

Pre-Operations Report

Operation Name: Sibley Arch
County: Tillamook
Management Basin: Lower Nehalem

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	MC	110	101
2	RC	53	40
3	RC	123	113
4	RC	310	273
5	PC	37	33
Total		633	560

1. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, and reserve areas and non-required thinning areas.

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes in Area 1 have a western aspect. Slopes in Areas 2, 4, and 4 have a northern aspect. Slopes in Area 3 have a southern aspect. On average the slopes in this sale range from 10% to 70%. Elevations range from 200 to 1600 feet. The major soil types are Killam and Enright.

The landforms are moderate to very steep slopes around the headwaters of tributary streams to Lost Creek and the Nehalem River and portions of the ridge that divides them. The underlying rocks are igneous origin flow of the Tillamook Volcanics. There is a large scale landslide deposit mapped in the north and west portion of Area 4.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	MC	116	RA,DF	40	14.7	234	202	62	101
2	RC	117	RA,DF, WH,SS	40	12.5	187	218	52	40
		Target ³	RA,DF, WH,SS		12.7	44	56	12	40
3	RC	118	RA,DF	40	14.7	196	166	51	113
		Target ³	RA,DF		20.3	56	25	13	113
4	RC	119	RA,DF	45	15.5	196	150	50	273
		Target ³	RA,DF		24.3	42	13	9	273
5	PC	120	DF,WH, SS,RA	65	19.3	304	149	71	33
		Target ³	DF,WH, SS,RA		21.6	150	59	34	33

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2005.

2. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, and reserve areas and non-required thinning areas.

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

4. These numbers are based on plot data taken to this point and final numbers may differ significantly from the actual conditions significantly. The directive for minor and major modifications will be followed for further review.

Areas 1, 2, and 3: All of these areas burned in the 1933 Tillamook Fire and in the 1945 Wilson River Fire and were planted between 1963 and 1965 with Douglas-fir. A large portion of these areas naturally regenerated with alder due to the planting being only partially successful. These stands are predominately alder stands with large planted Douglas-fir pockets located on the ridges and mid-slope. Area 2 has a minor component of hemlock and spruce. These areas are located on steep rocky slopes with low site quality. The smaller diameter Douglas-fir is slow growing and has poor live crown ratios (less than 35%). Due to stand age and site quality, the alder in this stand has poor height and diameter growth. This stand has had no prior stand management. The understory is dense and comprised of sword fern and salmonberry. Area 1 is classified as CSC according to the district stand summary information (1999). Area 2 has been inventoried using the Stand Level Inventory (SLI) procedure and the stand has been identified as UDS. Approximately 40 acres of Area 3 has been inventoried using SLI and the stand has been identified as UDS. The remaining acres are classified as CSC according to the district stand summary information (1999).

Area 4: The sale area burned in the 1933 Tillamook Fire and the 1945 Salmonberry Fire and was planted in 1960 with Douglas-fir. A large portion was

also naturally regenerated with alder due to the planting being only partially successful. This area has had no prior stand management. The sale is a mixed alder stand that has large and small pockets of 45 year old Douglas-fir throughout. The Douglas-fir pockets are located mainly on the more moderate slopes that have a higher site quality. These Douglas-fir have larger diameters than the other Douglas-fir in this sale due to good live crown ratios and higher site quality. Due to stand age, the alder has poor height and diameter growth. The crown closure in the larger diameter Douglas-fir pockets is reaching 70%, causing the live crown ratios in the dominate trees to recede and causing mortality in the understory species. There are also a few scattered hemlock and spruce in the sale but they are few and far between. Approximately 153 acres of Area 3 has been inventoried using SLI and the stand has been identified as UDS. The remaining acres are classified as CSC according to the district stand summary information (1999).

