Pre-Operations Report

Operation Name: North Murphy
County: Tillamook
Management Basin: Trask

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres[1]
1	Modified Clearcut	119	119
2	Partial Cut – Group Select	102	93
Total		221	212

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

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes have varied aspects and range from 20% to over 90%, averaging 60%. Elevations range from 1,150 feet to 2,400 feet. The major soil type is Rye with minor amounts of Osweg, Jewell and Killam.

The sale is located below Murphy Grade in the headwaters of three forks of a tributary to the North Fork of the Trask River. There are bands of steep to very steep side slopes and draws running through approximately the center of both Areas 1 and 2. The sale is underlain by a mix of igneous and sedimentary origin rocks mostly “Basalt of Hembre Ridge Formation” (informal) with lesser bands of Sandstone of Trask River Formation (informal) and igneous intrusive diabase. Refer to the Overview of Harvest Operations in the Summary document for information.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information[4]

Area	Prescription	Stand ID [1]	Species	Age	DBH	BA	TPA	SDI	Net Acres [2]
1	MC	110	RA/WH/DF	45	12”	143	175	30	119
2	PC	111	DF/WH/RA	40	11”	200	305	59	93
		Target [3]	DF/WH		13	100	105	27	93

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2004.
2. The net acres are based on orthophotos and GIS and exclude roads, buffers, reserve areas and non-required thinning areas. Modified clear cut acres are not contiguous and do not exceed 120 acres.
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. The directive for minor and major modifications will be followed for further review.

The sale areas burned in the 1933 (Tillamook) and the 1939 (Saddle Mountain) fires. The majority of Area 1 was seeded in 1964/65 and a portion was naturally regenerated. Area 2 was seeded in 1964/65 and the southern portions were planted from 1968-1970. Except for a small portion on the south end of Area 2 which was pre-commercially thinned in 1992, these areas have had no prior stand management.

Stand Level Inventory (SLI) has not been completed on the sale area but it is classified as 100% Closed Single Canopy (CSC) according to the district stand summary information (1999). This area will be further evaluated (as defined by the July 2004 guidance, "*Planned Sale Inventory Requirements – Alternative to Full Stand Level Inventory*"). See Table 2 for specific stand data.

Area 1 is predominately and alder stand but has large pockets of planted Douglas-fir and scattered hemlock that is primarily located on the ridges and upper slopes. The alder is mainly located on the mid to lower slopes and in the riparian areas. These species are arranged at various densities throughout the sale area. There is also some alder mixed in with the conifer pockets and conifer mixed in the alder pockets.

Due to stand age and site quality, the alder in these areas have poor height and diameter growth. The alder was aerially sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops. The Douglas-fir in this stand also has poor height and diameter growth due to site quality, symptoms of Swiss needle cast (SNC), and poor live crown ratios.

Area 2 is predominately a Douglas-fir plantation that has alder dominated draws and several pockets of alder (less than 2 acres) scattered throughout. There is also a component of natural hemlock. There are a couple of alder pockets that may be larger than 5 acres. The actual size and location of these will be determined during sale prep and will be treated as modified clearcuts if they are larger than 5 acres.

The Douglas-fir in this area shows symptoms of Swiss needle cast but have good live crown ratios (greater than 40%). The conifer is becoming overstocked resulting in the loss of live crown ratios and slowed diameter growth. The alder was aerially sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops.

No other significant insect or disease problems have been discovered at this time. The brush component is primarily swordfern, salmonberry, vine maple, huckleberry.

There are some large snags in various states of decay and some hard snags created from natural processes. Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow in decay classes 1 and 2.

III. DESIRED STAND CONDITION AND VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest [1]	Desired Future	Net Acres
1	110	CSC	REG	GEN	119
2	111	CSC	UDS	GEN	93

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.

