

CENWS-OD-RG (1145)

J. Smith
J. Smith/x6910/3 June 2007

MEMORANDUM FOR Commander

SUBJECT: Department of the Army Permit Evaluation and Decision Document

1. Name: **TransAlta Centralia Mining, LLC**

Application No: **200600278**

Permit issuance, no objections.

Issuance, agency or tribal objections.

Issuance, other objections.

Issuance, special conditions.

Categorically excluded from NEPA.

Permit denial.

2. District Engineer sign Permit Evaluation and Decision Document.

S. Sci

Sec. Chief

Ch, Reg Br

Counsel

Ch, Opns Div

DDE

DE

J. Smith
5/7/07

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Encl

CENWS-DE 1st End

Commander

For Ch, Reg Br

Signed forms returned herewith.

NEDC Scoping Comments

DEPARTMENT OF THE ARMY
PERMIT EVALUATION AND DECISION DOCUMENT
Seattle District

APPLICANT: TransAlta Centralia Mining, LLC

APPLICATION NO.: 200600278

LOCATION: In wetlands in the Big Hanaford Creek drainage just north of Big Hanaford Road, 6 miles northeast of Centralia, Lewis County, Washington.

This document constitutes the Environmental Assessment, Statement of Findings, and review and compliance determination according to the 404(b)(1) Guidelines for the proposed work (applicant's preferred alternative) described in the attached public notice.

I. Proposed project

A. Project Description: Place fill in 2.68 acres of wetland to construct two 8,500-foot railroad sidings north of and parallel to an existing railroad spur along Big Hanaford Road. Extend six culverts from the existing railroad spur under the new sidings to maintain water drainage under the widened railroad bed. Construct a 1-foot wide, 1-foot deep ditch along the north edge of the sidings to collect runoff and prevent erosion.

B. Existing Site Conditions and Affected Environment: The proposed project construction site is a nearly level 40-foot wide, 8,500-foot long corridor, skirting the south edge of a 2,500-foot wide floodplain of Big Hanaford Creek. The roughly 8-acre site, including two staging areas, contains about 2 acres of palustrine emergent wetland, about 0.6 of an acre of palustrine shrub-scrub wetland dominated by Nootka rose, and less than 0.1 of an acre of palustrine forested wetland. Much of both the uplands and wetlands are dominated by non-native pasture grasses including extensive areas of reed canarygrass. The entire south side of the site is immediately bordered by rock ballast (about 4 acres) associated with the existing railroad spur, and a little further away by the Big Hanaford (County) Road right-of-way. The area north of the project is a mix of wetland and toe-of-slope upland pasture except at the west end of the project. Here the area north of the westernmost 850 feet of the proposed project is ash forest palustrine wetland, some of it mature. A 680-linear foot segment (0.47 of an acre) of the proposed project would pass through the southwest edge of the Big Hanaford Creek mitigation site. The mitigation site was authorized under Department of Army (Seattle District) permit 200400909 in September 2005. Construction of this mitigation site will begin the summer of 2007. Also, two aerial high-voltage electric transmission lines cross the eastern half of the proposed corridor. The nine culverts convey excess stormwater runoff northward beneath the existing railroad spur from the area between Big Hanaford Road and the existing railroad spur.

Changes in coal train operations potentially would affect the areas described above as well as areas proximate to the rest of the approximately 4-mile railroad spur. At TransAlta's proposed average delivery rate of one train per day, trains would be in active motion on the rail sidings about 16 hours per day at the eastern end of the proposed project, and much less at the west end.¹ Presently, about three train deliveries occur per week, so the proposed project represents an increase of four trains per week. Proximate areas include the BHC mitigation site, active and abandoned pastures, drainage ditches and stream side channels, small woodland patches, one rail crossing of Big Hanaford Road, and several residences. Three residences are within 500 feet, across Big Hanaford Road from the proposed railroad sidings; the two closest of these residences are now unoccupied and owned by TransAlta. Approximately six residences are located within 500 feet, across Wigley Road from the existing railroad spur.

C. Jurisdiction/Scope of Analysis: This document concerns the issuance of a DA permit by the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) under Section 404 of the Clean Water Act. The permit area under Section 404 includes the 2.68 acres of wetlands that would be directly impacted by the project including 0.47 of an acre that falls within the Big Hanaford Creek mitigation site established under another permit action (reference 200400909). The scope of analysis under the National Environmental Policy Act, the Endangered Species Act, and various laws relating to cultural resources includes the proposed construction area, and an approximately 500-foot wide band around the perimeter of the construction area and the existing 4-mile long railroad spur.

D. Purpose and Need: In coordination with the applicant, the Corps has determined the project purpose as: Maintain an economical and reliable supply of coal for the TransAlata Centralia Generation Plant.

Based on its existing electric power contracts and sales of power on the spot market, there is a private need for electric power generated at the Centralia powerplant. There also appears to be a public need for coal to operate the Centralia powerplant. Based on the Bonneville Power Administration's (BPA) 2003 White Book, Table A-2 Pacific Northwest Loads and Resources, which provides a snapshot of conditions as of 31 March 2004, the Pacific Northwest would have barely enough electric power for 2005 - 2006, and a shortage of power thereafter, under serious (Columbia River Basin) drought conditions without the power generated by TCM's coal-burning Centralia Steam Plant. Based on these considerations, we believe there is a public need to import coal to meet Pacific Northwest electric power needs.

TransAlta estimates it needs to supply its powerplant with 4.9 million tons of coal annually for the next 5 years at which point the company will decide whether to open the prospective new West Field mine or import all of its coal from the Powder

¹ 16-hour estimate based on August 2006 briefing to Corps and agencies by TransAlta's generating plant operations manager, Joe Dunlap. Email from TransAlta's Tony Briggs, dated 15 March 2007, indicated an average 18-hour unloading process.

River Basin. This tonnage is down from the 7.1 million tons of coal consumed by the powerplant in previous years partly because of the higher heat content of the Powder River Basin (PRB) coal compared to Centralia coal (8,800 to 9,500 British thermal units (BTU) versus 7,700 BTU), and because TransAlta is down-rating the powerplant capacity from 1400 mega-watts (MW) to 800 – 1000 MW to adjust to the combustion characteristics of PRB coal. During the next 5 years, TransAlta will experiment with different coal mixtures and firing conditions in an attempt to return operation of the powerplant to full capacity. At full capacity, using higher proportions of high BTU coals than used historically, the company would import 5.5 to 6.5 million tons of coal annually.

II. Public Involvement

An application was received on 11 January 2007 which was considered complete on 30 January 2007. A public notice for this proposal was circulated on 13 February 2007. The expiration date for comments was 13 March 2007.

A. Comments received:

1. Federal Agencies:

a. Environmental Protection Agency (EPA): by letter dated 14 March 2007, EPA provided the following comments, questions and concerns:

- Ballast and sub-grade fill must be clean and not include hog-fuel.
- Clarify the location of each of the mine culverts, what source of hydrology they facilitate, and where this water will be discharged. If the culverts are to maintain stream flows, this should also be explained.
- Provide a revised tally of both direct and indirect impacts from the proposed railroad project with a revised map that includes the final wetland, stream, and riparian buffer area by acreage, type, and locations. Also recommend that the Corps issue a revised public notice describing these additional impacts.
- Provide a revised tally of impacts not realized at the BHC mitigation site due to the location and ongoing maintenance of utility lines not previously disclosed under permit #200400909.
- Provide a revised map that shows where all the proposed compensatory mitigation will be, by acreage, wetland type and compensatory mitigation type (preservation, enhancement, rehabilitation), and what the approved ratios will be that the Corps and Ecology consider adequate.
- Provide additional baseline data on existing conditions at the wetland preservation and enhancement areas. This information is necessary so that changes (improvements from enhancement work or future landscape changes in the watershed) can be monitored and compared to baseline conditions.
- Provide specific planting plans for each of the enhancement areas and details on monitoring and contingency plans that will be included in the final mitigation plan for overall compensatory mitigation for the railroad project and additional mitigation required for the BHC mitigation site

utility corridor areas.

- Provide a revised set of plans for the BHC stream corridor restoration project if there will be revisions or adjustments to the previously approved BHC stream corridor project.
- Request opportunity to review and discuss the final mitigation plan with the Corps and Ecology prior to final permit decisions.

b. U.S. Fish and Wildlife Service (USFWS): no comments received.

c. National Marine Fisheries Service (NMFS): no comments received.

2. **State and local agencies:** In the State of Washington, the Department of Ecology (Ecology) is the agency which provides Water Quality Certification (WQC) and Coastal Zone Management (CZM) documentation on behalf of the State. Received letter in support of the proposed project from Grays Harbor County Planning and Building Division, dated 14 February 2007.

3. **Indian Tribes:** no comments received. Personal emails and phone calls were made to Glen Connelly and Richard Bellon, Chehalis Confederated Tribes, to ensure Tribe was aware of the public notice and our interest in knowing about any potential cultural resource effects. [Discussed with, and awaiting Mr. Bellon's email written response.]

4. **Organizations and individuals:** by letter dated 14 March 2007, the Chehalis River Council (CRC) provided the following comments and concerns:

- Tend to support the types of mitigation proposed in the application. Corps should require additional mitigation that's not duplicative of mitigation already required for the Kopiah project.
- Consider bridging or enlarging the existing culverts to facilitate passage of animals to reduce the road/railroad barrier to wildlife.
- Generally oppose filling wetlands, but see little reason to oppose this project as long as proposed mitigation efforts are carried out effectively.

