

December 28, 2001

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PO Box 3755  
Seattle, WA 98124-2255



Ms. Michelle Walker  
US Army Corps of Engineers  
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PO Box 3755  
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RE: Reference: Seattle, Port of, 1996-4-02325, Review of November 2001 Natural Resource Management Plan (NRMP) for Construction of SeaTac Third Runway

Dear Ms. Terzi and Ms. Walker,

As you both know, Azous Environmental Sciences (AES) has been reviewing the impact of the Port of Seattle's proposed development at SeaTac airport on wetlands, streams and fisheries resources on behalf of the Airport Communities Coalition (ACC). The purpose of this letter is to provide initial comments on the November 2001 update of the Natural Resources Management Plan (NRMP). A list of documents reviewed in preparing this response is provided below.

List of Documents Reviewed:

- *Natural Resource Mitigation Plan (NRMP)*; Seattle-Tacoma International Airport; Master Plan Update Improvements dated November 2001, Parametrix, Inc.
- *Natural Resource Mitigation Plan (NRMP) Appendices A-E Design Drawings* dated November 2001, Parametrix, Inc.
- *Wetland Functional Assessment and Impact Analysis; Master Plan Update Improvements*; Seattle-Tacoma International Airport, December 2000 by Parametrix, Inc. Although a 2001 edition of this document is referred to in the November 2001 NRMP, that document has not been made available to ACC.
- *Wetland Delineation Report; Master Plan Update Improvements*; Seattle-Tacoma International Airport, December 2000 by Parametrix, Inc.

This letter reviews the proposal for mitigating wetland impacts contained in the November 2001 NRMP. The NRMP differs internally in what how it characterizes the Port's mitigation proposal.<sup>1</sup> For this discussion I am relying on Tables 3.1-1 and 4.1-3

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<sup>1</sup> Compare Table 4.1-3, page 4-13, which claims 6.6 acres of wetland restoration at Vacca Farm with the claim of restoring 12.3 acres of wetland found in the earlier Table 4.1-2, on page 4-9 of the November 2001 NRMP.

located in the NRMP.<sup>2</sup> These preliminary comments primarily address the Port's list of claimed mitigation. The timing of these preliminary remarks is prompted by a newspaper report that the Corps intends to issue a permit decision by January.<sup>3</sup>

The Port's mitigation proposal has been altered several times in the past year and was altered again between September and November of 2001. The number of acres of impacted wetlands was increased during that period from 18.37 to 20.42 and the Port has added the Des Moines Nursery and Wetland A17 restoration projects to its wetland mitigation package. Nevertheless, the wetland mitigation proposed remains inadequate to offset adverse impacts because several fatal inadequacies remain:

- The Port has inaccurately characterized its proposal to enhance existing functions at the Vacca Farm wetlands as a restoration and cannot accurately claim a restoration credit of 6.6 acres.
- With or without Vacca Farm, the Port's mitigation package, offered in the November 2001 NRMP, will result in a reduction in wetland functions and remains insufficient to meet the requirements of no net loss and no degradation in the watershed.
- The Port has not adequately addressed all opportunities for in-basin mitigation and has therefore not minimized adverse impacts to the extent possible.
- The drainage channels the Port says will maintain historical seepage flow hydrology to Miller Creek are imperative to the success of maintaining hydrology to existing wetlands, yet their design and operation is vague and success remains dubious.

### *Vacca Farm "Restoration" is Mischaracterized*

The Port claims it is restoring 6.6 acres of Vacca Farm in Table 4.1-3 (12.3 acres is reported in Table 4.1-2). However the term restoration cannot be legitimately applied to the 6.6 acre area (and certainly not the 12.3 acres claimed in Table 4.1-2), as it is not an accurate description of the activities the Port is proposing for all of the 6.6 acres. The data the Port has provided, the goals identified for the restoration and the restoration design itself do not support the Port's claim it is restoring former functions to the Vacca Farm farmed and prior converted wetlands.

Restoration, as defined by both the Society of Wetland Scientists in its Position Paper on the Definition of Wetland Restoration and by the US Army Corps of Engineers in RGL 01-1 clearly state that restoration is the *re-establishment* of wetland area or the *re-establishment* of an *historic* function to a wetland system.<sup>4,5</sup> Improving a function or otherwise altering an

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<sup>2</sup> Table 3.1-1 Summary of Wetland Impacts for Seattle-Tacoma International Airport Master Plan Update Improvements by Construction Project., Pages 3-2 to 3-3. Table 4.1-3. Summary of wetland mitigation credit for Seattle-Tacoma International Airport Master Plan Update improvements., Page 4-13.

