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FINAL DRAFT

ENVIRONMENTAL ANALYSIS OF BRINNON SUBAREA PLAN AND ASSOCIATED COMPREHENSIVE PLAN AND UDC AMENDMENTS

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Overview

This analysis is intended to supplement the 2002 Staff Report and SEIS that analyzed the potential environmental impacts of zoning changes in the Brinnon area associated with adoption of the Brinnon Subarea Plan. That analysis was found by the Western Washington Growth Management Hearings Board to inadequately address the potential significant adverse environmental impacts that had been identified by Washington Department of Fish and Wildlife (WDFW), the Port Gamble S'Klallam Tribe, and the Skokomish Tribe.

Representatives from the WDFW, Skokomish Indian Tribe, and Port Gamble Tribe were invited to participate in an "informal scoping" meeting on October 20, 2003. At that meeting the following issues were identified as needing additional analysis by Jefferson County. The full summary from the meeting is attached to this review in Appendix A.

Analysis

Issue 1: Analyze the potential impacts of "pollution generating impervious surfaces" such as roads, driveways and parking lots separate from the rest of the impervious surface analysis. Include an analysis of water quality standards. Concentrate on the Brinnon Flats area rather than at an entire watershed level.

Pollution-generating impervious surfaces include roads, driveways and parking lots. The concern raised is that runoff from these surfaces will have higher concentrations of pollutants, such as metals, petroleum byproducts and bacterial contamination. In summary, the scope of the analysis includes the following zoning changes:

- The RVC increases in size from 34 acres to 66 acres creating an additional 32 acres of commercial zoning.
- Small Scale Business and Cottage Industry (SBCI) Overlay District increased from 0 acres to 21.6 acres

1.1 Analysis of larger commercial zone within the RVC:
The standards for residential development and commercial development are identical in the requirements for buffers and habitat protection. Stormwater standards are actually more stringent for commercial development than for residential development, requiring a more detailed stormwater management plan, and additional stormwater controls for water quality treatment and flow detention. The primary difference between residential and commercial development is the intensity of development on a site, which is reflected in the UDC in the allowable impervious surface percentage on each building site.

In the previous rural residential zoning of one dwelling unit per five acres (RR1:5), the maximum lot coverage of impervious surfaces allowed was 25 percent. Thus, if the additional 32 acres had been developed with a rural residential 25% impervious surface cap in place, that would have could have potentially increased impervious surfaces by roughly 8 acres.

After rezoning, the RVC contains commercially zoned lots that have a maximum lot coverage of 50 percent of impervious surface, meaning there is now a potential for an additional 16 acres of impervious surface to be developed. Thus, the total amount of POTENTIAL impervious surface on the 32 acres that was rezoned as rural commercial increased from roughly 8 acres to 16 acres. This increase in potential impervious surface represents the primary environmental impact that can be analyzed at a general, non-project level.

For the Brinnon RVC, assuming 50 inches of precipitation per year, the increased potential impervious surface could potentially create runoff of roughly 33 acre-feet per year. An acre foot is enough water to fill an entire acre of land to a depth of one foot. During a typical large storm for Brinnon in which 1 inch of rain falls in 24 hours, runoff from the additional impervious surface would average approximately 0.3 cfs. For context, the Dosewallips River has an average flow of 446 cubic feet per second (cfs), and annually discharges roughly 323,000 acre-feet per year. During a typical large storm, the Dosewallips River flow far exceeds 1,000 cfs (Golder Associates, 2003).

Additionally, the above analysis assumes no stormwater detention/retention and treatment will occur as the 32 acres recently zoned rural commercial become developed. This is an unlikely scenario because in 2003, Jefferson County became the first County in the State of Washington to adopt the 2001 Stormwater Management Manual for Western Washington. In June 2003, an Independent Science Panel conducted a review of the 2001 Stormwater Management Manual for Western Washington. In summary, the review concluded that, "Implementation of the provisions in the manual should help prevent further degradation of stream channels associated with stormwater" (Currens et al., 2001). The review was also conducted under the assumption that the standards are used for urban stormwater treatment, which potentially has higher concentrations of pollutants and much higher stormwater volumes.

1.2 Analysis of the SBCI Overlay District

The standards that exist for the RR1:5 zoning and the SBCI overlay district are identical for stormwater. The primary difference is in the approval decision process and allowance for more employees. Neither of these modifications would have a likely water quality or quantity impact, particularly after considering the current Jefferson County stormwater standards and the application of those standards to all further project actions.

