

# Pre-Operations Report

**Operation Name: Lehman Heights**

**Legal: Portions of Sec. 7, 8, 17 and 18, T1N, R7W, W.M.**

**County: Tillamook**

**Management Basin: Wilson**

**SAH Status: Cedar Creek Basin – All of Area 1 and 79 acres of Area 2.**

**FDF: 100% CSL: 0%**

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

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1	Modified Clearcut	148	120
2	Modified Clearcut	141	120
3	Snags and Down Wood Creation (S&DWC)	183	183
Total		472	423

1. The net acres are based on orthophotos and GIS and exclude roads and stream buffers.

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

Slopes have varied aspects and range from 10-90+%. Elevations range from 440 feet to 1,560 feet. The major soil type is Enright with minor amounts of Cochran.

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

**Table 2. Stand Inventory Information<sup>4</sup>**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Net Acres <sup>2</sup>
1	MC	101	DF/RA/ BM	50	15.3	181	156	48	120
2	MC	102	DF/RA	50	16.1	160	114	40	120
3	S&DWC	103	DF/RA	50	14.6	181	142	47	183

1. The source of stand inventory information is from cruise plots taken in 2007.

2. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers.

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 entire sale area burned in the 1933 (Tillamook) fire and the 1939 (Saddle Mountain) fire. Area 1 was planted in 1954 and a large portion was replanted in 1959. Area 2 was planted in 1953 and 1954 and a large portion was replanted in 1959 and reseeded and replanted in 1961. Area 3 was planted in 1953 and a large portion was replanted in 1959 and reseeded and replanted in 1961. The sale area has had no prior stand management.

Stand Level Inventory (SLI) has not been completed on the sale areas but they are classified as 100% Closed Single Canopy (CSC) according to the district stand summary information (1999). See Table 2 for specific stand data.

Areas 1 and 2 are a Douglas-fir plantation that has alder dominated draws and small pockets of alder scattered throughout

Area 3 is a mix of alder and Douglas-fir. These species are arranged at various densities throughout the sale area. There is alder mixed in with the Douglas-fir pockets and Douglas-fir mixed in the alder pockets. Based on a timber cruise (2008) there are 46 trees per acre with a 16"+ DBH.

The Douglas-fir in all of these areas shows symptoms of Swiss needle cast. In Areas 1, 2 and 3, the Douglas-fir has small live crown ratios and poor growth. The Douglas-fir is becoming overstocked resulting in the loss of live crown ratios and slowed diameter growth.

Due to stand age and site quality, the alder in Areas 1, 2 and 3 have poor height and diameter growth. Portions of the alder in Area 1 were 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 in all the sale areas is comprised primarily of vine maple, huckleberry and sword fern. The vine maple and huckleberry occur primarily in gaps.

The timber cruise recorded 4 snags per acre in the sale areas; 64% were legacy snags from the Tillamook Burn and hard snags 36% are from bear kill and wind damage. Stand Level Inventory completed in portions of each sale area recorded between 20-55 cubic feet of down wood in decay class 1 and 2. The inventory also recorded 5000 to 6000 cubic feet of down wood in all decay classes.

### III. DESIRED STAND CONDITION AND VISION:

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1	101	CSC	REG	GEN	120
2	102	CSC	REG	LYR	120
3	103	CSC	UDS	LYR	183

*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 (DFC) goals.

**Area 1-**The sale area designation is General (GEN).

#### **Short Term Vision:**

Due to the sprayed alder and the Douglas-fir with small live crown ratios, poor growth and Swiss needle cast; the present stand is not a good candidate for establishing a pathway that maintains productivity and reach the DFC in a reasonable amount of time. After the regeneration harvest the stand will be composed of legacy structures retained from the present stand and a new cohort of noble fir, western hemlock and Douglas-fir.

#### **Long Term Vision:**

After pre-commercial thinning at age 12 to 17 years and commercial thinning at age 30 to 40 years the stand will have a mixture of sizes, species and densities.

**Area 2-** The DFC for Area 2 is Layered (LYR).

#### **Short Term Vision:**

Due to the sprayed alder, the Douglas-fir with small live crown ratios, poor growth and Swiss needle cast and poor stocking; the present stand is not a good candidate for establishing a pathway that maintains productivity and reach the DFC in a reasonable amount of time. After the regeneration harvest the stand will be composed of legacy structures retained from the present stand and a new cohort of noble fir, western hemlock and Douglas-fir.

#### **Long Term Vision:**

After pre-commercial thinning at age 12 to 17 years and commercial thinning at age 30 to 40 years the stand will have a mixture of sizes, species and densities.

**Area 3-** The DFC for Area 3 is LYR. Due to a deed restriction; this area is to be kept and maintained for recreational use.

**Short Term Vision:** Area 3 will be use as an area to create snags and down wood as a density management method on the stand. No trees will be removed but will be felled, girdled and topped to release other trees.