B. Requests for public hearing: no requests for a public hearing were received.

C. Evaluation and Consideration of Comments:

1. **Applicant's Response** (received by email 3 and 18 April 2007):

- Ballast and sub-grade will not include hog-fuel or bottom ash.
- Twelve 30- to 36-inch culverts beneath the existing rail spur capture runoff from Big Hanaford Road ditches and adjoining rail slope area. Flow in the culverts occurs in response to rainfall events, and with the exception of the eastern-most culvert, discharge into uplands and wetlands without any stream or ditch connection to Big Hanaford Creek. Of the six culverts along the eastern half of the proposed 8,500-foot long project, one culvert will be eliminated and the other

five retained and protected as-is. All six of the culverts on the western half of the existing rail spur would be retained and extended beneath the width of the new rail sidings to discharge into a new, shallow 1-foot wide ditch along the northern edge of the project area. Here, water would infiltrate into the ground. The proposed project would not alter existing hydrologic conditions other than moving the discharge points of six culverts 40 feet further north of where they discharge now.

- TransAlta has added 0.50 of an acre of (existing) palustrine emergent wetland to the BHC mitigation site to replace the 0.47 of an acre of palustrine wetland that the proposed project would occupy within the edge of the BHC mitigation site.
- Applicant's Response also addressed EPA questions regarding the BHC mitigation site (permit 200400909) which the Corps is not addressing in this permit action.

2. District Engineer's Response:

- Ballast and sub-grade will not include hog-fuel or bottom ash.
- The applicant has provided the needed culvert information, which is summarized in the applicant's response statement above.
- The final mitigation plan contains a tabular and map summary of direct and indirect project impacts and proposed compensatory mitigation characterized by acreage, wetland types, baseline conditions, and planting plans. Similar information is also summarized in the Mitigation Section of this decision document.
- In the initial stage of permit application evaluation, we found that the proposed project passed through about a half-acre of the BHC mitigation site designated for protection under DA permit 200400909. We determined that this did not warrant issuing a revised public notice because the proposed project itself had not changed and we believed issuance of a revised public would not generate much new information, particularly from agencies, about potential impacts or preferences on how to address the issue. Based on previous comments, we believe EPA, and many other agencies, individuals and organizations would tend to favor protection of the overall integrity of the BHC mitigation site. To this end, we required the applicant to add equivalent wetland acreage to the Kopiah and Rail Upgrade mitigation sites along BHC to compensate for direct and indirect impacts to habitat and water quality protection functions within the existing BHC mitigation site. We also note that public notices are not intended to include an absolutely complete summary of project impacts. We typically do not ascertain the full extent of proposed project impacts until the environmental assessment is finished.
- We are not including any information in this decision document and supporting files related to utility corridors in the BHC mitigation area

because this information is pertinent only to DA permit 200400909 issues. Note however that we are working with the applicant to ensure that the hydrologic regime, habitat and other features/functions of the two contiguous mitigation areas will be fully integrated with one another.

- Revised final plans for compensatory mitigation in Big Hanaford Creek area will be publicly available once the Corps approves this proposed permit action (200600278) and the BHC mitigation plan for DA permit 200400909.
- We did not consider requiring enlarged culverts under the rail upgrade to facilitate wildlife passage because this would be of potential value only if culverts under Big Hanaford Road and the existing railroad spur would also be enlarged. We would need to see a history of interest and potential usefulness to do this for Big Hanaford Road before we would consider it a reasonable requirement for the proposed rail upgrade project.

III. Alternatives [33 CFR 320.4(b)(4), 40 CFR 230.10]

The National Environmental Policy Act (NEPA) requires that Federal agencies evaluate a range of reasonable alternatives, including the "No Action" alternative. Under NEPA the "No Action" alternative and other action alternatives that meet the objectives or purpose of the project are considered reasonable alternatives. In this case, the Corps, as a Federal agency, is issuing a permit under the Department of the Army (DA) regulatory program. Appendix B to 33 CFR 325 contains the guidance implementing the application of NEPA to the DA regulatory program. According to that Appendix, the decision options available to the Corps, which embrace all of the applicant's alternatives, are

- issue the permit,
- issue the permit with modifications or
- deny the permit.

Modifications are limited to those project modifications within the scope of established permit conditioning policy (See 33 CFR 325.4). The decision option to deny the permit results in the "no action" alternative (e.g., no activity requiring a DA permit).

Section 404(b)(1) of the Clean Water Act prohibits the discharge of dredged or fill material into waters of the United States unless the proposed discharge is the least environmentally damaging practicable alternative capable of achieving the proposal's purpose. In this case, the "discharge" being evaluated under the Section 404(b)(1) Guidelines (Guidelines) is placement of fill in wetlands to construct two railroad sidings. For non-water dependent activities associated with discharges in special aquatic sites, practicable alternatives that do not involve discharges in these sites are presumed to be available, unless clearly demonstrated otherwise. For water dependent or non-water dependent activities associated with discharges in special aquatic sites, an additional

presumption is that all practicable alternatives that do not require discharges in these sites are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

A. No action: TransAlta would continue to import coal using its existing single railroad spur and unloading system, handling one train at a time, moving the empty train back onto Burlington Northern-Sante Fe Railroad (BNRR) mainline tracks when either traffic capacity or a BNRR siding becomes available. Under ideal conditions of one train arriving and departing daily, TransAlta could rely on a single railroad spur to import the 4.9 million tons needed annually. However, this alternative is not practicable because the normal delays inherent in operating a complex rail transportation system causes bunching of coal train deliveries and empty train cars waiting for pick-up. Without a place to store trains somewhere in the rail system, an average unloading rate of one train per day cannot be sustained. BNRR does not have the capacity to store trains on a regular basis, and indicated in correspondence to the Corps, dated 22 January 2007, that it cannot increase its coal shipments to Centralia over existing levels without significantly (adversely) impacting all rail traffic in the I-5 corridor unless additional train holding areas are provided.

B. Other project designs:

1. Import Coal Using South Rail Alignment with Two Railroad Sidings. This is the applicant's preferred alternative. TransAlta would purchase coal from existing mines already permitted under the Section 404 of the Clean Water Act in Powder River Basin of Montana and Wyoming. Burlington Northern-Santa Fe Railroad (BNRR) would deliver the coal on TransAlta's existing railroad spur to the Centralia powerplant. Two railroad sidings would be constructed parallel to the railroad spur to store loaded and emptied coal cars. This alternative would impact 2.68 acres of wetland.

2. Import Coal Using South Rail Alignment with One Railroad Siding. This alternative is similar to the two-siding alternative described above, except that only one railroad siding would be constructed parallel to the railroad spur to store loaded and emptied coal cars. This alternative would impact about 1.2 acres of wetland (about 1.5 acres less than the applicant's preferred alternative). Under ideal conditions, one train would unload on the spur line while an empty train waited for pick-up on the first siding. The empty train would be pulled away before the next loaded train arrived. TransAlta contends a one-siding alternative would not be practicable because various contingencies cause coal trains to arrive and depart at uneven intervals most (about 85 percent) of the time. This results in a bunching (queuing) of trains in the system, including at TransAlta's powerplant, such that unit coal trains would occupy the rail spur and first siding about 85 percent of the time and the second siding about 50 percent of the time. Contingencies that prevent evenly scheduled arrivals and departures include BNRR's routing of other high priority rail traffic including seasonal perishable produce, intermodal freight, farm commodities, and AMTRAK passenger traffic.

Adding to the congestion would be the usual weather-related operation delays, equipment experiencing mechanical deficiencies, occasional accidents and derailments, and (scheduled and unscheduled) infrastructure maintenance.

Rail congestion problems and loading priorities of the PRB mining companies would also impact coal loading schedules, and hence deliveries to and departures from the TransAlta powerplant on the BNRR and Montana Rail Link railroad systems. When unit coal trains are delayed anywhere along their 1,500-mile route, bunching of the trains occurs as the trains behind are still coming. Bunching means that the system operator needs to adjust (often reduce) the volume of trains moving along the system in order to clear the congestion. If bunching occurs, a snowball effect of impacts begins causing trains to be parked at designated sidings along the route until the system has returned to normal. Due to length of coal unit trains, a delayed train can only be parked at a limited number of designated sidings that can accommodate their size. These parked trains further add to congestion and delays by occupying sidings that would otherwise be used for regularly scheduled traffic flow. The further away the coal unit train is parked from its destination, the greater the chance that even longer delays may result because engine crews would exceed their maximum allowed operating hours and have to change out before reaching their destination. If a "call out" overtime crew is necessary even more delay may occur because these crews are allowed a certain amount of response time. Also, if an empty train misses its scheduled spot for loading at the mine, it too must be rescheduled to another open delivery time.

We contacted Kent Phillips, a transportation industry analyst for rail configurations, and Joseph Goetz, a civil engineer, both serving on the staff of the Federal Surface Transportation Board (STB), who concurred with the need for a second railroad siding given TransAlta's 16-hour coal unloading and train movement time and their general familiarity with railroad system operating conditions.² Therefore, we concluded a one-siding alternative would not be a practicable design for delivery of 4.9 million or more tons of coal annually.

3. Import Coal Using South Rail Alignment with One Railroad Siding and a Rail Car Rotary Dumping System. According to Phillips and Goetz, with a rail car rotary dumping system, TransAlta could likely reduce the unit train unloading time from 16 hours to 6 hours and possibly eliminate the need for a second railroad siding. We determined that the reduction in unloading times would not eliminate the need for a second siding because delays caused by BNRR system and coal train loading operations would still substantially contribute to the bunching of train deliveries and pick-up of empty cars.

4. Import Coal Using North Rail Alignment. This rail line would loop from the existing spur line near Wigley Road on the former Northern Pacific Railroad bed along the north side of the Big Hanaford Creek valley, bridge Big

² Kent Phillips, telephone 202 245-0321; Joseph Goetz, 202 245-0314. Joe Dunlap, TransAlta Centralia Generating, Chief of Operations, provided the typical unloading and train movement time estimate at an agency representatives site visit August 24, 2006.

