be completed and submitted to the ADF&G for approval prior to construction and a fish passage culvert or enhanced hydrologic design culvert will be installed to ensure suitable fish passage under the proposed haul route.
- Sediment and other contaminant release into streams during construction will be minimized by maintaining a minimum 100-ft. riparian buffer surrounding anadromous waters and a minimum 50-ft. riparian buffer surrounding non-anadromous waters and streams.
- DOT&PF will comply with the Migratory Bird Treaty Act by either adhering to the USFWS recommended window to avoid vegetation clearing between May 20 and July 20 or by sufficiently altering vegetated sites before May 20 so that nesting habitat isn't available for migratory birds.
- If an eagle nest is observed within a half-mile of the Proposed Action USFWS will be contacted immediately to determine the appropriate course of action.
- To avoid spreading invasive species the contractor will pressure wash all wheeled and tracked construction equipment prior to mobilization and upon construction completion. Side slopes and disturbed areas will be re-seeded following construction with a native weed-free seed mix. Soil and vegetation that may have been contaminated with invasive species will be disposed of appropriately.

6.1.8 Wetlands

- A USACE Section 404 individual permit will be obtained for unavoidable wetland fill. All stipulations and special conditions of the permit will be followed.
- Functional connectivity of existing drainages will be maintained.
- The Proposed Action footprint will be staked prior to construction and maintained for the duration of construction to avoid additional impacts to wetlands from construction activities.
- Embankment fill material will be stockpiled within the Proposed Action fill footprint or upland areas of the airport to avoid impacts to wetlands.

- Setbacks from water channels and standing water will be maintained for refueling and vehicle maintenance activities to avoid impacts to the waterbodies from an accidental spill.
- The DOT&PF will coordinate appropriate compensatory mitigation with the USACE to offset unavoidable impacts to 97 acres of wetlands and waters of the U.S. associated with the Proposed Action.

7 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

7.1 Introduction

Public involvement and agency coordination requirements for the Proposed Action were fulfilled. Table 8 outlines the public involvement, Table 9 outlines agency coordination, and Table 10 outlines Tribal consultation and coordination tasks and activities undertaken. Records of correspondence, meeting materials and records are included in Appendix D and E.

Table 8 – Public Involvement Activity Summary

Public Involvement		
Date/Time	**Activity**	**Description**
8/21/12; 8/22/12	Field Trip	A field trip to the Kiana Airport was held to gather initial comments from city officials, air taxi operators, and Hageland Air pilots. Comments were received.
2/25/13	Public Meeting Notice	Sent email notice of upcoming public meeting to local and regional land management stakeholders: City of Kiana, Kiana Tribal Council, NANA, NAB, and Maniliaq
2/28/13	Newspaper Announcement	A public notice was published in *The Arctic Sounder*. This notice announced the Proposed Action; in accordance with the National Environmental Policy Act (NEPA); invited the public to an open house meeting, specifying the date, time, and place of the meeting (March 4th, 5:30pm, Kiana School); and solicited comments. Comments were requested by March 29, 2013.
2/28/13	Public Meeting Flyer	A flyer describing the Proposed Action was posted in Kiana (City Hall, Post Office, School, and Village stores) inviting the community to the March 4, 2013 public meeting.
3/4/13	Public Scoping Meeting	The project team hosted an open house format meeting to discuss Proposed Action alternatives, the NEPA process, and the needs of the community. The presentation included project purpose, need, and description, permitting process, and project schedule, highlighting future public involvement opportunities. Comments were received from the public.
8/28/14	Newspaper Announcement	A public notice was published in *The Arctic Sounder*. This notice described the Proposed Action; announced a project update meeting, specified the time, date and place of the meeting (September 4th, 5:00PM, Kiana School); and solicited public comments. Comments were requested by October 2, 2014.
8/28/14	Public Meeting Flyer	A flyer describing the Proposed Action was posted in Kiana (City Hall, Post Office, School, and Village stores) inviting the community to the September 4, 2014 public project update meeting.
9/4/14	Project Update Meeting	The project team hosted an open house format project update meeting in order to discuss the project status, the NEPA process, and agency and public scoping timelines. Comments were received from the public.
10/2/14; 10/9/14	Newspaper Advertisement	A public notice was published in 2 issues of *The Arctic Sounder*. This notice announced the Proposed Action; that an Environmental Assessment was being prepared; and solicited comments. Comments were requested by October 31, 2014. No comments were received.
5/1/15	Public Announcement	DOT&PF announced by mass email, online public posting, and project website posting the availability of the draft EA for review and comment.
5/6/15	Public Meeting Flyer	A flyer was posted around town in Kiana announcing a public meeting on May 15, 2015, where the draft EA would be presented for public review and comment.

