

memorandum

date January 13, 2009

to Vikki Jackson, Northwest Ecological Services, LLC

from Lara Thoreson and Ilon Logan

cc Kim Weil, City of Bellingham; Mark Johnson, ESA Adolfson

subject Peer review of submittal documents for the Fairhaven Highlands Project as they relate to Plants and Animals

The purpose of this memorandum is to review the quality and applicability of the submitted materials associated with flora, fauna, and upland and wetland habitat functions and values as they relate to the Fairhaven Highlands development project. The review focused on whether the following documents adequately address technical questions outlined in the *Scoping Summary* (March 11, 2008) for the project. ESA Adolfson also provided a peer review of submitted materials. In addition, specific public comments submitted to the City of Bellingham (COB) and consolidated by ESA Adolfson, were considered in the preparation of this review letter.

The review focused on the following documents:

- *Wetland Delineation for the Fairhaven Highlands Bellingham, WA [Wetland Delineation]*, Northwest Ecological Services, LLC (NES) (October 2005)
- *Revised Wetland Rating Forms: Wetland KK*, NES (April 2005)
- *Revised Wetland Rating Forms: Wetland JJ*, NES (August 2008)
- *Chuckanut Ridge Wetlands Categorization*, NES (October, 2005)
- United States Army Corps of Engineers (USACE) wetland determination memos (May 2007 and April 2006)
- *Preliminary Wetland & Buffer Impact Assessment and Mitigation Plan for the Fairhaven Highlands (Preliminary Plan)*, NES (November 2005)
- *Flora & Fauna Assessment for the Fairhaven Highlands*, NES (March 2007)
- *Plant and Animal EIS Technical Report Fairhaven Highlands*, NES (October 2008)
- *Fairhaven Highlands Wetland Categorization*, NES (December 2008)
- Multiple – *Revised Wetland Rating Forms: Wetlands AA, AX, AY, BB, CC, DD, EE, GG, HH, JJ1, JJ2, KK, and LL*, NES (August/November 2008).

Report Review

ESA reviewed ten documents, each of which are summarized in the following paragraphs.

The NES *Wetland Delineation* report (October 2005) examines existing conditions, assesses wetland and buffer functions, considering City of Bellingham and other regulatory authority regulation. The project site is situated between the urbanized setting of the Padden Creek corridor and the less disturbed Chuckanut Creek/Blanchard Mountain complex. The wetland delineations were conducted over a period of several months encompassing the wet and dry season. A total of thirteen wetlands are discussed within this report. No streams were discovered within the project boundary. The report identifies twelve wetlands onsite (Wetlands AA, AX, AY, BB, CC, DD, EE, FF, GG, HH, KK, and LL), and one entirely offsite (Wetland JJ); according to the *Washington State Wetland Rating System* (Hruby, 2004) forms that were filled out by NES staff, three were classified Category IV, eight were classified Category III, and two were classified Category II.

The *Chuckanut Ridge Wetlands Categorization* memo (October, 2005) states Wetlands CC, BB, HH, JJ, and KK as being Category II wetlands and Wetlands AA, AX, AY, DD, EE, GG, LL, and FF are Category III wetlands. Wetlands AA, AX, AY, DD, EE, GG, and LL are all under the regulatory size threshold determination of 10,000 square feet for the COB and are therefore not regulated by the City.

The May 2007 USACE determination memo deems Wetlands DD and EE to be isolated and therefore not regulated by the USACE. The April 2006 USACE determination memo deems AA, AX, AY, and GG to be isolated and not regulated by the USACE. In total, Wetlands AA, AX, AY, DD, EE, and GG are considered isolated and are not regulated by the USACE.

The NES *Preliminary Plan* (November 2005) addresses potential wetland impacts as they relate to the initially proposed 2005 development (Now called Alternative 1). According to the preliminary plan, all of Wetlands AA, AX, AY, EE, and GG (which are not regulated by the COB or the USACE) and LL (which is not regulated by the COB) will be filled, along with portions of CC and KK (both regulated by both authorities). The plan also provides an impact analysis using their functional scores as categorized by the *Western Washington Wetland Rating System* form (Hruby 2004).