<sup>3</sup> Seattle Post-Intelligencer 12/19/01, author: Larry Lange PI. "Muffy Walker, the Corps' project manager, said the Army still intends to decide on the wetlands permits by January, two months before the board holds hearings on the water certificate."

<sup>4</sup> Society of Wetland Scientists (SWS). Position Paper on the Definition of Wetland Restoration

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already existing function or suite of functions is identified by both the SWS and USACE definitions as *enhancement*.

The ecological functions provided by the Port's mitigation proposal are described in Section 4.2 (page 4-20) of the NRMP. Section 4.2.1 describes the functions to be replaced and those to be improved at the Vacca Farm site. Of the three functions identified by the Port as the focus of the Vacca Farm mitigation three are intended to re-establish ostensibly lost functions and three are intended to improve or alter existing functions identified by the Port. The NRMP states that "Mitigation at this site focuses on *replacing* the Miller Creek stream channel, *replacing* riparian habitat functions, *replacing* lost floodplain functions, *improving* water quality functions, *improving* organic matter export functions, and *reducing* the habitat value of the area to waterfowl and flocking birds."

All three functions the Port intends to "replace", the stream channel, the riparian habitat and floodplain functions, currently exist at the site. Miller Creek is an existing stream and currently flows through two of the Vacca Farm wetlands (wetlands FW6 and A1). Miller Creek only needs to be "replaced" because the Port intends to fill the existing creek channel to construct the Third Runway. Map 4 of the Wetland Delineation Report (provided in Attachment A) shows the existing course of Miller Creek and its relationship to the farmed wetlands the Port has identified. The map shows that riparian habitat currently exists adjacent to Miller Creek. The Port is not proposing to re-establish riparian habitat because the stream and adjacent wetlands currently exist. More accurately, the Port is proposing to "improve" the stream character of Miller Creek as a mitigation strategy to offset the impact of moving an operational stream. Although improvements in riparian functions to Miller Creek could be beneficial, it is inaccurate to characterize the Port's proposal as a restoration of the historical stream, especially when the relocated stream's ability to convey water is uncertain.

The Port is also not replacing the historic floodplain. Figure 2.2-2 of the NRMP depicts the 100 year floodplain for Miller Creek at an elevation of approximately 265.4 feet. Map No. 4 of the Wetland Delineation Report provides a map of the Vacca Farm wetlands with

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8/6/00. POSITION STATEMENT: Wetland Restoration is defined as: actions taken in a converted or degraded natural wetland that result in the reestablishment of ecological processes, functions, and biotic/abiotic linkages and lead to a persistent, resilient system integrated within its landscape.

<sup>5</sup> USACE Regulatory Guidance Letter No. 01-1. October 31, 2001. Definition of Terms.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded wetland. For the purposes of tracking net gains in wetland acres, restoration is divided into:

1. Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland acres.
2. Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions of a degraded wetland. Rehabilitation results in a gain in wetland functions but does not result in a gain in wetland acres.

In contrast Enhancement is defined by the Corps as: The manipulation of the physical, chemical or biological characteristics of a wetland (undisturbed or degraded) site to heighten, intensify, or improve specific functions or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for a specific purpose(s) such as water quality improvement, flood water retention, or wildlife habitat. Enhancement results in a change in wetland function(s) and can lead to a decline in other functions but does not result in a gain in wetland acres. This term includes activities commonly associated with enhancement, management, manipulation, and directed alteration.

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spot elevations. Comparing Figure 2.2-2 with the spot elevations shown in Map 4, it is apparent that much of the Vacca Farm area is in the floodplain. The Port is proposing to excavate the native soils of Vacca Farm to create additional flood plain capacity, which is an enhancement of an existing function, not a restoration of a non-existent one. There are few areas of fill identified by the Port within the Vacca Farm floodplain, which are estimated to be around three acres. While these may be more legitimately defined as restored wetland area, for most of Vacca Farm, the excavation will remove native soils that, although recently farmed, are predominantly organic and developed from natural ecosystem processes and periodic flood events. Moreover, the need for additional flood storage within the watershed is driven by the stormwater management requirements created by the Third Runway construction, and is not a restoration of how the Vacca Farm wetlands historically functioned with respect to Miller Creek.