5/7/15; 5/10/15	Newspaper Advertisement	DOT&PF announced by newspaper ads in *The Arctic Sounder* and the *Fairbanks Daily News-Miner* the availability of the draft EA for review and comment, and invited the public to a public meeting on May 15, 2015
5/15/15	Public Meeting	DOT&PF held a public meeting in Kiana to present the draft EA for public review and comment.

Table 9 – Agency Coordination Activity Summary

Agency Scoping and Coordination		
Date	**Activity**	**Description**
7/19/12	General Section 7 Informal Consultation	DOT&PF spoke with USFWS to discuss the Proposed Action in relation to polar bear and sea duck critical habitat. USFWS indicated they would send a letter of no effect if the Proposed Action is beyond the range of T&E species.
8/14/12	Section 106 Initiation of Consultation	DOT&PF, in cooperation with FAA, sent initiation of consultation letters to SHPO, City of Kiana, and NAB, requesting assistance identifying historic properties that may be affected. This letter also included figures showing the Proposed Action location. No responses were received.
8/21/12	City Council Meeting	DOT&PF attended the Kiana City Council Meeting and presented a brief introduction to the Proposed Action.
8/26/14	Agency Scoping Letter	DOT&PF emailed letters to City officials and state and federal agencies describing the purpose and need, the Proposed Action, presenting preliminary environmental research, and soliciting scoping comments. Comments were requested by September 26, 2014.
8/26/14	NMFS Scoping Comments	DOT&PF received a comment from the National Marine Fisheries Service (NMFS) that no EFH consultation is necessary for the Proposed Action.
8/27/14	General Section 7 Informal Consultation	DOT&PF received a comment from USFWS that indicated they were ready to consult as soon as a concurrence letter was prepared.
8/29/14	USFWS Scoping Comments	DOT&PF received comments from USFWS that presented general recommendations on the following subjects: Endangered Species, Migratory Birds, Eagles, Fish and Streams, Wetlands, the Material Site and Road, and Invasive Species. The detailed comments are included in Appendix D.
11/13/14	Section 106 Findings Letters	DOT&PF, in cooperation with FAA, sent letters to SHPO, City of Kiana, and NAB with the findings that there would be no adverse effect on historic properties by the Proposed Action.
11/25/14	SHPO Response to Findings Letter	SHPO concurred with the recommendation that a number of sites are not eligible for the NRHP and with the finding that no historic properties would be affected by the Proposed Action.
1/28/15	DOT&PF Response to USFWS Comments	DOT&PF responded to the September 29, 2014 USFWS comments. The detailed response is included in Appendix D.
1/30/15	USFWS Scoping Comment	Acknowledged receipt of DOT&PF response to USFWS comments and responded that fish and wildlife concerns have been adequately addressed. No meeting is necessary to be held for the Proposed Action.
5/1/15	Announcement of Draft EA	DOT&PF sent out an email to all federal and state agencies, NAB, and the City of Kiana announcing the availability of the draft EA for review and comment and a public meeting on May 15, 2015.

Table 10 – Tribal Consultation and Consulting Parties Activity Summary

Tribal Consultation		
Date	**Activity**	**Description**
7/25/12	Government to Government Consultation Initiation	The FAA sent a Government-to-Government Consultation Initiation Letter to the Native Village of Kiana and NANA. The letter included a Project Consultation Options Form asking the Native Village of Kiana how it would like to consult during the development of the Proposed Action. No responses were received.
8/14/12	Section 106 Initiation of Consultation	DOT&PF, in cooperation with FAA, sent initiation of consultation letters to Native Village of Kiana and NANA, requesting assistance identifying historic properties that may be affected. This letter also included figures showing the Proposed Action location. No responses were received.
8/26/14	Scoping Letter	DOT&PF sent letters to the Native Village of Kiana and NANA describing the purpose and need, the Proposed Action, presenting preliminary environmental research, and soliciting scoping comments. Comments were requested by September 26, 2014.
11/13/14	Section 106 Findings Letter	DOT&PF sent letters to the Native Village of Kiana and NANA with the findings that there would be no adverse effect on historic properties by the Proposed Action. Comments were requested. No responses were received.
5/1/15	Announcement of Draft EA	DOT&PF sent out an email to Native Village of Kiana and NANA announcing the availability of the draft EA for review and comment and a public meeting on May 15, 2015.

Public comments were received throughout the project, and served to shape the development of the alternatives and the Proposed Action. Residents shared knowledge of the area and its natural resources that contributed to descriptions of the affected environment, agency coordination discussions, and overall project design. Few written comments have been received for this project. Most comments obtained were received through public meeting discussions, and have been paraphrased in public meeting notes. Public involvement records are included in Appendix D. Table 11 represents a summary of public comments and responses, including how they have been addressed in the EA.