**Long Term Vision:**

To move the stand towards OFS structure through creation of down wood and snags that reduces stand density and increases growth of trees retained in the stand. Management will allow access to the public for recreational use as specified in the deed restriction.

**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.**

**MODIFIED CLEARCUT:**

**Areas 1 and 2**

**Prescription:** Merchantable Douglas-fir and alder will be removed. All other species will be reserved.

The regeneration harvest in this area will remove the slow-growing alder and the Douglas-fir that also have poor crown ratios.

**Green Tree:** A diameter limit will be used to reserve an average of 2 to 3 conifer trees per acre. The residual conifer trees will be distributed both in clumps and scattered within the area depending on their location. A component of alder and other conifer will also be retained in the stream buffers and high landslide hazard locations (HLHL). Additional green trees will be retained in a Green Tree retention area located between Areas 1 and 2.

**Snags:** An additional tree per acre will be reserved for snag creation. One snag per acre greater than 15 inches DBH will be created during harvest operations. 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. Existing snags not determined to be a safety hazard will be retained and any felled snags will be left for down wood.

**Down Wood:**

An additional 2 trees per acre greater than 15 inches DBH will be reserved for down wood creation. The trees will be felled after harvest operations to supplement existing levels. Existing down wood will be left in the sale areas.

Additional down wood recruitment is also expected through mortality and wind throw of residual or leave trees, felled snags and tops left during harvest. Tops resulting from ground yarding will also be left in the unit.

**Pathway:** The areas will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir, western red cedar and/or noble fir. 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 3

**Prescription:** The area has deed restrictions which do not allow wood to be harvested. Instead the stand density will be reduced with snag and down wood creation. See prescription for snag and down wood requirements.

**Snags and Down Wood:** Girdle two conifer trees per acre greater than 15 inches DBH and fell two conifer trees per acre greater than 18 inches DBH.

**Pathway:**

The development of additional snags and down wood within the sale area will allow the stand to move toward an older forest structure.

## V. ESTIMATED TIMBER AND REVENUE INFORMATION:

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%		x
Planned Quarter:		3	

	Conifer	Hardwood	Total
Net Volume (MBF)	3527	605	4133
Stumpage Value (\$/MBF)*	\$222	\$200	
Estimated Gross Value	\$783,000	\$121,000	\$904,000
		Project Costs:	\$298,933
		Estimated Net Value:	\$605,000

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

## **VI. HARVESTING AND ACCESS CONSIDERATIONS:**

The sale areas are accessed via the Wolf Creek Road. It is currently an all-weather, crushed rock road. See maps for specific road locations and conditions.

Approximately 2.41 miles of road will be constructed to provide access to cable yarding areas. An additional 0.43 miles of dirt roads will be constructed to access cable logging yarding landings. Dirt roads will be closed at the end of operating season and/or the end of the sale. Following reforestation the remaining 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 road closure. No other project work is currently planned with this sale.

The operation will be 25% ground yarded and 75% cable yarded.

**Table 5. Transportation Planning Summary (Miles)<sup>4</sup>**

Activity	Mainline	Collector	Rocked Spur <sup>1</sup>	Dirt Spur <sup>1</sup>
Construct			2.41	0.43
Improve				
Maintain <sup>2</sup>		3.8		
Close/Block <sup>3</sup>				.07
Vacate <sup>3</sup>				0.36

- 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 is being conducted for the Wilson River basin at this time. Recommendations from this assessment will be incorporated into the sale where feasible.

Cedar Creek is a verified, large Type F stream adjacent to the sale. There is also a verified, medium Type F streams adjacent to the sale. Three assumed small Type F stream are also located adjacent to and within the sale. 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 in Areas 1 and 2.

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

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.

Area 1 and approximately 33 net acres of Area 2 are within the Cedar Creek sub-basin. This sub-basin has been identified as a Salmon Anchor Habitat (SAH) Basin. The SAH Basin Strategies will be used in addition to the FMP Riparian Strategies at the time of sale layout and contract development. See the Salmon Anchor Summary Table for tracking of acres managed in each basin.

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 and northern spotted owls are not required due to the absence of potentially suitable habitat.

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:**

This assessment is based on analysis of USGS 1:24,000 topographic maps.

There are high landslide hazard locations scattered throughout the sale. Area I and portions of Area II drain to Lehman Creek. Portions of Area II drain to Cedar Creek. Portions of Area II and all of Area III drain to unnamed tributaries to the Wilson River. The risk of landslides delivering directly from the sale to Lehman

Creek and unnamed tributaries to the Wilson River is high and to Cedar Creek is low to moderate. Portions of the sale appear to be located on large, deep-seated landslide landforms.

The geotechnical specialist will be consulted if evidence of recent landslide activity is identified during sale layout.

