

## 9.0 SELECTED ALTERNATIVES

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The FAA's preferred alternatives are those that best satisfy the Purpose and Need for the projects, comply with federal law and FAA's statutory mission, and conform to FAA's environmental responsibilities. FAA has followed CEQ and other federal laws and guidance, as well as the comprehensive environmental analysis included in the FEIS, in determining which alternatives should be implemented at JNU. FAA's preferred alternatives include those identified as the environmentally preferable for a new SREF, fuel farm access, aircraft storage and parking, and navigational alignment with the runway.

In accordance with federal regulations implementing NEPA (40 CFR §1505.2) FAA has considered the tradeoffs associated with wildlife hazard management alternatives. Alternatives WH-1 and WH-2 each rely heavily on habitat modification to reduce wildlife attractants to key locations of the Airport, specifically the west runway end and Float Plane Pond. Alternative WH-3 would entail little habitat modification but substantially increased hazard control activities. However, FAA does not believe that the environmentally preferred alternative for wildlife hazard management (WH-3) would sufficiently reduce wildlife hazards to aviation. Some habitat modification is necessary to reduce bird attractants on the Airport, particularly near the west Runway 08 end. FAA also recognizes that other actions involving runway safety area enhancement and relocation of Duck Creek will, in concert with a revised wildlife hazard management plan, eliminate some of the intertidal wetlands currently providing good forage and loafing habitat for birds west of the Airport. FAA balanced the goal to minimize environmental impact with the need and national policy for safe aviation and selected a modified wildlife hazard alternative that incorporates some habitat modification with increased hazard control and management.

In the case of runway safety area, FAA's selected alternative (RSA-5E) is not the environmentally preferred alternative (RSA-6A). The previous section, Section 8.1, of this ROD described FAA's statutory obligation, codified in Public Law 109-443, to select the lowest cost RSA alternative that meets standards and maintains runway length. Nevertheless, FAA's preferred alternative for runway safety area (and other needs) incorporates all identified practicable measures to avoid or minimize environmental harm.

Accordingly, FAA has decided that the preferred alternatives described in the previous sections of this ROD and listed in the following table (Table 4) are the alternatives selected for implementation.

**Table 4. Summary Needs and Actions Comprising the FAA's Selected Alternatives**

<b>Need</b>	<b>Selected Alternative</b>
Runway Safety Area	RSA-5E
Navigational Improvements	NAV-2B
Snow Removal Equipment and Maintenance Facility	SREF-3B1
Aviation Facilities	FW/RW-2
Fuel Farm Access	FF-1
Wildlife Hazard Management Plan	Modified WH-1: WH-3a, WH-1b, WH-2c, WH-1d, WH-1f, WH-1g, WH-1h, and WH-2i and Additional Features Described

## **10.0 FINDINGS, DETERMINATIONS, AND CERTIFICATIONS**

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In accordance with federal law and agency guidance, FAA makes the following findings, determinations and certifications for the selected alternatives. These findings, determinations and certifications are based upon the information and analysis contained in the FEIS and the administrative record supporting the EIS.

### **10.1 COMPLIANCE WITH LAWS, REGULATIONS, AND EXECUTIVE ORDERS**

There are a number of federal, state, and local agency approvals and permits that would have to be issued before the preferred alternatives could be implemented. These approvals and permits were identified in an earlier section of this ROD. There are also Executive Orders (EOs) such as those concerning floodplains (EO 11988) and wetlands (EO 11990), that would be applicable to the selected alternatives. The following sections summarize the degree to which the selected alternatives are consistent with the laws, regulations, and Executive Orders not specific to FAA's regulatory authority.

#### **10.1.1 EXECUTIVE ORDER 11988: FLOODPLAIN MANAGEMENT AND U.S. DOT ORDER 5650.2: FLOODPLAIN MANAGEMENT AND PROTECTION**

This Executive Order, together with applicable DOT and FAA orders, establishes a policy to avoid construction within a 100-year floodplain where practicable, and where avoidance is not practicable, to ensure that the construction design minimizes potential harm to or within the floodplain. FAA is bound by Public Law 109-443 to select alternative RSA-5E for implementation. As such, there is no practicable alternative available to the FAA to further avoid impacts to floodplains associated with this action. RSA-5E incorporates all practicable measures identified during the EIS process to minimize harm to and within floodplains (see the Compensatory Mitigation Plan section of this ROD).

For all other selected alternatives, there are no practicable alternatives to avoid impacts to and development in floodplains and still meet the purpose and need for the actions. The selected alternatives incorporate all identified practicable measures to minimize harm to and within the floodplain, including:

- Use of a permeable, at-grade MALSR access road that allows water infiltration and does not block tidal recharge;
- Steepened RSA support slopes to reduce fill into floodplain;
- Reconstruction of the East Runway Slough to maintain hydrologic exchange between marshplain/floodplain north of the runway with Jordan Creek and the Gastineau Channel; and
- Relocation of Duck Creek with channel modifications to increase overall floodplain storage capacity.

Further, the selected alternatives would not result in 1) a considerable probability of the loss of human life, 2) likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility, and 3) a notable adverse impact on natural and beneficial floodplain values after design features and mitigation measures described in FEIS Section 2.12 are applied.

### **10.1.2 EXECUTIVE ORDER 11990: PROTECTION OF WETLANDS AND U.S. DOT ORDER 5660.1A**

FAA is bound by Public Law 109-443 to select alternative RSA-5E for implementation. As such, there is no practicable alternative available to the FAA to further avoid impacts to wetlands associated with this action. In accordance with this Executive Order, the EIS considers impacts to a) public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion; b) maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and c) other uses of wetlands in the public interest, including recreational, scientific, and cultural uses. RSA-5E incorporates all practicable measures identified during the EIS to minimize harm to wetlands.

For all other actions, there are no practicable alternatives to avoid impacts to wetlands and still meet the Purpose and Need of these alternatives. The selected alternatives incorporate practicable measures identified during the EIS process to minimize harm to wetlands.

### **10.1.3 NATIONAL HISTORIC PRESERVATION ACT (16 U.S.C. §470)**

SHPO concurred with the FAA's determination of eligibility finding of No [known] Historic Properties Affected. However, the FAA and SHPO agree that additional efforts to identify historic properties are necessary before a final finding of effect can be made. The FAA, SHPO, and JNU/CBJ entered into a Programmatic Agreement for phased identification of subsurface and obscured resources and will complete the Section 106 process of determining eligibility and resolving of adverse effects to newly located resources, should any such resources or effects be identified. A copy of the Programmatic Agreement is provided in Appendix C to this ROD. FAA consulted with the SHPO and Alaska Native groups as required by 36 CFR 800.2.

### **10.1.4 CLEAN WATER ACT (33 U.S.C. §1344) SECTIONS 401, 402, AND 404 AND THE FEDERAL WATER POLLUTION CONTROL ACT (33 U.S.C. §§ 1251-1387)**

FAA is bound by Public Law 109-443 to select alternative RSA-5E for implementation. As such, there is no practicable alternative available to the FAA to further avoid impacts to wetlands and waters of the U.S. associated with this action. (The following section provides a discussion of conformance with the 404(b)(1) guidelines for disposal of dredge or fill material into waters of the U.S.)

RSA-5E incorporates all practicable measures identified during the EIS process to minimize harm to wetlands and waters of the U.S. Preferred alternatives for all other actions also

incorporate all practicable measures identified during the EIS process to minimize harm. In the case of unavoidable impacts to wetlands, a mitigation plan has been developed through consultation with the USACE and other state and federal agencies and will be a requirement of project implementation. Additionally, JNU will submit a Section 404 permit application to the USACE. This application will include the minimization measures incorporated into the selected alternatives for discharge of fill into waters of the U.S. Issuance of the permit by the USACE and adherence by JNU to any conditions of approval will demonstrate compliance with Section 404 of the Clean Water Act.

