

FOREST MANAGEMENT PLAN

Tract 23 Forest Grove

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I. EXECUTIVE SUMMARY

- A. The Purpose of a Forest Management Plan:** This forest management plan is to provide the landowner with the basic information regarding the timberland on Tract 23. There are recommendations and suggestions for continued forest stewardship of this resource. The hope is with planning guidelines and periodic management activities, this forest resource will continue to increase in volume and value.
- B. Forest Management Activities:** Tract 23 consists of 2 timber types which are well established. These timber types were established in 1985 and 1972. This Forest Management Plan suggests the implementation of thinning, pruning, and harvesting to enhance and improve the timber type. These activities will increase the value of the landowner's investment.
- C. Available Help and Services:** The Pacific Northwest has a long history of forest management and producing quality timber. Assistance is available to landowners from Federal, State, and County agencies, in many cases at no expense to the landowner. If private consulting service is wanted, the landowner can contact Paul Graves, who prepared this plan, at 360-507-8628.
- D. Reference Resources:** The primary source of information to the private non-industrial forestland owner is the Department of Natural Resource (DNR). The DNR headquarters office is located in Olympia and there are 7 regional offices located throughout the state. The regional office for Tract 23 is located in Enumclaw, Washington at 360-825-1631. The stewardship program information can be obtained from the Resource Protection Division at 360-902-1706.
- E. General Overview:** The Forest Grove property consists of a series of 20 acre homesites which are located approximately 7 miles southeast of Yelm, Washington. (see Exhibit 1 & 2) Access is provided from a privately maintained gravel road which intersects with Southeast 8th County Road 3.0 miles south of the flashing yellow light on State Route 702. The private roads are maintained by the homeowner's association. The average elevation is 550 feet and the topography is flat to gently rolling hills. Available soils consist of Kapowsin silt loam and McKenna gravelly silt loam.

Timber type 1 is 11.0 acres of mature Douglas-fir trees which were established in 1985. Timber type 2 is 8.07 acres of Douglas-fir which was established in 1972. These timber types are well stocked and have been managed for long term timber production.

II. PROPERTY OVERVIEW

A. General Property Description

Tract 23 consists of 21.07 acres located in Pierce County approximately 7 miles southeast of Yelm, Washington. (See Exhibit 4) This tract is located 2.0 miles north of Tule Lake and 2.0 miles east of Harts Lake. The legal description includes part of the W1/2NW1/4NW1/4 Section 3 Township 16 North, Range 3 East and NE1/4NE1/4 Section 4 Township 16 North, Range 3 East, Willamette Meridian. The primary access to Tract 23 is from a maintained private road. This private road intersects with Southeast 8th County Road approximately 3.0 miles south of the flashing yellow light on State Route 702. The private road is gated where it intersects with Southeast 8th County Road. The property contains a third growth Douglas-fir stand which was established in 1985 and 1972. Timber type 1 consists of 11.0 acres of Douglas-fir which was established in 1985. There are 350 trees per acre and the diameters are 4 to 6 inches. In addition to the timber stand, there are approximately 2.5 acres of wetland and drainage included in this timber type. Timber type 2 consists of 8.07 acres of Douglas-fir trees which were established in 1972. There are 240 trees per acre and the diameters are 9 to 12 inches. Heights are near 65 feet and the trees are growing well. All corners were set as part of the recorded survey and marked by a rebar with cap and a 2"x 2"x 2' stake. Property survey recorded in Pierce County under recording number 200307175012.

B. Topography

The topography on Tract 23 is flat to gently rolling hills with slopes less than 10 percent. The elevation is 550 feet, based on a 20-foot contour interval map generated by Weyerhaeuser Real Estate Development Company, shown herein on the aerial photo Homesite Map.(see Exhibit 4) The property has a south aspect with some territorial views.

C. Timber Stands (see Exhibit 3)

Tract 23 has 2 well established Douglas-fir timber stands. The old growth timber was harvested in the early 1930's and natural stands of second growth were grown on this property until the mid 1980's. Timber type 1 was harvested in 1984 and reforested in 1985. Timber type 2 was harvested in 1971 and reforested in 1972. Weyerhaeuser reforested the harvested area with 2-year old Douglas-fir seedlings. The reforestation rate is approximately 550 seedlings per acre within one year after the harvest.

