4.0 CULTURAL RESOURCES SURVEY METHODOLOGY

4.1 Research Design

The purpose of the cultural resources study for the Cross Cascades Project is to identify National Register-eligible cultural properties that could potentially be affected by construction and operation of the proposed pipeline. With this in mind, HRA worked with Dames & Moore and Olympic Pipe Line Company to developed a research design that would meet the needs of the Cross Cascades Project. HRA's approach to the study was developed, in part, in reference to established regional research objectives for Washington State. General research objectives are defined in Resource Protection Planning Process (RP3) documents developed for the Washington State OAHP by cultural resource professionals (e.g., Campbell 1987; Galm et al. 1987; Rice and Stilson 1987; Stilson 1988; Wessen and Stilson 1987). The RP3 documents developed for archaeological contexts summarize the status of research within geo-political units defined by the OAHP, and identify research goals delimited by the paradigms that guide archaeological study (culture history, culture reconstruction, and culture process). The research objectives listed below are compiled from the RP3 documents (Wessen 1985). In broad terms, archaeological research in Washington State should focus on:

1. understanding the nature of change in adaptive strategy from the Paleoindian Period through the time of sustained Euroamerican contact;

2. explaining the nature of functional and technological change as evidenced by the changing frequency and diversity of functional and technological classes;

3. explaining the nature of stylistic change as evidenced by the changing frequency and diversity of stylistic classes (chronological refinement);

4. understanding the nature of the relationship among aboriginal groups from the Columbia Plateau, the Washington Cascades, the lower Columbia River valley, and the Puget Sound lowlands; and

5. understanding the nature of paleoenvironmental change and its affect on the archaeological record.

These research objectives require a regional approach to archaeological study. Evaluation of the National Register significance of cultural properties should, therefore, make use of both site-specific and regional data. Assessment of significance entails evaluation of cultural properties under a set of criteria specified in 36 CFR 60.4:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association, and:
>
> (a) that are associated with *events* (emphasis added) that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of *persons* significant in our past; or

(c) that embody the *distinctive characteristics* of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, *information* important in prehistory or history.

Archaeological sites are usually determined eligible for listing in the NRHP under Criterion (d), that is, for their potential to provide information important in archaeological research. Occasionally, archaeological deposits are evaluated for significance under one or more of the other National Register criteria. A distinctive fish weir or house feature, for example, might be considered eligible for listing under Criterion (c) for its technological characteristics. Historical sites (including archaeological deposits and standing structures) and traditional cultural properties (which can include archaeological sites and important locations or landforms lacking archaeological remains) might be eligible for listing under Criteria (a), (b), or (d).

HRA used the archaeological and historical context documents to guide significance evaluations. To be significant, archaeological sites must contain data that could be used to address one or more of the above research issues. HRA evaluated the National Register significance of cultural resources identified during field survey from available data. In those cases where significance cannot be determined from survey level data, or when Project effects to significant sites cannot be evaluated, HRA recommends archaeological testing, research, or both to further address these issues. The following conditions stipulate the need for additional work on this Project:

1. the survey data are insufficient to evaluate the significance of the cultural property;

2. the survey data are insufficient to assess the effects of the undertaking on significant cultural properties; and

3. the survey data are inadequate to permit preparation of a data recovery plan, should one be required.

In advance of fieldwork, HRA established parameters for recognizing cultural resources with little or no National Register significance. First, debris scatters and roadside litter less than 50 years of age do not constitute significant cultural remains. Such recent deposits fail to meet the criteria considerations set forth in 36 CFR 60.4. Second, buildings (e.g., houses and barns) and structures (e.g., bridges and tunnels), including existing pipeline and utility facilities, built within the last 50 years do not meet the conditions of National Register significance unless they are of exceptional importance.[1]

4.2 Cultural Resources Inventory

[1] This exception is described in National Park Service Bulletin No. 22, "How to Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last 50 Years".

Summary of Fieldwork

HRA and Dames & Moore staff surveyed the approximately 227-mile Cross Cascades Petroleum Products Pipeline between August 1995 and November 1996.[2] In late August and early September of 1995, HRA directed a sample survey of about 67 percent of the proposed pipeline route. In May of 1996, HRA and Dames & Moore staff surveyed another 18 percent of the proposed pipeline right-of-way, including a number of small re-routes, leaving approximately 15 percent of the route unsurveyed. Unfavorable field conditions, such as dense vegetation and cultivated fields, account for approximately seven percent of the unsurveyed route. Another two percent has gone unsurveyed because private landowners have denied access to the proposed right-of-way.