Table 11 – Public Comments Summary

Public Comments Summary	
Comment/Concern	**Response**
August 21-22, 2012 Field Trip	
Proposed apron site conflicts with City of Kiana community expansion plans - proposed site is bisected by utility poles and power line for planned residential subdivision.	The proposed apron expansion is sited and being designed to have the greatest benefit for the airport and the least impacts to airport users. We will work with the City to try and accommodate expansion plans as much as possible.
March 4, 2013 Public Scoping Meeting	
How can the community increase the project's AIP score?	DOT&PF explained that the project has a high AIP score, but it is a contingency project, which is pending funding to proceed. Each 5% of the project cost matched by the community would add 1 point to the project's score. Additionally, the community can provide specific comments related to the project's purpose and need.
Current gravel sources are very limited; area flooded this past year, should we send photos?	Yes, send photos to document current gravel access road and site.
Would DOT&PF consider a skewed runway alignment oriented Northwest to Southeast to achieve the 4,000-ft. length and desired apron setback?	Yes, DOT&PF has begun a preliminary investigation of the cut/fill requirements of such an alignment
Would project use a year round road or a winter haul route to the materials site?	DOT&PF is requesting an all-weather road in its discussions with FAA
Is extending the existing apron still part of the project?	Yes, it is. DOT&PF is seeking options that increase the setback distance between the runway and apron.
If project costs increased, would the project be pushed further into the future on the schedule?	Yes, it would likely slip further out on the planning horizon. Additionally, DOT&PF mentioned that there is an $8.8 million proposal for the materials site road from Federal Highway Administration that is in the 2015 State Transportation Improvement Plan. This project, if advanced would greatly aid the airport project, increasing construction efficiency and decreasing costs, however, this project's funding status is contingent on the federal budget status. We'll know more by the conclusion of the FY2013 budget at the end of September.
What about the runway lights? Specifically, would DOT&PF manage the REILs (runway end identifier lights) as the FAA's current procedures (such as chartering a flight to change a light bulb) are inefficient?	Yes, FAA has detailed procedures for those lights.

Public Comments Summary	
Comment/Concern	**Response**
There is very limited space when clearing snow from the runway threshold around these lights. Please consider snow removal needs in new design.	Thank you for your comment. We will accommodate snow removal needs in the Proposed Action as design allows.
Concern that extending the existing apron to the west without an additional taxiway would route turning aircraft in front of existing hangar which would generate considerable dust.	Thank you for your comment. Currently funding does not allow for design and construction of a secondary taxiway and the apron is being designed to incur the least amount of impacts.
September 4, 2014 Project Update Meeting	
Who would the ownership of the material site road go to after construction is complete?	The material site road would be relinquished back to the property owner (NANA).
Why did the cost increase from 13 to 15 million?	The project design was refined, which in turn refined the cost.
Why are you looking at the current alternative to extend the runway length?	Larger aircraft (1900s or DC6s) could use the new runway length. The apron expansion and runway skew would keep airspace minimums and increase the offset for potential future aircraft needs.
What is the current funding for the project?	This project is contingent for 2015, and may not get funding till 2016. The project is high on the Airport Improvements Program funding list and will be funded in 2016 unless another project scoring trumps this project.
Will the contractor bid on the entire package (runway, material site, and road)?	Yes, the contractor would bid on the entire project package.
Will local hire be used to cut brush, haul dirt, etc.? The city dozer can be rented.	DOT&PF encourages local hire and many contractors use local hire where available. The contractor will be responsible coordinating with the community for hires. Thank you for your comment.
When the final decision is made how are the landowners going to be contacted?	Landowners will be contacted after the environmental document and design is complete. When those are complete DOT&PF Right-of-Way agents will contact landowners.
I'm concerned for the location of the taxiway kicking up rocks on parked planes on the apron.	Thank you for your comment. FAA has standard minimum distances between runways and parked planes on the apron and the Kiana Airport currently meets these standards.
I'm concerned for foot traffic walking past the apron area. Could you build a road around the apron for access to the apron on the west side?	Thank you for your comment. We will look into this and see if it might be feasible.

