APPENDIX E

Wetlands Avoidance and Minimization Analysis

State of Alaska
Department of Transportation
& Public Facilities
Statewide Design &
Engineering Services

Wetland Avoidance and Minimization Checklist
Project Name: Fort Yukon Resurfacing
Project Number: 62650

I. Project Scope: Provide a brief description of and reason for project.

The Alaska Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Federal Aviation Administration (FAA), are proposing the following improvements a the Fort Yukon Airport:

- Expand the existing RSA from 5,800 feet by 250 feet to 6,200 feet by 300 feet. The expansion in length would only occur at the 21 (eastern) end of the runway.
- Expand perpendicular taxiway safety area width from 85 feet to 120 feet.
- Resurface operational surfaces (e.g. runway, taxiway and apron) with gravel and a dust palliative.
- Replace the existing lighting system.
- Clear vegetation from approximately 107 acres adjacent to runways, apron, and taxiways (willows and some aspen trees).
- Correct drainage problems by clearing the drainage ditch of vegetation and silt, realign approximately 725 feet of the existing drainage ditch west of the apron and regrade the southeastern section of the apron.
- Acquire approximately 164 acres of land to ensure future compatible land use around the airport.
- Expand the existing material site, which occurs within a restricted native allotment and native corporation land. This project will require approximately 113,000 cubic yards (cy) of borrow material and 66,000 cy of crushed aggregate.

II. Avoidance Measures:

1. Can the proposed project or project components be located in a non-wetland area? If not, explain in detail why not? (Refer to preliminary jurisdictional wetland determination.)
The improvements were designed to avoid wetlands to the extent practical, however due to the proximity of wetlands to the runway and material site, it is not possible to expand them without impacting wetlands.

   1.a. If yes, does this non-wetland area provide unique habitat to the area or contain other protected resources (e.g., cultural resource, federal listed or candidate species, bald eagles or other raptors)? Consult with the agency with jurisdiction or expertise if appropriate e.g., Corps, FWS, NMFS, ADF&G.

   N/A

   1.b. Are there other project related impacts to the non-wetland area that are considered substantial (e.g., subsistence use or other socio-economic factors)? Consult with the agency with jurisdiction or expertise if appropriate e.g., Corps, FWS, NMFS, ADF&G.

   During the scoping effort, no issues were raised with the agencies or the community of impacts to non-wetland areas.

2. In consideration of forecast changes in aircraft use, future airport projects, expected community growth and maintenance considerations, have facilities been sited to avoid wetland impacts? Has this been applied to all individual components of the airport (e.g., runway, taxiways, aprons, lease lots, navigational aids)?

   No new facilities are proposed to be constructed; only existing facilities would be expanded. However, wetland impacts have been minimized where possible. For example, changing the side slopes for the runway embankment from 4:1 to 2:1, where the runway embankment runs adjacent to Hospital Lake, minimized impacts to Hospital Lake.

   2.a. Can dimensions of facilities be traded off; i.e, length vs. width of the apron in order to lessen impacts?

   No, the runway, taxiway, and associated safety areas are being designed to the minimum footprint acceptable in this situation while meeting FAA safety standards.

   2.b. Can the footprint of specific project components be reduced to avoid wetlands i.e., steeper side slopes on support facilities?

   No, steeper side slopes than 2:1 would likely increase erosion and sedimentation, causing instability of the embankment.

   2.c. Can facilities be consolidated to avoid impacts?

   Facilities have been consolidated as much as possible while still meeting FAA safety standards.

2.d Have existing roads, pads, runways and other facilities been incorporated into the design of the proposed project to avoid wetland impacts?

An existing road will be used as a haul route for transporting the material.

3. Have crossings of fish streams been avoided? (Consult the Anadromous Fish Catalog or contact ADF&G for information on fish bearing waters.)

   No fish streams would be crossed.

4. If the Regional Environmental Coordinator has determined that the project may adversely affect Essential Fish Habitat (EFH) list the preliminary EFG conservation measures.

   The project would not adversely affect EFH.

5. Are bald eagle nest trees at least 330 feet from the project? If not, consult FWS.

   The USFWS was consulted during scoping, and they did not raise concern of bald eagle nests near the project area and none were identified within 330 feet.

6. Have abandoned pads, roads, runways and other fills associated with the airport project been considered for gravel re-use, rehabilitation, and/or restoration?

   There are no abandoned pads, roads, runway, or other fills associated with the airport project.

III. Minimization Measures (If the impacts can't be avoided continue**):**

1. Can the proposed project or project components be located in a lower value wetland area? If not, explain in detail why not? (Refer to appropriate resource mapping or functional value assessment.)

   The majority of the impacts to wetlands consist of Lowland Moist Meadow and Lowland Open Low Scrub. These wetlands are not considered unique to the area. Impacts to Hospital Lake, the highest value wetland in the project area, were avoided by changing the side slopes of the runway from 2:1 to 4:1 where the runway is adjacent to the lake. Avoiding all impacts could only be avoided by relocating the airport, which is not feasible.

   1.a. If yes, would construction affect other protected resources (e.g., cultural resource, federally listed or candidate species, bald eagles or other raptors)? Consult with the agency with jurisdiction or expertise if appropriate e.g., Corps, FWS, NMFS, ADF&G and SHPO.

