

# Pre-Operations Report

**Operation Name:** Steel Shield  
**County:** Tillamook County  
**Management Basin:** Wheeler

**Table 1. Operation Areas, Types and Acres**

Area	Type of Operation	Gross Acres	Net Acres
1	Moderate Partial Cut	128	112
2	Heavy Partial Cut	90	76
3	Heavy Partial Cut	46	40
<b>Total</b>	<b>Partial Cut Harvest</b>	<b>264</b>	<b>228</b>

## **I. PHYSICAL DESCRIPTION OF OPERATION AREA:**

Slopes within the sale area are predominantly northeast aspect and range from 10% to 60%. Elevations range from 1760 to 2640 feet. Cochran, Grindstone, Killam, and Jewell are the major soil types of the sale area.

The sale is located on both sides of Shields Road, on the moderate side-slopes of the headwaters of the west flank of the South Fork of Rock Creek. There are bands of steep slopes in the lower portion of the sale area long the north and east boundaries. The sale is underlain by igneous origin rocks of the Tillamook Volcanics Formation (*per Dave Michael, Northwest Oregon Area Geotechnical Specialist*).

## **II. CURRENT STAND CONDITION:**

The sale area burned in the 1933 Wolf Creek fire and the area naturally regenerated. The stands in the sale area have had no prior management.

The entire sale area has been inventoried using the Stand Level Inventory (SLI) procedure and the stands have been classified as CSC and UDS.

The stand is composed of mostly Douglas-fir and hemlock with scattered noble fir, cedar, red alder and cherry throughout the sale area.

The stand contains minor amounts of *Phellinus weiri*. The root disease will not be treated at the time of harvest.

The understory in the sale area is comprised primarily of vine maple, cherry, sword fern, salal, western hemlock, western red cedar, dwarf Oregon grape,

huckleberry, bracken fern, and oxalis. Average ground cover from SLI data is 80%.

SLI data show that there are approximately 10 snags per acre within all decay classes, including 2 hard snags per acre. The data shows that there is 8100 ft<sup>3</sup>/acre of DWD, including 318 ft<sup>3</sup>/acre of classes 1 & 2.

**Table 2. Stand Inventory Information**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age <sup>2</sup>	DBH	BA	TPA	SDI	Net Acres <sup>3</sup>
1	PC-M <sup>4</sup>	7254	DF, WH	38-56	15	190	153	49	16
		7259	WH, DF	39-41, 50-57	15	252	215	66	96
		<i>Target</i> <sup>5</sup>	<i>DF</i>		17	140	87	34	112
2	PC-H <sup>4</sup>	7259	WH, DF	39-41, 50-57	15	252	215	66	76
		<i>Target</i> <sup>5</sup>	<i>DF</i>		22	120	65	25	76
3	PC-H <sup>4</sup>	7259	WH, DF	39-41, 50-57	15	252	215	66	40
		<i>Target</i> <sup>5</sup>	<i>DF</i>		24	100	50	20	40

<sup>1</sup> The source of stand inventory information is from SLI inventory grown forward to 2006.

<sup>2</sup> Actual measured breast height ages are shown unless labeled “est.”

<sup>3</sup> The acres are based on GIS and exclude existing and planned roads, stream buffers, and non-thinnable areas.

<sup>4</sup> PC-M is Moderate Partial Cut.

<sup>5</sup> The Target row for partial cut areas identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

### **III. DESIRED FUTURE CONDITION/VISION:**

According to the Forest Grove District’s landscape design for the Wheeler basin, the desired future condition (DFC) for Area 1 is 100% OFS. The DFC for Area 2 is 55% General and 45% OFS. The DFC for Area 3 is 50% General and 50% OFS.

The prescription for Area 1 is a PC-M and the prescriptions for Areas 2 and 3 are PC-H. This will be the first active management in these stands. All cedar, noble fir, red alder, and cherry will be reserved from cutting during harvest. This, along with the hemlock in the overstory, will help to maintain the species diversity and allow additional natural seeding to enhance the developing understory of shade tolerant conifers.

