PUGET SOUND ENERGY
The Energy To Do Great Things

BAKER LAKE RESORT REDEVELOPMENT PLAN

SETTLEMENT AGREEMENT ARTICLE 303

BAKER RIVER HYDROELECTRIC PROJECT
FERC NO. 2150

Puget Sound Energy
Bellevue, Washington

October 2009

CONTENTS

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Acronyms and Abbreviations

BLRP	Baker Lake Resort Redevelopment Plan
FERC	Federal Energy Regulatory Commission
License	FERC Order Issuing License
LRMP	Land and Resource Management Plan
MBSNF	Mount Baker-Snoqualmie National Forest
NFS	National Forest System
Parties	Signatory participants to the Baker River Project Comprehensive Settlement Agreement
PSE	Puget Sound Energy
Project	Baker River Hydroelectric Project (FERC Project No. 2150)
ROS	Recreation Opportunity Spectrum
RRG	Recreation Resource Group
SA	Settlement Article
Settlement Agreement	Baker River Hydroelectric Project Relicensing Comprehensive Settlement Agreement
TRIG	Terrestrial Resource Implementation Group
USDA-FS	USDA Forest Service

1.0 Executive Summary

Puget Sound Energy (PSE) has developed a plan to redevelop the Baker Lake Resort into a United States Department of Agriculture Forest Service (USDA-FS) Development Level 3 campground as a condition of the new Federal Energy Regulatory Commission (FERC) License for the Baker River Hydroelectric Project (FERC Project No. 2150). The Baker Lake Resort Redevelopment Plan (BLRP) was developed in consultation with the Recreation Resource Group (RRG), the Terrestrial Resource Implementation Group (TRIG), and specifically the USDA-FS pursuant to Settlement Agreement Article 303 Baker Lake Resort Redevelopment Plan (SA 303) as described in the new FERC License. The BLRP documents PSE's commitments in the Baker River Hydroelectric Project Number 2150 Relicensing Comprehensive Settlement Agreement (Settlement Agreement), effective November 30, 2004. The BLRP specifies PSE's decommissioning and redevelopment process, including the development of a Baker Lake Resort site plan (e.g., conceptual-level drawing), a concurrency review by appropriate agencies and stakeholders, and the transfer of funds to the USDA-FS for the construction and implementation of the development site plan. Reporting related to implementation of the BLRP is described separately pursuant to SA 301 Recreation Management Report (SA 301).

2.0 Introduction

Puget Sound Energy (PSE) operates the Baker River Hydroelectric Project (Project, FERC Project No. 2150) under a license granted by the Federal Energy Regulatory Commission (FERC) on October 1, 2008. The Baker Lake Resort Redevelopment Plan (BLRP) was prepared to comply with Settlement Agreement Article 303 Baker Lake Resort Redevelopment Plan (SA 303) of the new FERC Order Issuing License (License). It was prepared in consultation with the Recreation Resource Group (RRG) and Terrestrial Resource Implementation Group (TRIG), both which include the licensee (PSE) and other signatory participants (Parties) of the Baker River Hydroelectric Project Relicensing Comprehensive Settlement Agreement (Settlement Agreement), effective November 30, 2004.

The BLRP guides the decommissioning of the existing PSE-managed Baker Lake Resort and subsequent redevelopment of the site as a United States Department of Agriculture Forest Service (USDA-FS)-managed campground. As described in more detail in Section 6.0 (*Plan Implementation*), the BLRP establishes a process for the decommissioning and redevelopment of the site, including the development of a conceptual-level site plan (depicting the general design of the reconfigured site), a concurrency review by appropriate agencies and stakeholders, and funding for the USDA-FS to complete the redevelopment of the site (based on the accepted and agreed-upon site plan). The BLRP also describes PSE's roles and responsibilities related to monitoring and reporting on the implementation status of the plan (Section 7.0 [*Monitoring and Reporting*]).

PSE distributed the Draft BLRP to the RRG for formal review (30 day review period per SA 303 requirements). RRG comments received during this review period are provided

in Section 9.0. Any RRG comments that necessitated revisions to the plan are reflected in this version of the Final Draft BLRP. The Draft BLRP will become final upon FERC review and acceptance.

2.1 Provisions for Development and Modification of the BLRP

As required by SA 303, the licensee has developed and prepared the BLRP in consultation with the RRG and specifically the USDA-FS. Potential future modifications to the BLRP will only be made by the licensee in collaboration with the RRG and with the approval of FERC. Any member of the RRG may propose a modification to the BLRP per the License Implementation and Decision-Making process, described in SA 601. If the RRG adopts a plan modification, PSE will be responsible for filing the modified plan with FERC for formal review and approval. The plan will continue to be implemented without the proposed modification until the modified plan is formally approved by FERC.

2.2 Ownership of Land and Facilities for SA 303

The BLRP applies specifically to those lands and facilities identified in Section 6.1 (*Plan Area*). The existing Baker Lake Resort is located on National Forest System (NFS) land.

2.3 Inclusion Within the Project Boundary

The BLRP applies to lands within the Project, including action areas defined in Section 6.1. The Project is located within Skagit and Whatcom counties. The majority of the Upper Baker Development is within the USDA-FS's Mount Baker-Snoqualmie National Forest (MBSNF). The Lower Baker Development occupies lands primarily owned by PSE, but about 5 percent of the area consists of lands managed by the USDA-FS and a mix of state and private ownership. The existing Baker Lake Resort is located on NFS land within the FERC Project boundary (as defined in the FERC License).

2.4 Funding SA 303

PSE will provide funding for BLRP implementation actions and measures, per the funding guidelines provided in SA 303 and License Order Appendix A-5. In addition and per SA 303, PSE expenditures on site decommissioning and redevelopment may be credited against the identified USDA-FS funding levels for site redevelopment identified in License Order Appendix A-5. PSE does not have long-term funding commitments at Baker Lake Resort (beyond decommissioning and redevelopment of the site). Potential changes to the agreed-upon funding levels (per the Settlement Agreement) will be addressed according to the funding guidelines provided in SA 602. PSE will provide an annual summary of BLRP-related expenditures made during the preceding year in conformance with the requirements of the License, including SA 301 Recreation Management Report. The funding process is described in further detail in Section 6.3 (*Procedures*).

3.0 Basis for the Plan

On November 30, 2004, PSE filed a Settlement Agreement that resolved all issues among the Parties related to the relicensing and ongoing operations of the Project.

Article 303 of the Settlement Agreement specified the requirements and expectations of the Baker Lake Resort Redevelopment Plan. In their October 1, 2008, Order Issuing License, FERC incorporated the Settlement Agreement verbatim, including SA 303, into the License as Appendix A (FERC 2008).

Note, given the year of license issuance (2008 versus 2004 as anticipated in the SA), PSE, the USDA-FS, and other members of the RRG agreed to accelerate the schedule of the Baker Lake Resort redevelopment process to begin all actions in 2009 (ahead of the License schedule).

3.1 Settlement Agreement Article 303 – Baker Lake Resort Redevelopment Plan

> Within two years of license issuance or on an alternative schedule to be submitted to the Commission for approval, the licensee shall file the Baker Lake Resort Redevelopment Plan (BLRP) with the Commission for approval.
>
> If licensee needs to submit an alternative schedule to the Commission, licensee shall prepare the schedule in consultation with the RRG. Licensee shall provide a copy of the proposed alternative schedule to the RRG at least 30 days prior to submitting the alternative schedule to the Commission, and shall forward any comments on the alternative schedule to the Commission along with the proposed alternative schedule. Upon approval, the alternative schedule becomes a requirement under the license, and the licensee shall implement the alternative schedule, including any changes required by the Commission.
>
> The licensee shall develop the BLRP in consultation with the RRG and TRIG and specifically the USDA-FS. Within eighteen months of license issuance, the licensee shall submit a draft of the BLRP to the RRG and USDA-FS for review and comment. The licensee shall include, with the BLRP filed with the Commission, an implementation schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule, after they have been prepared and provided to consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for entities to comment and to make recommendations before filing the plan revision and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on Project-specific information.
>
> The plan shall provide for redevelopment of the resort to a USDA-FS "Development Level 3" campground, as defined in the USDA-FS "Recreation Management Systems Meaningful Measures for Quality Recreation Management," dated January 2002, as amended, and the "Built Environment Image Guide for National Forests and Grasslands," dated December 2001 and shall, at a minimum, provide for the necessary decommissioning of the existing site in addition to what would be required under the termination of the Special Use Authorization, including building removal and the development of between 30-50 campsites.
>
> The licensee shall, for the purpose of contributing to the redevelopment of Baker Lake Resort, make funding available to the USDA-FS in an amount not to exceed that shown in the Recreation Implementation Schedule attached as Appendix A-5. In the event licensee has taken any action to redevelop or decommission the site pursuant to the Special Use Authorization, any expenditures related to the actions taken will be credited against the required funding for this article."

3.2 Relationship to Other Articles of the License and Settlement Agreement

SA 303 was incorporated into the License, along with the other proposed articles of the Settlement Agreement. In addition to incorporating the Settlement Articles, the License is subject to conditions submitted by SA 301, "Recreation Management Report." Under the conditions of SA 301, PSE will provide an annual report that includes a description of how PSE, agencies, and tribes coordinated the implementation of SA 303 to the Parties per the schedule in SA 301 for a 60-day review. Activities conducted during the previous 12 months (January 1-December 31) and the status of development or implementation of measures will be summarized in each annual report.

4.0 Goals

The goals and associated objectives of the BLRP include the following:

Goal 1 – Decommission the existing Baker Lake Resort and relinquish all responsibility for Resort operations upon satisfactory fulfillment of the terms of the Special Use Authorization.

- **Objective 1A –** PSE to decommission the existing Baker Lake Resort, including actions required by the normal termination of the Special Use Authorization between PSE and the USDA-FS.
- **Objective 1B –** Pending decommissioning actions, PSE to transfer management responsibility for the Baker Lake Resort to the USDA-FS per the normal termination process required by the Special Use Authorization.

Goal 2 – Redevelop the existing Baker Lake Resort to a USDA-FS Development Level 3 Campground.

- **Objective 2A –** In cooperation with the RRG and in particular the USDA-FS, PSE to develop design drawings (e.g., a conceptual-level site plan, preliminary design drawings, construction-level documentation, etc.) for redevelopment of the Baker Lake Resort to a USDA-FS Development Level 3 campground.
- **Objective 2B –** PSE to lead a concurrency review of the proposed design drawings with the RRG and other interested agencies to ensure compliance with state and federal resource protection measures.
- **Objective 2C –** Pending the concurrency review (led by PSE), completion of design drawings (approximately 50-60 percent complete) for the new campground (PSE responsibility), and decommissioning of the existing site (by PSE), PSE to fund the USDA-FS to implement and construct the new campground per the agreed-upon site plan. The USDA-FS will be responsible for managing the new campground.

5.0 Regulatory Reference and Definitions

Implementation of the BLRP will be conducted following regulatory guidance of various federal, state, and local authorities and in compliance with applicable environmental permitting requirements. Since the Baker Lake Resort site is on NFS lands, the BLRP relies primarily on appropriate USDA-FS planning and development regulatory guidance (as described below). While not described here, the redevelopment of Baker Lake Resort

into a Development Level 3 USDA-FS campground will include appropriate federal, state, and local environmental and cultural resource analyses, compliance, and permitting (Section 6.0 provides an overview of information related to environmental and cultural resource compliance and permitting).

5.1 Federal Authority and Reference

The MBSNF Land and Resource Management Plan (LRMP), as amended, applied to all NFS lands around Baker Reservoir, including the Baker Lake Resort site (USDA-FS 1990). The MBSNF LRMP identified developed recreation opportunities and facilities as an important use of the forest. It projects demand for developed recreation to increase steadily throughout the life of the plan. To help accommodate the expected increase in demand, emphasis is placed on improving existing popular campgrounds and other developed facilities. Redevelopment of the Baker Lake Resort into a Development Level 3 USDA-FS campground will help address demand and the resulting need for new and improved developed recreation opportunities and facilities in the MBSNF.

To supplement the MBSNF LRMP, more specific campground development and design guidelines are provided in two USDA-FS system-wide reference documents: (1) Recreation Management Systems Meaningful Measures for Quality Recreation Management (USDA-FS 2002), and (2) Built Environment Image Guide for National Forests and Grasslands (USDA-FS 2001). The BLRP will rely on each of these documents to guide redevelopment of the Baker Lake Resort into a USDA-FS campground. In addition to these design guidelines, the Forest Service Outdoor Recreation Accessibility Guidelines will also be used to ensure Americans with Disabilities Act compliance at the redeveloped site.

5.1.1 Meaningful Measures for Quality Recreation Management

The USDA-FS uses this management system to help determine costs related to national quality standards. The system relies on "predetermined and national quality standards to help ensure (1) cost-effective, responsive, and accountable delivery of high-quality recreation opportunities and (2) reasonable consistent, uniform, and similar types of opportunities (e.g., developed-site camping) across different locations" (Jaten and Driver 1998). The system includes a decision-making process that is responsive to changes in funding, priorities, and visitor preferences, as well as a set of national quality standards. The quality standards are grouped into five broad categories including health and cleanliness, resource setting, safety and security, responsiveness, and condition of facilities. Appendix A of the BLRP provides a list of the national quality standards associated with each of these broad categories.

The Meaningful Measures for Quality Recreation Management system also provides a development scale for developed recreation facilities on NFS lands. The development scale ranges from Level 1 (minimum development) to Level 5 (maximum development). Each development level is generally associated with an appropriate Recreation Opportunity Spectrum (ROS) class. For example, a Development Level 1 facility equates to a Primitive ROS class (with minimal site modification), and a Development Level 5 facility equates to an Urban ROS class (with a high degree of site modification). Per SA 303, the redeveloped Baker Lake Resort campground will meet the general

design criteria of a Development Level 3 campground, which relates to a Rural ROS class.