The remaining six percent of the pipeline route consists of two alternatives beginning just east of the town of Kittitas and continuing east to the Columbia River. The Ginkgo Alternative, which includes several possible routes, parallels Interstate 90 on its north side and crosses into Ginkgo State Park as it nears the Columbia River. The other alternative parallels Interstate 90 on its south side, running for the most part through the Yakima Training Center Expansion Area all the way to the river. At this time, Ginkgo is the preferred alternative. HRA surveyed a portion of the Yakima Training Center Alternative during fieldwork in 1995. Dames & Moore and HRA archaeologists surveyed the proposed Ginkgo Alternative in November of 1996.

Archaeological and Architectural Survey Methods

Before beginning fieldwork, project staff plotted the locations of cultural sites identified during research on project maps, USGS 7.5-minute topographic quads, and aerial photographs (when available). HRA staff also highlighted areas of potential archaeological and historical sensitivity identified during review of Washington OAHP records, GLO plats, and historical and ethnohistorical documents.

Preliminary engineering information indicates that pipeline construction disturbance will be confined to a 100-foot-wide corridor. To encompass the area of potential Project effects, HRA defined the survey area as a 200-foot-wide corridor centered on the proposed pipeline route. HRA field staff inventoried the project survey corridor by pedestrian survey using transects spaced at 30-m intervals. Field staff worked in teams of two, aligning survey transects 15m on either side of the proposed pipeline centerline.

Portions of the Project survey corridor are characterized by vegetation that significantly reduces surface visibility, particularly in the Puget Basin and the Cascades. Surface visibility in the Columbia Basin is generally good. The Western Columbia Basin is generally characterized by sagebrush steppe, open rangeland, and to a lesser extent, planted fields. The Eastern Columbia Basin is dominated by planted fields and open rangeland.

[2] The length of the proposed pipeline route used here is based on GIS data from early 1996. Subsequent changes in the pipeline route, including minor re-routes and a large alternative, have increased the length of the pipeline. HRA is using the 227-mile figure until all route changes are integrated into the GIS data and a new pipeline length can be calculated.

To control the survey bias associated with limited surface visibility, in areas where less than 50 percent of the surface is visible, field staff cleared vegetation from 1-m^2 plots at 100-m intervals during survey to inspect the ground more closely. Crew members also deviated from survey transects in low visibility areas to inspect drainage cutbanks, disturbed areas, and other surface exposures. Departure from survey transects was confined to the survey corridor.

During survey in areas characterized by significant aggradational deposits (e.g., river or creek valleys), HRA staff excavated 30-cm-diameter shovel probes, 10-cm-diameter auger tests, or 50-cm^2 shovel tests at 20- to 100-m intervals along survey transects to identify potentially buried cultural deposits. Crew supervisors selected excavation techniques appropriate to the type and depth of the sediments being evaluated.

HRA recorded cultural resources identified during the field inventory as either sites or isolated artifacts (isolates), depending on the character of the resource and its context. HRA differentiated between sites and isolates in the field using the accepted Washington State OAHP standard wherein five or more artifacts in a 10-m^2 area constitute a site. Cultural resource deposits not meeting this criterion were recorded as isolates.

HRA recorded aboriginal and historical archaeological sites on Washington OAHP-approved site forms and assigned them temporary field numbers. Field staff recorded isolates in notebooks and assigned them temporary numbers. HRA plotted the location of sites and isolates identified during the survey on USGS 7.5-minute topographic quads and Project maps. HRA plans to submit completed site forms to the client for review and to the Washington State OAHP for assignment of permanent trinomials.

During the 1995 survey, field staff numerically designated cultural resources in the field by their sampling stratum, sample unit within each stratum, and order of occurrence from west to east, thereby creating a three-number code. Numeric designations for resources discovered during the May 1996 survey are based on three parameters. The first refers to the survey crew (*W* for the western Washington crew or *E* for the eastern Washington crew), the second indicates whether the resource is a site or isolate (*S* or *I*), and the third indicates the order of occurrence in the crew's survey area (west to east for the western Washington crew, and east to west for the eastern crew). Numeric designations for sites and isolates discovered during the November 1996 survey of the Ginkgo Alternative include three components. Each begins with the letter *G* (for Ginkgo). The second component is an *S* for sites or an *I* for isolates. The last part of the number refers to the order in which the resource was recorded. For example, the designation GS-5 refers to the fifth site recorded on the Ginkgo Alternative. Numeric designations for isolates will be standardized by milepost in the final report. Sites will be designated by their permanent state trinomials.

An HRA historian recorded historic-period buildings (e.g., houses) and structures (e.g., bridges) that occur within the survey corridor and assigned them temporary site numbers. The historian photographed historic-period buildings and structures in four elevations, sketched associated complexes, and documented architectural and engineering features on approved forms. The historian did not record modern (post 1945) buildings and structures.