Chapter 5 – Appendices

A. Acronyms

ACS – Aquatic Conservation Strategy

AMA – Adaptive Management Area

ATM – Access and Travel Management

BO – Biological Opinion

BPA – Bonneville Power Administration

CEQ – Council on Environmental Quality

CHU – critical habitat unit

CWD – coarse woody debris

dbh – diameter at breast height

DNR – Department of Natural Resources

EA – Environmental Assessment

EO – Executive Order

EUI – Ecological Unit Inventory

FEIS – Final Environmental Impact Statement

FSR – Forest Service Road

HPA – hydraulic project approval

KV – Knudson-Vandenberg

LRMP – Land and Resource Management Plan

LSR – Late Successional Reserve

LWD – large woody debris

MOA – Memorandum of Agreement

MOU – Memorandum of Understanding

MIS – Management Indicator Species

NEPA – National Environmental Policy Act

NMFS – National Marine Fisheries Service

NOAA – National Oceanic and Atmospheric Administration

NWFP – Northwest Forest Plan

OAHP – Office of Archeology and Historic Preservation

OHV – Off Highway Vehicle

OSHA – Occupational Safety and Health Administration

PBO – Programmatic Biological Opinion

REO – Regional Ecosystem Office

RM – River mile

ROD – Record of Decision

SHPO – State Historic Preservation Office

spp. – species

TES – Threatened and Endangered Species

USDA – United States Department of Agriculture

USDI – United States Department of the Interior

USFS – United States Forest Service

WDFW – Washington Department of Fish and Wildlife

WEPP – Water Erosion Prediction Project

B. Riparian Buffer Guidelines

General Guidelines for riparian buffers on streams and wetlands

Riparian buffers are prescribed No-Cut / No entry areas. This, however, does not necessarily eliminate hanging lines if needed for cable logging systems. Buffer distances are delineated below.

Fish bearing streams: 100' from the steam bank edge or slope break, whichever is greater.
Significant non-fish bearing streams: 66' (1 chain) from the steam bank edge or slope break, whichever is greater.
Minor non-fish bearing streams that are > 10 ' wide: 33 ' (1/2 chain) from the steam bank edge or the slope break, whichever is greater.
Minor non-fish bearing streams that are < 10 ' wide: trees sufficient to maintain shade or the slope break, whichever is greater.

Stream bank edge is considered to be the defined break at edge of stream that has upland type vegetation, such as hardwoods and conifer (not shrubs).

Slope Break is defined as significant gradient change, in many cases a change in vegetation from 70% - 100% hardwoods to 70% - 100% conifers. Boundary tags at the slope break should be placed on first solid line of conifers back from break.

Unit number	Recommended site-specific stream-side no-cut buffer designations	Comments
8	100' or slope break of unnamed fish tributary	The west side slope has inner gorge failures.
9	100' along Bear Creek and unnamed tributary. Include riparian restoration plots in stream buffer.	
16	100' or slope break. Where slope is long and consists of multiple breaks, use 100' no-cut buffer, and watch for old inner gorge failures	
17	100' or slope break. Where slope is long and consists of multiple breaks, use 100' no-cut buffer, and watch for old inner gorge failures	
	66' -- A small stream flows to unit 19. Locate a no-cut buffer between creek and 3000300 spur.	
18	100' or slope break. Where slope is long and consists of multiple breaks use 100' no-cut buffers; watch for old inner gorge failures.	
19	100' or slope break. Where slope is long and consists of multiple breaks use 100' no-cut buffers; watch for old inner gorge failures. Also apply to mid-unit stream to the 15-foot bedrock falls above the 30 Rd due to future potential fish usage.	
	66' for the small stream in mid-unit that may be fish-bearing in the lower portion.	

Unit number	Recommended site-specific stream-side no-cut buffer designations	Comments
22	100' or slope break.(whichever is greater) for fish-bearing stream.	
26	66'	The old road crosses dry channel, which does not appear to have surface flow.
27	No harvest between PUD road and creek	No harvest area may already be buffered out.
33	100' along Deep Creek mainstem (fish-bearing)	
	33' along small tributaries below the 30 road	There is an old failed crossing.
34	100' along the Deep Creek mainstem	
	33' along small tributaries	
35	100' along Deep Creek mainstem	
	66' or slope break	2 small tributaries cross and join below the 30 Rd
36	100' along Deep Creek mainstem	
37	33' back from slope break; include at least 2 rows conifer in no-cut buffer	
	33' -- Buffer the small stream east corner to maintain shading and incorporate some conifers.	
38, 39	66' for portions below the 30 Rd. For the debris flow stream, back off slope break and include at least 2 rows of conifer.	
39	Measure 66' back from first line of conifers for portion of unit above the 30 Road.	
40	Measure 33' back from the first line of conifers or alders in area below the 30 Road	
	33' for the portion of the unit above the 30 road. For lower part of the unit, buffer 33' upland of overflow channel for the main creek.	
	66' above road, part accessed off 3000490 road	
	33' along small streams off 3000490 spurs	
41	66' above the 30 road, if not already buffered	

