



## Staff Report to the Planning Commission

Application Number: **99-0805**

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**Applicant:** Jim Hildreth, RFP

**Agenda Date:** November 10, 2004

**Owner:** Lincoln and Robin Holland

**Agenda Item #:** 7

**APN:** 105-221-04, 107-061-15 and 107-561-01

**Time:** After 9:00 a.m.

**Project Description:** Proposal to rezone a single lot of record with three Assessor's Parcel Numbers (105-221-04, 107-061-15 and 107-561-01) from the Special Use (SU) and Agriculture (A) zone districts to the Timber Production (TP) zone district.

**Location:** The property is located on the southeast side of Bean Hill Road at the intersection of Bean Hill and Bean Hill Orchard Roads, Aptos.

**Supervisory District:** 2<sup>nd</sup> District (District Supervisor: Pine)

**Permits Required:** Rezoning

### Staff Recommendation:

- Adopt the Resolution **sending** a recommendation to the Board of Supervisors for approval of Application 99-0805 based on the attached findings.
- Recommend certification that the proposal is statutorily exempt from further Environmental Review under the California Environmental Quality Act.

### Exhibits

- |                               |                               |
|-------------------------------|-------------------------------|
| A. Findings                   | F. Assessor's Parcel Map      |
| B. Statutory Exemption (CEQA) | G. Zoning & General Plan Maps |
| C. Resolution                 | H. Timber Resource Map        |
| D. Agreement & Declaration    | I. Timber Management Plan     |
| E. Location Map               |                               |

### Parcel Information

Parcel Size:	■ 256.4 acres
Existing Land Use - Parcel:	Vacant rural land, timberland, meadowlands
Existing Land Use - Surrounding:	Rural residential, timberland, agriculture
Project Access:	Bean Hill Road (northern end) Cox Road (southern end)
Planning Area:	Aptos Hills

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Land Use Designation: R-M (Mountain Residential)  
Zone District: SU, A (Special Use, Agriculture)  
Coastal Zone:      Inside   XX   Outside

#### Environmental Information

Geologic Hazards: Mapped suspected landslides  
Soils: Ben Lomond, Ben Lomond-Felton complex, Lompico-Felton complex, Nisene-Aptos complex  
Fire Hazard: Areas within a mapped constraint  
Slopes: Level - 75+ %  
Env. Sen, Habitat: Riparian - Valencia Creek  
Grading: Existing roads and timber landings  
Tree Removal: Future Timber Harvest proposed  
Scenic: Not located within a mapped resource  
Drainage: No changes to existing drainage patterns  
Traffic: NIA  
Roads: NIA  
Parks: NIA  
Archaeology: Not mapped

#### Services Information

Urban/Rural Services Line:      Inside   XX   Outside  
Water Supply: Private well - currently undeveloped  
Sewage Disposal: Septic - currently undeveloped  
Fire District: California Department of Forestry/County Fire  
Drainage District: Zone 7

#### History

On December 8, 1999, the County Planning Department accepted this application for rezoning an existing lot of record (with three Assessor's Parcel Numbers) totaling about 256 acres from the Special Use and Agriculture zone districts to Timber Production. The California State Government Code Section 51113 and County Code Section 13.10.375(c), **zoning** to the TP district specify the **six** criteria, which must be met in order to rezone to TP. **This** project qualifies for a statutory exemption (Exhibit B) in accordance **with** the California Environmental Quality Act and the County Environmental Review Guidelines (Article 17, Section 1703).

#### Project Setting

The subject property is located in the Aptos Hills area and is undeveloped. The property has a history of timber harvesting and timber management activities. The property ~~was~~ clear cut in the late 1800's to early 1900's. The property has subsequently been selectively harvested in 1976 under a County issued Timber Harvest Permit (THP) and again between 1988 and 1989 under the CDF issued THP 1-88-202 SCR. Future timber harvesting would utilize the existing system of logging

roads and landings.

The property forms the headwaters of the **east** branch of Valencia Creek. Valencia Creek transitions through the property **from an** ephemeral to intermittent stream, then into a perennial stream. Valencia Creek provides spawning and rearing habitat for Southern steelhead trout (*Oncorhynchus mykiss irideus*) - a Federally listed threatened species. **The** property is predominantly redwood forest with areas of **oak** woodlands and meadows.

### Zoning & General Plan Consistency

The subject parcel has a 1994 General Plan land use designation of Mountain Residential. The property is currently split zoned Special Use and Agriculture. The Special Use, Agriculture and Timber Production zoning districts all implement the Mountain Residential General Plan designation, as specified in Section 13.10.170 of the County Code.

Valencia Creek meets the definition of Sensitive Habitat under General Plan policy 5.1.2(c) through (f), (i) and (j). General Plan policy 5.1.4 states “implement the protection of sensitive habitats by maintaining the existing Sensitive Habitat Protection ordinance” (this ordinance is Chapter 16.32 of the County Code). In addition, General Plan policy 5.1.6 states that sensitive habitats shall be protected against any significant disruption of habitat values; any proposed development within or adjacent to these areas must maintain or enhance the functional capacity of the habitat. Projects must be reduced in scale, redesigned, mitigated or, if no alternative exists, denied. Policy 5.1.7 includes the following language, “Protect sensitive habitats against any significant disruption or degradation of habitat values ~~in accordance~~ with the Sensitive Habitat Protection ordinance.” The Sensitive Habitat Protection ordinance’s definition of development includes the following “the removal or harvesting of major vegetation other than for ... timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z’berg-Nejedly Forest Practice Act of 1973; the disturbance of any **rare**, endangered, or locally **unique** plant or animal or its habitat”. Thus, timber harvesting under a CDF Timber Harvest Permit is specifically exempted **from** the regulations of Chapter 16.32. Nevertheless, **as** timber harvesting is not allowed under the subject parcels’ current zoning, the proposed rezoning must be analyzed with respect to and found in conformance with the County’s General Plan policies for protecting the County’s biological resources.

The property owners have entered into an Agreement with the County of Santa Cruz setting limitations on certain timber harvesting activities on **the** subject property, resolving the aforementioned conflicts between timber harvesting activities and the County’s General Plan. Specifically, the property owners have agreed to a “no cut zone” within 30 feet of the ephemeral to intermittent portions of Valencia Creek and within 50 feet of the perennial portions. **This** no cut zone is consistent with the County’s riparian corridor protection policies and corridor widths for the respective stream classifications. This undisturbed area will also provide adequate protection for **this** sensitive biotic habitat consistent with the County’s Sensitive Habitat protection policies. Some cable yarding will be necessary to harvest on the steeper areas of the property. Generally, the yarding operations probably will not require tree trimming or removal within the riparian corridor, nevertheless the property owners have agreed to obtain Riparian Exception Permits from the County of Santa **Cruz** if **the** removal and trimming of trees within the riparian setback proves necessary to create the cable corridors. The Riparian Exception permit would be a staff level review and would ensure corridor widths are minimized. These measures would provide adequate protection for this sensitive habitat consistent with the County’s Sensitive Habitat protection policies and is the superior solution to new road construction.

In accordance with California State Government Code Section 51113 and County Code Section 13.10.375, Special Standards and Conditions for the Timber Production (TP) District, 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 properties to be rezoned (Exhibit F).
2. A Timber Management Plan, prepared by a registered professional forester has been submitted for the property (Exhibit I). The Timber Management Plan has been reviewed and accepted by the Planning Department as meeting **minimum** standards.
3. The property currently meet 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 property is located.
4. The property is timberland, as it is capable of producing a minimum of 15 cubic feet of timber per acre annually, and a significant portion is within a mapped timber resource area.
5. The uses on the parcels 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 defined in Section 38106 of the Revenue and Taxation Code, and is comprised of at least five acres in area.

## Conclusion

All of the criteria have been met for rezoning the subject parcels 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 pursuant to California State Government Code Section 51113 and County Code Section 13.10.375 and subject to the Agreement (Exhibit D). Please see Exhibit A ("Findings") for a complete listing of findings and evidence related to the above discussion.

## Staff Recommendation

- Adopt the Resolution (**Exhibit C**), sending a recommendation to the Board of Supervisors for approval of Application 99-0805 based on the attached findings.
- Recommend certification that the proposal is statutorily **exempt** from **further Environmental Review** under the California Environmental Quality Act.

**Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.**

**The County Code and General Plan, as well as hearing agendas and additional information are available online at: [www.co.santa-cruz.ca.us](http://www.co.santa-cruz.ca.us)**

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Report Reviewed By: Cathy Graves  
Cathy Graves  
Principal Planner  
Development Review

## **REZONING FINDINGS**

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,

The rezoning will allow a density of development and types of uses, which are consistent with the objectives and the land use designations of Mountain Residential. The uses will more closely conform with the General Plan as a result of the zoning of a large property (with three parcel numbers) which contains timber resources meeting the timber stocking standards, and has a substantial area designated as a mapped timber resource.

Valencia Creek meets the definition of Sensitive Habitat under General Plan policy 5.1.2(c) through (f), (i) and (j). General Plan policy 5.1.4 states "implement the protection of sensitive habitats by maintaining the existing Sensitive Habitat Protection ordinance" (this ordinance is Chapter 16.32 of the County Code). In addition, General Plan policy 5.1.6 states that sensitive habitats shall be protected against any significant disruption of habitat values; any proposed development within or adjacent to these areas must maintain or enhance the functional capacity of the habitat. Projects must be reduced in scale, redesigned, mitigated or, if no alternative exists, denied. Policy 5.1.7 includes the following language, "Protect sensitive habitats against any significant disruption or degradation of habitat values in accordance with the Sensitive Habitat Protection ordinance." The Sensitive Habitat Protection ordinance's definition of development includes the following "the removal or harvesting of major vegetation other than for ... timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973; the disturbance of any rare, endangered, or locally unique plant or animal or its habitat". Thus, timber harvesting under a CDF Timber Harvest Permit is specifically exempted from the regulations of Chapter 16.32. Nevertheless, as timber harvesting is not allowed under the subject parcels' current zoning, the proposed rezoning must be analyzed with respect to and found in conformance with the County's General Plan policies for protecting the County's biological resources.