Hanaford Creek north of the powerplant and join the existing railroad spur at the powerplant. The railroad line and associated service road would cause the loss of 10 acres of wetland permanently and 3 acres temporarily. This potentially practicable alternative was not considered further because it would be more environmentally damaging than the applicant's preferred alternative.

C. Other sites:

1. Expand Pit 7 Coal Mine, Resume Mining in Kopiah Pit, Import Coal. This alternative is essentially identical to what was TransAlta's coal mining plan for the next 5 years until it closed the Centralia mine on 27 November 2006 because it was no longer economically viable to continue mining coal with such high overburden-to-coal (volume) ratios. Under this alternative, TransAlta would annually mine about five million tons of coal at Centralia (total Kopiah – 22 million tons, Pit 7 – six million tons), and annually import about one million tons of coal from the Powder River Basin using its existing railroad spur. This alternative would cause the loss of 48 acres of wetlands, 15 acres of open water, and 12,700 linear feet of mine ditches and intermittent drainages in the Pit 7 area. Although Seattle District has already permitted the Kopiah portion of mining (permit reference 200400909), this alternative would require the filling of 10 acres of Kopiah wetlands and about 16,000 linear feet of intermittent headwaters streams which TransAlta would otherwise postpone filling indefinitely. This potentially practicable alternative was not considered further because it would be considerably more environmentally damaging than the applicant's preferred alternative.

2. Mine Other Existing Coal Reserves at the Centralia Mine. Modest quantities of unmined coal reserves are present at a number of locations within the Centralia mine boundary including Pit 7 expansion, North Hanaford, Northeast (NE) Bucoda, Hanaford Valley, and Kopiah Phase III. The Pit 7 expansion and Hanaford Valley would be environmentally more damaging than the preferred alternative because most of the mining would occur in extensive valley floor wetlands. NE Bucoda would be more environmentally damaging than the preferred alternative because the Logan Hill formation spoil material is so plastic and uncohesive that it must be spread at gentle slopes (12:1) over large areas in order to be stable. Although this area has been disturbed in the past by underground mining (1880 through 1930), the surface topography is relatively undisturbed, covered by second-growth forest, and has an extensive dendritic system of headwaters stream channels and small areas of riparian wetland. In addition, at least a few acres of drainage control structures would need to be located in riparian wetlands and tributaries to the Skookumchuck River to control sediment and runoff from the spoil disposal and mine areas. The North Hanaford and Kopiah Phase III areas would be impracticable to mine in terms of costs and logistics. The remaining reserve at North Hanaford represents less than a 2-year supply of coal and was originally left because of extremely high overburden-to-coal ratios. In addition, there is no reasonably close new disposal site for the large amounts of fine coal refuse and water that would have to be removed from the pit to expose the headwall where the remaining coal is located. Extraction of coal from the Kopiah Phase III

area is not practicable because in excess of 500 feet of overburden must be removed to reach most of the coal in that area.

3. Open New Coal Reserves in Centralia Region. TransAlta is preparing to apply for permits from the Corps and the Office of Surface Mining & Reclamation to open a new mine west of their existing mine area, referred to as West Field. But this alternative is not reasonably available at this time because 3 to 5 years will be required to conduct environmental reviews and obtain permits, if approved. Any other potential sites in the region would take at least this long to be reviewed, analyzed, and permitted.

4. Remove Coal Using Underground Mining Methods. TCM contends that the configuration of the coal seams (e.g. substantial displacement along faults, folding, and frequent seam partings) and the inherently unstable nature (i.e. low shear strength) of the overburden make full scale underground mining infeasible for safety reasons and economically impractical. The Corps consulted with Glenn Waugh, Office of Surface Mining Olympia Office, and believes these arguments are valid. We have concluded that this alternative would be neither practicable nor reasonable in terms of cost and technology.

5. In-Situ Coal Gasification. Adoption of this technology is not yet widespread and solutions to substantial technical problems are still being developed to adapt the technology to individual site conditions. It would require a number of years for TransAlta to acquire and determine whether the technology could work at this location, develop staff and professional expertise, purchase and install infrastructure, and retrofit its powerplant to implement this alternative. The Corps concluded that this alternative is neither reasonably available nor practicable for TransAlta because of the long lead time to apply the new technology and adapt its powerplant equipment.

Nothing in the public record suggests the existence of a less damaging practicable alternative than the applicant's proposal. Neither agencies, treaty Indian Tribes, nor the general public had any comments or suggestions about alternatives.

I have conducted an independent analysis of the project alternatives. My conclusion is that the project represents the least environmentally damaging practicable alternative available to the applicant capable of achieving the proposal's purpose. All presumptions involving practicable alternatives in special aquatic sites have been adequately rebutted.

IV. Mitigation

As part of the original application, the applicant voluntarily submitted a mitigation plan designed to compensate for the direct loss of 2.68 acres of wetlands and for indirect impacts of coal train operations on wildlife habitat associated with noise and human activity and on water quality associated with water borne contaminants primarily from coal. A substantial portion of these impacts including 0.47 of an acre of direct loss and 4.6 acres of indirect impact would occur to wetlands and a proposed creek channel within

the designated, but not yet constructed, mitigation site for DA permit 200400909. These BHC mitigation area impacts are acknowledged in the rail upgrade mitigation plan, but replacement acreage on acre-for-acre basis will be incorporated with planting plans and other features into the BHC mitigation plan for DA permit 200400909. The Corps' approval of the detailed BHC mitigation plan is pending at the time of this writing.

A. Mitigation Rationale. The proposed compensatory mitigation for direct and indirect impacts of the rail upgrade is outlined in the document entitled, *Wetland Mitigation and Monitoring Plan, Rail Upgrade Project, TransAlta Centralia Mining*, prepared by Jones & Stokes, dated May 2007, including an Errata Sheet, dated 6 June 2007. Mitigation impacts and proposed compensatory mitigation for direct and indirect impacts outside and inside the BHC mitigation site are summarized in Table 1 below.

1. Direct Impacts - Mitigation ratios for direct impacts outside of the original BHC mitigation site were developed in accordance with guidance recommended in Chapter 6 of the report, *Wetland Mitigation in Washington State – Part 1, Version 1*, Washington State Department of Ecology et al., dated March 2006. Side-by-side preservation and enhancement/rehabilitation components provide synergistic functional lift to this portion of the floodplain: the plant communities and habitats of the preservation area will, over time, be expanded with the adjacent plantings; and the enhancement area, surrounded by preserved ash forest, will become higher functioning than it would if isolated. All areas remain connected hydrologically to the restored streambed of Big Hanaford Creek (mitigation associated with 200400909).

Preservation. The preservation areas (12 acres) will provide protection of adjacent high quality forested habitat, proximity of populations of native-plant seed sources, and interconnectivity of hydrologic functions. Preservation of this forested wetland is an appropriate component of the mitigation plan because of its maturity, its adjacency to the re-aligned Big Hanaford Creek project, and the relative rarity of this forested system in the Chehalis watershed. In addition, the forest is under moderate threat of being cleared for timber. According to the guidelines referenced above, a 10:1 (mitigation to impact) ratio is the lowest ratio (i.e., most credit) appropriate for preservation in combination with other kinds of compensatory mitigation.

Enhancement/Rehabilitation. The enhancement/rehabilitation ratio of 6:1 (rather than 4:1 or 8:1) is appropriate for the following reasons: a) the adverse impacts are split between Category II and III wetlands; b) 8.77 acres of existing wetland habitat will be enhanced with plantings, 2 acres of which will also be re-graded to rehabilitate hydrologic functions; and c) there is a high probability of success because the area is adjacent to the original Big Hanaford Creek re-alignment project that restores natural riverine hydrology to the floodplain.

2. Indirect Impacts - Indirect impacts include: a) movement over time of coal leachate contaminants from standing rail cars into the nearby BHC Creek and floodplain and downstream to the Chehalis River system; b) degradation of existing high quality habitat west and downstream of the BHC mitigation site; and c) degradation of target

conditions for habitat, water quality, and functional lift in the BHC mitigation site, which TransAlta provided as mitigation for aquatic losses caused by the Kopiah project (200400909; KESA, Pond 47 and associated mining).

Inside BHC Mitigation Site. Within the BHC mitigation site, we are approving the following mitigation measures to minimize these impacts and decrease risk:

- moving the proposed relocated BHC channel so that it will be at least 220 feet from the north edge of the proposed rail upgrade project;
- planting the area between the new stream location and the proposed railroad bed with emergent and other vegetation to promote wetland water quality protection functions; and
- replacing original BHC mitigation site acreage (4.59 acres) within 220 feet of the north edge of the proposed rail upgrade project with equivalent acreage elsewhere in the BHC floodplain.

The 220-foot wide zone of indirect impacts will remain part of the BHC mitigation project and serve as a buffer between the railroad and the newly re-aligned BHC. The estimate of a 220-foot zone of impact within the BHC mitigation site was derived from recommended buffer widths for protecting Category II (target condition) wetlands with high intensity (industrial) adjacent land use and moderately high habitat scores. The guidance, based on best available science, is contained in Appendix 8-C, *Wetlands in Washington State (Volume 2)*, Washington State Department of Ecology, dated April 2005.

Outside BHC Mitigation Site. In the Category II forested wetland west of the BHC mitigation site, mitigation for indirect impacts is provided by a no-disturbance strip between the north edge of the proposed upgraded railbed and the existing (channelized) BHC. The width of this area ranges from 220 to approximately 240 feet. We determined that this mitigation appropriately addresses the most potentially serious water quality impacts associated over time with heavy metals, acid and other coal leachate discharges from standing rail cars. Our tolerance for risk associated with indirect impacts in this area is only moderate because of the lack of site-specific and cargo-specific data, the existing high quality wetland, and the proximity of BHC, which functions as fish habitat and could also provide a conduit for toxins off-site and downstream. In addition, this channelized portion of BHC is contiguous with anadromous fish habitat being created and restored immediately upstream in adjacent mitigation sites.

