COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET - 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX (831) 454-2131 TDD: (831) 454-2123

TOM BURNS, PLANNING DIRECTOR

August 1,2007

Planning Commission
County of Santa Crnz
701 Ocean Street
Santa Crnz, CA 95060

Agenda Date: October 10,2007
APN: 105-301-03
Application: 07-0261
Item #: 11

Subject: A public bearing to consider a proposal to rezone a single lot of record from the Special Use (SU) zone district to the Timber Production (TP) zone district.

Members of the Commission:

On May 23, 2007, the County Planning Department accepted this application for a rezoning to Timber Production (TP). This is a proposal to rezone a 23-acre parcel from the Special Use (SU) zone district to the Timber Production (TP) designation. The uses on the property consist **of a** single family residence and vacant rural acreage.

Background

This project qualifies for a rezoning under California Government Code **Section** 51113. This section allows a property owner to petition the County to rezone land to the TP zone. **The** requirements for this type of rezoning are listed in Government Code section 51113(c)[1]. The County may not place any additional requirements on this petition to rezone the property to TP. County Code **Section** 13.10.375(c) – **"Zoning** to the TP District" implements Government Code section **51** 113 and specifies the ***six*** criteria which must be met in order to rezone to TP.

---

[1] c) On or before March 1. 1977, the board or council by ordinance shall adapt a List of criteria required to be met by parcels being considered for zoning as timberland production under this section.
The criteria shall not impose any requirements in addition to those listed in this subdivision and in subdivision (d). The following shall be included in the criteria:
(1) A map shall be prepared showing the legal description or the assessor's parcel number of the property desired to be zoned.
(2) A plan for forest management *shall* be prepared *or approved as to content, for* the *property* by *a registered professional* forester.
The plan shall provide for the eventual harvest of timber within a reasonable period of time, as determined by the preparer of the plan.
(3) (A) The parcel shall currently meet the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the forest practice rules adopted by the State Board of Forestry and Fire Protection for the district in which the parcel is located, or the owner shall sign an agreement with the board or council to meet those stocking standards and forest practice rules by the fifth anniversary of the signing of the agreement. If the parcel is subsequently zoned as timberland production under subdivision (a), failure to meet the stocking standards and forest practice rules within this time period provides the board or council with a ground for rezoning of the parcel pursuant to Section 51121
(B) Upon the fifth anniversary of the signing of an agreement, the board shall determine whether the parcel meets the timber stocking standards in effect on the date that the agreement was signed.
Notwithstanding the provisions of Article 4 (commencing with Section
51130), if the parcel fails io meet the timber stocking standards, the board or council shall immediately rezone the parcel and specify a new zone for the parcel, which is in conformance with the county general plan and whose primary use is other than timberland.
(4) The parcel shall be timberland, as defmed in subdivision (f) of Section 51104.
(5) The parcel shall be in compliance with the compatible use ordinance adopted by the board or council pursuant to Section 51111.
(d) The criteria required by subdivision (c) may also include any or all of the following:
(1) The land area concerned shall be in the ownership of one person, as defined in Section 38106 of the Revenue and Taxation Code, and shall be comprised of single or contiguous parcels of a certain number of acres, not to exceed 80 acres.
(2) The land shall he a certain Site quality class or higher under
Section 434 of the Revenue and Taxation Code, except that the parcel shall not be *required* to be of the two highest site quality classes.

In accordance with County Code Section 13.10.375(c), the project meets the following six criteria for rezoning to Timber Production:

1. A map has been submitted with the legal description or assessor's parcel number of the property to be rezoned.

2. A Timber Management Plan, undated, prepared by a registered professional forester has been submitted for the property (Exhibit **E).**

3. The parcel currently meets the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the Forest Practice Rules for the district in which the parcel is located (see Exhibit **E).**

4. The parcel is timberland, as the entire parcel is capable of producing **a** minimum of 15 cubic feet of timber per acre annually and is almost entirely located within a mapped Timber Resource area.

5. The uses on the parcel are in compliance with the Timber Production Zone uses set forth in Section 13.10.372.

6. The land area to be rezoned is in the ownership of one person, as defmed in Section 38106 of the Revenue and Taxation Code, and is comprised of at least five acres **m** area.

This project qualifies for a statutory exemption (Exhibit D) in accordance with the California Environmental Quality Act and the County Environmental Review Guidelines (Article 17, Section 1703).

Conclusion

All of the criteria have been met for rezoning this parcel to the Timber Production zoning designation. All required findings can be made to approve this application and the rezoning is consistent with the General Plan policies and land use designations.

Recommendation

Staff recommends that your Commission adopt the attached Resolution (Exhibit **A), sending** a recommendation to the Board of Supervisors for approval of Application No. 07-0261 based **on** the attached findings (Exhibit B).

EXHIBITS

A. Planning Commission Resolution, with Ordinance/ Findings
B. APN Map
C. Location, Current Zoning and General Plan Designation **Maps**
D. Notice of Exemption from CEQA
E. Timber Management Plan by Webster & Associates dated May 23,2007

Maria Porcila Perez
Proiect Planner
Development Review

Reviewed By: _____
Mark Deming
Assistant Planning Director

BEFORE THE PLANNING COMMISSION
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

RESOLUTION NO._____

On the motion of commissioner
duly seconded by Commissioner
the following Resolution is adopted:

PLANNING COMMISSION RESOLUTION
SENDING RECOMMENDATION TO THE BOARD OF SUPERVISORS
ON PROPOSED AMENDMENT TO THE ZONING ORDINANCE

WHEREAS, the Planning Commission has held a public hearing on Application No. 07-0261, involving property located on the north side of Haines Road (a private, unmarked right of way) approximately 0.67 miles east of the three-way intersection of Haines Road with Rider Road and Rider Ridge Road (711 Rider Road), and the Planning Commission has considered the proposed rezoning, all testimony and evidence received at the public hearing, and the attached staff report.

NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission recommends that the Board of Supervisors adopt the attached ordinance amending the Zoning Ordinance by changing property from the Special Use (SU) zone district to the Timber Production zone district.

BE IT FURTHER RESOLVED, that the Planning Commission makes findings on the proposed rezoning as contained in the Report to the Planning Commission.

PASSED AND ADOPTED by the Planning Commission of the County of Santa Cruz, State of California, this _____ day of _____, 2007, by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSENT: COMMISSIONERS
ABSTAIN: COMMISSIONERS

_____
Chairperson

ATTEST: _____
MARK DEMING, Secretary

APPROVED AS TO FORM:
_____
COUNTY COUNSEL

EXHIBIT A

ORDINANCE NO. _____

ORDINANCE AMENDING CHAPTER 13 OF THE SANTA CRUZ COUNTY CODE CHANGJNG FROM ONE ZONE DISTRICT TO ANOTHER

The Board of Supervisors of the County of Santa Cruz ordains as follows:

SECTION I

The Board of Supervisors finds that the public convenience, necessity and general welfare require the amendment of the County Zoning Regulations to implement the policies of the County General Plan and Local Coastal Program Land Use Plan regarding the timber resource property located on the north side of Haines Road (a private, unmarked right of way) approximately 0.67 miles east of the three-way intersection of Haines Road with Rider Road and Rider Ridge Road (711 Rider Road); finds that the zoning to be established herein is consistent with all elements of the Santa Cruz County General Plan and the Santa Cruz County Code, as modified by the *Big Creek* decision; and finds and certifies that the project is subject to a statutory exemption under the California Environmental Quality Act.

SECTION II

The Board of Supervisors hereby adopts the Zoning Plan Amendment as described in Section III, and adopts the findings in support thereof without modification as set forth below:

1. The proposed zone district will allow a density of development and types of uses which are consistent with the objectives and land use designations of the adopted General Plan; and

1. The proposed zone district is appropriate for the level of utilities and community services available to the land; and

2. The character of development in the area where the land is located has changed or is changing to such a degree that the public interest will be better served by a different zone district; and

3. The property meets the requirements of Government Code section 51113 or 51113.5 and County Code Section 13.10.375(c).

EXHIBIT A

SECTION III

Chapter 13.10 - Zoning Regulations of the Santa Cruz County Code is hereby amended by amending Section 13.10.210 - Zoning Plan to change the following properties from the existing zone district to the new zone district as follows:

Assessor's Parcel Number	Existing Zone District	New Zone District
105-301-03	Special Use (SU)	TP

SECTION IV

This ordinance shall take effect on the 31st day after the date of final passage.

PASSED AND ADOPTED THIS _____ day of _____ 2007, by the Board of Supervisors of the County of Santa Cruz by the following vote:

AYES: SUPERVISORS
NOES: SUPERVISORS
ABSENT: SUPERVISORS
ABSTAIN: SUPERVISORS

___ _____
Chairman of the Board of Supervisors

ATTEST: _____
Clerk of the Board

APPROVED AS TO FORM:

_____
Assistant County Counsel

Exhibit: Rezoning Map

DISTRIBUTION: County Counsel
Planning
Assessor
County
GIS

EXHIBIT A

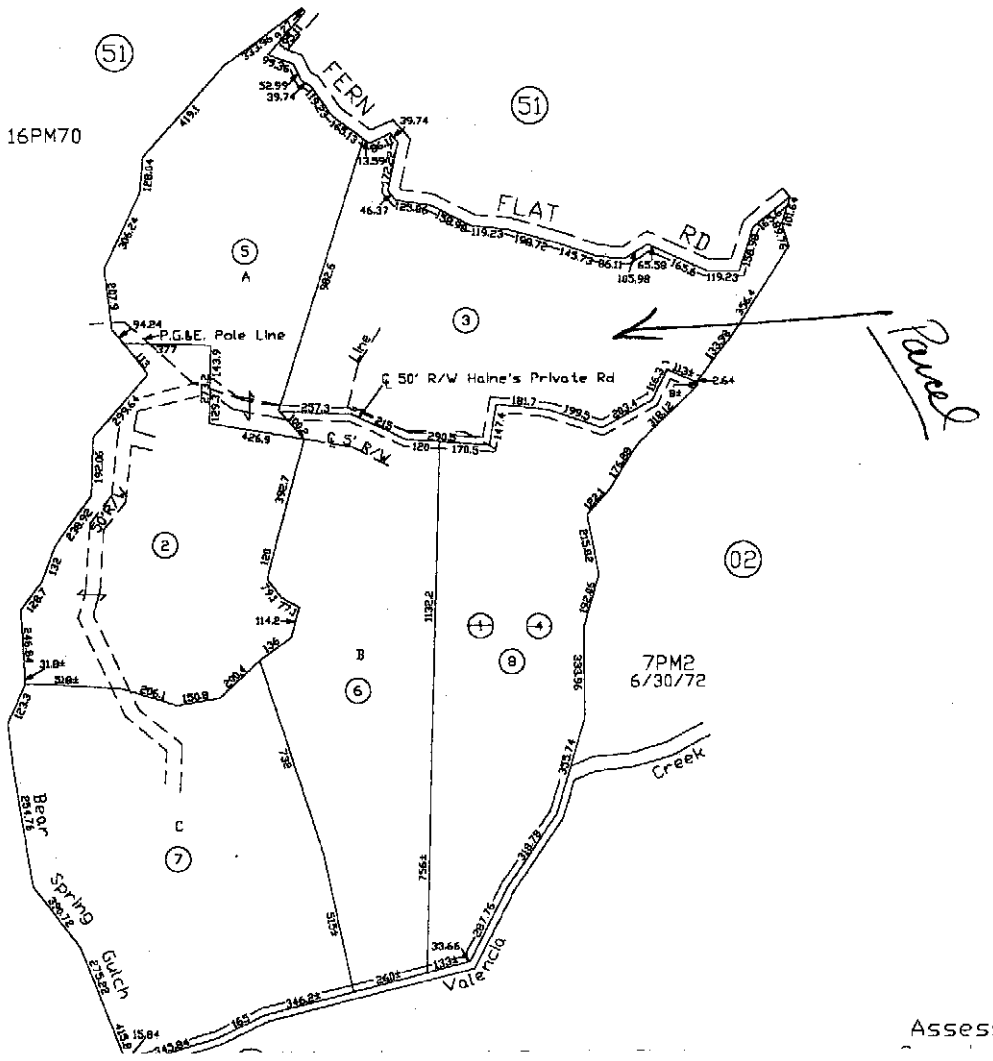
FOR TAX PURPOSES ONLY

THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.

SOQUEL AUGMENTATION RANCHO
POR. SECS. 27 & 28, T.10S., R.1E., M.D.B. & M.

Tax Area Code
69-266

105-30



N
1"= 400'

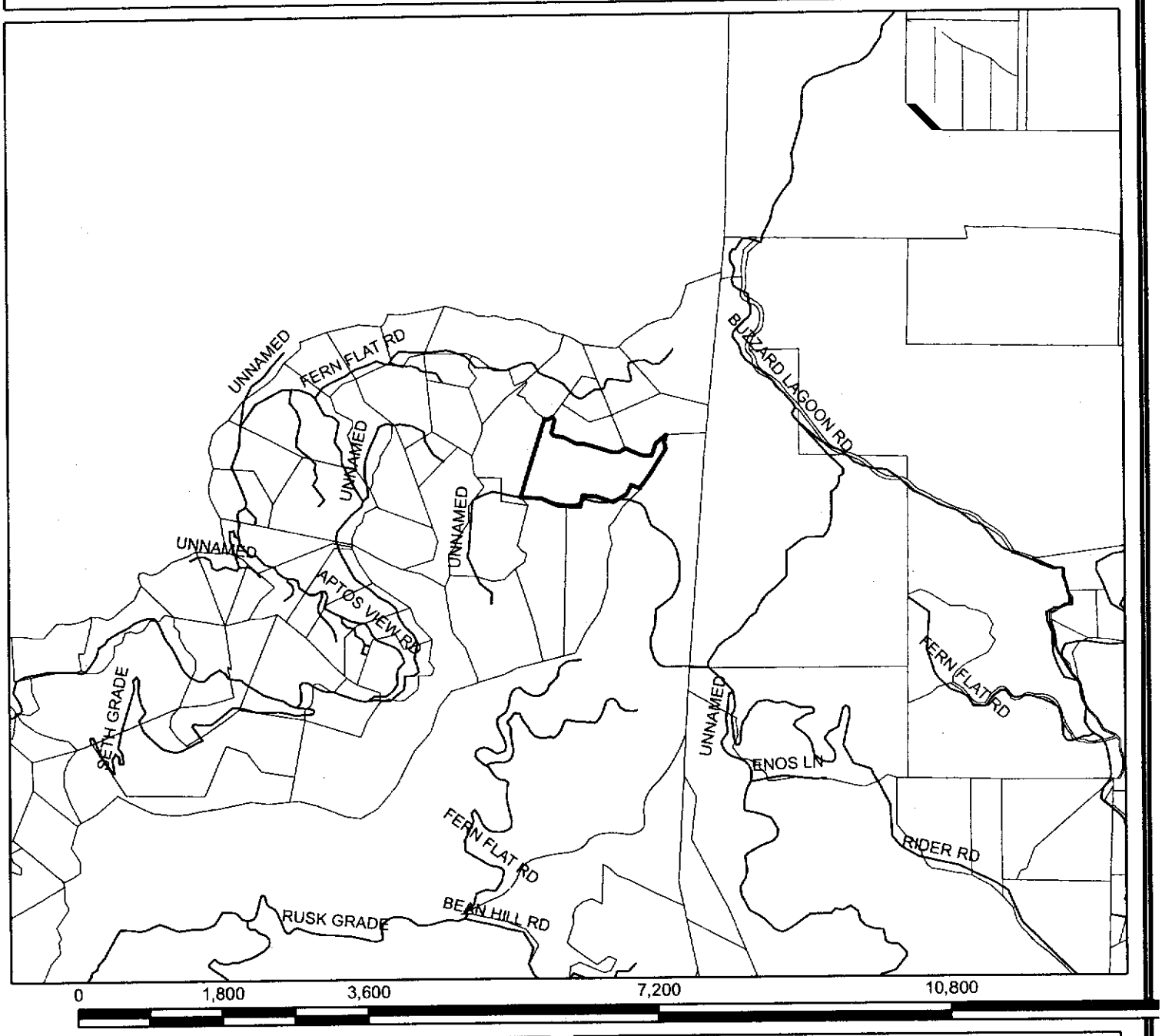
Assessor's Map No. 105-30

EXHIBIT B

- 9 -

nicoly redrawn 6/19/98 KSA
3/01 nvm (changed page refs.)