In order to provide the highest level of protection of these resources, the property owners have entered into an Agreement with the County of Santa Cruz setting limitations on certain timber harvesting activities on the subject parcels, resolving the aforementioned conflicts between timber harvesting activities and the County's General Plan. Specifically, the property owners have agreed to a general "no cut zone" within 30 feet of the ephemeral to intermittent portions of Valencia Creek and within 50 feet of the perennial portions. These no cut zones are consistent with the County's riparian corridor protection policies and corridor widths for the respective stream classifications. This undisturbed area will also provide adequate protection for this sensitive biotic habitat consistent with the County's Sensitive Habitat protection policies. Some cable yarding will be necessary to harvest on the steeper areas of the property. Generally, the yarding operations probably will not require tree trimming or removal within the riparian corridor, nevertheless the property owners have agreed to obtain Riparian Exception Permits from the County of Santa Cruz if the removal and trimming of trees within the riparian setback proves necessary to create the cable corridors. The Riparian Exception permit would be a staff level review and would ensure corridor widths are minimized. These measures would provide adequate protection for this sensitive habitat consistent with the County's Sensitive Habitat protection policies and is the superior solution to new road construction.

With this agreement, the proposed rezoning will conform with the General Plan's policies for the

protection of sensitive habitat and riparian corridors.

2. THE PROPOSED ZONE DISTRICT IS APPROPRIATE OF THE LEVEL OF UTILITIES AND COMMUNITY SERVICE AVAILABLE TO THE LAND; AND,

The proposed TP zone district is appropriate to the level of utilities and community services available to the parcel. The subject property is accessed at the northwestern boundaries via Bean Hill Cox Road. The property is located outside of the Urban Services Line and is, therefore, rural in nature.

3. THE PROPOSED REZONING IS NECESSARY TO PROVIDE FOR A COMMUNITY RELATED USE WHICH WAS NOT ANTICIPATED WHEN THE ZONING PLAN WAS ADOPTED,

The proposed rezoning is necessary to provide for a community related use - timber harvesting and timberland management. Timber harvesting was permitted in the SU and A zone districts in the past in certain circumstances under the jurisdiction of the County and later under the sole authority of the California Department of Forestry. Moreover, the subject property was selectively harvested in 1976 under a County issued Timber Harvest Permit (THP) and again between 1988 and 1989 under the CDF issued THP 1-88-202 SCR. Presently, timber harvesting is only allowed within the Timber Production, Parks and Recreation and Mineral Extraction zone districts and the CA zone district outside of the Coastal Zone. The subject property contains timber stands exceeding the timber stocking standards, and a significant area of the property is located within a mapped timber resource area. The rezoning will allow the continuation of harvesting and management of the timberlands on the subject property.

# 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: 99-0805

Assessor Parcel Number: 105-221-04, 107-061-15 and 107-561-01

Project Location: No Situs

Project Description: Proposal to rezone a single lot of record with three Assessor's Parcel Numbers **(105-221-04, 107-061-15 and 107-561-01)** from the Special Use (SU) and Agriculture (A) zone districts to the Timber Production (TP) zone district.

Person or Agency Proposing Project: Jim Hildreth, RPF

Contact Phone Number: **(831) 464-1196**

- A.        The proposed activity **is** not a project under CEQA Guidelines Section 15378.
- B.        The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060(c).
- C.        Ministerial Project involving only the use of fixed standards or objective measurements without personal judgment.
- D. XXX Statutory Exemption other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type: Specify type: Article **17**, Section **1703**. Timberland Preserves

E.        Categorical Exemption

Specify type:

F. Reasons why the project is exempt:

\_\_\_\_\_  
Cathleen Carr, Project Planner

Date: \_\_\_\_\_



**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**

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WHEREAS, the Planning Commission has held a public hearing on Application No. 99-0805, involving property located on southeast side of Bean Hill Road at the intersection of Bean Hill and Bean Hill Orchard Roads, Aptos, 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 properties ~~from~~ the "SU" Special Use and "A" Agriculture zone district to the "TP" Timber Production zone district.

BE IT FURTHER RESOLVED, that the Planning Commission makes findings on the proposed rezoning as contained in Exhibit A of the Report to the Planning Commission dated November 10, 2004.

PASSED AND ADOPTED by the Planning Commission of the County of Santa Cruz, State of California, ~~this~~ 10<sup>th</sup> day ~~of~~ November, 2004, by the following vote:

<b>AYES:</b>	COMMISSIONERS
<b>NOES:</b>	COMMISSIONERS
<b>ABSENT</b>	COMMISSIONERS
<b>ABSTAIN:</b>	COMMISSIONERS

\_\_\_\_\_  
RENEE SHEPHERD, Chairperson

ATTEST \_\_\_\_\_  
CATHY GRAVES, Secretary

APPROVED AS TO FORM:

\_\_\_\_\_  
COUNTY COUNSEL

## AGREEMENT CONCERNING APPLICATION FOR REZONE TO TIMBER PRODUCTION ZONE DISTRICT

The County of Santa Cruz ("County") and Lincoln David Holland and Robin Carol Holland ("Owners") agree as follows:

1. **The County and Owners** enter into this Agreement Concerning Application for Rezone to Timber Production Zone District ("Agreement") on the basis of the following facts, understandings, and intentions:

A. Owners are the owners of certain real property, totaling approximately 256 acres (APN 105-221-04, 107-061-15 and 107-561-01) ("Property"?) located on the southeast side of Bean Hill Road at the intersection of Bean Hill and Bean Hill Orchard Roads. Autos.

B. The Property is currently zoned SU (Special Use) and A (Agriculture).

C. On December 8, 1999, Owners submitted an application, including a timber management plan ("TMP"), to the County to rezone the Property to a Timber Production ("TP") zone district.

D. In December 1998, litigation was filed against the County which included, among other claims, a challenge to the criteria that the County may consider in reviewing applications to rezone property to a TP zone district. The litigation is currently pending in the California ~~Court~~ of Appeal (Big Creek, et al. v. County of Santa Cruz, Civil No. H023778).

E. It is the County's position that it is required by state law to ensure that **all** zoning decisions, including rezoning property to a TP zone district, are consistent with the policies set forth in the County's General Plan and **Local** Coastal Program Land Use Plan ("General Plan/LCP") and that it **has** the authority to deny TP rezone applications where necessary to ensure such consistency. Given that the County's authority in this area is currently at issue in pending litigation before the Court of Appeal, the County, in order to avoid the potential for duplicative additional litigation, has refrained from acting on rezone applications that present clear conflicts with its General Plan/LCP pending a final judicial decision.

F. The County Planning Department has determined that rezoning the Property to **the** TP zone district would, at a minimum, create the following potential conflicts between timber harvesting on the

property and the designated County General Plan/LCP policies:

**5.1 Biological Diversity**

**5.1.6 Development within Sensitive Habitats**

**5.1.7 Site ~~Design~~ and Use Regulations**

**5.2 Riparian Corridors and Wetlands**

**5.2.2 Riparian Corridor and Wetland Protection Ordinance**

**5.2.3 Activities Within Riparian Corridors and Wetlands**

**5.2.4 Riparian Corridor Buffer Setback**

**5.2.7 Compatible Uses with Riparian Corridors**

*Yalencia Creek is classified as an intermittent to perennial stream on the subject property. In addition, there are three ephemeral to intermittent tributaries to Yalencia Creek on the property. Yalencia Creek provides spawning and rearing habitat to Steelhead trout, a Federally listed as Threatened species. Timber harvesting activities could conflict with the County's riparian and sensitive habitat protection General Plan policies. The removal of trees within the 50-foot riparian corridor of the perennial portions of Yalencia Creek and the 30-foot riparian corridor of the ephemeral to intermittent stream channels could damage downstream salmonid habitat through increased water temperatures through loss of shade. Moreover, the site disturbance resulting from timber harvesting activities can increase erosion, resulting in increased turbidity and sedimentation within the stream, thereby degrading in stream water quality and aquatic habitats. The preferred method of timber harvesting in some locations of this property is cable yarding in areas of very steep topography. This method minimizes road construction and ground disturbance and eliminates the need to construct bridges across stream channels. Nevertheless, this method may require some tree trimming and removal within the riparian corridor to create cable corridors.*

**G.** Owners seek to have the County rezone the Property to a TP zone district prior to the issuance of the Court of Appeal decision in the Big Creek litigation so that they may proceed at their discretion to obtain all required approvals to timber harvest the Property and obtain any tax benefit resulting from the rezone. Owners further desire to ensure that future timber harvesting on the Property is consistent, to the extent feasible, with the County General Plan/LCP.

**H.** The County seeks to ensure that it complies with state law by approving an application to rezone the Property to TP only where the rezone would be consistent with the policies set forth in its General Plan/LCP.

I. Both Owners and the County seek to avoid the expense and **risks** inherent in litigation and to **permit** the rezone to go forward in a manner that is mutually satisfactory and beneficial to both parties.

J. In July of 2004, Owners initiated a **series** of discussions with the County Planning Department to discuss whether the identified potential General Plan/LCP inconsistencies could be resolved by an agreement regarding any future timber harvesting on the Property.

K. After extensive discussions, **Owners** and the County have agreed to enter **into** this Agreement and to comply with the terms and conditions set forth herein, including the timber harvesting **conditions** set forth in paragraph 8, below, which they believe are just, fair and adequate.

2. **Owners** shall promptly submit a revised TMP to the County that complies with the timber harvesting **conditions** set forth in paragraph 8, below.

3. Owners shall execute and provide the County with the notarized **original** of the Declaration of Restrictions attached hereto and incorporated herein **as** Exhibit A, which includes the timber harvesting conditions that shall govern all future timber harvesting operations on the Property.

4. The County, after receipt of the revised TMP, shall promptly review the TMP to **determine** its consistency with the provisions of **this** Agreement. Once the County determines that the revised TMP fully complies with the terms of this Agreement, the County shall notice a public hearing before the Planning Commission to consider Owners' application to rezone the Property to TP.

5. The Planning Department staff shall diligently **seek** to procure approval of Owners' rezone application. **Nothing** herein contained, however, shall be deemed to restrict the discretion of the Planning Commission or, if **an appeal** is filed, the Board of Supervisors to consider such matters as may be appropriate, to propose modifications to **this** Agreement, or to deny the rezone application.

6. The parties to **this** Agreement shall **make** every effort and shall cooperate diligently to have all proceedings before the Planning Commission and any proceedings before the Board of Supervisors with regard to the rezone application concluded expeditiously

7. If the County does not approve Owners' application to rezone the Property to TP in accordance

with the terms set forth in this Agreement, then, 1) this Agreement shall have no further force or effect and shall be deemed terminated; and 2) the Declaration of Restrictions executed by Owners shall have no further force or effect, shall be deemed terminated, and shall not be filed with the Office of the County Recorder of the County of Santa Cruz.