The NES *Flora and Fauna Assessment for the Fairhaven Highlands* (March 2007), describes existing wildlife habitats, dominant flora and faunal communities, and the presence of endangered, threatened, and/or sensitive plant or animal species or habitats documented or observed on and near the project site. The majority of the field work was collected in June, July, and August of 2006 and was focused on mammals, birds, amphibians, reptiles, flora, and habitat. Since no fish habitat is located onsite, no fish data were collected. Wildlife species were opportunistically observed during field work and no systematic botanical, wildlife or invertebrate surveys were conducted. No priority species or habitats with special management recommendations or regulatory requirements were observed in the project area. The report states that development of the site will result in habitat loss. A list of recommendations to minimize impacts to wildlife is provided.

The NES *Technical Report* (October 2008), provides technical detail regarding the affected environment (vegetation, fauna, and species of concern) and discusses impacts (fragmentation and connectivity, buffers, loss of trees by windthrow, water quality, hydrology, soils, light, human activity, noise, and species of concern and other identified wildlife) associated with the various alternatives. It also discusses wetlands, wetland impacts and provides a functional impact analysis of the proposed development.

The NES *Fairhaven Highlands Wetland Categorization* memo (December 2008) documents the recent revision of wetland categorizations by NES. The revisions are based on additional data collected since the original categorizations were performed and clarifications of the guidance from Ecology regarding rating methodology. The memo provides rationale for the re-delineation of Wetland JJ and revising DOE and COB wetland categories. Within this memo rationale is also provided for not regarding certain wetlands as “mature forested wetlands” or upland areas as “mature forest.” There is also discussion of several drainages either exiting wetlands or entering them and notes hydrologic connections between some wetland that were not previously included in wetland reports.

According to the NES *Fairhaven Highlands Wetland Categorization* memo, the numerical score of all wetlands except Wetland FF increased; however, this did not necessarily call for a change in category. Wetlands AX, EE, GG, HH, KK, JJ1 and JJ2 changed category under the Ecology rating system. Wetlands LL and FF changed category according to the City of Bellingham (COB) standards. These wetlands were deemed to have a hydrologic connection to Chuckanut or Padden Creeks.

Discussion

Overall, the submitted reports are comprehensive and relevant. The *Plant and Animal EIS Technical Report* is thorough and addressed comments within the scoping summary. However, further clarification and some additional information are needed to compare alternatives for the EIS.

Citations

Additional citations are needed throughout the *Plant and Animal EIS Technical Report*. There are some general statements and references to “literature,” without supporting citations (e.g. Section 1.3.1). Since the report will be included as an appendix to the EIS, it needs to have enough documented supporting information to lead to the conclusions made. We expect NES has these references on hand; they just need to be documented throughout the report and a complete list provided at the end.

Wildlife Habitat/Vegetation Loss

A quantitative evaluation of wildlife habitat loss by alternative is needed. The rationale for habitat fragmentation considering the various alternatives would be better supported by comparing the amount of land (in square feet or acres) to be cleared under each alternative and the tracts of land and corridors which will be preserved. Specifically, it would be helpful to compare alternatives based on the amount of land that will be cleared of vegetation and where it would be cleared (in relation to critical areas and habitat corridors).

It is also not clear, considering the evidence provided within the 24th Street Cross Connector section of the *Plant and Animal EIS Technical Report*, that alternatives containing this option would be *more* detrimental to flora and fauna than other alternatives as stated in the report. For example, stating that the movement between Wetland JJ [JJ2] and upland habitat to the north would be interrupted may be true, but all other alternatives (except for 3D) limit wildlife movement between Wetlands CC, KK, JJ1, and JJ which could have a similar effect. Alternative 3D preserves the CC/KK corridor throughout the entire site and according to the technical report “retains the greatest amount of forest cover of the presented alternatives.” Alternative 3D also maintains upland habitat to the west of Wetland JJ2, unlike Alternatives 1A, 1C, and 4F. As such, although it has the 24th Street Connector, it may cause fewer impacts than some of the other alternatives. We believe that such general statements about which alternatives are more detrimental need to be qualified further, making both quantitative and qualitative distinctions between alternatives.