The 2 timber types have been shown on the Timber Type Map prepared by the author and shown herein as Exhibit 3. The description of this timber type is as follows:

Timber Type 1 consists of 11.0 acres of a fully stocked Douglas-fir plantation which was established in 1985. There are approximately 350 trees per acre with heights near 25 feet and diameters of 4 to 6 inches. These trees are growing well and have good form. There are some scattered hardwood species in this stand. There are approximately 2.5 additional acres in this stand that are associated with the wetland and drainage area.

Timber Type 2 consists of 8.07 acres of a fully stocked Douglas-fir plantation which was established in 1988. There are approximately 240 trees per acre and the diameters are 9 to 12 inches. Heights average 65 feet. There are some scattered red alder and cottonwood in this stand.

D. Tax Designation

There are 21.07 acres of Tract 23 that will remain in the current land tax designation. This tax designation will remain as long as the property is being managed for the production of timber. There are territorial views and a partial view of Mount Rainier.

E. Reference Material

Reference resources and materials used in the preparation of this management plan include the following:

Soil Survey of Pierce County Area, Washington. Published by the United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State University and Department of Natural Resources. Issued in June 1990.

Pre-commercial Thinning for the Health and Vigor of Your Forest. Prepared by Don Hanley, Washington State University Extension Forester and Don Theoe, Washington Department of Natural Resources Stewardship Forester. Distributed at the Southwest Washington Forest Owners Field Day, September 13, 1997.

Thinning—An Introduction to a Timber Management Tool. Published by Oregon State University Extension Service in consultation with Extension Foresters at University of Idaho. PNW 184, Reprinted in April 1979.

III. Fish and Wildlife

This property has number of native animals and birds utilizing it for habitat and feeding purposes. Big game species include blacktail deer, black bears, elk, and an occasional cougar. Coyotes, raccoons, mink, opossums, rabbits, mountain beaver, moles and mice can also be found on the property. Birds include hawks, eagles, ruffed grouse, geese and a variety of song birds.

There are not threatened or endangered species known to exist on the property.

IV. Hydrology

There is 1 drainage which is associated wetland located on Tract 23. All water collected from surface runoff from the lot and road system flows southwesterly into this drainage and eventually into Rocky Slough, which flows southwest into Tanwax Creek which empties into Nisqually River.

V. SOILS INFORMATION

The soils information used in this forest management plan was compiled from the "Soil Survey of Pierce County Area, Washington, 1974. The manual with this information is available to the public from the local Natural Resources Conservation Service office. The soil types for this property are Kapowsin silt loam and McKenna gravelly silt loam. The Kapowsin silt loam soil is moderately deep, moderately well-drained and is formed on glacial till. The native vegetation is mainly conifers and hardwoods. Elevation ranges from 50 to 600 feet. The average annual precipitation is 35 to 50 inches, the average annual air temperature is about 50 degrees F, and the average frost-free period is 150 to 200 days. Permeability is moderate above the hardpan and very slow through the hardpan. Available water capacity is moderate. Effective rooting depth is 30 to 40 inches. Runoff is slow, and the hazard of water erosion is slight.

This soil unit is mainly woodland. Douglas-fir is the main woodland species on this unit. Among the trees of limited extent are red alder, western red cedar, and Pacific madrone. On the basis of a 100-year site curve, the mean site index for Douglas-fir is 161. On the basis of a 50-year site curve, it is 123. The highest average growth rate of an unmanaged, even-aged stand of Douglas-fir is 171 cubic feet per acre per year at 65 years of age. Logging roads require adequate surfacing material for year-round use. Rock for road construction is not readily available on this unit. The main limitation affecting harvest on this soil type is the muddiness caused by seasonal wetness. Seedling establishment is a concern in the production of timber. Reforestation can be accomplished by planting Douglas-fir seedlings and survival of the seedlings depends largely on the available water in the soil. Competing vegetation from trailing blackberry, bracken ferns and invading red alder sometimes prevent adequate stocking levels without proper site preparation.

The McKenna gravelly silt loam is moderately deep, poorly drained and is formed in depressions and drainageways. The native vegetation is hardwoods. Elevation ranges from 50 to 500 feet. The average annual precipitation is 45 to 55 inches, the average annual air temperature is about 50 degrees F, and the average frost-free period is 150 to 180 days. Permeability is moderate above the dense glacial till and very slow through the till. Available water capacity is moderate. Effective rooting depth is 20 to 40 inches. Runoff is ponded or very slow, and the hazard of water erosion is slight.