Unit number	Recommended site-specific stream-side no-cut buffer designations	Comments
44	66' below road along first large tributary	
	slope break above first large tributary	
	slope break along the south side of the West Twin river	
	100' along the north side of the West Twin River	
45	100' along the West Twin River. If stand is similar to the southern part of Unit 44 (i.e., very dense conifers), then thin to the break.	
	33' along small tributary at the 30 road	
47	33' along large tributary below 30 road. Where PUD road parallels the creek, use slope break.	
	slope break or 66' along large tributary (above road)	
	100' or slope break along the West Twin River	
48	100' with no-cut below the break. There is a large inner gorge failure on the SW side of the large creek. Stay on gentle ground and break at the edge of the gorge.	
	100' or slope break along the West Twin River	
51	33' or at slope break along tributaries	
52	100' or slope break along the West Twin River	
55	100'	
57	100'	**NW side has steep slope to Bear Creek; suggest buffer to cat trail between Bear Creek and FSR 3006-011.**
58, 59	100' or slope break. Use the slope break or vegetation change to first line of conifers regardless of distance near the -011 spur. Thinning overstocked conifers is desirable in this unit.	
60	100' or slope break. Because of steepness to Bear Creek, use the slope break regardless of distance.	
60 or 61	33'	**Watch for the waterline creek.**

Unit number	Recommended site-specific stream-side no-cut buffer designations	Comments
62	33' along small tributaries and wetlands	There are 3 streams crossings and several wetlands in unit 62; stream edges may not be well defined.
63	33' along small tributaries	
64	100' along fish streams	
	66' along wetland edge	

C. Summary Table of Roads Proposed for Use[1]

ROUTE #	ROAD STATUS	WORK PROPOSED	ACCESS TRAVEL MANAGEMENT OBJECTIVE	POST HARVEST TREATMENT	ALT B MILES	ALT C MILES	UNITS ACCESSED
30	Level 3 (open, passenger cars)	Reconstruction	Level 3	Level 3	13.9	13.9	Haul route
3000200	Level 2 (open, high clearance vehicles)		Level 2	Level 2	2.0	2.0	Haul route
3000300	Level 2		Level 1	Level 1	1.6	1.6	Haul route
3067000	Level 2		Level 2	Level 2	1.3	1.3	Haul route
3067050	Level 1 (closed rd)		Level 1	Level 1	1.0	1.0	Haul route
3067055	Level 1		Level 1	Level 1	0.8	0.8	Haul route
3000400	Level 2		Level 2	Level 2	0.3	0.3	Haul route
3000395	Level 1		Level 1	Level 1	0.3	0.3	37
	TOTAL - FOREST SYSTEM RDS (TO REMAIN OPEN POST SALE)				**21.1**	**21.1**	

[1] *Values given are approximate and based on computer mapping and other calculations. These values may differ from actual project layout and implementation.*

ROUTE #	ROAD STATUS	WORK PROPOSED	ACCESS TRAVEL MANAGEMENT OBJECTIVE	POST HARVEST TREATMENT	ALT B MILES	ALT C MILES	UNITS ACCESSED
3000197	BPA Access	Work includes clearing and grubbing, earthwork, drainage and surfacing.	*	Open	0.6	0.6	8
3000198	BPA Access		*	Open	0.1	0.1	8
3000199	BPA Access		*	Open	0.1	0.1	9
3000201	BPA Access		*	Open	0.3	0.3	16, 18
3000301	BPA Access		*	Open	0.5	0.5	17, 19
3000302	BPA Access		*	Open	0.1	0.1	17
3000304	BPA Access		*	Open	0.5	0.5	27
3000581	BPA Access		*	Open	0.3	0.3	45
3000599	BPA Access		*	Open	0.4	0.4	47
3000602	BPA Access		*	Open	0.1	0.1	48
3000603	BPA Access		*	Open	0.1	0.1	48
3006011	BPA Access	These roads are maintenance level 2 roads open for administrative use. They have existing road use agreements with Bonneville Power Administration. Proposed work varies from none to brushing, surfacing and drainage work.	ML2	Open	0.8	0.8	60 - 62
3000580	BPA Access		ML2	Open	0.7	0.7	43 - 45
3000401	BPA Access		ML2	Open	0.4	0.4	38
3100010	BPA Access		ML2	Open	0.3	0.3	60 - 65
	TOTAL - BPA ACCESS RDS (TO REMAIN OPEN POST SALE)				**5.4**	**5.4**	

