

APPENDIX N

Mitigation Summary

Appendix N - Mitigation Summary

What is the purpose of this appendix?

The purpose of this appendix is to both summarize and integrate the mitigation measure concepts discussed in both the Draft EIS and the Final EIS Addendum (specifically Appendix L, Rural Roadway Design Concepts). This portion of the Final EIS places all of the mitigation measures discussed to date in the context of the new roadway corridor's impacts.

Roadway Design

The County is committed to designing a corridor that minimizes effects to the surrounding rural community. Appendix L provides possible strategies that could minimize the effect of a major roadway corridor in this area. Appendix L offers a number of possible roadway configurations that could minimize effects of the roadway to the surrounding community. Key differences between the configurations displayed are the number of lanes, the drainage features, and provisions for pedestrians. If the ultimate objective is to minimize the footprint of the roadway and design a more rural than urban road, then the configuration showing a four-lane road with shoulders and no sidewalks may be desired.

The concept of roadway illumination is directly tied into the roadway design. The Alderton McMillin Community Planning Board had recommended that the new corridor within the rural area not be illuminated. This preference would be further investigated within the design phase of this project if a new Rhodes Lake Road Corridor is established.

Integral to the larger roadway design is the level of access provided to adjacent landowners. The provision and spacing of the driveway access will affect the larger operating characteristics of the roadway. As mentioned in Appendix L, the issue of access management as mitigation should be addressed on both the county and state roadways within the study area.

Recommended strategies for roadway design and project implementation include:

- Evaluate current County roadway design standards that would apply to the Rhodes Lake Road Corridor. The County should consider developing deviations specific to this roadway to provide adequate access to local land uses and preserve the character of the rural community.
- Encourage WSDOT to update their Route Development Plan for SR 162, work with WSDOT to help assure that right-of-way would be available for future roadway widening, and reinforce the need for access management standards that will minimize the potential for higher levels of development along the roadway. The process for revising the existing Route Development Plan for SR 162 should consider the revised zoning policies and specific land use objectives contained within the Alderton McMillin Community Plan adopted in December 2007. As part of this effort, the County strongly encourages WSDOT to consider the community's desire to improve transportation efficiency, enhance safety, and protect farmland and the rural character of the community.
- Consider purchasing access rights as a potential tool to limit direct access to the Rhodes Lake Road Corridor and SR 162. This strategy could be implemented by either the County or the State.
- Explore ways to minimize and mitigate the visual impact of a new Rhodes Lake Road Corridor. The design for a new corridor should investigate and incorporate when appropriate, opportunities to locate and design the roadway to minimize visual impacts.. The County Engineer's Report establishing the corridor should clarify how landscaping buffers may be used to make the roadway less visible.

Intersection Operations

As discussed in the Draft EIS, Alternative D is expected to increase traffic and add delay on SR 162 between 128th Street E. and Military Road. The impact of additional traffic on this section of SR 162 could be lessened by optimizing signal timing at traffic lights and by adding turning lanes to the intersections of SR 162 with 128th Street E. and Military Road. Potential intersection improvements along SR 162 will be studied as part of project-level environmental documentation, if the Pierce County Council establishes Alternative D as a new roadway corridor.

Noise

Applicable federal, state, and local noise regulations will be used to identify noise impacts and develop mitigation as needed. If local funds are used to build the project, noise mitigation would most likely not be proposed. If federal funds are used, mitigation would be evaluated and proposed as part of more detailed project-level analysis.

Farmlands

Potential impacts to farmlands have been avoided to the extent possible as part of developing the proposed alignments. Additionally, impacts to farmlands could be minimized by implementing policies that would closely manage access to and from any new roadways that would be constructed.

Historic and Cultural Resources

At this time, no specific impacts to historic and cultural resources have been identified. However, these resources will be evaluated in greater detail as part of any project-level environmental documentation. As part of that effort, coordination with area Tribes and the State Historic Preservation Office will occur.

Visual Quality

In addition to design that is sensitive to the rural character of the study area, efforts to minimize visual impacts would

involve employment of Best Management Practices (BMPs) during construction. BMPs could include restricting activities that require moving soil to drier seasons to reduce potential for erosion or slides, and taking care with regard to disturbance of natural conditions by limiting the amount of area that can be cleared. Retaining walls could be used in selected locations to minimize cut and fill slopes. Where walls would be clearly visible, design materials consisting of natural-looking treatments such as concrete form liner or gabion/stone walls could improve the visual quality of the roadway and help to blend with the forest and adjacent natural materials.

It is important to remember that a portion of the initial visual impacts would be temporary. Permanent clearing could be kept to the minimum required for operation of the roadway. Replanting of native trees and shrubs to offset initial vegetation losses would be planned as a step toward restoration of natural conditions.