Area 5: All of this area burned in the 1933 Tillamook fire and in the 1945 Wilson River Fire and was naturally regenerated with a mix of species including hemlock, spruce, alder, and Douglas-fir and has had no prior stand management. The conifer in this stand is dense and beginning to show signs of stem exclusion causing the crown ratios to recede and mortality in the understory. There are also some pockets and stringers of alder throughout the area that have an understory of sword fern, salmonberry, and hemlock and spruce. The understory conifer is contributing in the short term to stand structure complexity. Area 5 has been inventoried using SLI and the stand has been identified as UDS.

See Table 2 for specific stand data.

In Area 1, there is no SLI inventory data available at this time. Area 2 and 3 are similar stand types and inventory data from these areas will be used to represent what is happening on the ground in this Area 1. Area 2 has complete SLI data. In Area 3, the SLI measurements represent approximately 40 acres of the stand (33%). The remaining portion of this stand has not been inventoried with SLI at this time so down wood information is unavailable. Field observations in this portion of the stand show that the measured information outlined above reflects what is happening in this stand. In Area 4, the SLI measurements represent approximately 153 acres (53%) of the stand. The remaining portion of this stand has not been inventoried with SLI at this time so down wood information is unavailable. Field observations in this portion of the stand show that the measured information outlined above reflects what is happening in this stand. Area 5 has complete SLI data.

Down wood, in all of the sale areas, consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow and suppression mortality in decay classes 1 and 2.

Stand Level Inventory Down Wood Information

Area	Stand ID	Stand Level Inventory Completed	Down Wood Decay Class 1 and 2 (ft ³ /Acre)	Down Wood All Decay Classes (ft ³ /Acre)	Down Wood, Greater than 24"DBH, Decay Class 1 and 2 (Logs/Acre)
1	116	No	--	--	--
2	117	Yes	82	2,700	0
3	118	Partial	67	1,872	0
4	119	Partial	98	3,244	0
5	120	Yes	395	3,759	0

In all of the sale areas there are some large snags in various states of decay and some hard snags created from wind and snow damage.

Stand Level Inventory Snag Information

Area	Stand ID	Stand Level Inventory Completed	Snags per Acre greater than 12" DBH	Snags per Acre greater than 24" DBH ¹	Snags per Acre greater than 15" DBH ¹ Decay Class 1 and 2
1	116	No	--	--	
2	117	Yes	7.4	3.3	0
3	118	Partial	3.8	2.5	0
4	119	Partial	3.7	1	0.31
5	120	Yes	6.42	6.42	0

III. DESIRED STAND CONDITION and VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	116	UDS	REG	GEN	101
2	117	UDS	REG	GEN	40
3	118	UDS (40) CSC (73)	REG	GEN	113
4	119	UDS (153) CSC (120)	REG	GEN	273
5	120	UDS	UDS	OFS	33

1. The stand is expected to develop into this condition in the five to ten years after this operation is completed except in REG stands which occur after harvest.

See Section IV: Proposed Management Prescription for more information on Green Tree, Down Wood, and Snag Strategies during operation. Also refer to Landscape Design in the Summary document for more information on strategies to move the district toward Desired Future Condition goals.

The prescriptions described below are based on the current stand condition such as overall tree and stand growth, species mix, stand density, and stand health.

Vision:

Areas 1, 2, 3, and 4: These areas have a desired future condition of GEN. These areas will be a regeneration harvest and planted with a mixture of conifer species. The largest Douglas-fir and other conifer and hardwood species will be left as a source for natural regeneration and future down wood and snags. Mature alder may be left, in Areas 3 and 4, in small clumps (approximately 5 to 7 trees per acre) where feasible adjacent to residual conifer. An assessment will be done during sale layout to determine if more green tree retention is needed to meet future snag and down wood goals. Non-merchantable alder will be left where feasible adjacent to residual conifer. As these stands grow, management opportunities such as pre-commercial thinning and commercial thinning may be used to keep this stand vigorous and healthy.