For indirect impacts outside and east of the BHC mitigation area, we are approving mitigation in the form of an 80-foot wide no-mow strip north of the proposed rail upgrade project. This buffer strip is smaller than the one to the west of the mitigation site because much of it is located in Category III palustrine emergent wetlands or similar portions of other wetlands. The existing grasses, left undisturbed, will provide water quality protection functions between the railbed and the extensive floodplain wetlands. Re-aligned BHC will be farther away from this portion of the proposed railbed than it will be downstream within and west of the original BHC mitigation site. Our tolerance for risks associated with indirect project impacts east of and outside the BHC mitigation site is

higher than elsewhere because of the lower habitat scores of impacted wetlands and the substantial distance of the rail sidings from BHC.

Table 1. Compensatory Mitigation for Direct and Indirect Wetland Impacts of Proposed TransAlta Rail Upgrade

Location and Type of Wetland	Wetland Impact – Acres		Compensatory Mitigation – Acres and Description	
	<i>Direct</i>	<i>Indirect</i>	<i>For Direct Impact</i>	<i>For Indirect Impact</i>
<i>Outside Original BHC Mitigation Project</i>				
PFO	0.09	4.1	12 (PFO preservation at 10:1 ratio)	4.1 (220-ft wide no-action zone)
PSS	0.60	0	<i>and</i>	0
PEM	1.99	9.64	8.77 (0.72 PEM, 0.88 PSS, 7.17 PFO enhancement/rehabilitation at 6:1 ratio)	9.64 (80-ft wide no-mow zone)
Total Outside Original BHC Project	2.68	13.74	20.77 (ratio = 7.75:1)	13.74
<i>Inside Original BHC Mitigation Project</i>				
PFO	0.24	1.39		
PSS	0.23	3.00		
PEM	0	0		
Open water channel	0	0.20		
Total Inside Original BHC Project	0.47	4.59	0.47 (additional acres incorporated into Original BHC Project)	4.59 (additional acres incorporated into Original BHC project)

PFO – Palustrine Forested, PSS – Palustrine Shrub-scrub, PEM – Palustrine Emergent.

B. Mitigation Function. The proposed mitigation will enlarge an existing floodplain restoration project; provide additional wildlife habitat and habitat diversity, enhanced food web support, and increased floodwater storage and peak flow desynchronization; and maintain water quality in BHC. Implementation of this plan will mitigate for direct

wetland impacts at an overall ratio of 7.75:1. It will also minimize potential indirect impacts to water quality and fish habitat in nearby BHC by relocating the re-alignment in one area and by preventing de-vegetation of the areas alongside the rail siding.

C. Mitigation Acceptance. The Corps has evaluated the proposed Mitigation Plan. I have determined that the Mitigation Plan will result in the preservation, enhancement and rehabilitation of wetlands in rough proportionality to direct and indirect project impacts. The mitigation plan proposed by the applicant is reasonable and has been specifically designed for this project site to compensate for the loss of wetlands and their functions, which will occur during project construction and operation. I have determined that the impacts to wetlands with the addition of special conditions "b" through "f" listed in section IX, are not contrary to the public interest and in compliance with the Guidelines. Special condition "f" for financial assurance was included because changing economic and financial circumstances have the potential to affect the permittee's ability to fully implement the proposed plan in a timely manner.

V. Environmental/Public Interest Factors Considered and Factual Determinations

The Corps has evaluated both the individual and cumulative impacts of the proposed work. In cases where information is limited or uncertainty high, conclusions are based on a precautionary principles a rather than a pre-ponderance of information approach. Possible alternatives to reduce identified adverse impacts have also been considered and incorporated where practicable. [33 CFR 320.4(a)(1) and 40 CFR 230.11]

A. Affected Environment: See Section I.B. of this document.

B. Physical and/or chemical characteristics and anticipated changes:

(x) **Substrate:** An 8,500-foot long by 40-foot wide strip of soil, including 2.68 acres of wetland soils, will be graded, compacted, and covered with up to 2 feet of pervious railroad rock sub-ballast and ballast. The existing wetland soils are a silty clay loam in the upper 8 inches and silty clay below 8 inches, and have high water holding capacity, but drain very poorly. Other than intermixing of upland and wetland soils, and mechanical compacting, these same soils will be retained in approximately their original condition. Cut and fill areas within the wetland soils generally will be no more than 1 foot in depth. In the proposed project mitigation area, the existing soil may be stripped, disked, and tilled during a 2-year establishment phase to remove reed canarygrass and install plantings, but will be otherwise left undisturbed. Also, livestock will have been removed and no longer compact the soil. I have determined that the impacts to substrates are not contrary to the public interest.

(x) **Currents, circulation, and drainage patterns:** Once the project is constructed, water in former wetland areas will no longer pond or flow across an exposed native soil surface. Instead precipitation will percolate through the rock ballast, and saturate the fine soil surface in some locations, and seep northward (downhill) along the former soil surface toward BHC. A shallow

ditch that is present along some portions of the north side of the existing railroad spur will be re-created on the north edge of the new rail sidings and will continue as before to either infiltrate water or overflow into adjacent wetlands. Roadside and hillside drainage would continue through the extended culverts as it has historically. Drainage patterns would not change substantially as a result of the proposed project. In the project mitigation area, one 200-foot length of drainage ditch affecting a few acres of wetland would be filled in to return floodplain drainage to more natural conditions. I have determined that the impacts to aquatic and terrestrial drainage patterns are not contrary to the public interest.

- (x) Suspended particulates, turbidity: By completing ground clearing and grading work during the summer dry season and applying best management practices such as a shallow collection ditch and silt fence, the applicant will minimize the risk of turbid water and suspended sediment washing more than a few feet outside the project construction zone and the project mitigation area. Except in the BHC mitigation area, existing grass vegetation will also act to retard or prevent turbid water and suspended sediment from traveling more than a short distance from the construction area. Expedient planting of emergent vegetation and cover crop seed mixes, silt fences, and other measures would minimize risk of erosion from the proposed project area into the BHC mitigation area. Once construction is completed and vegetation re-established, very little ground surface would be exposed to erosion. The railroad ballast and adjoining re-vegetated areas would also trap small quantities of air- or water-borne particulates that may originate from the coal cars. I have determined that the impacts to water quality from sediment and turbidity are not contrary to the public interest.
- (x) Water quality: Potential sources of increased contaminants include minor leaks and accidental spills of fuel, lubricants, and solvents from machinery and trains during construction and operation, from creosote impregnated railroad ties, from herbicides sprayed along the rock ballast to control vegetation, and materials leached and flushed from coal cars. All of this potential increase in discharge would occur on the site of the proposed 8,500-foot railroad sidings. Activities that generate these potential contaminants have occurred for over 35 years along the existing railroad spur and along railroads throughout the country.

The risk of potentially toxic machinery and railroad tie contaminants entering soils and waters adjacent to the project site is minimal because of their limited solubility, high potential for adsorption, and typically very small volume.³ Accidental spills of fuel and oil would be controlled by prevention and containment measures that TransAlta is prepared to apply

³ For creosote's environmental properties, see Tagatz, M.E., G.R. Plaia, C.H. Deans, and E.M. Lores, Toxity of Creosote-Contaminated Sediment to Field and Laboratory Colonized Estuarine Benthic Communities, in *Environmental Toxicology and Chemistry* 2:441-450, 1983.

under its existing Integrated Contingency Plan (2003) for spill prevention, control and countermeasures.

TransAlta may apply herbicide once annually in the spring or early summer to control vegetation that grows in the railroad ballast. Typically a state-licensed applicator uses pressure spray equipment mounted on a "hi-rail" equipped truck to apply the herbicide to a 12.5-foot area on each side of the track centerline. A review of literature for glyphosate, the herbicide TransAlta uses, indicates that it is very water soluble, but can rapidly bind to soil particles and be inactivated when it comes into contact with soil.^{4 5} Surfactants used in herbicide formulations for terrestrial application are of more concern in aquatic areas even more than the herbicide itself. Project site soils have a high percentage of silt and clay which would tend to promote adsorption, especially of the glyphosate. During the summer and early fall, the soils would have partially dried and reached their maximum capacity to absorb any residual herbicide and surfactants that might percolate through the railroad ballast with the first rains of the fall-winter wet season. The herbicide does have the potential to contaminate surface waters if soil containing the herbicide is eroded, but the rail upgrade area soils will be covered and not exposed to erosive forces. Cox mentions one study that indicates glyphosate can also be rapidly desorbed under some conditions, but failed to list this study in the citations.⁶ Other studies cited by both EPA and Cox show a chemical half-life ranging from 3 days in Texas, 141 days in Iowa, to 1-3 years in Swedish forest soils.⁷ Results of acute and chronic toxicity evaluations cited by EPA for glyphosate and surfactants showed mostly slightly toxic to non-toxic effects for invertebrates, freshwater fish, and upland and aquatic birds.⁸ These tests were designed to test toxicities close to the point of application under worst-case risk conditions. Based on this information, we concluded that herbicide application is likely to have little affect on water quality beyond the rail sidings: (a) conditions are much less than worst-case at the rail upgrade site given the infrequent applications; (b) the clay soils will tend adsorb herbicide and surfactants; (c) the herbicide will likely break down in the temperate Pacific Northwest climate before it can disperse from the rail sidings.