The design of Vacca Farm is tied to the Port's proposed relocation of Miller Creek. The value of the Miller Creek re-location and enhancement is highly dependant on the ability of the relocated channel to convey water without seepage losses within the peat soils of Vacca Farm. If the local groundwater table along the alignment of the proposed relocated channel is seasonally lower than the proposed channel bed elevation, then water will seep from the channel into the underlying native peat soils. The channel is at risk of running dry for all segments where the channel bed is elevated above the seasonally-low (late summer) groundwater table. Resolution of this concern requires knowledge of local groundwater conditions along the proposed channel alignment.

Attachment B of Appendix L of the NRMP presents groundwater monitoring data for selected wetlands. Well locations are identified in Figure L-2. The figure shows that the wells of greatest interest in determining the success of the relocated Miller Creek are well logs A1-1 and A1-2. The data shown in these charts is exceedingly limited and represent only three groundwater readings collected in a 30 day period from September 29<sup>th</sup> to October 27<sup>th</sup>, 2001. From this very limited data set it appears that groundwater levels varied between 8 and 12 inches below the ground surface in the area near the start of the proposed Miller Creek channel redesign (Well A1-1) and varied between 6 and 16 inches below the ground at Well A1-2, located near the southern end of the proposed Miller Creek channel location.

These data, gathered at the start of the rainy season, suggest that the shallow groundwater table is well below the ground surface in the locations slated to become the redesigned Miller Creek. The wetland hydrologic data gathered by the Port strongly support the view that there is significant likelihood that the redesigned creek channel would be unable to provide a satisfactory depth of flow during summer conditions. This issue has been of concern for some time, and was previously discussed in comment letters by Dyanne Sheldon (Sheldon and Associates, February 4, 2001) and Bill Rozeboom (Northwest Hydraulic Consultants, February 15, 2001). The Port's wetland monitoring data confirms that the ability of the proposed relocated Miller Creek to carry water remains unconfirmed.

It is worth noting that, if the Miller Creek relocation project were truly intended to be a restoration, monitoring of groundwater levels would have been completed prior to the siting of the creek channel to insure all riparian functions would be successfully restored. Instead, the hydrologic monitoring is occurring many years after the project was designed. The Port is finally now performing it because monitoring is required as a condition of the Port's 401

Certification, but the monitoring is too little and too late to provide reasonable assurance that the Port's design for the Miller Creek relocation will hold water.

### *Des Moines Nursery Wetland Restoration*

It is not possible to tell what the likely hydroperiod for the Des Moines Nursery Wetland Restoration will be from the hydraulic analysis information provided in the NRMP. The results of the Port's hydraulic analysis suggest that the existing wetlands at the nursery site drain to Miller Creek and are likely supported by groundwater flows, which originate from upland areas that discharge to Miller Creek. The Port's plan seems to presume that if the area is graded down to the level of the existing wetlands, the graded area will intercept the local groundwater table for enough of the year to support wetland vegetation.<sup>6</sup> This wetland design approach is speculative, however, because there are no piezometer recordings to confirm where the local groundwater table now exists. Without knowing whether there will be adequate groundwater in the area proposed for restoration, there is no reasonable assurance wetland area will be restored and the mitigation will be a success. The same comments hold true for the fill removal and wetland restoration documentation provided for Wetland A17.

Any reference text on wetland creation or restoration will advise the designer to begin with assessing hydrology. If the latest "restoration" projects proposed in the NRMP are to be legitimately called wetland restorations, piezometer data should be gathered seasonally to confirm groundwater water levels are viable to support restored wetlands. Then goals for restoring each wetland hydroperiod should be developed based on groundwater conditions, and clearly identified in the mitigation plan. Without adequate attention to the presence and functioning of groundwater levels, the Port's claimed restoration activities are not supported by sufficient data to have a reasonable assurance of success.