Area 5: The desired future condition for this stand is OFS. Partial cutting the dense conifer and alder will improve individual tree growth and promote understory. Understory vegetation will increase due because of the tree density. The spruce and hemlock will provide the vertical diversity needed to reach a more complex structure. The alder will provide short term horizontal and vertical diversity. Planned snag and down wood creation will also add to the overall complexity of the stand. This stand will be looked at in 15 to 20 years to determine if another entry is needed to maintain structure.

IV. PROPOSED MANAGEMENT PRESCRIPTION AND ANTICIPATED PATHWAY:

Area 1: All merchantable alder will be harvested. All Douglas-fir less than 19" DBH will be harvested. All other conifer and hardwood species will be reserved. Approximately 6 to 9 trees per acre will be left within the sale area. This stand will be planted with a mixture of conifer species and it is anticipated that some natural regeneration will occur. Approximately 10 to 15 years after successful reforestation the area will be assessed for precommercial thinning opportunities. Approximately 30 to 40 years after successful reforestation the area will be assessed for commercial opportunities to ensure continued growth and stand health. At this point the desired future condition for this stand will be reassessed to determine if it should be put on a different pathway.

Area 2: All merchantable alder will be harvested. All Douglas-fir less than 20" DBH will be harvested. All other conifer and hardwood species will be reserved. Approximately 56 trees per acre will be left within the sale area. This stand will be planted with a mixture of conifer species and it is anticipated that some natural regeneration will occur. Approximately 10 to 15 years after successful reforestation the area will be assessed for precommercial thinning opportunities.

Approximately 30 to 40 years after successful reforestation the area will be assessed for commercial opportunities to ensure continued growth and stand health. At this point the desired future condition for this stand will be reassessed to determine if it should be put on a different pathway.

Areas 3 and 4: All merchantable alder will be harvested. All Douglas-fir less than 16" DBH will be harvested. The remaining Douglas-fir will be thinned to a basal area range of 120ft² to 140 ft². All other conifer and hardwood species will be reserved. Approximately 12 to 25 trees per acre will be left within the sale area. This stand will be planted with a mixture of conifer species and it is anticipated that some natural regeneration will occur. Approximately 10 to 15 years after successful reforestation the area will be assessed for precommercial thinning opportunities. Approximately 30 to 40 years after successful reforestation the area will be assessed for commercial opportunities to ensure continued growth and stand health. At this point the desired future condition for this stand will be reassessed to determine if it should be put on a different pathway.

Area 5: The hemlock, Douglas-fir, spruce and alder will be thinned to a basal area range of 160ft² to 180 ft². (Approximately 20ft² of alder will be targeted for retention). All other conifer and hardwood species will be reserved. A component of non-merchantable alder will be left adjacent to residual conifer within the sale area. This prescription is to promote individual tree and understory growth and to maintain existing understory. A height limit may be used to reserve intermediate trees that are providing vertical diversity. Snag and down wood creation will be used in this area to create more diversity within this stand.

Green Tree, Down Wood and Snag Strategies

See also Section III: Desired Future Condition for long term strategies

A variety of methods will be used to achieve green tree retention requirements. These residual green trees will supplement the future stand by promoting growth of dominant/co-dominant leave trees. Small non-merchantable hardwood and conifer will also be retained where possible. There will also be a significant amount of green trees left on the landscape on surrounding precipitous slopes, headwalls, in stream buffers, and those areas not reached by conventional logging methods. All the types of leave trees may function as future source of snags and down wood recruitment across the landscape.

Existing down wood will be left in the sale areas. Down wood recruitment is expected through mortality and windthrow of residual or leave trees, felled snags and tops left during harvest. Small non-merchantable hardwood and conifer will be retained where feasible in harvest units with the expectation they will become short term snags and down wood.

Existing snags not determined to be a safety hazard will be retained and any felled snags will be left for down wood. Creation of snags is expected during harvest activities from rub trees, lift trees, and tail trees and over time by natural processes.