Waterways, Floodplains, and Water Quality

The total area of impervious roadway surfaces draining to existing waterbodies in the study area would increase for all of the alternatives studied. Potential pollutant loading would be minimized by treating roadway runoff with BMPs as required by Pierce County's stormwater management manual before it is discharged to study area waterbodies. By providing treatment BMPs, discharges to streams impacted by any of the build alternatives would comply with water quality regulations, and overall water quality in study area streams would not be substantially degraded.

For Alternatives B and D, floodplain losses would be offset (mitigated) by excavating an equivalent area and volume of floodplain at the same elevation as required by Pierce County Shoreline regulations. Additionally, Alternatives B and D may affect a portion of properties owned by Pierce County. These lands may be used in the future by Pierce County's Water Programs division to improve both flood control and overall habitat conditions for fish and wildlife. If either of these

alternatives is selected, Pierce County will coordinate road design and construction to work in concert with the goals of Pierce County Water Programs.

Fish and Aquatic Habitat

Pierce County will adhere to all local Critical Areas Ordinance and Shoreline Management Act regulations regarding buffers, mitigation ratios, and fish and wildlife habitat conservation areas. Prior to construction, the project will undergo Section 7 ESA consultation on any federally listed fish species potentially occurring in the project area. In addition, a Hydraulic Project Approval (HPA) permit from the Washington State Department of Fish and Wildlife (WDFW) will be required prior to the initiation of work below the ordinary high water mark.

To the extent feasible, in-water construction will be restricted to time periods when listed species are not spawning. The recent listing of steelhead could create a challenge in establishing an in-water work window. As part of project-level environmental documentation, this issue will be studied further and will be coordinated with regulatory agencies.

During bridge construction, contractors would use BMPs to avoid unintentional discharge of sediment from the permanent bridge foundation excavation, and a containment system to contain falling debris during construction of the new bridge deck and/or demolition of the existing bridge deck. Contractors would restore temporarily cleared areas to preconstruction grades and replant the areas with appropriate native vegetation.

The potential impacts of driving piles or support columns in the Puyallup River could be minimized by several methods. BMPs for sound pressure attenuation during pile driving (e.g., bubble curtains or using alternative placement techniques) could reduce the transmission of energy to the surrounding water, thus minimizing levels that could potentially injure fish.

Vegetation and Wildlife

Impacts to vegetation and wildlife would be mitigated as required by regulatory requirements outlined in Pierce County's shoreline code and critical areas ordinance. Prior to construction, the project will undergo Section 7 ESA consultation on any federally listed wildlife species potentially occurring within the project area.

In addition, compensatory mitigation would be incorporated into project design where required to provide equivalent or improved buffer functions. Mitigation design has not been completed, but would incorporate both riparian and wetland buffer enhancement to replace the lost vegetation and habitat functions as well as in-stream fish habitat enhancement. Final mitigation site/s would be chosen from locations within the Puyallup or Carbon watersheds that could benefit from enhancement.

Specific mitigation activities that would be included regardless of the specific site chosen for compensatory mitigation are listed below:

- Permanent clearing would be kept to the minimum required for operation of the roadway and bridge.
- A portion of the stormwater system included in the road design would infiltrate water from the road surface and trap sediments, nutrients, and toxics. This stormwater system would partially mitigate loss of infiltration and sediment/nutrient/toxic trapping functions currently provided by the wetland and stream buffers and the soils along the right-of-way.
- All of the proposed mitigation options (or any combination of options) would include replanting of native trees and shrubs to offset the loss of vegetation in the wetland and riparian buffer. These trees and shrubs are intended (on maturity) to provide habitat for wildlife, to provide a source of large woody debris, organic material, and nutrients for

study area waterbodies, to shade the streams and stabilize their banks, and to provide overhanging vegetation.

- Timing restrictions for bald eagles will be implemented during construction along any nest or wintering sites.

All construction activities would take place within the permanently filled or cleared areas. To the extent possible, construction activities would be designed to minimize impacts to vegetation and wildlife. BMPs would be implemented to avoid or minimize construction impacts to vegetation and wildlife.

Wetlands

Typical mitigation measures for wetlands that would be required during design include shifting the location of the roadway to avoid wetlands or high quality buffer areas. Other design considerations to avoid, minimize, or mitigate for wetland or buffer impacts include:

- designing retaining walls where feasible to avoid or minimize additional fill in wetlands
- reducing the road width
- spanning wetland areas by bridges
- elevating bridge structures high enough to avoid long-term shading impacts to vegetation

Construction mitigation measures include using BMPs such as staking the wetland and buffer areas prior to beginning any clearing activity, and installing a sediment fence and orange barrier fence at the edge of the construction limit to avoid damage to wetlands or buffers located adjacent to the construction areas. The temporary erosion and sedimentation control plan should be revised throughout the duration of the project and updated as necessary in order to protect all natural resources in the project area. Restoration of wetland and buffer areas with native vegetation and monitoring the success of the planting would also be a required mitigation activity.