Receiving waters on and surrounding the Airport (i.e., Duck Creek and Jordan Creek) already exceed water quality standards for such elements as sediment, debris, iron, dissolved oxygen, and fecal coliform. TMDLs have been established for Duck Creek and are under consideration for Jordan Creek, which only has a TMDL identified for residue. The selected alternatives will not result in further exceedence of state and federal water quality standards, but they also may not improve current conditions. Measures to control stormwater runoff and other discharges from the Airport that will be incorporated into the final design of the selected alternatives and adopted into the relevant permits are incorporated by reference into this ROD. Further, JNU will develop an erosion and sediment control plan prior to commencement of construction to minimize impacts to water quality and to comply with all established TMDLs for receiving waters. JNU's Stormwater Pollution Prevention Plan will be amended and submitted to the U.S. Environmental Protection Agency (USEPA) for a National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the Clean Water Act and will incorporate measures to address increased runoff and contaminant loading associated with changes to discharges from implementation of the selected alternatives. JNU will submit an application for certification of compliance with state water quality standards to the Alaska Department of Environmental Conservation (ADEC) under Section 401 of the Clean Water Act. Issuance of the USEPA's NPDES permit and the State Water Quality Certificate and adherence by JNU to any conditions of approval will demonstrate compliance with the federal and state water quality requirements.

#### **10.1.4.1 CONFORMANCE WITH SECTION 404(B)(1) GUIDELINES FOR SPECIFICATION OF DISPOSAL SITES FOR DREDGED OR FILL MATERIAL (40 CFR §230)**

Both the USACE and USEPA provided comments about the Final EIS (USACE 2007; U.S. EPA 2007). Among other comments, USEPA requested that the ROD "...include a discussion showing that the selected alternative complies with the 404(b)(1) guidelines.<sup>10</sup> The USACE recommended that FAA demonstrate, in the ROD, "...how the proposed work conforms with the 404(b)(1) guidelines published for the discharge of dredged or fill material into waters of the United States." The USACE will make a final determination as to conformance of the selected alternatives with the Clean Water Act as part of the Sponsor's permit application, review, and decision process. However, FAA concurs with both agencies that this ROD should provide additional discussion on the subject with respect to the selected RSA alternative because of the unique legislative demands directed at this decision.

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<sup>10</sup> The "selected alternative" refers to the selected runway safety area alternative.

The USACE Guidelines establish the basis for determining compliance or non-compliance with the restrictions on discharge of dredged or fill material (40 CFR Part 230). The following sections use the four "failure" tests identified in 40 CFR §230.12a3 to discuss compliance of FAA's selected RSA alternative with Section 404 of the Clean Water Act. The selected alternative, RSA-5E, would have the least impact on waters of the U.S., including special aquatic sites such as wetlands and the Refuge, than any of the standard RSA alternatives that maintain full runway length, including RSAs-1, -5C, and -5D.<sup>11</sup> RSA-5E would also cost less than the other standard RSA alternatives. Similarly, Alternative RSA-6C would cost approximately 50% more to construct than RSA-5E and would have a greater impact on both wetlands and the Refuge. The following discussions therefore concentrate on alternatives that may cost less or have lesser impact on waters of the U.S. than RSA-5E (including RSAs-6A, -6B, and -6D).

### ***NO PRACTICABLE ALTERNATIVES***

The USACE Guidelines would not authorize permit of RSA-5E if there is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem (40 CFR §230.12a3i). An alternative is "practicable" as defined by the Guidelines "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes" (40 CFR §230.10a2).

The two RSA alternatives incorporating EMAS on both runway ends (RSAs-6A and -6B) would have less environmental impact on wetlands, habitat, and hydrology than RSA-5E, although the selected alternative would result in the lowest permanent loss of Refuge lands than any alternative other than RSA-6A. However, Alternatives RSA-6A and -6B would also cost approximately twice as much to construct than RSA-5E. This cost difference is even greater over a 20-year lifespan because of the higher maintenance requirements for EMAS and the predicted need to replace the EMAS beds once during that period. Alternative RSA-6D would cost less to construct and maintain than the selected alternative and would have a lesser impact on wetlands and hydrology, but result in a greater permanent impact on the Refuge than RSA-5E.

The USACE does not have explicit guidance for determining whether or not project costs are practicable. FAA has developed guidance for identifying the maximum financially feasible (i.e., prudent) cost for RSA improvements (see FAA Order 5200.9; FAA 2004). The threshold for financial feasibility is based on the extent of RSA improvement required and corresponding EMAS bed length. At JNU, each runway end would require an EMAS bed 337 feet long by 150 feet wide. FAA has determined that the maximum feasible RSA improvement cost per runway end for this type of installation is about \$15 million, or \$30 million for both runway ends, for the life-cycle of the system (FAA 5200.9, paras 9c(1) and 9d). As can be seen on Table 2-13 of the FEIS, and in the detailed cost estimates provided in Appendix A to that document, the total cost (life-cycle + mitigation) for Alternatives RSA-6A and RSA-6B exceeds \$30 million.

RSA-6D is the least costly alternative to construct, affects less habitat, and would have a smaller compensatory mitigation cost than any other standard safety area alternative. However, RSA-6D

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11 "Special aquatic sites" that would be affected include but are not necessarily limited to the Refuge and wetlands, as defined in 40 CFR Subpart E.

would also require a 5 percent reduction in landing length on both runways, and this change would conflict with federal law passed in 2003 that precludes FAA from requiring an owner or operator of an airport in Alaska to reduce the length of a runway for the purpose of complying with RSA standards.<sup>12</sup>

Late in 2006, after publication of the Draft EIS and while revisions were being completed to this Final EIS, Congress passed and the President signed Public Law 109-443 to the National Transportation Safety Bill. Portions of this law address the proposed runway safety area improvements at JNU, and provide explicit direction to FAA concerning which alternative is preferred for implementation. Specifically, Public Law 109-443 states that "...the Secretary of Transportation may only select as the preferred alternative the least expensive runway safety area alternative that meets the standards of the Federal Aviation Administration and that maintains the length of the runway as of the date of enactment of this Act." In determining the least expensive runway safety area alternative "...the Secretary shall consider, at a minimum, the initial development costs and life-cycle costs of the project."

Public Law 109-443 provides clear direction to the FAA for selection of the preferred runway safety area alternative. The FAA's selection of an alternative is critical to the Juneau Airport's ability to implement required runway safety area improvements in several respects. Because FAA is the lead federal agency for the proposed actions, and will provide federal monies to fund most of the cost associated with RSA construction, the Airport could not be reasonably expected to fund any alternative other than a No Action Alternative without FAA's financial assistance. The FAA's role in funding decisions is critical, as Congress has placed sole responsibility on the FAA to approve use of federal Airport Improvement Program funds for airport improvement projects. In addition, the FAA has sole authority to approve the Airport Layout Plan depicting the proposed RSA improvements as well as the Airport's operating certificate under Federal Aviation Regulation Part 139. Whether for purposes of funding approval or approval of airport layout, the FAA cannot approve the Airport's Layout Plan or the Airport's operating certificate unless a runway safety area alternative were constructed that comports to Public Law 109-443. Therefore, an alternative not complying with Public Law 109-443 is not be available to the Airport for implementation and not practicable as defined by the 404(b)(1) guidelines.

For the reasons outlined above, Alternatives RSA-6A or RSA-6B are not practicable under the 404(b)(1) Guidelines due to their excessive cost, and Alternative RSA-6D is not practicable because it does not comply with federal law to maintain runway length at JNU. In addition, none of these alternatives are considered practicable by the 404(b)(1) guidelines because they are not available for implementation.

### ***SIGNIFICANT DEGRADATION OF AQUATIC ECOSYSTEM***

The USACE would not allow discharge of dredge or fill material from Airport actions if the discharge would violate applicable Alaska water quality standards; violate applicable toxic effluent standards or prohibitions under Section 307 of the Clean Water Act; jeopardize the

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<sup>12</sup> Public Law Section 502 Runway Safety Standards, Vision 100 – Century of Aviation Reauthorization Act, dated December 12, 2003.

continued existence of threatened or endangered species or result in the likelihood of destruction or adverse modification of critical habitat; or, violate any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972. None of these criteria are applicable to Alternative RSA-5E.