Per the Forest Service Manual 2300 – Recreation, Wilderness, and Related Resource Management (as referenced in Meaningful Measures), the level of site modification for a Development Level 3 or Rural ROS class developed recreation facility is defined as:

> "Site modification moderate. Facilities about equal for protection of natural site and comfort of users. Contemporary/rustic design of improvements is usually based on use of native materials. Inconspicuous vehicular traffic controls usually provided. Roads may be hard surfaced and trails formalized. Development density about 3 family units per acre. Primary access may be over high standard roads. Interpretive services informal, but generally direct." (USDA-FS 2006)

Specific to campgrounds, USDA-FS design guidance indicates that a campsite should include a picnic table, fire grill or ring, parking spur, and defined location for a tent or recreational vehicle (RV). Appendix B of the BLRP provides a complete list of campground and campsite design guidance, as described in Forest Service Manual 2300.

5.1.2 Built Environment Image Guide for National Forests and Grasslands

This document provides region-specific design guidelines for administrative and recreation facility development on NFS lands. The intent of the guide is "to improve the image, aesthetics, sustainability, and overall quality of Forest Service facilities consistent with the agency's role as leaders in land stewardship" (USDA-FS 2001). The guide provides recommendations and examples of appropriate facility design for each of the USDA-FS regions in the United States. The Project and specifically Baker Lake Resort are within the USDA-FS North Pacific Province. Appendix C of the BLRP includes the chapter of the Built Environment Image Guide for this province, as well as ROS design-related guidance.

5.2 Washington State Authority and Reference

State and local authorities generally do not provide recreation facility development direction or guidelines that are applicable to the BLRP.

5.3 Definitions

A list of acronyms is provided following the Table of Contents.

6.0 Plan Implementation

This section outlines specific implementation and management components of the BLRP, as defined in SA 303.

6.1 Plan Area

The Plan Area, as defined in SA 303, includes the Baker Lake Resort, located on the western shoreline of Baker Reservoir. As noted previously, this site is within the FERC Project boundary.

6.2 Background Information

Several recreation-related relicensing studies were completed in 2003 and 2004. Pertinent information and resulting proposed recreation-related protection, mitigation, and enhancement measures from the recreation studies were included in PSE's License Application that was submitted to FERC in January 2005 (PSE 2005). In particular, the recreation studies and License Application indicated a need to fully utilize and redevelop the Baker Lake Resort site to help meet identified camping needs at the Project, especially considering the site's highly desirable location on the western shoreline of Baker Reservoir between two creeks. The location provides high-quality physical and scenic water access, as well as a good mix of open space and forested areas.

As a condition of the previous License, PSE operated the Baker Lake Resort under a Special Use Authorization from the USDA-FS. The Special Use Authorization was scheduled to expire in 2008, but PSE and the USDA-FS extended it through 2009 to meet relicensing schedule needs. The current site includes campsites (some with RV hook-ups), showers, cabins, dock, boat rentals, swim beach, picnic area, and a convenience store. During the relicensing process, PSE determined that it is uneconomical to continue operating the Baker Lake Resort. PSE arrived at this conclusion based on several factors: (1) the peak recreation season is limited to a 2-month period, (2) the cost of operation and maintenance of the structures and facilities of a resort level development is high (especially given the short operating season), and (3) the capital investment required to replace old structures is prohibitively expensive (Huckell/Weinman Associates 2004).

During the relicensing process, PSE decided to not renew the Special Use Authorization with the USDA-FS for the Baker Lake Resort site given these economic constraints. Per system-wide management directives, the USDA-FS did not want to take over a commercial resort, although it identified the Baker Lake Resort site as appropriate for redevelopment into a USDA-FS-managed campground. As a requirement of the Special Use Authorization and a condition of the Settlement Agreement, PSE must decommission and remove all privately owned structures and improvements at Baker Lake Resort (although the USDA-FS may negotiate to retain some facilities). Per SA 303, PSE will contribute a portion of the funding for construction of the new Development Level 3 campground to the USDA-FS to redevelop the site.

As a redeveloped USDA-FS campground, the Baker Lake Resort site will help fill existing demand for lakeside campground units at the Project and in the region. Other USDA-FS lakeside campground sites are in high demand and are currently operating at higher-than-sustainable occupancy levels. The Baker Lake Resort site will help relieve the existing high use levels and resulting resource impacts that are occurring at some campgrounds and dispersed/overflow campsites during the peak season. Redeveloping the site as a Development Level 3 campground will also reinforce a transition from the higher-developed core area around the Horseshoe Cove/Bayview campgrounds to the quieter, less-developed upper lake area, which ends at the Baker River trailhead and backcountry area of the North Cascades National Park.

As determined during the relicensing process, the Baker Lake Resort site will be redeveloped as a USDA-FS Development Level 3 (Rural ROS class) campground. The total number of campsites will be reduced to approximately 50 sites. Other

redevelopment considerations include adjusting the spacing of campsites to 3 sites per acre (to reduce impacts on old-growth forest stands), improving traffic flow, replacing components of the aging infrastructure, adding accessible features, and improving day use facilities (to partially mitigate the loss of commercial services).

6.3 Procedures

As described in SA 303, PSE will decommission the existing Baker Lake Resort (currently operated by PSE under a Special Use Authorization) and redevelop the site as a USDA-FS Development Level 3 campground. The decommissioning and redevelopment process is described below.

6.3.1 Decommissioning Strategy

Per the conditions of the Special Use Authorization, PSE is required to decommission Baker Lake Resort. Decommissioning generally includes the removal of all privately owned structures and other improvements currently located at the site. To guide an efficient and effective decommissioning process, PSE will develop a decommissioning strategy. The decommissioning strategy will describe all of PSE's obligations and actions at Baker Lake Resort, including a schedule, funding overview, and standards and guidelines for removing specific site features. It will be developed in consultation with the RRG and the USDA-FS and will be included in the Baker Lake Resort Redevelopment Implementation Plan (as described in Section 6.3.4).

6.3.2 Redevelopment Site Plan

In addition to the decommissioning strategy, PSE will also be responsible for preparing a redevelopment site plan for the Baker Lake Resort site. The redevelopment site plan will be based on USDA-FS design guidelines for a Development Level 3 campground. Appendices 2, 3, and 4 of the BLRP provide USDA-FS design guidance that will be considered and included as appropriate in the redevelopment site plan. The redevelopment site plan will also incorporate the following provisions:

- Vegetation management
- Accessibility
- Campsite density
- Internal circulation
- Campsite amenities/facilities
- Day use facilities
- Potable water

The redevelopment site plan will include a site-specific design narrative and guidelines, as well as a design drawing. The design drawing, including subsequent construction-level documentation, will be developed per an established schedule and reviewed at appropriate intervals by the RRG and other appropriate entities (see Section 6.3.3). Construction-level documentation will include, at a minimum, the following information:

- Enlargement of design plans to 20 or 30 scale
- Site layout and grading/drainage plans
- Utility Plan refinement and details
- Restoration and screen planting design
- Detail drawings: well house, generator building, entrance station (kiosk/pay station), shelter, restrooms, tables, fire rings, group grill, retaining wall, group fire pit, log barrier edge, bumper stops, among others
- Technical specifications

The redevelopment site plan (design drawing – 50-60 percent complete) will be developed in consultation with the RRG and the USDA-FS and will be included in the Baker Lake Resort Redevelopment Implementation Plan (as described in Section 6.3.4).

6.3.3 Concurrency Review

PSE will solicit review and comment on both the decommissioning strategy and redevelopment site plan by appropriate federal, state, and local agencies. The intent of this concurrency review is to ensure that the decommissioning and subsequent redevelopment of the Baker Lake Resort site meet applicable resource (e.g., terrestrial, historic/cultural, etc.) protection guidelines and requirements. However, since the Baker Lake Resort is on NFS lands, the USDA-FS retains authority over all final decisions at this site. In addition to the RRG and USDA-FS, the following agencies/management entities will also be asked to provide input and approval on the decommissioning strategy and redevelopment site plan:

- U.S. Fish and Wildlife Service
- Washington Department of Fish and Wildlife
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- State Historic Preservation Office
- Tribes

PSE will acknowledge and respond to any suggested revisions and/or objections by these agencies/management entities regarding the decommissioning strategy and redevelopment site plan. In the event that there are issues/concerns that cannot be resolved via normal communication processes, PSE will initiate the dispute resolution process described in SA 601. The concurrency review process, including all applicable correspondence between PSE and agencies/management entities, will be included in the Baker Lake Resort Redevelopment Implementation Plan (as described in Section 6.3.4).

6.3.4 Implementation Plan

PSE will compile the decommissioning strategy, redevelopment site plan, and concurrency review in a Baker Lake Resort Redevelopment Implementation Plan. The implementation plan will also include a detailed schedule, funding milestones, and clearly defined roles, responsibilities, and standards regarding implementation actions. In addition to agency/management entity review of the decommissioning strategy and redevelopment site plan (as described in Sections 6.3.1 – 6.3.3), PSE will prepare two review drafts (an informal preliminary review draft and an official review draft) of the implementation plan for RRG and USDA-FS review. The review process will be documented and included in the Final Baker Lake Resort Redevelopment Implementation Plan.

6.4 Schedule

Per SA 303, PSE will prepare a draft BLRP for RRG review within 18 months of License issuance (i.e., by March 2010). Members of the RRG will have at least 30 days to review and provide comments on the draft BLRP. Pending revisions, PSE will complete and file the BLRP, including RRG comments and potential plan revisions, with FERC within 2 years of License issuance (i.e., by October 1, 2010). Given the year of license issuance (2008 versus 2004 as anticipated in the SA), PSE, the USDA-FS, and other members of the RRG agreed to accelerate the schedule of the Baker Lake Resort redevelopment process to begin all actions in 2009 (ahead of the License schedule), including filing the BLRP with FERC prior to the 18 month after License issuance deadline.

As noted in Section 6.3, PSE will also prepare a Baker Lake Resort Redevelopment Implementation Plan in consultation with the RRG and specifically the USDA-FS. This plan will include a detailed schedule for decommissioning and redevelopment actions (in addition to other components identified in Section 6.3). The proposed implementation plan schedule may be revised, as needed, to best meet PSE and USDA-FS needs.

6.5 Consistency with Other Plans

The BLRP will be implemented consistent with the standards and requirements of all other plans prepared to comply with the License. If the requirements of the BLRP conflict with one or more other License-required plans, the RRG and other affected resource implementation group(s) will resolve the conflict.

7.0 Monitoring and Reporting

This section describes the monitoring and reporting requirements of the BLRP, as documented in SA 303.

7.1 Monitoring

PSE's monitoring responsibilities associated with implementation of SA 303 will be identified during the development of the Baker Lake Resort Redevelopment Implementation Plan. Since the site will revert to USDA-FS management per SA 303, long-term monitoring requirements at this site will be the responsibility of the USDA-FS.

7.2 Reporting

BLRP-related reporting will be included in the annual Recreation Management Report (as required by SA 301). The Recreation Management Report will include a summary of License implementation actions and measures, funding and expenditures, and potential revisions to the implementation schedule, among other components. PSE is required to allow the RRG and USDA-FS at least 60 days to comment on a draft version of the Recreation Management Report before filing it with FERC.

8.0 References

FERC (Federal Energy Regulatory Commission). 2008. Puget Sound Energy, Inc. Project No. P-2150-033, 07: Order on Offer of Settlement, Issuing New License, and Dismissing Amendment Application as Moot. Washington, D.C. October 17, 2008.

Huckell/Weinman Associates. 2004. Recreation Needs Analysis (Study R16). Final Draft Report. Baker River Project Relicensing, Recreational and Aesthetics Resources Working Group. Kirkland, Washington. June 2004.

Jaten, A., and B.L. Driver. 1998. Meaningful Measures for Quality Recreation Management. Journal of Park and Recreation Administration. Vol. 16(3): 43-57.

PSE (Puget Sound Energy). 2005. Baker River Hydroelectric Project (FERC No. 2150): Application for a New License (Major Project – Existing Dam). Bellevue, Washington. Submitted to FERC in January 2005.

USDA-FS (USDA Forest Service). 1990. Mt. Baker-Snoqualmie National Forest Land and Resource Management Plan. R6-MBS-004-1990. U.S. Government Printing Office.

USDA-FS. 2001. The Built Environment Image Guide for National Forests and Grasslands. FS-710. September 2001.

USDA-FS. 2002. Recreation Management Systems Meaningful Measures for Quality Recreation Management (Developed Sites Costing Instructions). Washington, D.C. February 5, 2002.

USDA-FS. 2006. Forest Service Manual 2300 – Recreation, Wilderness, and Related Resource Management. http://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsm?2300. Washington, D.C. May 22, 2006.

9.0 RRG Review Comments and Responses

PSE distributed the Draft BLRP for formal RRG review on August 19, 2009. This section includes a record of RRG comments received during the formal 30-day review period, as well as PSE responses to these comments.

9.1 Distribution List

Table 1 lists the stakeholders who received copies of the Draft BLRP for formal review.

Table 1. Baker Lake Resort Redevelopment Plan Reviewers

Name	Organization	Address
Paula Mann	Town of Concrete	PO Box 39, Concrete, WA 98237
Brock Applegate	WA Dept Fish & Wildlife	PO Box 1100, LaConner, WA 98257-9612
Norma Joseph	Sauk-Suiattle Indian Tribe	5318 Chief Brown Ln, Darrington, WA 98241
Stan Walsh	Sauk-Suiattle Indian Tribe/Swinomish Indian Tribe	Po Box 368, LaConner, WA 98257
Brian Adams	Skagit County Parks & Recreation	315 S 3rd St, Mount Vernon, WA 98273
Patrick Goldsworthy	North Cascades Conservation Council	PO Box 95980, Seattle, WA 98145-2980
Jim Eychaner	RCO	1111 WA Dept Natural Resources Building, Olympia, WA 98501
JoAnne Gustafson	Dept of Natural Resources	919 N Township, Sedro Woolley, WA 98284
LouEllyn Jones	US Fish & Wildlife Service	510 Desmond Dr, Lacey, WA 98503
Scott Schuyler	Upper Skagit Indian Tribe	25944 Community Plaza, Sedro Woolley, WA 98284
Greta Movassaghi	USDA-FS	810 SR 20, Sedro Woolley, WA 98284
Ann Dunphy	USDA-FS	810 SR 20, Sedro Woolley, WA 98284

9.2 Cover Letter

This section includes a copy of the cover letter that PSE included with the Draft BLRP that was mailed to the stakeholders listed in Section 9.1 for review.