8. If the County approves the application to rezone the Property to TP, then the County shall file the Declaration of Restrictions with the Office of the County Recorder of the County of Santa Cruz. In addition, Owners agree that any Timber Harvest Plan ("THP") application that they submit to the California Department of Forestry ("CDF") to conduct timber harvesting on the Property at any time during which the Property is zoned TP or is in a zone district in which commercial timber harvesting is permitted under County law shall, at a minimum, include and be consistent with the timber harvesting conditions set forth below:

- a. *Prior to commencement of timber harvest operations under an approved Timber Harvest Permit, the owner shall obtain a Riparian Exception Permit from the County of Santa Cruz for all tree removal and trimming for the cable corridors across the creek channel and within 30 feet of the edge of the mean high water mark for the stream. All work shall be completed in conformance with the conditions of the Riparian Permit.*
- b. *Timber harvesting and/or tree removal is prohibited within 50 feet of perennial portions of Valencia Creek and within 30 feet of the ephemeral to intermittent portions of Valencia Creek and its tributaries with the following exceptions:*  
  
*Tree(s) posing an imminent hazard to public health and safety may be removed. However, any such tree located within 50 feet of Valencia Creek shall require a Riparian Exception Permit prior to removal.*  
  
*Trees removed for cable corridors under an approved Riparian Exception in accordance with condition a. above.*
- c. *Nothing contained in this Agreement shall be deemed to restrict the discretion of the CDF or to preclude CDF, in approving a THP for the Property, from imposing conditions on the THP that are more restrictive on timber harvesting than the terms set forth in this Agreement.*

9. This Agreement shall run with the Property and be binding upon the parties hereto, and their respective employees, counsel, agents, successors and assigns.

10. Each signatory hereto represents that he or she is authorized to execute this Agreement so as to bind the parties on whose behalf he or she is a signatory. The parties have read and understand the terms of this

Agreement. Each party is fully aware of the contents of this Agreement and its legal effect, although Owners have chosen not to be represented by counsel in their negotiations for, and in the preparation of, this Agreement.

11. **This** Agreement constitutes the entire agreement between the parties and all other prior agreements or ~~understandings~~, written or oral, are merged into and superseded by the terms of **this** Agreement, which may not be altered, ~~modified~~, or otherwise changed excepted by a writing signed by the duly authorized representatives of the parties to **this** Agreement.

12. Owners and the County shall reasonably cooperate with one another in order to effectuate the purposes of this Agreement. The parties to this Agreement shall attempt in good faith to resolve ~~through~~ negotiation any dispute, claim or controversy regarding the interpretation or application of **this** Agreement. Either party may initiate negotiations by **providing** written notice in letter **form** to the party ~~from~~ whom relief is requested, setting forth the subject of the dispute and the relief requested. The recipient of such notice shall respond ~~within~~ five **days** with a ~~written~~ statement of its position ~~on~~, and recommended solution ~~to~~, the dispute. **If** the dispute is not resolved by this exchange of correspondence, then ~~representatives~~ of the parties shall meet at a mutually agreeable *time* and place (either in person or by telephone) within ten days of the date of the ~~initial~~ notice in order to exchange relevant information and perspectives, and to attempt to resolve the dispute.

13. Any written communications concerning this Agreement ~~shall be~~ delivered to the parties at the addresses set forth below:

county of santa Cruz:

Planning Director  
Planning Department  
701 Ocean Street, 4<sup>th</sup> Floor  
**Santa** Cruz, CA 95060

owners:

Lincoln David and Robin Carol Holland  
330 La Mesa Drive  
Portola Valley, CA 94028

These addresses ~~may~~ be modified by written notification to the other party.

14. This Agreement shall be interpreted and construed in the manner best calculated to carry out its

purposes of achieving the objectives set forth in paragraph 1, subparagraphs G, H, and I, above.

15. This Agreement shall become effective on the date that it is signed by the signatories set forth below.

16. This Agreement shall be signed by the parties below and may be executed in separate counterparts.

DATED: 9/3/04

By Lincoln David Holland  
Lincoln David Holland

By Robin Carol Holland  
Robin Carol Holland

DATED: \_\_\_\_\_

COUNTY OF SANTA CRUZ, et al.

By \_\_\_\_\_  
Chair, Board of Supervisors

APPROVED AS TO FORM:

[Signature]  
ASSISTANT COUNTY COUNSEL

[99-0805TP rezone agreement.wpd]

Recording requested by:

COUNTY OF SANTA CRUZ

When recorded, return to:

Santa Cruz County Planning Department  
701 Ocean Street  
Santa Cruz, CA 95060  
Attn: Cathleen Carr

RE: APN 105-221-04,107-061-15and 107-561-01

## DECLARATION OF RESTRICTIONS

### RECITALS

A. THIS DECLARATION is made in the County of Santa Cruz, State of California, effective date shown below, by Lincoln David Holland and Robin Carol Holland ("Declarants"), owners of real property described in Exhibit "A" attached hereto and incorporated herein by reference ("Subject Property"). Declarants enter into this Declaration for the purpose of complying with the Agreement Concerning Application for Rezone to Timber Production Zone District entered into between the Declarants and the County of Santa Cruz ("County") on \_\_\_\_\_ ("Agreement").

B. Declarants applied to rezone the Subject Property to a Timber Production ("TP") zone district so that they could conduct timber harvesting on the Subject Property. The County Planning Department determined that timber harvesting on the Subject Property created potential conflicts with the County's General Plan and Local Coastal Program Land Use Plan ("General Plan/LCP"). The Agreement provides, in part, that if the County approved the rezone to TP, Declarants agreed to a number of conditions regarding the manner of harvesting the timber on the Subject Property that would reduce or eliminate the potential General Plan/LCP conflicts. The Agreement states that the Timber Harvest Plan ("THP"), which Declarants must submit to the State in order to conduct timber harvesting on the Subject Property, must include these conditions.

C. The County entered into the Agreement because, among other reasons, it concluded that the Agreement's conditions on timber harvesting reduce or eliminate the potential conflicts that the rezoning would create with the General Plan/LCP and therefore benefit the public at large and, more specifically, the property owners and residents in proximity to the Subject Property, while permitting Declarants to achieve the benefits of rezoning to the TP zone district and to comply with the General Plan/LCP.

D. For purposes of this Declaration, the pertinent provisions of the Agreement are as follows:

1. Paragraph 8 provides that if the County approves the application of Declarants to rezone the Subject Property to TP, Declarants agree that any THP application that they submit to the California Department of Forestry to conduct timber harvesting on the Subject Property shall, at a minimum, include and be consistent with the terms set forth in the remainder of Paragraph 8.



## RESTRICTIONS

Declarants, in consideration of the County's approval of the rezone of the Subject Property to TP, a zone designation in which timber harvest operations are permitted and which benefits the Subject Property, and to comply with the terms of the Agreement, hereby declare that all of the Subject Property shall be held, transferred, sold, and conveyed subject to the following restrictions and conditions for the protection and benefit of the County and of the public at large:

1. Covenant Running with the Land. Declarants covenant and agree to restrict, and by this instrument do restrict, the future use of the Subject Property as set forth below by the establishment of this covenant which shall run with the title to the Subject Property and be binding on all parties having or acquiring any right, title or interest in the Subject Property or any part thereof, their heirs, assigns and any other transferees and successors and shall apply to each owner thereof, while each such owner owns an interest in the subject property.

2. Use of the Subject Property. Neither Declarants nor any other person shall conduct any commercial timber harvesting operations on the Subject Property inconsistent with the terms of the Agreement. In particular, the following timber harvesting conditions, set forth in paragraph 8 of the Agreement, shall govern future timber harvesting on the Subject Property:

- a. *Prior to commencement of timber harvest operations under an approved Timber Harvest Permit, the owners shall obtain a Riparian Exception Permit from the County of Santa Cruz for all tree removal and trimming for the cable corridors across the creek channel and within 30 feet of the edge of the mean high water mark for the stream. All work shall be completed in conformance with the conditions of the Riparian Permit.*
- b. *Timber harvesting and/or tree removal is prohibited within 50 feet of perennial portions of Valencia Creek and within 30 feet of the ephemeral to intermittent portions of Valencia Creek and its tributaries with the following exceptions:*

*Tree(s) posing an imminent hazard to public health and safety may be removed. However, any such tree located within 50 feet of Valencia Creek shall require a Riparian Exception Permit prior to removal.*

*Trees removed for cable corridors under an approved Riparian Exception in accordance with condition a. above.*

- c. *Nothing contained in this Agreement shall be deemed to restrict the discretion of the CDF or to preclude CDF, in approving a THP for the Property, from imposing conditions on the THP that are more restrictive on timber harvesting than the terms set forth in this Agreement.*

3. Term. This Declaration shall commence on the effective date shown below and remain in full force and effect in perpetuity at all times during which the Subject Property is zoned TP or is in a zone district in which commercial timber harvesting is permitted under County law.

4. No Dedication: No Rights of Public Use. The provisions of this Declaration do not constitute a dedication for public use, or a conveyance of an interest in the Subject Property.

5. Enforcement. Any conveyance, contract, or authorization (whether written or oral) by Declarants or their successors in interest which would permit use of the Subject Property contrary to the terms of this Declaration shall be a breach of this Declaration. County or its successor may bring an action by administrative or judicial proceeding when County deems necessary or convenient to enforce this Declaration. Declarants understand and agree that the enforcement proceedings provided in this paragraph are not exclusive and that the County may pursue any appropriate legal and equitable remedies available to it, and County shall recover, provided that County is the prevailing party, reasonable attorneys' fees and costs in bringing any action, whether administrative or judicial, to enforce this Declaration as against the party causing such breach.

6. Recordation of Documents. This Declaration shall be duly recorded in the Office of the County Recorder of the County of Santa Cruz following the rezoning of the Subject Property to the TP zone district. In the event that under the terms and conditions of this document, or any subsequent mutual written agreement, these restrictions are terminated with respect to all or any part of the Subject Property, the County shall, upon written request, execute and record with the County Recorder of the County of Santa Cruz any documents necessary to evidence such termination.

7. Construction of Validity/Severability. If any provision of these restrictions shall be held to be invalid, or for any reason become unenforceable, no other provision shall be thereby affected or impaired, but rather shall be deemed severable.