1.3 Analysis of water quality standards:

Currently, there are no water quality impaired listings for the Dosewallips River. However, the lowest reach on the Dosewallips is proposed for listing on the 303(d) list of water quality impaired waterbodies because of temperatures that exceed standards. Overall, water quality data are limited from the Dosewallips River.

Data that have been collected historically have not documented any degradation from "urban" pollutants, such as those found in stormwater runoff. Instead, prior studies have either shown very good water quality conditions, or where degraded, it was attributed to marine mammals. For example, construction of a seal exclusion fence at the mouth of the Dosewallips River improved water quality and reopened closed shellfish areas. That seal exclusion fence is currently maintained by Washington State Parks.

Stormwater runoff studies have determined that there is no general predictable difference in the pollutant concentrations found in stormwater from agricultural, residential, commercial and industrial land uses (Center for Watershed Protection, 2003; Kayhanian et al., 2003; Lee and Bang, 2000). Individual pollutants may be more concentrated in residential runoff (e.g., nitrogen), while others may be more concentrated in runoff from commercial land uses (e.g., zinc).

Thus, the predictable trend for stormwater quality impacts to surface water quality relates directly to the amount of impervious surface, and the amount of pollutants generated from impervious surfaces. To better analyze such impacts, Table 1 provides a summary of typical stormwater pollutant concentrations, and then an estimation of the loading that could be anticipated. Loading is the amount of a chemical that is would be discharged annually.

Table 1. Typical stormwater pollutants and published average concentrations and estimated loading based on Brinnon RVC impervious surfaces and use of BMPs as required by the current Jefferson County stormwater standards.

Pollutant	Average Concentration (untreated)	Loading with Stormwater BMPs [a]
Copper	13-33 µg/l	200 g/year
Lead	67-144 µg/l	1.2 kg/year
Zinc	135-162 µg/l	1.3 kg/year
Cadmium	0.7 µg/l	6 g/year
Chromium	4 µg/l	32 g/year
Total Phosphorus	320-383 µg/l	3.1 kg/year
Total Nitrogen	2.4-2.6 mg/l	21,164 kg/year
Fecal Coliform	500-15,000 cfu/100 ml	Cannot predict [b]

(Source: Center for Watershed Protection, 2003 and EPA, 1999)
a—Based on analysis of BMP effectiveness found in EPA, 1999.
b—Pathogen removal from BMPs typically ranges between 80% and 100%.
Thus, the range of loading could range from no loading at all to millions of bacteria.

Note on units:
µg/l is micrograms per liter, or 0.000001 grams per liter of water
g is grams, kg is kilograms
mg/l is milligrams per liter, or 0.001 grams per liter of water
cfu/100 ml is colony forming units (basically number of bacteria) in 100 milliliters

Interpreting data such as these presented in Table 1 can be overwhelming. The key factor in the analysis of the Brinnon RVC is the fact that the loading of pollutants is not predictably different from commercial vs. residential zoned lands (Center for Watershed Protection, 2003). Some pollutants tend to occur at higher concentrations on commercially-zoned lands, such as copper and cadmium. Other pollutants tend to occur higher in runoff from residential areas, such as zinc and nitrogen. Therefore, the loading represented in Table 1 is predicted to occur from development of the proposed parcels whether those parcels are developed residentially or commercially. The critical factor is the implementation and effectiveness of best management practices to reduce or eliminate untreated stormwater from running off developed sites into surface waters.

By assuming that stormwater from the Brinnon RVC would have typical pollutant concentrations, the potential water quality impact from the increased impervious surfaces from the increase size of the RVC will likely not be measurable in receiving waters (ie., the Hood Canal or the Dosewallips River) by standard analytical techniques.

1.4 Summary: The review has been limited to assessing the difference between development impacts from land zoned RR1:5 vs. RVC on the roughly 32 acres of land that was rezoned upon adoption of the Brinnon Subarea Plan into the Jefferson County Comprehensive Plan.

The potential increase in impervious surface does not represent a major change, and is not likely to have an adverse water quality or water quantity impact. Potential pollutant loading from the increase in impervious surfaces will be mitigated through the use of the most up to date stormwater guidance available from the State of Washington.

Issue 2: Determine existing water quality conditions in Syloplash and Walcott Sloughs with water quality monitoring

At the scoping meeting, resource agency representatives expressed concern that existing conditions, such as septic systems that may be improperly treating sewage, may already be contributing to water quality problems, such as discharging fecal coliform in the nearshore marine environment.