### *1:1 Means 1:1 Wetlands*

The requirements for mitigation documented in the memorandum of agreement between EPA and the Corps concerning mitigation under The Clean Water Act Section 404(b)(1) Guidelines state the objective of mitigation for unavoidable impacts is to offset environmental losses.<sup>7</sup> The agreement goes on to say that, for wetlands, such mitigation will provide, at a minimum, one for one functional replacement augmented by an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan.<sup>8</sup> The minimum requirement of 1:1 acreage replacement is identified as a reasonable surrogate for no net loss but is meant for low risk wetlands replacement where no margin of safety is warranted. It is meant to pertain to wetlands, not uplands, not enhancement activities and not preservation. In order to meet the federal goal of no net loss of wetlands,

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<sup>6</sup> See Expected Hydrology on Page N-16 of the NRMP.

<sup>7</sup> Memorandum Of Agreement Between The Environmental Protection Agency And The Department Of The Army Concerning The Determination Of Mitigation Under The Clean Water Act Section 404(B)(1) Guidelines, February 6, 1990.

<sup>8</sup> Ibid. Section 3.b.

jurisdictions usually require higher exchange ratios in order to insure that 1:1 is achieved.<sup>9,10</sup>

<sup>11</sup> Jurisdictions have also allowed a mix of habitats to be part of permitted mitigation, but not at the expense of achieving no net loss within the watershed. In fact, recent studies evaluating the strategies being used to mitigate for wetlands losses specifically warn against allowing enhancement or preservation in lieu of wetlands replacement for losses and also document continuing losses of wetland area even with wetland replacement ratios exceeding 1:1.<sup>12,13</sup>

The Port's proposal asks the Corps to permit a project that provides significantly less than the minimum 1:1 replacement ratio of wetlands required by Section 404 Guidelines. Even using the Port's exaggerated claims of 11.95 acres of "restored" wetlands, the wetland replacement ratio is merely 0.59:1 (11.95 acres gained to 20.42 lost).<sup>14</sup> Allowing mitigation that does not ensure no net loss and functional replacement of wetlands will result in a significant diminution of the character, quality and functioning of remaining wetlands and streams in the Miller and Des Moines Creek watersheds. When the Port's estimates for wetland restoration are based on fill removal (only about 3 acres of Vacca Farm will have fill removed, not 6.6 as claimed), and the restoration credit for restoring wetlands the Port is, itself, impacting is eliminated (removes 2.05 acres), the Port is providing less than 7 acres of wetland replacement for a wetland compensation ratio of 0.34:1 (7 acres gained to 20.42 lost).

The Port's proposal depends on the Corps agreeing that the beneficial uses offered by wetlands within a watershed can be mitigated with enhancement activities that do not produce wetland area. This cannot be permissible because of the overwhelming body of scientific evidence that enhancement activities will not fully compensate for loss of wetland acres, mitigation that depends on enhancement is fundamentally flawed and such strategies have demonstrably failed to stop wetland loss nationally or in Washington State.<sup>15,16</sup>

The Port is also proposing that the Corps agree that it is in the public interest to accept preservation and enhancement of uplands as if it were compensation for lost wetland area and functions. However, the wetlands and much of the buffers the Port is proposing to preserve are already regulated, are owned by the Port, and are threatened only because of the Port's planned activities. Finally, the Port's proposal asks the Corps to agree that it is protecting the public interest when it "temporarily" impacts a wetland (2.05 acres for as long

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<sup>9</sup> *How Ecology Regulates Wetlands*, Washington State Department of Ecology, Publication 97-112 (Revised April 1998). See discussion on Compensatory mitigation regarding adequacy of mitigation methods.

<sup>10</sup> *Wetland Mitigation Ratios: Defining Equivalency*, Shorelands and Coastal Zone Management Program, Washington State Department of Ecology Publication Number 92-8, February 1992. See discussions on recommended mitigation ratios.

<sup>11</sup> *Compensating for Wetland Losses Under the Clean Water Act*. National Academy of Sciences Committee on Mitigating Wetland Losses. National Academy Press, Washington DC. 2001 Pre-Publication Copy.

<sup>12</sup> *Wetland Mitigation Evaluation Study Phase 1*, Department of Ecology Publication No. 00-06-016, June 2000.

<sup>13</sup> *Compensating for Wetland Losses Under the Clean Water Act*. National Academy of Sciences Committee on Mitigating Wetland Losses. National Academy Press, Washington DC. 2001 Pre-Publication Copy.