Area 1: The Desired Future Condition for this Area is General. The present stand is not a good candidate for establishing a pathway that maintains productivity due to the slow growing alder and the Douglas-fir has small live crown ratios, poor growth, and symptoms of Swiss Needle cast. After the regeneration harvest the stand will be composed of legacy structures retained from the present stand and a young cohort of Douglas-fir, western hemlock and Douglas-fir trees. The green trees, including some hardwoods, retained on the site, provide a scattered overstory and also contribute to the down wood and snag recruitment as mortality occurs.

Area 2: The Desired Future Condition for this Area is General. This stand is on a pathway that maintains productivity. This stand will be managed for stand density by providing more growing space while capturing anticipated tree mortality in order to allow for individual tree growth as was as developing understory diversity.

IV. PROPOSED MANAGEMENT PRESCRIPTION AND PATHWAY:

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. **See table 2 for prescription targets.**

Area 1: Merchantable alder, western hemlock, and Douglas-fir will be harvested. A diameter limit will be used to reserve 6 to 9 of the larger conifer trees per acre. All other species will be reserved.

This harvest will remove the slow growing alder and Douglas-fir. Due to difficult topography and the species distribution this prescription has been designed to also facilitate logging. The residual trees will be distributed both in groups and scattered across the area. These residual trees will provide future down wood and snags. The area will be reforested with a mixture of conifer species; western hemlock, SNC tolerant Douglas-fir and western red cedar. A pre-commercial thinning is anticipated at 12 to 17 years when the crowns begin to close. A commercial thinning will then be planned at age 35 to 40. At this time managers will review density, stand health, and landscape goals to decide future management prescriptions.

Area 2: Merchantable alder will be removed and merchantable Douglas-fir will be thinned to a basal area range of 100-120 square feet. All other species will be reserved.

This partial cut prescription will remove the slow growing alder and reduce the Douglas-fir stocking to 25-30% which will maintain the crown ratios, stand vigor, and develop healthier and larger Douglas-fir in the residual stand. There will be several small alder clearcuts (less than 2 acres). There are a couple of alder clearcuts that may be larger than 5 acres. The actual size and location of these will be determined during sale prep and will be treated as modified clearcuts if they are larger than 5 acres. The openings and gaps will allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity. Another thinning will likely be needed in 15 - 20 years. At this time managers will review density stand health, and landscape goals to decide future management prescriptions

Green Tree, Down Wood and Snag Strategies

A variety of methods will be used to achieve green tree retention requirements in Area 1. 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. These leave trees function as future source of snags and down wood recruitment across the landscape. Green trees will be left on precipitous slopes, headwalls, and those areas not reached by conventional logging methods. Stream buffers adjacent to small perennials and the outer Riparian Management Area (RMA) of the Type F stream will also contribute additional green trees. Many of these areas will be posted so they are outside of the timber sale boundary.

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 (rub trees, lift trees, or tail trees) and over time by natural processes.

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. Obvious defect in conifer logs will be bucked out in all harvest areas to enhance down wood levels. Small non-merchantable hardwood and conifer will be retained where possible in harvest units with the expectation they will become short term snags and down wood. Tops resulting from ground yarding will also be left in the unit.

Due to the size of the trees it is unrealistic to expect that the snag and down wood targets 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 to help meet these goals in the future.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%		x
Planned Quarter:		3	

	Conifer	Hardwood	Total
Net Volume (MBF)	970	1135	2105
Stumpage Value ($/MBF)*	$156	$240	
Estimated Gross Value	$151,320	$272,400	$423,720
		Project Costs:	$155,688
		Estimated Net Value:	$268,032

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

VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via North Fork Trask, Bark Shanty, Township and Murphy Grade roads. These are currently all weather, crushed rock roads. See maps for specific road locations and conditions. The Trask Road Use fee will be applied to this sale.

Approximately 1.2 miles of legacy road will be improved which includes grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback, and/or adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 0.44 miles of road will be constructed in order to provide access to cable yarding areas. It is anticipated that these roads will be closed after harvest. Following reforestation the roads remaining 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 road closure. No other project work is currently planned for the sale. Area 1 will be 100% cable yarded. Area 2 will be 80% cable yarded and 20% ground yarded.