To assess this possibility, water quality monitoring was conducted on two occasions in January 2004. Grab samples were collected in Walcott Slough and Syoplash Slough on two occasions. I followed standard sampling protocols, based on previous sampling I had conducted for recreational shellfish beach classification. Both samples were taken on an outgoing tide.

The following table contains the results from monitoring. Full laboratory reports are found in Appendix B.

Table 2.A. Walcott Slough

Date	Fecal Coliform (No./100 ml)	Notes
January 8, 2004	43	Numerous salmon carcasses, 50+ birds
January 26, 2004	13	Numerous birds, especially upstream from highway, although fewer than previous

Table 2.B. Syoplash Slough

Date	Fecal Coliform (No./100 ml)	Notes
January 8, 2004	7	Numerous salmon carcasses, 50+ birds
January 26, 2004	2	No birds.

This existing water quality data are not an indicator of demonstrated water quality impacts from existing development, nor are they data that indicate the potential impact of future development. In fact, water quality is likely to improve with the redevelopment of existing residences, or conversion of residential use to commercial use. There are several reasons for this conclusion:

First, current onsite septic system standards are much more stringent than standards of 20 years ago, which is when many of the existing residences in the subject area were developed. All new development is required to conform to existing standards, thus providing an improvement to the treatment of human sewage than is currently occurring.

Secondly, as uses are converted to commercial from residential in the RVC, the use of "alternative" onsite septic systems will increase. Alternative onsite septic systems have engineered components (such as a sand filter) to provide additional treatment of sewage prior to disposal in a drainfield. The Jefferson County onsite sewage code currently requires that all alternative onsite septic systems be inspected through an Operations and Maintenance agreement with the Public Utility District #1 of Jefferson County. This ongoing inspection and maintenance program helps to prevent onsite septic systems from failing by detecting systems that are not functioning properly before complete system failure leads to untreated sewage being discharged.

Finally, as the RVC is redeveloped, existing runoff from sites developed prior to the existence of stormwater standards will be required to use current Best Management Practices for stormwater treatment, consistent with the current Jefferson County stormwater standards. The use of treatment ponds, swales, and infiltration basins will reduce bacterial contamination by treating nonpoint pollution.

2.1 Summary: Although not a comprehensive monitoring program, the samples indicate concentrations of fecal coliform that are elevated over pristine water quality concentrations. Potential sources of fecal coliform for the area in question could include failing onsite septic systems, marine mammals, other wildlife, and nonpoint runoff from Highway 101 and adjacent development.

Although the monitoring did not indicate the sources of coliform, redevelopment of the Brinnon RVC will help to improve water quality through increased onsite septic system and stormwater standards.

Issue 3: Analyze the potential wildlife habitat needs at the Dosewallips State Park

This non-project action did not occur on the Dosewallips State Park, but does occur just upstream and across the river from the State Park. Resource agency representatives were concerned because wildlife species that are found in the project area likely depend on the high quality habitat found in the Dosewallips State Park. Land use modifications adjacent to the park could impact wildlife habitat areas and wildlife migration corridors.

The following wildlife species have been documented in the project area based on the Priority Habitats and Species and Heritage Points databases:

- Bald eagle nesting territory
- Harlequin duck
- Elk winter range
- Great blue heron
- Trumpeter swan

In general, development standards do not differ significantly between RR1:5 and RVC zoning. However, commercial development may have more impact to wildlife usage of a site because of

larger buildings, more traffic, less vegetative cover and more paved areas. Existing high quality habitat and primary wildlife corridors are found on the south shore of the Dosewallips River, and in the Dosewallips River estuary that extends to the eastern edge of Highway 101 (Appendix C). Because the primary high quality wildlife habitat is found outside of the area zoned for the Brinnon RVC, there is no probable significant adverse impact from the expansion of the RVC by 32 acres. What impact to wildlife habitat that would occur is primarily on the extension of the RVC east of Highway 101. Although the map showing wildlife habitat designation is only a preliminary draft at this point, the maps are based on aerial photography and professional wildlife biologists' best professional judgment for where protections are needed for wildlife habitat.

All projects, whether residential or commercial, are conditioned by Jefferson County pursuant to WDFW recommendations (UDC Section 3.6.8). Through this section of the development code, WDFW staff can address concerns about wildlife habitat requirements that are associated with any specific project proposal at the time of permit review.