Over the course of a year, TransAlta would transport about 4.9 million tons of coal through the rail upgrade area. Given TransAlta's unloading rate of 16 hours per train, this equates to an average full time storage of 14,000 tons

⁴ US EPA, Re-registration Eligibility Decision Document – Glyphosate, September 1993, p.33

⁵ Tu, M., C. Hurd, R. Robison, and J.M. Randall, in *Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas*, The Nature Conservancy, November 2001

⁶ Cox, Caroline, Glyphosate Factsheet, *Journal of Pesticide Reform* 108:3, Fall 1998, revised October 2000

⁷ *ibid*

⁸ US EPA, 1993

of coal over the existing and proposed tracks.⁹ The presence of contaminants at high concentration in some coal leachates and the demonstration of biological uptake of coal-derived contaminants in a small number of studies suggest that precipitation could wash potentially toxic amounts of potential chemical contaminants from loaded and unloaded coal cars.^{10 11} Potential contaminants include aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, nickel, lead, mercury, selenium, compounds of sulfur, zinc, polyaromatic hydrocarbons, and other organic compounds and acids.

The potential for these contaminants to leach from TransAlta's coal cars into the railroad ballast would depend on a variety of factors including the coal source, its degree of hardness, the exposed surface area of the coal, presence of water to transport the materials, pH (which is strongly correlated to the presence of sulfur/sulfides), oxidation rate (which is accelerated by heat and water), adsorptive properties through which the materials pass, and the presence and absence of contaminants in the coal itself. Leachate studies conducted by Coward et al and a few others cited in Ahrens (2005) indicate that concentrations of metals, total dissolved solids, and other compounds in coal leachate at TransAlta would be relatively low because of Powder River Basin coal's generally low to very low sulfur content and associated near neutral pH.¹² Most Powder River Basin (PRB) coals are low in sulfur, but modest quantities of medium-sulfur PRB coals are also available.¹³ TransAlta did not provide any coal- or site-specific data on existing or potential discharges of coal contaminants from their rail operations.

⁹ Under existing operations up to an average of 8,400 tons of coal is presently stored on the railroad spur.

¹⁰ Ahrens, MJ, DJ. Morrisey, *Biological Effects of Unburnt Coal in the Marine Environment*, in *Oceanography and Marine Biology – An Annual Review*, Volume 43, 43: 69-122, 2005.

¹¹ Seasonal precipitation patterns would tend to limit most discharges of water-borne contaminants from the coal cars to the fall-winter rainy season. Leaching at whatever rate would not be a year-round or everyday occurrence. Lewis County Soil Survey (1980) data (Table 1) indicate an average of 116 days per year with 0.1 inch or more of precipitation at Centralia.

¹² Coward, N.A., J.W. Horton, *Static Coal Storage Chemical Effects on the Aquatic Environment*, U.S. Environmental Protection Agency Report EPA/600/3-80/083A, August 1980. Coward et al found that pure water removed 0.1 to 0.5 percent of the metals in coal over the leaching period. Leachate from low sulfur coals tends to have a near neutral pH which results in less leaching and relatively slow weathering of the coal. Precipitation at Centralia west of the powerplant also would generally have a near-neutral pH of around 6.9 – 7.0 (personal communication with Larry Schick, Seattle District meteorologist) which would be close to the pH of the pure water used by Coward.

¹³ Low sulfur high grade bituminous coal contains less than 0.8 percent sulfur by weight. U.S. Department of Energy, Energy Information Agency, EIA Coal Reserves Data Base program, Appendix A: Detailed Estimates of Demonstrated Reserve Base and Estimated Recoverable Reserves for U.S. Coal by Heat and Sulfur Content,

We concluded there is little quantitative information about how much leachate Powder River Coal would generate under local conditions, about likely concentrations of contaminants in the leachate, how much and fast the various chemical contaminants would accumulate and move over 20+ years, to what extent these contaminants would be biologically available, and at what levels of uptake by organisms could occur before sub-lethal effects become evident. Also, while much of the Powder River Basin coal is very low or low sulfur, there are no guarantees in place that this type of relatively benign coal would always be transported on the proposed rail upgrade. There are also no restrictions against future expansion of the powerplant and associated increases in coal imports. In light of these uncertainties and the potential risk of wider distribution of contaminants in the Chehalis River basin downstream of the proposed project, we concluded incorporation of the following pre-cautionary risk minimization measures into the rail upgrade and Kopiah project (200400909) mitigation plans are necessary:

(a) create a zone of dense emergent vegetation between the north edge of the rail upgrade and the relocated BHC within the existing BHC mitigation area to buffer the mitigation site;

(b) construct the new BHC channel, planned for construction in summer of 2007, at least 220 feet from the north edge of the proposed rail upgrade project¹⁶;

(c) require that the permittee maintain an 80-foot wide no-mow strip north of the edge of the rail upgrade; and

(d) create a no-disturbance strip (at least 220 feet wide) west of the existing BHC mitigation area between the rail upgrade project and the south bank of BHC.

The first two pre-cautionary measures are appropriate, given the uncertainty about potential water quality effects, to protect the integrity of the BHC compensatory mitigation site and ensure that it can and will provide the expected functional lift and high habitat quality. These measures are also necessary to minimize the potential for contaminants to enter the Chehalis River system and disperse quickly, albeit diluted, over a wider area. The third and fourth pre-cautionary measures are to collect and help minimize

¹⁶ Estimate of width of potential impacts zone derived from recommended (best available science) buffer widths for protecting wetlands, contained in Appendix 8-C, *Wetlands in Washington State (Volume 2)*, Washington State Department of Ecology, dated April 2005.

the dispersion of any contaminants that might originate at the railroad upgrade project site outside the BHC mitigation site.

I have determined that the impacts to water quality from vegetation management, train operations, and temporary coal car storage are not contrary to the public interest provided these protective measures are taken and the permittee complies with State of Washington Section 401 Water Quality Certification requirements.

- (x) Flood control functions: While the Federal Emergency Management Agency (FEMA) has not calculated the 100-year flood elevation for Big Hanaford Creek, FEMA mapping indicates this elevation is somewhere between elevation 200 and 210 feet. The railroad sidings existing ground elevation is around 205 feet, so based on the estimated volume of fill, the maximum 100-year flood displacement would be about 6-acre feet.²² Our calculations indicate this loss of flood storage would increase water surface elevation during a 100-year flood event across the rest of the valley by only a few hundredths of an inch. Because the proposed fill would be placed at a relatively high elevation in the floodplain fringe, the proposed project would not affect water surface elevations and flows during relatively frequent and infrequent flood events. I have determined that the impacts to the BHC flood plain are not contrary to the public interest.

- () Erosion and accretion patterns:
 () Storm, wave and erosion buffers:

²² Based on maps prepared by FEMA and Jones & Stokes. Contour maps prepared by Washington Group International show the existing rail and proposed rail upgrade about 9 feet higher than indicated on the Jones & Stokes maps.

[Note: no footnotes are missing. Some residual code from previous revisions is "hiding" in the WORD line code for footnotes.]

²⁴ Federal Transit Administration, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006. Decibel levels for locomotives estimated from tables 6-3 and 6-18.

- () Aquifer recharge:
- (x) Baseflow: The proposed project would have no effect on baseflows because it would not interrupt the free movement of surface or groundwater, and the fill would be pervious.
- () Mixing zone:

C. Biological characteristics and anticipated changes:

- (x) Special aquatic sites [wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries, and refuges, as defined in 40 CFR 230.40-45]: About 2 acres of emergent, 0.6 of an acre of scrub-shrub, and 0.1 of acre of forest fringe wetland would be graded and filled as a result of the proposed project. Wetland functions that would be adversely impacted include faunal habitat, production and export of plant material, and removal of nutrients, heavy metals and toxic organics. The sediment and erosion reduction functions would be only temporarily impaired. The habitat function was rated at low to moderate levels because of mostly low species and structural diversity, proximity of the 8,500-foot strip to the existing railroad spur and county highway, and proximity to other large, higher quality wetland areas. Other functions were rated at moderate levels because of the dense emergent vegetation and fairly flat topography. A detailed explanation of the existing aquatic functions for wetlands is provided in Section IV Mitigation. I have determined that the impacts to the affected wetlands are not contrary to the public interest.
- (x) Habitat for fish and other aquatic organisms: The proposed project would not cross or require placement of fill in any stream. A few hundred feet of the restored Big Hanaford Creek (BHC) would be constructed in the summer of 2007, 150 - 300 feet from the north edge of the proposed railroad siding ballast. We concluded that train operations have the potential to affect water quality in BHC based on an estimate of extent of potential impacts derived from recommended (best available science) buffer widths for protecting wetlands, contained in Appendix 8-C, *Wetlands in Washington State (Volume 2)*, Washington State Department of Ecology, dated April 2005. Our analysis in the water quality section of this document also identifies potential water quality problems from coal leachate. To minimize the potential for any adverse affects on steelhead, coho salmon and other aquatic species and habitat in BHC, mitigation measures must include construction of the new BHC channel (under DA Permit 200400909) at least 220 feet from the north edge of the proposed rail upgrade project (see water quality section above). I have determined that the impacts to the stream habitat for fish and other aquatic organisms are not contrary to the public interest provided the relocated BHC channel is at least 220 feet away from the edge of the proposed rail upgrade project.
- (x) Wildlife habitat [breeding, cover, food, travel, general]: The directly impacted 8 acres of on-site habitat consists primarily of non-native

berbaceous grasses, dominated by reed canarygrass. A small shrubby area and 0.1 of an acre of forest fringe may provide some resting and foraging habitat. Due to the paucity of scrub-shrub browse and cover, deer would not utilize the area heavily. Observations by the Corps and mine personnel indicate the elk presently prefer grazing in more remote areas of the mine. The Corps, applicant, and agent (Jones & Stokes staff) have not observed waterfowl using the proposed directly impacted pasture areas. Passerine birds have been observed in this area during the daytime, primarily the small area where brush and/or trees are present. The proposed project is likely to kill small rodents (mice, voles) with smaller territories or displace them to adjacent habitats that might be already fully occupied by their own or competing species. Most invertebrates on-site would be killed directly by the proposed construction activity. Based on surveys conducted in the Big Hanaford basin by the applicant's agent and the Washington State Department of Fish & Wildlife, except for a few amphibian species which are unlikely to inhabit the rail upgrade site, populations of vertebrate wildlife species and supporting habitat in the proposed project area are not considered rare, unique, or particularly slow at reproducing and colonizing.