Public Comments Summary	
Comment/Concern	**Response**
Is the goal to bring in bigger airplanes? I'm concerned about blasting and throwing rocks.	Thank you for your comment. Bigger planes may come in due to the increased runway length.
There's a lot of dust in the summer.	Thank you for your comment. A dust palliative (Midwest EK-35B) was just recently used to control the dust on the runway and after construction a similar dust palliative would be used on the runway.
We need the runway and apron paved, with a heated apron.	Thank you for your comment. Cost, need, and maintenance considerations are factors considered for paving a runway. Also, the type of aircraft that are needed to service a community is a factor that is considered. At this time there is not an identified need to pave the Kiana runway.
Is there usable material at the existing runway/apron area for the project?	Yes, we believe that 60% of the material needed can be used from this area.
There is a shallow spot in the middle of the runway that ruined a plane. What will the length of the new runway be?	We are aware of the shallow spot, potentially formed from bad sub-base material along with poor drainage and will be fixed as part of the project. The new runway would be 4,000 ft. long.
What size aircraft will the new length allow?	Larger aircraft (1900s or DC6s) could use the new runway length.
What are the criteria for paving?	Cost, need, and maintenance considerations are factors considered for paving a runway. Also, the type of aircraft that are needed to service a community is a factor that is considered. At this time there is no identified need to pave the Kiana runway.
Will FAA require new NAVAIDS?	The current PAPIs and REILS can be used.
We would like a new western taxiway.	This will all depend on funding and current funding does not allow construction of a new taxiway.
Will there be a storm water plan? Erosion is a problem here.	Yes, a SWPPP will be completed and implemented by the contractor.
The culvert on the east end by the graveyard is not taking care of drainage and it is coming into town. Lots of water comes off of the runway, it's a simple fix but needs to be taken care of.	The project includes drainage improvements around the runway (e.g., replace culverts, re-establish north drainage ditch).
Can the apron be extended south of the city road?	Due to the close proximity of residential homes south of City Road the apron cannot be safely extended south of City Road.
Can a sign be made that states commuter aircraft park and unload on the north edge of the ramp, in order to avoid blasting parked aircraft?	Thank you for your comment. We will look into this and see if it might be feasible.
May 25, 2015, Comment on the draft EA	

Public Comments Summary	
Comment/Concern	**Response**
Soft spots in the runway have been a safety issue for a long time. Better material on the runway will reduce chances of accidents as well as having a longer runway to land during bad weather. A larger apron will provide enough room for airlines when they need to park due to bad weather. A longer runway will allow large airplanes to land reducing freight costs for everyone.	Yes, thank you for your comment. The Proposed Action will address all these concerns and make the Kiana Airport safer.

Agency coordination activities occurred throughout the project, as documented in Table 9. Table 12 below represents a summary of statements or status of agency comments, as of this draft EA. All agency correspondence can be found in Appendix E.

Table 12 – Agency Comment Summary

Agency Comment Summary	
Federal Agency	**Comments**
USFWS Scoping Comments	• Project is within the range of some listed species and if the project proceeds, DOT&PF should contact the Endangered Species Branch. • Migratory Birds should be given consideration, recommended that clearing vegetation/placement of initial fill take place prior to May 20 or after July 20. • USFWS is unaware of any eagles within project location. Recommended that if any eagles or eagle nests were observed within 0.5-mile of the project footprint, contact the office. • Fish surveys were recommended to determine types of fish, particularly in streams leading to anadromous waterbodies. Stream crossings should provide fish passage options. A minimum 100-ft. riparian buffer along anadromous water bodies and 50-ft. buffer along ponds and non-anadromous streams were recommended. • A wetlands map should be developed to provide a basis for mitigation plans. All stream/wetland crossings should be designed to maintain the functional connectivity of the existing drainages. • Recommended that a mining and reclamation plan be developed for the Material Site and associated Haul Road, in order to protect the adjacent streams. Sediment protection and a vegetated buffer should also be implemented. • BMPs should be implemented to control invasive species.
NMFS Scoping Comments	• NMFS concurs that there will be no adverse effects to EFH. • NMFS has no concerns about the project regarding protected species. • NMFS reaffirmed these statements for the revised (current) Proposed Action.

Agency Comment Summary	
State Agency	**Comments**
Alaska Department of Natural Resources, Office of History and Archaeology Response to Findings Letter	• SHPO concurred with the recommendation that a number of sites are not eligible for the NRHP and with the finding of no historic properties affected, as no historic properties are located within the area of the Proposed Action.
ADEC comments on draft EA	• Storm water discharges need to be controlled within the PWS DWPA, whose boundaries partially overlap with the proposed project. • Within the PWS DWPA, restrict project activities that could significantly change the natural surface water drainage or groundwater gradient. • All data related to the project needs to be made available to ADEC upon request. • Limit the amount of equipment storage, maintenance and operation, and other potential sources of contamination within Zone A and E of the PWS DWPA. • Implement BMPs where equipment storage, maintenance and operation, or other potential sources of contamination is located within a PWS DWPA and that will minimize the potential for contamination to enter the water source used by a PWS. • Immediately notify the nearby PWS of any identified potential contamination, such as spills or excess erosion.
USFWS comments on Draft EA	• We appreciate the incorporation of our concerns into the EA and have no further comments on the project.

8 LIST OF PREPARERS

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Susan Ives	Wetland Scientist	Material Site and Airport Wetland Delineation, Wildlife Habitat Assessment, and Report
Erin Johnson	Wetland Scientist	Material Site and Airport Wetland Delineation, Wildlife Habitat Assessment, and Report

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10 FIGURES