PUGET SOUND ENERGY
The Energy To Do Great Things

Puget Sound Energy
P.O. Box 97034
Bellevue, WA 98009-9734
PSE.com

Baker River Project, FERC No. 2150

August 19, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT

[Insert Name]
[Insert Address]

Re: Baker River Hydroelectric Project, FERC No. 2150
Draft Baker Lake Resort Redevelopment Plan, License SA 303
Submittal for Consultation

Dear *[Insert Name]*:

On October 17, 2008, the Federal Energy Regulatory Commission (FERC) issued a new license for Puget Sound Energy, Inc.'s (PSE's) Baker River Hydroelectric Project (FERC No. 2150). In license SA Article 303, FERC directed that PSE, after consultation with the parties to the Settlement, file a Baker Lake Resort Redevelopment Plan (BLRP), SA 303.

In accordance with SA Article 303, PSE conducted consultation with the Recreation and Aesthetics Resources Implementation Group, composed of representatives from the Settlement parties to develop a preliminary draft of the BLRP and receive initial comments and suggestions. These suggestions and comments were incorporated into a draft BLRP. Once suggestions and comments have been incorporated into the BLRP, PSE is required to allow a minimum of 30 days for the agencies to comment and make recommendations on the draft BLRP prior to filing the final plan with FERC.

Enclosed with the letter is the Formal Draft BLRP. Please review this plan and send your comments and/or recommendations to me. You may submit your comments using the enclosed reply form. **Please respond with your reply by September 19, 2009.**

The draft BLRP is being distributed to the persons listed in the attached Distribution List. This list represents persons previously identified to PSE as the appropriate representative for the respective consulting party's review of SA Article 303 issues. If any recipient wishes to change their designated representative for subsequent transmittals, please submit a written request to me providing the contact information for the desired recipient.

BLRP formal 30-day review letter.docx
BAK.20090811.0153.PSE.RRG:

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Thank you for your efforts in supporting this process. If you have any questions, please call me at 360-424-2912 or e-mail me at pamela.garland@pse.com.

Sincerely,

Pam Garland
Recreation Supervisor

Enclosures

cc: Ann Dunphy and Greta Movassaghi, USDA-FS; Scott Schuyler, Upper Skagit Indian Tribe; Norma Joseph and Stan Walsh, Sauk-Suiattle Indian Tribal Community; Stan Walsh, Swinomish Tribal Community; Brock Applegate, WA Dept of Fish and Wildlife; Patrick Goldsworthy, North Cascades Conservation Council; Paula Mann, Town of Concrete; Brian Adams, Skagit County Parks & Recreation; Jim Eychaner, RCO; JoAnn Gustafson, WA Dept of Natural Resources; LouEllyn Jones, US Fish and Wildlife Service; Kim Lane, Cary Feldmann and Hillary Sibley, PSE.

BLRP formal 30-day review letter.docx
BAK.20090811.0153.PSE.RRG:

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9.3 Summary of Reviewer Replies

The following reviewers sent comments to PSE about the BLRP (see Section 9.4 for details).

- Patrick Goldsworthy, North Cascades Conservation Council
- LouEllyn Jones, US Fish and Wildlife Service

The following reviewers replied but had no comments.

- JoAnne Gustafson, Washington Department of Natural Resources
- Paula Mann, Town of Concrete
- Jim Eychaner, Washington Recreation and Conservation Office
- Norma Joseph, Sauk-Suiattle Tribal Community
- Greta Movassaghi, USDA-FS

9.4 Reviewer Comments and PSE Responses

Table 2 summarizes RRG reviewer comments on the BLRP and PSE's responses to these comments.

Table 2. Comments Following Formal Review of the Baker Lake Resort Redevelopment Plan, August 19 – September 19, 2009

Comment	Puget Sound Energy Response
Patrick Goldsworthy, North Cascades Conservation Council, received September 3, 2009	
The completely expressed ranges of issues, goals, implements, and enforcements are well outlined with appropriate regulations. In the Final BLRP, a map showing agreed upon features and locations must be included.	Comment noted. The future Baker Lake Resort Redevelopment Implementation Plan will include a site redevelopment plan [design drawing] (as described in Section 6.3.4, Implementation Plan).
LouEllyn Jones, US Fish and Wildlife Service, received September 18, 2009	
As per the Biological Opinion for the Baker Project, garbage containers should be wildlife-resistant. The plan should contain language that includes the requirement for and PSE's commitment to providing wildlife-resistant refuse containers and management practices that will reduce the ability of wildlife to access garbage and refuse.	PSE will comply with the Biological Opinion through the provision of wildlife-resistant garbage containers at recreation sites and use area at the Project. Wildlife-resistant garbage containers will be described/specified in the future Baker Lake Resort Redevelopment Implementation Plan and placed at the developed Baker Lake Resort.

9.5 Comment Correspondence

This section includes correspondences from those RRG reviewers who provided comments on the BLRP.

mailed back 8/31/09

8/20/09

Baker Consultation Reply Form

PUGET SOUND ENERGY
The Energy To Do Great Things

REPLY FORM to Baker River Hydroelectric Project
Draft BLRP
Submittal for Consultation

Name: Patrick Goldsworthy

Job Title:

Representing: North Cascades Conservation Council

Address: 2514 Crestmont Pl W

City, State, Zip: Seattle, WA 98199

Instructions: Please select from the following options:

☐ I have read the draft BLRP Plan and I have no comments.

☒ I have read the draft BLRP Plan and I have comments, listed below. (Please use additional paper, if needed).

The completely expressed ranges of issues, goals, implements , and enforcements are well outlined with appropriate regulations. In the FINAL BLRP , a map showing agreed upon features and locations must be included.

☐ I have read the draft Baker Lake Resort Redevelopment Plan (BLRP) Plan and I will email my comments to *pamela.garland@pse.com*.

☐ I do not wish to be involved in the consultation process.

Important:

Please send this reply via the self-addressed envelope and mail no later than ***September 14, 2009.***

Date Reply Form Received by PSE: Sept. 3, 2009

Patrick D. Goldsworthy

N:\2009\FERC\Draft Rec Management Plans\BLRP\Formal 30-day review\Reply Forms\Patrick reply.doc
PC 07772-0242/LEGAL14483052.1

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06/09

cc PG, MTB, TB, JP RRG

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Baker Consultation Reply Form

PUGET SOUND ENERGY
The Energy To Do Great Things

REPLY FORM to Baker River Hydroelectric Project
Draft BLRP
Submittal for Consultation

Name: LouEllyn Jones

Job Title:

Representing: US Fish and Wildlife Services

Address: 510 Desmond Dr

City, State, Zip: Lacey, WA 98503

Instructions: Please select from the following options:

☐ I have read the draft BLRP Plan and I have no comments.

☒ I have read the draft BLRP Plan and I have comments, listed below. (Please use additional paper, if needed).

on PAGE A3-5 2333.53 Refuse + garbage disposal

☒ I have read the draft Baker Lake Resort Redevelopment Plan (BLRP) Plan and I will email my comments to *pamela.garland@pse.com.*

☐ I do not wish to be involved in the consultation process.

Important:

Please send this reply via the self-addressed envelope and mail no later than ***September 19, 2009.***

Date Reply Form Received by PSE: 9-18-09

N:\2009\FERC\Draft Rec Management Plans\BLRP\Formal 30-day review\Reply Forms\LouELlyn reply.doc Page 1 of 1
PC 07772-0242/LEGAL14483052.1 06/09

Garland, Pamela K

From: LouEllyn_Jones@fws.gov
Sent: Friday, September 18, 2009 8:00 AM
To: Garland, Pamela K
Subject: Comments on the Baker Lake Resort Redevelopment Plan

Hi Pam. On page A3-5 2333.53 Refuse and garbage disposal.
As per the Biological Opinion for the Baker Project, garbage containers should be wildlife-resistant. The plan should contain language that includes the requirement for and Puget's committment to providing wildlife-resistant refuse containers and management practices that will reduce the ability of wildlife to access garbage and refuse. Thank you.

"What is the good of having a nice house without a tolerable planet to put it on?"

- Henry David Thoreau

Lou Ellyn Jones, Fish and Wildlife Biologist Division of Conservation and Hydropower Planning Western Washington Fish and Wildlife Office U.S. Fish and Wildlife Service 510 Desmond Dr.
Lacey, WA 98503

telephone: 360-753-5822
fax: 360-753-9518
Louellyn_jones@fws.gov

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Appendix A: USDA-FS Meaningful Measures for Quality Recreation Management – National Quality Standards for Developed Sites

This appendix includes the national quality standards for developed recreation sites on NFS lands as described in Meaningful Measures for Quality Recreation Management (USDA-FS 2002).

Developed Site Quality Standards

Note: Those criteria listed below with an asterisk (*) are considered critical national standards. If not met, the resulting conditions pose a high probability of immediate or permanent loss to people or property.

Key Measure: HEALTH AND CLEANLINESS

1. *Visitors are not exposed to human waste.
2. *Water, wastewater, and sewage treatment systems meet federal, state and local water quality regulations.
3. Garbage does not exceed the capacity of garbage containers.
4. Individual units and common areas are free of litter including domestic animal waste.
5. Facilities are free of graffiti.
6. Restrooms and garbage locations are free of objectionable odor.
7. Constructed features are clean.

Key Measure: RESOURCE SETTING

1. *Effects from recreation use do not conflict with environmental laws (such as ESA, NHPA, Clean Water, TES, etc)
2. Recreation opportunities, site development, and site management are consistent with Recreation management system (ROS, SMS, BBM) objectives, development scale, and the Forest Land Management Plan.
3. Landscape character at the developed recreation site is consistent with the Forest scenic integrity objectives.
4. Visitors and vehicles do not exceed site capacity.

Key Measure: SAFETY & SECURITY

1. *High-risk conditions do not exist in developed recreation sites.
2. *Utility inspections meet federal, state, and local requirements.
3. Laws, regulations and special orders are enforced.
4. Visitors are provided a sense of security

Key Measure: RESPONSIVENESS

1. *When signed as accessible, constructed features meet current accessibility policy.
2. Visitors feel welcome.
3. Information boards are posted in a user-friendly and professional manner.
4. Visitors are provided opportunities to communicate satisfactions (needs, expectations).
5. Visitor information facilities are staffed appropriately during seasons of use and current information is available.
6. Recreation site information is accurate and available from a variety of sources and outlets.

Key Measure: CONDITION OF FACILITIES

1. Constructed features are serviceable and in good repair throughout the designed service life
2. Constructed features in disrepair due to lack of scheduled maintenance, or in non-compliance with safety codes (e.g. life safety, OSHA, environmental, etc.) or other regulatory requirements (ABA/ADA, etc.), or beyond the designed service life, are repaired, rehabilitated, replaced, or decommissioned.
3. New, altered, or expanded constructed features meet Forest Service design standards and are consistent with an approved site development plan, including an accessibility transition plan.

Appendix B: USDA-FS Forest Service Manual 2300 – Recreation, Wilderness and Related Resource Management – Campground Site Development Guidance

This appendix provides an excerpt of FSM 2300 pertinent to campground design and development.

2333 - Site and Facility Planning and Design

The direction in this section applies to all Federal recreation sites and facilities on National Forest System lands.

2333.03 - Policy

1. Prepare site plans before construction, rehabilitation, or expansion of a site. Site plans must show the specific location and design of facilities and must provide for control of traffic, sanitation, public safety, site protection, grading, landscape planting, and use distribution.
2. Use the recreation opportunity spectrum class and development scale established in management plans in site designs (ex. 01, FSM 2330.3). Accommodate environmental concerns identified in the environmental assessment in site designs. Carefully consider the cost of installing facilities, as well as future operation and maintenance costs.
3. Design facilities, such as roads, barriers, paths, and water and sanitation systems, so that they are as natural, simple, and unobtrusive as possible. Design and build rustic-looking facilities so that they become part of the attraction. For example, use hand pumps rather than hydrants, plantings of berry bushes for barriers, and wood posts rather than steel posts.
4. Design and install facilities that are:
    a. Simple and durable in nature, adequate for the intended function, and devoid of unnecessary frills and personal preference options.
    b. Cost-efficient both from the standpoint of initial installation and continued operation and maintenance.
    c. In close harmony with the surrounding environment.
    d. Safe to use and in conformance with all applicable standards.
    e. Suitable for both traditional and nontraditional users.
    f. In compliance with the authorities at FSM 2330.12 setting out Federal and agency requirements related to the accessibility and design of recreation programs, sites, and facilities.
5. Comply with the Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) (FSM 2330.12, para. 7) when agency programs, sites or facilities are not addressed in Federal accessibility standards (FSM 2330.12, para. 2) or when the

FSORAG establishes an equal or higher standard than Federal accessibility standards (FSM 2330.12, para. 2).

2333.1 - Site Selection

In general, select the most desirable and attractive lands available for development of recreation sites. Whenever possible, lands must:

1. Be closely associated with recreation features such as lakes, streams, meadows, or unusual scenery.
2. Be accessible by planned road development.
3. Have a good water supply.
4. Have attractive vegetative cover and shade.
5. Have gentle topography with less than a 10 percent slope.
6. Have sufficient capacity to allow economical operation and maintenance.

2333.2 - Design Narrative

The land manager shall describe the management objectives, design criteria, and limiting factors for all sites to the designer before designing begins. As a minimum, the design narrative must include:

1. Existing physical conditions.
2. Past, present, and proposed recreation opportunities and other uses.
3. Anticipated management problems that the design may minimize.
4. Management objectives and criteria.