Location Map



LEGEND

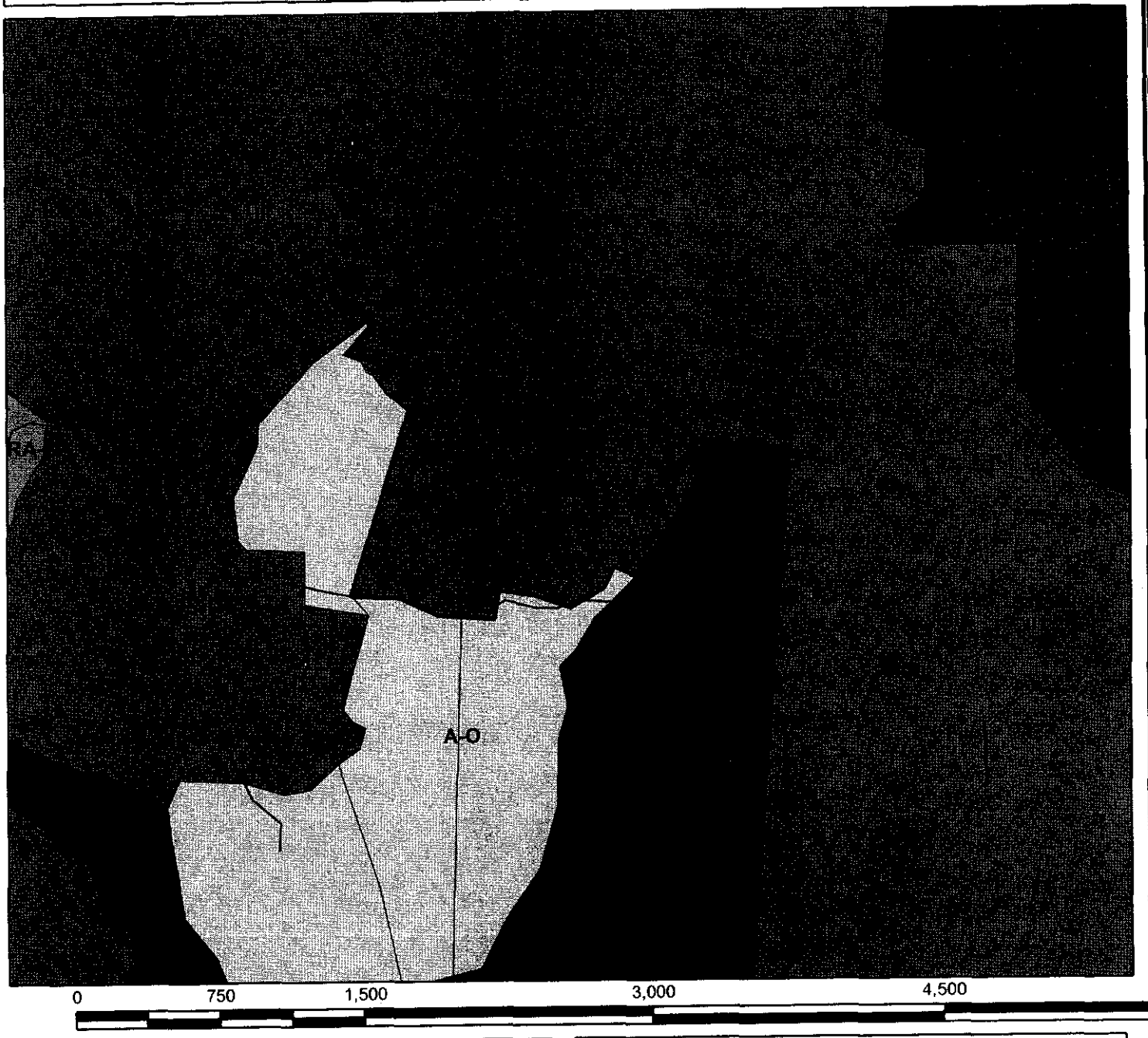
- APN: 105-301-03
- Streets
- Assessors Parcels
- State Highways

N
W E
S

Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT C

Zoning Map



LEGEND

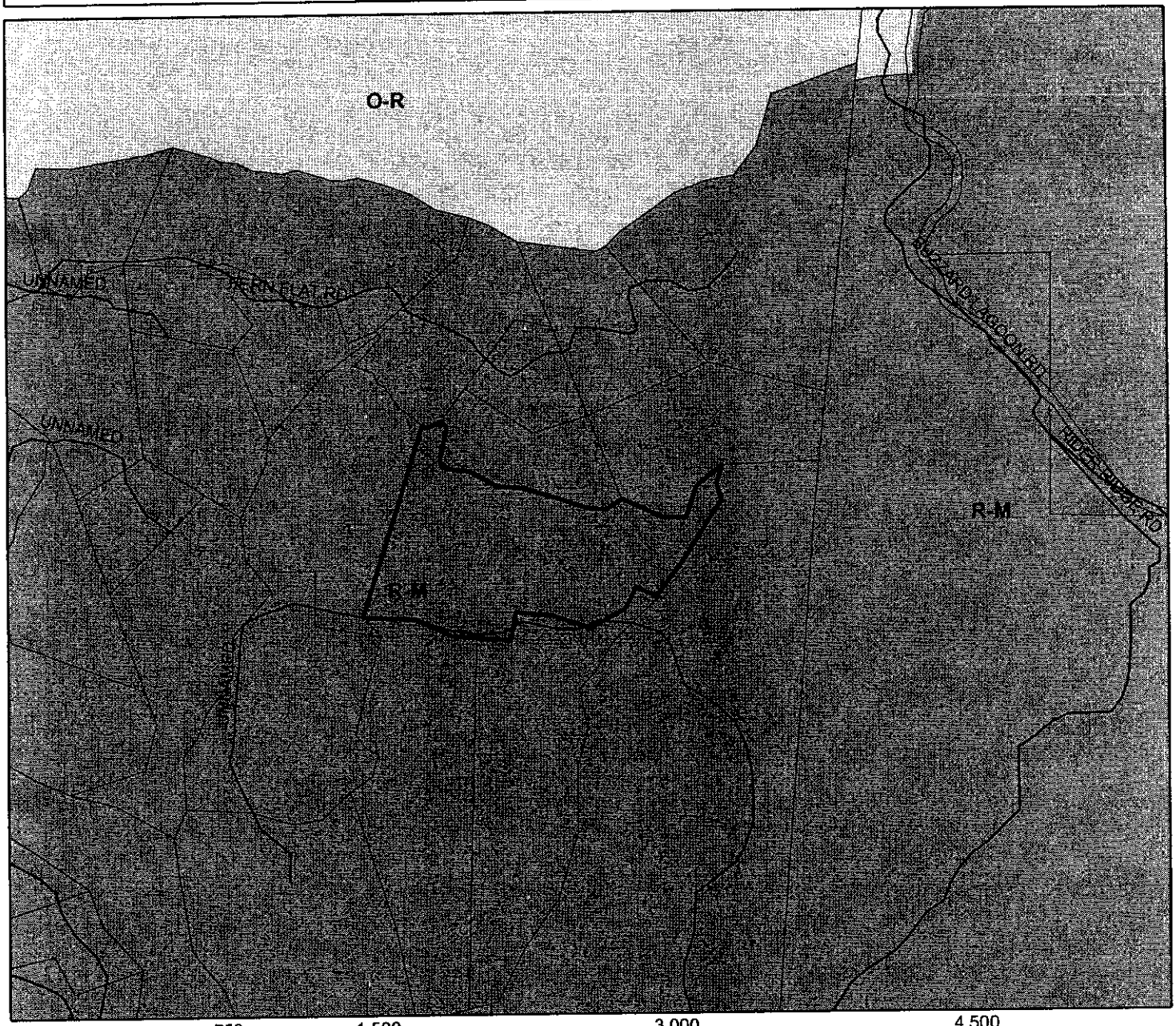
- APN: 105-301-03
- Streets
- Assessors Parcels
- AGRICULTURE
- AGRICULTURE RESIDENTIAL
- SPECIAL USE
- TIMBER PRODUCTION

N
W E
S

Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT C

General Plan Designation Map



LEGEND

- APN: 105-301-03
- Streets
- Assessors Parcels
- Parks and Recreation
- Residential-Mountain

N
W E
S

Map created by
County of Santa Cruz
Planning Department
August 2007

EXHIBIT C

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 07-0261
Assessor Parcel Number: 105-301-03
Project Location: Property located on the north side of Haines Road (a private, unmarked right of way) approximately 0.67 miles east **of** three-way intersection of Haines Road with Rider Road and Rider Ridge Road.

Project Description: Rezone a single parcel from the Specail Use (SU) zone district to the Timber Production (TP) zone district.

Person or Agency Proposing Project: Roy Webster

Contact Phone Number: (831) 462-6237

A. ____ The proposed activity is not a project under EQA Guidelines Section 1 '8.
B. ____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060(c).
C. ____ **Ministerial Proiect** involving only the use of fixed standards or objective measurements without personal judgment.
D. __X__ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285). [Section 1703]

In addition, none of the conditions described in Section 15300.2 apply to this project.

Maria Porcila Perez, Project Planner

Date: 8/14/07

EXHIBIT D

WEBSTER & ASSOCIATES
2-2590 EAST CLIFF DRIVE
SANTA CRUZ, CA 95062
831-462-6237

May 23,2007

County of Santa Cruz Planning Department
Attn.: Robin Bolster-Grant
701 Ocean Street, 4th Floor
Santa Cruz, CA 95060

RE: TPZ Rezoning of Assessor's Parcel # 105-301-03

Dear Ms. Bolster-Grant,

This letter requests rezoning Santa Cruz County Assessor's Parcel # 105-301-03 (23 acres) from its current SU-Mountain Residential designation to the Timber Production Zone. The parcel is owned by Walton Haines and Barbara Haines and meets the following criteria:

1. The parcel currently meets the timber stocking standards as set forth in Section 4561 of the Public Resources Code and the Forest Practice Rules adopted by the State Board of Forestry for the Southern Subdistrict of the Coast Forest District (see Forest Management Plan).

2. The parcel meets the definition of "Timberland" per Section 51104(f) of the Government Code (see FMP).

3. The parcel meets the permitted use requirements per County Code Section 13.10.372.

4. The parcel has been harvested previously under an approved Timber Harvesting Plan (THP) # 1-93-72/SCR (1993)

5. The parcel meets the minimum 5-acre size requirement (23 acres).

EXHIBIT E

Attached in the TMP is an Assessor's Parcel Map.

Sincerely,

Roy Webster

Roy Webster
RPF # 1765

STOCKING ANALYSIS, APN 105-301-03

Background: Government Code Section 51113(c)(3)(A) requires that parcels meet the timber stocking standards set forth in Section 4561 of the Public Resources Code and Section 913.8(a)(1) of the California Code of Regulations (CCR). The timber stocking standards pertaining to CCR Section 913.8(a) are met if the timberland contains an average, minimum post-harvest basal area of at least 75 square feet/acre for Site III land. The requirements of PR C 4561 are less stringent.

Analysis: Field review of the property suggests that the average dominant redwood trees on the property exhibit Site III characteristics. Site III characteristics are defmed under CCR 1060 as lands capable of growing redwood tress of 135-154 feet in 100 years. The parcel has been selectively harvested in the past and has demonstrated the ability to sustain periodic harvests while maintaining the minimum basal area requirements cited above. Current stocking is 173 square feet of basal area per acre, well above the required standards.

WOOD FIBER ANALYSIS

Background: Government Code Section 51113(c)(4) requires that parcels zoned timber production must meet the definition of "Timberland" which is defined in Government Code Section 51104(f) as: "Privately owned land, or land acquired for state purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre".

Analysis Field review of the property suggests that the parcel is capable of producing wood fiber in excess of 15 cubic feet/acre/year. Soil productivity analysis confirms this observation. The soil types are Lompico Variant Loam and Ben Lomond-Felton complex, which are well-suited to the production of redwood and Douglas-fir timber and based on field review, are currently producing well in excess of 15 cubic feet of wood fiber/acre/year.

COMPATIBLE USE ANALYSIS

The primary land use on the parcel over the last several decades has been commercial timber production with one single family residence.