The USACE Guidelines would also not authorize permit of proposed discharges that result in *significant* degradation of the aquatic ecosystem. The guidelines do not provide strict definition or thresholds for significant adverse effects (on human health and welfare, aquatic life and ecosystems, etc.). FAA recognizes that the USACE will base their finding on factual determinations, evaluations, and tests required by Subparts B and G of 40 CFR Part 230. However, FAA's analysis in the FEIS, Section 4.3, and supporting documentation from other agencies suggest that Alternative RSA-5E would not significantly degrade the aquatic ecosystem. For example, Alternative RSA-5E:

1. Would reduce the size of Mendenhall Wetlands State Game Refuge, a special aquatic site, by approximately 4.1 acres, or about 0.1 percent. Compensatory mitigation would be expected to restore as much or more habitat to the Refuge.
2. Is not, as determined by FAA and concurred with by NMFS, likely to adversely affect ESA-listed species or have an adverse modification to critical habitat. NMFS concluded that "Any effects on listed species are expected to be either discountable or insignificant" (NOAA 2007).
3. Will not significantly affect essential fish habitat (EFH). "NMFS concurs with the FAA's determination that the preferred alternatives incorporate appropriate mitigation and conservation measures that will minimize or compensate for impacts to EFH and that the projects will not cause significant impacts to EFH" (NOAA 2007).
4. Would "meet the conditions set forth in the Mendenhall Wetlands State Game Refuge Management Plan for JNU to acquire Refuge land for airport expansion" (ADF&G 2007).

### ***MEASURES TO MINIMIZE POTENTIAL HARM TO THE AQUATIC ECOSYSTEM***

The Section 404(b)(1) guidelines require that the discharge of dredge or fill material include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem. FAA has followed an approach similar to that of the USACE, USFWS, and other agencies in mitigation by avoiding environmental impact where possible and where not possible, minimizing harm to the resources to the extent practicable. Section 2.12 of the FEIS describes this approach, and a similar but abbreviated discussion is included in this ROD.

An example of how this approach has been employed concerns runway safety area, the Mendenhall River, and other aquatic habitat. As is described in some detail in the FEIS, the most desirable safety and operational configuration for JNU runways would be to construct standard RSA without any change to runway thresholds (so as not to jeopardize RNP and special departure procedures). However, this approach would result in considerable fill into the Refuge and Mendenhall River. FAA determined that that direct fill into the Mendenhall River should be avoided to the extent practicable, even with the added complexity of threshold modifications. As



a result, Alternative RSA-5E includes threshold shifts to the east, along with steepened supporting embankments, that will keep the RSA fill out of the River and minimize fill into estuarine wetlands east of the runway to the extent practicable.

Chapter 2 of the FEIS provides extensive discussion on measures considered to minimize harm to EFH, wetlands, hydrology on and near the Refuge, and to the aquatic ecosystem in general. This ROD also describes, in various sections, design features to be incorporated into the different actions to avoid and minimize environmental impacts. (For examples, see the ROD sections on preferred alternatives; floodplain executive order compliance; and analysis of consistency with the Alaska Coastal Management Program).

The Alaska Department of Fish and Game (ADF&G) has determined that "...the alternatives minimize impacts to the extent practicable" (ADF&G 2007). FAA agrees with this conclusion and has determined that the impact minimization features incorporated into the selected alternatives, along with any additional stipulations incorporated into state and federal permits, will satisfy USACE requirements that the discharge include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem.

### ***SUFFICIENCY OF INFORMATION***

The 404(b)(1) guidelines require there to be sufficient information to make a reasonable judgment as to whether the proposed discharge will comply the guidelines. The FEIS, this ROD, and the administrative record for the project include considerable information concerning environmental resources, the actions and alternatives, and potential impacts to aquatic ecosystems. FAA has worked with the Sponsor and state and federal agencies to identify all practicable and appropriate measures to minimize harm, and this information is also included in the FEIS and draft mitigation plan. The FAA concludes that there is sufficient information to determine that the proposed discharge will comply with Section 404(b)(1) guidelines of the Clean Water Act.

### ***SUMMARY OF CONFORMANCE WITH 404(B)(1) GUIDELINES***

FAA has determined that the least expensive runway safety area alternative that maintains the length of the runway and satisfies statutory requirements is RSA-5E. The high cost of Alternatives RSA-6A and RSA-6B exceed FAA's RSA costing thresholds and are not practicable according to 404(b)(1) guidelines. Alternative RSA-6D is not practicable because it conflicts with federal statute prohibiting a reduction to the runway length. In addition, none of these alternatives are practicable according to the guidelines because they are unavailable for implementation. FAA therefore concludes that the selected alternative, RSA-5E, complies with the requirements of the guidelines with the inclusion of appropriate and practicable discharge conditions included in this ROD and as part of the conditions of various permits, including the USACE's, to minimize pollution or adverse effects to the affected aquatic ecosystems. FAA therefore believes that RSA-5E is the least environmentally damaging practicable alternative.

### **10.1.5 ENDANGERED SPECIES ACT (16 U.S.C. §460 ET SEQ.)**

FAA engaged in informal Section 7 Consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to determine if any federally-listed species were present or had the potential to be present in the immediate vicinity of the Airport. NMFS identified two species, the Steller sea lion and the humpback whale. FAA completed and submitted to NMFS a Biological Assessment. FAA found that implementation of the selected alternatives would have no significant adverse effects on any threatened, endangered, or sensitive species. NMFS concurred that the proposed projects are not likely to adversely affect ESA-listed species under NMFS jurisdiction, nor would there be adverse modification of critical habitat. NMFS found that any effects on listed species are expected to be either "discountable (extremely unlikely to occur) or insignificant (effects so minimal that they could not be meaningfully measured, detected, or evaluated)" (NOAA 2007).

### **10.1.6 RIVERS AND HARBORS ACT (33 U.S.C. §403)**

JNU will submit a Section 10 permit application to the USACE. This permit will incorporate all measures to minimize harm and adherence by JNU to any conditions of approval. Receipt of this permit and adherence by JNU to any conditions of approval would demonstrate compliance with this act.

### **10.1.7 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT (33 U.S.C. §1413)**

If the permit is determined necessary for implementation of the selected alternatives, JNU will submit a permit application to the USACE. Minimization measures will be incorporated into the selected alternatives as identified in the FEIS and this ROD. At the present time, the FAA does not believe this permit is needed.

### **10.1.8 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT (16 U.S.C. 1855(B)(2))**

This act requires consultation with the NMFS and identification of measures to minimize harm to EFH. NMFS is a Cooperating Agency for the EIS and was consulted by the FAA throughout the NEPA process (NOAA 2002). An EFH assessment was submitted to NMFS summarizing anticipated impacts and outlining conservation measures developed with NMFS during consultation to minimize those impacts for the selected alternatives. The impacts to EFH resulting from the selected alternatives would have direct, adverse effects on the fish populations, including chum salmon, coho salmon, and Pacific herring, in the Mendenhall estuarine wetland system. However, the selected alternatives would impact a relatively small proportion of available habitat in the landscape area. With the implementation of the proposed conservation measures identified in consultation with NMFS (and found in Appendix I of the FEIS) the direct and indirect impacts to fish populations resulting from these actions would likely be negligible. NMFS concurred with FAA's determination that the selected alternatives incorporate appropriate mitigation and conservation measures that will minimize or compensate for impacts to EFH and that the projects will not cause significant impacts to EFH (NOAA 2007).

**10.1.9 MARINE MAMMAL PROTECTION ACT (16 U.S.C. §1361-1421, PUBLIC LAW 92-522)**

There would be no significant adverse effects on marine mammals.