3.1 Summary: There is not a likely significant adverse impact to wildlife habitat from the zoning changes that occurred as a result of the adoption of the Brinnon Subarea Plan and associated Comprehensive Plan and UDC Amendments. There are two main reasons for this determination.

First, the primary high quality habitat is found in contiguous lands on the south shore of the Dosewallips River. Although some wildlife species occur in the Brinnon RVC area, and some of the core wildlife habitat is found on the eastern extension of the primary high quality habitat and habitat corridors are not found in and around that RVC.

Second, WDFW biologists are provided the opportunity to identify potential negative impacts from specific permit proposals and recommend conditions to mitigate those negative impacts. Thus, project-specific wildlife habitat impacts will be addressed for each project proposal.

Issue 4: Identify issues that would have to be analyzed with the any proposed MPR, such as the one discussed in the Brinnon Plan that included a resort with golf course, recreation, marina, single family residential, and mixed use zones.

Current County land use regulations allow for the designation of an MPR anywhere in the County, provided that the minimum requirements are met. A potential MPR in Brinnon will have the same environmental review requirements as does an MPR anywhere. However, in general, the following environmental issues would have to be addressed in a SEPA-derived document (Environmental Impact Statement) if an MPR were proposed for Black Point:

- water quantity
- water quality
- unstable slopes
- wildlife habitat (specifically marbled murrelet habitat)
- impacts to marine water quality and shellfish on the Duckabush River

A hypothetical project is identified in the Brinnon Subarea Plan. The plan mentions a project with the following features: a golf course, recreational area, marina, single family residential and mixed use zones. Although a full analysis would have to be scoped during the SEPA process, a few issues can be identified in general. A non-exhaustive list includes analysis of:

Water quantity: The applicant would have to provide documentation of adequate water quantity for irrigation, potable and non-potable needs. The use of the water for the project would have to not impair or detrimentally interfere with senior water rights, including any adopted instream flow requirements.

Water quality: The applicant would have to provide appropriate stormwater treatment and control, appropriate Best Management Practices for turf cultivation (UDC Section 3.6.5.d(4)), and appropriate septic capacity to address peak wastewater flows.

In addition, the creation of a marina, or expansion of an existing marina would require the applicant to model water movements to ensure that areas prohibited from shellfish harvest do not expand from current conditions. To protect water quality from chemical contaminants associated with fuel spills, boat maintenance, and antifouling paints, the applicant would be required to adopt Best Management Practices to educate and enforce appropriate boater behavior.

Unstable slopes: The applicant will have to identify the specific areas of the project where unstable slopes would potentially impact construction. The applicant would have to identify those areas where appropriate engineering methods could be employed to reduce risk to acceptable levels and those areas where risk could not be reduced to acceptable levels.

Wildlife habitat: The applicant would have to comply with habitat management conditions included by Jefferson County pursuant to WDFW recommendations.

Conclusion

The adopted Comprehensive Plan amendment to adopt the Brinnon Subarea Plan should not have significant adverse environmental impacts, provided that existing regulations are followed for stream buffers, impervious surface limitations, onsite sewage disposal and stormwater treatment.

Other General Issues

Several issues are beyond the specific scope of the analysis of adopted zoning and Comprehensive Plan modifications associated with the Brinnon Subarea Plan, but should be discussed as they relate to ongoing development in Brinnon. The following recommendations are made to better integrate the future development of the community and salmon recovery planning:

1) Completion of a Channel Migration Zone delineation and/or Erosion Hazard Assessment consistent with the Department of Ecology guidelines found at:

http://www.ecy.wa.gov/biblio/0306027.html

Adoption of protection standards will reduce flood erosion impacts which impact property losses, public safety and habitat.

2) Implementation of the Brinnon Plan Policy 2.3 within the Environment Element. This will begin to address long-term development and habitat restoration efforts comprehensively. The goal would be to have community members and resource agencies agree on the ultimate "footprint" of the developed and the natural areas along the Dosewallips River.

3) Any proposal submitted for a Master Planned Resort for the suggested Black Point MPR should follow the requirements in UDC Section 3.4, following a Type V decision process as laid out in that section, and be issued a "determination of significance" by the UDC Administrator. This will ensure adequate environmental review and development of appropriate development conditions through the preparation of an Environmental Impact Statement.

4) County continue its support for habitat protection and enhancement upstream of the RVC in the Dosewallips River watershed. The amount of habitat that can be restored is limited in the area adjacent to the RVC. County support for upstream habitat improvements would provide a more cost-effective means for protection of salmonid resources, including threatened species.

Literature Cited

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