This soil unit is mainly woodland. Red alder is the main woodland species on this unit. Among the trees of limited extent are western red cedar, and western hemlock. On the basis of a 50-year site curve, the mean site index for red alder is 90. The highest average growth rate of an unmanaged, even-aged stand of red alder is 101 cubic feet per acre per year at 40 years of age. Logging roads require adequate surfacing material for year-round use. Rock for road construction is not readily available on this unit. The main limitation affecting harvest on this soil type is the muddiness caused by seasonal wetness. Seedling establishment is a concern in the production of timber. Reforestation can be accomplished by planting western red cedar seedlings and survival of the seedlings depends largely on the available water in the soil. Competing vegetation from trailing blackberry, bracken ferns and invading red alder sometimes prevent adequate stocking levels without proper site preparation.

The Homesite Map (see Exhibit 4) shows and identifies the soil classifications within Tract 23 and the surrounding area.

VI. MANAGEMENT PLAN

The timber stands were examined in September 2003. Based on the measurements and observations made in the field, it is recommended that the following forest management activities be completed in the next few years.

NOTE: These recommendations are to serve as a guide only. All management decisions and activities need to be completed to take full advantage of market conditions, budget considerations, and return on investment.

2004—2005: Locate, re-establish and permanently mark all property corners and property lines. It is very inexpensive to drive a 7 foot steel post in the ground at each of the property corners. Be sure to leave the existing rebar and cap as it is found. The taller post will make it much easier to find the corner in the future.

2008—2010: Timber type 2 can be commercially thinned. This thinning will remove the smaller diameter and slower growing trees. The leave tree requirement will be 285 to 300 trees per acre. The thinning will result in more available nutrients to the leave trees and increased growth.

2016—2019: Timber type 1 can be commercially thinned. The thinning specifications are to remove the dead, dying, deformed and subordinate trees. There will be 160 trees per acre left after thinning. Minimize damage to the leave trees and soil compaction should be minimal.

2033—2036: Timber type 1 can be commercially thinned. The thinning specifications will permit 30 percent of the existing trees be removed with this harvest. The leave trees will be the ones that were pruned previously. Thinning will be accomplished with ground harvesting equipment and care should be taken to minimize soil compaction and disturbance.

2040—2044: Timber type 2 is nearly 70 years old and is at the end of the rotation. When the final harvest is complete, the next rotation begins with reforestation.

2055—2057: Timber type 1 is nearly 70 years old and is at the end of the rotation. When the final harvest is complete, the next rotation begins with reforestation.

VII. Appendix

A. Maps

1. Exhibit 1: Vicinity map for the property.
2. Exhibit 2: Aerial Photo of property and surrounding area.
3. Exhibit 3: Timber Type Map
4. Exhibit 4: Homesite Map
5. Exhibit 5: Record of Survey Map

B. Related Material

Promotional material titled *Join The Action Group for Small Woodland Owners*, as published by Washington Farm Forestry Association, Olympia, Washington.

How to Prune Forest Trees. An excerpt from "The Forest Steward", a printing of the National Arbor Day Foundation, May-June 1997.

**Paul Graves
Cascade Services
Professional Forester**

I grew up on a farm in Indiana. As a child with two generations of foresters before me, I was involved with several aspects of family land management, including timber harvesting. In 1977 I moved to the Pacific Northwest where I completed my Associate Technical Arts Degree in Forestry from Centralia College. In 1999 I received a Bachelor of Science Degree in Business Management and Administration from City University.

From October 1977 to 1988 I worked for Washington Department of Natural Resources (DNR) as a silvicultural forester at the South Puget Sound Regional office in Enumclaw, Washington. During my employment with DNR, I worked with all aspects of reforestation and protection of timberlands. I began consulting in 1988 and have worked with most of the major timber companies in western Washington. In 1991, I became a forester for New Mexico State Forestry working with private landowners preparing forest management plans and assisting with the management of their forestlands.