**10.1.10 MIGRATORY BIRD TREATY ACT (REGULATIONS AT 50 CFR PART 21.43) AND EXECUTIVE ORDER 13186**

The FEIS considered the potential for impacts to migratory birds and, in particular, birds of conservation concern to the State of Alaska. No significant adverse effects on migratory birds would occur as a result of implementing any of the selected alternatives. JNU's existing permit issued by the USFWS for harassment and depredation of birds under the Migratory Bird Treaty Act will be maintained for wildlife hazard control. To the extent practicable, measures to minimize impacts to migratory bird habitat are incorporated into the selected alternatives.

**10.1.11 BALD AND GOLDEN EAGLE PROTECTION ACT (REGULATIONS AT 50 CFR PART 22.23)**

There would be no significant adverse effects to Golden or Bald Eagles. JNU will continue to implement the Airport's existing permit issued by the USFWS for the harassment of eagles creating wildlife hazards on Airport property.

**10.1.12 FISH AND WILDLIFE COORDINATION ACT (16 U.S.C. §661-667E)**

The FAA, in accordance with this act, consulted with the USFWS, NMFS, ADF&G, and other agencies throughout the EIS process.

**10.1.13 CLEAN AIR ACT (42 U.S.C. §7401 ET SEQ.)**

No air quality impacts exceeding state and federal standards for criteria pollutants would occur as a result of implementation of the selected alternatives, all of which would conform to the Alaska State Implementation Plan for meeting NAAQS standards.

**10.1.14 AVIATION SAFETY AND NOISE ABATEMENT ACT (49 U.S.C. §47501 ET SEQ.)**

The selected RSA alternative would result in increases of 1.5 or greater DNL above 65 DNL on Refuge lands. However, the resultant total DNL for the area would be compatible with Refuge land uses, as it would not exceed thresholds established by the FAA's regulations governing airport noise compatibility for such properties.

**10.1.15 U.S. DEPARTMENT OF TRANSPORTATION SECTION 4(F) (49 U.S.C. 303 & 23 U.S.C. 138)**

There are no prudent and feasible alternatives that entirely avoid the use of Section 4(f) properties for the selected alternatives. FAA is bound by Public Law 109-443 to select

alternative RSA-5E for implementation. As such, there is no prudent and feasible RSA alternative available to the FAA to avoid impacts to Section 4(f) properties associated with this action. All selected alternatives incorporate all possible measures identified during the EIS process to minimize harm to Section 4(f) properties, and none of the actions would result in substantial impairment to the 4(f) properties. The ADF&G reviewed the FEIS and issued a statement noting that the projects as described meet the conditions set forth in the Refuge Management Plan for JNU to acquire Refuge land for airport expansion (ADF&G 2007). These conditions include: 1) a significant public need for the projects which cannot be reasonably meet off-Refuge or through the use of alternative transportation modes and technologies; 2) that the selected alternatives avoid or minimize impacts to the Refuge to the maximum extent practicable; 3) that proposed mitigation for the selected alternatives fully mitigates impacts to the Refuge, and 4) that the selected alternatives do not create a hazardous attraction to waterfowl.

#### **10.1.16 EXECUTIVE ORDER 12898: ENVIRONMENTAL JUSTICE**

There would be no disproportionate impacts to any minority or low income population caused by the selected alternatives.

#### **10.1.17 EXECUTIVE ORDER 13045: CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS**

There would be no change is risk to health or safety for children caused by the selected alternatives.

#### **10.1.18 ANADROMOUS FISH ACT (AS §41.14.870)**

JNU will submit a permit application to the Alaska Department of Natural Resources, Office of Habitat Management and Permitting (ADNR-OHMP). This application will include measures to minimize harm to and within anadromous water bodies that were incorporated into the selected alternatives. Issuance of the permit by the ADNR-OHMP and adherence by JNU to any conditions of approval would demonstrate compliance with this act.

#### **10.1.19 FISHWAY ACT (AS §41.14.840)**

JNU will submit a permit application to the ADNR-OHMP. Impediments to fish passage associated with selected alternatives incorporate measures to minimize harm. Issuance of this permit by the ADNR-OHMP and adherence by JNU to any conditions of approval would demonstrate compliance with this act.

#### **10.1.20 ALASKA COASTAL MANAGEMENT PROGRAM (11 AAC 112)**

The Alaska Coastal Management Program (ACMP) engaged in a preliminary consistency review with JNU during preparation of the EIS. Issuance of consistency finding by the ACMP and adherence by JNU to any conditions of approval would demonstrate compliance with this program. JNU has submitted a Coastal Project Questionnaire to the ADNR Office of Project

Management and Permitting, ACMP. The Sponsor's application for permits and the questionnaire include a certification that the selected alternatives are consistent with the ACMP and will comply with the enforceable policies of the ACMP. The Airport has separately notified both FAA and ADNR that "...JNU has reviewed those enforceable statewide policies and for the proposed activities which are evaluated in the FEIS, the Airport will comply with the enforceable policies" (JNU 2007a and 2007b). In addition, FAA will ensure that installation of the Runway 26 MALSR and other changes in navigational aids would be conducted in full compliance with enforceable policies of the ACMP. The Final EIS has addressed all of the key ACMP consistency elements, including:

**Coastal development and coastal access.** Water dependent activities, including navigation along the Mendenhall River will be maintained. Access to, from, and along coastal waters will be maintained.

**Utility routes, transportation routes, and facilities.** No alternative exists to the current airport location. The selected alternatives avoid known or foreseeable wildlife transit corridors. Existing traditional access to the coastal zone will be maintained through relocation of the Dike Trail. Measures to minimize changes to existing drainage patterns, including active relocation of the East Runway Slough, were incorporated into the selected alternatives.

**Sand and gravel extraction.** Extraction of fill material for the selected alternatives will come from on-airport sources (e.g., the Float Plane Pond). The Float Plane Pond is an existing source that has previously provided sands and gravels for other airport projects. The footprint of the pond will not be increased as a result of these projects.

**Habitats and wetlands.** Five types of important habitats, as defined by 11 AAC 112.300, will be affected by the selected alternatives. These include estuaries, wetlands, tideflats, rivers/streams/riparian areas, and a state game refuge. Measures to minimize impacts to these habitats, including natural water flows, drainage, and the special productivity of the habitat, were incorporated into each of the selected alternatives to the extent practicable. These measures include such actions as actively relocating the East Runway Slough as part of the selected RSA alternative, using bottomless arch, box, or squash culverts to maintain fish habitat, incorporating a 50-foot setback along the relocated portion of the Duck Creek channel, and using steep RSA end and side slopes to reduce the overall footprint of this action. These measures also minimize impacts to competing uses for the area, which include primarily recreational activities on the Refuge. Mitigation measures have also been developed to account for those impacts that cannot be avoided. These measures were developed in consultation with the state, federal, and local agencies having jurisdiction over the habitat resources. With regards to the Refuge, the ADF&G finds that the selected alternatives are consistent with the Refuge Management Plan (ADF&G 2007).

**Air, land, and water quality.** The selected alternatives will not result in an exceedence of state and federal air and water quality standards. The selected alternatives will not

result in the production of hazardous materials that could contaminate lands on or around the Airport.

**Historic, prehistoric, and archaeological resources.** No known historic, prehistoric, or archaeological resources of importance will be affected by the selected alternatives.

Other enforceable policies of the ACMP are not applicable to the selected alternatives. These include special requirements for natural hazard areas, energy facilities, timber harvest and processing, and subsistence; the selected alternatives do not include energy facilities or timber harvest or processing, and JNU is not located in designated natural hazard area or subsistence area.

#### **10.1.21 JUNEAU COASTAL MANAGEMENT PLAN (CBJ LAND USE CODE 49.70.950F)**

CBJ will review the FEIS for consistency with the enforceable ordinances of the Juneau Coastal Management Plan as codified in CBJ Land Use Code 49.70.950F as part of the ACMP review described above. Issuance of a consistency finding by CBJ and adherence by JNU to any conditions of approval would demonstrate compliance with CBJ Land Use Code.