The proposed project site is surrounded by several hundred acres comprised of roughly equal amounts of wetland and upland forest and former pasture that supports in excess of 40 avian, 20 mammalian, and about 6 reptilian and amphibian species. Most bird species are passerine, but a few kinds of waterfowl, wading shorebirds, and raptors are each also present. Some of the birds are migratory, but most species of the wildlife are resident in the project vicinity. About half of the documented avian species within the area are closely associated with wetland and pond habitat.

While large areas of former pasture dominated by reed canarygrass presently exist north of the proposed project, much of this area is being transformed by TransAlta's BHC mitigation project (DA permit 200400909) into a diverse mixture of riparian and wetland emergent, scrub-shrub, and forest habitat. In the future this area is expected to provide forage, cover, breeding for a more diverse and larger population of mammals, micro-crustaceans, insects, songbirds, waterfowl, and raptors. These populations, particularly those in close proximity to the proposed project, potentially could be affected by coal train operations and rail bed maintenance activities including noise and vibration from diesel-electric motors, rail coal car movements, herbicide treatments, drainage from coal cars during rainy periods, and the physical hockage of parked coal trains. Of these indirect impact factors, noise and intrusive movement are the most certain to occur. As discussed under water quality, herbicides and contaminants from coal cars are expected to represent a somewhat uncertain risk of occurrence and/or effect to fish and wildlife beyond the proposed project footprint.

An arriving, departing or unloading train, about 50 feet away from the diesel-electric engines would register approximately 80 decibels (dBA (max)).²⁴ The extent to which the noise, ground vibration, and equipment movement might disturb wildlife is unclear because disturbance depends on several factors about which only limited scientific information is available. The foremost among these include a lack of knowledge of what kinds and levels of sound and motion constitute a disturbance threshold for each species. Even if we were to observe flushing and avoidance behavior, it would help us identify severe stress, but not the effects of less extreme levels of stress.²⁵ A review of the literature on noise impacts indicates that knowledge about effects on one species cannot be generalized to other species, and that animals vary widely in their perception of, and sensitivity to various frequencies, energy levels, durations, and modulations of noise.²⁷ Susceptibility to noise also varies with time of day, season, and life cycle stages. Generally, impulse noise appears to be more stressful to wildlife, at least in part due to the unpredictability of such noise.²⁹ All information sources consulted for this evaluation noted that habituation to all kinds of noise situations is common and favored when sounds/stimuli are predictable and recurring.

Some anecdotal information is available. Our observation is that many of the species presently found in the project area are often found within 50 feet of busy roads and railroads. In an interview on 23 March 2007, Kenneth Brunner, a wildlife biologist expert and ESA Program Coordinator with the Seattle District Corps, stated that train noise and activity would likely have little, if any, impact on wildlife including birds. He acknowledged there could be a species or two that we are not as familiar with that could, but does not presently reside in the area, that might be affected by noise and train activity. But this would be the exception rather than the rule. All the common species either adapt or have stress thresholds that are not usually exceeded. In addition, he has performed bird censuses in the Big Hanaford valley and along the railroad mainline and road between Bucoda and Tenino where he did not notice variations in bird counts (abundance or diversity) due to proximity to the railroads. He did notice variation based on the presence of open, forest and scrub-shrub habitats along the railroad. He also noted that the bird species present near the passage of fast moving freight trains did not flush before or during train passage. Therefore, we believe the risk of adverse effects from noise and train movements is generally low, particularly in view of the fact that train and highway noises and movement are already a well established part of the proposed project environment. The

²⁵ Larkin, Ronald P., Larry L. Patter, and David J. Tazik, *Effects of Military Noise on Wildlife: A Literature Review*, US Army Corps of Engineers Construction Engineering Research Laboratories, January 1996.

²⁷ Ibid.

²⁹ Larkin et al 1996 cited in *Wetlands in Washington State, Volume 1*, March 2005.

proposed increase in train operations would not change peak (max) decibel levels or pattern of emission frequencies (as in wave length). The increased frequency and duration of train operations would increase average day/night decibel levels for wildlife (but as heard by humans) by up to about 2 decibels at the proposed project and mitigation sites.³⁰ I have determined that the impacts upon fish and wildlife are not contrary to the public interest.

(x) Endangered or threatened species: Listed below are the species, listed under the Endangered Species Act of 1973, as amended, that occur in the project area and the Corps' determination of effect.

- Bald eagle (*Haliaeetus leucocephalus*) threatened, no effect.
- Puget Sound bull trout (*Salvelinus confluentus*) threatened, no effect; no effect on designated critical habitat.
- Canada lynx (*Lynx Canadensis*) threatened, no effect.
- Gray Wolf (*Canis lupus*) threatened, no effect.
- Grizzly bear (*Ursus arctos*) threatened, no effect.
- Marbled murrelet (*Brachyramphus marmoratus*) threatened, no effect; no effect on designated critical habitat.
- Northern spotted owl (*Strix occidentalis caurina*) threatened, no effect.
- Kincaid's lupin (*Lupinus sulphureus kincaidii*) threatened, no effect.
- Nelson's checker-mallow (*Sidaicea nelsoniana*) threatened, no effect.

The biological evaluation (BE), *Rail Upgrade Project, TransAlta Centralia Mining LLC*, dated January 2007, prepared by Jones & Stokes provides supporting documentation to our determination. I have determined that the proposed project would not affect listed endangered or threatened species, and therefore approval of the project would not be contrary to the public interest.

(x) Essential Fish Habitat: In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Corps assessed the potential impacts of the project on Essential Fish Habitat (EFH). The project area does not include any EFH for Pacific salmon, groundfish, coastal pelagic species.

(x) Biological availability of contaminants: See water quality section above.

D. General Evaluation of Dredged and Fill Material (230.60): Not using.

E. Human Use Characteristics and Impacts:

() Water supplies and water conservation:

³⁰ Jones & Stokes, *TransAlta Rail Upgrade Project Environmental Assessment*, December 2006, Section 3.16, Table 3.13-4. Computations by Jones & Stokes follow conventions and methods used by the Federal Transit Administration.

- () Recreational, or commercial fisheries:
- () Other water-related recreation:

- (x) Aesthetics of the aquatic ecosystem: The principal potential viewing area is from Big Hanaford Road. Otherwise there are no residences, recreation sites, or other public/private locations that could be important viewpoints. The proposed project would increase the view of ballast/railroad tracks in the foreground when viewed from Big Hanaford Road. One or more rows of coal cars would usually be present, and at least partially and intermittently obscure northerly views across the Big Hanaford valley including the BHC mitigation area. The coal cars would also become part of the foreground view of more distant hills and mountains. I have determined that the aesthetic impacts are not contrary to the public interest.

- () Parks, National and Historic monuments, National Seashore, Wild and Scenic Rivers, wilderness areas, research sites, etc.:

- (x) Traffic, transportation patterns: Proposed project construction activities are likely to cause short-term traffic increases on Big Hanaford Road between State Route 507 and the powerplant. However, this increase would be insignificant when compared to the amount of traffic that transited the area until the November 2006 closure of the coal mine. The increased frequency of coal train deliveries would result in 15-minute blockages at the Big Hanaford Road railroad crossing 14 times per week compared to the current 6 times per week. Some of these crossings would occur later in the night when there is little road traffic. The train crossings may delay emergency responses, but this is unlikely because the train movements are limited in number and duration. Also, in most situations, emergency vehicles could use one of two alternate routes between the powerplant and the city of Centralia. I have determined that the projected traffic impacts are not contrary to the public interest.

- (x) Energy consumption or generation: Based on an analysis by Jones & Stokes, the incremental importation of coal would require about 7.7 million gallons per year of diesel fuel.³¹ This round-trip consumption figure represents about 2.4 percent of the heat content of each trainload of coal imported from Wyoming and Montana. This small figure represents a reasonably efficient and sustainable use of the nation's energy resources. I have determined that effects on the nation's energy supply sustainability and efficiency are not contrary to the public interest.

- () Navigation:
- () Safety:

³¹ Jones & Stokes, *TransAlta Rail Upgrade Project Environmental Assessment*, December 2006, Section 3.8

- (x) Air quality: Hydrocarbon and particulate emissions from nearly continuous operation of two roughly 4,000 horsepower diesel locomotives (and temporary construction equipment) would be very small, especially when compared to the fleet of 200 ton trucks, excavators and other equipment that was operating in the nearby coal mine until November 2006.
- (x) Noise: The proposed project would increase noise levels in the Big Hanaford valley as a result of rail siding construction activities and the increased frequency of train operations from the current three trains to the proposed seven trains per week. The construction noise would occur over a 5-month summer-fall period, primarily if not entirely during the daytime. Potentially sensitive (human) noise receivers are limited to only one occupied residence 500 feet at its closest point to the edge of the construction area. Sporadic noise from train operations could occur for the estimated project life of about 20 years at any time of day and night, and would affect potentially sensitive receivers located along the existing, approximately 4-mile rail spur. These receivers include the occupied residence mentioned above, about five residences located within 500 feet of the railroad spur along Wigley Road, and a few more dozen more residences most of which are located 1,000 feet or more from the railroad spur near Wigley and Big Hanaford Roads. A noise impact analysis prepared by Jones & Stokes for the applicant indicates small increases in average day/night noise which would be perceived as low impact according to other Federal Transit Administration studies.³² We have reviewed and concur with Jones & Stokes' methodology and data sources. We also concur with the conclusions except we believe the increase to an average of two daily, 20-minute long train movements (including road crossing warning whistles) may be perceived as annoying by occupants of the five residences directly abutting Wigley Road. I have determined that the noise impacts upon people are not contrary to the public interest.
- (x) Historic properties [Section 301(5) National Historic Preservation Act]: Archeologists employed by TransAlta conducted a literature search, a review of previously conducted surveys and recorded sites, and a pedestrian survey of the proposed project site on longitudinal 5-meter transects. The results of this study are contained in Jones & Stokes' *Cultural Resources Technical Report, Rail Upgrade Project, Lewis County Washington*, December 2006, prepared for TransAlta Centralia Mining LLC. No new or existing potential historical/archeological resources were identified that could be affected by the proposed project. The proposed mitigation site was not surveyed, but we believe there will be no impacts to cultural resources because disturbance will be limited to cultivation and planting within the top foot of soil on less than 9 acres of previously disturbed pasture and