COMBINED TIMBER MANAGEMENT PLAN

FOR

DUARD & KATHLEEN LA FRENTZ
APN 105-301-05

WALTON HAINES-BARBARA HAJNES
APN 105-301-03

WALTON HALVES-RON & LOIS DE BENEDETTI
APN 105-301-08

RON & LOIS DE BENEDEM'I
APN 105-301-06

PREPARED BY
ROY W. WEBSTER
REGISTERED PROFESSIONAL FORESTER
LICENSE NUMBER 1765

2007

TlMBER MANAGEMENT PLAN

TABLE OF CONTENTS

TEXT

3

ADDENDUM

A. 1981 CFIP (California Forest Improvement Program) project description.

B. 1993 TIMBER HARVEST PLAN (includes APN 105-301-02&07 which are not part of this rezoning application).

C. Soil description

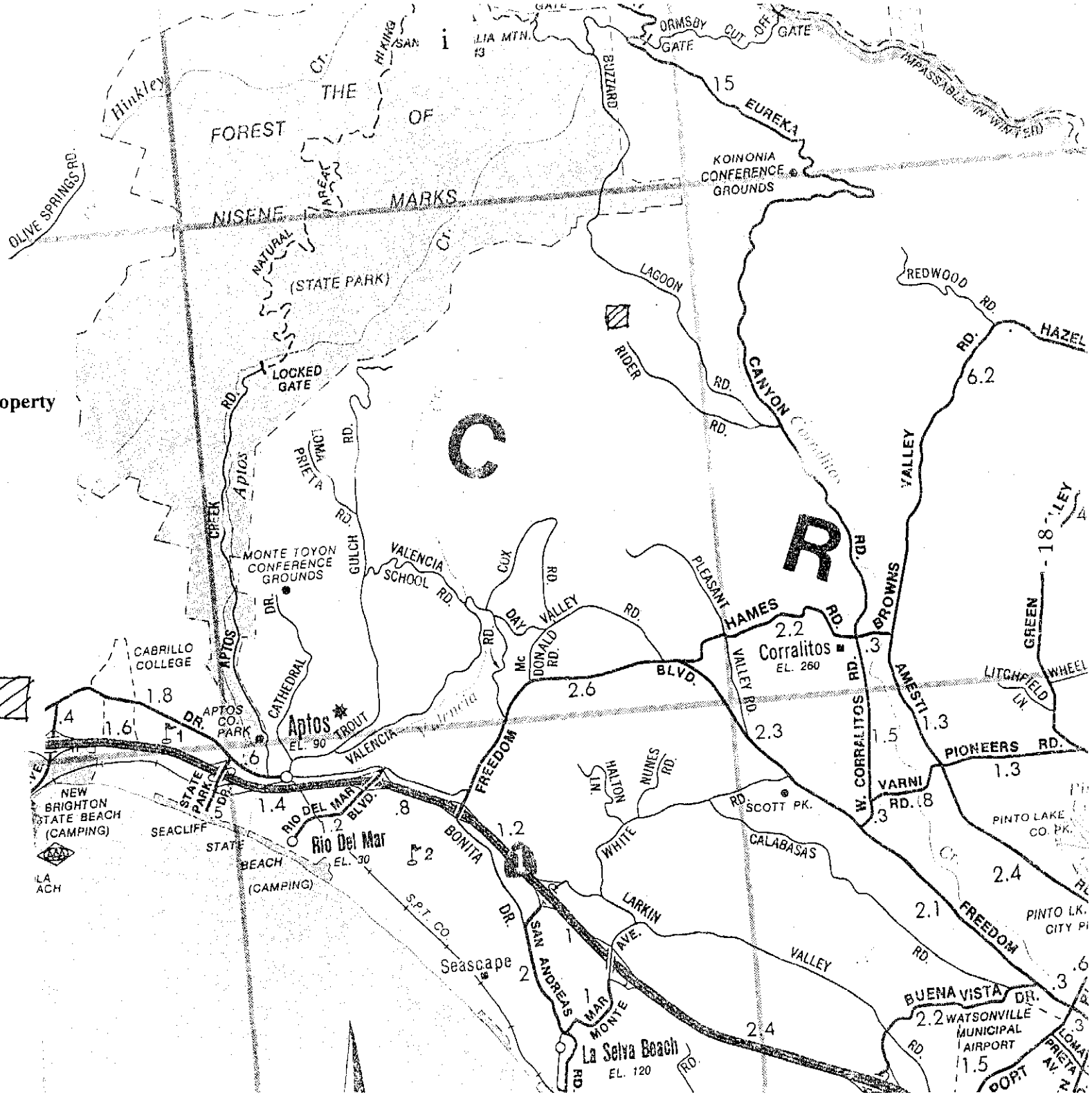
D. Tree Inventory

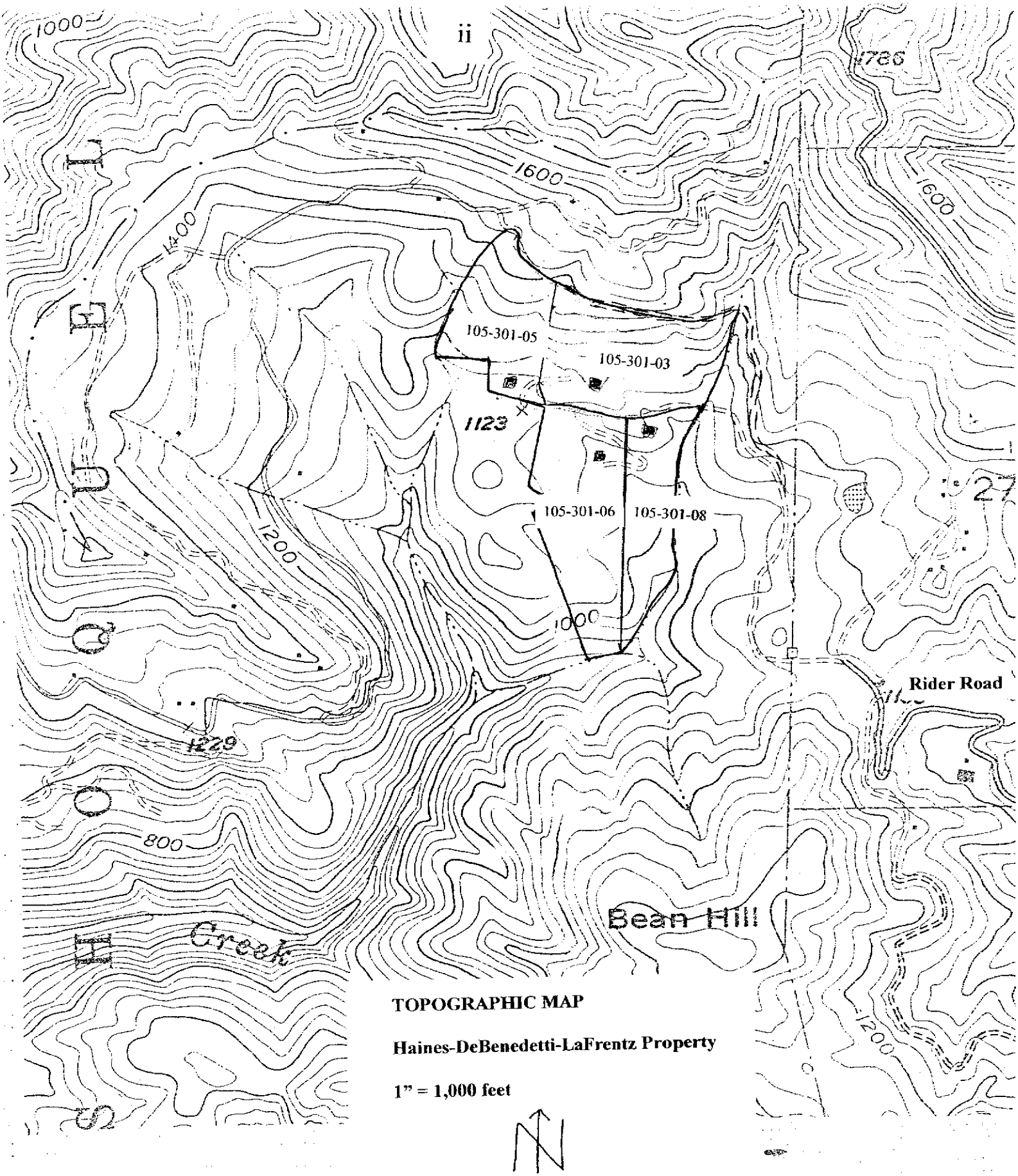
GENERAL LOCATION MAP

Haines-DeBenedetti-LaFrentz Property

1" = 0.9 MILES

Property Location



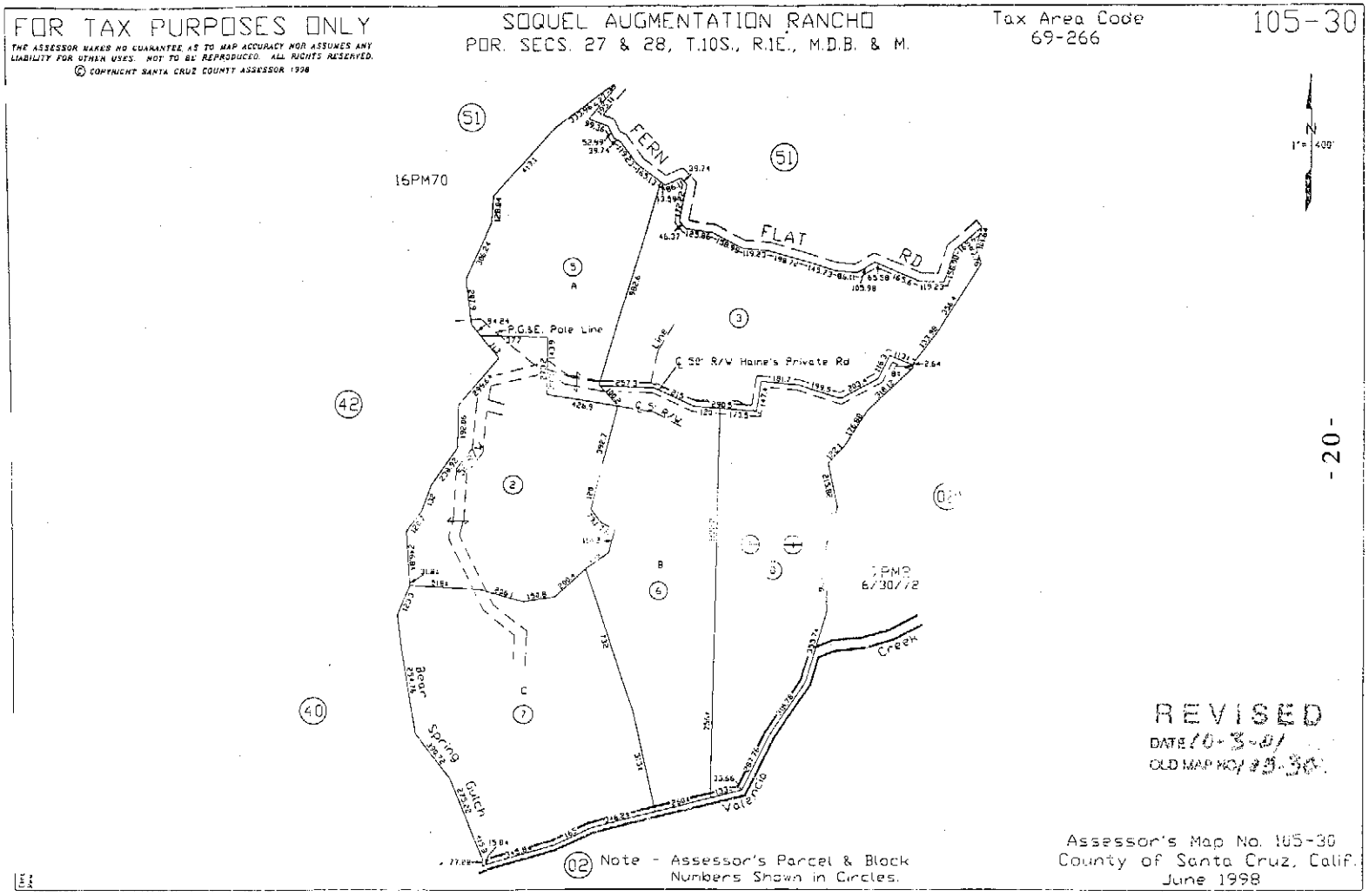


TOPOGRAPHIC MAP

Haines-DeBenedetti-LaFrentz Property

1" = 1,000 feet

N


FOR TAX PURPOSES ONLY
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
© COPYRIGHT SANTA CRUZ COUNTY ASSESSOR 1998
SOQUEL AUGMENTATION RANCHO
POR. SECS. 27 & 28, T.10S., R.1E., M.D.B. & M.
Tax Area Code
69-266
105-30
16PM70
FERN
FLAT
RD
P.G.S.E. Pole Line
C 50' R/W Haine's Private Rd
C.S. R/W
Bear
Spring
Gulch
Valencia
Creek
1PM3
6/30/72
REVISED
DATE 10-3-01
OLD MAP NO 99-30
Note - Assessor's Parcel & Block Numbers Shown in Circles.
Assessor's Map No. 105-30
County of Santa Cruz, Calif.
June 1998
- 20 -

PROPERTY DESCRIPTION

OWNER'S NAME - Duard & Kathleen La Frentz

ASSESSOR'S PARCEL NUMBER - 105-301-05

SIZE OF PARCEL – 17 acres.

OWNER'S NAME – Walton Haines – Barbara Haines

ASSESSORS PARCEL NUMBER - 105-301-03

SIZE OF PARCEL – 23 acres.

OWNER'S NAME – Walton Haines – Ron & Lois De Benedetti

ASSESSOR'S PARCEL NUMBER - 105-301-08

SIZE OF PARCEL – 21 acres.

OWNER'S NAME – Ron & Lois De Benedetti

ASSESSOR'S PARCEL NUMBER - 105-301-06

SIZE OF PARCEL – 21 acres.

The parcels are located in the headwaters of the Valencia Creek watershed. There is one class 1 watercourse which extends **from** the northwest boundary of APN 105-301-05 down to the water diversion located near the southwest boundary of the same parcel. Below the diversion (off **the** property) it is a class 2 watercourse. There is a class 2 watercourse which is the east boundary **of** the unit. There are four class **3** watercourses **as** well as a pond adjacent to the DeBenedetti house. Refer to the 1993 THP map for locations.

ACREAGE IN DIFFERENT VEGETATION TYPES - The property **is** all redwood/tanoak type. There are some areas of grassland and/or brush within the stand.

SITE CLASS - Site Class III

SOILS
Subject parcels are of the Lompico Variant loam (# 145) and Ben Lomond-Felton complex (#114) **per** the Soil Survey of Santa Cruz County, California, USDA, Soil Conservation Service, issued August 1980. **See** Addendum C for a description of the soils.

PARCEL TIMBER HARVEST HISTORY

The parcels subject of this Timber Management Plan (TMP) were purchased by the Haines family in 1894. The redwood was clear-cut shortly after **the** turn of the century. Some residual, defective trees were retained. Since that time and up to **the** first selective harvest other wood products were harvested from the tree farm: cordwood, tanbark, fence posts and grape stakes were among **the** products. Selective timber harvests were conducted in 1958,1967, 1978, and 1993.

APPROVED STATE OR COUNTY TIMBER HARVEST PLANS & HAUL ROUTE

A copy of the most recent THP is appended to this Plan (Addendum B). The haul route was from the property to Rider Road, south on Eureka Canyon Road, continue on W. Corralitos Road, northwest on Freedom Blvd. to Highway 1, then on to the sawmill.

MANAGEMENT OBJECTIVES AND GOALS

The objective and goal is to produce an even flow of high quality redwood logs through periodic harvesting and recommended forest improvement projects. Attached is a copy of the California Forest Improvement Project conducted in 1981 (Addendum A).

RECOMMENDED LOGGING SYSTEMS

The recommended logging system is crawler tractor and/or rubber tired skidder which has been utilized in the past harvests.

PRESENT AND FUTURE STAND CONDITIONS

The present stand is a well spaced and stocked second growth redwood stand consisting of 5 age classes resulting from the previous harvest. The age classes are 90 years old, 50, 40, 30, and 15 years old. There are no ancient redwoods (200 years +) located on the tract.

A 2.1% timber cruise was conducted to ascertain stand conditions and growth **(see** Addendum D, Inventory). It shows trees per acre by DBH (diameter at breast height) class, basal area and board foot volume. **We** estimate that **the** stand currently has **61** trees per acre 12 inches or greater in diameter, 173 square feet of basal area **per** acre and **8,700** board feet per acre. It is estimated that there is a total volume of **670,646** board feet **on** the **entire** unit.

Growth was highly variable, ranging from **4** rings per inch to 13 rings per inch. The average was 8 rings per inch (i.e. the tree took 8 years to grow one inch in diameter). Growth was more dependant on location in the canopy then size class. Open grown trees **or** those which had been released by removal of competition grew the fastest. Total average annual growth is estimated to be 3% per year.

The future stand will be all-aged with a somewhat greater variety of tree sizes. The oldest trees **will** be in the 60 **to** 80 year age class. It will have a roughly equal number **of** crop trees in each age/size class. It will have a greater diversity of habitats.

PRESENT AND FUTURE GROWTH
Current growth is near optimum and will be maintained by periodic harvests leaving a well spaced, productive stand.

CUTTING PRESCRIPTION
The even flow of high quality redwood logs from any stand **is** guaranteed by doing nothing more than applying a simple cutting prescription. Cut 50 percent of the **trees** 18 inches in diameter and larger. Take the largest trees first.

HARVEST CYCLES
Don't cut again until some* dominant redwoods, not growing in advantageous habitat such as near a spring or stream, have grown **six** inches in diameter. (*A number equal to two trees for every 10 acres is enough.) This will work out to a cutting cycle of 10 to 15 years.

REGENERATION
Since redwoods sprout from the stump, regeneration is assured without any intervention.

FUTURE GROWTH MODEL
The cutting prescription will produce an even flow of harvest trees, mostly 24 to 30 inches in diameter. Assuming just one replacement tree for each tree cut. ultimately the distribution of crop trees prior to each harvest will **look** something like this:

TREE DISTRIBUTION
50% **CUT**

NUMBER	DIAMETER
20%	24-30"
20%	18-24"
20%	12-18"
20%	6-12"
20%	0-6"

COMMENCEMENT OF HARVESTMG
Harvesting should commence as soon as the landowner's economic needs and the market for timber will allow. but within the next five years.

MANAGEMENT UNITS
The entire property is one management unit

FOREST IMPROVEMENT
The stand will be monitored over time and forest improvement projects conducted if necessary to maximize growth.

SNAGS AND DOWNED WOOD INVENTORY.
There are no significant snags or downed wood. Those **present** will he retained.

FISH AND WILDLIFE MANAGEMENT
Fish and **wildlife** management is not proposed but will be maintained **as** a bi-product **of** this timber management plan.

FIRE PROTECTION PLAN
Maintain appropriate clearing **for fire** protection around the residences.

RECREATION
There is only private recreation on the parcel, such as hiking and **horse** back riding.

URBAN INTERFACE ISSUES
Parcels in the vicinity are mostly forested tracts on **five** acre and larger parcels. Timber harvesting **is** a periodic and accepted practice in this area. Minimal opposition ***to*** harvesting has occurred in the past and the **same** is expected in **the future.**

EROSION HAZARD INVENTORY AND PLAN
Only minimal erosion has occurred in the past due **to** suitable timber harvesting operations and continual maintenance **of erosion** control devices between harvests. **The same** is expected in the **future.**

PROPOSED DEVELOPMENT
There is a Granny Unit proposed for APN 105-301-03. Septic, water and soils test have **been** conducted. **They** are waiting for issuance of the building permit.

ANALYSIS OF ANY CONFLICTS BETWEEN PROPOSED DEVELOPMENT AND FUTURE HARVESTING
There are none.

ADDENDUM A

CFIP PROJECT DESCRIPTION - 1981

H D RANCH

The HD Ranch is composed of 66 acres, 59 of which are forested with stands of second growth redwood and Douglas fir with a substantial hardwood component ranging from 30-100 percent locally. The remaining 7 acres are in grasslands being invaded by brush species. An area of 16.5 acres in the southern portion of the property is to be treated silviculturally to maximize conifer growth. The treatment area is composed of Lompico Variant loam and Ben Lomond-Felton complex soils. The acreage is on gently sloping terrain. No environmental damage will result from the proposed activities. The productive potential of the area has been determined to be Site III. The 16.5 acres consists of locally variable conifer/hardwood stands which has been determined by ground investigation to be composed of 60 percent conifer and 40 percent hardwood trees. Thus overall 6.6 acres is in hardwoods and 9.9 acres is in conifers.

Site Preparation: 6.6 acres

Treatment on the hardwood areas consists of the felling and removal of most of the trees, allowing some leave trees for soil stability and site shading. The larger waste material generated by the recent conifer logging will be removed to leave room for planting the seedlings. The slash will be piled at a landing site for burning and the fuelwood generated will be removed from the property for sale.

Due to the expenses which will be incurred, far exceeding the ceiling price listed for site preparation, it is felt that a commercial fuelwood operation carried out simultaneously with site preparation would be most advantageous both from an economic and environmental standpoint. Costs would preclude the removal of the fallen hardwoods and logging slash unless added revenues could be realized by the sale of fuelwood. The removal of said debris would produce maximum acreage for planting, which would be impossible were the trees merely felled and lopped. The fallen hardwoods and combustible debris would pose a substantial fire hazard in the area. Thus the removal of this material

will have an added effect of virtually eliminating the danger of a ground fire.

It is desirable to carry out the fuelwood and site preparations together both for economic and environmental reasons. If the operations were to be performed separately, the objectives of the plan would not be feasible. Removal of the fuelwood and subsequent cleanup (lopping) for inspection, and then re-entry for site preparation would greatly increase the cost of the operation and would nullify the possibility of the fuelwood operation financing a more complete cleanup of the area. From an environmental standpoint it is desirable to make one entry into the treatment area, minimizing soil disturbance and compaction. It should be stated here that this is an experimental operation designed to ascertain whether a clean, fully utilized planting area can be achieved economically.

Planting 6.6 Acres

The prepared area will subsequently be planted with conifer seedlings; bare root stock of 1-0 redwood and 2.0 Douglas fir. Seedlings will be planted at 9' x 9' spacing or 550 trees per acre. A total of 3,630 seedlings will be planted. If weather conditions permit planting will be carried out in the spring of 1981. Otherwise, planting will take place in the winter of 1981-1982.

Pre Commercial Thinning 9.9 Acres

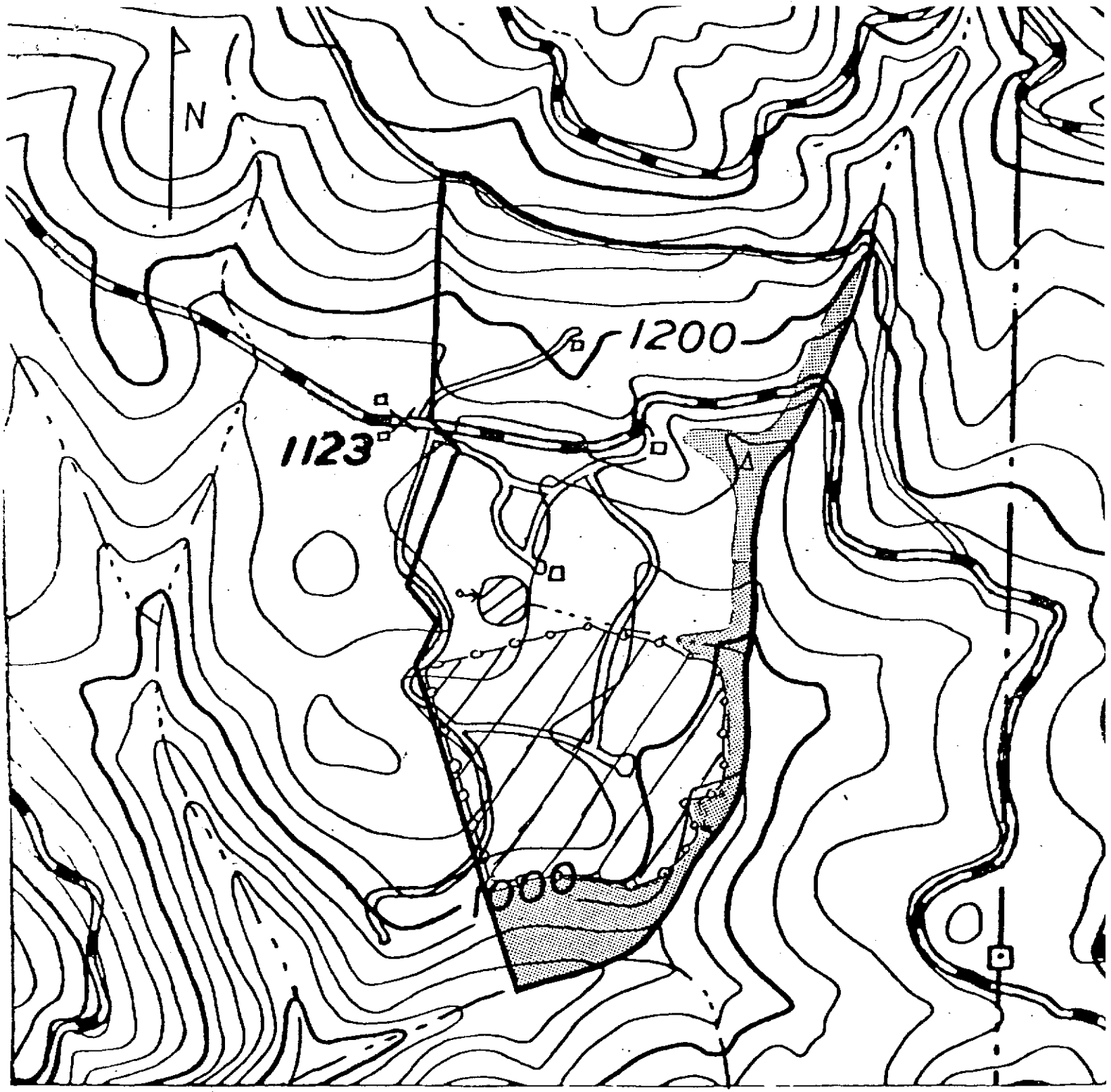
The remainder of the treatment area consists of scattered redwood clumps and Douglas fir. The redwood clumps will be thinned so as to leave 2 to 5 healthy sprouts (5-10 years old) per stump, consistent with USDA Forest Service Research Note PSW-290 1974 as explained in the management plan. Larger saplings (to 10" DBH) will also be thinned. The less vigorous and damaged trees in the clumps will be removedto reduce space and nutrients competition, maximizing growth. Dense stands of Douglas fir reproduction will be treated in a like manner. This operation will be carried out simultaneously with the

site preparation/fuelwood operation so that the majority of the slash can be removed.

Erosion Control

To minimize soil erosion and stream siltation it will be necessary to place a culvert at the point where the road to be graveled (described in management plan) crosses the drainage from the pond. This area has washed out in the past and is partially eroded at present. The culvert wil be set and rock placed on the sides to prevent further damage.

