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U.S. Department of Transportation
Federal Aviation Administration

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September 2, 1998

Mr. Brian R. Applebury
Chief, Operations Division
Department of the Army
Seattle District Corps of Engineers
P.O. Box 3755
Seattle, Washington 98124-2255

Dear Mr. Applebury:

96-4-02325 Port of Seattle Third Runway

Thank you for your letter of July 16, 1998, requesting additional information concerning compensatory wetland mitigation for construction of the third runway at Seattle-Tacoma (Sea-Tac) International Airport. The FAA shares the Seattle District Corps of Engineers' (Corps) desire to preserve and protect wetlands, when such preservation or protection is consistent with the Federal Aviation Administration's (FAA) mission of ensuring the safe and efficient operation of the Nation's air transportation system.

In the current case, the FAA, the U. S. Department of Agriculture Animal Damage Control ("USDA-ADC") and the Port of Seattle (Port) and its environmental consultants have catalogued the wetland functions that will be lost to airport expansion. Based upon these consultations, and considering the number and type of aircraft operations, the number of commercial passenger flights, and the quality and character of the existing wetlands, the FAA has concluded that on-site mitigation of the wetland wildlife habitat function would not be compatible with the safe operation of the airport. As you correctly noted in your letter, the Port is mitigating many of the other wetland functions on site, including groundwater recharge, groundwater discharge, storm water detention, flood storage, water quality assurance and enhancing fish habitat in Miller and Des Moines Creeks with riparian buffers.

Bird/aircraft collisions ("bird strikes") are a serious problem for air carriers, airport operators, and the traveling public. To reduce the possibility of a catastrophic air crash, the FAA, in conjunction with other federal agencies, developed policies for siting mitigating wetlands. These policies are set forth in Advisory Circular (AC) 150/5200-33, "Hazardous Wildlife Attractants on or Near Airports," (5/1/97).

The basic premise of AC 150/5200-33 is that, except under exceptional circumstances, wetlands should not be created within 10,000 feet of an airport that services jet aircraft. The 10,000-foot separation incorporates principles of both aviation (approach/departure glide slopes and resulting aircraft elevations) and avian biology (flight behavior of migratory birds, resident birds and flocking behavior) and represents a compromise between ensuring air safety and protecting natural resources.

Specifically, AC 150/5200-33, Section 2-4 (b)(2) recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of 10,000 feet from airports that handle jet aircraft, unless the wetlands provide:

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[U]nique ecological functions, such as critical habitat for threatened or endangered species or groundwater recharge. Such mitigation must be compatible with safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife should be avoided.

Based upon information in the Wetlands Mitigation Plan (December 1996) that accompanies the Port's Joint Aquatic Resource Protection Application (JARPA), it is our understanding that the wetlands near the Airport do not serve unique ecological functions. As noted on page 2-13 of that plan:

Many of the wetlands that would be impacted by the proposed Master Plan improvements are small (0.5 acre); isolated from other significant aquatic or semi-aquatic habitat; and occur in a landscape fragmented by streets, commercial, residential or airport development. The wetlands generally contain few attributes positively associated with each functional performance. Therefore, for most functions, the wetlands were not considered to have an ecological function.

Proponents of on-site mitigation have argued that, because urbanization has already destroyed or degraded much of the wetlands in the Miller and Des Moines Creek basins, any remaining wetlands are "unique." However, in accordance with your guidance, it appears that the delineation and characterization of wetlands is based upon objective criteria. The Port evaluated the uniqueness of wetlands near the Airport based upon such objective ecological criteria, including wildlife and fish habitat, flood storage, groundwater exchange, and water quality. See Tables 2.2-3 and 2.2-4 of the Wetland Mitigation Plan (December, 1996), copy attached to the Port's JARPA. The evaluation rated the biological and physical functions of the impacted wetlands as low to moderate. See *Natural Resource Mitigation Plan, Master Plan Improvement FEIS, Appendix P (Table 3.2-3)*. We do not believe that there has been any objective demonstration that the Port's conclusions are inaccurate or that these wetlands serve a unique function that warrants siting mitigating wetlands within 10,000 feet of the runway, particularly given the potential hazard that such wetlands would pose to flight operations.

This conclusion is already embodied in our July 3, 1997, Record of Decision ("ROD") on the Master Plan Improvements Final Supplemental Environmental Impact Statement (FSEIS). The ROD lists the conditions that are "necessary in order to provide FAA support" for the airport improvements and concludes that there is "no practicable alternative" to off-site mitigation. The ROD provides as follows:

Although it is generally preferable to attempt to mitigate wetland loss through replacement of wetlands in the same watershed [a goal reflected in the local regulations discussed at FEIS Appendix F, page 127], this is not the case where such replacement would create manmade wetlands adjacent to airport aircraft movement areas. Included at the end of FSEIS Section 5-5 is a reprint of FAA Advisory Circular 150/5200-33, date May 1, 1997, which states the FAA's strong opposition to wetland mitigation projects located within 10,000 feet of airports serving turbine-powered aircraft [such as Sea-Tac], due to the safety hazard such wetlands present as attractants of wildlife, which significantly increases the risk of bird/aircraft strike.