IN WITNESS WHEREOF, Declarants have executed this Declaration of Restrictions on the \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_  
Declarant

\_\_\_\_\_  
Declarant

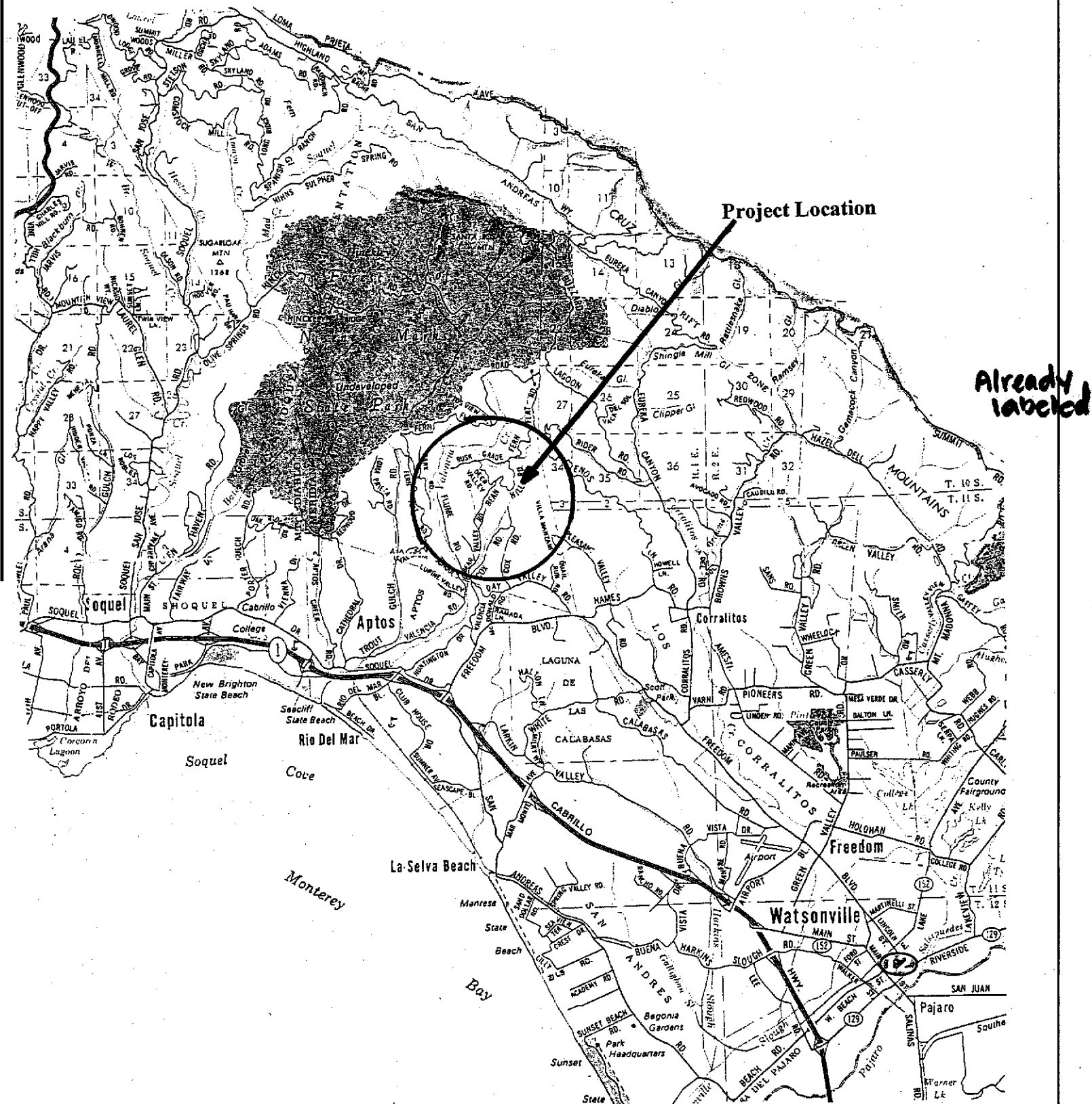
**ALL SIGNATURES ARE TO BE ACKNOWLEDGED BEFORE A NOTARY PUBLIC. IF A CORPORATION, THE CORPORATE FORM OF ACKNOWLEDGMENT SHALL BE ATTACHED.**

STATE OF CALIFORNIA                    )  
  )  
COUNTY OF SANTA CRUZ    )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me \_\_\_\_\_, a notary public in and for said state, personally appeared \_\_\_\_\_, personally known to me (or proved to me on the basis of satisfactory evidence) to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons, or the entity upon behalf of which the persons acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public, State of California



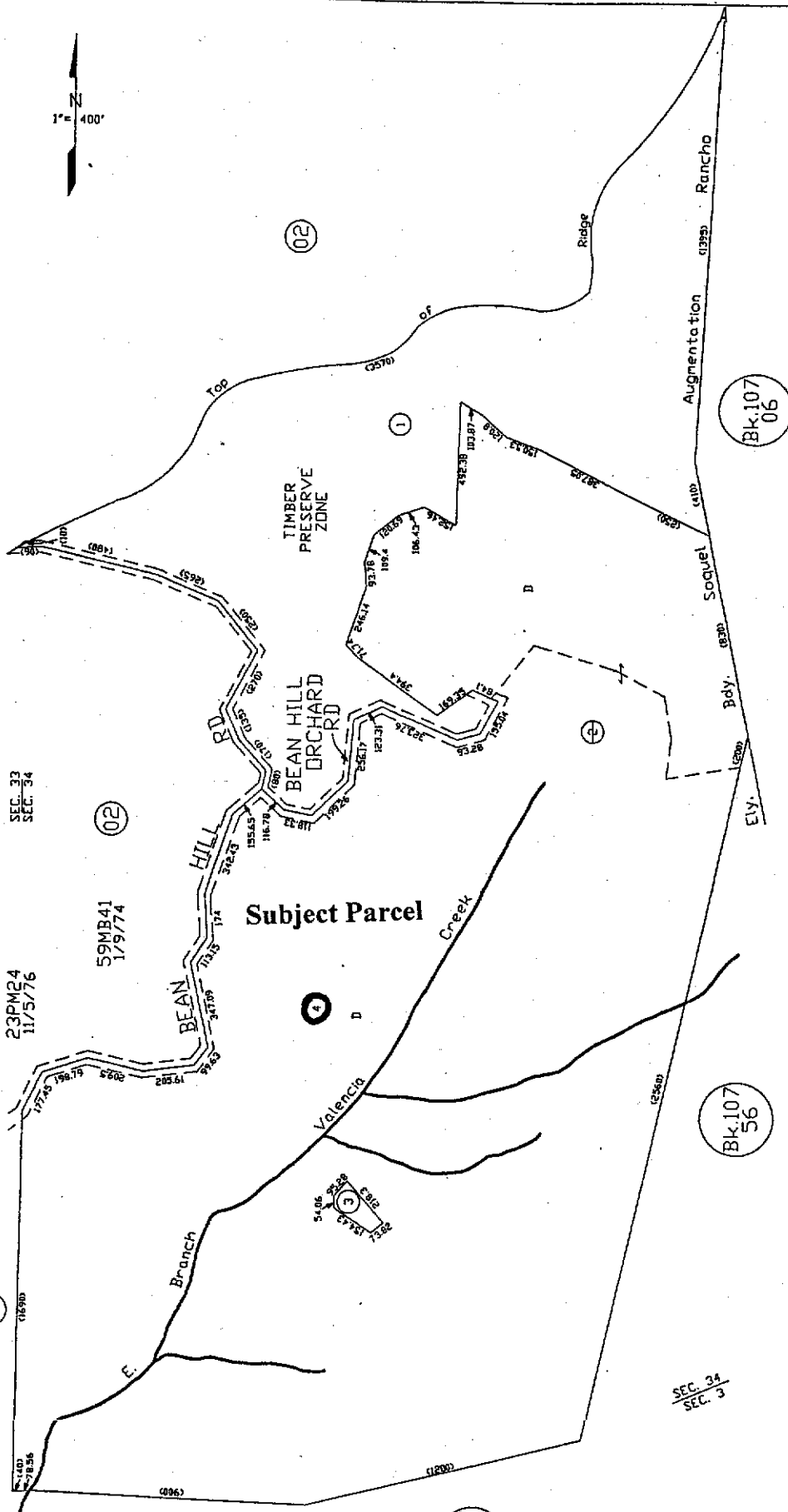
LOCATION MAP

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

Tax Area Code  
69-266

105-22



Assessor's Map No. 105-22  
County of Santa Cruz, Calif.  
June 1998

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

Already  
labeled

# ASSESSOR'S PARCEL MAP

EXHIBIT

Electronically redacted 6/16/98 KSA

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Northerly Boundary Rancho de los Corralitos