#### **10.1.22 JUNEAU WETLAND MANAGEMENT PLAN (CBJ LAND USE CODE 49.70.1065-1075)**

CBJ will review the EIS for consistency with the Juneau Wetland Management Plan as part of the consistency review under the Alaska Coastal Management program process. JNU will submit an application for a conditional use permit to the CBJ Wetlands Review Board. Issuance of a consistency finding by CBJ and a permit by the Wetlands Review Board and adherence by JNU to any conditions of approval would demonstrate compliance with CBJ Land Use Code.

#### **10.1.23 ADF&G SPECIAL AREA PERMIT (5 AAC §95.420)**

JNU will submit a special area permit application to the ADF&G for alteration of wildlife habitat in the Refuge. All identified practicable measures to minimize harm are incorporated into the selected alternatives as well as compensatory mitigation required by the Refuge Management Plan and will be included in the permit application. Issuance of the permit by ADF&G and adherence by JNU to any conditions of approval would demonstrate compliance with this program.

#### **10.1.24 PERMIT FOR SCIENTIFIC, EDUCATIONAL, PROPOGATIVE, OR PUBLIC SAFETY PURPOSES (5 ACC §92.033)**

JNU's existing permit issued by ADF&G will be maintained.

### **10.1.25 LEASING AND PERMITTING OF STATE-OWNED LANDS (11 AAC §58, 11 AAC §62.690-730, 11 AAC§96)**

JNU will submit a land use application to the ADNR Division of Mining, Land, and Water (DMLW) for any use of State-owned lands, such as those east of the Airport needed for the MALSR and construction of the relocated eastern sloughs and tidal channels, including East Runway Slough. Issuance of a permit or other land use authorization by the ADNR-DMLW and adherence by JNU to any conditions of approval would demonstrate compliance with this program.

### **10.1.26 CONVEYANCE OF STATE-OWNED LANDS (AS §38.05.825 AND AS §38.05.035(E))**

On behalf of CBJ, JNU will request a conveyance of State-owned land in the Refuge from the ADNR-DMLW to implement the selected alternatives. ADNR-DMLW will conduct a best interest finding and decision process to convey the lands to CBJ, but since the land being requested is within the Refuge, the Commissioner of ADF&G must also determine that the conveyance is consistent or compatible with the purpose of the Refuge designation. A joint best interest finding by the ADNR-DMLW and ADF&G, and adherence by CBJ to any conditions of approval, would demonstrate compliance with this program.

### **10.1.27 DEVELOPMENT IN FLOOD HAZARD AREA (CBJ ORDINANCE 49.70.400)**

CBJ will review the EIS for consistency with this ordinance. Implementation of the selected alternatives will not impede the flow of floodwaters, or otherwise cause danger to life and property, at, above or below their locations along the floodway. Altered or relocated portions of Duck Creek would not diminish the flood-carrying capacity of that waterway. Issuance of a consistency finding by CBJ and adherence by JNU to any conditions of that finding would demonstrate compliance with this ordinance.

## **10.2 DETERMINATIONS UNDER 49 U.S.C. SECTIONS 47106 AND 47107**

In accordance with applicable law, the FAA makes the following determinations for this project based upon the appropriate information and data contained in the EIS and the administrative record.

1. The selected alternatives are reasonably consistent with existing plans of public agencies responsible for development in the area (49 U.S.C. 47106(a)(1)). The determination prescribed by this statutory provision is necessary for FAA approval of airport project funding applications. To make this determination FAA considered the following local land use and development plans:
  - The selected alternatives are consistent with the comprehensive land use plan that has been adopted by the CBJ. The existing CBJ Comprehensive Plan (1995, as revised 2004: Subarea 4 Map) designates the land in most of the area immediately surrounding the Airport as primarily for uses that are typically compatible with airport operations, including institutional public uses, general commercial, and industrial. The CBJ

Comprehensive Plan also includes implementing actions related to the Airport, specifically actions 4.1.2, 4.1.3, 4.1.4, and 4.1.5 of Policy 4.1. The selected alternatives are consistent with the applicable implementing actions of the Comprehensive Plan.

- The City and Borough Assembly approved the Airport Master Plan in 1999. The Airport Master Plan identified the needs for and the objectives of most of the actions evaluated in the EIS. The selected alternatives are consistent with the Airport Master Plan.
- The Juneau Parks and Recreation Comprehensive Plan (1996) identifies the area around the Airport as an important recreational area and calls for the maintenance of public access to the Dike Trail. Consistent with the referenced plan, the selected alternatives will maintain public access to and use of the Dike Trail through the relocation of the trail around the Runway 08 RSA.
- The conceptual plan for relocation of the Duck Creek corridor presented in the EIS is consistent with improvements needed to address major problems identified in the Duck Creek Watershed Management Plan (Koski and Lorenz 1999) for the reach of Duck Creek on Airport property.
- The selected alternatives incorporate efforts to avoid, minimize and compensate for unavoidable impacts to the Refuge in conformance with the Refuge Management Plan (ADF&G 1990). The Draft compensatory mitigation plan summarized in the FEIS and this ROD was prepared in consultation with ADF&G and Alaska DNR, the two agencies with land management responsibilities and permitting authorities for the actions affecting the Refuge.
- The Refuge Management Plan also requires that Airport expansion not create a waterfowl attractant. The selected alternatives have been developed to avoid the creation of waterfowl attractants, and in the case of the wildlife hazard management plan to reduce existing attractants.

In light of the above, the FAA finds that the projects are consistent with the existing land use and development plans of public agencies in the area in which the Airport is located. The FAA is satisfied that it has fully complied with 49 U.S.C. 47106(a)(1).

2. The Secretary [of Transportation] is satisfied that the interests of communities in or near the project location have been given fair consideration (49 U.S.C. 47106.(b)(2)). The determination prescribed by this statutory provision is necessary for FAA approval of airport development project funding applications. The local planning process over the past nine years, beginning with the Airport Master Plan update and preparation of a draft environmental assessment, provided numerous opportunities for communities and residents near the Airport and within CBJ to voice concerns and specific interests. The FAA continued to solicit local input during the EIS, beginning with publication of a general Notice of Intent (NOI) on August 11, 2000 followed by a more specific NOI on June 1, 2001 to prepare an environmental impact statement. Nearby communities and their residents have had the opportunity to express their views during public scoping meetings on June 20 and September 18, 2001, during the Draft EIS comment period, at public meetings and public hearings for the DEIS, and during the 45-day review period following public issuance of the Final EIS, including a public meeting to discuss the FEIS on May 14, 2007. FAA solicitation of public and community input, from oral comment at informal meetings and public hearings to written comment during scoping and document review periods, provided opportunities for



communities and residents to influence the scope of the EIS, alternatives considered, and impact analysis methods. The FAA's consideration of community interests, including those of federal, state, and local officials, public organizations, and individuals are set forth in Chapter 6 and Appendix M of the FEIS.

In light of the above, the FAA has determined that throughout the environmental process leading up to publication of the FEIS, beginning at its earliest planning stages, fair consideration was given to the interest of communities in or near the project location.

3. To the extent reasonable, the Airport Sponsor has taken or will take actions to restrict land uses in the airport vicinity including the adoption of zoning laws, to ensure the uses are compatible with airport operations (49 U.S.C. 47107.(a)(10)).
  - On March 6, 2007 the Airport provided written assurance to the FAA that appropriate actions have been or will be taken to ensure that land uses in the vicinity of the airport are currently compatible and will be compatible with airport operations.
  - Both the CBJ Comprehensive Plan and CBJ zoning ordinances were being revised at the time the FEIS and this ROD were prepared. The Airport is working with CBJ's Community Development Department to ensure that the revisions to CBJ's Comprehensive Plan and zoning ordinances limit land uses in the vicinity of the Airport to those that are compatible with airport operations. The Airport specifically requested that land uses identified in the Comprehensive Plan update in the vicinity of the Airport be compatible with noise exposure levels identified on the noise contours developed for the EIS. It should be noted that implementation of the selected alternatives would not result in a change in the number of aircraft operations, but would involve a slight shift in runway thresholds resulting in a minor shift in the noise contours.