In response to scoping comments, the *Plants and Animals EIS Technical Report* should provide some analysis of biodiversity on the site and how the project will affect biodiversity and native species. Information from the *Wildlife and Habitat Assessment and inventory of existing conditions and background information and Wildlife Habitat Plan* (Nahkeeta Northwest, 1995) may be useful for this analysis. The Scoping Summary indicates that a

qualitative assessment of the ecological impact of these types of impacts is needed, especially considering food chains, nutrient cycling, and migratory corridors such as the Pacific Flyway.

Wetland Impacts

The breakdown of wetland impacts by alternative in the *Plants and Animals EIS Technical Report* does not match the most recent information from Jepson & Associates. The report and alternative layout drawings should be checked for consistency.

Wetland Ratings

In general, ESA Adolphson is in agreement with the revised wetland categories. We appreciate the amount of effort by NES to observe and understand hydrologic patterns and conditions at the site and then to further refine wetland boundaries and categories. The one issue that requires closer study is whether any of the forest stands in the wetlands are “mature forest”, which bears directly on the ratings. “Mature forest” includes stands where the largest trees are 80 -200 years old, according to SC 4.0 of the Ecology manual.

During our site visit in October of 2008, we found a western red cedar associated with Wetland CC that had split open making it possible to count rings. We counted approximately 75 rings before hitting a rotted center that was several inches across (missing rings). Because this tree is located on the boundary of the Wetland CC, and because Wetlands CC and KK are similar, we felt there was evidence that there may be a stand of trees that are more than 80 years old or older within these wetlands.

As we have discussed by phone, we agree with NES that tree coring is the most conclusive method to determine if any of the trees are over 80 years old. We believe that the largest trees in Wetlands CC and KK should be evaluated for this criterion by core sampling. Once it has been determined whether there are trees (comprising an at least one acre of the wetland) other than the split Western red cedar that are more than 80 years old, the ratings for any wetland containing such trees should be revisited. It is our understanding that the Ecology manual states that if there is one acre of mature forest present, then the wetland should be rated a Category I. If only part of the wetland is forested (and is less than one acre), the category should be based on functions.

Alternatives Analysis

Because several of the wetland categories have been revised since the *Plants and Animals EIS Technical Report* was provided and may be revised further, some of the alternative analysis in the *Plants and Animals EIS Technical Report* may be incorrect, such as the appropriate buffer width for a particular wetland. The wetland areas and their revised category (with appropriate buffers) should be reevaluated. The functional analysis of onsite wetlands may also need to be updated based on the recent wetland category revisions. In most cases, we would not anticipate the analysis to be drastically different than currently reported. However, a wetland and buffer impact assessment for the various alternatives should be provided that is based on the new categories. This should be conducted after the issue of the mature forest criteria has been resolved.

Wetland Functions Post-Construction

The analysis of existing wetland functions by NES is comprehensive. However, we disagree with the use of the Ecology wetland rating system to evaluate wetland functions post-construction. The methodology of the rating system, while based on functions, was developed to rank and classify wetlands as a vehicle for buffer width assignment and other development restrictions. It is true that some wetlands will rate higher after a surrounding watershed is developed, but this is because the opportunity multiplier is fulfilled. The physical characteristics (i.e. its ability to provide functions) do not change. Wetland functions post-construction should be based on best professional judgment or other true functional assessment methods (developed by Ecology). We believe NES can provide an assessment of post-construction functions that is sufficient for an EIS level analysis using best professional judgment.

Mitigation Measures

It is not clear from the *Plant and Animal EIS Technical Report* what mitigation measures are already included in the site designs, and which are recommended. We know for example, that Alternative 2 has larger buffers and the drainage system has been designed to maintain wetland hydrology, whereas these features are not present in Alternative 1. The report should distinguish what measures are needed for what alternatives, or use more specific language like is used in the report when discussing buffers as mitigation (specifying buffers should be >100 feet).

The expected decline of interior forest species appears to be an impact that, while minimized by preserving forested wetland buffer areas, would not be fully mitigated. Based on your studies and observation of the site, what impacts to interior forest species, or any other species, would you consider unavoidable?