<sup>14</sup> Wetland acres lost is based on 18.37 acres of permanent impacts identified in Table 3.1-2 and 2.05 direct "temporary" construction impacts identified in Table 3.1-3 for a total of 20.42 wetland acres lost and requiring mitigation.

<sup>15</sup> *Compensating for Wetland Losses Under the Clean Water Act*. National Academy of Sciences Committee on Mitigating Wetland Losses. National Academy Press, Washington DC. 2001 Pre-Publication Copy.

<sup>16</sup> *Wetland Mitigation Evaluation Study Phase 1*, Department of Ecology Publication No. 00-06-016, June 2000.

as three years) and afterward, receives a 1:1 credit for restoring it, even while wetland functions remain unavailable to the public for many years through the three year impact period and then for years of recovery time.<sup>17</sup>

Several of my comment letters have discussed the beneficial uses provided by wetlands that are outstandingly different from those afforded by uplands. That analysis won't be repeated here. The point is that wider wetland buffers cannot maintain beneficial uses within the watershed in lieu of wetlands. Wetlands creation and restoration of filled wetland areas produce new wetland area. Wetlands rehabilitation, enhancement, uplands enhancement or land preservation do not add to wetland area.

Your agency is tasked to approve plans that clearly provide equal or better biological functions and values within the watershed.<sup>18</sup> When recent in-depth studies by Washington State Department of Ecology and the federal government demonstrate that mitigation for wetland functions more often than not fails, it is essential under the Clean Water Act that the proposed wetland elimination be denied unless the Port can meet, with an ample margin of error, the regulatory standard of 1:1 replacement ratio for wetlands. The Clean Water Act requires this to reduce risk and as a firm prerequisite to stem further degradation of Miller and Des Moines Creek aquatic habitats by the Port prior to wetland destruction.<sup>19, 20</sup>

### ***Functional Analysis is Based on Upland not Wetland Functions***

The Port's wetland functional analysis is summarized in Table 4.1-4 of the NRMP entitled *Wetland acreage impacts and mitigation by wetland function*. The table describes a list of wetland functions, the area of wetland impact the Port has calculated and then provides the area of on-site and off-site mitigation intended to provide that lost wetland function in the Port's plan. The problem is the mitigation areas provided as compensation for the wetland functions lost are virtually all upland acres not wetland acres. The table is more accurately titled *Wetland acreage impacts and mitigation by upland function*. This trading of functions afforded by wetlands with that of uplands pervades the Port's proposal and is unfounded in science. The Port's analysis of wetland functional equivalency continues to use a faulty analysis method and claims functions are exchanged between uplands and wetlands with no supportive documentation. Table 4.1-4 should also accurately reflect the number of wetland acres providing the groundwater exchange function, which is at least 13.6 acres, not zero as shown in the table.

### ***Minimization Step Not Complete***

The proposed project does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem. Although both the Des Moines Creek and Wetland A17 restoration projects in the Port's latest NRMP are incomplete due to missing wetland hydroperiod analyses needed to insure success, the Port's proposal to restore parts of Wetland A17 and the Des Moines Creek Nursery indicate the Port now

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<sup>17</sup> Table 4.1-3. November 2001 NRMP.

<sup>18</sup> Part 230.75 Section 404(b)(1) Subpart H.

<sup>19</sup> *Wetland Mitigation Evaluation Study Phase 1*, Department of Ecology Publication No. 00-06-016, June 2000.

<sup>20</sup> *Compensating for Wetland Losses Under the Clean Water Act*. National Academy of Sciences Committee on Mitigating Wetland Losses. National Academy Press, Washington DC. 2001 Pre-Publication Copy. p.2.

admits in-basin wetlands mitigation is possible and can be done without violating FAA guidelines for siting airports near wildlife hazards. To meet the regulatory standard to minimize adverse effects within the watershed to the extent practicable, the Port should perform the necessary hydrologic monitoring and site analyses and present the Corps with a plan to add more in-basin wetland area to its mitigation proposal.

### *Seepage Flow Ambiguities Risk Miller Creek Wetlands*

Whether the Port's 404 application should be granted depends largely on the Port's proof concerning how well hydrologic processes will be maintained by the Port's runway and stormwater design. The Port's descriptions of how the embankment wall will be constructed and how it will protect seepage flows is provided in the report by HartCrouser Memorandum dated October 30, 2001, RE: Wetland Hydrology and the Third Runway Embankment Fill 4978-06 and the section of the NRMP entitled Third Runway Embankment Fill Monitoring Plan 401 Certification Condition E.3 Port of Seattle, November 2001.