Portions of the sale are within an area identified as a SAH Basin and the most current slope stability SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

#### **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.

Coordination with the Tillamook Recreation Coordinator, Tillamook Forest Center (TFC), and interpretive staff will be utilized to develop a public safety plan to be implemented during the harvest operations. In order to cable log portions of Area 2 it will be necessary to hang the skyline across the Cedar Creek Road. Seasonal and/or daily operating restrictions may be utilized to minimize hazard exposure to the public. Opportunities for harvest and reforestation prescriptions which would enhance interpretive education opportunities will be evaluated during sale preparation. The District Recreation Coordinator will be consulted throughout the sale preparation and administration processes.

The Wilson River Trail is located within the boundaries of Area 3. Felling for down wood and creation of snags will be done away from the trail location. In addition, trail closure will occur during operations for safety.

#### **XI. CULTURAL RESOURCES:**

The *Tillamook State Cultural Assessment* does not list any cultural sites within the proposed sale boundary. If any sites are identified, the Public Use Coordinator will be contacted.

#### **XII. SCENIC RESOURCES:**

Portions of Area 2 are visible from Highway 6 and Cedar Creek Road and have a visual classification of Level 1, high sensitivity. The sale has been reviewed by the Public Use Coordinator. There will be some visual impact until green up occurs. The remaining areas have a visual classification of Level 3, low sensitivity. No visual impact is expected.

### **XIII. OTHER RESOURCE CONSIDERATIONS:**

A large portion of Area 3 is part of the Weyerhaeuser Deed lands that are to be kept in a natural state. These lands were deeded to the State from the County with some restrictions on timber management operations in the original deed from Weyerhaeuser to the County.

Bonneville Power Administration (BPA) transmission lines also run through Area 3. The BPA should be contacted during sale prep to review safety issues when working in proximity to transmission lines.

### **XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

Areas 1, 2 and 3 contain Aquatic and Riparian Habitat. See Section VI, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

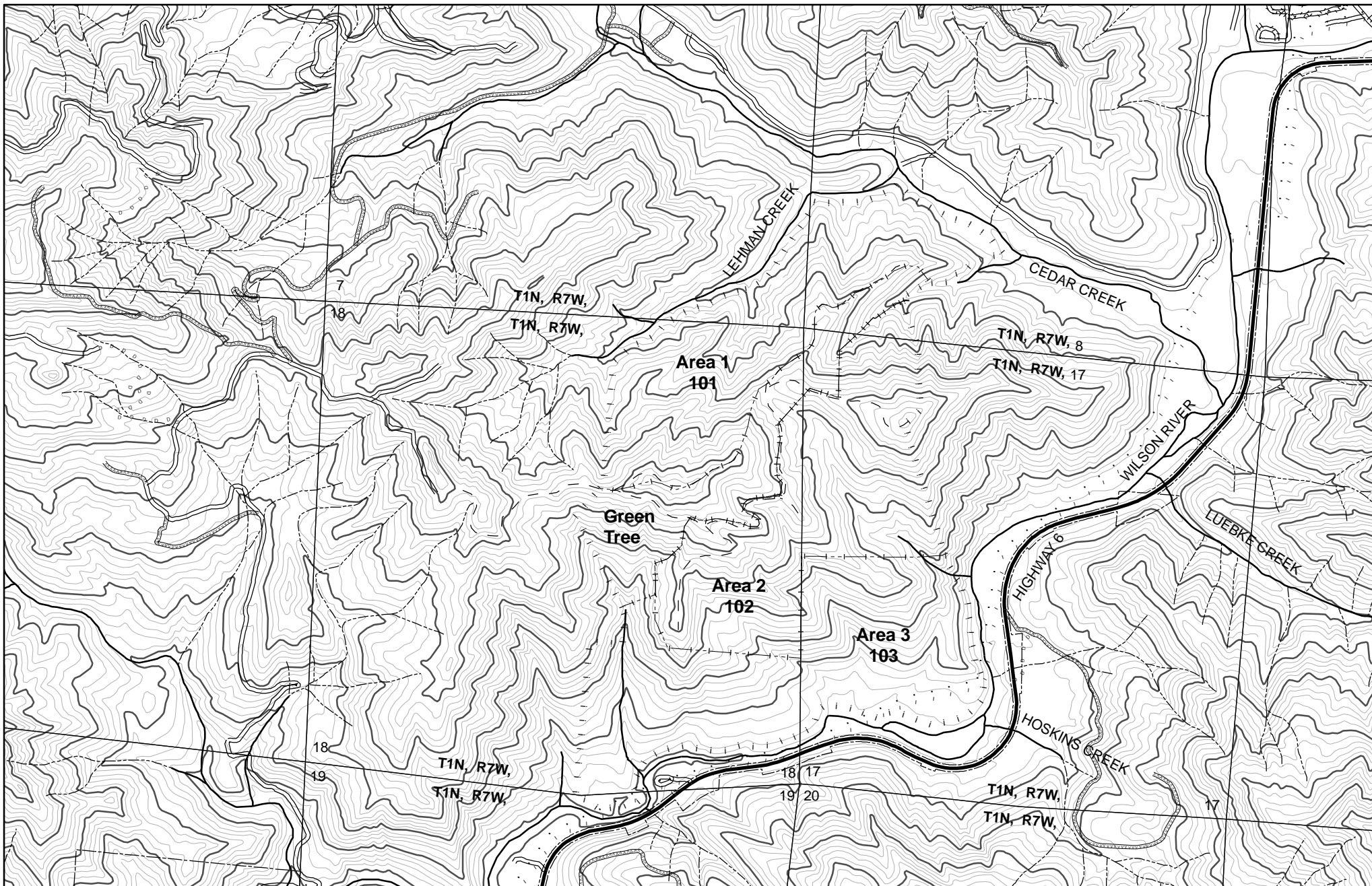
Areas 1, 2 and 3 contain Recreation Resources. See Section IX, Recreation Resources, for the management guidelines to be utilized.

