

Appendix I

Cultural Resources Sensitivity Scores

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There are four factors that influence the locations of cultural resources likely to be present in various segments of the BPA I-5 Corridor Reinforcement Project. These four factors are environmental, archaeological, ethnographic, and historic. Archaeological Investigations Northwest's (AINW) methods for assessing these four factors to determine the mean cultural sensitivity score of each segment and design option are described below. These data were then used to identify proposed transmission tower locations at known locations of cultural resources and to determine which of the four proposed route alternatives and associated design options is the least culturally sensitive.

The environmental data assessment is based on the Washington Statewide Predictive Model (prepared by the Washington State Department of Archaeology and Historic Preservation [DAHP]) and information about potential buried land surfaces. For each segment within the project, eight environmental variables were examined in order to determine the relative potential of each segment for containing pre-contact archaeological sites. These environmental variables were considered in reference to their spatial distribution within each of the project segments, and were calculated as a percentage of the total area (in acres) of each segment. The methods of assessing these environmental data and the rationale for scoring these variables are described in detail below. In short, because the cultural sensitivity score for environmental data is based on the percentage of geographical area within each segment, the score is on a scale of 0 to 100. More detailed information on environment assessment scoring is presented in the following section.

Known archaeological, ethnographic, and historic resources were tabulated for each segment of the project. "Predictors" for additional archaeological and historic resources were also tabulated for each segment based on the results of historic research. "Red flags" include areas of spiritual importance to the Cowlitz Tribe as well as locations where human burials are known to be present. The methods of collecting and assessing these data are described below. Within the three disciplines (archaeology, ethnography, and history), the known resources and predictors were assigned numeric values, as described below for each discipline. Red flags were tabulated by project segment, but were not assigned numeric values. The numeric values for resources and predictors were added together to provide a "raw score" for each segment, and red flags that may be present were also noted.

The raw scores were then normalized within each of these three disciplines on a 100-point scale to produce a cultural sensitivity score for each segment for each discipline. Normalization was achieved by taking the segment with the highest raw score within each discipline and dividing 100 by that score to obtain a normalizing factor for that discipline. For example, Segment 52 has the highest raw score for archaeology of any segment with a value of 31. Dividing 31 into 100 yields a normalizing factor of 3.22. The raw score for archaeology for each segment was then multiplied by 3.22 to provide a normalized cultural sensitivity score. The normalizing factors for ethnography and history were calculated in the same way; the normalizing factor for ethnography is 5.00, and the normalizing factor for historic resources is 1.23. Normalizing the scores on a 100-point scale allows for direct comparisons between the environmental (already calculated on a 100-point scale), archaeological, ethnographic, and historic cultural sensitivity scores for each project segment.

The mean cultural sensitivity score for each segment was calculated by adding the environmental, archaeological, ethnographic, and historic cultural sensitivity scores and dividing by 4. Thus, in calculating the mean cultural sensitivity score, the four disciplines are weighted evenly. Proposed transmission tower locations at known cultural resources were also identified by AINW. These potential impacts were not assessed a numeric value or incorporated into the overall cultural sensitivity score of each segment. Once the assessment of individual segments and proposed tower locations was completed, AINW used the resulting data to assess the four action alternatives and their associated design options to determine which action alternative was the least culturally sensitive, potentially presenting BPA with fewer cultural resource issues.