2333.3 - Site Design Parameters

Design sites to protect vegetative cover, reduce site damage, and preserve the focal points of interest.

2333.31 - Site Protection

1. Use facilities or techniques that confine vehicles to planned roads and parking locations.
2. Locate broad and direct, although not necessarily straight, paths or walks to concentrate pedestrian use where it would most naturally occur and can best be accommodated.
3. Harden sites in naturally appearing ways in the vicinity of heavily used improvements to protect the resource.
4. Avoid designs that concentrate people in the area directly adjacent to focal point of interest.
5. Locate and arrange facilities to serve their intended function with a minimum impact on the visual resource.

2333.32 - Site Capacity

Ensure that the capacity of the site matches the desired recreation opportunity spectrum class and the ability of the site to withstand use.

2333.33 - Integrated Accessibility/Universal Design

Ensure that new, altered or reconstructed buildings, recreation sites and constructed features utilize universal design to accommodate all people, including persons with disabilities, to the greatest extent possible. Eliminate architectural barriers that limit use or enjoyment of recreation opportunities.

2333.34 - Fire Protection

Where fires for cooking or warming purposes will be allowed, install fire-containing devices for proper control of the fire. Protect developments located on lands in highly hazardous fuel types by the construction and maintenance of a firebreak around the developed area.

2333.35 - Landscaping and Vegetation Management

Include locations and specifications for planting trees, shrubs, and ground cover in recreation site plans when needed for screening, covering construction scars, providing shade, attractiveness, controlling erosion, minimizing noise, and replacing artificial barriers for traffic control.

2333.4 - Facility Design Principles

2333.41 - Safety Factors

Incorporate design elements to promote safety and follow accepted professional engineering principles.

2333.42 - Function

Designs must serve the intended function fully, safely, and conveniently.

2333.43 - Appearance

Appearance must be appropriate to the forest environment and to the development scale of the site. The form and general shape, construction materials, and colors must combine to produce a visually pleasing facility that presents a minimum of contrast with surroundings. No ornate, elaborate, or pretentious structures shall be designed for facilities on National Forest System lands. Strive for a rustic contrast to urbanization.

2333.44 - Durability

Use durable materials to prolong the period of serviceability and facilitate economical maintenance.

2333.45 - Form and Shape

To the extent feasible, the overall mass and outline of improvements must be inconspicuous and must not contrast unnecessarily with natural forms on the site.

Design should emphasize low and predominantly horizontal lines. Strong vertical, spherical, or other unusual forms should be avoided.

2333.46 - Materials

Select materials of a rustic appearance that harmonize with the natural setting. For example, adobe stucco is appropriate in the desert and semi-desert locales.

2333.47 - Colors

Discourage the use of bright colors. Stains are preferable to paints for outside wood surfaces. In general, the earth colors usually found in forest soil, litter, bark, rock, and vegetation are most suitable in achieving the desired harmony.

2333.48 - Landscaping and Finished Grades

Use finished grades and landscape planting to soften the transition between structures and natural ground forms.

Preserve natural forest conditions to the fullest extent consistent with necessary area fireproofing and space requirements.

Prune trees and mow lawns only when clearly necessary for public health and safety. Urban-like flowerbeds, painted or whitewashed rocks or trees, and other types of decorations foreign to the natural environment are discouraged.

2333.5 - Design Criteria

Use the criteria in FSM 2333.51 through 2333.58 to determine need, location, and type of recreation site improvements.

2333.51 - Toilets

1. Locate toilets conveniently; the maximum distance a user should have to travel to a toilet is 500 feet.
2. Provide a sufficient number of toilets. As a general rule, provide one toilet for every 35 persons.
3. Design each toilet to prevent unsanitary conditions and pollution with a minimum of maintenance and to comply with FSM 2330.12, para. 6, FSM 2330.3, para. 8, FSM 2333.03, para. 5 and FSM 2333.03, para. 5. The design narrative must address the type of toilet facility desirable for a particular site. In determining the type of toilet facility to install, consider initial cost, future operation and maintenance costs, accessibility, and the recreation opportunity spectrum class of the site (FSM 2330.3, ex.01).

2333.52 - Recreational Vehicle Sanitary Stations and Waste Water Disposal

Design and install Forest Service recreational vehicle (RV) dump stations only where there is environmental pollution from indiscriminate roadside dumping by persons using Forest Service facilities and/or where commercial RV dump stations are not available within a reasonable driving distance. Encourage the private sector to develop these facilities, and provide the private sector with every opportunity to do so before the

Forest Service develops them. Gray water collection and handling systems may be provided on-site when necessary to prevent environmental pollution. Comply with the accessibility requirements for such facilities (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5).

2333.53 - Refuse and Garbage Disposal

Provide adequate numbers of receptacles, and position them to facilitate litter control. Large, centralized containers or clusters of containers are usually more cost-effective than scattered small containers; use large or clustered containers where practical. Comply with the accessibility requirements for such receptacles and containers (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5).

2333.54 - Drinking Water

All water facilities where water is intended for human consumption must meet the standards in FSM 7421, FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5.

2333.55 - Roads and Parking Areas

Design roads and parking areas to provide adequate and safe public access with minimum maintenance costs. Roads must be "laid on the land" with the least possible intrusion on the landscape. For more efficient administration, sites should have a single entrance.

2333.56 - Vehicle Control

Confine all vehicles, towed as well as self-propelled, to roads and parking areas.

2333.57 - Convenience Facilities

Convenience facilities serve as a source of comfort to forest visitors, rather than meeting their health and safety needs or protecting resources. Design and install convenience facilities to be suitable for the site where they will be located and the use they will receive. FSM 2330.3, exhibit 01, displays the types of convenience facilities normally provided, depending on the planned recreation opportunity spectrum class and development scale. Facilities must comply with FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5.

2333.58 - Information Facilities

Install signs and posters where necessary or helpful to visitors, but keep them to a minimum. Provide bulletin boards at a central location for rules, regulations, time limits, and other special information. Information facilities shall comply with FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5.

2333.6 - Final Drawings

Once development is completed, mark a print of the site layout drawings to show any changes made during actual construction. It must show or be accompanied by detail sheets showing pertinent details, such as the location of waterlines, drains, unions, and

valves. Also include detailed drawings showing changes in water-treatment and wastewater systems.

2334 - Campgrounds and Picnic Grounds

Comply with the following specific direction and that contained in FSM 2333 for campgrounds and picnic grounds.

2334.03 - Policy

1. Separate camping and picnicking activities whenever practicable.
2. Avoid intermingling facilities for large group use with those designed for family-type use.
3. Roads must conform to the terrain wherever possible, with a minimum of cuts and fills.
4. Do not provide sports and play facilities such as swings, teeter-totters, formal horseshoe pits, and baseball diamonds at campgrounds and picnic grounds. However, open, level areas may be provided for impromptu sports such as frisbee throwing, volleyball, and softball.
5. Normally do not provide showers at National Forest campgrounds. In isolated instances where showers are provided, charge a fee for their use.
6. Do not provide individual utility hookups at National Forest campgrounds except when the following criteria are met and documented:
   a. There is no opportunity for private sector development or expansion.
   b. A contrast with urbanization can be maintained.
   c. Daily fees can be set at a rate that will pay for the additional construction cost and operation and maintenance.
   d. Night-time heat and humidity conditions render sleep unrealistic without air-conditioning.
7. Firewood may be provided by the Forest Service or by vendors under permit where it is necessary to protect the site and surroundings. Otherwise, encourage visitors to gather their own firewood as an important part of the recreation/natural experience.

2334.1 - Site Selection

Sites for campgrounds and picnic grounds shall meet criteria in FSM 2333.1.

2334.2 - Site Development

Develop campgrounds and picnic grounds to meet design criteria in FSM 2333.5.

2334.21 - Water Supply

Locate hydrants close to each toilet so one hydrant can serve several camp or picnic units. Wells with single hand pumps may serve 15 to 20 units. It is not necessary to

furnish water at every site. If the site is dry, post the location of the nearest water source clearly.

2334.22 - Interior Roads

Design roads to accommodate the types of recreation vehicles appropriate to the recreation opportunity spectrum class. Initial location and design must provide for traffic control by taking advantage of cover, natural barriers, and toe of slopes.

2334.23 - Parking Areas and Spurs

Each campground unit must be served by a parking spot or spur that allows safe vehicle parking off the main campground loop road. The last 25 feet of each parking spur should be level, except for the 1-to-2-percent slope necessary for drainage, and as close to the natural grade as possible. Parking spurs required to be accessible shall comply with the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service, and other applicable authorities set out at FSM 2330.12 (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5.

2334.24 - Water Access Facilities

Install facilities for boat moorings when campgrounds and picnic grounds are accessible only by boats and when lake bottom and shoreline characteristics do not permit boats to be drawn up safely on the beach for short-term or overnight storage. Boat moorings consisting of docks, piers, jetties, or tie-up anchorages located along the shore shall be in compliance with Federal boating and fishing accessibility guidelines (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5).

2334.25 - Sports and Play Facilities

Limit improvements for sports and play facilities to clearing the land of shrubs, occasional small trees, rocks, and other obstacles and to smoothing and vegetating the surface for the safety of the users.

2334.26 - Camping Units

A standard camping unit consists of a table, fire grill or ring, parking spur, and space for a tent or expansion space to accommodate a recreational vehicle. Locate units at least 25 feet from the edge of the campground road and at least 100 feet from lakes, streams, toilets, and main roads.

Camping units must provide for use of the maximum variety of camping equipment without separate loops or areas for tent or recreational vehicle use, except where local terrain or patterns of use indicate that segregation is practical and desirable. All site furnishings provided in camping units shall comply with the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5).

1. Tent Camping Units. Tent camping units are appropriate where terrain restrictions preclude development of a spur to accommodate recreational vehicles (RVs). The parking spur is not the focal point of use. A tent camping unit normally should include a 30-foot parking spur, 12-by-16-foot, level tent pad, table, and fireplace. Parking and all tent camping elements shall comply with the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5)
2. RV Camping Units. The parking spur is the focal point of use for RV camping units. Provide at least 210 square feet of usable camping space next to the spur.
    a. RV camping units should include a parking spur that is at least 50 feet long or a pull-through spur, a picnic table, and a stove, grill, or fire ring. Parking and all camping unit elements shall comply with the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5).
    b. Where feasible and appropriate to the setting, the remaining parking spurs not addressed by the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5), should be at least 16 feet wide.

2334.27 - Picnic Units

A standard single picnic unit consists of one picnic table and, in some cases, a stove, grill, or fireplace. All site furnishings provided in picnic units shall comply with the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5). Some of the sites may be provided with 16-foot stationary tables to accommodate two-family use. Space picnic units to permit privacy and prevent overuse.

2334.28 - Group Campgrounds or Picnic Grounds

Sites designed and developed for organized group camping or picnicking may vary in site modification and resulting recreation experiences to the same degree as family-type campgrounds or picnic grounds. The important improvements are:

1. Roads and Parking Areas. Provide entrance gates so that it is possible to close and reserve the site. A service road that permits a vehicle to bring food to the food preparation area is frequently necessary. Parking capacity must accommodate the carrying capacity of the site.
2. Cooking Facilities. Provide each site or component in a group campground or picnic area with a large, open fire grill. A food preparation table may be needed in most group campgrounds, and a food service table is needed in both group campgrounds and picnic areas. All site furnishings provided in group use sites shall comply with the Federal accessibility guidelines on outdoor developed recreation areas, as supplemented by the Forest Service (FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5).

3. Water and Sanitation Facilities. Drinking water must be available in the food preparation or food service area. Locate toilets at least 100 feet from the food preparation area.
4. Other Improvements. Developed campfire circle areas are usually desirable. Normally, do not construct covered shelters. Open areas for organized sports may be furnished, but do not furnish facilities for such activities.

2334.29 - Overflow Camping Areas

Overflow areas accommodate visitors who want to remain in an area for a short duration, usually one night or a weekend, but cannot find a vacant spot at either public or private development, and cannot be reasonably turned away late in the day or reasonably expected to return home.

Normally, provide only sanitation facilities. Establish stay limits in overflow areas to protect the resources and to avoid siphoning use from other developed sites. In most cases, allow stays of only 1 or 2 days' duration, and do not allow use when sites are available at regular campgrounds.

Design areas so it is easy to close them when they are not in use. Inspect for and reduce hazards at regular intervals.

2334.3 - Administration

Administer campgrounds and picnic grounds according to the requirements of FSM 2331.

2334.31 - Site Attendants

Station site attendants in larger, heavily used fee sites.

2334.32 - Site Management

Do not allow overcrowding, either by doubling up at single-family units or by camping or picnicking between units. When a site is occupied to capacity, direct visitors to other sites or to overflow areas. Provided overcrowding does not occur, concentrate use in a few sites as opposed to the same amount of use scattered throughout all sites.

2334.33 - Limits of Stay

Establish limits of stay when:

1. Resource damage is occurring.
2. Visitors cannot use facilities because of the monopolization of a few.
3. Persons are using sites as season-long residences.

Establish stay limits on a site-by-site basis only after a thorough study determines the need for such limits. Stay limits may range from a few days to a month. Normally, unless there are compelling reasons to do otherwise, use a 14-day limit.

Forest Supervisors must consider the effect stay limits might have on energy conservation. Within the established limits, encourage visitors to extend their stays at one site as opposed to their using more gasoline to travel from one site to another.

2334.34 - Special Public Services

In general, do not permit stores, restaurants, and other commercial developments within campgrounds and picnic grounds. If the public requires special services, such as equipment rental (for example, rental of boats, bathing suits, or towels), clothes lockers, or shuttle transportation, they may be authorized under a special use authorization (FSM 2343.7). Before these services are authorized, a determination shall be made that there is a need for them that cannot be met on nearby private lands, that it would be financially viable to provide these services, and that they can be furnished at reasonable rates. If facilities are provided, they shall comply with FSM 2330.12, para. 6, FSM 2330.3, para. 8, and FSM 2333.03, para. 5.