Due to the size of the trees in Areas 1, 2, and 3 it is unrealistic to expect the down wood and snag goals in the FMP will be met with this operation. During sale layout an assessment will be done to help determine the best green tree retention prescription in order to help meet these goals in the future. During sale preparation in Area 4, a snag and down wood assessment will be done to determine the approximate levels of down wood in each of these areas and different options, such as snag and down wood creation, additional green tree retention, and future stand management and monitoring will be considered in order to achieve FMP targets. In Area 5, snag and down wood creation will be used during the harvest.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%	<input type="checkbox"/>	X
Planned Quarter:		2	

	Conifer	Hardwood	Total
Net Volume (MBF)	2833	3880	6713
Stumpage Value (\$/MBF)*	\$200	\$226	
Estimated Gross Value	\$566,275	\$876,880	\$1,443,480
		Project Costs:	\$581,616
		Estimated Net Value:	\$861,864

**Combined Douglas-fir and hemlock stumpage values based on harvest type.*

VI. HARVESTING AND ACCESS CONSIDERATIONS:

Areas 1 and 5 are accessed via Foss Road, Sibley Road, and Lost Creek Ridge Road. Areas 2 and 3 area accessed via Foss Road, and Sibley Road, and Area 4 is accessed via Cook Creek Road, McPherson Road, and Lost Creek Road. Lost Creek Ridge Road and Lost Creek Road are currently pit run roads. All the other access roads are all weather crushed rock roads. See maps for specific road locations and conditions.

Approximately 1.27 miles of legacy roads will be improved which includes grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback,

and adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 3.5 miles of road will be constructed in order to provide access to cable yarding areas. Following harvest, roads within the sale areas will be reviewed for closure. Ground yarding roads will be closed and water-barred following harvest. See summary document for more information on this topic.

A combination of cable yarding systems (70%) and ground yarding (30%) will be used. Ground yarding will generally be limited to slopes under 35%.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			3.5	
Improve			1.27	
Maintain ²	2	7.3		
Close/Block ³				
Vacate ³				

1. Additional roads may be built by the operator at the time of harvest and will be approved by the State through the Operations Plan. These will be short dead end spurs and closed or blocked after harvest
2. All roads accessing the sale area will be maintained during the life of the timber sale contract. Maintenance miles in the table are those roads not being constructed or improved.
3. Roads not closed/blocked or vacated at the end of the sale will be reviewed for closure after reforestation is established.
4. The numbers in this table reflect planned Project Work associated with the sale.

VII. AQUATIC RESOURCES AND WATER QUALITY:

There is a small Type F stream in Area 4. There are several additional unnamed small perennial Type N streams within the sale areas. There are potentially additional small perennial and seasonal Type N streams within the sale area. These streams will be located, reviewed, and protected appropriately during sale layout based on flow, topography, and terrain.

Stream buffers within or adjacent to harvest unit boundaries will be managed according to *Forest Management Plan* Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and/or operational constraints for implementing FMP strategies.

Oregon Department of Fish and Wildlife (ODFW) will be requested to complete stream surveys before sale layout begins. Streams of unknown status will be treated as Type F until surveys are completed to verify fish use.

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 monitoring logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and September 15. Operations outside of this period will be reviewed with ODFW.

VIII. T&E SPECIES CONSIDERATIONS:

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

It was determined that there is potential marbled murrelet habitat within and adjacent to the sale boundary. Surveys have been and will be conducted during the 2005 and 2006 survey season for marbled murrelets. All surveys for marbled murrelet were and will be conducted in accordance with Pacific Seabird Group (PSG) protocol. At the completion of the 2005 survey season there have been no marbled murrelet detections.

It was determined that there is potential northern spotted owl habitat within and adjacent to the sale boundary. Surveys have been and will be conducted during the 2005 and 2006 survey season for northern spotted owls. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol. At the completion of the 2005 survey season there have been no northern spotted owl detections.

T & E Fish species: See Sections VII, and IX for listed fish protection measures.