³² Ibid., Section 3.16. The study described in the Federal Transit Administration's report, *Transit Noise and Vibration Impact Assessment*, May 2006, involved a survey where respondents described their level of discomfort to various noise levels and noise changes over various time periods and conditions.

cropland. In addition to public notices sent to tribal representatives, we contacted (by telephone and email) Glenn Connelly and Richard Bellon, respectively the natural and cultural resources contacts for the Confederated Tribes of the Chehalis, who did not identify any cultural resources important to the Tribes. Mr. Bellon requested that an "inadvertent discovery" special condition be included as a permit condition and indicated that monitoring during construction by a trained archeologist would not be necessary. We have added permit special condition "g" covering the discovery of cultural resources during construction. I have determined that proposed project is not contrary to the public interest because there are no adverse impacts to historic and cultural resources.

() Land use classification:

(x) Economics: Electric power derived from coal burned by the powerplant is an essential commodity in the Pacific Northwest economy and electric power system. The loss of regional income and employment as a result of the Centralia mine closure in November 2007 was not instigated by the proposed rail upgrade project. I have determined that proposed project is not contrary to the public interest because there are no adverse economic impacts.

(x) Prime and unique farmland [7 CFR Part 658]: About 2.7 acres of the 8-acre project site meet the soil requirements for designation as prime farmland when irrigated.³³ The 21-acre proposed mitigation site is not located on prime farmland soils. The applicant has minimized impacts to prime farmland and its overall integrity by locating the proposed project along the prime farmland fringe and along an existing road and railroad transportation corridor. I have determined that the impacts upon prime and unique farmland are not contrary to the public interest.

() Food and fiber production:

() General water quality:

() Mineral needs:

() Consideration of private property:

() Other:

F. Summary of secondary and cumulative impacts [230.11(h), 230.11(g)]: The Corps conducted an independent analysis of potential cumulative impacts to wetlands, streams, fish and wildlife by the proposed project inclusive of past, present, and reasonably foreseeable future actions based on information submitted by TransAlta.³⁴ The geographic basis for this analysis was the

³³ Jones & Stokes, *TransAlta Rail Upgrade Environmental Assessment*, December 2006, Figure 3.1.1; and Natural Resources Conservation Service, *Lewis County Soil Survey*, 1980, p. 211.

³⁴ TransAlta Centralia Mining, LLC, *Kopiah Project Cumulative Impacts Analysis, TransAlta Centralia Mining, LLC, Kopiah Project*, prepared by Jones & Stokes, May 31, 2005, for the technical analysis of past present and future conditions for the Hanaford Creek watershed. Data sources for wetlands and wildlife

Hanaford Creek watershed. The proposed rail upgrade project is not likely to facilitate any consequential secondary impacts such as mine expansions (e.g. the potential West Field mine) and other industrial developments while the generating plant is operating using imported coal. TransAlta has no plans to transport coal from the West Fields by rail; trucks or conveyors are much more flexible and economical.³⁵ The existing rail spur might provide access for new industrial developments should Lewis County, TransAlta and private developers set up a new urban growth boundary within the TransAlta Centralia mine as was made possible by the 2007 Washington State legislature (Senate Bill 6014). But this is completely speculative at this time.

Before year 1850, an estimated 17 percent (6,500 acres) of the watershed consisted of wetlands with an additional 1 percent supporting streams, side and back channels, and small tributaries. The remainder of the watershed consisted of low- to mid-elevation coniferous forests. The three major activities that changed and continue to affect the landscape over time were agriculture, forest harvest, and mining. They have altered nearly all wetlands in the region, the greatest concentration of which were and still are in the alluvial plains bordering all the lower gradient creeks and rivers below the headwaters. By 1970, and continuing to the present time, about 80 percent of the original wetland area had been either lost or converted to agriculture uses. Presumably most of these wetlands continue to exist, but at a considerably degraded functional level. The greatest aquatic function changes were altered hydrologic characteristics, loss and fragmentation of habitat, and decreased water quality from increased human activities.³⁶

The proposed project loss of 2.68 acres of wetland would reduce the existing 6,500 acres of total remaining wetland and wetland habitat in the Hanaford watershed by a tiny fraction. The proposed project would have no direct effect on streams and little if any effect on stream hydrology and water quality provided the new BHC channel is constructed at least 220 feet from the edge of the proposed project as TransAlta is now planning to do. This would reduce the possible risk of coal car leachate, herbicide, or other contaminants entering the Chehalis River system. While the proposed project and increased presence of coal cars would expand the partial road-railroad wildlife-plant dispersion barrier, this is not expected to appreciably increase habitat fragmentation over existing levels. TransAlta and Corps personnel have observed deer and elk, in

cumulative impact analyses included General Land Office records, Interactive Biodiversity Information System database, NRCS soil survey maps, and aerial photographs for 1970 and 2004. Stream and fish cumulative impacts were analyzed using the above data sources and an Ecosystem Diagnosis and Treatment model for the Chehalis River expanded to incorporate to include the Big Hanaford River watershed.

³⁵ Telephone conversation with Tony Briggs (TransAlta rail upgrade project manager) on 14 May 2007.

³⁶ Hydrologic alterations include incised creeks (indicating increased scour), loss of wetlands, isolation of streams from the flood plain, increased sedimentation and resulting degradation or loss of fishery habitat, increased stream high flows and decreased low flows. Stream water temperatures and sedimentation are both limiting factors for fishery support habitat.

particular, crossing the existing Hanaford Road and rail spur much less frequently than they are observed crossing other roads in and around the mine.

In considering reasonable foreseeable projects, no non-mining projects are currently being planned within the BHC watershed in Thurston or Lewis Counties, which is consistent with the likelihood that current land uses will remain the same (active agricultural, forestry, and mining practices) for the foreseeable future. There is only one new mining project in the early planning stages, TransAlta's expansion of the Centralia Mine to include a several thousand acre area designated as West Field. TransAlta plans to submit permit applications for this work to the Corps and OSM in early 2008. This project has the potential to adversely affect a few hundred acres of wetlands and streams in addition to the uplands. The 'at risk' resources in the Hanaford watershed of hydrology, habitat, and water quality may be adversely affected by the future proposal. Also, on-going and future reclamation of existing mining areas may eventually result in partial restoration of some of the historic landscape functions after completion of active mining. Reclamation progress to date has been very slow and limited.

Concerns we raised during our Kopiah permit application (200400909) evaluation about crossing the threshold of significant cumulative impacts to wetlands, wildlife, and streams with the next big coal mining project have been alleviated by TransAlta's elimination of the once planned Pit 7 Mine expansion project which would have caused the loss of over 100 acres of wetlands and thousands of feet of stream in the already severely degraded Packwood Creek sub-basin.

TransAlta has proposed mitigation to offset the potential physical, chemical, and biological impacts to wetlands, streams, and the species supported by these habitats. In the process of evaluating cumulative impacts, the Corps identified that wetland and other aquatic habitats as well as water quality were at risk of substantial degradation due to past impacts. The Corps' review of TransAlta's mitigation plan also covered the ability of the proposed mitigation to offset potential cumulative impacts to at-risk resources. The Corps believes that the proposed mitigation will adequately offset aquatic resource impacts while improving the potential to restore some of the historical watershed processes. We conclude this based on the focused attempt of the mitigation proposal to restore habitat diversity and landscape scale watershed hydrologic functions. While the proposed project and mitigation does not reverse past adverse impacts in this watershed, it does not further contribute to the degradation of the aquatic environment. Therefore, I have determined that the cumulative and secondary impacts on wetlands, streams, fish, and wildlife are not contrary to the public interest.

G. General evaluation [33 CFR 320.4(a)(2)]: The proposed project contributes to a public and private need for electric power and economic development. The

proposed project also helps maintain the reliability of the Pacific Northwest electric power system by providing power during seasonal and daily periods when some renewable wind and water resources are not available. There are conflicts over the sustainable use of resources for protection of open space, water quality, wildlife habitat, and agriculture and economic development. These have been partly resolved by limiting the proposed industrial development to the existing road and rail corridor along Big Hanaford Road and by facilitating the import of coal from the arid Powder River Basin instead of mining coal in the moister western Washington, where there would be more wetland impacts and a larger area disturbed to obtain the same energy content and volume of coal. The effects of the proposed project and mitigation would be essentially permanent.

VI. Compliance with Other Federal, State, or Local Laws

A. Section 7 of the Endangered Species Act: Based on information summarized in Section III, the Corps has determined that the proposed project would have no effect on endangered species. I have determined that the proposed project is in compliance with Section 7 of the Endangered Species Act.

B. Magnuson Stevens Fishery Conservation and Management Act: The Corps has determined that the proposed action will "*not adversely affect*" EFH for Pacific salmon. No further EFH consultation is necessary. I have determined that the proposed project is in compliance with the Magnuson-Stevens Fishery Conservation and Management Act.