To ascertain the amount of erosion on the two drainages flowing into Valencia Creek, described in the management plan, devices are to be installed to measure both vertical and lateral soil loss. Graduated steel bars provide the most economical measurement devices. Driven into the ground on the bottom and sides of the washouts, these bars can be periodically measured. In one or two seasons the erosive action taking place can be determined. Then if appropriate action is deemed necessary, an erosion control program can be put into effect.



HD Ranch, Owners: W.P. Haines &
Ron DeBendetti
Por. Sec. 27 &28 T.10S. R.1E.
Santa Cruz County
Scale: 1" = 500'
Contour Interval 40'

Prepared by D.W. Norris
R.P.F. #1906
January 14, 1981

Legend

Main road
Secondary road
Pond
Untreated (steep) areas
Local slide
Treatment area

Your Copy

ADDENDUM B

STATE OF CALIFORNIA

DEPARTMENT OF FORESTRY

TIMBER HARVESTING PLAN

FOR ADMINISTRATIVE USE ONLY

THP No._____

Date Recd_____

Date Filed_____

Date Approved_____

This Timber Harvesting Plan (THP) form, when properly completed, is designed to comply with the Forest Practice Act (FPA) and Board of Forestry rules. See separate instructions for information on completing this form. NOTE: The form must be printed legibly in ink or typewritten.

1. TIMBER OWNER(S): Name **Sequoia Forest Industries**

Address **P. O. BOX 305**

city **Dinuba,** state **CA,** zip **93618 , Phone (209) 591-2000**

2. TIMBERLAND OWNER(S): Name **H-D Ranch (Haines-DeBenedetti) Walton P. Haines; Ronald & Lois DeBenedetti; Daniel E. Haines; and Duard W. & Kathleen E LaFrentz.**

Address **731 Rider Road**

city **Watsonville** state **CA,** Zip **95076,** Phone **(408) 688-6230**

3. TIMBER OPERATOR(S): Name **Dennis Pelphrey**

Address **15720 Stetson Road** LICENSE # **A-3466**

City **Los Gatos,** State **CA,** zip **95030,** Phone **(408) 353-3538**

4. PLAN SUBMITTER(S): Name **H-D Ranch (Same as # *2)***
If the plan submitter is different from 1,2, or 3 explain authority to submit plan:

N/A

5. Person to contact on-site who is responsible far the conduct of the operation:

Name: **Dennis Pelphrey**

Address 15720 Stetson Road

City **LOS Gatos,** state **CA,** zip **95030 ,** Phone **(408) 353-3538**

6. RPF preparing the THP: Name: **Robert F. Krohn**

Address **P. O. BOX 305** Registration Number **1049**

city **Dinuba,** state **CA,** zip **93618,** Phone **(209) 591-2000**

1

7. Expected commencement date of timber operations: April 1st, 1993 for falling and April 15th, 1993 for skidding and hauling.

a. Expected completion date of timber operations: Within one year of plan approval.

9. Forest products to be harvested: Sawlogs

10. The timber operation is to be within: (check the appropriate boxes)

1. [ ] Coast Forest District
2. [ ] Northern Forest District
3. [ ] Southern Forest District
4. [X] Southern subdistrict of Coast Forest District
5. [ ] High-Use Subdistrict of Southern Forest District

11. Location of the timber operation by legal description:

Base and Meridian: [X] Mount Diablo, [ ] Humboldt, [ ] San Bernardino

Section	Township	Range	Approximate Acreage	County	(Optional, Assessors Parcel No.)
27&28	10S	1E	133 *	Santa Cruz	105-301-03,06&08 105-301-02&07 105-301-05

*Property is in Soquel Augmentation Rancho- Sections are projected. There are homesites with homes on the property.

TOTAL ACREAGE 133

12. [ ] Yes [X] No Is a timberland conversion permit in effect? If Yes, list permit number and date of expiration: _____

13. [ ] Yes [X] No Is there a THP on file with CDF for any portion of the plan area for which a report of satisfactory stocking has not been issued by CDF? If yes, identify the THP number: _____

14. [X] Yes [ ] No Is any part of the plan within a special treatment area, Tahoe Regional Planning Agency jurisdiction. or a county which has special rules? If yes, identify the special area: Santa Cruz County.

SILVICULTURE

15. Check the method or treatments which are to be applied, and provide any other information required by the rules in an addendum:

1 [ ] Clearcutting
2 [ ] Shelterwood, preparatory step
3 [ ] Shelterwood, seed step
4 [ ] Shelterwood, removal step
5 [ ] Seed tree, seed tree step
6 [ ] Seed tree, seed tree removal step
7 [X] Selection - designate basal area stocking standards to be met: 100 sq.ft. Basal Area/acre, Site 11, 913.8(a) .
8 [ ] Commercial thinning - designate basal area stocking standards to be met: _____
9 [ ] Sanitstiw salvage - uhen will stocking be met: _____
10 [ ] Special Treatment areas
11 [ ] Rehabilitation of understocked areas
12 [ ] Alternate prescriptirm
13 [ ] Transition method

NOTE: There are no publicly owned preserves or recreation areas adjacent to the property. Article 961.8, Buffer Zones, does not apply.

NOTE: Where the level of stocking is based upon timberland site, timberland sites must be shown on the map.

16.a. [1 Yes [X] No Are any exceptions to the standard silvicultural methods or treatments permitted in the rules proposed for this plan? If yes. explain and justify in an addendum.

b. [1 Yes [X] No Will artificial regeneration be required to restock the logged area?

17. [ ] Yes [X] No Are broadleaf or optional species proposed for management? See item 18.

18. [1 Yes [X] Yo Are broadleaf or optional species to be used to meet stocking standards?
If the answer to 17 or 18 is yes. list the species and provide the information required by the rules:
N/A .

HARVESTING PRACTICES AND EROSION CONTROL

19. Indicate the type of yarding systems to be used this plan:

1[X] Tractor, skidder, forwarder 2[1 Balloon, helicopter 3[ ] Cable. ground-lead
4[1 Cable, high-lead 5[1 Cable. skyline 6[1 Animal
7[ ] Other: _____

20. [I Yes [XI NO Will tractor constructed layouts be used?

21. [X] Yes [ ] No Will tractors be used for directional tree pulling?

We will be using jacks in most cases but an occasional tree may have to be pulled with mobile equipment.

Check items 22 through 25 that apply to the use of tractors.

22. [1 Yes [X] No Operations on unstable soils of slide areas?
23. [X] Yes [1 No Operations on slopes over 65%?
24. [X] Yes [1 Yo Operations on slopes over 50% with high of extreme EHR?
25. [1 Yes [X] No Operations within cable yarding areas?

If any of items 22 through 25 are ansuered yes. explain and justify as are required by the rules:

Tractor Yarding is proposed for slopes over 50% and 65%. These are short slopes and equipment will use the established skidding pattern from prior harvest. Trees on these slopes will be felled toward trails and end-lined out. Neither leaving these slopes out of the operation nor Cable logging them is feasible. Most of the topography on the operating area is fairly gentle. Skid trails, roads and landings are stable and in good shape. Steep areas are around the perimeter of the property where it slopes into the main drainages. These drainages also serve as the property boundary so there is no need to cross them. The areas adjacent to the creeks will be in WLPZ's (see # 50).

26. Indicate erosion hazard ratings present on this THP:
[1 Lou, [1 Moderate, [X] High, [ ] Extreme

Note: Erosion Hazard Rating shows some Moderate and some High determination. I believe the area should all be treated as if it were High and will do so.

27. Describe roil stabilization measures to be implemented or any additional erosion control measures proposed in this THP where required by the rules:

27. Water bars will be placed on all skid trails and skid trails will be closed off with barriers after use. Roads and landinss will be shaped to drain. 914.6(high). Areas of bare sround over 1000 square feet will be seeded, strawed or slashed. Any section of trail that can not be drained will be treated in the same way. Seed @ 50#/ acre. straw at 2".

28. [X] Yes [1 No Are any alternative practices or exceptions to the standard harvesting or erasion control practices permitted in the rules proposed for this plan? If yes, explain and justify:

28. Some trees on steep slopes will need to be felled uP the slope and end-lined out of WLPZ's.

29. [X] Yes [ ] No Are operations proposed for the winter period? If yes, provide a winter period plan in and adderdun or specify compliance with 14 CAC 914.7(c), 934.7(c), or 954.7(c). No winter plan is needed for cable, helicopter, or balloon yarding.

29. Operations durins the winter period will be limited to falling of timber and/or slash clean up. No skiddins, loading or hauling will be done durinq winter Deriod.

ROADS AND LANDINGS

30. [X] Yes [ ] No Will any roads or landings be constructed or reconstructed? If yes. check items 31 through 37 that apply:

31. I 1 Yes [X] No Will new roads be wider than single lane with turnouts?

32. [1 Yes [X] No Will any landing exceed the maximum size specified in the rules?

33. I 1 Yes [X] No Are logging roads or landings proposed in areas of unstable soils or knoun slide-prone areas?

34. [1 Yes [X] No Will My roads exceed a grade of 15% or pitches of 20% for distance greater than 500 feet7

35. [ ] Yes [X] No Are roads to be constructed, other than crossings, within the watercourse and lake protection zone of a class I or II watercourse?

36. [1 Yes [X] Yo Will roads end landings longer than 100 feet in length be located on slopes over 65%. or On slopes over 50% which are within 100 feet of the boundary of a water course or lake protection zone?

37. [1 Yes [X] No Are exemptions proposed for flagging or otherwise identifying the location of roads to be constructed?

30. If any of items 31 through 37 are ansuered yes, explain, justify, and give site-specific measures to reduce adverse impacts or, if there is any additional or special information concerning the construction and/or maintenance of roads or landings, if required by the rules. Provide necessary information in an addendum.

30 - 38. Roads. Existinq seasonal and temporary roads are shown on the THP Map. For logqing Purposes there are no permanent roads on THP area. Landings to be used are in place from prior harvest. Most will need to be reshaped and cleaned of brush to permit use. They will be kept to a minimum and closed with drainage structures when use is complete.

WATERCOURSE AND LAKES

39. [X] Yes [ ] No Are there any watercourses or lakes which contain class I through IV waters on or adjacent to the plan area? If yes, complete items 40 through 50.

40. [ ] Yes [X] No Are any in-liw practices and/or alternate practices proposed for watercourse or Lake protection? If yes. explain and justify:

N/A

Are any exceptions proposed for the following watercourse and lake protection practices? Check items 41 thrwgh 48 that apply.

41. [ ] Yes [X] No Exclusion of the use of watercourses, marshes, wet meadows, and other wet areas, for landings, roads, or tractor roads?

42. [ ] Yes [X] No Retention of non-commercial vegetation bordering and covering meadows end wet areas?

43. [ ] Yes [X] No Directional felling of trees within the zone away fran the watercourse or lake?

44. [X] Yes [ ] No Increase of decrease of width(s) of the zone(s)?

45. [ ] Yes [X] No Protection of watercourses which conduct class IV waters?

46. [ ] Yes [X] No Exclusion of heavy equipment fran the zone?

[ ] [X] No Retention of 50% of the overstory canopy in the zone?

48. [ ] Yes [X] No Retention of 50% of the understory in the zone?

If any of items 41 through 48 are answered yes. explain and justify if required by the rules and provide necessary information in an a t .

44. Width of zone will be increased when the break in slope into watercourse is well defined and distance is greater than required zone.

49. [X] Yes [ ] No Are residual trees or harvest trees going to be marked within the watercourse *or* lake protection zone? If no, explain:

49. Harvest trees are to be marked on the entire area.

50. In an addendum describe the protective measures end zone widths for the watercourse and lake protection zones that are in the plan area.

50. WLPZ's are flagged with red/white striped plastic flagging. Zones are flagged as follows:

	Class		
% Slope	I	II	III
< 30	75'	50'	NO
30-50	100'	75'	Zone
> 50	150'	100'	---

At least 50% of the tree canopy and 50% of other veaetation present before operations shall be left standing and undamased within the WLPZ's. Streams will be kept clear of logs and slash. A minimum of 75% surface cover and undisturbed area will be retained.

WILDLIFE

51. [ ] Yes [X] No Are any known rare or endangered species or species of special concern, including key habitat, associated with the THP area? If yes, in an addendum identify the species and the provisions to be taken for protection of the species.

52. [X] Yes [ ] No Are there any snags which must be felled for fire protection or other reasons? If yes, describe which snags are going to be felled:

52. Snags. Merchantable snags and snags that are a safety hazard to the logging operation or homesites or other improvements on the property will be felled and utilized when possible.

53. [ ] Yes [X] No Are any other provisions for wildlife protection required by the rules? If yes, describe provisions:

53. Check Biotic Resource Diversity Maps and Santa Cruz County General Plan Species List. See report enclosed.

CULTURAL RESOURCES

54.a. [X] Yes [ ] No Has an archaeological survey been made of the areas to be harvested?

b. [X] Yes [ ] No Have the California Archaeological Inventory records been checked for any recorded archaeological or historical sites located in the area to be harvested?

54. Report is enclosed as uart of this plan.

55. [ ] Yes [X] No Are there any archaeological or historical sites located in the area to be harvested? If yes. describe in an addendum how the sites are to be protected.

55. Cultural Resources. The area has been surveyed for cultural resources. Result is shown in Archeological addendum. If any Archaeological / Historical sites or evidence are found during operations, protection measures, (i.e.; avoidance, cessation of operations, reporting of site to CDF) will be initiated by the LTO. Required notice to Native American groups has been made. Any response will be forwarded when/if received.

HAZARD REDUCTION

56. What type of slash treatment uill be used in the fire protection zone?

1. [ ] Pile and turn, 2. [X] Lopping, 3. [X] other Removal,(200' of homes)917.4(a)

4. [ ] Not applicable no fire protection zone present.

57. [ ] Yes [ ] No If clearcutting method is used, will broadcast turning be used for site preparation?

58. If piling and burning is to be used for hazard reduction, who Will be responsible for compliance?

1. [ ] Timber owner, 2. [ ] Timber operator, 3. [X] Timberland owner.

PUBLIC NOTICE

59. [X] Yes [1 No Are there any ownerships uithin 300 feet of the plan boundary which are owned by persons other than the persons executing this plan? If yes, a list of the names and addresses of the adjacent property owners and a Notice of Intmt to Harvest linter must be included uith the plan.

59. Public Notice. The property is bordered by private land on all sides. There are 12 separate parcels of ownership shown by Santa Cruz assessors plats to be within 300 feet of the boundaries of the THP. A list of these owners showing county parcel numbers and addresses from the assessment roll is enclosed. Copies of the assessors maps and a set of addressed envelopes are also enclosed. Notice of intent has been sent to the list enclosed.

PESIS

60. [1 Yes [X] No Are-there any adverse insect, disease, or pest problems of significance in the-plan area? If yes, describe the mitigation measures, if any, to improve the health and productivity of the stand in an addendum.

OTHER INFORMATION

61. Are there any other existing or planned land use activiries including but not limited to other THP's in the area of the proposed THP which may combine with the effects of your tinter harvesting operation to cause significant adverse cumulative environmental effects? [1 Yes[X] No. If yes. please describe the other land use(s) and the likely effect as well as any mitigation which would reduce the negative effect in an addendum.

The plan preparer believes any sisnificant impacts will be positive.

ATTACHMENTS

62. Check if the attachments listed are included with the plan:

1[1 Notice of Stream Bed Alteration to Department of Fish and Game (A copy of this notice is attached to the instructions for your use.)

2[X] Estimated Surface Soil Hazard Calculations.

3[X] Notice of Intent to Harvest linter and a list of names ard addresses of adjacent property owners. Set of stamped envelopes.

4[X] Maps.

5 1 1 Addendum for silvicultural information.

6 1 1 Written notice of plan to the tinter operator. timberland owner, or tinter owner that did not sign the THP.

REGISTERED PROFESSIONAL FORESTER

63. I have the following authority, responsibilities, and limitation for preparation or administration of the THP and timber operation:

Prepare plan, obtain signatures and provide copies and information to timber owner and licensed timber operator. Provide for administration of harvest. File completion notice.

7

64. I have mtified the timber owner and the tinterland owner;, in writing, of their responsibilities for:

1. [X] Yes [ ] No The stocking requirements of the rules.
2. [X] Yes [ ] No The maintenance of erosion control structures requirements of the rules.
3. [X] Yes [ ] No The marking requirements contained in the rules.

65. [X] Yes [ ] No I will provide the timber operator with a copy of the approved THP.

66. After considering the rules of the Board of Forestry and the mitigation measures I have proposed I have determined that the timber operation:

[I will have a significant adverse inpact on the environment.

[X] will not have a significant adverse inpact on the environment.

If the operation uill have a significant adverse inpact on the envirorment, in an addendum explain why any alternatives or additional mitigation measures that would reduce the inpact are nor feasible.

67. Registered Professional Forester: I certify that I, *or* my designee, *personally* inspected the plan area, and the plan complies with the Forest Practice Act and the Forest practice rules.

signature: _____ Date: _____

68. **CERTIFICATION**

The above conforms to my/our plan end. upon filing, I/we agree to conduct harvesting in accordance therewith. Consent is hereby given to the Director of Forestry, his agents and employees, to enter the premises to inspect timber operation for compliance with the Forest Practice Act and forest practice rules.

Timber Owner: Sequoia Forest Industries, By Steve Ziegler, Forester

Signature: _____ Date: _____

Printed Name: Steve Ziegler

Timberland Owner: Walton P. Haines

Signature: _____ Date: _____

Timberland Owner: Ronald and Lois DeBenedetti

Signature: _____ Date: _____

Timberland Owner: Daniel E. Haines

Signature: _____ Date: _____

Timberland Owner: Duard W and Kathleen E LaFrentz

Signature: _____ Date: _____

Timber Operator: Dennis Pelphrey

Signature: _____ Date: _____

Printed Name: Dennis Pelphrey

DIRECTOR OF FORESTRY

This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and with the Forest Practice Act.

By: _____ _____
(signature) (Date)

_____ _____
(Printed Name) (Title)

a

NOTICE OF INTENT TO HARVEST TIMBER

A Timber Harvesting Plan or an amendment to an existing plan that may be of interest to you has been submitted to the California Department of forestry for a determination as to whether the timber operation described in the plan or amendment complies with state laws and regulations. The following briefly describes the tinter operation, how to obtain more details. and where and when to submit documents regarding the proposed tinter operation. If you would like more information about the plan or amendment, or about the laws and regulations governing tinter harvesting in California please direct your questions to:

California Dept. of Forestry and Fire Protection
San Mateo-Santa Cruz Ranger Unit
6059 Highway 9
P. O. Drawer F-2
Felton, CA 95018
(408) 335-5355 (415) 592-2726

California Department of Forestry & Fire Protection
Region I Headquarters
135 Ridgeway Avenue
P. O. Box 670
Santa Rosa, California 95402
(707) 576-2275

The Timber Harvest Plan or amendment is available for public review at the Departments Felton office. The cost to obtain a copy is $3.00 for the first twenty pages (20) and $0.12 for each additional page. (Total cost is: $_____.)

