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To: PacifiCorp Energy
From: Kleinfelder West, Inc.
Date: March 9, 2011

SUBJECT: Proposed Scope of Work
Road Impact Assessment
Klickitat County, Washington
Condit Hydroelectric Project Decommissioning

The FERC Surrender Order for the Condit Hydroelectric Project Decommissioning issued December 16, 2010 orders that an impact assessment for Klickitat County roads, some of which will be used for the decommissioning project, be conducted to ascertain the extent of road performance issues and probable damage to the roads, and to mitigate those impacts that are due to project removal activities. We propose the following scope of work to fulfill the requirements of the Surrender Order.

PacifiCorp Energy's decommissioning contractor is developing execution plans for the removal. The decommissioning activities will use Powerhouse Road for access to the dam, flowline, and powerhouse. Uses will include mobilizing equipment to the site, hauling concrete rubble from the dam within the site, hauling flowline materials for disposal or salvage, and hauling soil cover to restore the flowline alignment. Graves Road will be needed to access the reservoir area for sediment management and revegetation. The proposed assessment will cover an estimated 1.7 miles of Powerhouse Road, 0.5 miles of Graves Road, and 0.3 miles of Northwestern Lake Road. (see attached Figure 1 for roads proposed to be surveyed). Northwestern Lake Road will see some use, especially for bridge stabilization work included in the project. However, the level of use on Northwestern Lake Road is not anticipated to differ significantly from current normal truck traffic, including logging trucks.

Kleinfelder recommends performing a baseline pavement / roadway assessment for Powerhouse, Graves, and Northwestern Lake Roads before field removal activities begin. The results of the assessment will be used to consider whether mitigation actions to prevent or minimize roadway damage may be appropriate. After significant field removal activities are completed, each of these roads will be visually re-assessed to confirm conditions and determine appropriate post-removal restoration requirements, if any are determined to be needed by agreement between Klickitat County and PacifiCorp Energy.

Baseline Visual Assessment
Kleinfelder will perform a baseline pavement / roadway assessment for Powerhouse Road, Graves Road, and Northwestern Lake Road in compliance with the 1999 Pavement Surface Condition Field Rating Manual for Asphalt Pavements, prepared by the Northwest Pavement Management Association and the Washington State Department of Transportation.

Our proposed approach for the visual baseline survey is to walk the roadways, perform a continuous survey, and document observations of roadway surface conditions, as described below. For the paved sections we will note type and severity of defects and document location and extent of: rutting and wear; alligator, longitudinal, and traverse cracking; raveling and aging; patching; corrugation and waves; sags and humps; pavement edge condition; and drainage characteristics (i.e., evidence of surface ponding, erosion along the pavement edge, etc.). For the gravel sections we will note the condition of the road including the occurrence of washboarding, potholing, and erosion. Conditions of drainage ditches and culverts will also be noted. Our observations will be photographed, and information will be keyed to station locations on a roadway map and described in a data table.

Supplemental Assessment
Road design information and record drawings are not available, but the County's secondary roads are not generally considered to be designed to handle heavy construction traffic loading. A supplemental assessment will evaluate whether the increased loading may have a negative impact on the roadway pavements or traffic-bearing surfaces, resulting in risks of reduced service life or pavement distress or premature failure.

The Supplemental Assessment will be performed to determine the structural condition and adequacy of Powerhouse Road and Graves Road that may be exposed to increased traffic related to the decommissioning activities. The following will be included:

A. Identification of Project Activities and the Proposed Affected Roads
   Key components of the project, including temporary work and storage areas, will be located on maps and the project transport routes that utilize Powerhouse and Graves Roads identified. Traffic loading conditions and frequency, in terms of project-duration equivalent single axle loadings (EASLs), will be established for these roadways. Special traffic loading conditions, such as exceptionally heavy equipment and/or materials transporters will be identified specifically.

B. Geotechnical Investigation
   A geotechnical investigation will be performed on representative portions of Powerhouse and Graves Roads that may be impacted by the traffic associated with the project. The following issues will be discussed:

   1. Site Geology
      Site geology will be identified and its relevance or otherwise to the proposed project development and Powerhouse and Graves roadway system discussed. This discussion will include information on local groundwater conditions and potential influence on the roadways and their utilization.

2. Climatological and Terrain Conditions
   Climatological factors such as precipitation and freeze-thaw characteristics prevalent to the project area and influencing these two County roadways will be discussed in respect to potential impacts on roadway performance and serviceability.