T & E Plant species: The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known threatened or endangered listed plant locations as well as local records in the Land Management Classification System (LMCS). No listed plants were identified within or adjacent to the sale areas.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

There are bands of very steep slopes throughout Area 3 and other steep and very steep slopes scattered in the other Areas 1, 2, & 4. The initial hazard and risk assessment from the geotechnical specialist is moderate for Areas 1, 2, & 4 and high for Area 3. The geotechnical specialist will be consulted during field to determine if a field visit is needed. The validity and significance of the mapped large scale landslide deposit in Area 4 will be assessed during field work.

X. RECREATION RESOURCES:

The sale area is designated as Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator. No OHV trails were identified within or adjacent to the sale areas. Recreational use common to this area includes hiking, hunting, camping, and OHV riding. There is a dispersed camp site at the bottom of Lost Creek Road in Area 4 that is often used for hunting camps.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to the proposed sale boundary.

XII. SCENIC RESOURCES:

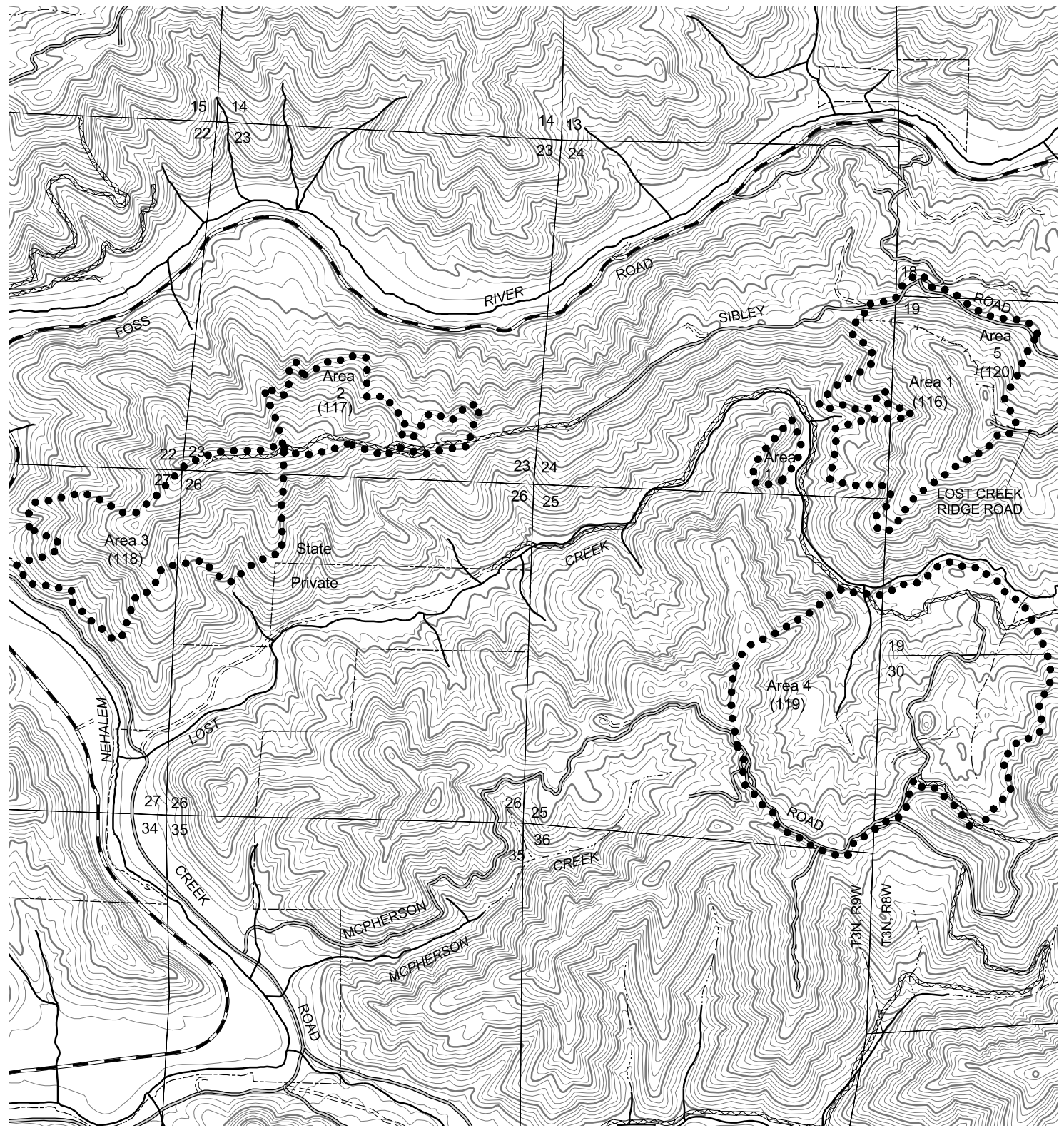
The sale area has a visual classification of Level 2, medium sensitivity. The sale will be reviewed by the Public Use Coordinator to determine methods to minimize visual impact. There will be some visual impact for Areas 1, 2, 3, and 4 until green up occurs. The visual impact from Area 5 will be minimal due to the number of residual trees that will be left.