Area 3 contains a Deed Restriction. See XIII, Other Resource Considerations, for the management guidelines to be utilized.

Area 3 contains a transmission line. See Section XII, Other Resource Considerations, for the management guidelines to be utilized.

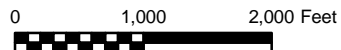
Areas 2 and 3 contain Visual Resources. See XI, Scenic Resources, for the management guidelines to be utilized. Boundary lines depicted on Attachment C are approximate; exact locations and site specific management activities will be determined during the sale preparation process.

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- 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



# 3

## Lehman Heights -- Topography -- 2009 SALE PLAN TILLAMOOK DISTRICT

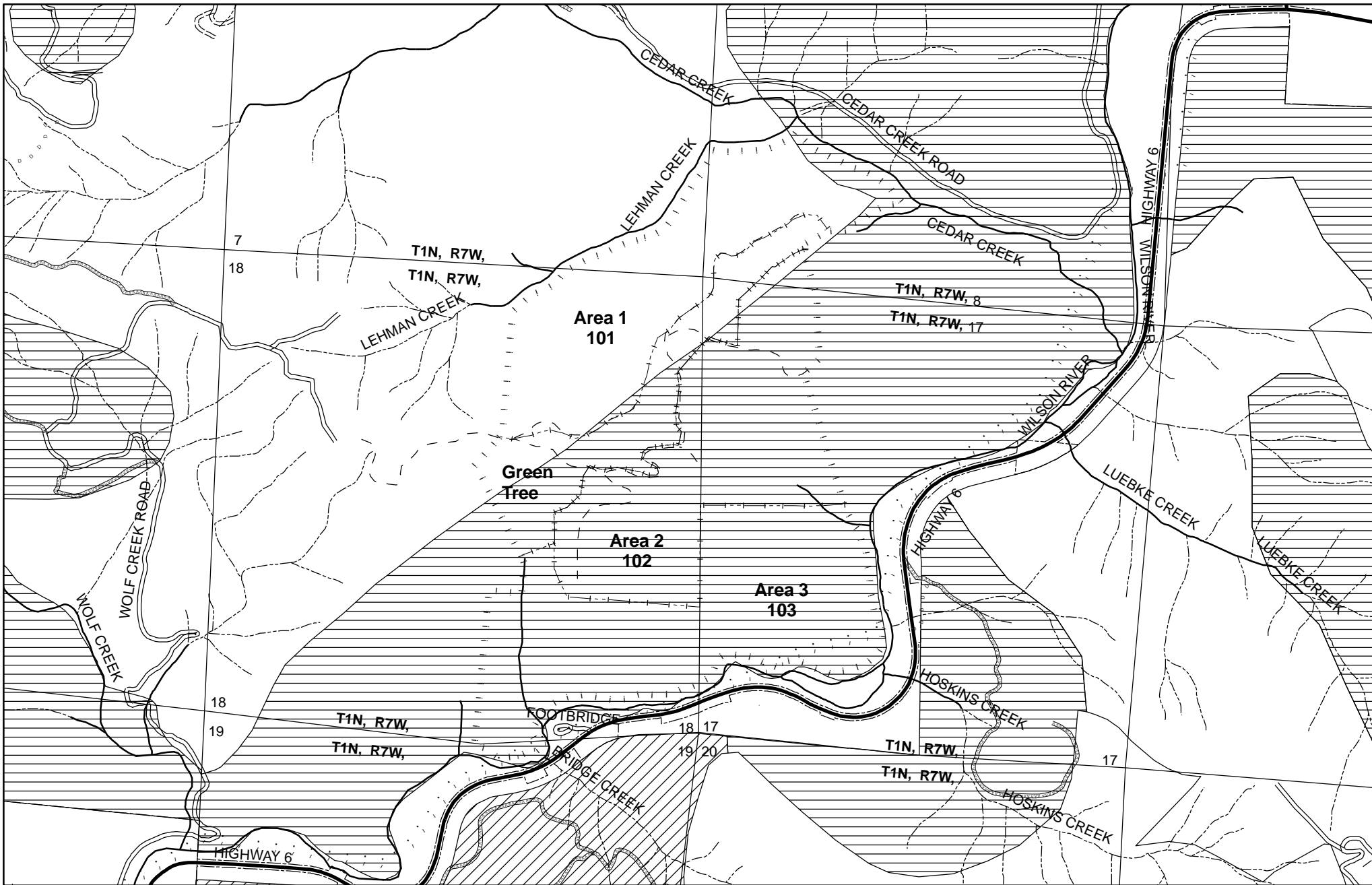
Portions of Sections 7, 8, 17, 18 and 19  
T1N, R7W, W.M.,  
Tillamook County, Oregon