[*] *While BPA access roads were not included in the Forest ATM, they are tracked in the Natural Resource Information System (NRIS).*

ROUTE #	ROAD STATUS	WORK PROPOSED	ACCESS TRAVEL MANAGEMENT OBJECTIVE	POST HARVEST TREATMENT	ALT B MILES	ALT C MILES	UNITS ACCESSED
3000011	Level 1	Proposed work would include brushing, surfacing and drainage work. Following the sale, these roads would be decommissioned if KV funds are available, or otherwise reclosed.	Decommission	Reclose; Decomm.w/ KV	0.4	0.4	58, 59
3000320	Level 1		Decommission	Reclose; Decomm.w/ KV	0.2	0.1	17
3000330	Level 1		Decommission	Reclose; Decomm.w/ KV	0.5	0.5	30 - 32
3000490	Level 1		Decommission	Reclose; Decomm.w/ KV	0.6	0.6	40
3000590	Level 1		Decommission	Reclose; Decomm.w/ KV	0.4	0.4	45,46
3000600	Level 1		Decommission	Reclose; Decomm.w/ KV	0.4	0.4	47
3000810	Level 1		Decommission	Reclose; Decomm.w/ KV	0.0	0.0	50
3000401	Level 1		Decommission	Reclose; Decomm.w/ KV	0.3	0.3	38
3100010	Level 1		Decommission	Reclose; Decomm.w/ KV	1.3	1.0	62 - 65
3000295	Level 1		Decommission	Reclose; Decomm.w/ KV	0.5	0.5	26
3000310	Level 1		Decommission	Reclose; Decomm.w/ KV	0.1	0.1	17
3000492	Level 1		Decommission	Reclose; Decomm.w/ KV	0.1	0.1	40
3000800	Level 2, but not open		Decommission	Decommission KV	1.3	1.3	50, 51, 53
	TOTAL – FOREST SYSTEM RDS (RECLOSE OR DECOMM. W/ KV POST SALE)				**6.1**	**5.7**	

ROUTE #	ROAD STATUS	WORK PROPOSED	ACCESS TRAVEL MANAGEMENT OBJECTIVE	POST HARVEST TREATMENT	ALT B MILES	ALT C MILES	UNITS ACCESSED
3000012	Unclassified, Abandoned	Work on proposed temporary roads on existing road grades would vary from light clearing and grubbing to minor excavation, drainage, and surfacing. These roads would not become National Forest System roads and would be decommissioned after use.		decommission	0.4	0.4	59
3000196	Unclassified, Abandoned			decommission	0.1	0.1	8
3000202	Unclassified, Abandoned			decommission	0.3	0	16, 18
3000221	Unclassified, Abandoned			decommission	0.1	0.1	14
3000223	Unclassified, Abandoned			decommission	0.1	0.1	16
3000224	Unclassified, Abandoned			decommission	0.1	0.1	16
3000302	Unclassified, Abandoned			decommission	0.2	0.1	17
3000303	Unclassified, Abandoned			decommission	0.1	0.2	17
3000305	Unclassified, Abandoned			decommission	0.1	0.1	27
3000331	Unclassified, Abandoned			decommission	0.2	0.3	30, 32
3000381	Unclassified, Abandoned			decommission	0.2	0.1	33
3000382	Unclassified, Abandoned			decommission	0.9	0.1	34, 35
3000383	Unclassified, Abandoned			decommission	0.2	0.1	34
3000384	Unclassified, Abandoned			decommission	0.3	0.1	37
3000385	Unclassified, Abandoned			decommission	0.1	0.1	33
3000579	Unclassified, Abandoned			decommission	0.5	0.1	43, 44
3000591	Unclassified, Abandoned			decommission	0.3	0.2	45, 46
3000601	Unclassified, Abandoned			decommission	0.2	0.2	48