All existing snags and down woody debris of all decay classes shall be retained as safety allows.

**Table 3. Stand Structure Information**

Area	Prescription	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1	PC-M	7254	UDS	UDS	OFS	16
		7259	CSC	UDS	OFS	96
2	PC-H	7259	CSC	UDS	GEN	42
					OFS	35
3	PC-H	7259	CSC	UDS	GEN	20
					OFS	20

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

**IV. PROPOSED MANAGEMENT PRESCRIPTION AND PATHWAY:**

**Area 1; Partial Cut - Moderate:**

The target SDI is approximately 34. Douglas-fir and hemlock will be selected for harvest. All other species will be reserved. The stand will be thinned to a target of 140 square feet of basal area. The average DBH of the residual stand will be approximately 17 inches. Residual trees will be the trees that have the largest DBH and height, and are of the best form and vigor. All trees less than 8 inches, cedar, noble fir and hardwoods shall be reserved and shall not count toward the target basal area. There will be approximately 87 trees per acre left after harvest.

This stand has been designated for a moderate partial cut prescription which will result in a LYR stand condition 15-25 years after harvest. It is expected to remain in a LYR condition for an additional 20-30 years.

One tree per acre shall be topped to create hard snags. Snags shall be evenly distributed throughout the sale area and have a DBH of at least 15 inches, and will be at least 60 feet in height.

No underplanting is planned because it is anticipated that natural regeneration from shade tolerant species will enhance the understory vegetation.

All existing DWD will be reserved in the sale areas. DWD recruitment is expected through mortality, windthrow of residual trees, felled snags, and logging slash.

**Area 2; Partial Cut - Heavy:**

The target SDI is approximately 25. Douglas-fir and hemlock will be selected for harvest. All other species will be reserved. The stand will be thinned to a target of 120 square feet of basal area. The average DBH of the residual stand will be approximately 22 inches. Residual trees will be the trees that have the largest DBH and height, and are of the best form and vigor. All trees less than 8 inches, cedar, noble fir and hardwoods shall be reserved and shall not count toward the target basal area. There will be approximately 65 trees per acre left after harvest.

There will be no snag creation in area 2.

All existing DWD will be reserved in the sale areas. DWD recruitment is expected through mortality, windthrow of residual trees, felled snags, and logging slash.

No underplanting is planned because it is anticipated that natural regeneration from shade tolerant species will enhance the understory vegetation.

**Area 3; Partial Cut – Heavy:**

This will be a diameter limit prescription resulting in a residual SDI of 22. All trees less than 8 inches and all trees greater than 18 inches shall be reserved from cutting. Douglas-fir and hemlock will be selected for harvest. All other species will be reserved. The stand will be thinned to a target of 100 square feet of basal area. The average DBH of the residual stand will be approximately 24 inches. There will be approximately 50 trees per acre left after harvest.

This stand has been designated for a heavy partial cut diameter limit prescription which will result in a LYR stand condition 15-25 years after harvest.

There will be no snag creation for area 3.

All existing DWD will be reserved in the sale areas. DWD recruitment is expected through mortality, windthrow of residual trees, felled snags, and logging slash.

**V. ESTIMATED TIMBER AND REVENUE INFORMATION:**

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%		<input checked="" type="checkbox"/>
Planned Quarter:		3	

	Conifer	Hardwood	Total
Net Volume (MBF)	3,600		3,600
Stumpage Value (\$/MBF)	\$350		\$350
Estimated Gross Value	\$1,260,000		\$1,260,000
		Project Costs:	\$144,000
		Estimated Net Value:	\$1,116,000

**VI. TRANSPORTATION PLANNING AND HARVESTING:**

Access to the sale Area from Forest Grove is North on Hwy 26 to Shields Road and approximately 2.5 miles to the sale Area. This is an all-weather, crushed rock road. Access is entirely through ODF owned land and on ODF roads.