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

Tillamook District GIS  
10/24/2007

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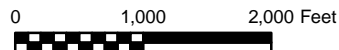
Area	Type of Operation
1	Modified Clearcut
2	Partial Cut
3	Snag & Down Wood



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



**3**

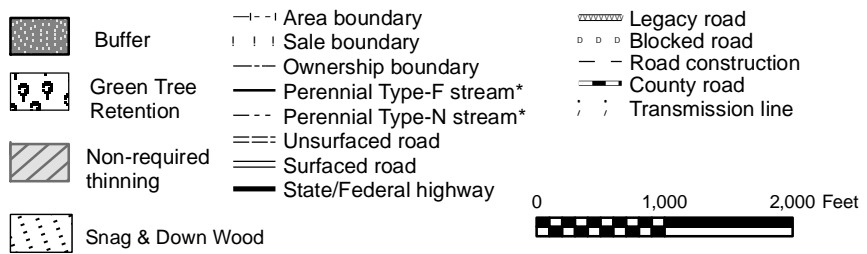
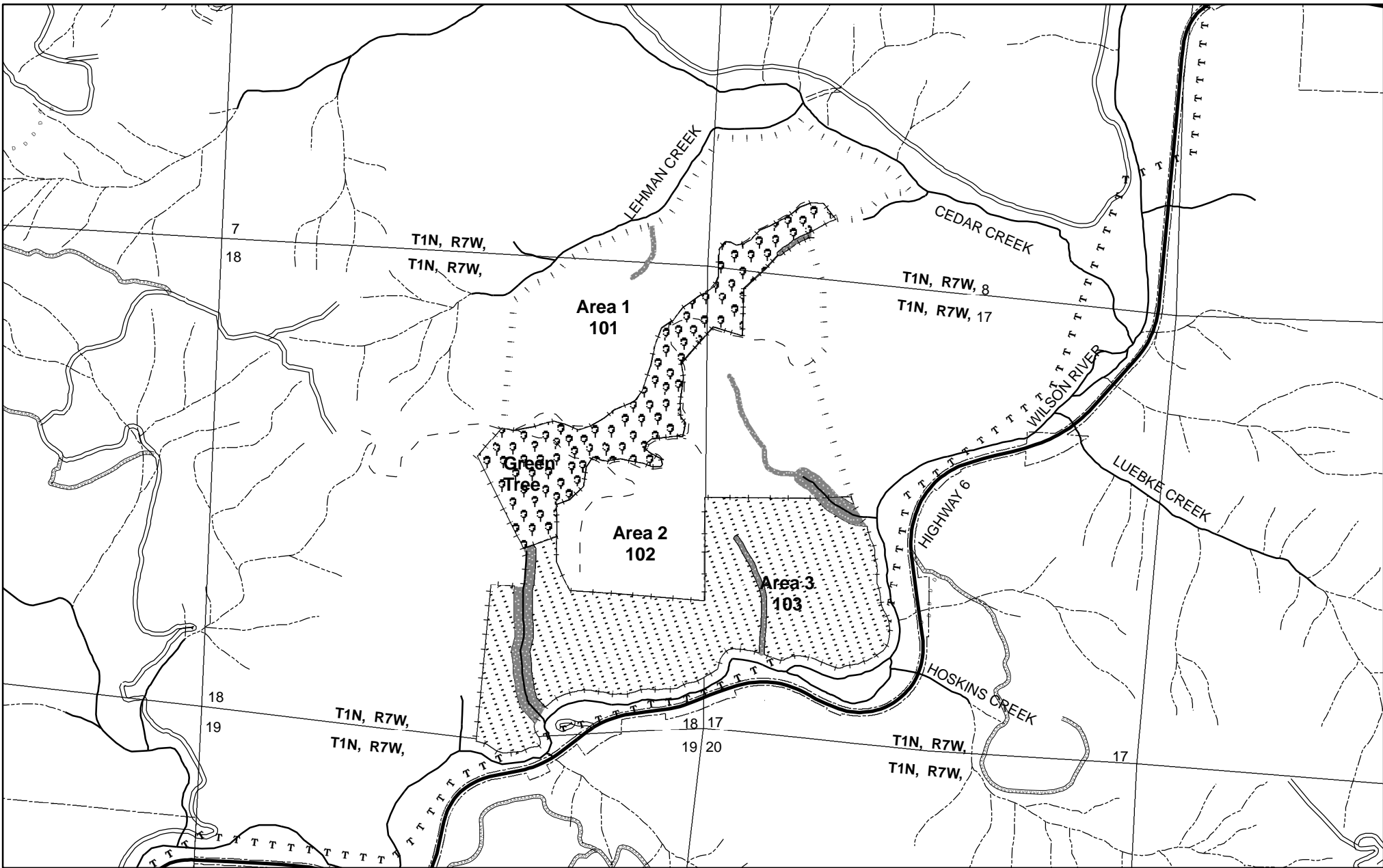
**Lehman Heights  
 -- Current and Future Condition --  
 2009 SALE PLAN  
 TILLAMOOK DISTRICT**