XIII. OTHER RESOURCE CONSIDERATIONS:

There is a property line adjacent to Area 3 that will be located in the field and protected from harvesting activity.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

This sale contains Focused Stewardship and Special Stewardship, Aquatic and Riparian Habitat. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.



SIBLEY ARCH TIMBER SALE

-- Topography --
2007 SALE PLAN
TILLAMOOK DISTRICT

Portions of Sections 22, 23, 24, 25,
 26, 27 and 36, T3N, R9W, and
 Sections 18, 19 and 30, T3N, R8W, W. M.
 Tillamook County, Oregon

1000 0 1000 Feet

Tillamook District GIS
 10-11-2005

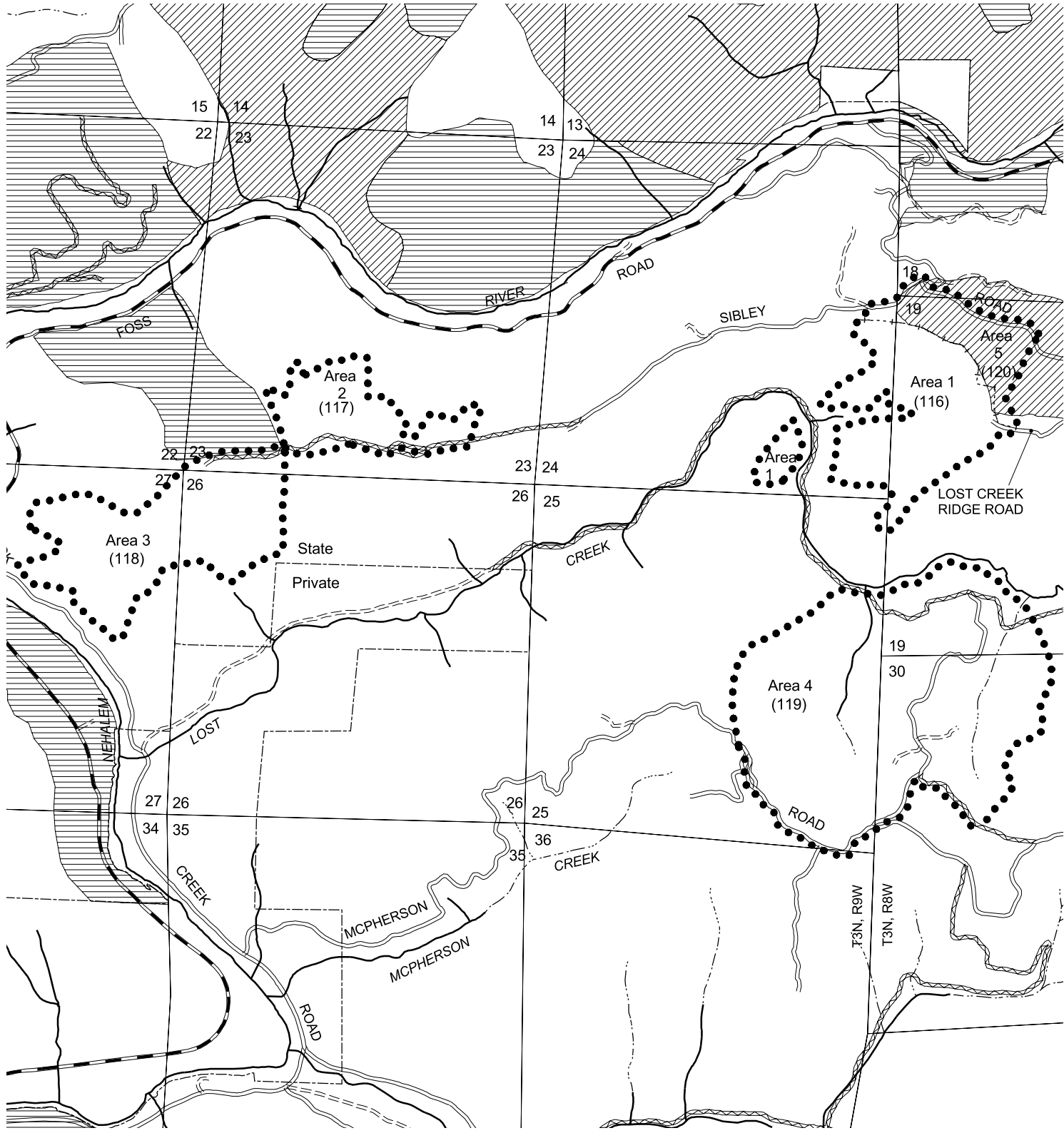
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 for legal, engineering, or surveying purposes.