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

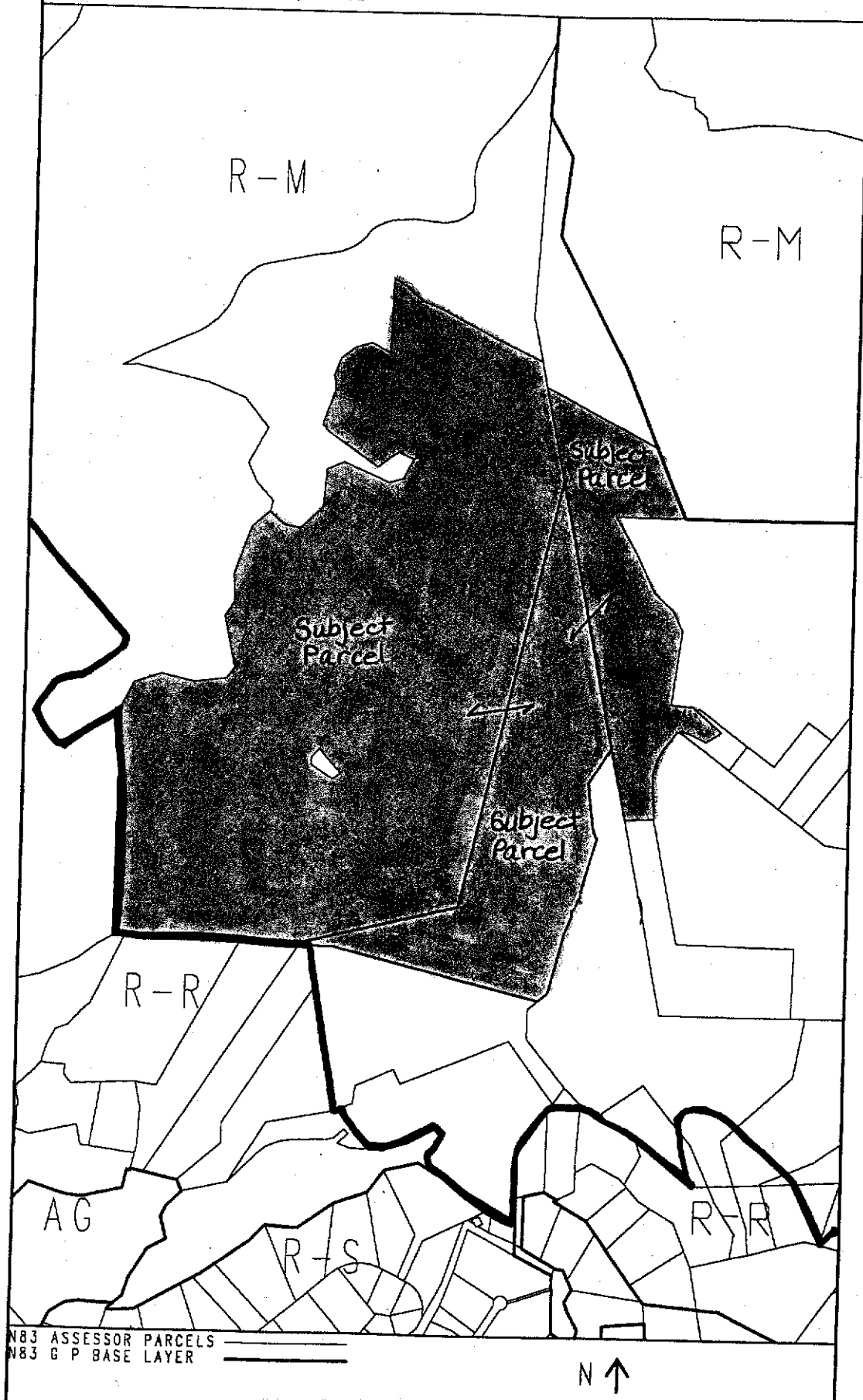
EXHIBIT F



SCALE (FT/INCH) = 982  
WIDTH IN FEET = 5,429.21  
DEPTH IN FEET = 8,690.82  
REQUEST ID: 99-0805



SCALE (FT/INCH) = 982  
WIDTH IN FEET = 5,429.21  
DEPTH IN FEET = 8,690.82  
REQUEST ID: 99-0805







TIMBER RESOURCES MAP

HILDRETH FORESTRY CONSULTING LLC

September 2, 2004

Ms. Cathleen Carr  
Planning Department  
County of Santa Cruz  
701 Ocean Street, 4<sup>th</sup> Floor  
Santa Cruz, CA 95060

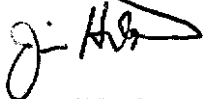
Re: Timber Rezoning Application #99-0805  
Lincoln and Robin Holland  
APN 105-221-04, 107-061-15, 107-561-01

Dear Ms. Carr,

Enclosed, please find the updated management plan map that indicates the riparian buffers. You had also asked me to investigate if cable yarding would be used ~~in~~ these buffers. The past harvest plan (1-88-202 SCR) did indeed require yarding through the WLPZ and ELZs, so I assume that this would again be desired. Please note that full suspension is required by the Department of Fish and Game and CDF.

Please give me a call if you have any questions.

Sincerely,



Jim Hildreth  
RHF #2639

P.O. BOX 1224 CAPITOLA CA 95010  
(831) 464-1196  
hildrethforestry@calcentral.com

26

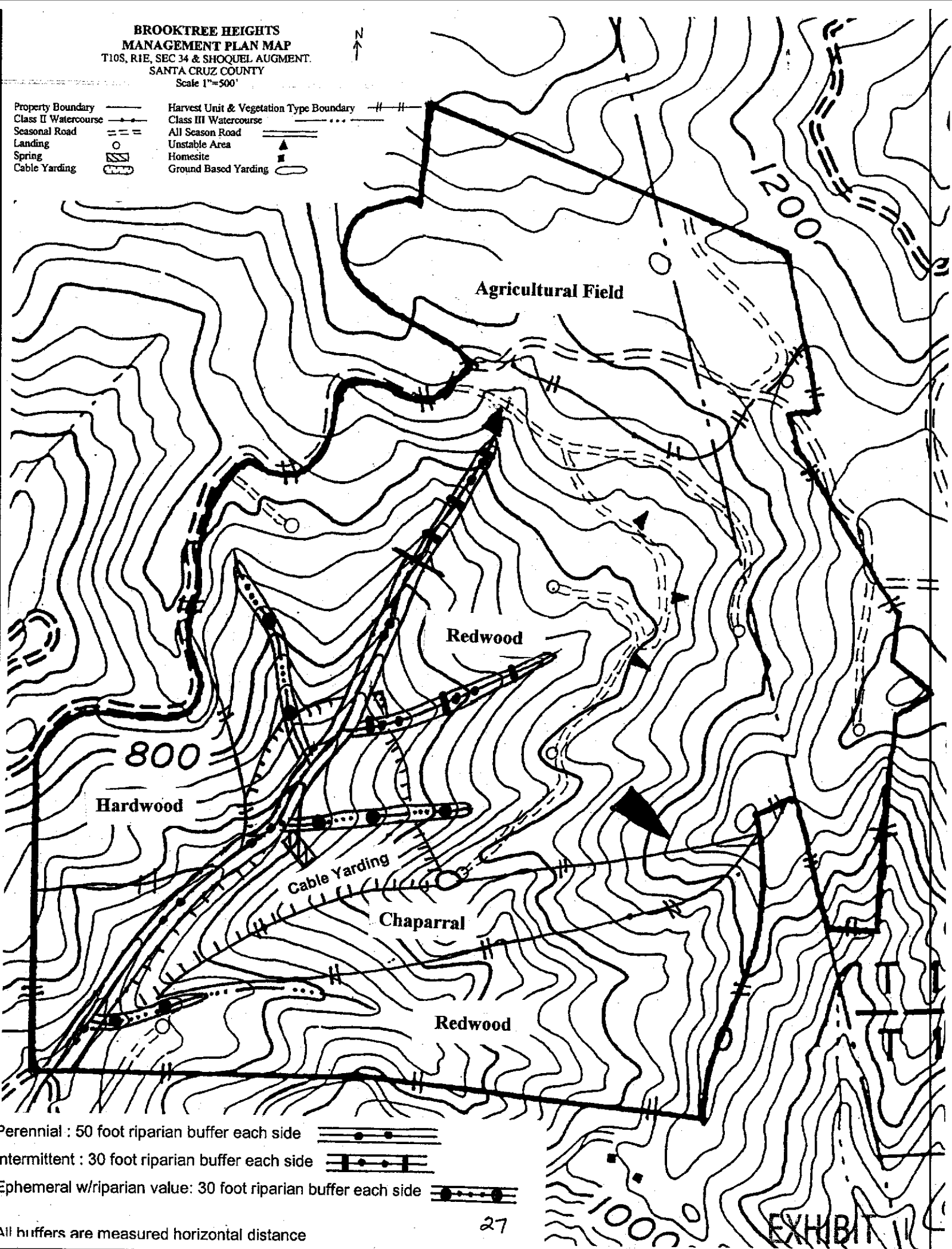
EXHIBIT I

**BROOKTREE HEIGHTS  
MANAGEMENT PLAN MAP**  
T10S, R1E, SEC 34 & SHOQUEL AUGMENT.  
SANTA CRUZ COUNTY  
Scale 1"=500'



Property Boundary ———  
Class II Watercourse ———  
Seasonal Road ———  
Landing ○  
Spring [hatched box]  
Cable Yarding [wavy line]

Harvest Unit & Vegetation Type Boundary ———  
Class III Watercourse ———  
All Season Road ———  
Unstable Area ▲  
Homesite ■  
Ground Based Yarding [rectangle]



Perennial : 50 foot riparian buffer each side ———  
Intermittent : 30 foot riparian buffer each side ———  
Ephemeral w/riparian value: 30 foot riparian buffer each side ———

All buffers are measured horizontal distance

JAMES HILDRETH  
PROFESSIONAL FORESTER

May 15, 2000

Cathleen Carr  
Project Planner  
Santa Cruz County Planning Department  
701 Ocean Street  
Santa Cruz, CA 95060

Re: Brooktree Heights - Application No. 99-0805

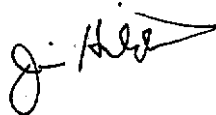
Dear Ms Carr:

Enclosed, please find the requested maps for the Brooktree Heights Forest Management Plan. The **new** "Management Plan Map" has the requested items clearly identified. I have **also** updated the other maps to reflect the latest property name change from "Skyview Ranch" to "Brooktree Heights".

I assisted Gary Paul, RPF, in the development of this management plan. I ~~am~~ now acting ~~as~~ the lead forester for this project. Please "cc" copies of all future correspondences to me on behalf of Santa Cruz Timber Company. Feel free to give me a call if you have any other questions or concerns, or if you need additional information.

I **also** want to thank you for answering my questions regarding the potential to re-zone a property to TPZ in the Bear Creek area. I really appreciate your input and your timely response.

