

Pre-Operations Report

Operation Name: Potato Hill Thin (alternate)

County: Linn

Management Basin: Mad Creek Basin

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
	PC	87	85
Total			85

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

The operation is located within a temperate climate area. Typically the fall and winter seasons are wet. This area receives approximately 64 inches of rainfall per year. The operation is located within the *Tsuga heterophylla* Zone (Natural Vegetation of Oregon and Washington, Franklin & Dyrness, 1973).

The landforms are moderate on the slopes in the lower portion of the operation and steep to very steep on the slopes in the upper portion of the operation. The sale is below Potato Hill and drains to Mad Creek in the west corner and to the North Santiam River through most of the sale area. The underlying rock is Sedimentary and Volcaniclastic origin rocks of the Western Cascades, lapilli tuff, mudflow deposits (lahars), flow breccia, and volcanic conglomerate.

The soils within the operation consist of 80% Pechuck and 20% Nasty. Pechuck is a well-drained, fine textured colluvial soil. Nasty soils are moderately deep, well-drained, moderately fine textured skeletal soil. The 50 year site index for Douglas-fir is 110 feet. The elevation ranges from 1,150 to 2,060 feet.

II. CURRENT STAND CONDITION:

The operation is located within a 95-year-old stand currently classified as Understory. The overstory consists of Douglas-fir with a few scattered big leaf maple, western hemlock and red alder. The understory consists of Oregon grape, sword fern, and vine maple.

There are approximately 8 snags per acre; there are approximately 1,224 cubic feet per acre of sound down wood with a total of 1,760 cubic feet of down wood per acre in all decay classes (SLI 2002).

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Acres ²
	PC-H	12557	DF	95	16	288	192	72	87
		Target ³			26	100	20	15	26

1 The source of stand inventory information is SLI from 2002.

2 The acres are based on GIS and include roads, streams buffers, reserve areas, etc.

3 The Target identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

III. DESIRED STAND CONDITION:

The **desired future condition** for this operation is **Older Forest Structure** as shown on Map B. Irregular-shaped patch cuts designed to minimize the visual impacts of harvesting will be applied to this stand. As an example, the operation area could be subdivided into six areas designed to take advantage of topographic breaks in slope, aspect, and elevation. Two of these areas could be selected for harvest with this plan, two could be planned for 20 years in the future, and the remaining two planned for 40 years in the future. This would constitute a stand-level approach to attaining the DFC of OFS by creating three distinct layers in addition to the structural components retained within each layer.

The following is the **anticipated pathway for this stand:**

- One third of the stand will receive a heavy partial cut,
- This thinned area will then be planted with a mixture of Douglas-fir, western hemlock and western red cedar,
- In ten years the underplanted trees will be evaluated to determine if a precommercial thin is needed,
- In twenty years another third of the stand will be evaluated for a partial cut.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Acres
	12557	UDS	UDS	OFS	87

1 The stand is expected to develop into this condition in the five to ten years after this operation is completed.

IV. **PROPOSED MANAGEMENT PRESCRIPTION**

One third of the stand will receive a heavy partial cut to a residual SDI of 15%. This will leave approximately 20 trees per acre remaining in these patches. This

thinned area may then be planted with a mixture of western hemlock, western red cedar and Douglas-fir seedlings. Hand piling of slash may occur to prepare the site for underplanting.

Existing down wood will be retained. Snags will be retained that do not pose a safety hazard, but some snags will be felled during the operation. No new snags or down wood will be developed during this entry.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%	<input type="checkbox"/>	x
Planned Quarter:			

	Conifer	Hardwood	Total
Net Volume (MBF)	570	75	645
Stumpage Value (\$/MBF)	\$250	\$100	
Estimated Gross Value	\$142,500	\$7,500	\$150,000
		Project Costs:	\$8,000
		Estimated Net Value:	\$142,000

VI. TRANSPORTATION PLANNING AND HARVESTING:

The area is accessed via the Potato Hill road, PH 200 and PH 250 roads. These are Private roads that will require access agreements. Road brushing on the PH 250 and PH 200 will be required.

This sale will be helicopter logged. Potential landing locations have been identified but not finalized. A possible helicopter landing exists on private land to the north of the planned operation but the cost of obtaining permission to use this site is unknown. There are also potential landing sites south of the planned operation on BLM and State Forest land but these are further away and would require more development to be usable.

Required Project Work:

- Brush 0.75 miles of road.
- Since this is an alternate sale we may include other work planned from a dropped sale.