In light of the above, the FAA is satisfied that the Juneau International Airport has taken and will continue to take actions necessary to restrict land uses in the Airport vicinity to ensure the allowed uses are compatible with Airport operations.

### **10.3 RUNWAY SAFETY AREA PRACTICABILITY DETERMINATION**

After completion of the Master Plan (USKH 1999) and the Environmental Assessment (USKH 2000) to consider impacts from runway safety area improvements and other actions, the FAA determined that the existing RSA at JNU does not meet the standards in the FAA Advisory Circular 150/5300-13, Airport Design, but that it may be possible to achieve RSA compliance at JNU using traditional means (the FAA defines "traditional means" as "graded areas surrounding the runways."). Based upon the analysis disclosed in the FEIS, the FAA determines that while the existing RSA does not meet standards it is possible to improve the RSA so that it will meet current standards.

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## **11.0 SUMMARY OF ENVIRONMENTAL IMPACTS**

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Chapter 4 of the Final EIS provides a complete description of the environmental impacts projected to occur for each of the proposed actions and alternatives. For some environmental resources, such as noise and air quality, the conclusion from the analysis is that there would be relatively little or no adverse environmental impact, as measured against the existing baseline conditions or against conditions predicted for the No Action Alternatives. For other environmental resources, however, the environmental impacts are anticipated to be relatively substantial and reach significance thresholds.

The following table, Table 5, provides a summary of the impacts predicted for combined development of all selected alternatives. The tables in Chapter 2 of the FEIS provide a comparative summary of the impacts predicted for each of the alternatives considered in detail.

**Table 5. Summary of Combined Impacts of All Actions Comprising FAA's Preferred Alternative**

Resource/Issue	Combined Effect
Construction	
Disturbance Area	195 acres
Refuge Disturbance	18 acres
Fill Volume	767,446 cubic yards
Cost	
Construction	\$74.5 million
Life Cycle (for RSA only; does not include labor, maintenance, or continuing and periodic costs associated with other actions)	\$13.4 million
Compensatory Mitigation	\$5.25 million
Total Cost	\$93.2 million
Noise	No significant impact over noise sensitive areas
Human Environment and Compatible Land Use	<p>Permanent taking of Refuge land for RSA development, MALSR installation, and wildlife habitat modifications.</p> <p>Minor degradation of recreational opportunities (e.g., wildlife viewing and bird watching).</p>
Socioeconomic	<p>No measurable impact on air carrier operations.</p> <p>Improved flight safety at JNU, providing good environment for economic/business growth.</p>

**Table 5. Summary of Combined Impacts of All Actions Comprising FAA's Preferred Alternative**

Resource/Issue	Combined Effect
Air Quality	No impacts in exceedence of State and Federal air quality standards; construction-related emissions increase in the short-term.
Hazardous Materials and Solid Wastes	<p>Minor amounts of construction debris would be generated by preferred alternatives</p> <p>No change in hazardous materials produced beyond slight increase in urea application.</p> <p>Risk of fuel truck petroleum spills reduced.</p>
Water Resources and Floodplains	<p>76% increase in impervious and less pervious surfaces (154 acres) within the project area.</p> <p>Loss of 331 acre feet of floodplain/tidal prism storage volume.</p> <p>Increased impervious surface would increase contaminant loads to receiving waters; water quality would remain within local, State, and Federal standards.</p> <p>Improved long-term sediment loading in Duck Creek but short-term increase in turbidity during construction.</p>
Vegetation	<p>Reduction of estuarine marsh communities by approximately 54.5 acres. Supratidal and forest communities would be reduced by 16.0 acres and 34.4acres, respectively.</p> <p>Active relocation of a tidal channel around the east end of the runway would minimize alteration of existing plant community composition following construction.</p>
Wetlands	<p>Reduction of estuarine high and low marsh by approximately 52.8 acres within the landscape area. Palustrine wetlands would be reduced by 22 acres within the landscape area (16 acres of which would be dredged). No net loss of riverine habitat would occur and lacustrine wetlands would not be affected.</p> <p>Active relocation of a tidal channel around the east end of the runway would minimize the conversion of low marsh to high marsh and unvegetated tidelands in this area.</p>

**Table 5. Summary of Combined Impacts of All Actions Comprising FAA's Preferred Alternative**

Resource/Issue	Combined Effect
Fisheries	<p>Reduction of EFH by approximately 68 acres</p> <p>Active relocation of a tidal channel around the east end of the runway would minimize the conversion of low marsh to high marsh and unvegetated tidelands in this area and maintain hydrologic connectivity north and south of Runway 26, thereby minimizing impacts on EFH.</p> <p>Benefits to Duck Creek through relocated, lined channel, and bottomless arch culverts</p> <p>Lengthened culvert in Jordan Creek increases fish passage difficulty but installation of bottomless arch, box, or squash culverts with retention features to capture sediment and gravels would minimize these impacts</p> <p>Expansion of impervious surfaces and conversion of ditches to drains may increase potential for injury to fish through increased contaminant loads but water quality would be maintained within local, State, and Federal standards.</p>
Wildlife	<p>Reduction in estuarine habitats by approximately 54.5 acres within the landscape area.</p> <p>Supratidal and forest habitats would be reduced by about 16.0 and 34.4 acres, respectively.</p> <p>No significant adverse effect on Steller sea lion or humpback whale, the two federally-listed species with the potential to occur in the area.</p>
Cultural Resources	<p>No known historic properties affected.</p> <p>Programmatic Agreement between FAA, SHPO, and JNU for phased identification of subsurface resources and resolution of adverse effects has been executed.</p>
Visual Resources	<p>Degradation of the natural character of some areas on Airport and surrounding landscapes, but consistent with previous development and land use objectives.</p>

**Table 5. Summary of Combined Impacts of All Actions Comprising FAA's Preferred Alternative**

<b>Resource/Issue</b>	<b>Combined Effect</b>
DOT Section 4(f)	Direct impact on 4(f) properties through use of Refuge land and relocation of Dike Trail.  No constructive use of 4(f) lands.

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## **12.0 SUMMARY OF MITIGATION MEASURES**

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The Council on Environmental Quality regulations implementing NEPA stipulate that the EIS must include measures to mitigate environmental impacts that are not already included in the proposed action or alternatives (40CFR§1502.14(f)). "Mitigation" may typically include methods to 1) avoid an impact altogether, 2) minimize the magnitude of impact, or 3) reduce the impact over time. These types of mitigation, when implemented, would be incorporated into an alternative design prior to construction so as to avoid, minimize, or reduce the environmental effects. Two other types of mitigation, rehabilitation and compensation, are also important to consider. However, these are methods of mitigation implemented after impact has occurred.

The FAA and other federal agencies use a sequential approach to assessing environmental impacts and mitigation for adverse impacts that may result from projects such as those selected for implementation at JNU. This approach includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree of magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring affected environment.
4. Reducing or eliminating the impact over time by preservation maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

### **12.1 MEASURES ADOPTED TO AVOID OR MINIMIZE HARM**

The FAA has attempted to avoid or minimize environmental impacts in three ways. First, the need for each proposed action has been scrutinized and independently evaluated. In this manner the selected alternatives are limited in scope to only that development which is needed and not necessarily to that which the Sponsor would prefer to have approved. For example, the FAA has determined that fewer aviation facilities are needed now and in the reasonably foreseeable future than were forecast in the Master Plan and originally requested by the Sponsor.

Second, where possible, selected alternatives avoid certain environmental resources. For example, the selected RSA alternative, RSA-5E, almost entirely avoids fill into the Refuge east of the Airport and minimizes direct impacts on the Refuge west of the Airport. Similarly, development projects take advantage of on-site conditions by using the Float Plane Pond for most fill material (other than riprap), thereby avoiding the social and environmental impacts associated with transporting materials by truck from an off-site quarry to the Airport.