Table 5. Transportation Planning Summary (Miles)[4]

Activity	Mainline	Collector	Rocked Spur[1]	Dirt Spur[1]
Construct			0.44	
Improve			1.20	
Maintain[2]	3.54	6.25		
Close/Block[3]			0.44	
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:

A watershed analysis has been completed for the Trask basin. Recommendations from the analysis will be implemented where feasible.

Two unnamed tributaries of the North Fork of the Trask River are medium Type F streams that are adjacent to Area 1. There are no Type F streams within or adjacent to Area 2. There are additional unnamed small perennial and seasonal Type N streams within the sale areas. These streams will be reviewed and protected appropriately during sale layout based on flow, topography, and terrain. The inner and outer riparian zones of these Type N streams will be managed towards mature forest condition where feasible

The Oregon Department of Fish and Wildlife (ODFW) has completed stream surveys for the sale areas. A wetland was identified in Area 2 during recon and has been buffered out of the harvest area.

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.

Refer to Aquatic Resource Protection Strategies in the Summary document for information on in the “in stream work period’ road work and stream improvement projects.

VIII. T&E SPECIES CONSIDERATIONS:

The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist. Surveys for marbled murrelets are not required due to the absence of potentially suitable habitat. Spotted owl surveys are not required as the sale is within the Tillamook burn (see November 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands).*

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 steep to very steep side slopes and draws in both Areas 1 and 2 of the sale. The initial risk assessment by the geotechnical specialist for the sale is high. The geotechnical specialist will be consulted during sale layout field work.

X. RECREATION RESOURCES:

The sale areas are designated as Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator.

Designated OHV trails were not identified within or adjacent to the sale areas. The legacy roads in both sale areas receive some OHV use. A plan will be developed in conjunction with the District Recreation Coordinator to address these situations during sale preparation. Recreational use common to this area includes hunting and OHV use.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to the proposed sale boundary. If a site is identified, the Public Use Coordinator will be contacted for appropriate protection and tracking.

XII. SCENIC RESOURCES:

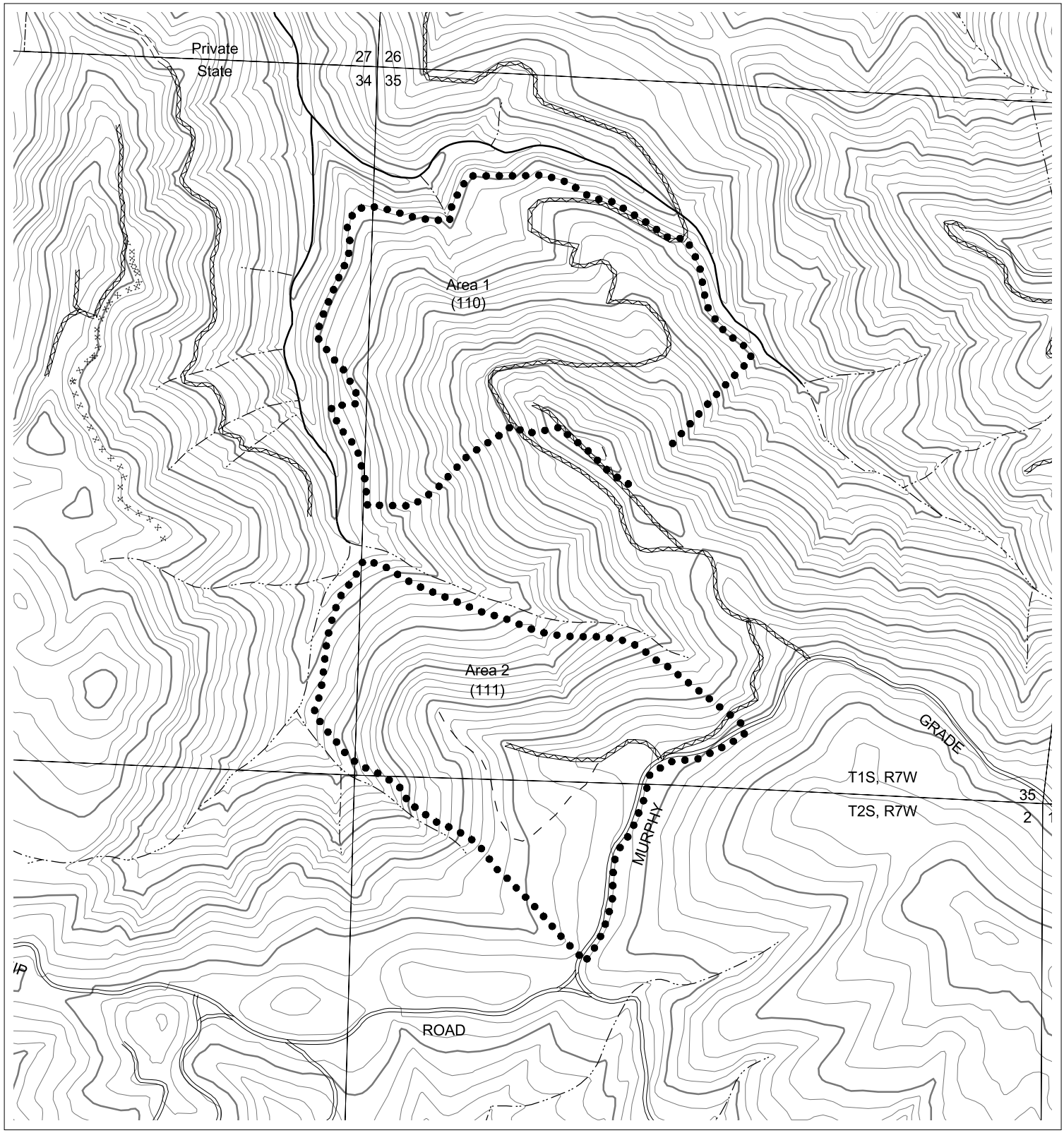
The sale areas have a visual classification of Level 3, low sensitivity. No scenic impact is expected.