THE FOLLOWING IS A SUMMARY OF THE INFORMATION CONTAINED IN THE PLAN OR AMENDMENT:

1. Name of individual who submitted the plan or amendment: H-D RANCH (HAINES/DeBENEDETTI)

2. Timberland Owner uhere the timber operation is to occur: H-D RANCH (HAINES/DeBENEDETTI).

3. Location of plan area (county, section, township and range, and approximate direction and distance to the plan area from the nearest community or well-known landmark):

SANTA CRUZ COUNTY; PORTIONS OF SECTIONS 27.3 28, TOWNSHIP 10 SOUTH, RANGE 1 EAST, MOUNT DIABLO BASE AND MERIDIAN. PROPERTY IS IN SOQUEL AUGMENTATION RANCHO; SECTIONS ARE PROJECTED. THE PUBERTY IS ABOUT 1 MILE NORTH OF BEAN HILL. IT IS SOME 4 MILES NORTH EAST OF CORRALITOS.

4. Name of the nearest perennial stream flowing through or downstream from the plan area:

VALENCIA CREEK. Upper forks ere boundary of Property.

5. Acres proposed to be harvested: 133 TOTAL, 100 acres to log.

7. Proposed harvesting method or treatment:

SELECTION, AS PRESCRIBED BY THE RULES OF THE SOUTHERN SUBDISTRICT OF THE COAST FOREST DISTRICT. (CCR 913.8(a)).

The end of the public comment period and the earliest date for the Director,s determination on the plan is 45 days fran the date of receipt of the plan by the Department. The estimated end of the public comment period and the earliest date for the Director's determination is _____

If you originally received this notice by mail from the Registered Professional Forester, you can expect the Department to give you the following by mail: the number of the THP or amendment, the date of its receipt by the Department, the filing date, and the date of any public hearing. You should check with the Department far dates of the Review Team meetings.

If you would like to talk to the Registered Professional Forester who prepared the plan or amendment, please call:

Robert F. Krohn, RPF #1049 (209) 591-2000.

==========

FOR DEPARTMENT USE ONLY

TIMBER HARVESTING PLAN NO._____ DATE OF RECEIPT _____

9

ESTIMATED SURFACE SOIL **EROSION** HAZARD RM-87 (4/84)

H-D RANCH THP

STATE OF CALIFORNIA
BOARD OF FORESTRY

I. SOIL FACTORS				FACTOR RATING BY AREA		
A. SOIL TEXTURE	Fine	Medium	Coarse	A	B	C
1. DETACHABILITY	Low	Moderate	High			
Rating	1–9	10–18	19–30	25	25	
2. PERMEABILITY	Slow	Moderate	Rapid			
Rating	5-4	3–2	1	1	1	
	Shallow	Moderate	Deep			
	1"–19"	20"–39"	40"–60" (+)			
Rating	15–9	8–4	3–1	2	2	
	Low	Moderate	High			
	(-) 10–39%	40–10%	71–100%			
Fating	10–6	5–3	2–1	10	10	
				⇩	38	38

A is the general area.

B is short slope into Valencia Creek.

HIGH.

							FACTOR RATING BY AREA		
Slope	5-15%	16–30%	31–40%	41–50%	51–70%	71–80% (+)	A	B	C
Rating	1–3	4–6	7–10	11–15	16–25	26–35	5	18	

III. PROTECTIVE VEGETATIVE COVER REMAINING AFTER DISTURBANCE

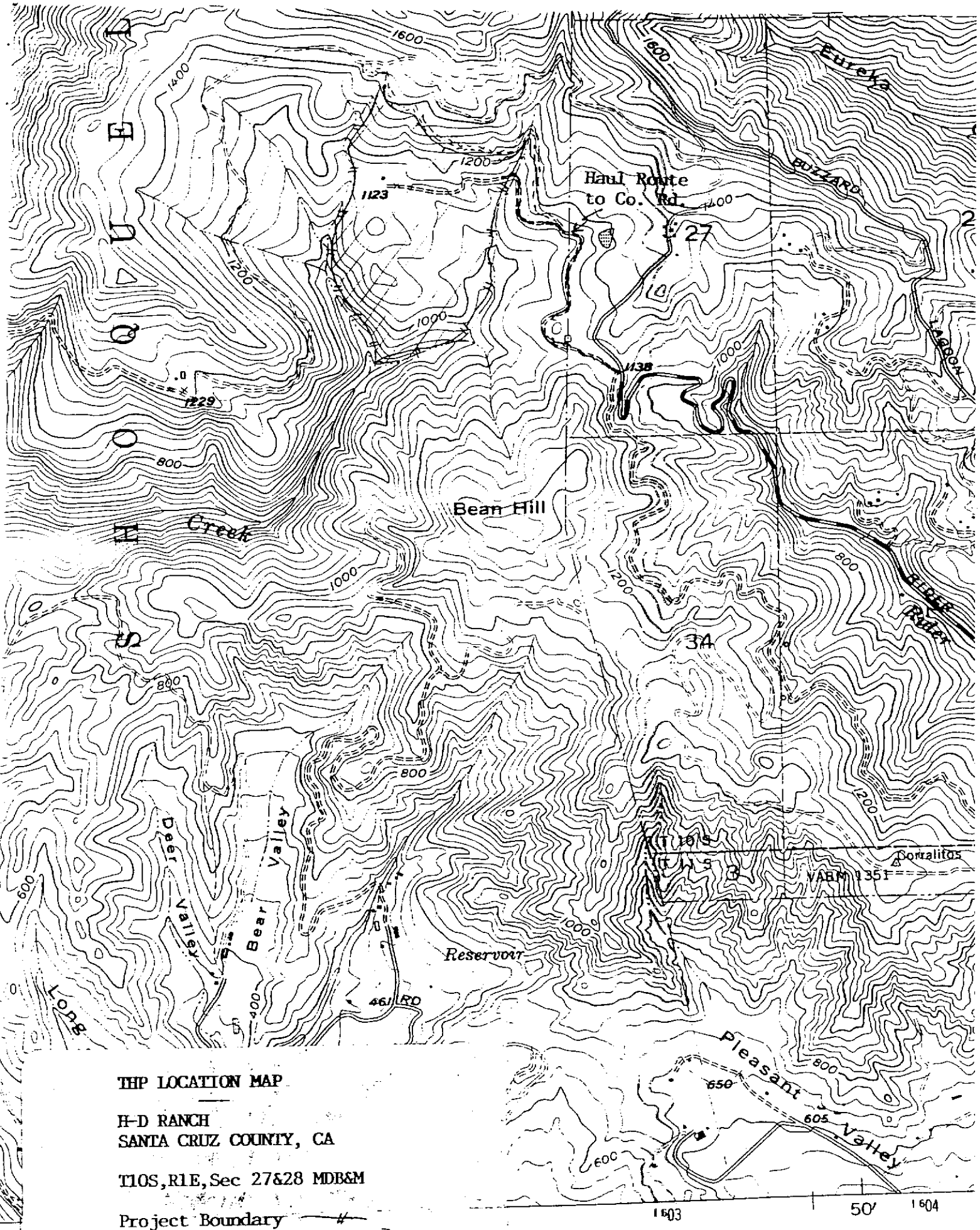
	Low	Moderate	High		
	0-40%	41–80%	81–100%		
Rating	15–8%	7–4	3–1	5	3

IV. TWO-YEAR, ONE-HOUR RAINFALL INTENSITY (Hundredths Inch)

	Low	Moderate	High	Extreme		
	(-) 30–39	40–59	60-69	70–80 (+)		
Rating	1–3	4–1	8–11	12–15	14	14
				TOTAL SUM OF FACTORS ⇩	62	73

EROSION HAZARD RATING

<50	50-65	66–15	>75
LOW (L)	MODERATE (M)	HIGH (H)	EXTREME (E)
			⇩



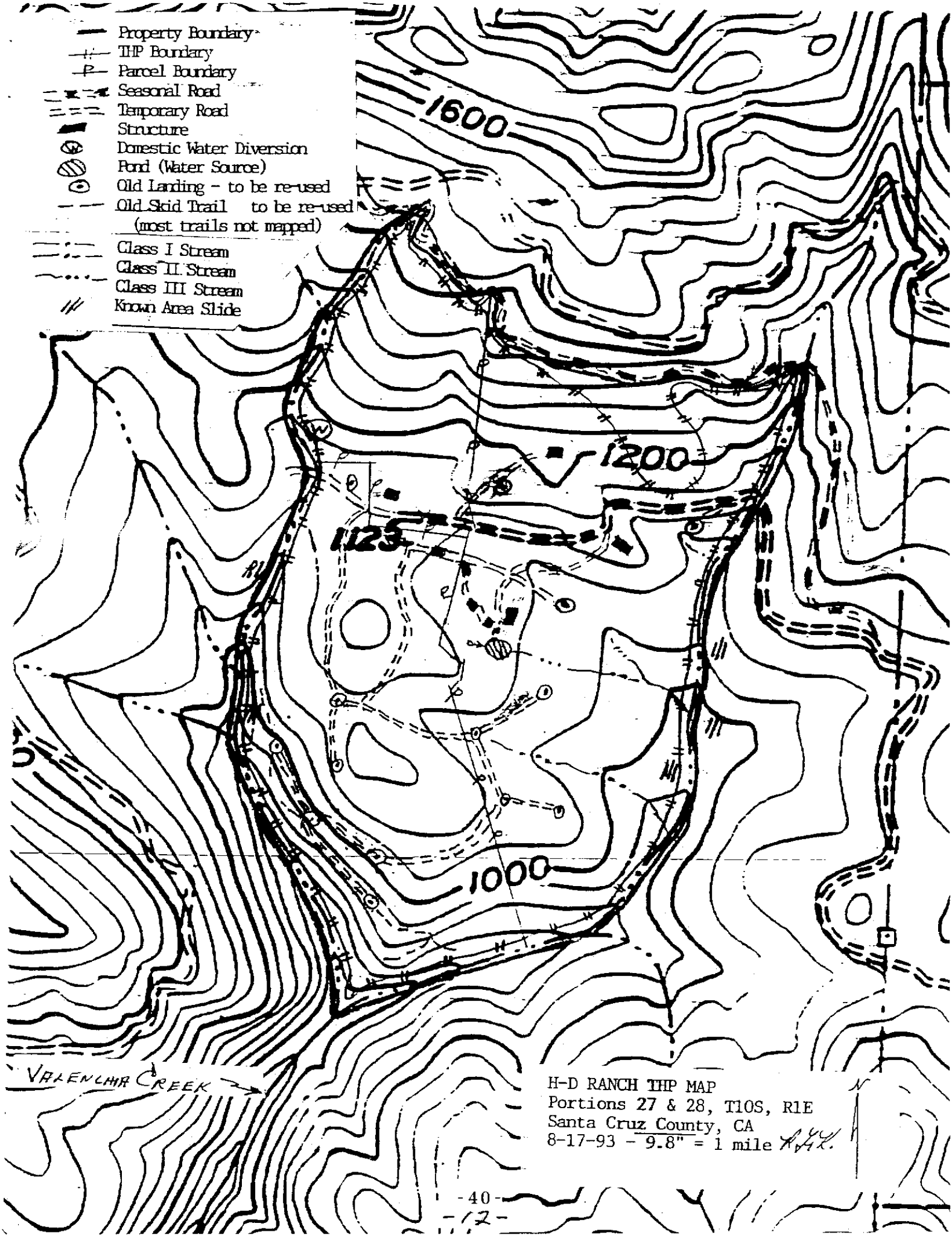
THP LOCATION MAP

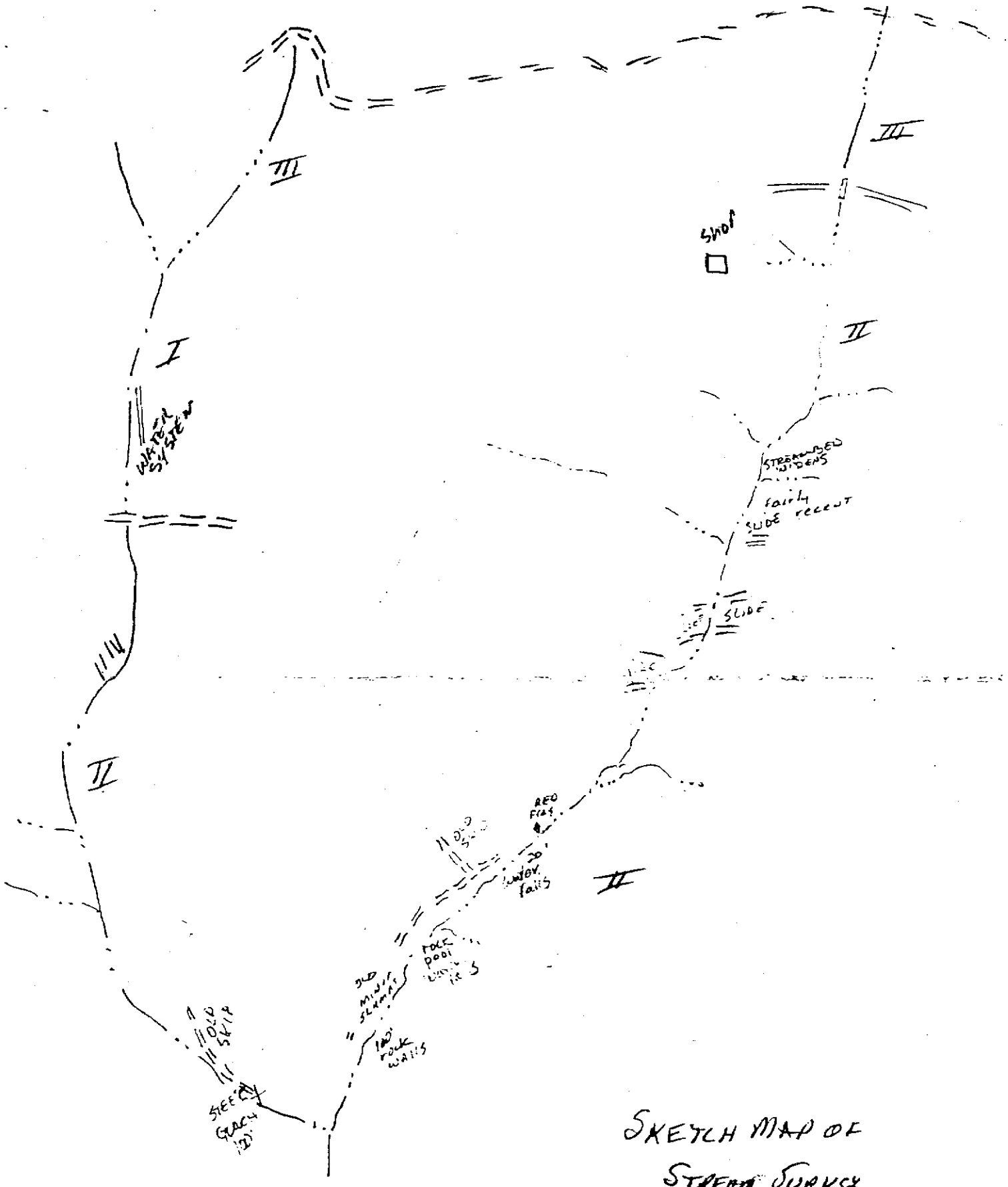
H-D RANCH
SANTA CRUZ COUNTY, CA

T10S,R1E,Sec 27&28 MDB&M

Project Boundary
Haul Route to Co. Rd.

R.F.K. Scale 3.5" = 1 mi. 2/9/93


Property Boundary
THP Boundary
Parcel Boundary
Seasonal Road
Temporary Road
Structure
Domestic Water Diversion
Pond (Water Source)
Old Landing - to be re-used
Old Skid Trail to be re-used
(most trails not mapped)
Class I Stream
Class II Stream
Class III Stream
Known Area Slide
1600
1200
1125
1000
VALENCHIA CREEK
H-D RANCH THP MAP
Portions 27 & 28, T10S, R1E
Santa Cruz County, CA
8-17-93 - 9.8" = 1 mile
N



SKETCH MAP OF STREAM SURVEY

By P.E. Emmons

1/27/43

— — — I

— · — II

— · · — III

STATE OF CALIFORNIA
BOARD OF FORESTRY
CUMULATIVE IMPACTS **ASSESSMENT** CHECKLIST

(1) Do the assessment area(s) of resources that may be affected **by the** proposed project contain any past, present, or reasonably foreseeable probable future projects?

Yes X No ____

(2) ***Are*** there any continuing, significant adverse impacts from past land **use** activities that may add to the impacts ***of*** the proposed project?

Yes ____ No X

(3) Will the proposed project, **as** presented;, in combination with past, present, and reasonably foreseeable probable future projects identified in items; (1) and ***(2)*** above, have a reasonable potential to cause or add to significant cumulative impacts in any of the following resource subjects?

	Yes after mitigation (a)	No after mitieation (b)	No Reasonably potential significant *effects* (c)
1. Watershed	____	X	____
2. Soil Productivity	____	____	X
3. Biological	____	____	X
4. Recreation	____	____	X
5. Visual	____	____	X
6. Traffic	____	____	X
7. Other	____	____	X

(4) If column (a) is checked in (3) above describe why the expected impacts can not be feasibly mitigated or avoided and what mitigation measures *or* alternatives were considered to reach this determination. If column (b) is checked in **(3)** above describe what mitigation measures have been selected which **will** substantially reduce or avoid reasonably potential cumulative impacts except **for** those mitigation measures or alternatives mandated by application of the rules of the Board of Forestry.