Sincerely,



Jim Hildreth  
Registered Professional Forester #2639

P.O. BOX 1224 CAPITOLA CA 95010  
(831) 438-2403

## **MAPS**

**Vicinity Map**

**Management Plan Map**

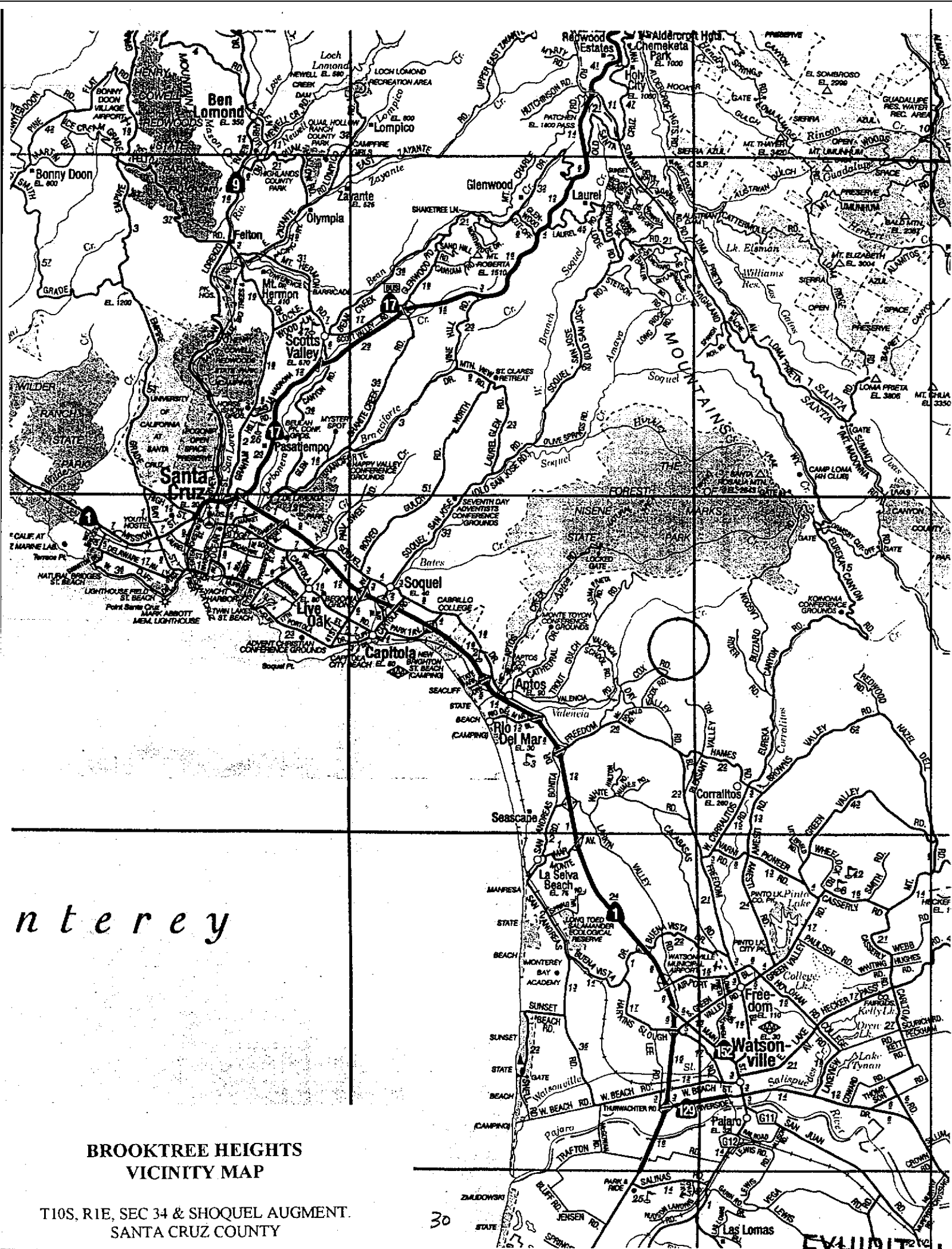
**Plat Map**

**Topographic Map**

**Soil Type Map**

**Cooper Clark Landslide Map**

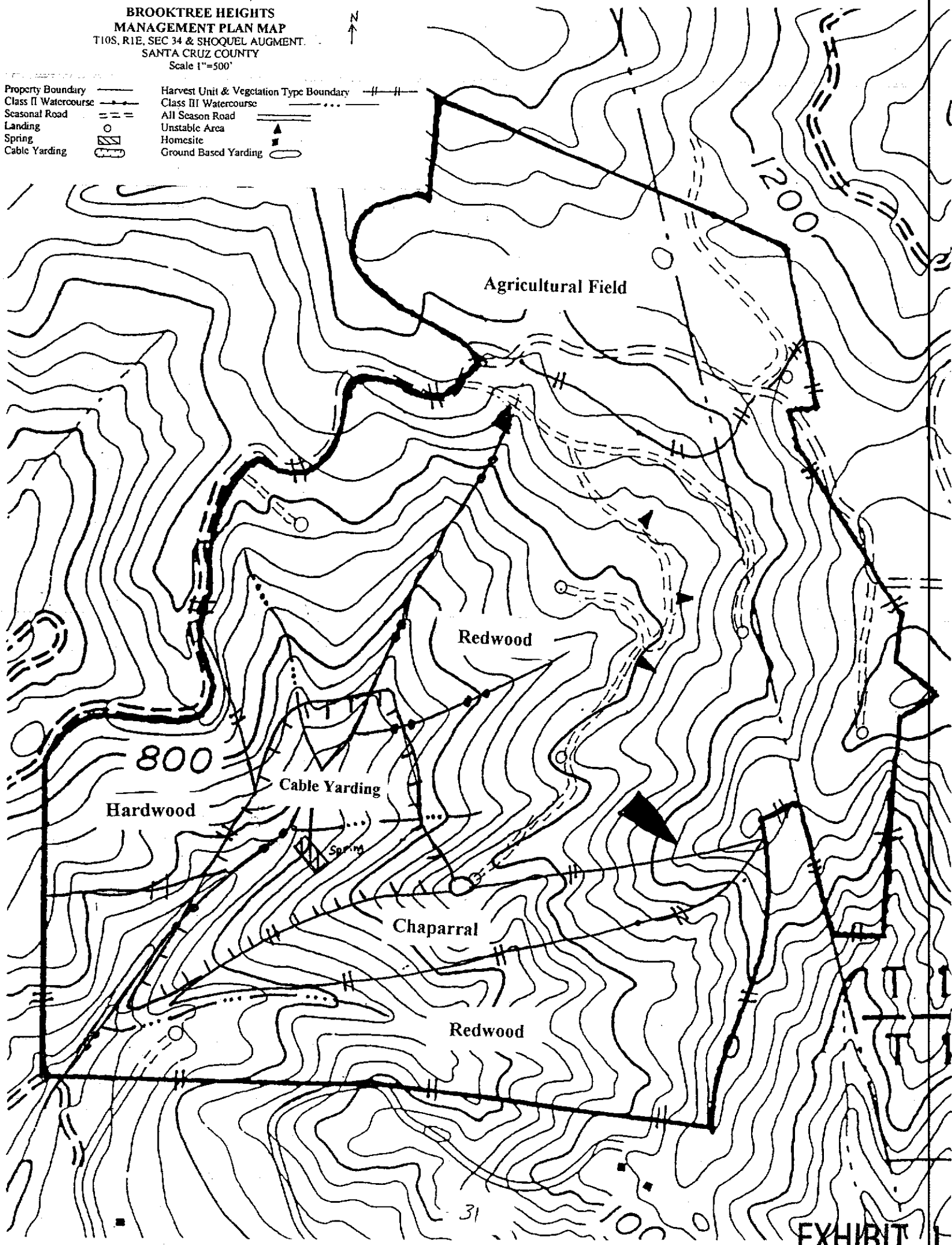
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**BROOKTREE HEIGHTS  
MANAGEMENT PLAN MAP**  
T10S, R1E, SEC 34 & SHOQUEL AUGMENT.  
SANTA CRUZ COUNTY  
Scale 1"=500'



- |                      |       |   |       |
|----------------------|-------|---|-------|
| Property Boundary    | —     | Harvest Unit & Vegetation Type Boundary | - - - |
| Class II Watercourse | - - - | Class III Watercourse                   | ...   |
| Seasonal Road        | - - - | All Season Road                         | ==    |
| Landing              | ○     | Unstable Area                           | ▲     |
| Spring               | ○     | Homesite                                | ▲     |
| Cable Yarding        | ▨     | Ground Based Yarding                    | ○     |