Approximately 1.7 miles of road will be constructed to provide access to cable yarding or landing locations. New construction is limited to ridge tops and gentle to moderate side slopes. Proposed roads will cross one type N stream and no type F streams.

All haul roads will have high quality crushed rock or pit run surfacing. Roads will provide access to all timber within the sale area and allow for logging methods and hauling which will minimize impacts to soils, residual timber, streams, and riparian areas. Estimated cost for road construction is approximately \$60,000 per mile on all roads. Total construction cost is estimated at \$102,000.

Approximately 3.5 miles of existing road adjacent to the sale area will be improved. Work will consist of replacing culverts and adding cross drains to disconnect ditches. Estimated cost is \$7,000.

Approximately 5,000 cubic yards of 3"-0 and 1-1/2"-0 rock will be crushed and stockpiled for future timber sales and road maintenance at a cost of \$35,000.

Total project cost is \$144,000.

Following harvest, roads and skid trails within the sale areas will be evaluated for closure.

The operation will be approximately 30% cable yarding and 70% ground yarding.

**Table 5. Transportation Management Summary (Miles).**

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construction	0	0	1.7	0
Improvement	0	0	3.5	0
Maintenance	0	3.0	1.7	0
Closure/Vacation	0	0	0	0

**VII. AQUATIC RESOURCES AND WATER QUALITY:**

There are no Type F streams within or adjacent to the sale area.

There is one unnamed small perennial Type N stream within the sale area, which is a tributary to South Fork Rock Creek. Riparian area stand types along these streams are generally a hardwood/conifer mix.

The entire sale area is within the Upper Rock Creek basin. This basin has been designated as a Salmon Anchor Habitat (SAH) Basin. SAH Basin Strategies will be applied during timber sale layout and contract development. The perennial

Type N stream within the sale area will be buffered by 50' on each side of the stream.

In order to protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining culverts and other road drainage structures, using sediment control devices in road ditches when necessary, and seasonal restrictions on logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and Aug. 31. Operations outside of this period will be reviewed with ODFW.

The Upper Nehalem Watershed Analysis was checked for recommendations that could be applied to this sale. This watershed analysis identified reaches of South Fork Rock Creek that are near the Steel Shield sale area as having low instream wood and low future wood recruitment potential due to hardwood dominance in the riparian area. The watershed analysis identified these stream reaches as a top priority to address in association with management activities. In response, the watershed analysis action plan states that riparian/in-stream improvement opportunities will be pursued in association with this sale. The district will consult with the ODFW Fish Habitat Biologist to evaluate potential opportunities for stream enhancement (large wood placement) projects.

#### **VIII. WILDLIFE AND T&E SPECIES CONSIDERATIONS:**

The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist (Area Biologist).

Surveys for northern spotted owls were conducted in 2006 due to the presence of potentially suitable spotted owl habitat within and adjacent to the timber sale area. Steel Shield was surveyed for spotted owls three times in 2006 with no responses, and the second year of survey will be completed in 2007. All surveys were/will be conducted in accordance with USFWS protocol.

Potentially suitable marbled murrelet habitat (two survey sites) within Area 1 was surveyed for murrelets in 2006. The presence of murrelets was not detected during the 2006 surveys. The second year of survey will be completed in 2006. All surveys were/will be completed in accordance with PSG protocol.

This operation does not involve an activity that is listed in the National Marine Fisheries Service (NMFS) adopted rules under Section 4(d) of the Endangered Species Act. Neither the sale area nor the haul route is in close proximity to a stream with listed fish.

The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations, as well as against local records

in the Land Management Classification System (LMCS). No listed plant records were identified within or adjacent to the sale areas.

**IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:**

There are small bands of steep slopes in the lower portion sale area along the north and east boundaries. The initial risk assessment by the geotechnical specialist for the sale is moderate. If these steep sloped areas remain within the sale area as the sale layout proceeds, the geotechnical specialist will be consulted to determine if a field visit is needed (*per Dave Michael, Northwest Oregon Area Geotechnical Specialist*).