   N/A

1.b. Are there other project related impacts to this lower value wetland considered substantial (e.g., cultural resource, subsistence use or other socio-economic factors)? Consult with the agency with jurisdiction or expertise or expertise if appropriate.

There is no identified cultural, subsistence use, socio-economic issue associated with the impacted lower value wetlands. A cultural survey was completed for the project area and the community was also consulted, and no concerns or significant resources were identified.

2. In consideration of forecast changes in aircraft use, future airport projects, expected community growth and maintenance considerations, have facilities been sited to minimize wetland impacts? Has this been applied to all individual components of the airport (e.g., the runway, taxiways, aprons, lease lots, navigational aids)?

No new facilities are proposed to be constructed; only existing facilities would be expanded. However, wetland impacts have been minimized where possible. For example, changing the side slopes for the runway embankment from 4:1 to 2:1, where the runway embankment runs adjacent to Hospital Lake, minimized impacts to Hospital Lake.

2.a Can dimensions of facilities be traded off; i.e., length vs. width of the apron in order to lessen impacts?

No, facilities have been consolidated to the extent practical while still meeting FAA safety standards.

2.b. Can the footprint of specific project components be reduced i.e., steeper side slope on support facilities?

No, facilities have been consolidated to the extent practical while still meeting FAA safety standards. Side slopes steeper than 2:1 could potentially result in erosion or sedimentation.

2.c Can facilities be consolidated to minimize impacts?

No, facilities have been consolidated to the extent practical while still meeting FAA safety standards.

2.d Have existing roads, pads, runways and other facilities been incorporated into the design of the proposed project to minimize wetland impacts?

An existing road would be used as haul route to transport the material.

3. Have crossings of fish streams been located to minimize adverse impacts to the extent practicable? (Contact agencies with jurisdiction or special expertise as appropriate.)

No fish streams would be crossed.

3.a. Have adverse affects to fish spawning habitat been minimized?

No work would occur below ordinary high water, and therefore no direct impacts to fish are anticipated. Best Management Practices such as silt fences and straw bales would reduce indirect impacts such as sedimentation when work occurs near waters of the U. S. or wetlands.

3.b. Have stream crossings been designed in accordance with the DOT&PF/ADF&G culvert design and construction memorandum of agreement?

N/A

4. If the Regional Environmental Coordinator has determined that the project may adversely affect Essential Fish Habitat (EFH) list the preliminary EFH conservation measures.

N/A

5. Have abandoned pads, roads, runways and other fills associated with the airport project been considered for gravel re-use, rehabilitation, and/or restoration?

There are no abandoned pads, roads, runway, or other fills associated with the airport project.

IV. Material Site Considerations

Contractor supplied and commercial material sites are not subject to an avoidance and minimization review.

1. Has a material site been designated for this project? If yes continue, if no go to V.

1.a. If a new material site is required, have you considered locating and accessing material an adequate distance from the airport so that it can be reclaimed as wetlands or other wildlife habitat?

The existing material site would continue to be used as a material source for the community after the project is complete.

1.b. Would a new site, located a safe distance from the airport, require a new road, resulting in additional wetland resource or community use impacts? Are there means to avoid a new access road? Would development of this new site result in more or less wetland impacts than a new or existing material site located closer to the airport?

The existing material site has adequate haul routes on city streets to the project area.

1.c. If a new or existing material site has been selected that would be located a safe distance from the airport and requires minimal additional road building, has a mine reclamation plan been developed? If located an appropriate distance from the airport can the material site be reclaimed to provide open water habitat such as shallows, islands, and irregular shorelines? (Consult agencies with jurisdiction or special expertise.)

The existing material site is located a safe distance from the airport, does not require any additional road building, and a mining reclamation plan has been developed as part of the EA. The existing material site would continue to be used as a material source for the community after the project is complete.

1.d. Has geotechnical and hydrological information been collected and used to maximize gravel exploitation while minimizing wetland impacts (e.g., mining deeper, adjusting material site boundaries, and using portions of the pit for temporary stockpiling of material)?

The majority of the material site is located in uplands. This is an existing material site and the contractor for the project would likely match the existing depth in adjacent expansion areas.

1.e. Has a long-term material site been considered? If so, can a portion of the site be closed and reclaimed at the end of this project?

The existing material site would continue to serve the community as a material source in the future. No portion of the site can be closed.

V. Additional Material Site Considerations:

1. Will project overburden be stockpiled (preferably in uplands) for use as "top soil" or in reclamation of material sites or previously disturbed areas?

   Project overburden would be temporarily stockpiled on developed areas and then used for reclamation purposes.

2. How will access roads and other fills associated with the material site be restored upon project completion?

   There would be no need for new fill associated with the material site. Existing roads currently connect the project to the material site and these roads would remain open after completion of the project.

3. Can development of the material site be timed to avoid or minimize affects during spawning, migration and nesting periods? (Consult agencies with jurisdiction or special expertise.)

   Yes, the USFWS recommended time period for avoiding vegetation clearing to protect migratory birds would be followed. For the interior of Alaska, the USFWS recommends no clearing from May 1 to July 15. No impacts to or crossing of fish-bearing waterways would occur as a result of this mater site expansion.