3. Non-Destructive Testing of Powerhouse and Graves Roads
   Non-destructive testing of the roadway pavement will be performed with a Falling Weight Deflectometer (FWD). FWD testing results will be used to back-calculate the resilient modulus of existing subgrade soils.

4. Subsurface Investigation
   A subsurface investigation program of the identified roadways will include advancing shallow (7.5 feet to 10 feet deep) boreholes to investigate the composition and the geometry of the existing pavement sections. The spacing of the boreholes will be of the order of 500 to 600 feet. Results from the FWD testing will serve as an initial indicator to borehole spacing requirements. In general, SPT testing and soil sampling will be performed at 2.5-feet depth intervals to assess the consistency and characteristic nature of the sub grade soils. Groundwater conditions will also be noted. Logs of all boreholes will be prepared which includes SPT results and descriptions of subsurface materials and conditions encountered to permit assessment of sub grade characteristics.

5. Laboratory Testing of Soils
   Laboratory testing will be conducted on selected, representative soil samples to characterize relevant engineering properties of the on-site soils. Laboratory tests will include, but not necessarily be limited to, moisture content determinations, grain size distributions, Atterberg Limits, and other tests that are needed to characterize the subsurface soils. Soil samples obtained from cuttings will be aggregated into representative bulk specimens to be used to identify Modified Proctor moisture-density relationships, and for CBR testing.

6. Pavement Analyses
   The subsurface soil exploration results will be used to identify existing 'typical' pavement structures. Reasonable structural coefficients will be assumed for each material encountered in these pavement sections, and Structural Number (SN) values will be assigned to the existing 'typical' pavement sections. FWD testing results will be used to check if any substantial irregularities exist along the identified routes, and whether additional subsurface explorations will be warranted. Resilient modulus values for existing subgrade soils shall be estimated either from FWD testing results or using CBR ratios obtained from laboratory testing of various soils.

7. Calculation of Estimated Traffic Loading
   The traffic loading to be considered for the Powerhouse and Graves roadway sections will include all traffic generated during construction and commissioning of the proposed project. This loading will be expressed in terms of Equivalent Single Axle Load (ESAL) and will include at least the following components:

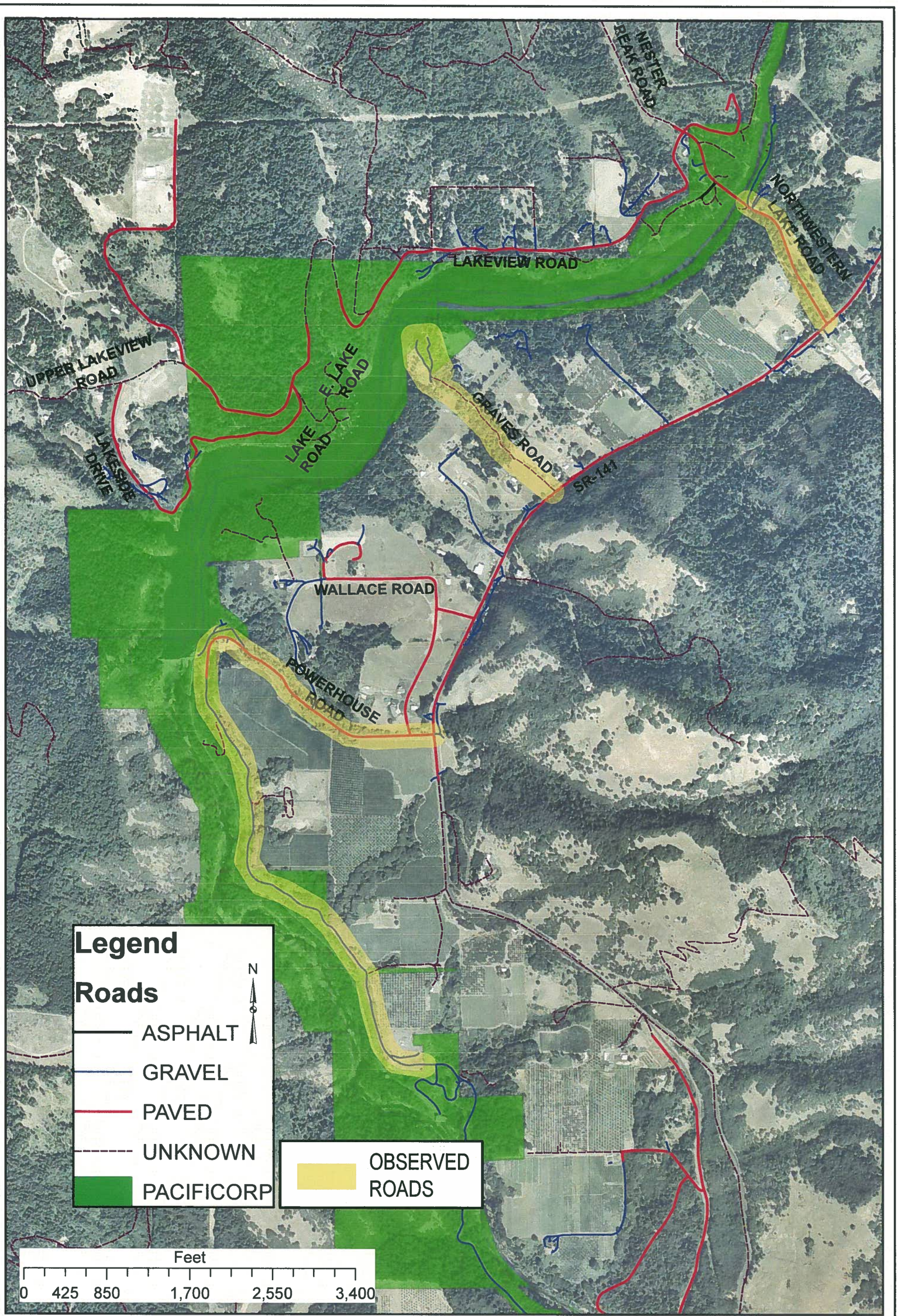
- ESALs associated with the transposition of all cranes needed
- ESALs associated with the transportation of concrete and steel
- ESALs associated with the transposition of cement or asphalt and aggregates
- ESALs resulting from the rehabilitation of the existing routes
- ESALs associated with any other activity that is not indicated above