- Area boundary
- Sale boundary
- Contour Interval 40'
- Ownership boundary
- Perennial Type-F stream *
- Perennial Type-N stream *
- ==== Unsurfaced road
- ===== Surfaced road
- State/Federal highway
- ▨ Legacy road
- - - Road construction
- County road



Area	Type of Operation
1	Modified clearcut
2	Modified clearcut
3	Retention cut
4	Retention cut
5	Retention cut

* Streams of unknown fish presence are not shown but will be surveyed prior to the sale



SIBLEY ARCH TIMBER SALE
-- Current and Future Condition --
2007 SALE PLAN
TILLAMOOK DISTRICT
 Portions of Sections 22, 23, 24, 25,
 26, 27 and 36, T3N, R9W, and
 Sections 18, 19 and 30, T3N, R8W, W. M.
 Tillamook County, Oregon

- | | |
|--------------------------|-------------------------------|
| Desired future condition | ---+--- Area boundary |
| Layered | ●●●● Sale boundary |
| Older forest | --- Ownership boundary |
| | — Perennial Type-F stream * |
| | --- Perennial Type-N stream * |
| | === Unsurfaced road |
| | ==== Surfaced road |
| | — State/Federal highway |
| | --- Legacy road |
| | - - - Road construction |
| | — County road |