Portions of Sections 7,8,17,18 and 19  
 T1N, R7W, W.M.,  
 Tillamook County, Oregon

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Tillamook District GIS  
 01/08/2008  
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Area	Type of Operation
1	Modified Clearcut
2	Partial Cut
3	Snag & Down Wood Creation



# 3

## Lehman Heights -- Key Resources -- 2009 SALE PLAN TILLAMOOK DISTRICT

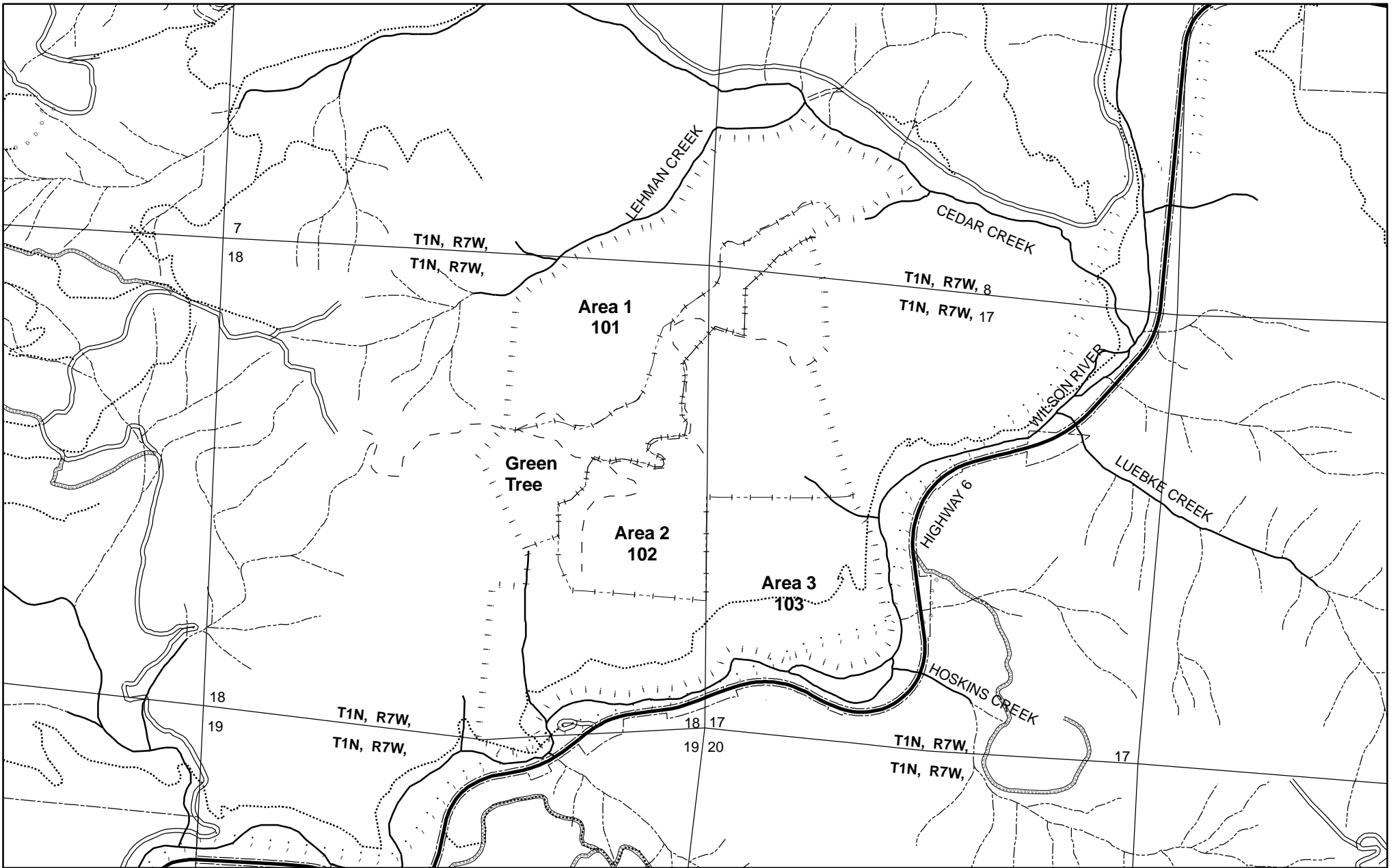
Portions of Sections 7,8,17,18 and 19  
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Tillamook County, Oregon