**X. RECREATION RESOURCES:**

The sale area is designated as Non-Motorized in the Tillamook State Forest Comprehensive Recreation Plan (1993).

Recreational use common to this area includes hunting and mushroom picking. The spur roads will be blocked after sale activities are completed.

**XI. CULTURAL RESOURCES:**

The sale area was checked against the Tillamook State Forest Cultural Resource Inventory GIS data. This data source identified one cultural site adjacent to the sale area (within 200 feet).

The resource is described as:

- “Sunset Triangulation Point” (Class 3 – No Protection Required)

The district will consult the Public Use Coordinator (ODF Salem Staff) for appropriate protection measures of this site.

**XII. SCENIC RESOURCES:**

The sale area has a visual classification of Level 3, low sensitivity.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

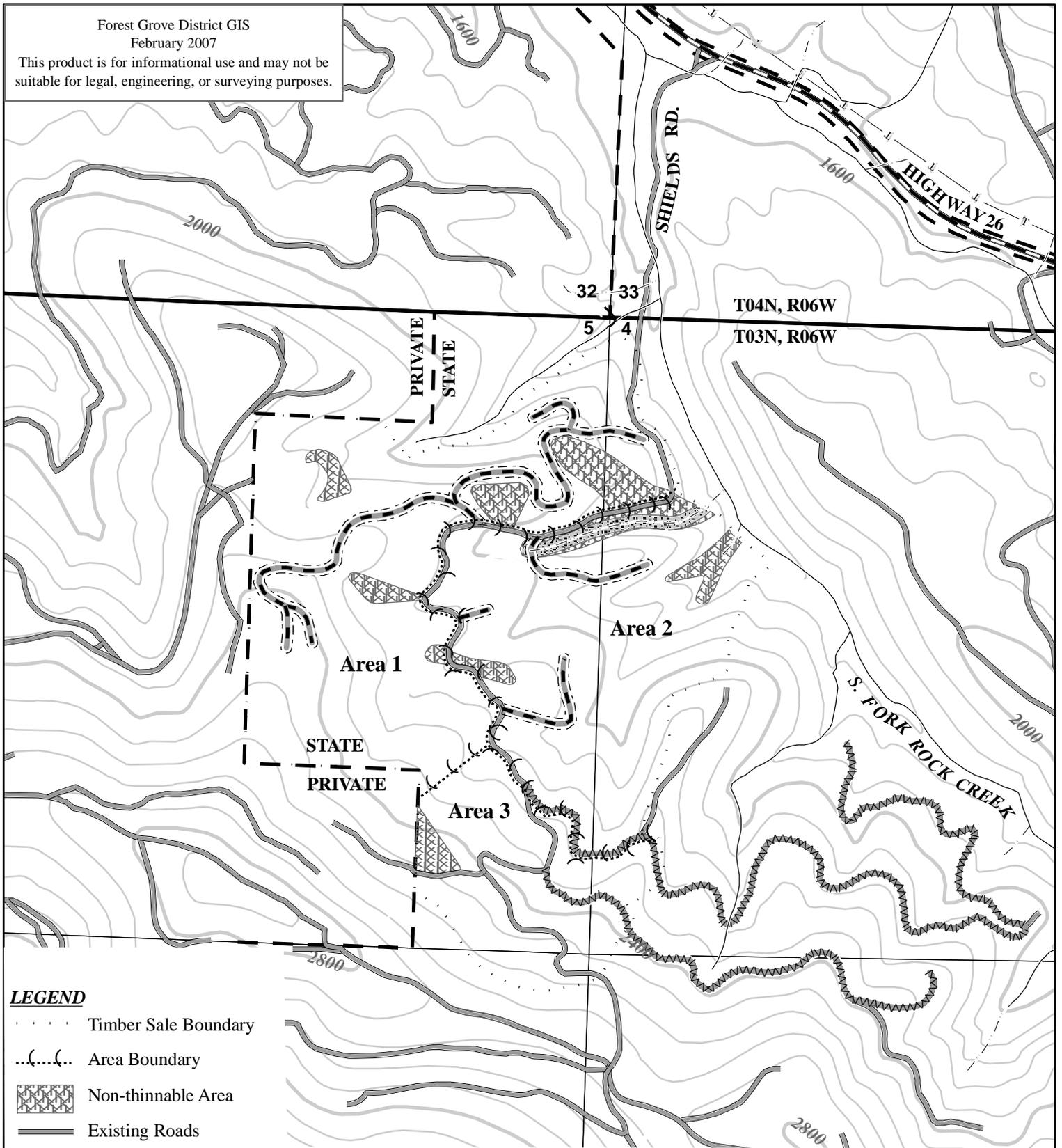
No property survey is needed. No other resources of significance are involved. All known survey corners and witness trees shall be protected from damage during any operations.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