Area	Type of Operation
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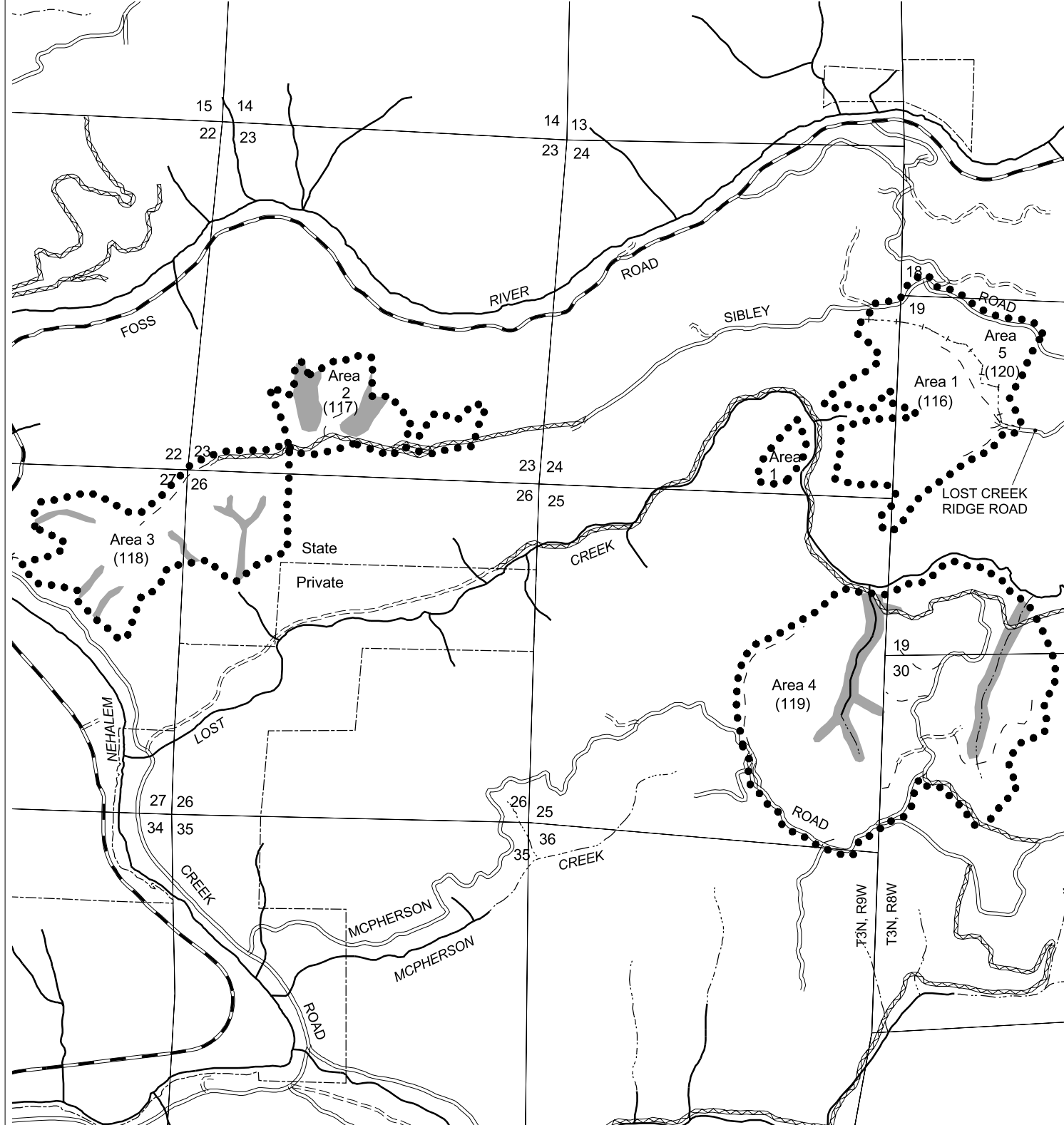
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Tillamook District GIS
10-11-2005

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- Buffer
- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream *
- Perennial Type-N stream *
- Unsurfaced road
- Surfaced road
- State/Federal highway
- Legacy road
- Road construction
- County road
- Transmission line
- Non-required thinning

SIBLEY ARCH TIMBER SALE

-- Key Resources --

**2007 SALE PLAN
TILLAMOOK DISTRICT**

Portions of Sections 22, 23, 24, 25,
26, 27 and 36, T3N, R9W, and
Sections 18, 19 and 30, T3N, R8W, W. M.
Tillamook County, Oregon

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