2334.35 - Reservation Services

Provide users opportunities for making reservations when it is desirable for the public to have assurance that facilities will be available on a given day. To reduce administrative costs associated with collecting and processing fees and to enhance customer service, encourage the use of the National Recreation Reservation System (NRRS) rather than fee collection services.

1. The NRRS, a service provided under a national contract, is available for all developed recreation facilities, but it also may include cabins, wilderness entry permits, river permits, cave tours, and other specialized recreation opportunities where public demand is high.
2. All National Forest System units providing reservation services are required to use the NRRS contractor, to the exclusion of any other source or vendor. See FSM 2344.31 for direction on the application of the NRRS to concessionaires.

Appendix C: USDA-FS Built Environment Image Guide – North Pacific Province

This appendix provides an excerpt from the Built Environment Image Guide for the National Forests and Grasslands (USDA-FS 2001) that provides appearance and design guidance for the North Pacific Province, which includes the Project. It also includes Appendix C of the Built Image Guide, which provides ROS design-related guidance.

Chapter 4.7

The North Pacific Province

"A natural environment of this magnificence and grandeur has had a humbling impact on the region's architecture.... This is not the climate for loud and glamorous architecture."

—Douglas Kelbaugh


North
Pacific

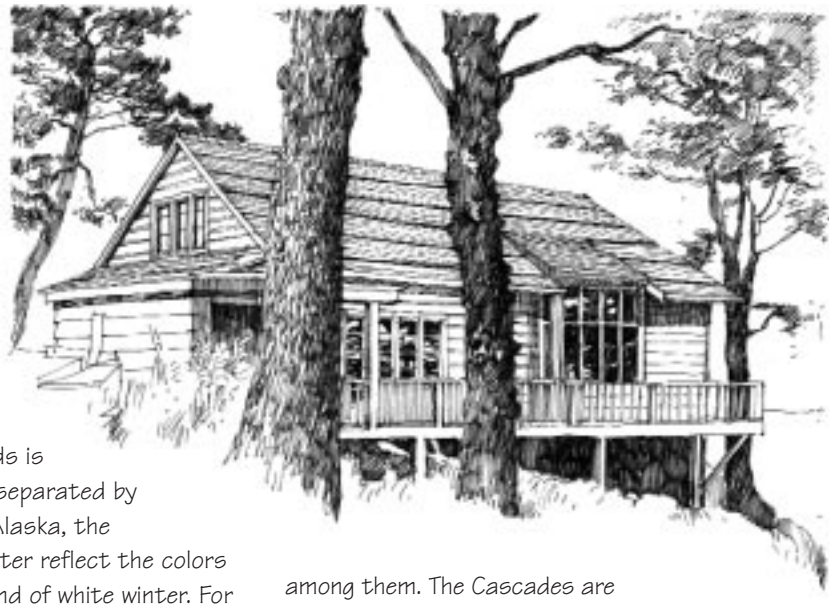
OVERVIEW: CHARACTER OF THE NORTH PACIFIC PROVINCE BUILT AND NATURAL ENVIRONMENTS

The North Pacific Province includes the national forests and scenic areas in northern California, northwestern Oregon and Washington, and the coastal region of Alaska. This is a land of dramatic landscapes and climate and diverse cultural influences. These elements are frequently celebrated through a regional architectural style called Cascadian.

The landscape has been altered but not nearly tamed by human settlement. It is still being shaped by volcanoes, glaciers, seismic movement, and tidal surges. Climate, maritime forces, and landscape are inseparable elements. Some areas receive more than 100 inches of rain annually; others up to 26 feet of snow. The intense precipitation fosters lush, dense plant life, including a rare temperate-zone rainforest and some of the world's largest trees. Vivid contrasts are everywhere. The province's rainiest point in the Olympic Range (240 inches per year) is a day's hike from its driest coastal spot, Dungeness Spit (15 inches).

Forest Service design in the North Pacific includes a richness worthy of this landscape. The bridges, parkways, and buildings of the Columbia River Gorge, the Timberline Lodge on Mt. Hood, and the Visitor Center at Mendenhall Glacier are only three examples of Forest Service structures that match the grandeur of their settings.

INFLUENCES ON ARCHITECTURAL CHARACTER



Landscape and Ecological

"The great trees are seldom crowded, and their columnar trunks may rise dozens of feet skyward before the first branches appear. …The space beneath may be open enough that light filtered through the upper branches is diffused to create a softly luminous glow throughout. The effect is not one of gloom, but of solemnity."

—Stephen Whitney, *Western Forests*

Literature about the North Pacific consistently sounds such themes as reverence for nature and a strong desire to harmonize with the setting. Perhaps this is because the province possesses such a wild and grand scale. People have a front row seat on major ecological processes. Glaciers, rivers that change course, volcanoes, and earthquakes shape a young landscape that seems only recently emerged from the primeval era. West of the Cascades, the maritime climate creates moderate temperatures and high precipitation. This maritime influence sends storms from the west to the east.

In Alaska, the steep mountains of the Tongass National Forest collide with the ocean. Inland are glacially carved valleys, lakes, and waterfalls. The Coast Range meets a sea dotted with tidewater glaciers and islands. Farther north and west in the Chugach National Forest, the land masses are constantly shifting in a landscape dominated by glaciers. Broad valleys contain filled-in fiords that have become marshlands bisected by glacially fed rivers. The archipelago of coastal islands is foggy, heavily forested, and separated by deep channels. Throughout Alaska, the landscape, sky, light, and water reflect the colors of glacial blue, of gray fog, and of white winter. For a brief burst in summer, wildflowers alter the landscape with an explosion of color.

The most visible geology results from angular forms of graywacke shale. Even at lower elevations, trees cover the landscape only in patches. The treeline can occur as low as 1,500 feet.

The Cascade and Klamath ranges of Washington, Oregon, and northern California are extremely rugged, with large mountains dominated by volcanic peaks and deep, heavy snows at higher elevations. Some of the world's largest and oldest trees live within this lush, cool coniferous forest: Douglas fir, Sitka spruce, western hemlock, and coast redwood among them. The Cascades are a place with abundant rivers, streams, and waterfalls. The west side comes in many shades of green dictated by ferns, mosses, and big trees that stay green through the year. High rainfall intensifies colors in the landscape.

East of the Cascades is much drier with sparse vegetation. Rolling hills and high prairies are punctuated by volcanic cones. Space between trees seems open and expansive with long vistas. The landscape is generally rural rather than wilderness with irrigated fields, pasture, orchards, and rangeland. Colors are warm with pastel hues varied by the rock and soil visible through the vegetation. Shades of dark gray, dark brown, and

black are evident in rock formations of columnar basalt. Signature trees include ponderosa pine, lodgepole pine, and sugar pine.

North central California includes the Mediterranean subarea of this province embracing the northern Sierra Nevadas. Here coniferous forests, shaped by long summer droughts and mild wet winters, are extremely diverse. Species range from giant sequoia in the high mountains to California red fir to bristlecone pine.

Cultural

Native American Design: The original Native American inhabitants built to deal with precipitation. Along the Pacific coast, on the Columbia River plateau, and within the Great Basin, the inhabitants of each area made their own adaptations.

In the coastal zone, houses were made of planks from driftwood logs or sometimes split from the sides of living trees. The large communal dwelling might be a gable-roofed long house with vertical plank walls, as among the Quinault in Washington, or shed-roofed long houses, as among the Tillimook. In southern Oregon and northern California, the Umpqua, Chetco, Yurok, and Hoopa built related types of "hooped branch" houses.

European Settlers: The first European settlers built log structures, often using trees cleared for farming. They built farmhouses (Scandinavians, English, Germans), trading posts (French), and forts (Russian). They typically used broad-hewn logs locked in dovetail joints. Onion-dome Russian churches endure along coastal Alaska.

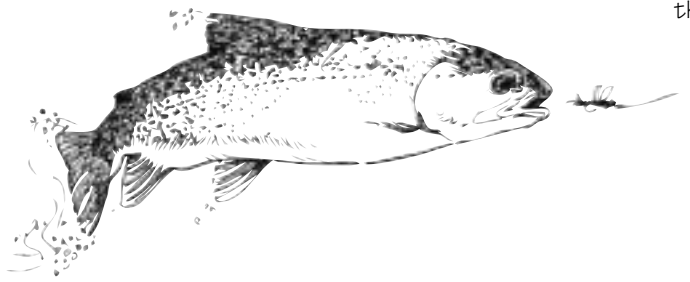
Agricultural Structures: The simple forms of traditional Willamette Valley barns have inspired many contemporary architects and artists. These picturesque barns employed building techniques in use since medieval times: heavily timbered frame construction held together by skillfully made mortice and tenon joints.

Rustic: From about 1890 to 1940, architects and designers created a Northwestern variation on the rustic design called Cascadian. An early example is the Cloud Cap Inn, a hikers' lodge on Mt. Hood, perhaps inspired by rustic buildings then being constructed in the Adirondacks.

The CCC of the 1930's incorporated rustic design and a high level of craft into public works. A notable example is the shelters, pavilions, way stations, and comfort facilities built along the Columbia Gorge Scenic Highway. In the late 1930's, the WPA built Timberline Lodge, an Arts and Crafts extravaganza that employed scores of masons, carpenters, sculptors, and artisans.

Alaska: Many Alaskan buildings and sites were designed for access by boat or float plane. Alaskan design ranges from the Quonset huts of the Aleutian Islands, to the Russian churches of Sitka, to industrial oil terminals and canneries. Coastal fishing villages are a building type somewhat unique to Alaska. These villages typically feature brightly colored cottages rising on steep slopes straight up from the waterfront.

Northwest Modernism: The Modernist movement aimed to create a worldwide design—the so-called International style. The Northwest responded with variations. In the 1930's and 1940's, architects Pietro Belluschi and John Yeon designed modernist churches inspired by barns of Oregon's Willamette Valley. They adapted their buildings to the Northwest by using wood as a structural material and by including broad roof overhangs to keep rain off windows. More recent architects skillfully meld natural and industrial materials suggesting that modern design can be contemporary in spirit, massive in scale for durability's sake, and yet comforting to the human touch and scale.



SUMMARY OF INFLUENCES AND RESPONSES THAT SHAPE THE CHARACTER OF THE BUILT ENVIRONMENT

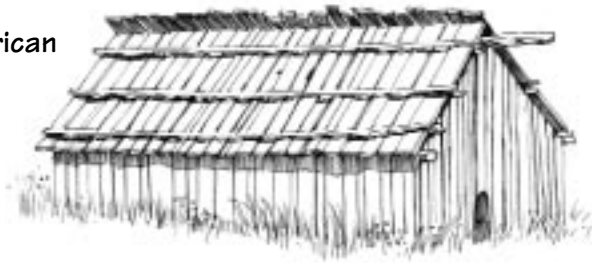
Ecological Influences

- Moist, cool climate with lots of rain, fog, mist, and snow.
- Temperate maritime climate.
- In California, hot climate with Mediterranean influence and design responses similar to the Southwest Province.
- Rugged terrain with many rock outcrops and lava flows.
- Volcanoes, glaciers, and earthquakes that are still shaping a young landscape with sharp peaks and massive landforms.
- Prevailing winds from the west, with highs from the northwest and lows from the southwest.
- Lush, dense vegetation that is green year-round.
- Forests that are largely coniferous and contain the world's largest and oldest trees.
- Water elements, including lakes, rivers, fiords, and waterfalls, that are prevalent and of a large scale.
- Much landscape that occupies the edge between ocean and land—a magnet for diversity of people and wildlife.
- Declination of the sun that creates radical angles of light.
- Long vistas with snow-capped volcanic peaks.
- Sunlight that has become important, even revered, when it appears because of prevalent gray skies and short winter days.

Cultural Influences

- Russian influence is seen in remaining forts and onion-dome churches.
- Native influence is seen in such structures as the long house, with few windows and planked construction that sheds rain. Colors are red, aqua, and black.
- Culture of totemic art is incorporated into CCC-era buildings in Alaska.
- Asian influence is seen in low structures with expressed post-and-beam structure and large expanses of windows.
- Scandinavian influence is seen in log cabins and decorated frame houses with cutout details in shutters.
- Wood is lavishly used in buildings.
- Timber industry remains a powerful cultural force and shaper of the landscape.

Alaskan maritime



Native American long house

CCC-"Cascadian"

Northwest modernism

North Pacific

Scandinavian log

ARCHITECTURAL GUIDELINES FOR THE NORTH PACIFIC PROVINCE

"The public architecture of the forest can be of a scale appropriate to the powerful scale of the trees and the masses of the mountains, of a construction durable enough to survive years of intense use, and yet possessing a finish and subtlety of design that stimulate the human eye and imagination."