Since 1993 I have owned and managed the operations of Cascade Services, a private consulting business designed to provide landowners with the technical and professional assistance necessary to successfully manage their forest lands. My office and home are located near Shelton, Washington

**Paul Graves
November 7, 2003**

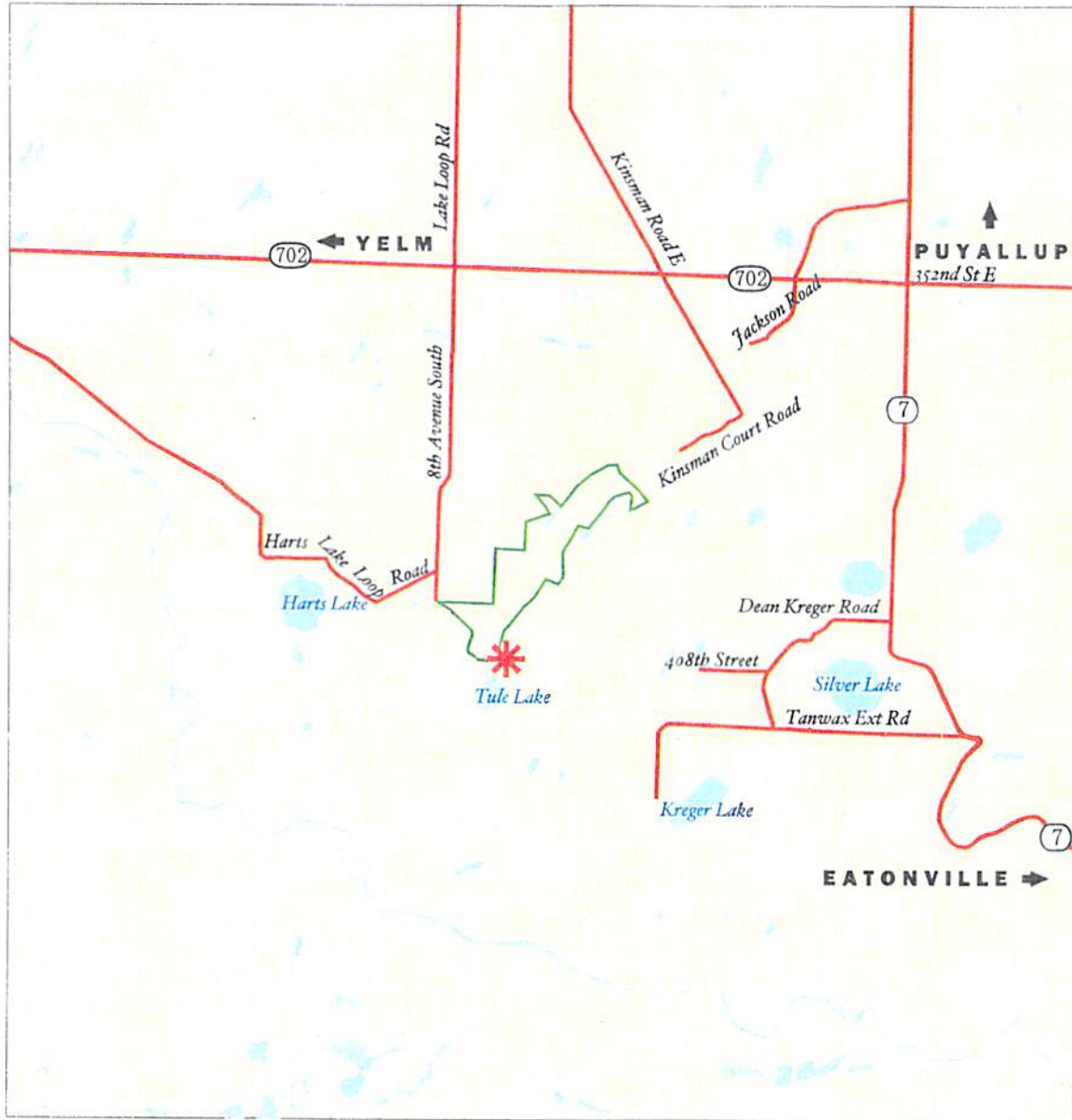
FOREST GROVE

T16N R3E Sections 3, 4, 9, Pierce County, Washington