Finally, selected alternatives will not avoid environmental impacts to some resources but the magnitude of impact is minimized where possible. For example, the use of declared distances criteria allow standards to be met using a reduced runway safety undershoot area, thereby minimizing impact to wetlands and habitat. Also, by overlapping the RSA and WHMP

disturbance footprints west of the runway environmental impacts to wetlands east of the runway are minimized.

## **12.2 COMPENSATORY MITIGATION PLAN SUMMARY**

The FEIS described anticipated elements of a compensatory mitigation plan. Since publication of the FEIS, in April 2007, the Sponsor and agencies have continued to refine and finalize components of the mitigation plan. The following sections summarize the current compensatory mitigation strategy of the draft plan, and specific steps that must be taken. Included in this description are elements that have changed since publication of the FEIS.

JNU would establish an in-lieu fee for mitigation and would provide that fee, subject to additional considerations including FAA wildlife hazard siting criteria, to an organization experienced in land conservation and protection agreements. The USACE has established similar agreements with organizations in some locations that allow a transfer of in-lieu fees for mitigation projects. These agreements typically define the terms of funds management and the operational procedures to be followed.

One such agreement with a Southeast Alaska organization makes use of an advisory committee to recommend, evaluate, and review mitigation projects. A similar committee would be established as part of the implementation of the compensatory mitigation program for JNU. A JNU representative would be part of the advisory committee to ensure that proposed mitigation projects would not increase wildlife hazards to aviation. ADF&G would also be part of the advisory committee to ensure that lands acquired to address the Refuge Management Plan requirements are of at least equal value to those lost (using the functional capacity units (FCU) methodology described in Section 3.8.1 of the FEIS, as modified from Adamus (1987)).

Using a portion of the in-lieu fee, the organization would establish a reserve fund dedicated to acquiring accreted lands within the original Refuge boundary, with a goal of fully mitigating for direct unavoidable impacts to the Refuge and for unavoidable impacts to wetlands within the impacted Refuge lands caused by the Airport projects. The total extent of unavoidable impacts to these resources are expressed as the calculated FCU losses. The amount set aside would be based on the actual FCU loss within the Refuge and the established dollar value per FCU set forth in the mitigation plan. The remaining portion of the in-lieu fee would be used to acquire lands or carry out mitigation projects recommended by an advisory committee. As of the date of publication of this ROD, eight potential mitigation projects/properties had been identified: Mendenhall Peninsula Accretions, Sunny Point Accretions, North Douglas Accretions and Properties, Hendrickson Point Parcel, Strawberry Creek, Pt. Bridget State Park Inholdings, Chuck River Properties, and Chilkoot River Properties.

The Mitigation Plan calculated that 72 acres of wetlands would be affected, with about 12.7 acres of Refuge land included in this total. An average 119.3 FCU per acre was applied to the mitigation formula based on the types of wetlands impacted, resulting in a total loss (from the 72 acres) of 8,588.7 FCUs. An estimated average economic value of \$30,000 per acre was established for all wetlands impacted by the selected alternatives, using the results of a Market Value Study for Wetlands within the Refuge conducted by Horan and Company (November

2005). These values were used to determine an average rate of \$251 per FCU. When this rate is multiplied by the total number of FCUs lost as a result of JNU's proposed projects (8,588.7) a baseline compensation value of \$2,160,000 is established.

A compensation ratio of 2:1 (in terms of dollars to be spent for value lost, or FCUs preserved for FCUs lost) was accepted by the agencies that participated in discussions related to the Mitigation Plan. Thus, when the baseline compensation value is adjusted for this 2:1 ratio, the resulting compensation value is \$4,320,000. Direct project and administrative costs to be incurred by the organization would also be incorporated in the funding. These costs are estimated at \$923,463. As such, the total value of the compensatory mitigation is estimated to be \$5,243,463.

The values presented above – for example, acres lost, total FCUs lost, total compensation dollars, etc. – are approximate. The compensatory mitigation plan, when approved as part of the state and federal permitting actions, will provide the final values.

### **12.2.1 SPECIFIC MITIGATION MEASURES**

In addition to the package of in-lieu fees and conditions of approval, noted earlier, specific minimization and mitigation measures will be implemented relative to fish habitat within the Mendenhall River, Duck Creek, and Jordan Creek. The 2007 Draft Mitigation Plan (June 2007) contains specific minimization and mitigation measures that will be implemented. Permits issued by agencies will also have additional minimization and mitigation measures. These may include such elements as construction timing windows, best management practices, avoidance mechanisms to minimize impact to adult and juvenile salmon migrations, stormwater management, and so forth. The mitigation measures incorporated into the final compensatory mitigation plan and approved project permits must be adhered to by JNU and its agents, and are incorporated by reference into this ROD.

### **12.2.2 MITIGATION AUTHORIZATION, MONITORING AND ENFORCEMENT**

In accordance with 40 CFR 1505.3, the FAA would take appropriate steps through federal funding grant assurances and conditions, airport layout plan approvals, and contract plans and specifications, to ensure that the following authorizations and mitigation monitoring and enforcement actions are implemented during project development. JNU would monitor the implementation of these mitigation actions. Reports of monitoring would provide necessary assurance that representations made in the FEIS with respect to mitigation are carried out. These mitigation actions would be made the subject of a special condition included in future federal airport grants to the City and Borough of Juneau.

The proposed monitoring elements of the mitigation plan and enforcement programs are summarized below:

- JNU shall obtain all necessary permits and authorizations prior to construction.
- JNU shall prepare a quarterly update on the status of the mitigation measures and provide this to the FAA until such mitigation efforts are complete. The FAA shall monitor the

implementation of these mitigation actions as necessary to assure that they are carried out as project commitments.

- JNU shall develop an erosion and sediment control plan prior to commencement of construction of build alternatives identified in the ROD.
- To minimize impacts as much as possible, JNU shall direct contractors and consultants to design and use "best management" construction practices outlined in the erosion and sediment control plan to minimize impacts to water quality and to comply with established TMDLs for receiving waters including Duck Creek and, if established, Jordan Creek as discussed in the FEIS.
- JNU will provide monitoring of the Duck Creek relocation for up to five years after construction is complete. Monitoring will begin immediately after construction is complete and will include documentation of streambed characteristics, channel morphology, stream discharge, ground water levels, effectiveness of fish passage, and vegetative success of the constructed floodplain and riparian areas.
- JNU shall carry out the stipulations for phased identification for archaeological resources as outlined in the Programmatic Agreement (see Appendix C) between the FAA, the Alaska State Historic Preservation Officer (SHPO), and the City and Borough of Juneau, including the following:
  - Preparation of an archaeological resource identification plan;
  - Field inspection for obscured and subsurface resources in high site potential areas;
  - Preparation of a report including determinations of eligibility and findings of effect for any resources identified during field inspections;
  - Consultation with the SHPO regarding the determinations of eligibility and findings of effect;
  - Consultation with the SHPO regarding mitigation of any adverse effects;
  - Completion of agreed-upon mitigation measures.
- JNU shall ensure that all construction personnel including CBJ construction contract project managers and construction contractors are instructed in the identification of cultural resources, and in the unlikely event that historic properties are discovered during construction, shall cease activity in the area and contact the Alaska SHPO and other appropriate agency and/or tribal officials within 48 hours of the discovery.