ROUTE #	ROAD STATUS	WORK PROPOSED	ACCESS TRAVEL MANAGEMENT OBJECTIVE	POST HARVEST TREATMENT	ALT B MILES	ALT C MILES	UNITS ACCESSED
3006012	Unclassified, Abandoned	Work on proposed temporary roads on existing road grades would vary from light clearing and grubbing to minor excavation, drainage, and surfacing. These roads would not become National Forest System roads and would be decommissioned after use.		decommission	0.1	0.2	60
3006013	Unclassified, Abandoned			decommission	0.2	0.2	60, 61
3006014	Unclassified, Abandoned			decommission	0.1	0.3	57
3100011	Unclassified, Abandoned			decommission	0.3	0.1	63 - 65
3100012	Unclassified, Abandoned			decommission	0.1	0.0	62
3100013	Unclassified, Abandoned			decommission	0.1	0.3	62
3100014	Unclassified, Abandoned			decommission	0.1	0.2	60 - 62
3000203	Unclassified, Abandoned			decommission	0.1	0.1	18
	TOTAL - TEMPORY ROADS ON EXISTING GRADES (DECOMMISSION POST SALE)				**5.5**	**3.9**	
3000303	Temporary Road	Proposed newly constructed roads. These roads would not become National Forest System Roads and would be obliterated after use.		decommission	0.1	0.1	17
3000304	Temporary Road			decommission	0.1	0.1	27
3000332	Temporary Road			decommission	0.3	0.3	30, 31
3000386	Temporary Road			decommission	0.1	0.0	36
3067051	Temporary Road			decommission	0.1	0.1	24
3067052	Temporary Road			decommission	0.1	0.1	24
	TOTAL - NEW TEMPORY ROADS (DECOMMISSION POST SALE)				**0.9**	**0.7**	
	GRAND TOTAL				**38.9**	**36.8**	

D. Road Definitions

Forest roads. As defined in Title 23, Section 101 of the United States Code (23 U.S.C. 101), any road wholly or partly within, or adjacent to, and serving the National Forest System and which is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.

National Forest System road. A classified forest road under the jurisdiction of the Forest Service. The term "National Forest System roads" is synonymous with the term "forest development roads" as used in 23 U.S.C. 205.

New Road Construction. Activity that results in the addition of forest classified or temporary road miles (36 CFR 212.1).

Public roads. Any road or street under the jurisdiction of and maintained by a public authority and open to public travel (23 U.S.C. 101(a)).

Road. A motor vehicle travel way over 50 inches wide, unless designated and managed as a trail. A road may be classified, unclassified, or temporary (36 CFR 212.1).

a. Classified Roads. Roads wholly or partially within or adjacent to National Forest System lands that are determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, National Forest System roads, and other roads authorized by the Forest Service (36 CFR 212.1).

b. Temporary Roads. Roads authorized by contract, permit, lease, other written authorization, or emergency operation not intended to be a part of the forest transportation system and not necessary for long-term resource management (36 CFR 212.1).

c. Unclassified Roads. Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travel ways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization (36 CFR 212.1).

Road Decommissioning. Activities that result in the stabilization and restoration of unneeded roads to a more natural state (36 CFR 212.1), (FSM 7703).

Decommissioning includes applying various treatments, which may include one or more of the following:

a. Reestablishing former drainage patterns, stabilizing slopes, and restoring vegetation;

b. Blocking the entrance to a road; installing water bars;

c. Removing culverts, reestablishing drainage-ways, removing unstable fills, pulling back road shoulders, and scattering slash on the roadbed;

d. Completely eliminating the roadbed by restoring natural contours and slopes; or other methods designed to meet the specific conditions associated with the unneeded roads.

Road maintenance. The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective (FSM 7712.3).

Road maintenance level. Maintenance levels define the level of service provided by, and maintenance required for, a specific road. Maintenance levels must be consistent with road management objectives and maintenance criteria. There are road five maintenance levels:

a. Level 1. Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level.

b. Level 2. Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level.

c. Level 3. Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities.

d. Level 4. Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds.

e. Level 5. Assigned to roads that provide a high degree of user comfort and convenience.

Road Reconstruction. Activity that results in improvement or realignment of an existing classified road as defined below:

a. Road Improvement. Activity that results in an increase of an existing road's traffic service level, expands its capacity, or changes its original design function.

b. Road Realignment. Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway (36 CFR 212.1).

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