 A Weyerhaeuser Real Estate Development Company Property





Exhibit 1

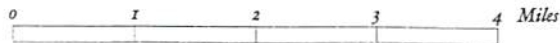
VICINITY MAP



© 2003, Weyerhaeuser Real Estate Development Company, 10/03/003

Legend

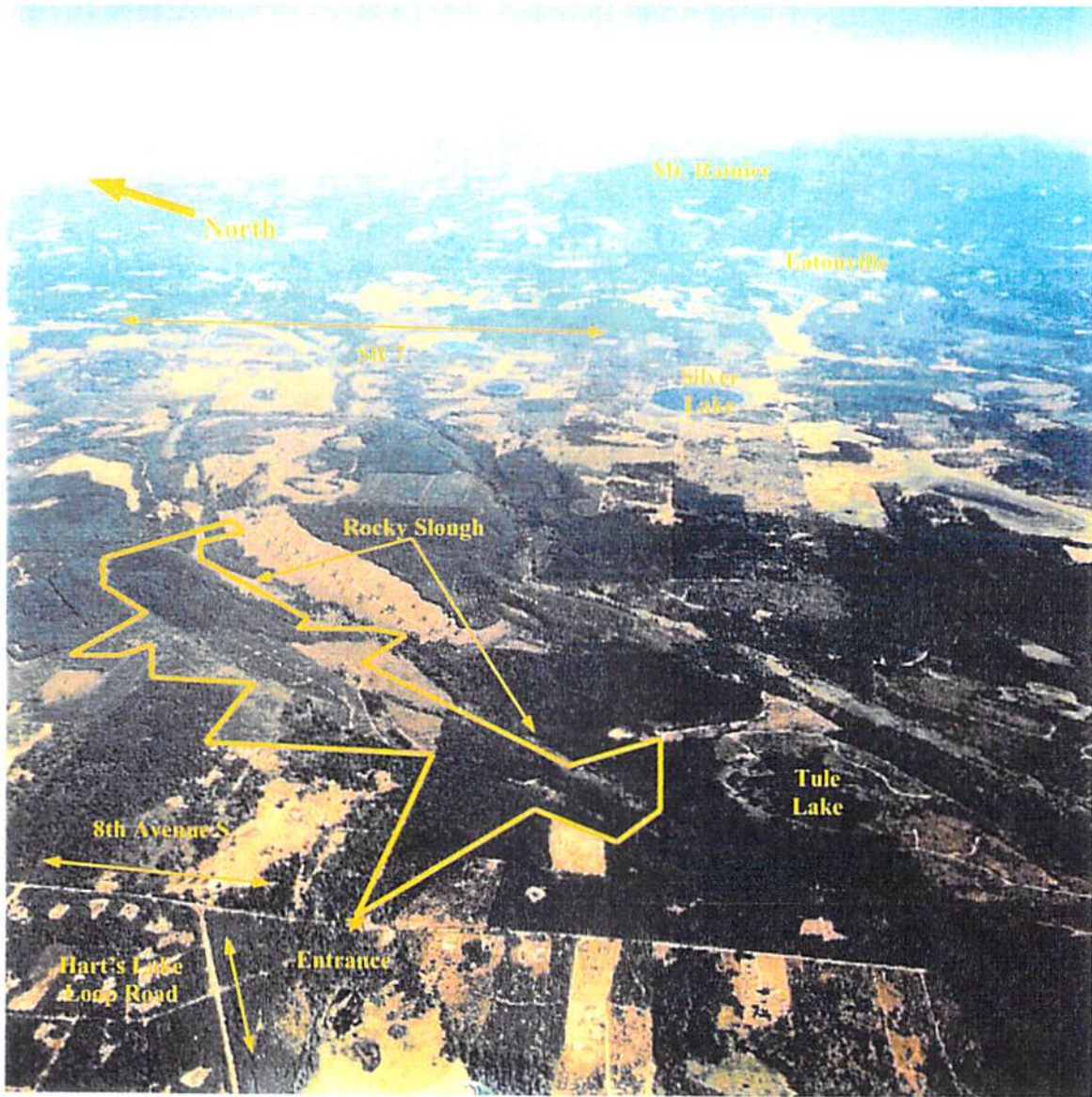
-  Property entrance
-  Community boundary
-  Public road
-  Private road



Information contained herein deemed reliable though not guaranteed.