—Leland M. Roth, architectural historian

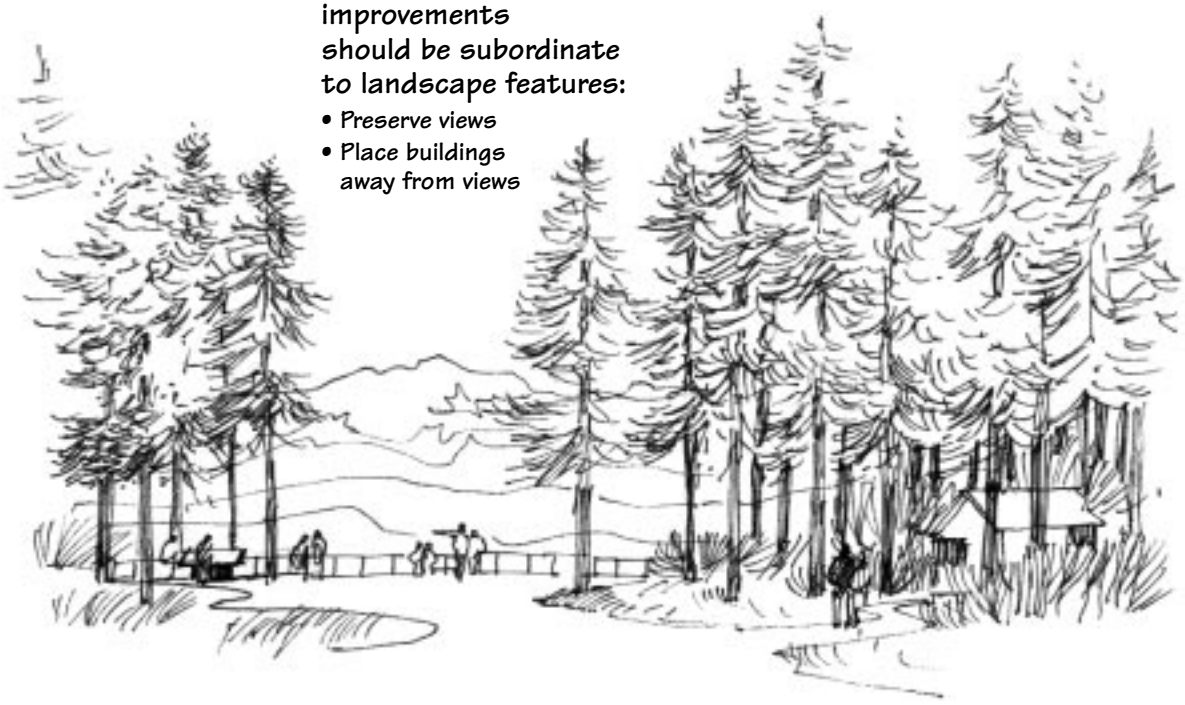
Buildings concentrated away from riparian and wildlife migration zones

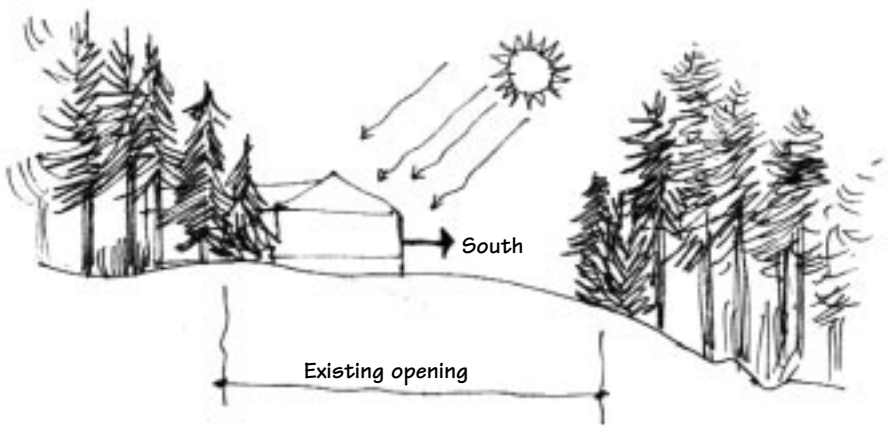
SITING

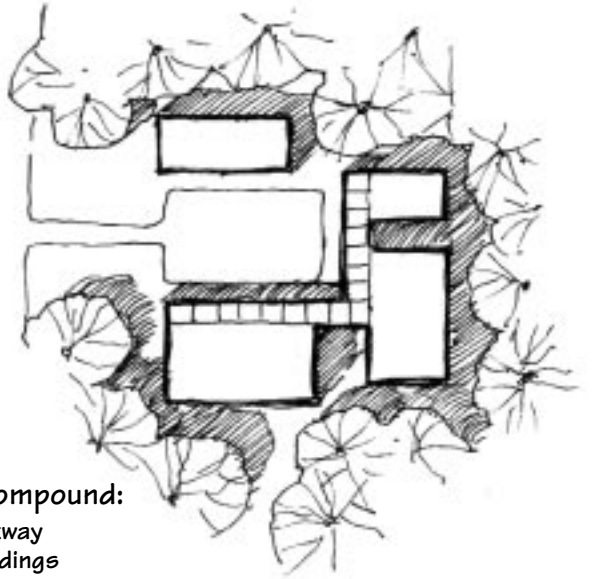
- Place structures at the edge of existing clearings. This preserves views and habitat, avoids the need to clear vegetation, and creates opportunities for sun and shade as needed seasonally.
- Make work complexes into building compounds connected by covered walkways.
- Site to catch the breezes necessary to mitigate the bug problem in Alaska.
- Shield structures with plantings on the north and west sides in areas with intense wind.
- Manage vegetation near structures; plantings can become overgrown and block views.

Facilities and improvements should be subordinate to landscape features:

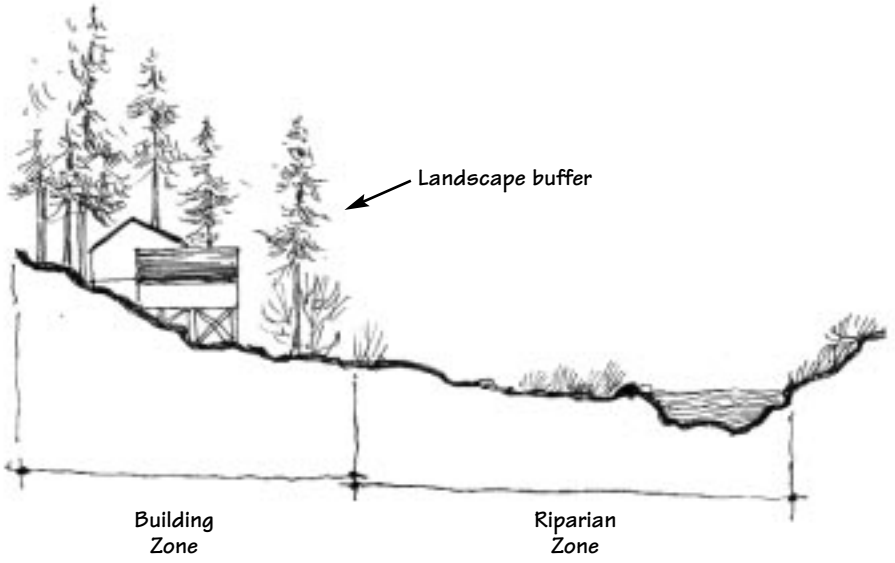
- **Preserve views**
- **Place buildings away from views**

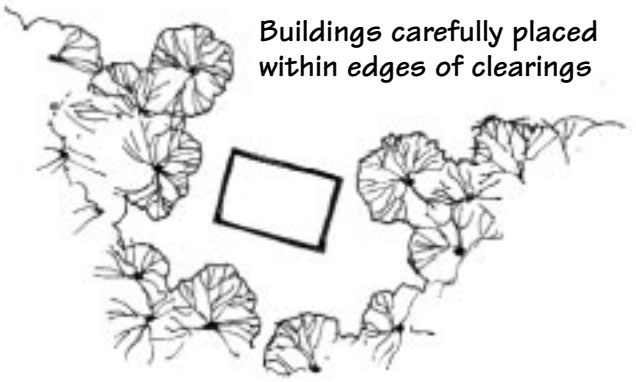






Building compound:
Covered walkway
between buildings

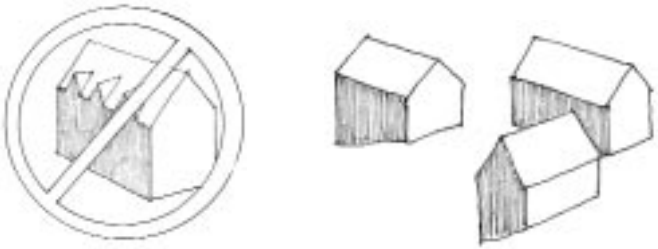




Buildings carefully placed within edges of clearings

Massing and Scale

- Diminish apparent mass of larger buildings by creating wings or compounds of connected structures.
- Use building materials in scale (for example, oversized stone and timbers) in massive forests.



Building's mass should be a collection of smaller elements

Appropriate mass of building elements in rugged terrain

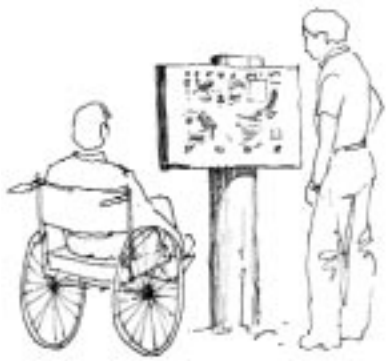
Buildings should complement the scale of their surroundings:

Massive scale landscape allows larger, more massive buildings

Lesser-scale landscape dictates smaller scale and massing

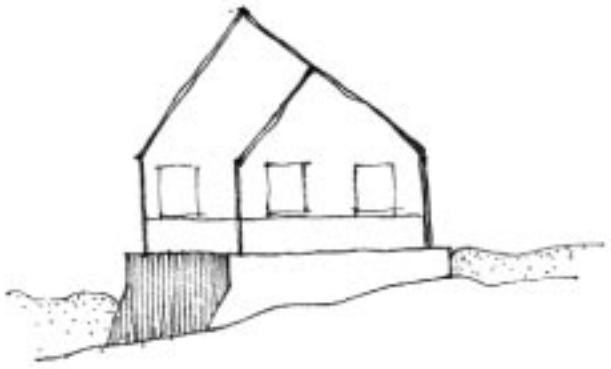
Base

- Complement the province's dramatic landscape while reducing wear and tear on buildings by using a strong stone base. The base should appear anchored to the ground and comprise a major portion of the wall.
- Use battered stone rock when possible (although good-quality building stone may not be available in Alaska).
- "Float" buildings and pathways over landscape on pilings or piers in tidal zones and other wet areas.
- Use a concrete base if it is skillfully textured and colored.



Appropriate sign base

Inappropriate sign base



Base used to protect wall from snow

Strong, battered stone base

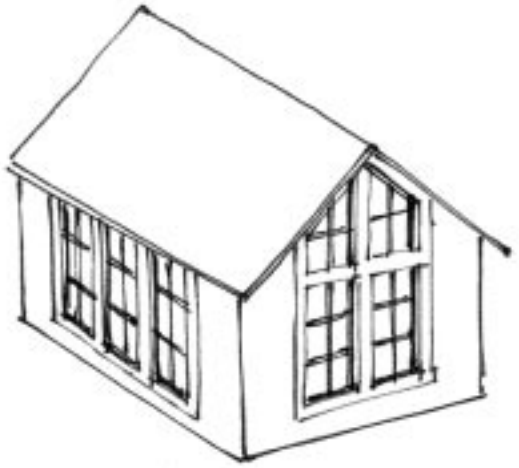
Walls

- Design walls that appear to be growing from the ground.
- Use both vertical and horizontal wall textures; however, do not mix within one wall.

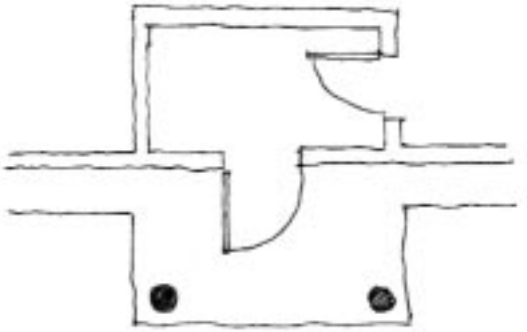
A building's wall should be smaller than its base and roof

Windows and Openings

- Make windows large to take in views, warmth, and precious sunlight.
- Protect entrances from driving rain and snow by including porches and vestibules when possible. Particularly in Alaska, a vestibule provides a valuable airlock and a place to remove rain gear, to stack firewood, or to let dogs sleep. An arctic variation turns the entry 90 degrees from the building to keep the indoors warm and dry.
- Avoid extensive horizontal bands of windows.
- Follow historical precedent and scale by using divided-pane windows.
- Do not place windows in corners.
- Minimize northside entries and maximize southside entries.
- Keep overhangs shorter on south side of building to maximize daylighting.
- Use gable-end entries, but leave gables open to bring light into building.



- **Windows should be maximized, especially south and southeast**
- **Windows to the north should be minimized**

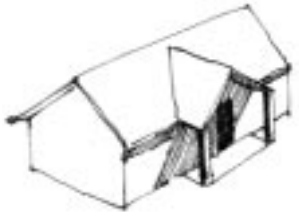


Airlock vestibule, especially appropriate in Alaska

Protected entries:

Extruded gable porch

Continuous eave porch

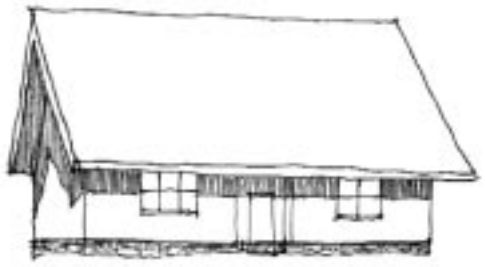


Added gable porch

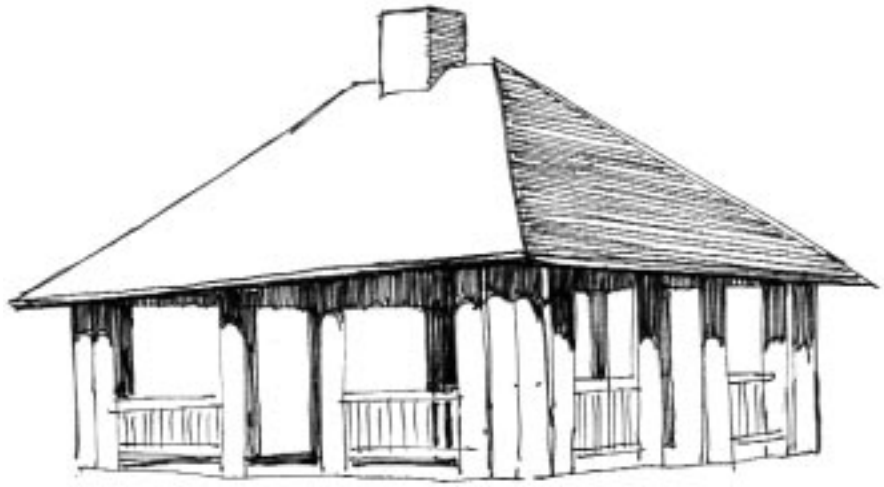
Covered entry porch

Roofs

- Design the roof so that it dominates the architectural composition, except in warm California climates.
- Design roof pitch to range from 6:12 to 12:12; use lower pitches in warm California climates.
- Keep roof shapes simple. Complex shapes create "valleys" that trap snow, creating maintenance problems.
- Use gable and shed roof types if desired.
- Use hip roofs for coastal areas or as shelters.
- Avoid use of flat roofs and gambrel roofs.
- Use gutters in rainy maritime climate but not in heavy snow areas.
- Use a steeper pitch with shorter overhangs in areas with heavy snows.
- Avoid multiple roof forms that may shed snow onto other roofs.