(5) The boundaries of the assessment areas are described for each item and shown on attached maps when **required.**

14

(6) List of Contacts and Research Records:

Contacts:

Ms. Nancy Drinkard, Forester
Calif Dept of Forestry
P. O. Drawer F-2
Felton, CA 95018-0316
408-335-9148

Mr. Patrick Emmert, RPF #1839
P. O. BOX 220
Auberry, CA 93602
209-855-2215

Daniel Haines and Ron DeBenedetti
Owners of the property.
See page 1 for address

Mr. Edward A Tunheim
Consulting Forester
123 Green Street
Santa Cruz, CA 95060
408-426-6415

Mr. Roy Webster
Consulting Forester
136 Rancho Del Mar
Aptos, CA 95003
408-688-8787

Mr. Steve Ziegler
Forester, RPF
P. O. Box 305
Dinuba, CA 93618
209-591-2000

Records Examined:

1. Aerial Photos of the project area.

2. U.S.G.S. - Quadrangle Maps.

3. Assessors Plat Maps, Santa Cruz County.

4. Santa Cruz County assessors ownership records.

5. Archeological records check from California State Univ, Sonoma.

6. Archeological Reference Manual & Guide - CLFA/CDF, 1992.

7. THP #5-79-104/SC, Prior THP on the area.

8. Various consultants reports from other THP's in Santa Cruz County.

9. Rainfall intensity maps from CDF.

Proiect Description: The project involves the harvest of timber using the selection method of harvest. Mature trees and immature trees that need to be thinned will be marked for removal and removed to continue development of an uneven aged structure on the property and to maintain optimum timber growth. Stocking will be in place following harvest.

Yardine Methods and Topographic Conditions: The plan area consists of six assessors parcels with a total area of 133 acres. Some 100 acres will be harvested. The property is located West of the West end of Rider Road about one balf mile north of Bean Hill in Santa Cruz County, California. It is near the top of the divide between Valencia Creek and Aptos Creek with a South facing aspect. The property is a relatively gentle bench, bounded on the East, South and West by two forks of upper Valencia Creek. It is bounded by the Fern Flat county road on the North. Most of the property has been logged at least twice and some of it three times. The area with merchantable timber will be logged. Skid trails and landings from prior harvest are in place and in good condition these facilities will be reopened and reused. The entire area will be logged with tractor and/or skidder. Steeper slopes adjacent to Valencia Creek will be end lined to existing skid trails. There is a gentle ridge on the West that drops off to the West into the West fork of the Valencia Creek drainage. The same ridge drops off a longer distance to the East into the East fork of Valencia Creek This are the upper forks of Valencia Creek. The topography adjacent to the stream on three sides of the property is characterized by a short steep slopes into the stream. The entire length of both streams has been walked and will be described in Watershed Assessment. Elevation of the property ranges from some 800 feet on the South to the highest point on the North at some 1,500 feet. The streams drop some 600 feet in a little less

than a mile through the property. The gentle areas have weathered into a deep well drained soil that supports very good timber generally throughout. This plan area is mostly site II & III timberland. Site has not been mapped.

Vegetation and Stand Conditions:

The timber stand is Redwood forest with a light mix of Douglas Fir, 90% Redwood and 10% Fir is estimated, hardwood are mixed throughout with a few patches of predominantly hardwoods. The stand has developed from early day logging, late 19th century, of the original growth timber followed by burning. Sprouts and seedlings followed the logging and have grown up to a mature second growth forest. The current stand is composed of residual trees that have been growing following latest timber harvest some 12 years ago, 24 years on a third of the area, and a prior harvest 12 years before. Trees left at that time have continued to grow rapidly, sprouts have formed and young trees have become established where there were openings. The selection system of silviculture being applied will continue the growth on the property. It will be beneficial to open up the areas and get an increase in variety of vegetation as more sunshine is allowed to reach the forest floor. Young trees will have more room and moisture to grow faster and streamside riparian type vegetation will find conditions under which it can increase following harvest. There is no Old Growth nor is there any "Ancient Forest" on the property.

Watershed and Stream Conditions:

The stream course that surrounds three sides of the property was walked by RPF Patrick Emmert and the property line was flagged. These two forks of Valencia Creek that come together at the

Southwesterly corner of the property delineate the boundary of property on the East, South and West. Both are headwater forks of Valencia Creek Valencia Creek flows Westerly for about a mile and then Southerly for some three miles, it is joined by several small side drainage and then by Trout Creek and Aptos creek just before it flows directly into the Mooterey Bay. It is some 7 miles from the junction on the South point of the property to the beach. For most of their length both forks nest to the logging are undisturbed in modern time. Effects of logging from the 1800's is evident. Short portions, perhaps 10%, of the East fork is disturbed by slides. Otherwise, stream conditions are stable with minimal bank cutting or downcutting. Pools are clear except for organic debris, fern and alder. The main stream below the junction traverses a deep relatively inaccessible canyon. A sketch map is enclosed, page 13, showing some of the characteristics observed about the stream during the walk of the stream.

The East fork stream bed is composed of gravel rock and sandstone sediment and old fallen logs that create pools between deeply cut channel areas. There are small areas with up to 18" of sediment from recent storms (40" of rainfall by the 1st of February 1993). Vegetation consists of ferns, conifers, tan oak and small plants. Deep litter exists in some locations. The streams were not running at all in November hut are active at this time. Past slides and slumps are evident. These are relatively stable during good weather. Slide noted on the 1979 THP map were observed and are noted on the stream sketch map. On the East fork there are *two* on the property and two across the stream on the adjacent property. A large concentration of woody debris (trees) exists at one slide area from the opposite bank. This was probably a result of an older slide of soil and trees. There are a couple of small water falls. At a point just above the junction there is a 100'+ vertical cliff on the opposite side of the creek On the West fork, Bear

Spring Gulch, there is a steep gulch just above the junction, an old skid comes down to the creek at this location. The creek is stable with pools formed by sandstone, logs, debris, etc. A gravel sediment stream bed with ferns, conifers, oaks, herbs throughout. There is one new slide/slump on this fork at the approximate location shown on the sketch map. The owners have a domestic water diversion above the road that crossed the West fork The stream above this point will be treated at Class I. Harvesting will be done from the WLPZ but equipment will be kept out of the zone.

Past and Present Activities

Past Activities: The property had a heavy harvest in the late 1800's that removed much of the timber that was marketable and accessible at the time. Ground lead cable logging was used, pulling logs up or down the hill with bull teams and steam equipment. Old skidways can still be found but evidence on the ground shows that the forest has responded by regenerating profusely and continuing to grow. The property was also cut over some 12 years ago, in 1980 with a light selective removal. Residual timber from the previous logging and regeneration resulting from all the logging activity has been growing and the owners now believe it is time for another harvest. Adjacent ownership is all private and bas similar young growth timber. Adjacent ownership to the West and North has been divided into lots, some have homes on them. Property to the East and South is in a larger ownership and is devoted to production of timber. It has had a recent selective harvest. THP records show the date of the latest harvest to have been in the mid 1970's.

Present Activities: No known harvesting is planned for the adjacent properties at this time. There are three residences on the property. These are occupied by some of the owners who live on the site. A small amount of cutting of hardwoods for use as firewood is done annually. Space free. of encroaching native vegetation is maintained around homes for fire protection, sunlight, air flow and safety. A few trees encroaching on the space will be removed as part of the logging operation. There is a power line traversing the property which will need to he protected during the harvest activity.

Future Projects: Owners will continue to use the property as a residence. Following harvest under this THP they will continue to grow timber. Growth on the residual trees will he enhanced. A future harvest can be expected as volume removed is replaced by growth. This pattern has continued of the past decades.

II. The following resources were assessed

A Watershed Impact Assessment: The watershed assessment area is the Valencia Creek drainage. The *two* upper forks of Valencia Creek are small seasonal streams, #1 and #2 on the THP map. They both originate near the North boundary of the property. They are both Class II streams adjacent to the harvest except the West fork which is classed as Class I from the North property boundary to the location of water diversion for domestic use. Since they comprise the property boundary there will be no need to cross them to get timber. Trees growing on the slopes adjacent to the streams will be felled up the hill away form the stream and end lined out of streamside zone.

The property is a gentle bench below the steeper slopes higher up on the ridge and has developed deep productive timber soils. Elevation ranges from 800 to the highest point at 1,500 feet. The streams drop some 600 feet in a little less than a mile through the property. The gentle areas on **soft** parent material have weathered into a deep well drained soil that **supports** timber generally throughout This plan area is mostly site II & III timberland. Site has not been mapped. The two drainage that form the property boundaries are headwater forks of Valencia Creek. These forks of Valencia Creek, the east branch about .8 miles long and the west branch about .7 miles join at the southern edge of the property. The 100 acre project will treat some 1.25% of the total 8,000 acres in the watershed assessment area, see map attached. The selective harvest, using well stabilized, existing roads, landings and skid trails will not have a significant impact on the watershed.

B. Soil Productivity: The area of the project was selected as the assessment area.

These are very deep well drained sandy loam soils. Formed on generally very very deep soft sandstone they are typical of the most productive timber **soils** in the world.

Growing area **losses:** There will not be any significant loss is soil productivity from the harvest. Growth potential of the soil will be **shifted** from larger trees and crowded trees in clumps and dense patches with relatively slow individual growth on each tree to better growth on fewer trees. Open space for younger trees and other species of vegetation **will** be provided by the removal of some **timber.** *Bio-diversity* will be enhanced *in* the area being treated with timber harvest. Growth under the selected method will be comparable to current growth in the long run.

Compaction losses: Negligible loss will result from compaction. These well drained soils will withstand the proposed activity without any significant adverse effect Disturbance of duff layer will create seed bed for tree seedlings and seedling of other types of vegetation.

Top soil losses due to erosion: No significant losses are expected. This is not a change from present condition.

Nutrient loss due to erosion or fire: Minor amounts of nutrients will be removed in the sawlog material to be taken from the site. The effect on the nutrient regime of the area will not be significant. Annual rainfall carries nitrogen onto the site in larger amounts than is expected to be removed.

Nutrient loss form biomass removal: Thinning for biomass in not planned at this time.

Mitigation: None over and above normal care under THP and Forest Practice Rules.

C. Biological: The Bean Peak, upper Valencia Creek watershed area was chosen as the assessment area.

The property is in the Coast Redwood timber type. The property is good conifer soil. There is considerable acreage like this in the assessment area with various stages of forest stocking and age. Adjacent ownership is in a larger block on the east and south and is devoted to the production of timber. Property to the west and north bas been divided into smaller parcels and many have homes or seasonal vacation homes on them. The property is similar in nature, Redwood forest.

The harvest operation will be in the rather dense pockets of timber on the flatter areas with deeper soils and on the slopes adjacent to the stream. The effect of the removal of part of the trees in this area will be to increase the biological diversity. The small watercourses will benefit from the decrease in biomass. Stream flow should show a small temporary increase after harvest, this will drop as biomass increases over the years. Short term, there will be more forbs and grasses, more rodents and insects and more riparian type vegetation with the increase in light to the forest floor. The area to be treated is small enough that the environmental effects not be significant. If there is any effect the trend will be positive for most species of wildlife. Deer and raptors will benefit. This harvest will help maintain environmental characteristics these and most other species prefer. Harvest will hance the diversity and density of wildlife species using the area.

D. Recreation Resources: The area of the project plus a 300' buffer was chosen as the Recreation assessment area.

This is private property and recreation is restricted to the owners and their guests. The property is posted. Pubic access is restricted by posting. The owners use of the property will benefit from the harvest in having greater water yield and reduced fire hazard due to the removal of some of the biomass on the property. There will be a more open sunny aspect on the area being logged. Safely and enjoyment will both be enhanced. There will be better hunting. A more open stand will encourage additional early serial stage vegetation and enhance the area for most forms of wildlife.

E. Visual: Assessment area is the property itself.

The timbered bench is only readily visible from the Fern Flat public road. This is a very low standard road only used by the residents of the area to the North and West, only a few people come this far. There is no travel corridor through the property. The only view would be from some distance. This will show a stocked stand of young timber, healthy, green and growing.

F. Vehicular Traffic Impacts: The transportation route from the landing to the west end of the county road up Rider Creek

Logs will be hauled over low standard spurs of native surface to a medium standard graveled road that leads easterly to the west end of Rider Creek Road, a Santa Cruz County Road. Except for the spurs the route is in use by the owners on a regular basis. It will be maintained during haul. It will be graded to drain again when log haul use is complete. Water will be used for dust abatement when and if needed to maintain the road. The operation will last four to six weeks at 6 to 8 loads per day. The additional traffic from the operation will be insignificant. Traffic loads are light and there will be minimal impact. The amount of traffic created by the harvest operation will not have a significant adverse impact on traffic or the environment.

Conclusion

It has been some time since this property has had any timber harvest. Trees have been growing and closing in since the last logging over twelve years ago. A harvest will yield timber that will help the economy and some income for the owner. It will reduce the biomass and lower the fire hazard. It will open up the stand and improve the bio-diversity which will improve the carrying capacity of the area for many types of wildlife. Harvest will improve the visual characteristics of the area by creating more vistas and open sunny spots in the forest. The Valencia Creek drainage will be more open and will develop more riparian types of vegetation. The growth of residual trees will improve with the additional space and sunlight provided by opening up the stand. Water yield from the property into these forks of Valencia Creek will increases because of more rain reaching the ground and less transpiration from the ground water. Less water will be used by the vegetation because of the temporary decrease in biomass using water from the aquifer. The harvest will manage and improve the area to be treated.

H-D RANCH THP
WATERSHED MAP
VALENCIA CREEK
8,000 acres +/-
HARVEST 100 acres
1.25 % of area to
be harvested.

Special **Rules**

All of the plan area is within Santa Cruz County which has special rules (CCR 296, **296.1-296.19).** County rules requiring explanation are listed and discussed below.

926.1 The RPF(s) signing this plan will monitor progress of the timber harvest and advise the plan submitter and LTO on compliance with plan provisions and the Forest Practice Act.

296.2 Prior to the start of operations, the RPF and the LTO will meet in the field to review the specifics of the THP. CDF will be given advance notice of the meeting and invited to participate.

926.3 The special distribution of the Notice of Intent is detailed in Item **59**

926.8 The harvest of fuelwood will be limited to incidental trees damaged in falling and yarding.

926.9 Operation of chainsaws is restricted to the hours of 7:00 **AM.** and 9:00 P.M. and is prohibited on Saturdays, Sundays, and nationally designated legal holidays. Operation of other power equipment, except licensed highway vehicles, within **300** feet **of an** occupied dwelling shall be restricted to the hours between **6:00** AM. and 9:00 P.M. and shall be prohibited on **Saturdays,** Sundays and nationally designated legal holidays. **An** exception to this rule **can** be granted by the Director under certain conditions.

926.10 No logs will be hauled on public roads on Saturdays, Sundays or nationally designated legal holidays.

926.11 The creek forming the Property boundary on the East, South and West has been flagged The North boundary is the Fern Flat Road. This will be flagged prior to operations.

926.14 Item **51** includes consideration of locally unique plant and animal species.

926.15 No new roads are going to be constructed for this plan. Old existing roads are in place, are stable and will be cleaned and reused

926.16 Most roads and landings to be reused have been flagged. Balance will be flagged prior to preharvest. There are no new constructed tractor roads or watercourse crossings proposed for the area.

926.18 The winter period is October **15** through April **15.**

926.19 The plan submitter will maintain erosion control structures required by the rules or provided in the plan for one winter after completion **of** timber operations.

H-D RANCH - THP

ADDRESSES FOR "NOTICE OF INTENT TO HARVEST TIMBER"

Adjacent owners:

Parcel #	Owner
105-021-08	SMITH, ALBERT B. 14561 WINCHESTER BLVD. LOS GATOS CA 95030
105-421-27	MAYER, JOHN B. 7143 FERN FLAT ROAD APTOS CA 95003
105-412-28	PETERSON, KEITH C/O OCCIDENTAL PETROLEUM 1500 635-8 AVENUE SW CALGARY ALBERTA CANADA T2P-3Z1 00000
105-421-29	OGLESBY, TERRY L. & KATHLEEN L. (JT) 520 SAND HILL ROAD SCOTT VALLEY CA 95066
105-421-31	CAROTHERS, JOHN H. 625 WALNUT STREET SANTACRUZ CA 95060
105-421-40	BRIDGEMAN, CHAEUES F. & AMY R. (Trustees) 7773 STARLIGHT DRIVE LA JOLLA CA 92037
105-421-37	ROWLAND, RALF'H H. & KAREN R. (H/W,JT) 6950 FERN FLAT ROAD APTOS CA 95003
105-421-22	PEDERSON, WM J. 23370 DEERFIELD ROAD LOS GATOS CA 95030
105-421-23	WILSON, JOSEPH B. 5886 FERN FLAT ROAD APTOS CA 95003
105-421-24	COX, CYNTHIA P. O. BOX 534 APTOS CA 95001

H-D RANCH- THP

ADDRESSES FOR "NOTICE OF INTENT TO HARVEST TIMBER"

Adjacent owners (cont'd):

105-421-15
HASSETT, DANIEL T. & SANDRA G.
5858 FERN FLAT ROAD
APTOS CA 95003

105-401-02
BOWMAN, DAVID B. (S/M,ET.EL. ALL JT.)
C/O 3266 DELA CRUZ BOULEVARD
SANTA CLARA CA 95054

Owners within 300' of private haul route:

106-131-07
GEORGE, ROBERT AND MARY (H/W JT)
190 BROADMORE DRIVE
SANTA CRUZ CA 95060

106-131-13
KANE, CARYL J.
782 RIDER ROAD
CORRALITOS CA 95076

107-011-05
TELFORD, INC., C/O E. SMITH
7166 OVERLOOK DRIVE
SANTAROSA CA 95409

Others:

THE HONORABLE RAY BELGARD, SUPERVISOR
COUNTY OF SANTA CRUZ - COUNTY BLDG. ROOM 500
701 OCEAN STREET
SANTACRUZ CA 95060

PAJARO VALLEY SCHOOL DISTRICT
165 BLACKBURN
WATSONVILLE CA 95076

CITY OF WATSONVILLE WATER DEPARTMENT
ATTN. MR. BILL BROWN
P. O. BOX 149
WATSONVILLE CA 95077

I hereby certify that on or about 2/18/93 I have sent a "Notice of intent to Harvest Timber" (page 9) with a map attached (similar to page 11) to the persons on this list.

R. F. Krohn, RPF # 1049

A set of envelopes, addressed and stamped is also enclosed with this plan.