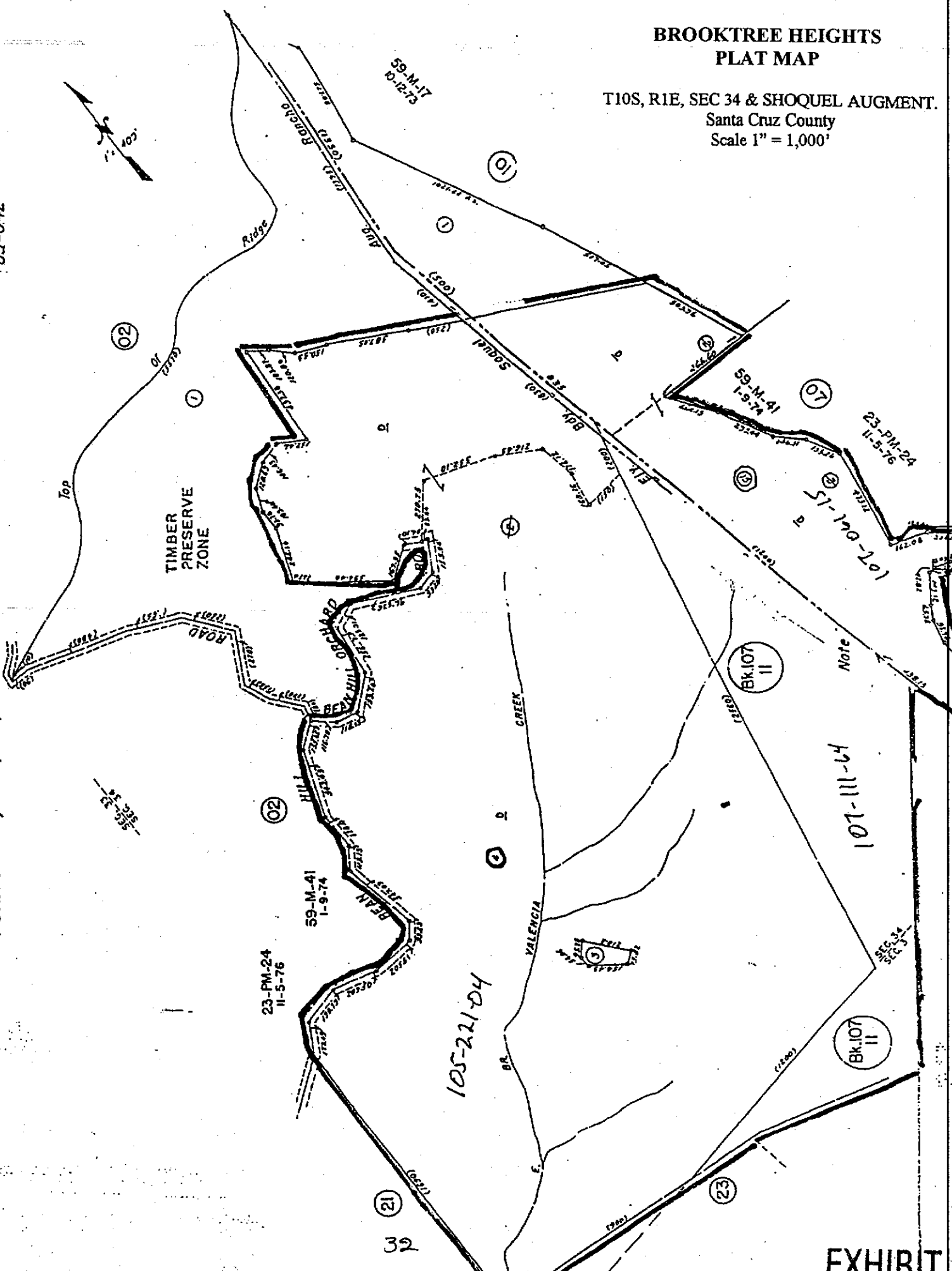


Tax Area Code  
69-042

105-221-04

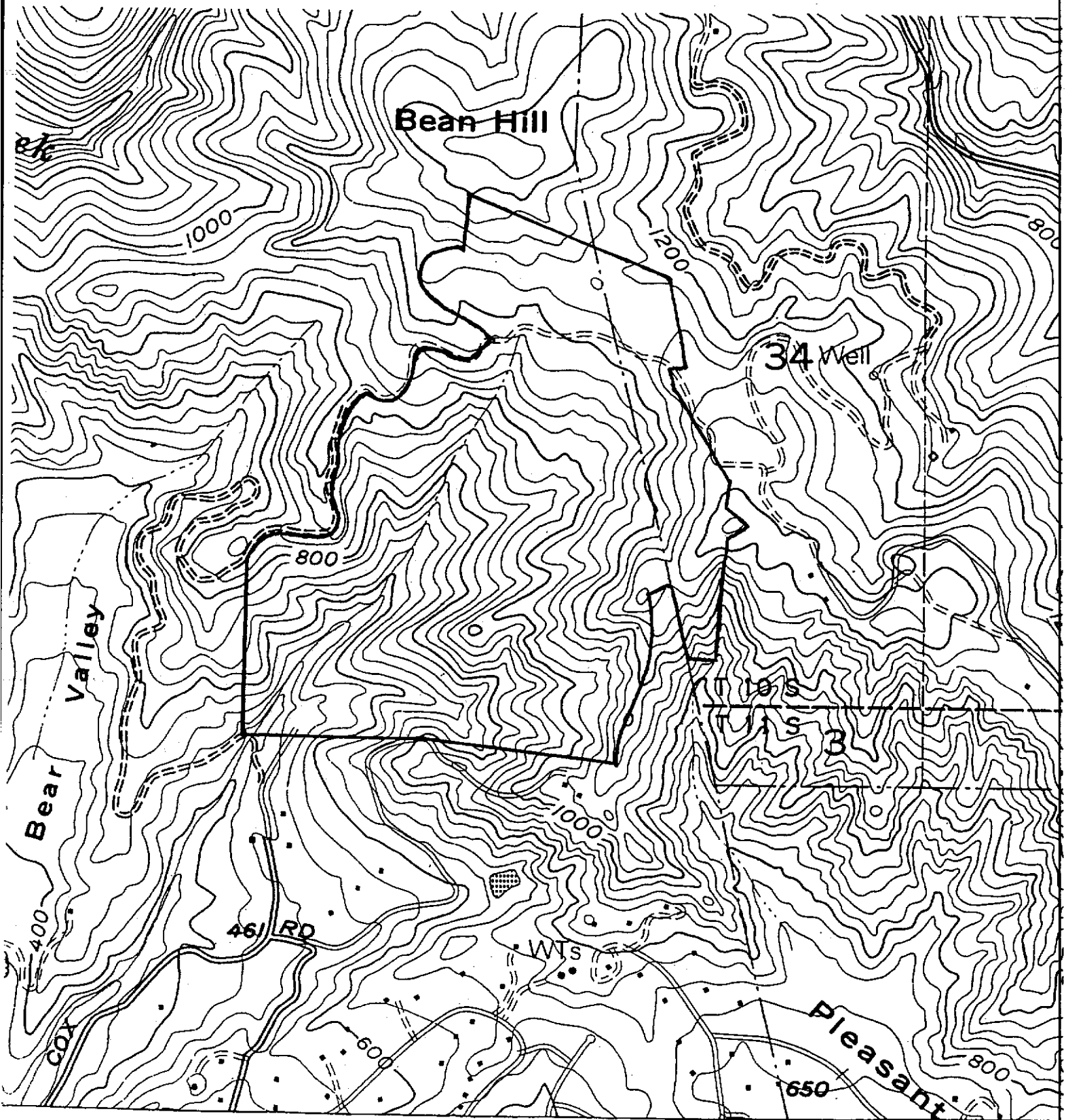
# BROOKTREE HEIGHTS PLAT MAP

T10S, R1E, SEC 34 & SHOQUEL AUGMENT.  
Santa Cruz County  
Scale 1" = 1,000'



EXHIBIT





**BROOKTREE HEIGHTS  
TOPOGRAPHIC MAP**

T10S, R1E, SEC 34 & SHOQUEL AUGMENT.

**SANTA CRUZ COUNTY**

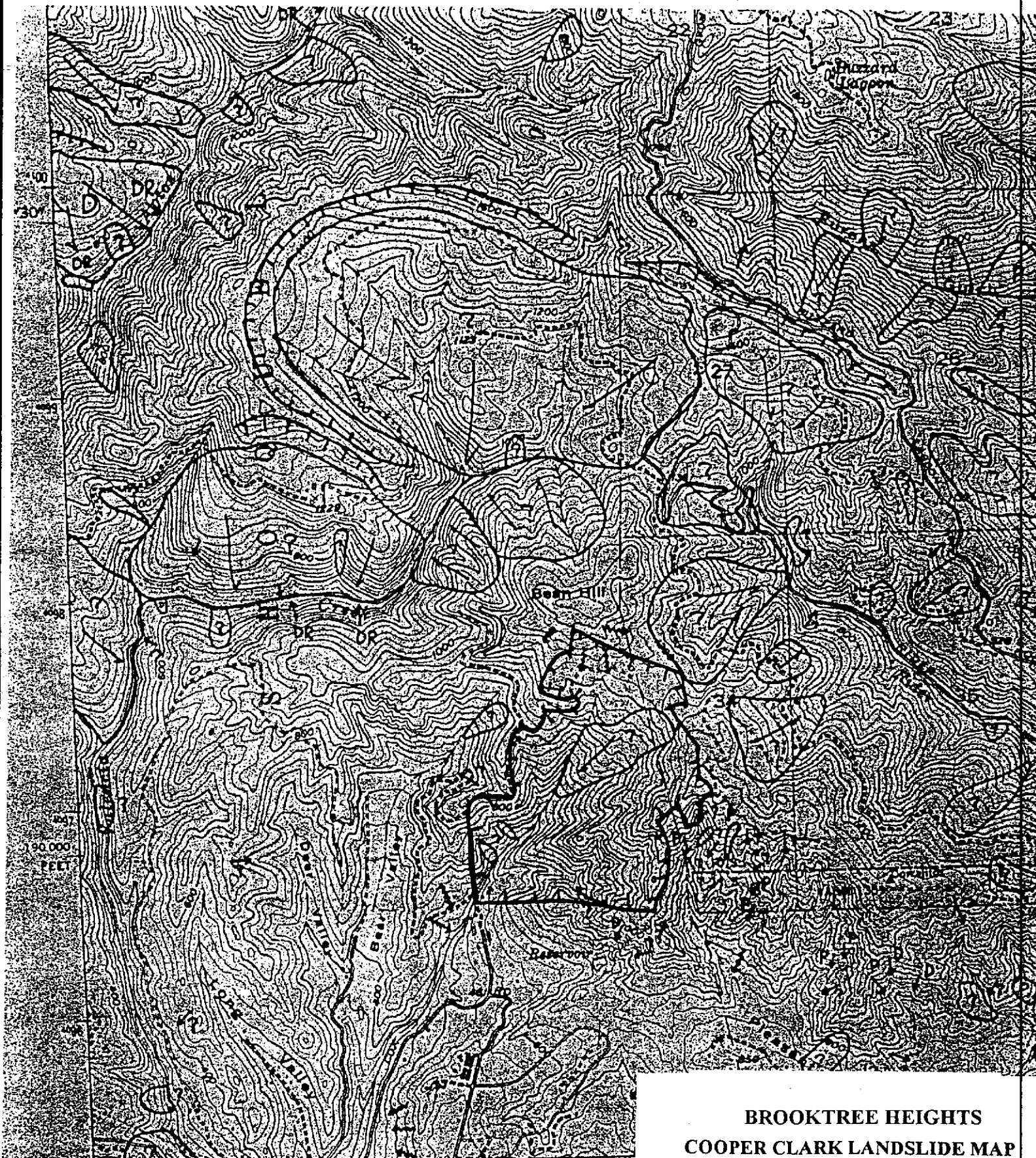
Scale 1"=1,000'

Property Line —————

33



**EXHIBIT I**



# **BROOKTREE HEIGHTS COOPER CLARK LANDSLIDE MAP**

T10S, R1E, SEC 34 & SHOQUEL AUGMENT  
Santa Cruz County  
Scale 1:24,000

Property Line  
Possible landslide



**EXHIBIT**

Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by multiplex methods  
Aerial photographs taken 1953. Field check 1955  
Polyconic projection, 1927 North American datum  
10,000-foot grid based on California coordinate system, zone 3  
Marker and ticks

# BROOKTREE HEIGHTS SOILS MAP

T10S, R1E, SEC 34 & SHOQUEL AUGMENT  
SANTA CRUZ COUNTY  
Scale 1 24,000

Property Line

Ben Lomond sandy loam	112
Ben Lomond-Felton complex	115
Lompico-Felton complex	144
Nisene-Aptos complex	157/156
Diablo clay	127
Zapanic-Rock outcrop complex	184
Zayante coarse sand	1x2

---

**BROOKTREE HEIGHTS  
TIMBER MANAGEMENT PLAN**

December 1, 1999

PORTIONS OF  
TOWNSHIP 10 SOUTH, RANGE 1 EAST  
SECTION 34 & **SHOQUEL** AUGMENT.  
SANTA CRUZ COUNTY, CALIFORNIA

PREPARED BY  
GARY PAUL.  
Registered Professional Forester #1829

5521 Scotts Valley Drive, Suite 235, Scotts Valley, CA 95066 (831) 438-8968

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## TABLE OF CONTENTS

INTRODUCTION.....	1
FOREST MANAGEMENT OBJECTIVES .....	2
GENERAL DESCRIPTION.....	2
HISTORY.....	3
RESOURCES .....	3
Soils .....	3
Geology .....	4
Watershed.....	5
Wildlife.....	5
Rare, Threatened & Endangered Species.....	6
Ancient Trees.....	7
Recreation.....	7
Cultural.....	7
Timber Description.....	7
TIMBER INVENTORY.....	8
Sampling Method.....	8
Results .....	8
Timber Stand Summary.....	9
MANAGEMENT PRACTICES .....	9
Roads .....	9
Fire Protection.....	10
Recreation .....	10
Wildlife.....	10
Timber Management.....	10
Harvest .....	10
Logging Practices.....	11
Soil Stabilization .....	12
Watercourse Protection .....	12
Timber Stand Improvement.....	13
MAPS .....	14
TIMBER HARVEST PLAN 1-88-202\$CR .....	20
TIMBER CRUISE SUMMARY .....	41



## INTRODUCTION

This management plan is for the Brooktree Heights property located near Aptos. This plan is required by Santa Cruz County in connection with the landowners application to have the property placed in Timberland Production Zoning (TPZ) Gary Paul, Forestry Consultant, prepared this plan with the assistance of Jim Hildreth (Forester)

This timber management plan is designed to assist the landowners in the management of the natural resources on ~~their~~ property The plan describes the property and management goals, identifies problems and opportunities, and outlines management activities needed to meet the landowner's objectives.