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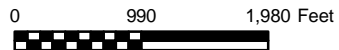
Tillamook District GIS  
01/08/2008  
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Area	Type of Operation
1	Modified Clearcut
2	Partial Cut
3	Snag & Down Wood Creation





- Administrative
- Boat Launch
- Campground
- Day Use
- Interpretive Site
- OHV Staging Area
- Trail Head
- Planned 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



**3**

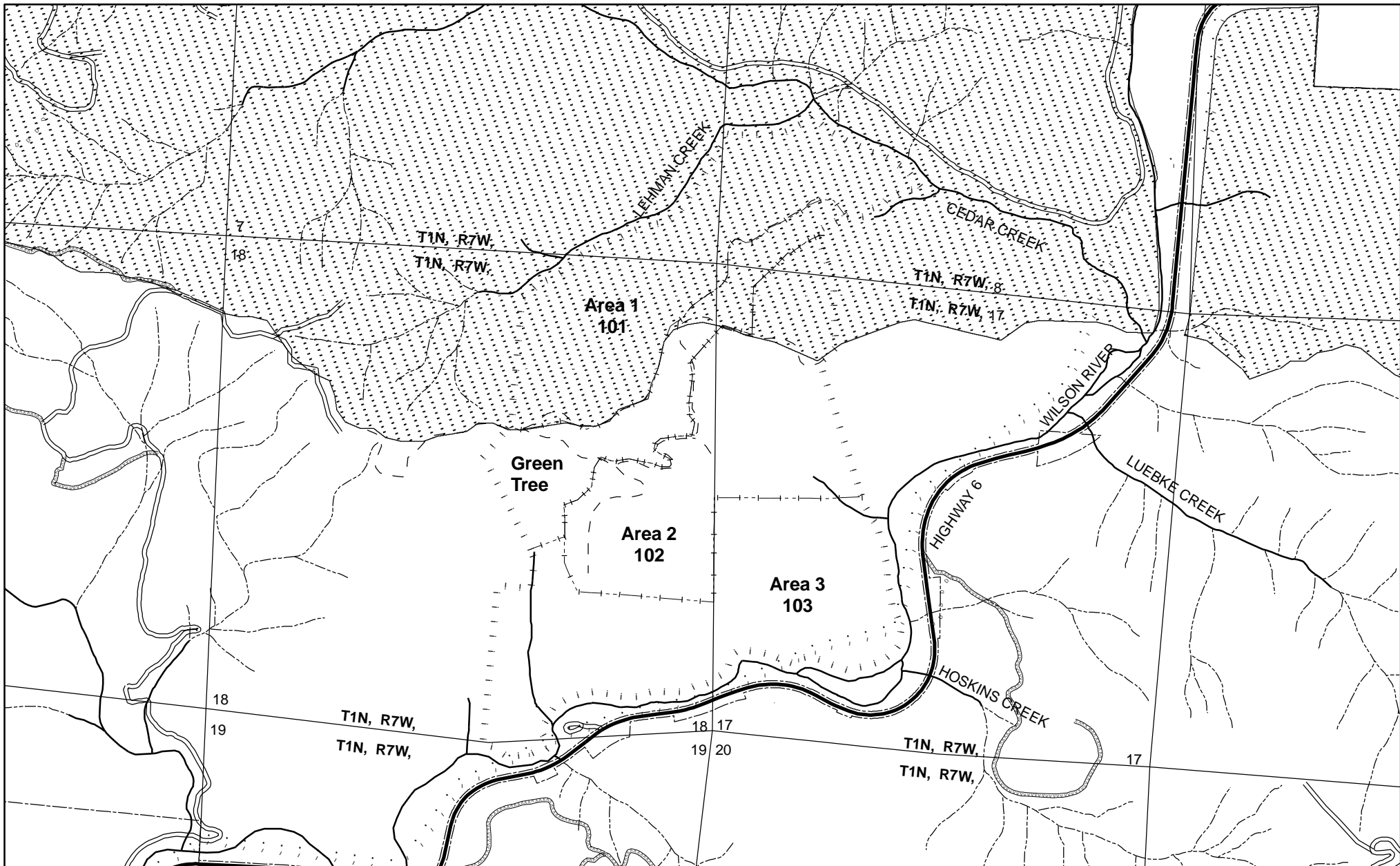
**Lehman Heights**  
**-- Key Resources / Recreation --**  
**2009 SALE PLAN**  
**TILLAMOOK DISTRICT**  
 Portions of Sections 7,8,17,18 and 19  
 T1N, R7W, W.M.,  
 Tillamook County, Oregon

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

Area	Type of Operation
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3	Snag & Down Wood









Tillamook District GIS  
01/08/2008


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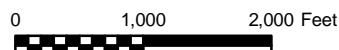