SOQUEL AUGMENTATION RANCHO

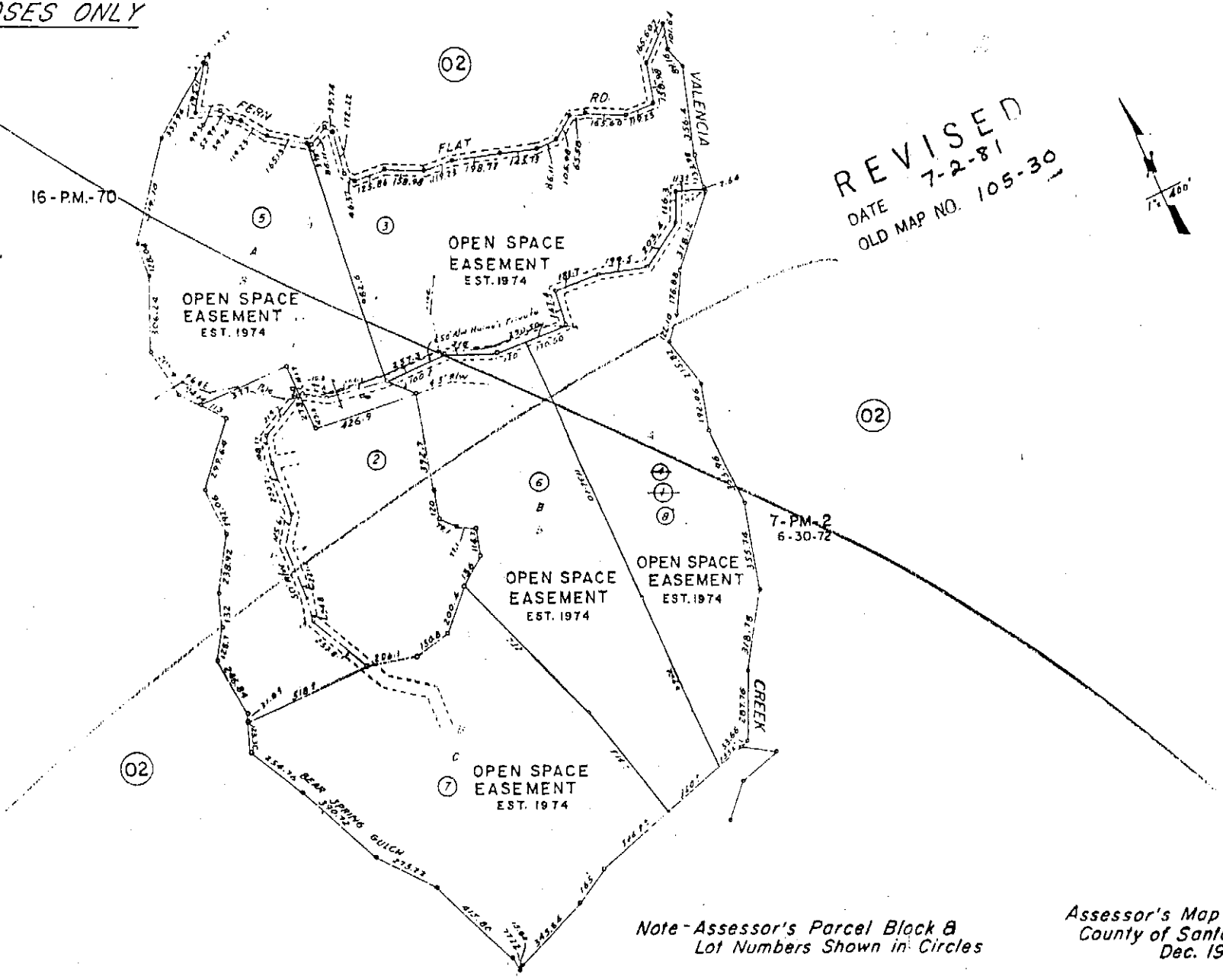
POR. SECS. 27 & 28 T.10S., R.1E., M.D.B.&M. PROJECTED

Tax Area Code 69-042

105-301-

PUBLIC

FOR TAX PURPOSES ONLY



REVISED
DATE 7-2-81
OLD MAP NO. 105-30

Note - Assessor's Parcel Block & Lot Numbers Shown in Circles

Assessor's Map No. 105-30
County of Santa Cruz, Calif.
Dec. 1966

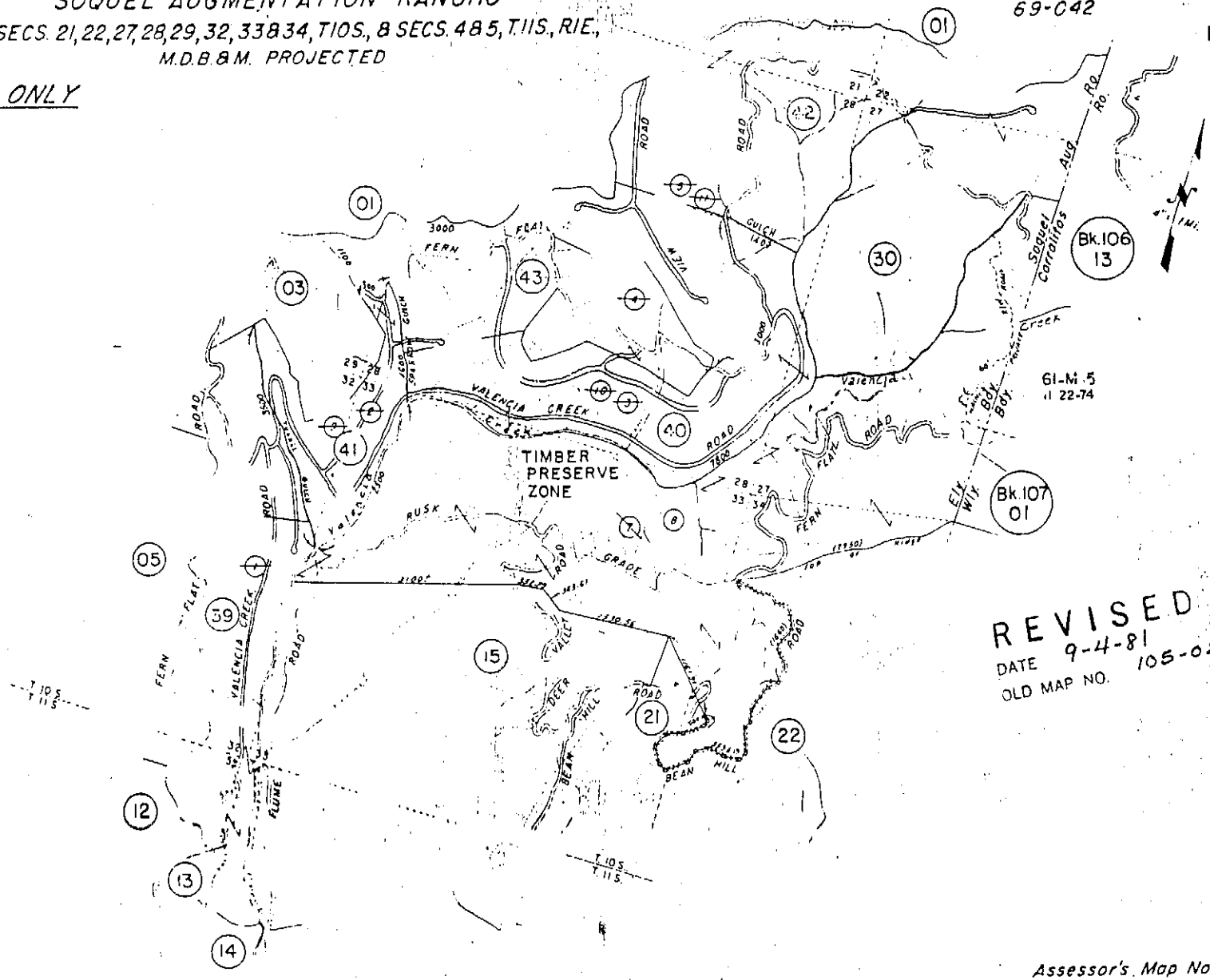
SOQUEL AUGMENTATION RANCHO

POR. SECS. 21, 22, 27, 28, 29, 32, 33 & 34, T10S., & SECS. 4 & 5, T11S., R1E., M.D.B.&M. PROJECTED

FOR TAX PURPOSES ONLY

TAX AREA CODE 69-042

PUBLIC



REVISED
DATE 9-4-81
OLD MAP NO. 105-02

Note - Assessor's Parcel Block & Lot Numbers Shown in Circles

Assessor's Map No. 105-02
County of Santa Cruz, Calif.
Jan. 1955

31

59

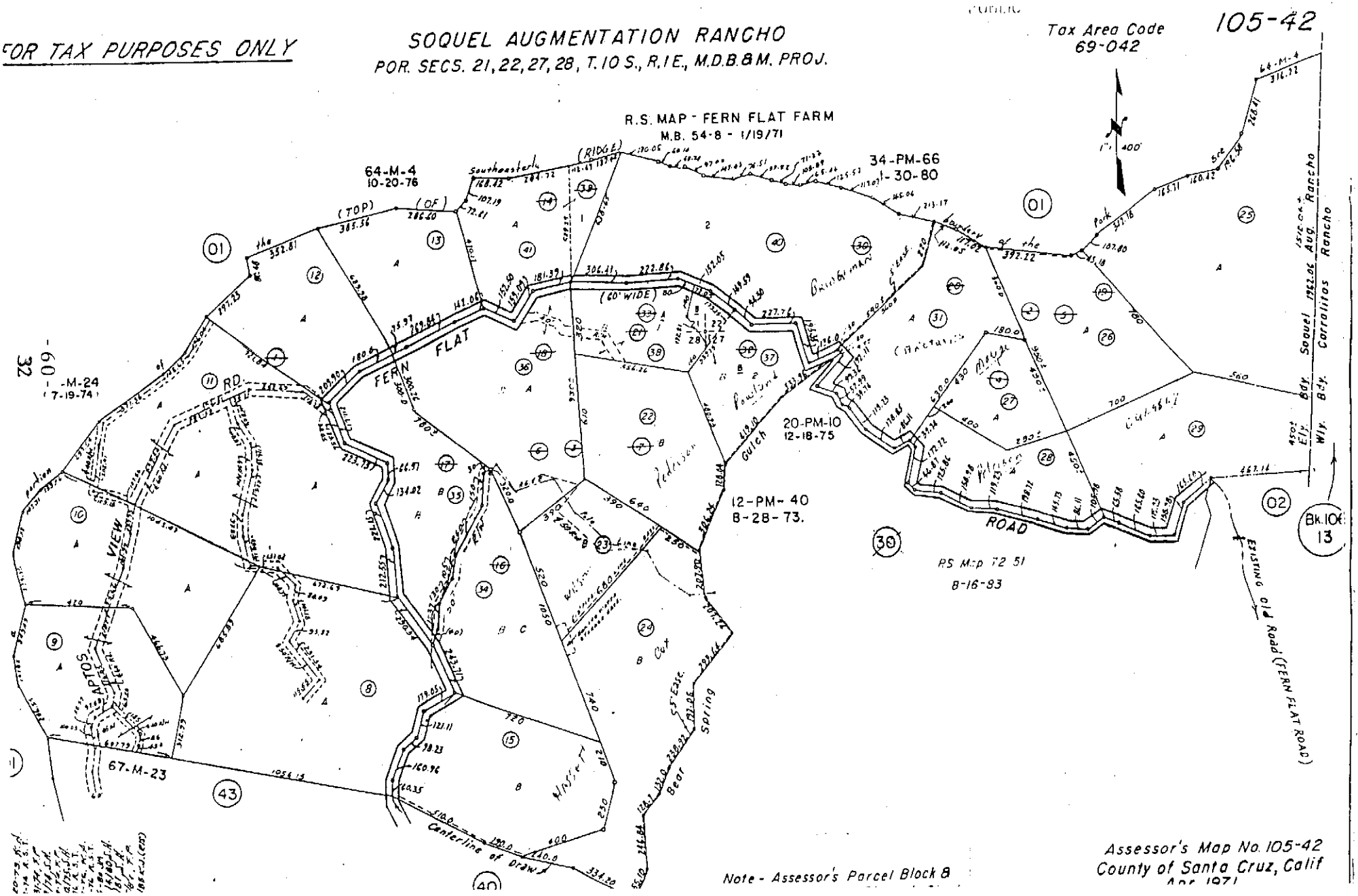
FOR TAX PURPOSES ONLY

SOQUEL AUGMENTATION RANCHO

POR. SECS. 21, 22, 27, 28, T. 10 S., R. 1 E., M.D.B.&M. PROJ.

Tax Area Code 69-042

105-42



Assessor's Map No. 105-42
County of Santa Cruz, Calif
Apr 1971

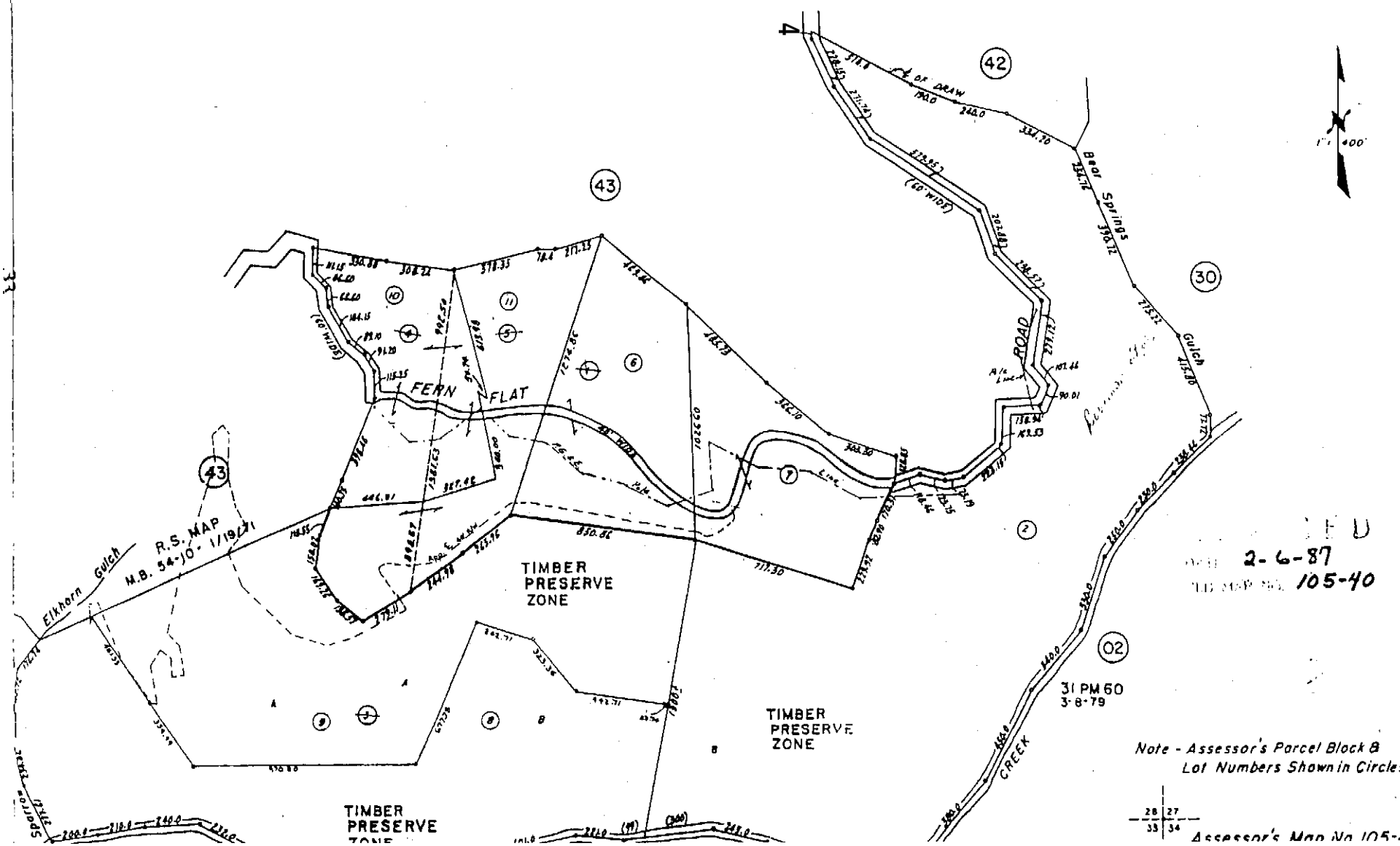
FOR TAX PURPOSES ONLY

SOQUEL AUGMENTATION RANCHO

POR. SECS. 27, 28 & 33, T.10S., R.1E., M.D.B.&M. PROJ.

Tax Area Code 69-042

105-40

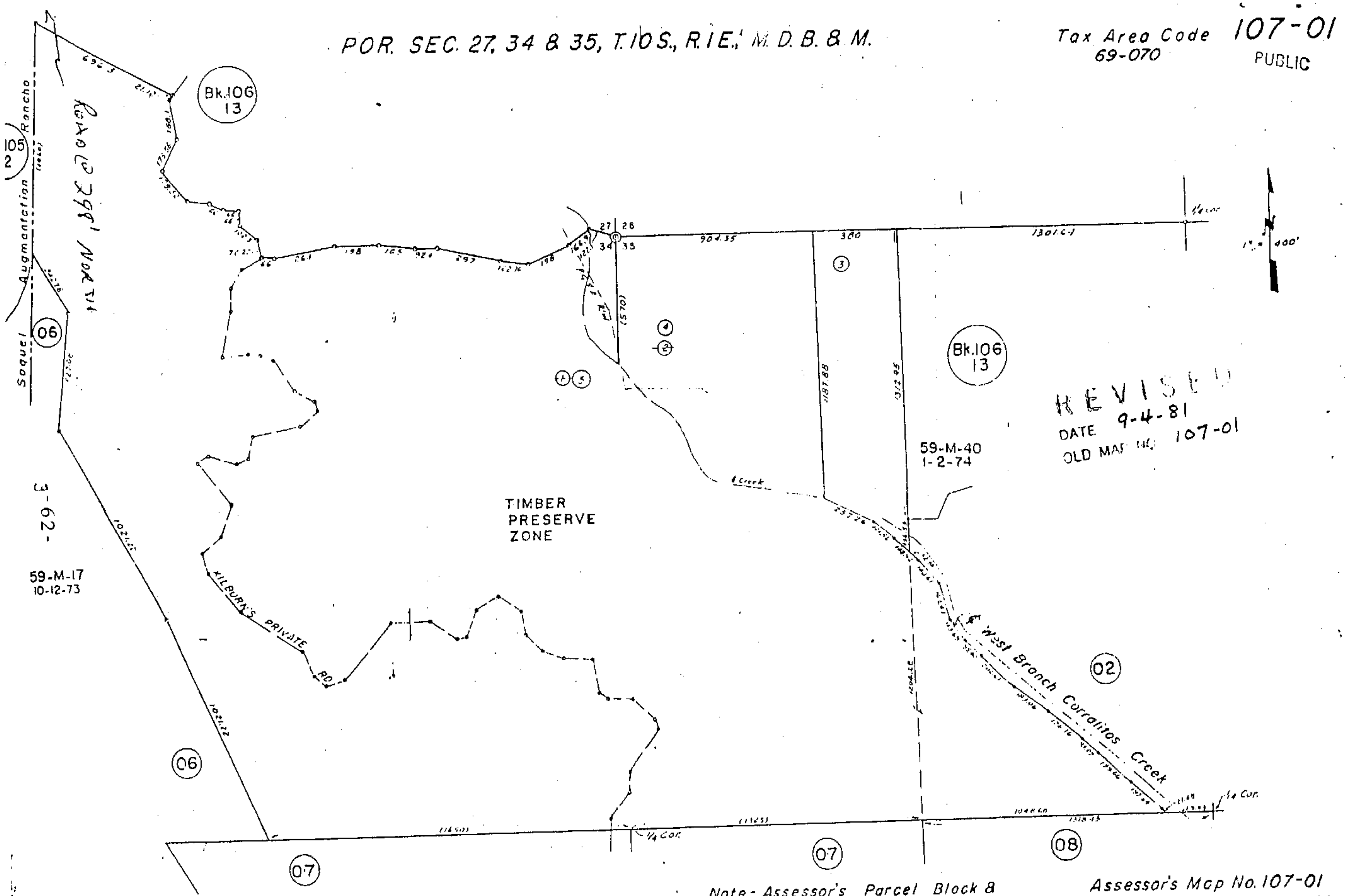


POR. SEC. 27, 34 & 35, T.10S., R.1E., M.D.B.& M.