Area 1 contains Focused Stewardship, Aquatic and Riparian Habitat Subclass, due to the presence of perennial streams within the sale areas. The sale area also contains Focused Stewardship, Wildlife Subclass, because the sale area is

within the Upper Rock Creek Salmon Anchor Habitat (SAH). See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

This product is for informational use and may not be suitable for legal, engineering, or surveying purposes.



**LEGEND**

- ..... Timber Sale Boundary
- ...(-.-.-) Area Boundary
- Non-thinnable Area
- Existing Roads
- Road Construction
- Road Construction Right-of-Way
- Perennial Type F Stream
- Perennial Type N Stream
- Stream Buffer
- 400' Contour Intervals
- 80' Contour Lines

FY 2008  
STEEL SHIELD  
PORTIONS OF SECTION 4, 5, & 8, T03N, R06W, W.M.  
TILLAMOOK COUNTY, OREGON

Attachment A: Topography

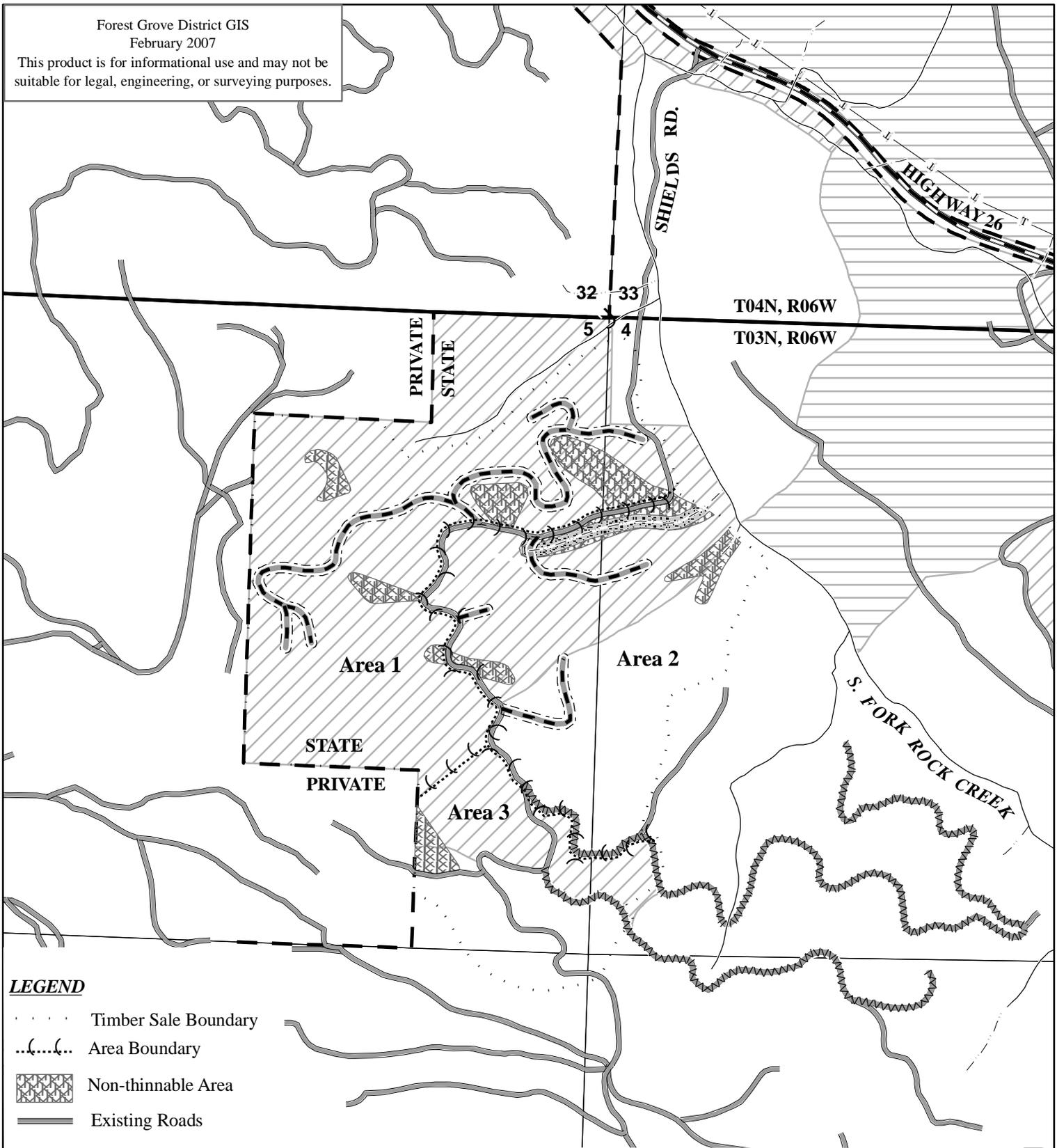
Scale  
1:12000  
1 inch = 1000 feet



**3**

APPROXIMATE NET ACREAGE	
AREA 1	112 ACRES (PC-M)
AREA 2	76 ACRES (PC-H)
AREA 3	40 ACRES (PC-H)
<b>TOTAL</b>	<b>228 ACRES</b>

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**LEGEND**

- ..... Timber Sale Boundary
- ...-.- Area Boundary
- Non-thinnable Area
- Existing Roads
- Road Construction
- Road Construction Right-of-Way
- Perennial Type F Stream
- Perennial Type N Stream
- Stream Buffer
- DFC Stand Type
- Layered
- Older Forest Structure