The details of how the replacement drainage channels will operate to capture seepage flows and disperse them to remaining wetlands is vague in both these documents and their references. Wetland soils located under the embankment wall will be removed and replaced with compacted sand and gravel fill material in order to provide better foundation support for the wall.<sup>21,22</sup> But once the wetland soils are removed the existing seepage veins will no longer be present and hydrologic support to remaining wetlands will need to be provided by the embankment fill material drainage layer and stormwater management system. The HartCrouser report discusses this on page 13 where it confirms "Flow from the [embankment fill] drainage layer will in general replace the pre-project interflow...". The report continues to describe that the main discharge points for flow from the drainage layer beneath most of the completed embankment "are expected *in some cases* to coincide with current wetland locations." "Drainage layer flows will be collected and redistributed to the downslope portions of the wetlands that remain following construction using flow dispersal trenches as shown, *for example*, in Exhibit C-115 of Appendix Q (Volume 4) of the CSMP (Parametrix 2000c)." "The drainage layer will be relatively permeable and will provide a *somewhat higher rate of seepage* in comparison to the average for common embankment fill and the native subsurface soils."<sup>23</sup> (all italics added).

Little more detail than that is presented in these documents regarding how the flow dispersal trenches will operate with the drainage layer to provide wetland hydroperiods to downstream wetlands while at the same time handling stormwater flows. The picture presented indicates there will be higher seepage rates from the drainage layer than presently exist, uncertain operation of flow dispersal trenches and unclear distinctions between the goal of providing seepage flows to wetlands and the requirement to manage stormwater. The risk of adversely altering water sources to remaining wetlands is a serious threat to the few remaining wetland resources in the Miller Creek watershed and one that is not mollified

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<sup>21</sup> HartCrouser Memorandum dated October 30, 2001, RE: Wetland Hydrology and the Third Runway Embankment Fill 4978-06, Page 10. "This includes the excavation of unsuitable foundation soils (typically peat, soft clay, and loose silty sands) and replacement with compacted sand and gravel fill material."

<sup>22</sup> Ibid. Page 14, Subgrade Improvement.

<sup>23</sup> Ibid, Page 16, Drainage Layer.



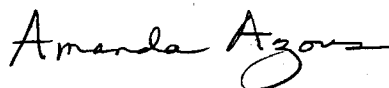
by information provided in the November NRMP and Stormwater Management Plan. The discussions still do not inform about how the replacement drainage channels will operate to both provide historic flows to remaining wetlands while also managing stormwater flows.

*Summary*

The shortcomings of the Port's proposals continue to include insufficient efforts to minimize wetland impacts, inadequate compensation for wetlands and aquatic resource functions that will be eliminated and continued underestimation of the adverse impact of eliminating a significant proportion of the remaining wetland acres in the Miller Creek watershed. Based on the latest NRMP, the proposed fill activities in wetlands still do not comply with Part 230 of the Section 404(b)(1) Guidelines. The Port's proposal neither preserves water quality nor prevents adverse impacts to aquatic resources in the Miller and Des Moines Creek systems. The proposed STIA Masterplan Update Improvements are likely to result in significant degradation of the aquatic ecosystem under Part 230.10(c)(3). Requiring equivalent or better mitigation for impacts resulting from the construction of the Third Runway is fundamental to the spirit and purpose of the Clean Water Act's language for the protection of wetlands and necessary to achieving progress towards the state and national goal of no net loss.<sup>24</sup>

Thank you for your time spent in reviewing this material. Please call me or email me if you have any questions or comments.

Sincerely,



Attachment A: Map 4 from *Wetland Delineation Report; Master Plan Update Improvements*, Seattle-Tacoma International Airport, December 2000 by Parametrix, Inc.

CC: Joan Cabreza, U.S. Environmental Protection Agency

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<sup>24</sup> Memorandum Of Agreement Between The Environmental Protection Agency And The Department Of The Army Concerning The Determination Of Mitigation Under The Clean Water Act Section 404(B)(1) Guidelines, February 6, 1990. Section III.B.