Tax Area Code 69-070

107-01

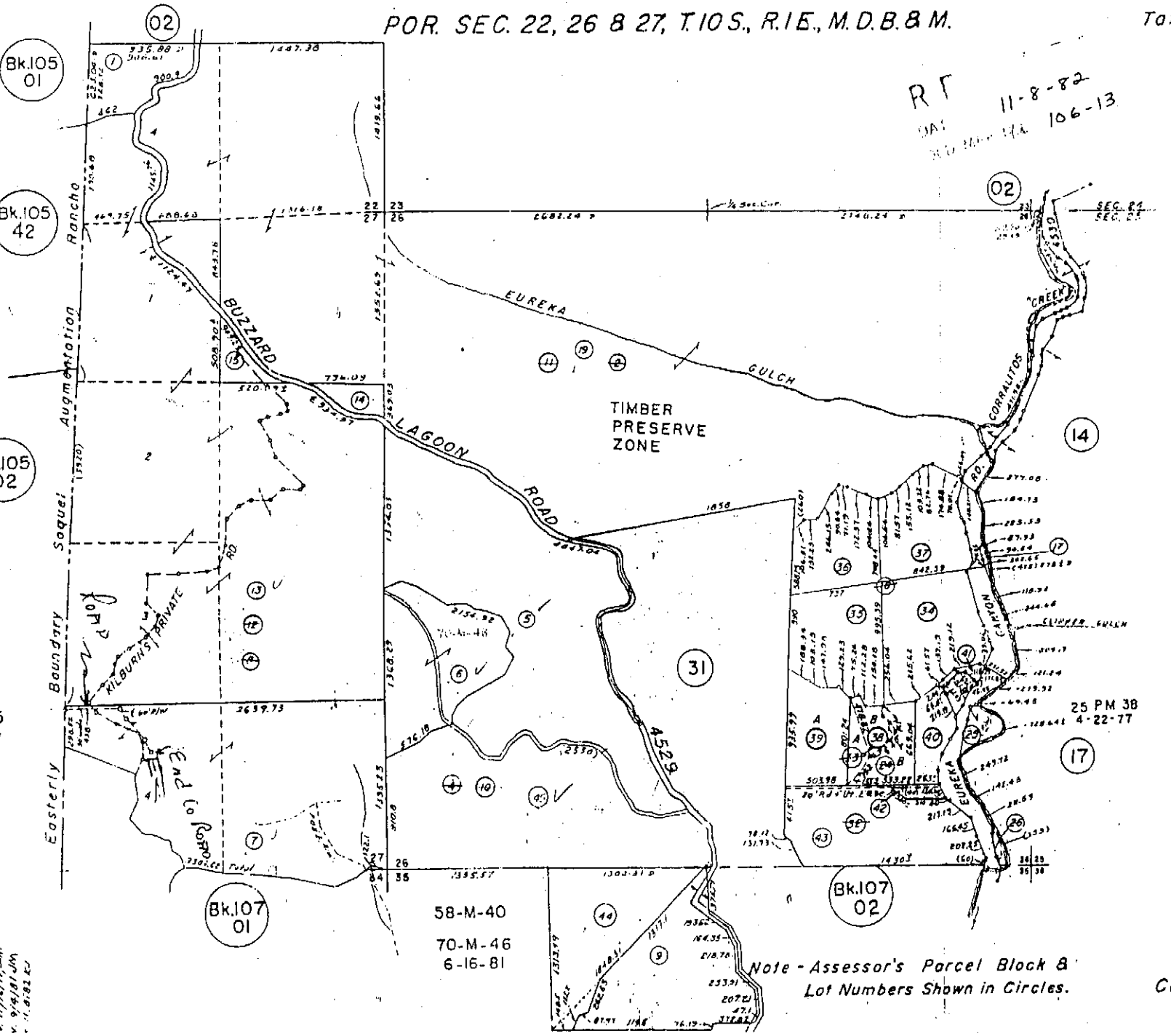
PUBLIC



REVISED
DATE 9-4-81
OLD MAP NO. 107-01

Note - Assessor's Parcel Block & Lot Numbers Shown in Circles.

Assessor's Map No. 107-01
County of Santa Cruz, Calif.
Mar. 1954


POR. SEC. 22, 26 & 27, T.10S., R.1E., M.D.B.&M.
PUBLIC
Tax Area Code 106
69-070
13
RT 11-8-82
106-13
FOR TAX PURPOSES ONLY
Bk.105 01
Bk.105 42
Bk.105 02
Bk.107 01
Bk.107 02
Rancho Augmentation
Soquel
Boundary
Easterly
BUZZARD
EUREKA GULCH
LAGOON ROAD
4529
TIMBER PRESERVE ZONE
KILBURN'S PRIVATE
End to Road
CORRALITOS "CREEK"
CANYON
EUREKA
SLIPPER GULCH
1" = 300'
61-M-5
11-22-74
58-M-40
70-M-46
6-16-81
25 PM 38
4-22-77
Note - Assessor's Parcel Block & Lot Numbers Shown in Circles.
Assessor's Map No. 106
County of Santa Cruz, C
Feb. 1954

- 63 -

capacity is 5.5 to 10.0 inches. Runoff is very rapid, and the hazard of erosion is very high.

These soils are used mainly for timber, recreation, wildlife habitat, and watershed. They are also used for firewood production.

These soils are well suited to the production of Douglas-fir. The Lompico soil is capable of producing 10,350 cubic feet, or 43,560 board feet (International rule), of merchantable timber per acre from a fully stocked, even-aged stand of 80-year-old trees. The Felton soil is capable of producing 13,360 cubic feet, or 70,000 board feet (International rule), of merchantable timber per acre from a fully stocked, even-aged stand of SO-year-old trees. The hazard of erosion is the major limitation of these soils in timber production. Care must be taken during harvesting to minimize erosion. The Lompico soil produces more timber than the Felton soil because the Lompico soil has weathered bedrock at a depth of 20 to 40 inches.

This complex provides habitat for band-tailed pigeon, jay, hawk, deer, raccoon, coyote, bobcat, rabbit, squirrel, mice: salamander, tree frog, lizard, and snake.

These soils are poorly suited to building site development and onsite sewage disposal because of their very steep slopes. Capability subclass VIIe(4), nonirrigated; Storie index 20.

145—Lompico Variant loam, 5 to *30* percent **slopes.** This moderately deep, well drained soil is on terraces and mountains. It is mainly on ridges and in small benchlike areas. It formed' in residuum derived from sandstone, shale, or mudstone. Slopes are slightly convex. Elevation ranges from 400 to 2,000 feet. The mean annual precipitation is about 40 inches, and the mean annual air temperature is about 56 degrees F. The frost-free season ranges from 220 to 250 days.

Typically, the surface layer is dark grayish brown, slightiy acid and medium acid loam and clay loam about 14 inches thick. The upper part of the subsoil is mixed grayish brown and dark yellowish brown, dark brown, and strong brown, medium acid and strongly acid clay about 9 inches thick. The lower part is variegated yellowish brown and brown, very strongly acid clay about 5 inches thick. Highly weathered shale is at a depth of 28 inches.

Included with this soil in mapping are areas of Aptos fine sandy loam and Felton sandy loam. Also included are smal! areas of Lompico loam, Madonna loam, Nisene loam, soils that are similar to this Lompico soil but are less than 20 inches *or* more than 40 inches deep to weathered bedrock, and soils that are similar to this soil but have slopes of less than *5* percent or more than **30** percent.

Permeability of this Lompico soil is slow. Effective rooting depth is 20 to 40 inches. Available water capacity is 3.0 to 6.5 inches. Runoff is medium or rapid, and the hazard of erosion is moderate or high.

This soil is used mainly for timber, recreation, wildlife habitat, and watershed. It is also used as homesites and for firewood production, pasture, and apple orchards.

This soil is well suited to the production of Douglas-fir. It is capable of producing 9,000 cubic feet, or 33,100 board feet (International rule), of merchantable timber per acre from a fully stocked, even-aged stand of 80-year-old trees. The soil is limited for this use by the claypan at a depth of 10 to 20 inches and weathered bedrock at a depth of 20 to 40 inches.

Forested areas of this soil provide habitat for band-tailed pigeon, jay, hawk, deer, raccoon, coyote, bobcat, rabbit, squirrel, mice, salamander, tree frog, lizard, and snake.

The potential of this soil for apple orchards is poor. The claypan at a depth of 20 to 40 inches restricts root growth and lowers both tree survival and production.

Rapid population growth in the county has resulted in increased construction of homes on this soil. The slow permeability and depth to bedrock severely limit the use of this soil as septic tank absorption fields. Shrink-swell potential and low strength severely limit the use of this. soil as homesites. Only the part of the site used for construction should be disturbed. Topsoil should he stockpiled and used to reclaim areas disturbed by cutting and filling. Capability unit IVe-1(4), nonirrigated; Storie index 47.

146—Los Osos **loam, 5 to** 15 **percent** slopes. This moderately deep, well drained soil is on hills and mountains. It is dominantly on wide ridges. It formed in material weathered from sandstone, siltstone, mudstone, nr shale. Elevation ranges from 100 to 2,000 feet. The mean annual precipitation is about 32 inches, and the mean annual air temperature is about 58 degrees. The frost-free season ranges from 245 to 270 days.

Typically, the surface layer is dark grayish brown, medium acid loam and sandy loam about 11 inches thick. The upper part of the subsoil is brown, slightiy acid sandy clay loam about 8 inches thick. The lower part is brown and pale brown, slightly acid heavy clay loam and clay about 17 inches thick. Weathered sandstone is at a depth of 36 inches.

Included with this soil in mapping are areas of a soil that is similar to this Los Osos soil but *has* a major texture change between the surface layer and the subsoil. Also included are areas of Bonnydoon loam and smsll areas of Aptos loam, warm; Pinto loam; Watsonville loam; and soils that are similar to this Los Osos soil but have slopes of less than 5 percent or more than 15 percent.

Permeability of this Los Osos soii is slow. Available water capacity is 3.0 to 6.5 inches. Effective rooting depth is 20 to 40 inches. Runoff is medium, and the hazard of erosion is moderate.

This soil is used mainly for range. A few areas are being de-geloped as homesites.

If this soil is csed for range, the native vegetation should be managed to increase the production cf soft ches: an wild oats. if the soil is continuously overgrazed, the condition of the range deteriorates; the proportion of desirable plants decreases, and the proportion of undesirable plants increases. Control of silver hairgrass,

These soils are poorly suited to building site development and onsite sewage disposal because of their steep and very steep slopes. Capability subclass VIIe(4), nonirrigated; Storie index 20.

114—Ben Lomond-Felton complex, **30** *to* **50** percent slopes. This complex consists mainly of soils in concave areas near drainageways. Elevation ranges from 400 to 3,000 feet but is dominantly less than 2,000 feet. The mean annual precipitation is about 45 inches, and the mean annual air temperature is about 56 degrees F. **The** frost-free season ranges from 220 to 245 days.

This complex is about 35 percent Ben Lomond sandy loam and 35 percent Felton sandy loam.

Included with these soils in mapping are areas of Nisene loam, Aptos sandy loam, and Lompico loam. **Also** included are small areas of Catelli sandy loam, Hecker gravelly sandy loam, and soils that are similar to these Ben Lomond and Felton soils but have slopes of less than 30 percent or more than 50 percent.

The Ben Lomond soil is deep and well drained. It. formed in residuum derived from sandstone or granitic rock. Typically, the soil has a 2-inch mat of partially decomposed needles and twigs. The surface layer is dark grayish brown, slightly acid and neutral sandy loam about 19 inches thick. The subsoil is brown, medium acid sandy loam about 11 inches thick. The substratum is pale brown, medium acid sandy loam about 16 inches thick. Weathered sandstone is at a depth of **46** inches.

Permeability of the Ben Lomond soil is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water capacity is 4.0 to 7.5 inches. Runoff is rapid, and the hazard of erosion is high.

The Felton soil is deep and well drained. It formed in residuum derived from sandstone, shale, schist, or siltstone. Typically, the surface lager is dark grayish brown and brown, slightly acid sandy ioam about 11 inches thick. The subsoil is brown and yellowish red, slightly acid and strongly acid sandy clay loam and clay loam about 32 inches thick. The substratum is variegated light brownish gray and light oiive brown, strongly acid loam and sandy loam about 20 inches thick. Weathered sandstone is at a depth of 63 inches.

Permeability of the Felton soil is moderately slow. Effective rooting depth is 40 to 72 inches. Available water capacity is 5.5 to 10.0 inches. Runoff is rapid, and the hazard of erosion is high.

These soils are used mainly for timber, recreation, wildlife habitat, and watershed. They are also used for firewood production and as homesites.

This complex is well suited to the production of redwood. It is capable of producing 13,360 cubic feet, or 70,000 board feet (International rule), of merchantable timber per acre from a fully stocked, even-aged stand of SO-year-old trees.

This complex provides habitat for band-tailed pigeon, jay, hawk, deer, raccoon, coyote, bobcat, rabbit, squirrel, mice, salamander, tree frog, lizard, and snake.

These soils are poorly suited to building site development an,: onsite sewage disposal because they have steep slopes. Capability subclass VIe(4), nonirrigated; Storie index 32.

115—Ben Lomond-Felton compiex, 50 **to** 75 percent lopes. This complex is dominantly in concave areas near drainageways. Elevation ranges from 400 to 3,000 feet. The mean annual precipitation is about 45 inches, and the mean annual air temperature is about 56 degrees F. The frost-free season ranges from 220 to 245 days.

This complex is about 35 percent Ben Lomond sandy loam and 35 percent Felton sandy loam.

Included with these soils in mapping are areas of Nisene loam. Aptos sandy loam, and Lompico loam. **Also** included are small areas of Catelli sandy loam, Hecker gravelly sandy loam, and soils that are similar to the Ben Lomond and Felton soils but have slopes of 75 to 90 percent slopes.

The Ben Lomond soii is deep and well drained. It formed in residuum derived from sandstone or granitic rock. Typically, the soil is covered by a 2-inch mat of partially decomposed needles and twigs. The surface layer is dark grayish brown, slightly acid and neutral sandy loam about 19 inches thick. The subsoil is brown, medium acid sandy loam about 11 inches thick. The substratum is pale brown, medium acid sandy loam about 16 inches thick. Weathered sandstone is at a depth of 46 inches.

Permeability of the Ben Lomond soil is moderately rapid. Effective rooting depth is 40 to 60 inches. Available water capacity is 4.0 to 8.5 inches. Runoff is very rapid, and the hazard of erosion is very high.

The Felton soil is deep and well drained. It formed in residuum derived from sandstone, shale, schist, or siltstone. Typically, the surface layer is dark grayish brown and brown, slightly acid sandy loam about 11 inches thick. The subsoil is brown and yellowish red, slightly acid and strongly acid sandy clay ioam and clay loam about 32 inches thick The substratum is variegated light brownish gray and light olive brown, strongly acid loam and sandy loam about 33 inches thick. Weathered sandstone is at a depth of 63 inches.

Permeability of the Felton soil is moderately slow. Effective rooting depth is 40 to 70 inches. Available water capacity is 5.5 to 10.0 inches. Runoff is very rapid, and the hazard of erosion is very high.

These soils are used mainly for timber, recreation, wildlife habitat, and Watershed. They are also used for firewood production.

These soils are well suited to the production of redwood and Douglas-fir. From a fully stocked, even-aged stand of 80-year-old trees, the soils are capable of producing about 13,360 cubic feet, or 70,000 board feet (International rule) of merchantable redwood timber. The production of merchantable Douglas-fir timber is slightly lower on these soils.

This complex provides habitat for band-tailed pigeon, jay, hawk, deer, raccoon, coyote, bobcat, rabbit, squirrel, mice, salamander, tree frog, lizard, and snake.

ADDENDUM D

Product: LUMBER **Species: REDWOOD** **5/21/2007**

2 Acre PLOT CRUISE M & *G* Form Class Bd Ft -V" top

	Per Acre			77 Acres	
DBH	Trees	Basal Area	BOARD	Trees	BOARD FEET
12	6.2	4.9	200.34	481	15426.18
14	2.5	2.7	117.56	192	9051.96
16	6.2	8.7	402.83	481	31018.26
18	8.1	14.4	685.30	626	52767.79
20	5.0	10.9	534.24	385	41136.12
22	6.9	18.1	905.32	529	69709.77
24	6.2	19.6	993.40	481	76491.88
26	5.0	18.4	944.81	385	72750.01
28	5.6	24.1	1241.33	433	95582.41
30	4.4	21.5	1118.57	337	86129.92
32	2.5	14.0	732.96	192	56437.87
34	2.5	15.8	833.03	192	64143.38
36	0.0	0.0	0.00	0	0.00
	61.1	173.1	8709.69	4714	670645.60

HAINES Plot Cruise Volume Summary 5/21/2007

	Per Acre			77 - Acres		Ave Tree		Cruise		
!Product	Volume	Trees	BA	Volume	Trees	Volume	DBH	Plts	Size	%Cr
LUMBER	**BOARD**									
REDWOOD	8709.69	61.1	173.1	670646	4705	142.55	22.8	8	0.20	2.1
LUMBER	**8709.69**	**61.1**	**173.1**	**670646**	**4705**	**142.55**	**22.8**	**8**	**0.20**	**2.1**