FY 2008  
STEEL SHIELD  
PORTIONS OF SECTION 4, 5, & 8, T03N, R06W, W.M.  
TILLAMOOK COUNTY, OREGON

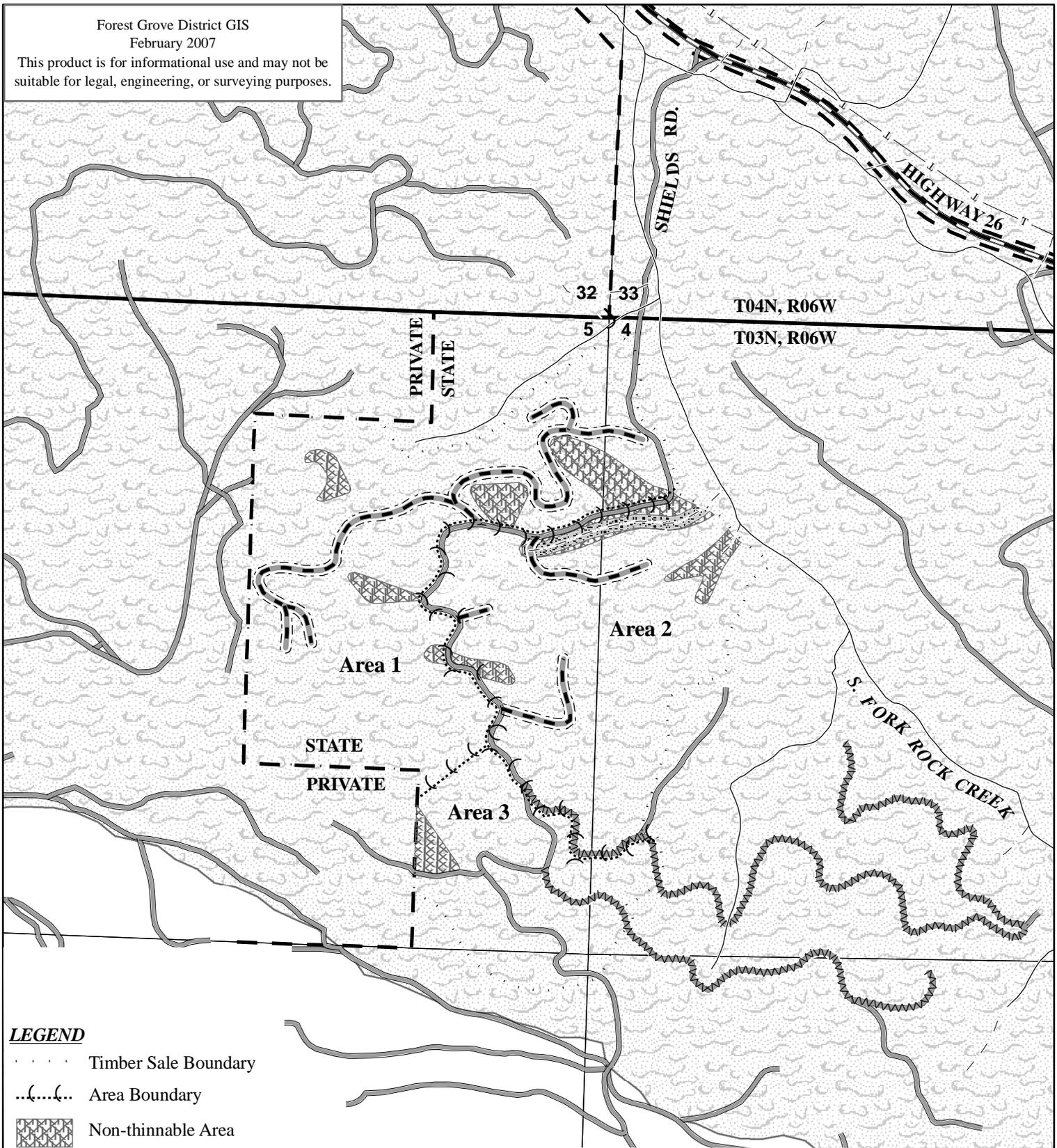
Attachment B: Desired Future Condition

Scale  
1:12000  
1 inch = 1000 feet



APPROXIMATE NET ACREAGE	
<b>3</b>	AREA 1 112 ACRES (PC-M)
	AREA 2 76 ACRES (PC-H)
	AREA 3 40 ACRES (PC-H)
	<b>TOTAL 228 ACRES</b>

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**LEGEND**

- ..... Timber Sale Boundary
- ..(....).. Area Boundary
- Non-thinnable Area
- Existing Roads
- - - Road Construction
- - - - Road Construction Right-of-Way
- Perennial Type F Stream
- - Perennial Type N Stream
- Stream Buffer
- Salmon Anchor Habitat (SAH)

FY 2008  
STEEL SHIELD  
PORTIONS OF SECTION 4, 5, & 8, T03N, R06W, W.M.  
TILLAMOOK COUNTY, OREGON

Attachment C: Key Resources  
(SAH)

Scale  
1:12000

1 inch = 1000 feet



APPROXIMATE NET ACREAGE	
<b>3</b>	AREA 1 112 ACRES (PC-M)
	AREA 2 76 ACRES (PC-H)
	AREA 3 40 ACRES (PC-H)
	<b>TOTAL 228 ACRES</b>