XIII. OTHER RESOURCE CONSIDERATIONS:

A permanent inventory plot is within Area 2. Permanent plot markings will be protected according to guidelines.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

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



Contour Interval 40'

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

North Murphy
-- Topography --
2008 SALE PLAN
TILLAMOOK DISTRICT

Portions of Sections 34 and 35,
T1S, R7W and Sections 2 and 3,
T2S, R7W, W. M.
Tillamook County, Oregon

N

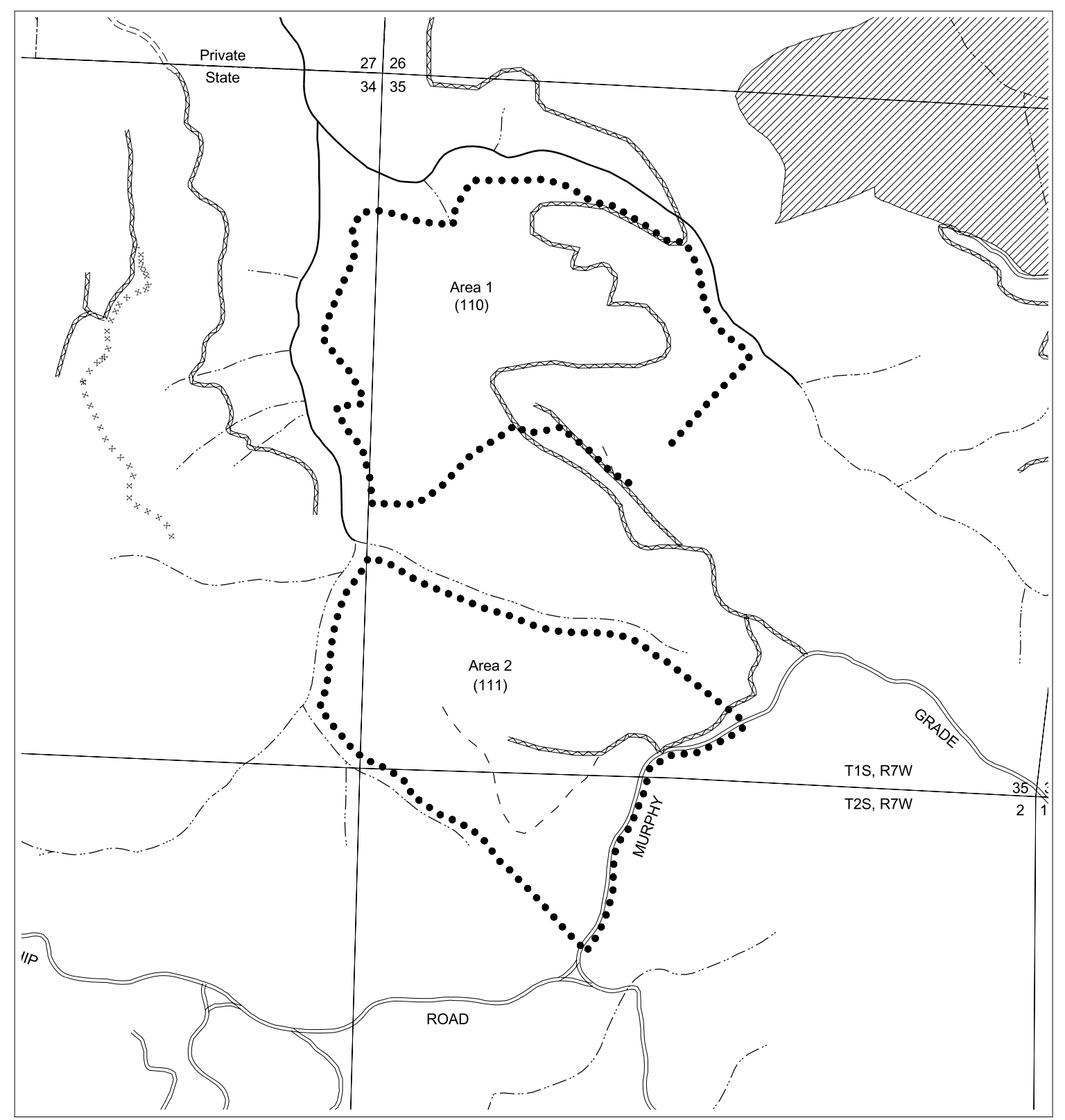
1000 0 1000 Feet

Tillamook District GIS
02/06/2007
This product is for informational use and may not have been prepared for, or suitable for legal, engineering, or surveying purposes.

Area	Type of Operation
1	Modified clearcut
2	Partial cut

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

Attachment A



Desired future condition
- Layered
- Older forest

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

North Murphy
-- Current and Future Condition --
2008 SALE PLAN
TILLAMOOK DISTRICT

Portions of Sections 34 and 35,
T1S, R7W and Sections 2 and 3,
T2S, R7W, W. M.
Tillamook County, Oregon