The ROD concludes its discussion of off-site mitigation by explaining the relationship between the FAA's project-specific decision at Sea-Tac and the policies articulated in AC 150/5200-33.

This recent agency policy determination [publication of AC 150/5200-33] supports the FEIS and FSEIS determinations that the replacement wetlands for the Sea-Tac Master Plan Update development actions should not be located in the vicinity of the airport. Given the limited land area in the Sea-Tac watershed for wetland replacement, and the hazard associated with the creation of wildlife attractions within 10,000 feet of jet runways, there is no practicable alternative to the replacement of these impacted wetlands outside of the Sea-Tac watershed.

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Our decision to require off-site mitigation of the wetland wildlife habitat function is supported by the USDA-ADC, which is directly involved with the airport's wildlife control activities and is strongly opposed to siting any new wetlands near the airport. In an April 9, 1998, letter to the Corps, the USDA-ADC stated its official position as follows:

As the primary agency responsible for addressing issues related to wildlife damage, including hazards at airports, it is our position that wetland mitigation measures at Sea-Tac Airport should be conducted off site. On-site mitigation would attract hazardous wildlife, particularly waterfowl, compromising air safety by increasing the probability of a damaging or fatal strike. Furthermore, if new wetland is established on site with vegetation cover that is unattractive to wildlife, both the spirit and intent of the mitigation will be violated. We believe that an alternative site, located outside the critical aircraft movement area, will better serve the interest of both wildlife and the safety of passengers, pilots, and their crew members.

In a second letter to the Corps, dated April 15, 1998, the USDA-ADC concluded:

It is our professional responsibility to gather information and weigh all of the facts before drawing conclusions, even if our decision is not popular. Our position is based on years of experience and training on issues related to wildlife hazards associated with airport environments, and more importantly, site-specific observations made while dealing with wildlife hazards at Sea-Tac Airport. While we strongly endorse the [sic] wildlife enhancement as a whole, we feel this practice is incompatible with safe aircraft operations and oppose its implementation in such close proximity to the airfield.

On page three of your letter, you correctly state that the FAA and the Corps have worked closely on several airport projects over the past years. Just as we did in these past projects at Snohomish County Airport-Paine Field, Port of Skagit County, Port of Bellingham, and Auburn Regional Airport, the FAA has taken a flexible, site-specific approach to the wetlands issues at Sea-Tac Airport. It is important to note the concern that the FAA has expressed in each of these permitting processes relative to habitat mitigation within the parameters outlined in the, then draft, advisory circular. Further, additional language is contained in each of the agreements which stipulates that should conditions develop that would encourage wildlife habitat, the airport should follow procedures outlined in Federal Aviation Regulation (FAR) Part 139, paragraph 139.337, which requires the development of a wildlife hazard management plan.

In the case of Paine Field, the FAA agreed to on-site mitigation that is not habitat replacement. It was further agreed that all waterfowl and other potentially hazardous wildlife habitat replacement would occur at the Narbeck Swamp site, which is approximately 10,000 feet from the airport. The Memorandum of Agreement (MOA) for the Wetland Compensation Bank Program at Paine Field states that all directives and Advisory Circulars from the FAA concerning airport operations and the location of wetland and wildlife habitat in proximity will be followed. The MOA and the Implementation Manual for the mitigation banks contain language that ensures the safe operation of aircraft by way of a wildlife management program or a reconsideration of the plan, if necessary.

The on-site (Swanson) component of Paine Field's mitigation consists of creating a 13-acre floodwater detention area that will not have standing water except during storm events, and then only for short periods of time. The area is also being planted in dense brush to discourage use by waterfowl. The Port of Seattle has proposed a similar splitting of wetland function, mitigating some hydrologic function in-basin (e.g., using the Vecca Farm property for flood water storage and Miller Creek relocation/enhancement) and creating wildlife habitat away from the airport.

We recognize that the Swanson site is in the interim phase of maturation and fully expect that this will be covered with vegetation that is not attractive to the wildlife that will prove hazardous to aircraft operations. It is also important to note this phase of the mitigation is being closely monitored by the USDA-ADC and the appropriate measures, including depredation removal, are being taken to ensure safety.