Various relevant components of anticipated traffic loading for Powerhouse and Graves Roads will be summed together for different sections of the existing roads, and these are to be used to establish the degree of pavement rehabilitation needed.

8. Estimates of Pavement Life Based on Estimates of Project Use
   An estimate will be made of the pavement design life based on the visual assessment and geotechnical pavement investigation results. To estimate the existing remaining life of 'typical' pavement sections, data from boring logs will be used to measure the depth of each layer in the pavement section, and the results of deflectometer readings will be used to evaluate the pavement section properties. The existing pavement number will be estimated. Then a remaining pavement life will be calculated based upon the estimate of anticipated future traffic, considering both normal traffic and the anticipated traffic loading on Powerhouse and Graves Roads related to the decommissioning project. This estimated existing pavement design life will be subtracted from the estimated pavement design needed to accommodate the project, and the resulting difference will serve as the basis for recommendations of measures to rehabilitate pavements of all route sections.

Baseline Visual Assessment and Geotechnical Investigation Report
The assessment report will include all relevant data acquired in the visual assessment and geotechnical investigation process, as discussed above. Methods and means used in the assessment and investigation exploration program, as well as laboratory testing, will be described. Conclusions will be provided regarding existing pavement conditions and their serviceability or design life prior to the proposed decommissioning activities. Potential mitigation measures will, if needed, be described and reasons given for their selection. A copy of the Baseline Condition Visual Assessment and Supplemental Assessment Report will be provided to Klickitat County and the FERC.

Post-Removal Assessment
After the decommissioning contractor completes significant decommissioning activities, Kleinfelder will perform a follow-up pavement survey of Powerhouse and Graves Roads to determine the amount, if any, of roadway impact related to removal-related construction traffic to these Klickitat County roads. We will follow the same visual field survey approach described for the visual assessment. Kleinfelder will prepare a Post-Removal Condition Technical Memorandum that documents the conditions observed during the post removal assessment and compares those conditions with the observations made during the initial assessment. Recommendations will also be provided, as appropriate, for suggested further corrective actions to repair / restore roadway surfaces. A copy of the Post-Removal Condition Technical Memorandum will be provided to Klickitat County and the FERC. PacifiCorp Energy will work with the County and decommissioning contractor to implement approved corrective actions.



KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.	117312
DRAWN:	03/11
DRAWN BY:	MS
CHECKED BY:	AG
FILE NAME:	117312.ILLCS2

SITE PLAN

CONDIT DAM
ROAD PAVEMENT EVALUATION
WHITE SALMON, WASHINGTON

FIGURE: 1