1000 0 1000 Feet

N

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1	Modified clearcut
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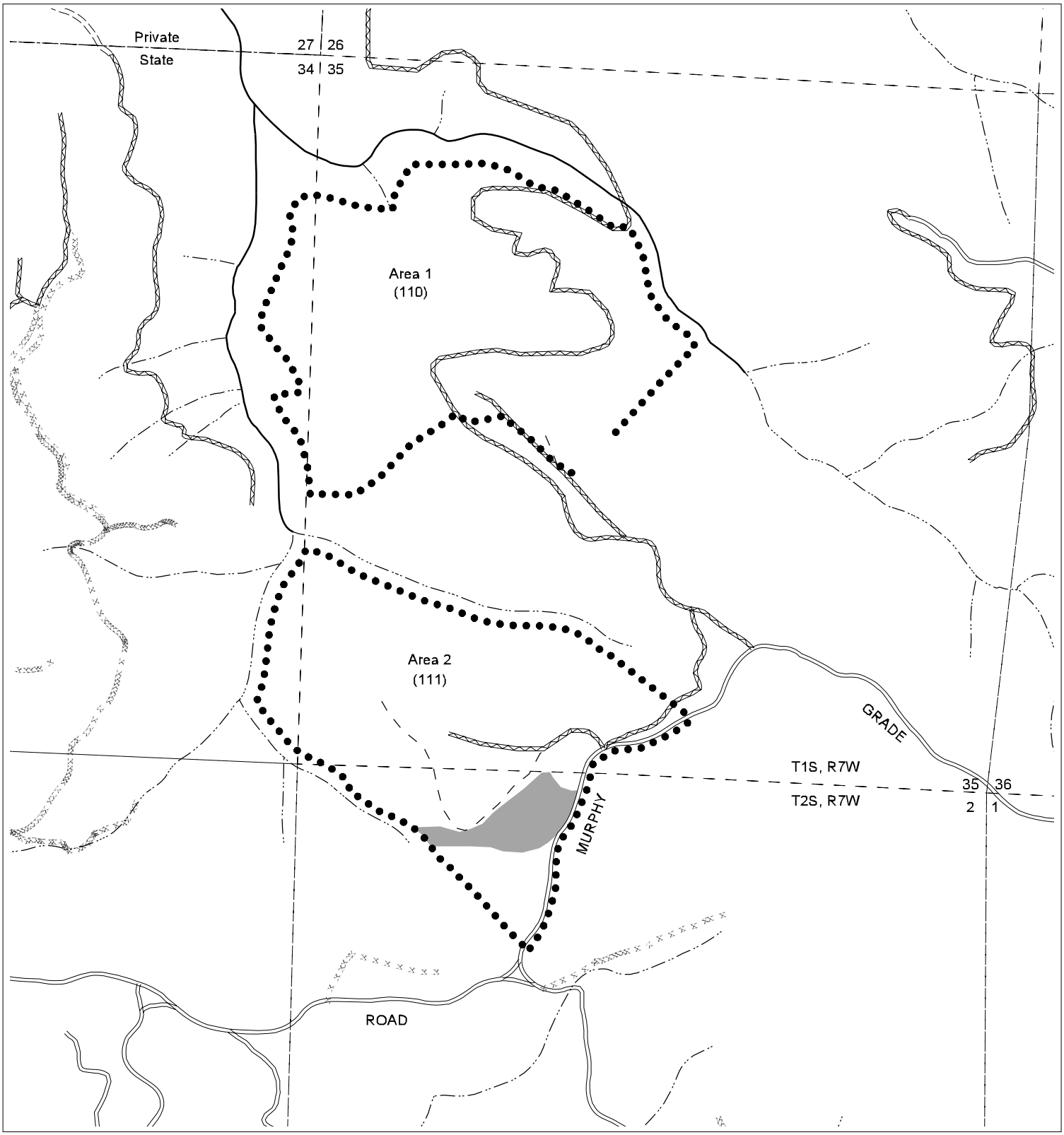
Attachment B



Buffer

Non-required thinning

Area boundary

Sale boundary

Ownership boundary

Perennial Type-F stream *

Perennial Type-N stream *

Unsurfaced road

Surfaced road

State/Federal highway

Legacy road

Blocked road

Road construction

County road

Transmission line

North Murphy
-- Key Resources --
2008 SALE PLAN
TILLAMOOK DISTRICT
Portions of Sections 34 and 35,
T1S, R7W and Sections 2 and 3,
T2S, R7W, W. M.
Tillamook County, Oregon