Roofs should dominate the building



Simple hipped roof

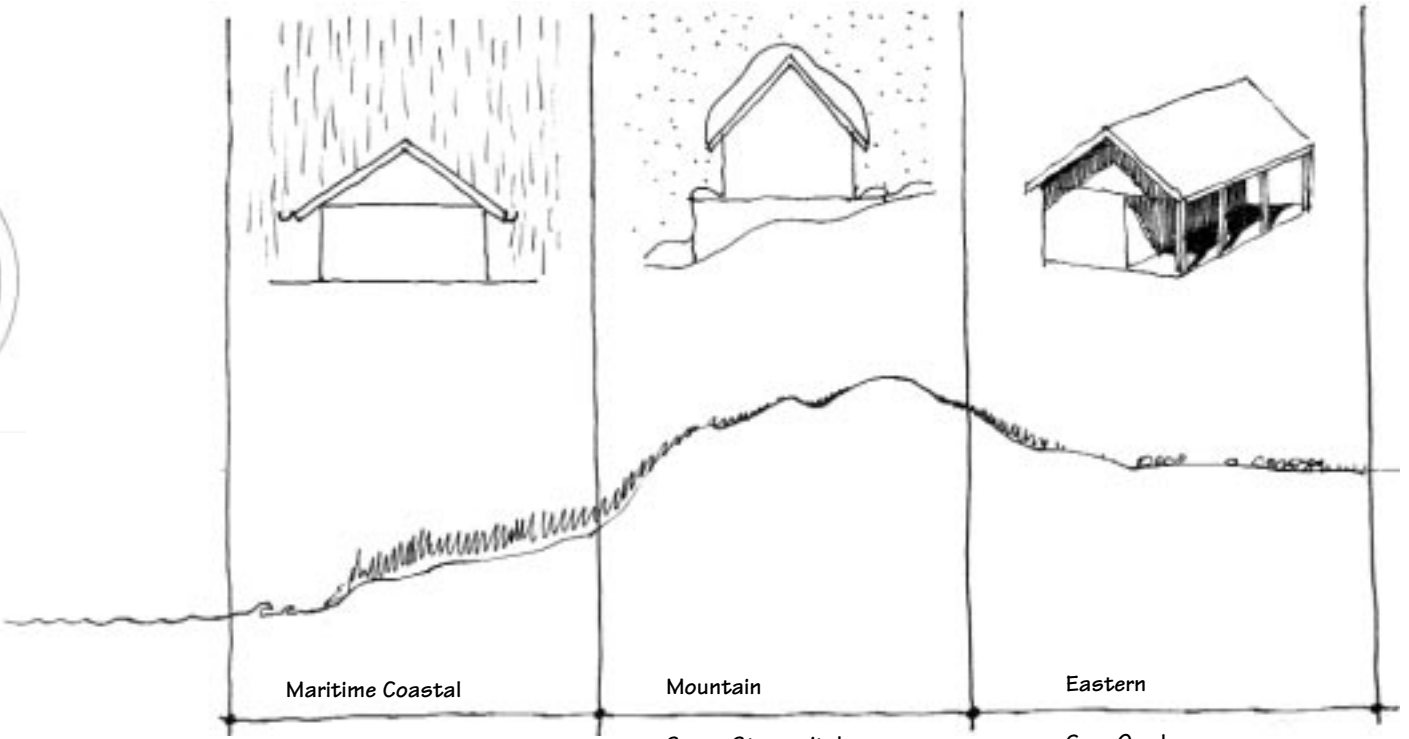
Unprotected rafter tails

Eave soffits

Cover rafter tails

- Keep gables open to bring in sunlight.
- Use shed or gable type dormers.
- Use eaves that have heavy bargeboards.
- Expose rafters, but protect rafter tails from the elements by not extending them beyond the roofing.
- Avoid skylights when possible, or place them near the ridgeline.

Multiple roofs



Structure

- Design structure to look solid and substantial.
- Use exposed structure, such as trusses and post-and-beam, for both interior and exterior.
- Avoid lightweight, flimsy tables and site furnishings.

Exposed substantial structure

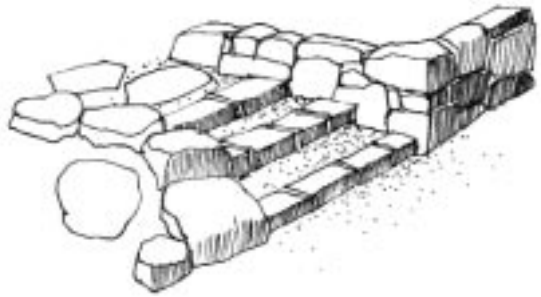
Materials

- Celebrate the use of wood as a symbol and the most significant resource of the province.
- Match the texture of materials to the scale of the setting. For example, in beachfront settings, use narrow siding to match the texture of grass and sand; do not use boulders or massive timbers.

Roof Materials:

- Use cedar shakes; however, they may be difficult to obtain and maintain.
- Use standing-seam metal and "oxidizing" steel roofs in dark tones.
- Use patterned asphalt shingles.
- Avoid intrinsically bright, shiny, light-colored roof material.
- Avoid slate or Spanish-tile roofs.

Cluster members together to increase massive expression

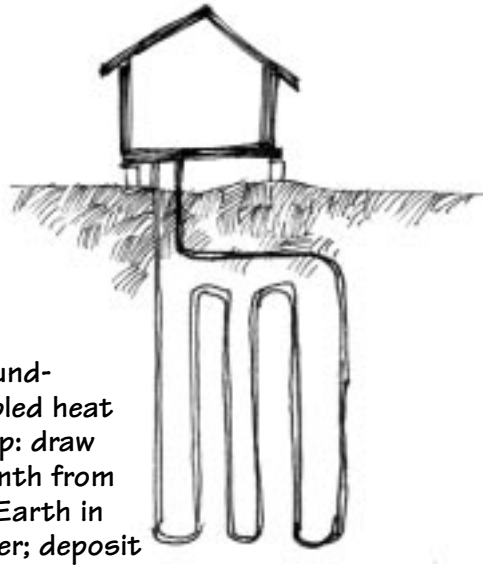


Steps and site wall
Assemble natural, not overly refined materials

Feature existing natural materials

Color

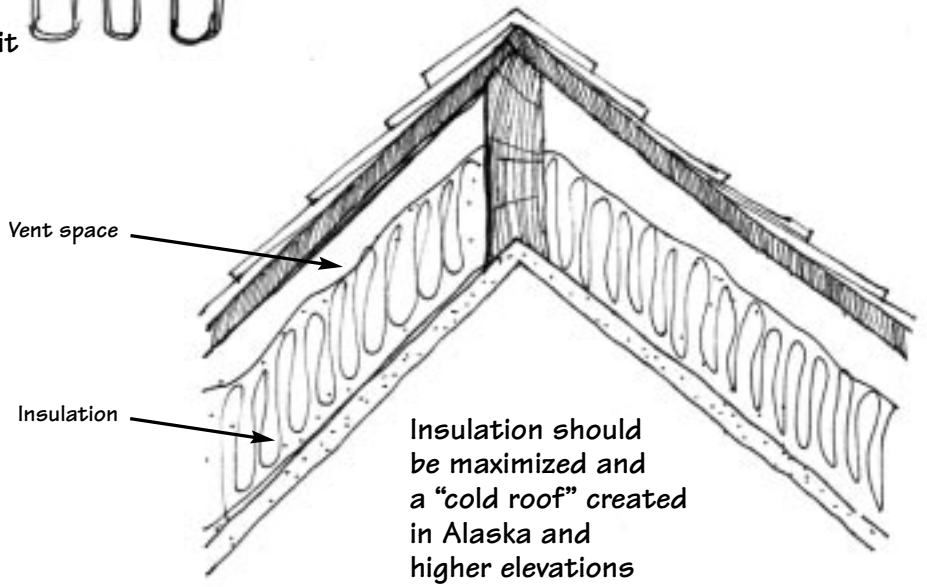
- Emphasize muted earth tones such as beige, brown, tan, and ochre.
- Keep values in the medium range in response to gray skies in northern areas.
- Use darker values in southern areas.
- Use turquoise in Alaska as it reflects the color of water, ice, and snow. Native American accent colors are aqua, red, and black.
- Use weathered blue and gray colors to match the fog and gray sky in seaside settings.
- Make urban structures more colorful with pastels and strong accent colors for trim.
- Avoid dark colors indoors. Make interiors light and reflective to create a light, airy environment.
- Use dark colors for metal roofs—green, black, or brown, or dark blue in maritime areas.



Ground-coupled heat pump: draw warmth from the Earth in winter; deposit warmth in summer

SUSTAINABILITY

- Celebrate, but do not overuse, wood; especially avoid scarce species or sizes.
- Employ daylighting to bring natural light into buildings.
- Use hyperinsulation in Alaska and other cold climes.
- See the "Common Principles" section in the introduction of this chapter for more recommendations on sustainability.



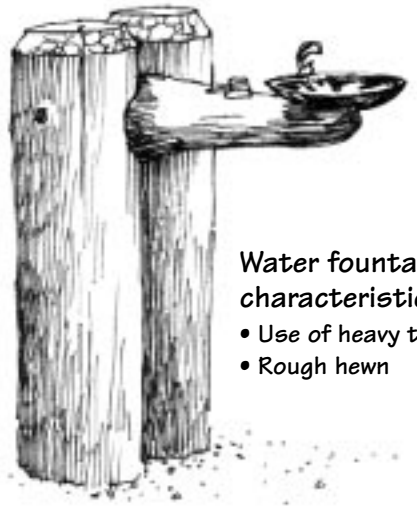
Insulation should be maximized and a "cold roof" created in Alaska and higher elevations

SYNTHESIS

The North Pacific Province draws upon the rich traditions of Cascadian, Native American, and ethnic designs, as well as the industrial designs of lumber mills, fish canneries, and working waterfronts. In this province, culture does not dominate nature. Successful design does not merely repeat historical precedent. It expresses respect for the place that honors local climate, topography, vegetation, and building practices.

Interpretive facility characteristics:

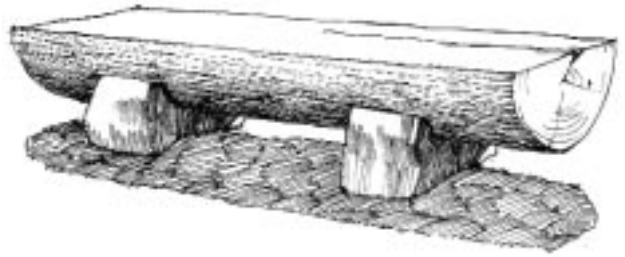
- **Simple, dominant roof**
- **Strong base**
- **Windows maximized**



Water fountain characteristics:

- **Use of heavy timbers**
- **Rough hewn**

Bench with a massive feel



Restroom characteristics:

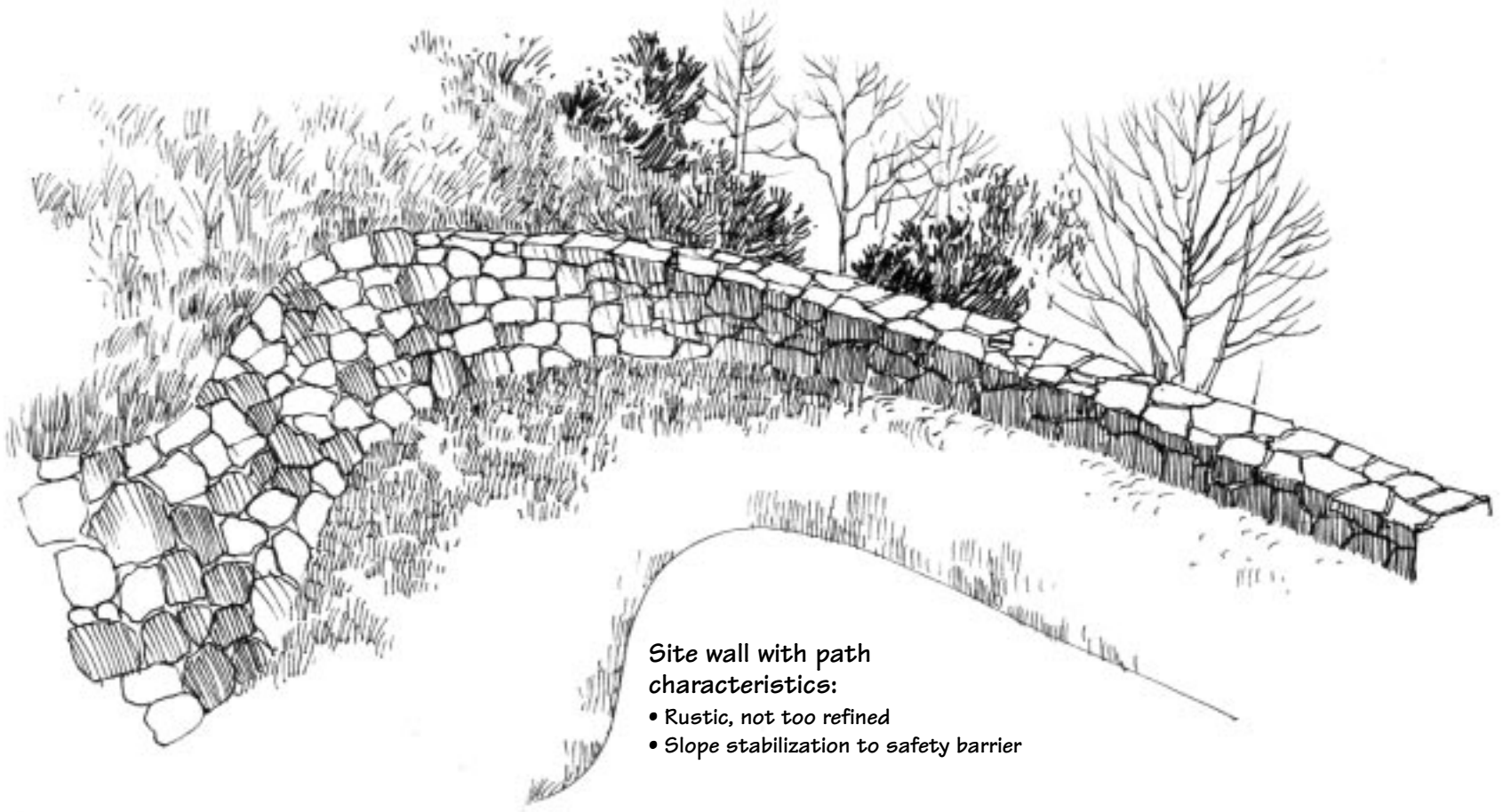
- Stone base on walls and columns
- Heavy timbers, clustered