### **12.2.3 ADDITIONAL CONDITIONS OF APPROVAL TO MINIMIZE HARM**

The alternatives selected for implementation at JNU incorporate elements to avoid impacts, or reduce or minimize the impacts over time (see description of preferred alternatives). Other options and activities to avoid or minimize harm were identified in the previous sections to this ROD. Additional activities to avoid or minimize harm will be stipulated in an approved compensatory mitigation plan and in state and federal permits. All of these design features and mitigation elements are incorporated by reference into the selected alternatives and this ROD. The following conditions, designed to reduce environmental impacts, must also be included into design and construction of the selected alternatives:

- JNU shall implement the avoidance, minimization, and compensatory mitigation measures incorporated into the selected alternatives and final compensatory mitigation plan.
- Federal grant-in-aid funds shall not be applied toward project construction until all required permits have been received and Alaska DNR has issued concurrence with the Sponsor and FAA's determination that the selected alternatives are consistent with the Alaska Coastal Zone Management Program.
- The navigable portion of the Mendenhall River channel in the Runway 08 approach light lane shall not be reduced as a consequence of MALSR relocation so as to assure no diminishment of navigability.
- If one or more of the 1,000-foot light towers for the Runway 08 MALSR relocation require placement within the navigable Mendenhall River channel, the large armor rock located on the opposite bank shall be removed. Removal of the armor rock will allow the channel to reestablish a more natural course and provide more navigable room away from the new MALSR lights.
- If stabilization of the west Mendenhall River bank in the MALSR light lane is needed to protect the 1,200-foot light tower it will be accomplished by the use of a bioengineered bank stabilization design, incorporating large woody debris, rock and soil to protect against erosion. The bank stabilization will be designed to ensure that there is no increase in wildlife hazard attractant. This form of bank protection will help dissipate river energy and provide new aquatic habitat.
- To reach the MALSR 1,000-foot light towers a catwalk or at grade access road similar to the one proposed for the proposed MALSR installation on Runway 26, or combination of the two systems, will be constructed from the bank that will connect the light towers and provide access for testing, light replacement and other maintenance as needed. This form of access will ensure continued unobstructed flow of the river around the light tower(s).
- Use of a steepened, 2:1 fill slope on the west Runway 08 RSA end to reduce the fill footprint and prevent encroachment into the Mendenhall River.
- Use of a steepened, 1.5:1 embankment slope from the edge of the Float Plane Pond access road at the Runway 08 RSA end to the relocated EVAR/Dike Trial to reduce the fill footprint and prevent encroachment into the river.
- Use of a 1:1 or steeper fill slope, or engineered retaining walls, on the south, lateral RSA fill to reduce the footprint and loss of estuarine wetland habitat.
- Replacement of the existing corrugated metal pipe culvert in Jordan Creek (under the runway) with a system of connecting bottomless arch, box, or squash<sup>13</sup> culverts with retention structures across the bottom to retain sediments and gravel and create riffles. This action, implemented when the existing culvert is at the end of useful life or during the next runway reconstruction, whichever is sooner, would increase flow capacity,

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13 Subsequent to publication of the FEIS, JNU's consultant identified the potential for using squash culverts in Jordan Creek as opposed to bottomless arch or box culverts. The squash culverts would include bottom ridged retention systems that would collect sediments and gravel and create riffles, mimicking to a certain extent natural stream bottom conditions. Representatives from NMFS, ADNIR, EPA and the CBJ Wetland Review Board all reportedly agreed that squash culverts would be an acceptable substitute (E-mail communication from T. Carson, JNU Consultant to P. Sullivan, FAA Project Manager, 6/18/2007).

improve channel alignment, allow more room for channel meander, and provide other benefits to aquatic life.

- Installation of bottomless arch culvert, box, or squash culvert extensions where the RSA extends over Jordan Creek. The culvert extensions and main culvert (described above, when replaced) would provide at least the stream width created by a 12-foot arch culvert.
- Daylight wells with surface grates to facilitate fish passage in Jordan Creek culvert, included in the FEIS preferred alternative and essential fish habitat assessment preferred alternative descriptions, are not required by this ROD based on correspondence from JNU and concurrence with some state and federal agencies. However, should one or more agencies require daylight wells for the culvert as a permit condition the requirement will be incorporated by reference as a requirement of this ROD.
- Construction of a new channel around the east Runway 26 RSA to maintain tidal exchange between and hydraulic connectivity with wetlands south of Miller-Honsinger Pond to wetlands south of the runway, Jordan Creek, and the Gastineau Channel.
- Since preparation of the FEIS the Sponsor has prepared a concept study for dredging (DOWL 2007). FAA's Selected Alternative shall incorporate by reference all elements of this study that are included by state and federal agencies as permit conditions.

## 13.0 DECISION AND ORDER

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Approval by FAA to implement the selected alternatives would signify that applicable federal requirements relating to airport development and planning have been met and would permit Juneau International Airport to proceed with the projects and possibly receive federal funding and/or approval to impose and use Passenger Facility Charge funds for eligible items. Not approving these agency actions would prevent JNU from proceeding with design and construction of the selected alternatives.

### DECISION

I have carefully considered the FAA's goals and objectives in relation to various aeronautical aspects of the proposed development actions discussed in the Final EIS. The review included: the Purpose and Need that the projects would serve, the alternative means of achieving the Purpose and Need for the projects, the environmental impacts of a range of alternatives, and the mitigation necessary to preserve and enhance the human, cultural, and natural environment.

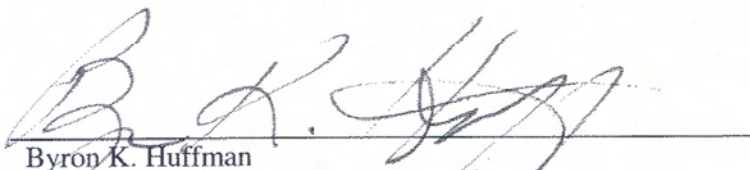
Under the authority delegated to me by the Administrator of the FAA, I find that the projects in this ROD are reasonably supported. I, therefore, direct that actions be taken to carry out the following agency actions, including:

1. Determinations under 40 U.S.C. §47106 and §47107 pertaining to FAA funding of airport development, including approval of the revised Airport Layout Plan (ALP) in accordance with 49 U.S.C. §47107(a)(16) for the selected alternatives, summarized in Section 2.13 of the FEIS and this ROD and including the following elements.
  - Projects design
  - Site Preparation
  - Runway, Taxiway, and Runway Safety Area Construction
  - Aviation Facilities Development
  - Other Landside Development including the SREF and Fuel Farm access road
  - Installation of Navigational Aids
  - Relocation of the ASOS and other navigation aids
  - Implementation of a revised WHMP
  - Environmental Mitigation
2. Approval under 49 U.S.C. §47107 et seq. of projects eligibility for Federal grant-in-aid funds under 49 U.S.C. §47104 as well as approval, under 49 U.S.C. §40117 of an application to impose and use passenger facility charges.
3. Determination and actions, through the aeronautical study process of any off-airport obstacles that might be obstructions to the navigable airspace under the standards and criteria of 14 CFR Part 77. In addition, evaluation of the appropriateness of proposals for on-airport development from an airspace utilization and safety perspective based on aeronautical studies conducted pursuant to the processes under the standards and criteria of 14 CFR Part 157.

4. Review and subsequent approval of an amended Airport Certification Manual for JNU (per 14 CFR Part 139).
5. Approval of protocols for maintaining coordination among sponsor offices, construction personnel, and appropriate FAA program offices, ensuring safety during construction.
6. Determinations that air quality impacts associated with the proposed project conform to the State Implementation Plan under Section 176(c)(1) of the Clean Air Act, and amended [42 U.S.C. §7506(c)(1)], and 40 CFR Part 93.

Finally, based upon the administrative record of this project, I certify, as prescribed by 49 U.S.C. § 44502 (b), that implementation of the proposed projects is reasonably necessary for use in air commerce.

**APPROVED AND ORDERED**

  
Byron K. Huffman  
Acting Regional Administrator, Alaskan Region

7/6/07  
Date

**RIGHT OF APPEAL**

This ROD presents the FAA's final decision and approvals for the actions identified, including those taken under the provisions of 49 U.S.C. Subtitle VII, Parts A and B. This decision constitutes a final order of the FAA Administrator subject to review by the Court of Appeals of the United States in accordance with the provisions of 49 U.S.C. § 46110. Any party seeking to stay the implementation of the ROD must file an application with the FAA prior to seeking judicial relief, as provided in Rule 18(a), Federal Rules of Appellate Procedure.



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