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The FAA has been involved in two mitigation projects at Skagit County Airport. The first involved a plan to mitigate for an inadvertent wetland fill during the construction of Higgins Airport Way. This mitigation site is within the 10,000-foot requirement, but it is located as far as possible from Runway 10, which is the most frequently used runway. The proposed mitigation created dense, multi-layer vegetation cover and no permanent open water habitat to minimize waterfowl use of the mitigation area. The FAA also engaged in nearly a 4-year negotiation process for the Skagit Wetlands and Industry Negotiations (WIN) project. The wetland mitigation in this plan is primarily protection of existing wetlands by way of the Skagit County Critical Areas Ordinance, the removal of livestock on some areas and the restoration of an upland area adjacent to the Higgins Way mitigation proposal.

The standard siting criteria for wetland mitigation, according to our advisory circular for airports such as Auburn Municipal Airport, is 5,000 feet. The approved mitigation site is located approximately 8,000 feet from the airport.

The mitigation plan at Bellingham International Airport primarily involved setting aside Port-owned property and enhancing Airport Creek by way of a conservation easement. The language in that easement specifically states that wetland creation or habitat activities will be allowed over the described areas to the extent the property shall remain substantially undisturbed and maintained with existing vegetation, as well as the aforementioned language regarding FAR Part 139. It is very important to note that the runway closest to this mitigation has since been closed. Documentation based upon an FAA site visit concluded that the proposed plan would not provide habitat to waterfowl or other wildlife that would conflict with aircraft operations at the airport.

The number of operations at Sea-Tac is an important consideration. Although there is not necessarily a linear relationship, common sense dictates that increasing either the number of planes or the number of birds at a particular airport will increase the probability of an aircraft/bird collision. Your are correct that there are large wetland areas near Sea-Tac; some of these wetlands support waterfowl, and some are located within 10,000 feet of the runways. However, the FAA does not believe that this fact justifies increasing the potential hazard by deliberately siting a manmade wetland, designed to support wildlife habitat in this area.

Moreover, it should be noted that the Port, with the help of the USDA-ADC, maintains a wildlife control program at the airport. The program has resulted in the harassing or killing of wildlife from nearby wetland and upland habitats when the birds have ventured over the runways or have been observed in large numbers near the airfield. If, in the future, these measures prove insufficient to control the existing bird population, the FAA could require the Port to alter or eliminate the habitat altogether. Given that there is no easy way to control the existing bird populations at the airport, the FAA believes that it would be imprudent to exacerbate the problem by intentionally creating wetlands near the airport and risking the time and expense of constructing an in-basin project that might have to be removed, should it attract hazardous wildlife.

The FAA and the USDA staff have visited the site proposed for in-basin wetland mitigation that you mention in your letter. As indicated on maps provided by the Corps, the site is located south of 216th Street, near 18th Avenue, S.E. In spite of our concerns for air safety, we note that much of the site is within a proposed State Highway 509 right-of-way and, thus, we question its availability for wetland mitigation. From an aircraft safety perspective, the site is about 8,400 feet south of Runway 34R and within the approach/departure zone of this runway. It is more than 10,000 feet south of Runway 34L and the third runway, but is within the approach/departure zone of all of the runways.

We understand one proposal for this site would be to excavate it and establish seasonally wet soils planted with shrub or forest vegetation. The purpose of this project would be to create wildlife habitat in the Des Moines Creek basin, and to provide storm water management functions. A mitigation project of this nature could be expected to support terrestrial wildlife, a variety of songbirds, and several species of raptors. If vegetated as proposed, the site might not provide habitat for waterfowl.

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The site has been considered previously for potential in-basin mitigation (the site is immediately adjacent to sites 18 and 19). See Figure 3.2-2 and Table 3.2-2 *Wetland Mitigation Plan* (December 1985). Previous evaluations of the site considered that the topographic position of the site near the edge of the watershed may make it difficult to obtain suitable hydrology for significant wetland mitigation. However, the proximity to active runways and the site's location in the approach/departure zones were the primary reasons it was rejected as a mitigation site.

The FAA cannot support construction of a mitigating wetland that would attract bird species to the approach/departure zones of all active runways and within 8,400 feet of runway 34R. Aircraft approaching and departing Runway 34R pass directly above the site at altitudes ranging from 500 feet above ground level (AGL) to 1740 feet AGL. As reflected in the bird/aircraft strike data for Sea-Tac, numerous bird species are hit by aircraft. Even if waterfowl were not attracted to the proposed site, it would attract other bird species that have been involved in bird/aircraft collisions.

In summary, we are satisfied that the Port of Seattle conducted a thorough evaluation of wetland mitigation sites near the airport. The FAA and the USDA-ADC have explored the possibility of on-site mitigation of the wetland wildlife habitat function and have concluded that such mitigation is incompatible with the safe operation of the airfield. Please refer to the enclosed letter from the USDA-ADC. We look forward to continuing our close relationship with the Corps of Engineers and we would be happy to answer any additional questions on this project.

Sincerely,



Dennis G. Ossenkop
Environmental Protection Specialist, FAA

Enclosure

cc:
J. Freedman
G. Terzi

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