Exhibit 2

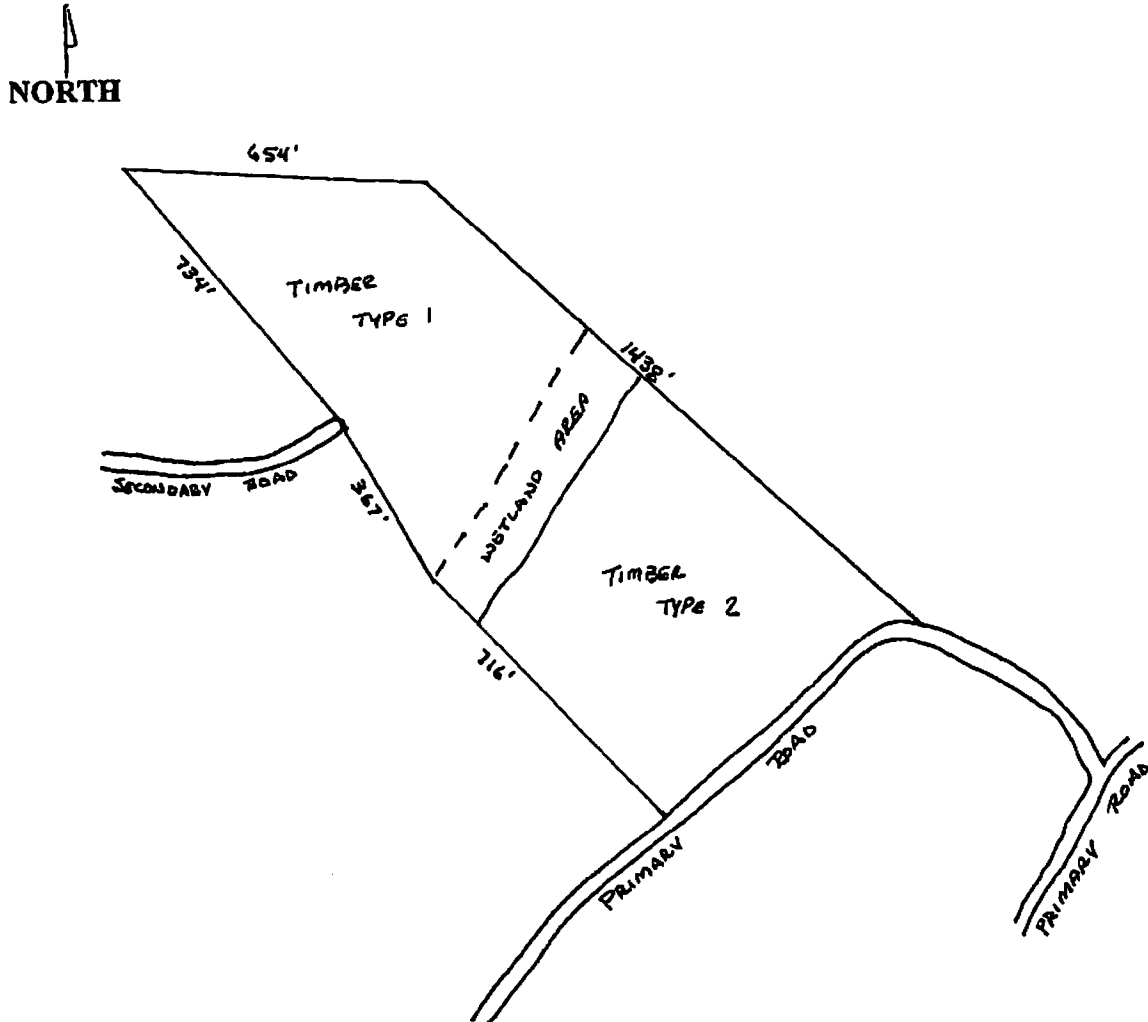


Weyerhaeuser Real Estate
Development Company



EXHIBIT 3 FOREST GROVE

Tract 23 Timber Type Map

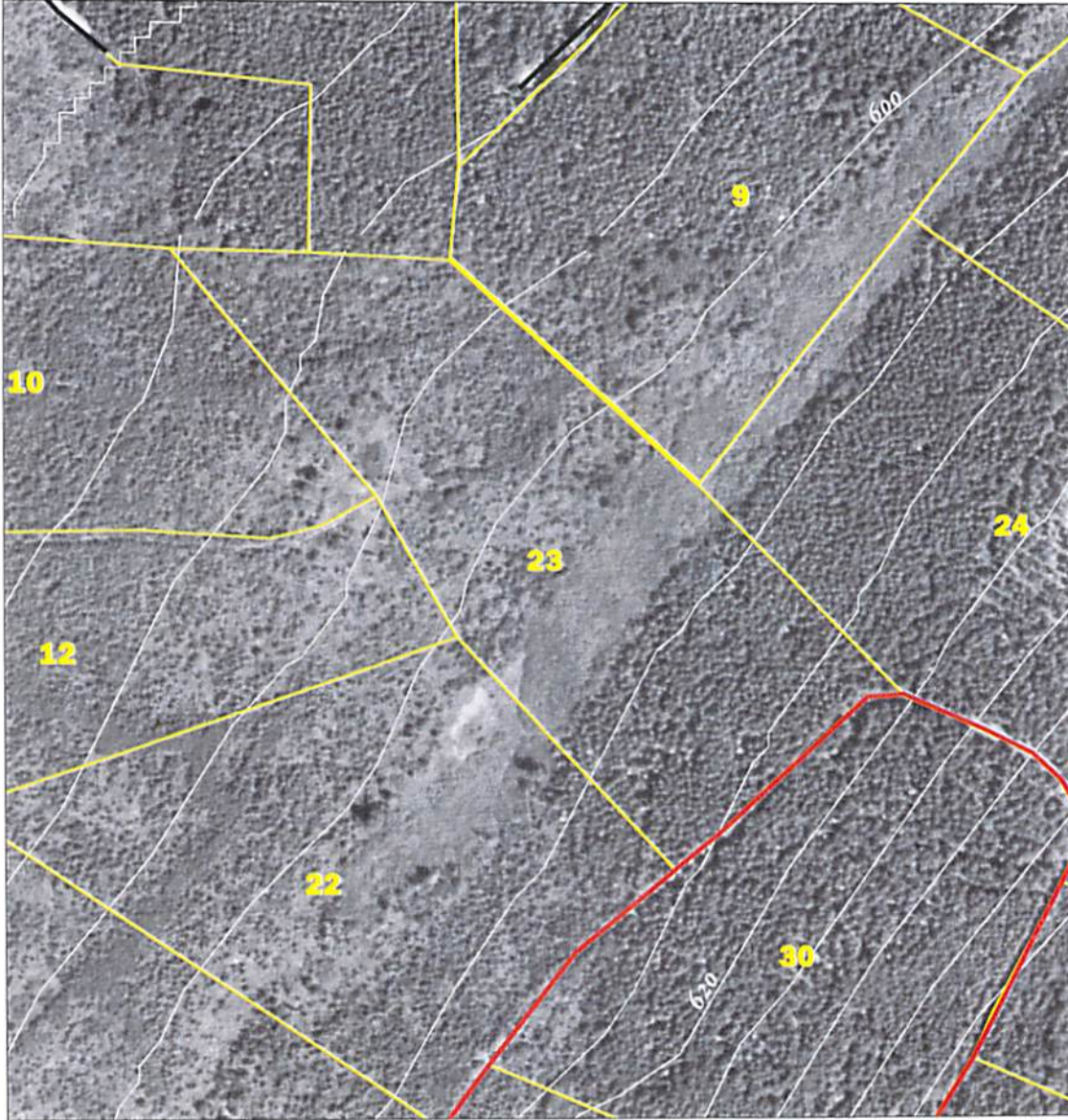


Timber Type 1: This type consists of 11.0 acres of Douglas-fir which was established in 1985. There are 300 trees per acre with 4 to 6 inch diameters and heights near 35 feet. There are approximately 2.5 acres of wetland included in this stand.

Timber Type 2: This type consist of 8.07 acres of Douglas-fir which was established in 1972. There are 250 trees per acre with 9 to 12 inch diameters and heights near 65 feet.

Exhibit 4

HOMESITE MAP
Contour interval - 20 feet

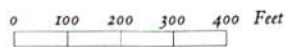


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Legend



-  Homesite line
-  Community road
-  Restricted road



Information contained herein deemed reliable though not guaranteed.