**Stewardship**

 Focused  
 Special

 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



# 3

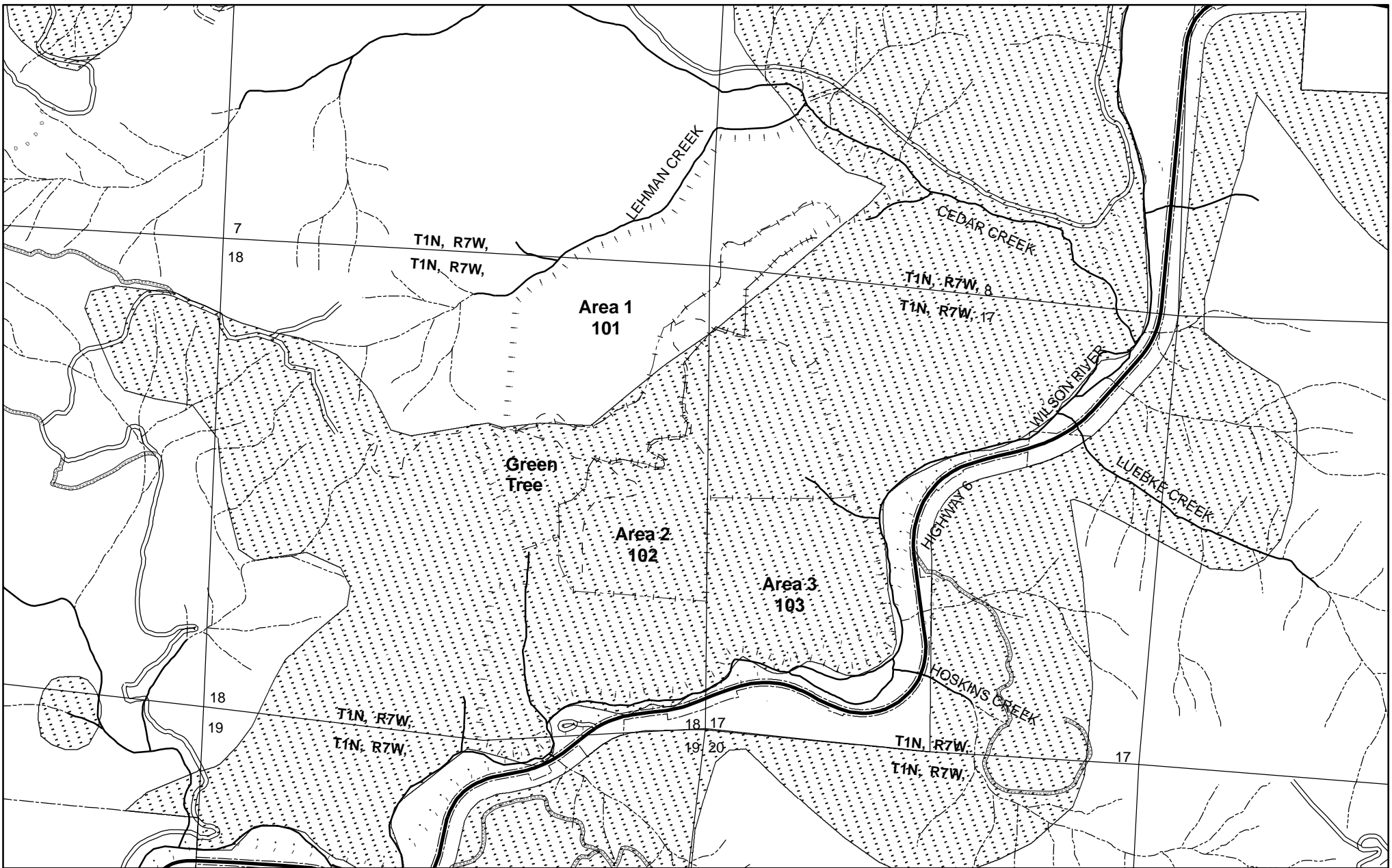
## Lehman Heights -- Key Resources/Wildlife Habitat-- 2009 SALE PLAN TILLAMOOK DISTRICT

Portions of Sections 7,8,17,18 and 19  
T1N, R7W, W.M.,  
Tillamook County, Oregon

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Area	Type of Operation
1	Modified Clearcut
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**Stewardship**



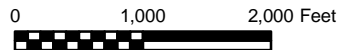
**Focused**



**Special**

- Area boundary
- ! ! Sale boundary
- Ownership boundary
- Perennial Type-F stream\*
- - - Perennial Type-N stream\*
- == Unsurfaced road
- Surfaced road
- State/Federal highway

- Legacy road
- o o o Blocked road
- - - Road construction
- County road
- :/ / Transmission line



**3**

**Lehman Heights  
-- Key Resources/Visual--  
2008 SALE PLAN  
TILLAMOOK DISTRICT**

Portions of Sections 7,8,17,18 and 19  
T1N, R7W, W.M.,  
Tillamook County, Oregon

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Area	Type of Operation
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