Multifunctional building characteristics:

- Stone base
- Heavy, rough-hewn timbers

Table characteristics:
- Use of heavy planks 3–4" thick
- Accessible

Maintenance shop characteristics:
- Simple forms, dominant roof
- Dormer for daylighting
- Base is expressed



Site wall with path characteristics:

- Rustic, not too refined
- Slope stabilization to safety barrier

Multiuse compound characteristics:

- Dominant roof
- Stone base
- Paired, divided pane windows

Appendix C

Recreation Opportunity Spectrum (ROS)

The following reflects information contained in FSM 2330.3; the Recreation Opportunity Spectrum Color Poster (R6-REC-118-94); and ROS Primer and Field Guide (R6-REC-021-90). The color matrix shows by ROS Setting the kind of "on-site development" that can be considered "normal," "fully compatible," "inconsistent," or "unacceptable."

ROS Setting	On-Site Development				
	No facilities for user comfort; rustic and rudimentary ones for site protection only. Synthetic** materials excluded. Use undimensioned native* materials only. No site modifications for facilities.	Rustic and rudimentary facilities primarily for site protection. Use undimensioned native* materials. Avoid use of synthetic** materials. Little or no site modifications for facilities. Limited and subtle site modification.	Rustic facilities providing some comfort for the user as well as site protection. Contemporary/rustic design usually based on use of native* materials. Synthetic** materials should not be evident. Moderate site modification.	Some facilities designed primarily for user comfort and convenience. Some synthetic** but harmonious materials may be incorporated. Design may be more complex and refined. Moderate to heavy site modifications for facilities.	Facilities mostly designed for user comfort and convenience. Synthetic** materials are commonly used. Facility design may be highly complex and refined but in harmony or complementary to site. Heavy site modifications for facilities.
Primitive (P)	Normal	Inconsistent	Unacceptable	Unacceptable	Unacceptable
Semiprimitive nonmotorized (SPNM)	Fully compatible	Normal	Inconsistent	Unacceptable	Unacceptable
Semiprimitive motorized (SPM)	Fully compatible	Normal	Inconsistent	Unacceptable	Unacceptable
Roaded Natural (RN)	Inconsistent	Fully compatible	Normal	Inconsistent	Unacceptable
Rural (R)	Inconsistent	Inconsistent	Fully compatible	Normal	Inconsistent
Urban (U)	Inconsistent	Inconsistent	Inconsistent	Fully compatible	Normal

* Native refers to materials found naturally in nature. It needn't come from or near the project site.

** Synthetic materials should not be used in primitive settings. Where possible, they should be avoided in semi-primitive settings, but if used, they should not be evident to the user. In roaded natural settings, native materials are usually used, and synthetics, if used, should not be evident to the user.

Legend

Normal

"Normal" describes "normal" conditions found in the ROS Setting

Fully compatible

"Fully compatible" describes conditions that meet or exceed the norm for the ROS setting

Inconsistent

"Inconsistent" describes conditions not generally compatible with the normal setting conditions, but which may be necessary under some circumstances to meet management objectives. The more removed from the "norm" shown in the above matrix, the more questionable the condition would be. For example, a pit toilet acceptable in a SPNM setting would be very questionable in a rural or urban setting. Use of metal or plastic siding or roofing that appears obviously synthetic to a visitor would be inconsistent in a roaded natural setting.

Unacceptable

"Unacceptable" describes conditions that, under any circumstance, do not permit the creation or maintainance of an ROS Setting, and which will cause a change in that setting towards one that is more developed. For example, moderate or heavy site modification and development of facilities for user comfort would change a primitive ROS setting into one that is more developed.

The following example describes typical ROS settings as described in the "1986 ROS Book." Acreages and distances described may vary somewhat between regions.

Primitive

Generally, it is on a setting of at least 5,000 acres and 3 miles away from all roads and trails with motorized use (or has sufficient spatial or topographic characteristics to allow a sense of solitude). Access is via nonmotorized trails or cross country. Very low interactions with other visitors. Very high chance of solitude; unmodified natural or natural-appearing environment.

Semiprimitive Nonmotorized

A setting that has an area of primitive roads* or trails that are not open to motorized use; is generally at least 2,500 acres in size; and is between 1/2 and 3 miles from all roads, railroads, or trails with motorized use. Access is via nonmotorized trails or nonmotorized primitive roads or cross-country. Low contact frequency with other visitors. High probability of solitude; natural-appearing environment.

Semiprimitive Motorized

A setting that has an area that allows motorized use, is generally at least 2,500 acres in size, and is at least 1/2 mile from a better than primitive road.** It is within 1/2 mile of primitive roads or trails used by motor vehicles. Access is via motorized trails or primitive roads or cross-country, where terrain and regulations permit. Low to moderate contact frequency with other visitors. Environment may have moderately dominant alterations, but these do not dominate views from trails or primitive roads in the area.

Roaded Natural

A setting in an area that is within 1/2 mile of a better than primitive road. Access is primarily via conventional motorized use on roads. Contact frequency with other users may be low to moderate on trails and moderate to high on roads. Environment is natural appearing as viewed from visually sensitive roads and trails.

Rural

Predominantly a culturally modified setting where the natural environment has been substantially modified, i.e., structures are readily apparent, pastoral or agricultural or intensively managed wildland landscapes predominate as viewed from visually sensitive roads and trails. Access is primarily via conventional motorized use on roads. Contact frequency with other users may be moderate to high in developed sites and moderate away from developed sites.

Urban

Urbanized environment with dominant structures, traffic lights, and paved streets. Access is highly intense, motorized, and often with mass transit supplements. Contact frequency and interaction with large numbers of people is high. Recreation places may be city parks and large resorts.

* Primitive roads are not constructed or maintained and are not generally suitable for highway type vehicles.

** Better than primitive roads are constructed or maintained for the use of highway type vehicles.

The following matrices show in gray shading those portions of the ROS where the well-designed use of material described at the left is either "normal" or "fully compatible." Where not shaded, material use may be "inconsistent" or "unacceptable." Note that Roaded Natural (RN) was enlarged to show more detail, reflecting both the widespread nature and importance of this setting in the national forest built environment. As a rule of thumb, when one-third or less of a setting is shaded, use the material with caution. Check first with FSM direction to determine suitability of certain improvements, e.g. shelters and play equipment.

Buildings

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
Exterior Materials													
Native							■	■	■				
Mix of native and synthetic										■	■	■	■
Exterior Colors													
Earthtones							■	■	■	■			
Complements built environs											■	■	■
Exterior Coatings													
Stains and some paints							■	■	■	■			
Stains or paints									■	■	■	■	■
Exterior Finishing													
Roughsawn/rustic/nonglare							■	■					
Smoothly finished								■	■	■	■	■	■
Site Setting													
Natural surroundings dominate							■	■	■				
Natural/built environment codominate										■	■		
Built environment dominates											■	■	■

Roads
(See FSM 7709.58 for Maintenance Level Definitions)

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
Primitive (User defined)*													
Level 2 (High clearance)													
Level 3 (Passenger car single lane with turnouts)													
Level 4 (Passenger car mostly double laned with aggregate surfacing)													
Level 5 (Passenger car mostly double laned with paved surface)													

* Not necessarily closed to vehicles, so not Level 1. The above does not preclude use of designed drainage and other features to minimize road-caused resource impacts.

Site Circulation and Traffic Control

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
Trails													
Native material													
Gravel													
Asphalt/concrete													
Primary Access Routes to Recreation Facilities													
3'-wide native material													
3'-wide aggregate													
4'- to 6'-wide aggregate													
4'- to 6'-wide asphalt													
4'- to 6'-wide concrete or pavers													

Site Circulation and Traffic Control (continued)

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
4'- to 6'-wide wood boardwalk									■	■	■	■	■
4'- to 6'-wide synthetic boardwalk										■	■	■	■
6'- to 8'-wide surfaced trail or any type boardwalk										■	■	■	■
Fencing*													
Barbed wire with wood posts	■	■	■	■	■	■	■	■	■	■	■		
Woodfence (jackleg, worm, pole)	■	■	■	■	■	■	■	■	■	■	■		
Barbed wire with steel posts			■	■	■	■	■	■	■	■	■		
Electric (portable)	■	■	■	■	■	■	■	■	■				
Wood (dimensional lumber)										■	■	■	■
Metal, chainlink, plastic											■	■	■
Barriers/Walls													
Downed logs, plants, or rocks in combinations	■	■	■	■	■	■	■	■	■	■	■		
Dry rock walls or earth berms				■	■	■	■	■	■	■	■	■	■
Constructed log cribbing or walls			■	■	■	■	■	■	■	■	■		
Mortared rock walls							■	■	■	■	■	■	■
Timber or concrete walls									■	■	■	■	■
All-log or dimensional wood wheelstops/barriers							■	■	■	■	■		
Combination concrete/wood wheelstops								■	■	■	■		
Concrete wheelstops										■	■	■	■
Recycled plastic wheelstops										■	■	■	■

* Although steel fencing materials are synthetic, they may offer less visually impacting solutions that better maintain an ROS setting, especially when not in the immediate foreground.

Water, Sanitation, and Electrical Facilities

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
Drinking Water													
Handpump							■	■	■				
Pressurized water system													
Wood-covered hydrant							■	■	■	■	■	■	■
Wood drinking fountain									■	■	■	■	■
Prefab. concrete/metal fountain										■	■	■	■
Showers, Laundry, Utilities													
Showers/laundry										■	■	■	■
RV Dumps									■	■	■	■	■
Telephone									■	■	■	■	■
Electrical/sewer hookups										■	■	■	■
Garbage Collection													
Pack it in, pack it out	■	■	■	■	■	■	■						
Garbage cans							■	■	■	■	■	■	■
Dumpsters									■	■	■	■	■
Toilets													
Pit toilets		■	■	■	■								
Wood-frame SST w/o screen					■	■	■	■	■				
Wood-frame SST w/screen							■	■	■	■	■		
Precast concrete SST									■	■	■		
Flush toilets (all kinds)										■	■	■	■

Signs for Recreation Sites and Trails (Adapted from EM-7100-15 Sign and Poster Guidelines for the Forest Service)

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
Sign Panel Materials													
Solid wood (or appearing so)	■	■	■	■	■	■	■	■	■	■	■	■	■
Plywood					■	■	■	■	■	■	■	■	■
Metal, fiberglass, synthetics*						■			■	■	■	■	■
Sign Panel Color/Finish													
Natural	■	■	■	■	■	■							
Preservative not evident (if used)	■	■	■	■									
Stained	■	■	■	■	■	■	■	■	■	■	■	■	■
Painted					■	■	■	■	■	■	■	■	■
Etched or decals										■	■	■	■
Reflectorized					■	■	■	■	■	■	■	■	■
Sign Support Material													
Tree	■	■	■	■	■	■							
Rustic wood post (preservative not evident)	■	■	■	■									
Wood post					■	■	■	■	■	■	■	■	■
Metal or synthetic post									■	■	■	■	■
Sign Support Color/Finish													
Natural (or appearing so)	■	■	■	■	■	■							
Preservative not evident (if used)	■	■	■	■									
Stained	■	■	■	■	■	■	■	■	■	■	■	■	■
Painted					■	■	■	■	■	■	■	■	■
Anodized										■	■	■	■

* Limited use in SPM/RN.

Interpretive Facilities

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
No interpretive facilities	■	■	■	■									
Simple signs of native material					■	■							
Simple signs or wayside exhibits of native or natural appearing material with some refinement of design							■	■	■	■	■		
More complex wayside exhibits									■	■	■	■	■
Major interpretive sites (typically staffed)										■	■	■	■

Nonvehicular Bridges

	Primitive		Semiprimitive Nonmotorized		Semiprimitive Motorized		Roaded Natural			Rural		Urban	
Logs	■	■	■	■	■	■							
Logs with dimensional wood*		■	■	■	■	■	■	■	■	■	■		
Dimensional wood								■	■	■	■	■	■
Concrete										■	■	■	■
Steel										■	■	■	■
Wood preservatives not evident (if used)	■	■	■	■									
Synthetic										■	■	■	■

* Use of dimensional lumber for decking of bridges in P and SP settings is often necessary, although such materials in those ROS settings should not otherwise be used.