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0	0
Improve	0	0	0	0
Maintain	0	0.75	0.2	0
Close/Block	0	0	0	0
Vacate	0	0	0	0

* For determination of road class either use results of the Harvest and Habitat roads classifications, or if this information is not available then low use roads are spurs, medium use roads are collectors and high use roads are mainlines. Use these same criteria when comparing the total for all AOP sales to the IP plans.

VII. AQUATIC RESOURCES AND WATER QUALITY:

Approximately 500 feet of the sale is adjacent to Mad Creek, a large fish bearing stream containing anadromous fish.

There is also a small non-fish bearing stream within the operation which drains into Mad Creek. The overstory along these riparian areas consists mostly of Douglas-fir with some red alder and big leaf maple. The understory consists of ferns, Oregon grape, salmonberry and huckleberry.

Management activities within riparian areas of streams will focus on achieving properly functioning aquatic and riparian habitat conditions over time. Riparian Management Areas (RMAs) will be established immediately adjacent to streams for the purpose of protecting aquatic and riparian resources and maintaining the functions and ecological processes of the streams. The Management Standards for Aquatic and Riparian Areas found in the *NWO State Forests Management Plan* (pg. J-1 – J-16) will be followed within these RMAs.

This operation is located within the City of Salem’s watershed. The North Santiam River is the primary drinking source for residents in Salem. Water from the river is processed using large slow sand filters. The slow sand filtration process is unable to treat water with turbidity levels greater than 10 NTU. (an NTU is a unit of scientific measurement that describes the extent of discoloration due to suspended sediment.) The District has a long history of cooperation with the City of Salem on matters related to water quality. Generally speaking, representatives from the Public Works Division review all of the pre-operation reports for activities located within the watershed. Most of these areas are also visited on the ground to further review and discuss strategies related to maintenance of water quality. Suggestions offered for mitigation of potential

impacts to water quality are carefully considered and incorporated into timber sale contracts when appropriate.

The following measures will be used to minimize impacts to streams: 1. No ground based equipment will be allowed within 50 feet of the fish stream and 25 feet of the non-fish bearing streams, 2. There will be seasonal restrictions as to when ground yarding and road construction will be allowed (i.e. during dry seasons), 3. Erosion control measures will be used on areas of soils exposed during road construction or improvement, 4. In the cable portions of the operation, one end suspension of logs during yarding will be required, 5. Road ditches will be disconnected from streams, 6. Road maintenance will be required during log hauling.

VIII. T&E SPECIES CONSIDERATIONS:

This operation was surveyed for Northern Spotted Owls with no response during the 2004 survey season. The operation will be surveyed again during the 2005 survey season.

The operation was checked against the Oregon Natural Heritage Program's database of known plant locations. The operation was also checked against district knowledge for any listed plant location. No records of threatened, endangered, rare or candidate plant species were found within the operation.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

The initial assessment from the geotechnical specialist is high. There are steep to very steep slopes in the upper portion of the sale area. The geotechnical specialist will review the sale in the field. If the sale boundaries are changed prior to field review, the geotechnical specialist may be consulted and the need for field review may be reassessed.

X. RECREATION RESOURCES:

There are no known developed recreational resources located within this operation. Although hunting and horseback riding do occur in the area.

XI. CULTURAL RESOURCES:

There are no known cultural resources located within or adjacent to this operation.

XII. SCENIC RESOURCES:

Approximately 80% of the operation is visible from Highway 22 with a visual classification of Moderate Sensitivity. (*NWO Forest Management Plan, Jan. 2001, pg. 4-107*) The thinning area will be designed to take advantage of topographic breaks in slope, aspect, and elevation to have minimal impact to the scenic resources.

XIII. OTHER RESOURCE CONSIDERATIONS:

There are several home owners that live at the base of the hill. These owners will be contacted soon to discuss the management of this stand. There is an ODF permanent plot located within the operation off of the MC 900 Road. The guidelines sent out by the Cruising & Inventory Forester on July 12, 1999 for managing operation impacts to permanent plot markings will be followed.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

Table 6. Land Management Classification Summary

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
	Aquatic & Riparian Habitat	1	2
	Visual	67	0

This table summarizes the acres of Focused and Special Stewardship within the operations. The acres in each operational area in this table do not necessarily add up to its gross or net acres, because of overlapping classifications under the Land Management Classification System. For example, a particular acre can be classified as Focused Stewardship for Aquatic and Riparian, Recreation, and Scenic resources.