C. Coastal Zone Management Act: The Washington State Department of Ecology (Ecology) is the agency responsible for determining compliance with the Coastal Zone Management (CZM) Act program. The project is not located in a Coastal Zone Management Act county.

D. Section 106 of the National Historic Preservation Act: The Corps has determined that no historic properties will be affected by the proposed project. I have determined that the proposed project is in compliance with Section 106 of the National Historic Preservation Act.

E. Section 401 of the Clean Water Act: On 1 June 2007, the Washington State Department of Ecology issued a Section 401 Water Quality Certification (WQC) (Order No. 4212) for the project. To ensure that there are no adverse affects to water quality, General Condition 5 of this permit will require compliance with the conditions specified in the WQC.

F. Environmental Justice Issues (E.O. 12898): I have determined that the proposed work will not create or result in disproportionately high and adverse human health or environmental effects on minority populations and low-income

populations I have determined that the proposed project is in compliance with Executive Order 11988.

G. Treaty Rights. In the mid-1850's, the United States entered into treaties with a number of Indian tribes in Washington. These treaties guaranteed the signatory tribes the right to "take fish at usual and accustomed grounds and stations . . . in common with all citizens of the territory" [*U.S. v. Washington*, 384 F.Supp. 312 at 332 (WDWA 1974)]. In *U.S. v. Washington*, 384 F.Supp. 312 at 343 - 344, the court also found that the Treaty tribes had the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds, as needed to provide them with a moderate standard of living (Fair Share). Over the years, the courts have held that this right comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. More than de minimis impacts to access to usual and accustomed fishing area violates this treaty right [*Northwest Sea Farms v. Wynn*, F.Supp. 931 F.Supp. 1515 at 1522 (WDWA 1996)]. In *U.S. v. Washington*, 759 F.2d 1353 (9th Cir 1985) the court indicated that the obligation to prevent degradation of the fish habitat would be determined on a case-by-case basis. The Ninth Circuit has held that this right also encompasses the right to take shellfish [*U.S. v. Washington* 135 F.3d 618 (9th Cir 1998)].

Treaty Determinations. The work proposed in this application has been analyzed with respect to its effects on the treaty rights described above, and my conclusions are that (1) the work will not interfere with access to usual and accustomed fishing grounds or with fishing activities or shellfish harvesting; (2) the work will not cause the degradation of fish runs and habitat; and (3) the work will not impair the tribes' ability to meet moderate living needs.

VII. Determinations/Findings

A. Findings of No Significant Impact [33 CFR PART 325]: Performance of this work will not significantly affect the quality of the human environment. Further, I have determined that the issuance of this particular permit is a Federal action not having a significant impact on the environment. I have thus concluded that the preparation of a formal Environmental Impact Statement is not required.

B. Evaluation of Compliance with Section 404(b)(1) Guidelines [40 CFR 230.10]: The work was evaluated pursuant to Section 404(b)(1) of the Clean Water Act in accordance with the guidelines promulgated by the Environmental Protection Agency (40 CFR 230) for evaluation of the discharge of dredged or fill material into waters of the United States. In addition, consideration has been given to the need for the work and to such water quality standards as are appropriate and applicable by law. Alternatives not requiring the discharge of dredged or fill material into water of the U.S. are more damaging to the aquatic ecosystem. The proposed discharge represents the least environmentally damaging practicable alternative and includes all appropriate and practicable measures to minimize

adverse effects on the aquatic environment. The work will not result in the unacceptable degradation of the aquatic environment.

C. Section 404(b)(1) Compliance/Non-compliance Review [40 CFR 230.12]: The discharges and methods specified in the proposed work are in accordance with the Section 404(b)(1) Guidelines.

D. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed project has been analyzed for conformity with the regulations implementing Section 176(c) of the Clean Air Act. I have determined that the activities proposed under this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Conformity requirements are not applicable because Lewis County is an air quality attainment area. Even it were a non-attainment or maintenance plan area, indirect emissions from the railroad locomotives would not be within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this project.

E. Public Interest Determination: The work is consistent with national policy, statutes, and administrative directives. I find that issuance of a specially conditioned Department of the Army permit for this work is based upon a thorough analysis of the various evaluation factors and determinations that have been identified herein. The proposed work is not contrary to the public interest. I have determined that issuance of a Department of the Army permit with special conditions is the course of action available to the Corps that best achieves the general public interest.

VIII. Special Conditions.

- a. You must provide a copy of the permit transmittal letter, the permit form, and drawings to all contractors performing any of the authorized work.
- b. The wetland area created, restored, enhanced or preserved as compensatory mitigation for the direct impacts of work authorized by this permit, shall not be made the subject of a future individual or general Department of the Army permit application for fill or other development, except for the purposes of enhancing or restoring the mitigation associated with this project. In addition, a description of the mitigation area identified in the final mitigation plan as approved, and any subsequent permit mitigation area revisions, will be recorded with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records to or interest in real property. Proof of this recorded documentation must be provided to the Corps, Seattle District, Regulatory Branch within 60 days from the date of permit issuance.

- c. A status report on the mitigation construction, including as-built drawings, must be submitted to the Corps, Seattle District, Regulatory Branch, 13 months from the date of permit issuance. Annual status reports on mitigation construction are required until mitigation construction is complete.
- d. The west and east vegetation set aside buffer zones shall be maintained as no disturbance zones as long as the adjacent rail spur or rail sidings are present. Evidence of TransAlta's ownership, or ability to control all ground-disturbing activities within these buffer zones shall be provided within 60 days of permit issuance.
- e. The permittee shall implement and abide by the mitigation plan entitled, *Wetland Mitigation and Monitoring Plan, Rail Upgrade Project, TransAlta Centralia Mining LLC*, dated May 2007, including Errata Sheet dated 6 June 2007. Mitigation monitoring reports will be due for years 1, 2, 3, 5, 7, and 10 from the date of approval of the as-built drawings of the mitigation site. All reports must be submitted to the Corps, Seattle District, Regulatory Branch and must prominently display the reference number 200600278. The mitigation monitoring reports must be submitted in the format shown on the enclosed "Mitigation Monitoring Report Format" dated August 3, 2006. Reports should be submitted in hard copy or electronically.
- f. As partial compensation for indirect impacts authorized by this permit, revisions to the Big Hanaford Creek mitigation site (a condition of DA permit 200400909) must be made according to the letter, dated 13 March 2007, from the Corps of Engineers to the permittee. The revisions include a revised BHC re-alignment, planting along the southern edge of the site, and addition of 4.59 acres to the site. Details of these revisions shall be incorporated into the final, approved version of the Habitat Monitoring and Maintenance Plan for 200400909 and all associated as-built and monitoring reports.
- g. The permittee shall post either a (1) letter of credit or (2) performance bond in favor of an agency, non-profit organization, or other entity approved by the Corps for the estimated cost of site preparation, planting, irrigation, and maintenance and monitoring of the habitat mitigation monitoring plan (including a 20% contingency to be added to the total costs). The purpose of this financial assurance is to guarantee the successful implementation, maintenance and monitoring of the wetland and non-wetland waters creation, restoration, and enhancement work.

(1) If the letter of credit option is selected by the permittee, a draft letter of credit with an itemized cost list shall be submitted to the Corps for approval within 30 days of issuance of the permit. The final letter of credit in the amount approved by the Corps shall be submitted within 20 days of receiving approval of the draft letter of credit. The letter of credit may be reduced based upon Corps verification of completion of appropriate milestones to be

identified in the final creation/restoration/ enhancement plan. In the event mitigation costs exceed or otherwise deviate from the amount of the letter of credit (120% of anticipated cost of mitigation and monitoring) as originally posted, the permittee shall immediately notify the Corps and revise the Letter of Credit to reflect true cost. The revised letter of credit is due to the Corps within 30 days of the notification to the Corps.

(2) If the permittee opts to use a Performance Bond, the permittee shall post a Performance Bond for 120% of the anticipated cost of the mitigation, maintenance, and monitoring associated with the project, as indicated above.

(a) The bonding company must appear on the Department of Treasury Circular 570, Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies. For a current list of Treasury-authorized companies, write or call the Surety Bond Branch, Financial Management Services, Department of the Treasury, Washington DC 20227; (202) 874-6850.

(b) The performance bond shall be conditioned such that if the permittee defaults on the mitigation requirements stated in the Special Conditions herein, the Corps shall have sole discretion on when and who to release the funds to in order for the bonding company shall to complete all mitigation requirements of the permit.

(c) The performance bond shall be released only upon a determination by the Corps that successful mitigation has been completed.

(d) The permittee shall submit a draft bond with an itemized costs list to the Corps for approval within 30 days of the date of permit issuance.

(e) The permittee shall submit the final bond in the amount approved by the Corps within 20 days of receipt of Corps comments on the draft and within 90 days of the date of permit issuance.

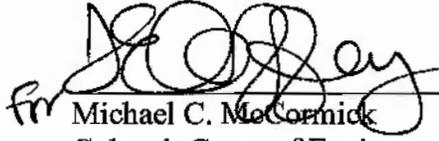
(f) In the event mitigation costs exceed or otherwise deviate from the amount of performance bond (120% of anticipated cost of mitigation and monitoring) as originally posted, the permittee shall immediately notify the Corps and revise the Performance Bond to reflect true cost. The revised Performance Bond is due to the Corps within 30 days of the notification to the Corps.

- h. If human remains, historic resources, or archaeological resources are encountered during construction, all ground disturbing activities shall cease in the immediate area and the permittee shall immediately (within one business day of discovery) notify the Corps. The permittee shall perform any work required by the Corps in accordance with Section 106 of the National Historic Preservation Act and Corps regulations.

IX. Permit Decision: My decision is to issue a permit with special conditions for this work.

7 Jun 07

Date


fr _____

Michael C. McCormick
Colonel, Corps of Engineers
District Engineer