If the project eliminates (i.e., by filling or excavating) a wetland then it is required to mitigate, or replace the wetland at a certain replacement ratio. Potential mitigation sites in the western portion of the study area could be located within farmed wetland or historic ox bows near the Puyallup River. Properties designated as Agricultural Resource Lands will not be considered as potential wetland mitigation sites, since wetland mitigation is not a permitted land use on these properties.

Any unforeseen temporary or incidental impact areas in a wetland would be restored to pre-construction condition (e.g., fill removed using hand tools) and replanted with appropriate native wetland species. All trees fallen within wetlands or wetland buffers would be left in place (where practicable) to provide large woody debris and to serve as habitat features. BMPs would also be used to limit construction impacts.

Geology and Soils

All of the alternatives would be engineered with properly angled cut and fill slopes and other design features (e.g., retaining walls) to minimize or eliminate the risk of slope failure. BMPs would be implemented during construction to keep the potential for erosion low. BMPs could include restricting activities that require moving soil to drier seasons, limiting the amount of area that can be cleared, using silt fencing, and revegetating or covering cleared areas as soon as possible. Any cuts made or steep slopes encountered would be identified during the design of the preferred alternative and would be stabilized during construction.

Air Quality

For the project-level EIS, Pierce County would examine CO concentrations at intersections located within the CO maintenance area to determine compliance and conformity with regional requirements established through the Metropolitan Transportation Plan and Transportation Improvement Program.

During construction of the build alternatives, dust and emissions from construction equipment could impact areas near construction areas. Best management practices (BMPs) such as watering down dusty areas would be implemented as needed to minimize the potential for impacts to nearby areas.

Cumulative Effects

Cumulative Effects to the Built Environment

There are many ways in which potential cumulative impacts of planned development on the Plateau, the 2030 Baseline transportation improvements, and the Rhodes Lake Road Corridor could be minimized. This includes Pierce County actively working to:

- Ensure that residential and employment based land uses on the Plateau develop to meet projected growth targets. Zoning in this area assumes a strong “internal attraction” of vehicle trips, due to the quantity and proximity of employment to residential areas. The traffic model used for the Draft EIS estimates that in 2030, there will be more than 9,200 peak hour trips that will originate or arrive on the Plateau. The model also estimates that 27% of these trips will be internal (with both the origination and arrival points on the Plateau), as people make work and housing choices to achieve a short commute. For this to occur, it will be important that residential and employment based land uses on the Plateau develop to meet projected targets. Otherwise, it is likely that additional traffic volumes will be experienced on the roadways leading to and from the Plateau.
- Coordinate project impacts with agencies responsible for planned transportation projects in the study area. The Rhodes Lake Road Corridor Study provides insights as to the future travel demand of the study area and the improvement needs of the larger roadway network. This study should serve as an important reference in identifying and implementing the larger set of roadway projects. The cities of Puyallup, Orting, and Bonney Lake as well as the Washington State Department of Transportation and the

development community have a vested interest in this approach as it could help define the subregional priorities of certain improvements and when they would be most needed. As part of this effort Pierce County would work with these interests and demonstrate a strong commitment to maintain and preserve rural and farmland areas. This can in part be accomplished through strong access management policies.▪ Enforce existing land use policies that preserve rural areas, farmlands, and forested areas.

- As part of roadway design, incorporate context sensitive solutions so the roadway will fit in with the surrounding environment to the extent practicable.
- Include within the County Engineer's report a strategy by which a detailed monitoring program would measure the adequacy of the roadway capacity as it relates to the levels of development. Using the principles of the County's transportation concurrency management system, the County would assure that the levels of development do not exceed the ability of the new corridor to handle the traffic. This may prove to be a more implementable strategy in assuring adequate capacity rather of the roadway network rather than monitoring the housing/employment balance on the Plateau.

Cumulative Effects to the Natural Environment

Future planned development on the Plateau and surrounding roadway network in addition to a Rhodes Lake Road Corridor could cumulatively impact natural resources in the study area including water resources, fish and aquatic resources, and wetlands, vegetation, and wildlife. Water resources including stream hydrology, floodplain areas, and water quality could be impacted by a cumulative increase in impervious surfaces in the study area due to planned development. However, the possible cumulative impacts of these individual projects would be mitigated through stormwater and floodplain management measures as required by local, state, and federal regulations,

thus minimizing the potential for cumulative impacts to surrounding waterbodies.

Fish, aquatic resources, wetlands, vegetation, and wildlife could also be impacted by a cumulative increase in impervious surface area and decreased available habitat. However, the possible effects of these individual projects would be mitigated through mitigation measures required as part of local, state, and federal approvals required for the individual projects.