1000 0 1000 Feet

N

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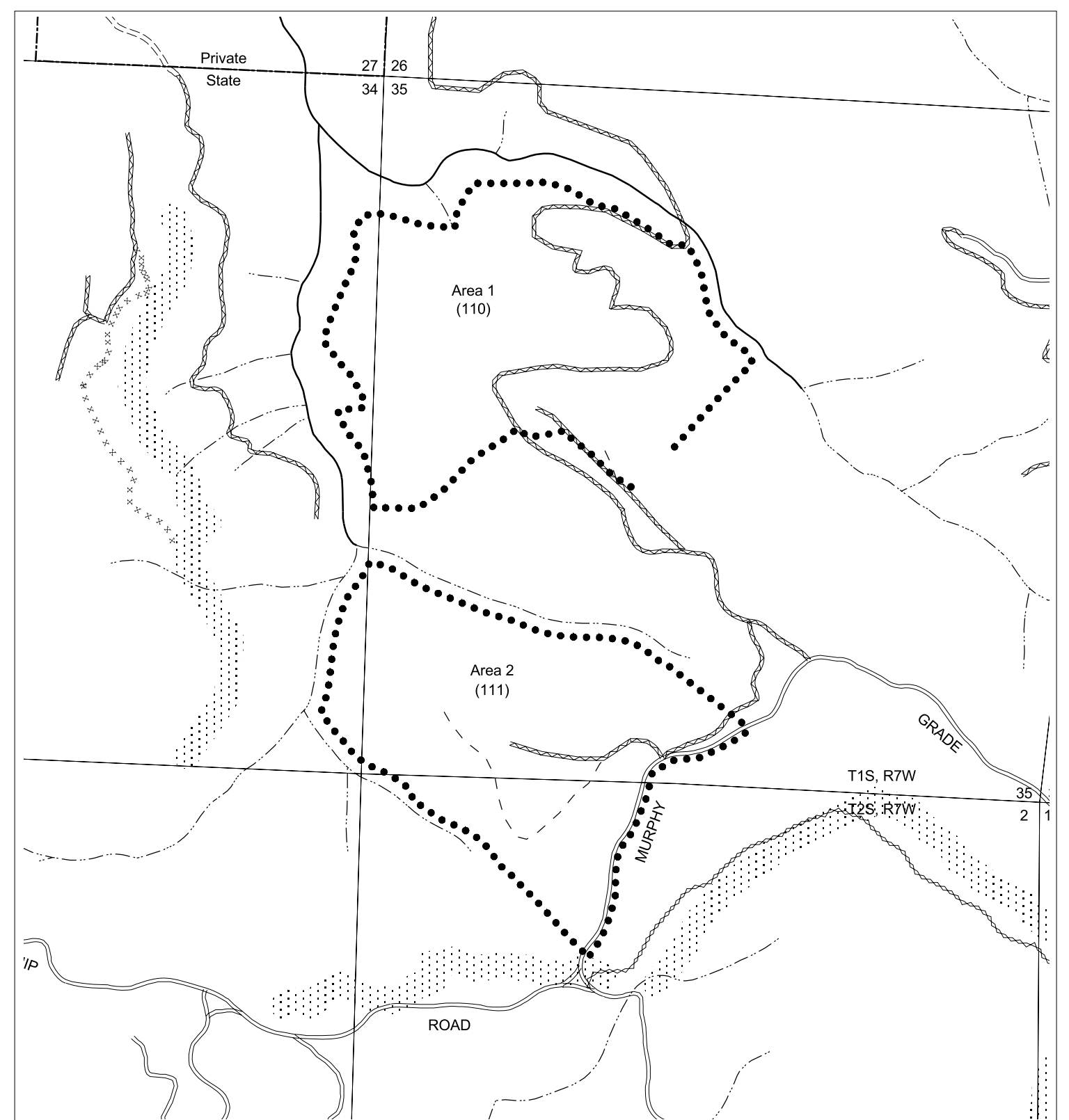
Area	Type of Operation
1	Modified clearcut
2	Partial cut

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

Attachment C



Campground
Day Use Site
OHV Staging Area
Trail Head
Boat Launch
Interpretive or Administrative Site
Stewardship
Focused
Special
OHV trail
Non-motorized trail

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

North Murphy
--Key Resources/Recreation --
2008 SALE PLAN
TILLAMOOK DISTRICT
Portions of Sections 34 and 35,
T1S, R7W and Sections 2 and 3,
T2S, R7W, W. M.
Tillamook County, Oregon

1000 0 1000 Feet

N

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02/06/2007
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Area	Type of Operation
1	Modified clearcut
2	Partial cut

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Attachment C2