The property contains three parcels They are, as recorded by the Santa **Cruz** County Assessor, as follows.

OWNER	PARCEL OWNER	ACRES	CURRENT ZONING
Brooktree Heights Ltd.	APN # 107-111-64	47 acres	Agriculture
Brooktree Heights Ltd	APN # 107-061-15	30 acres	Special Use w/partial timber overlay
Brooktree Heights Ltd.	APN # 105-221-04	179 acres	Special Use w/partial timber overlay
		<hr/> <hr/>	
		256 acres	

## FOREST MANAGEMENT OBJECTIVES

The owner desires to manage this forestland for the long term production of merchantable timber. This goal is to be achieved without degrading the quality of other forest resources such as soils, watershed, wildlife, and recreation. In addition, all future activities will recognize the need to protect the visual quality of the forest and reduce the potential of wildfire.

The immediate objective is to obtain Timber Production Zoning, which will **allow** management of the property consistent with these objectives. **Timber** management objectives are to convert even-aged timber stands into an uneven-aged condition using a level of harvest that may be sustained over time. These management objectives are consistent with the Forest Practice Rules.

## GENERAL DESCRIPTION

This property is located approximately two miles northeast of Aptos in portions of Township 10 South, Range 1 East, Section **34** and the Shoquel Augment. of Santa Cruz County, California. According to the County Assessor Office, the property contains a total of approximately **256** acres. There are approximately 180 acres that contain merchantable timber. The remaining acres contain stands of hardwood trees (20 acres), a field (**35** acres) and chaparral (20 acres).

The property is accessible from the south on Cox Road, a paved county road. Further **access** is provided on Bean ~~High~~ Road, a private rocky road. There is a short system of ~~dirt~~ logging roads on the property that provide access during dry weather only.

The merchantable timber consists of medium to well stocked stands of redwood trees mixed with areas of hardwoods (primarily tan oak, madrone, and bay laurel). There are also large, very scattered Douglas-fir trees. The timber is located on moderately steep to very steep slopes. Elevation ranges from approximately **400** to 1,400 feet.

The East Branch of Valencia Creek (also known as Cox Creek) flows from north to south through the middle of the property. It is considered a Class II watercourse within the property. There are four watercourses that branch out from Valencia Creek. These are Class II & **III** watercourses.

## HISTORY

The property is presumed to have been clearcut harvested during the late 1800's or early 1900's. The large old growth redwood stumps found in the middle of the clumps of merchantable redwood trees evidence this. The property was selectively harvested (thinned) in 1976. It was selectively harvested again in 1988 and 1989 under THP 1-88-202 SCR.

No historical or archaeological sites are known to exist on the property.

## RESOURCES

### Soils

According to the Soil Survey of Santa Cruz County (USDA, Soil Conservation Service) the merchantable timber occurs on four soil types

Ben Lomond sandy loam (112): The soil is used mainly for timber production, recreation, wildlife, and watershed. The Ben Lomond soil is deep and well drained. Permeability is moderately rapid, runoff is very rapid, and the hazard of erosion is very high. Effective rooting depth is 40 to 60 inches.

Ben Lomond-Felton complex (115): The soil complex is used mainly for timber production, recreation, wildlife, and watershed. This is comprised of approximately 35% Ben Lomond sandy loam and 35% Felton sandy loam. The Ben Lomond soil is deep and well drained. Permeability is moderately rapid, runoff is very rapid, and the hazard of erosion is very high. Effective rooting depth is 40 to 60 inches. The Felton soil is deep and well drained. Permeability is moderately slow, runoff is very rapid, and the hazard of erosion is very high. Effective rooting depth is 40 to 70 inches.

Lompico-Felton complex (144): The soil complex is used mainly for timber production, recreation, wildlife, and watershed. This complex is about 35% Lompico loam and 30% Felton sandy loam. The Lompico soil is moderately deep and well drained. Permeability is moderate, runoff is very rapid, and the hazard of erosion is very high. Effective rooting depth is 20 to 40 inches. The Felton soil is deep and well drained. Permeability is moderately slow, runoff is very rapid, and the hazard of erosion is very high. Effective rooting depth is 40 to 60 inches.

Nisene-Aptos complex (157): The soil complex is used mainly for timber production, recreation, wildlife, and watershed. This complex is about 35% Aptos fine sandy loam and 30% Nisene loam. The Nisene soil is deep and well drained, Permeability is moderate, runoff is rapid, and the hazard



of erosion is high. Effective rooting depth is 40 to 60 inches. The Aptos soil is moderately deep and well drained. Permeability is moderate, runoff is rapid, and the hazard of erosion is high. Effective rooting depth is 20 to 40 inches.

The large field at the north end of the property contains Diablo clay and Nisene-Aptos complex soils. The chaparral occurs on Zayante-Rock outcrop complex and Zayante coarse sand soils.

## **Geology**

### **Landslides**

The Cooper-Clark landslide maps were reviewed and show an area of "possible" movement within the stand of redwoods. The inner gorge of Valencia Creek has several small slides. No harvesting is allowed adjacent to the watercourse, so potential harvesting will not affect these slides. Five slides were identified on THP 1-88-202 as requiring specific mitigation. These are related to the dirt logging road system, and after harvesting, erosion control measures were installed. These measures stabilized the roadbed, except for near the headwall of the watershed. The logging road crosses a swale where it begins to catch water from the field above. The roadbed is partially washed out, and will need to be reworked to allow for the passage of log trucks (now passable by pickup trucks). This segment of roadbed crossing the swale should be stabilized or removed after harvesting.

Future harvest operations will be designed to eliminate the potential for sediment to enter the watercourses on this property. Measures will include installing erosion control structures on all roads and skid trails, and the use of a cable yarding system in the southern portion of the property where the slopes are steep and the soil erosion hazard rating is extreme.

### **Faults:**

Gary Griggs, Consulting Geologist, prepared a Geologic Hazard Evaluation Report in July of 1989. The county required this report as the landowner was considering a minor land division of the property at this time. The report focused on the geologic hazards at the two proposed building sites. The report also contains general information regarding fault lines and a post earthquake inspection report after the October 17, 1989 7.1 magnitude earthquake.

The post earthquake site review states that "This was the largest earthquake in central California in **83** years and had widespread effects throughout the county The property is only **2-3** miles from the official epicenter and is crossed by several traces of the Zayante Fault. . . Nonetheless, there was no indication of any surface ground breakage of any sort on the proposed building site areas".

### Watershed

The Valencia Creek watershed contains a total of approximately **8,399** acres. Over the last 10 years, approximately **537** acres (**6%**) of the watershed has been selectively harvested. Most of this harvesting has been conducted with ground based equipment. The watershed area is primarily used for timber production, homes sites and recreation.

The E Branch Valencia Creek (Cox Creek) flows through the middle of the property. This stream is considered a Class II watercourse within the property. In general, the watercourse shows signs of being moderately aggraded and gravel embedded. Large woody and other organic debris is present in small amounts. Bank cutting and downcutting was observed in this reach of stream Several small slides were noted near the stream The stream is of moderately steep gradient and has several **small** shallow pools Streamside vegetation includes redwoods and hardwood trees.

**This** property has been logged twice since the clearcutting at the turn of the century. Long term, adverse impacts to the E. Branch Valencia Creek appear to be primarily related to failures of the cutbanks and past failures of the road system

### Wildlife

Wildlife found on this property is typical of the Santa Cruz Mountains. Deer and many species of bird (including raptor) were observed The wildlife habitat relationship (WHR) classification for the tree dominated habitat is 4D, meaning the average tree size is between **11-24"** DBH, and the canopy closure is dense, between 60-100%. Characteristics of late succession stands are not present. There are few snags throughout the stand, and occasional down logs from the turn of the century logging.

Timber harvesting at the turn of the century used clearcut harvesting where all sound

merchantable redwood trees were harvested. The current stand of trees naturally regenerated primarily from stump sprouting. **This** resulted in a dense stand of even-aged redwoods, where sunlight does not reach the understory in amount necessary for conifer reproduction.

The goal of the past and **future** harvesting is to create an uneven-aged forest, with several age classes and canopy levels. The selective harvesting in 1976 opened up portions of the forest canopy to allow redwood stump sprouting. The selective harvest in 1988/1989 removed about 40 percent of the stems over 18 inches in diameter. These two harvests were the first steps in creating an uneven-aged forest

Future timber harvests will also use the selection system to open the forest canopy and allow sunlight to penetrate to the forest floor. Harvesting will retain trees from all diameter classes. This silviculture method will gradually move the forest stand towards an uneven-aged structure where growth and harvest is balanced. This type of management generally improves forage for a variety of small and large mammals. The resulting prey base will increase raptor use

#### Rare, Threatened and Endangered Species

The Natural Diversity Database map and the Biotic Resources map were inspected

#### Animal

There have been no red-legged frog sightings within the Valencia Creek watershed. The property is within the potential range of the red-legged frog, and E. Branch Valencia Creek may provide suitable habitat. This creek will be protected as required by State Forest Practice Rules.

**No** other rare, threatened and endangered animal species are known to exist within the immediate vicinity of the property. Habitat for Species of Special Concern in the County, as listed in the County General **Plan**, should not be affected by selective harvesting as allowed in the local area.

#### **Fish:**

The property is located adjacent to E. Branch Valencia Creek that drains into Valencia Creek then into Aptos Creek. According to the Department of Fish & Game (DFG), Aptos Creek is the very southern range for Coho. DFG has designated Aptos Creek as a potential recover stream, but there have been no recent sightings. DFG states that this watercourse and its tributaries suffer from

various habitat deficiencies for Coho salmon. This includes silt loading from the roads adjacent to the creek, which has inundated spawning gravel, pool habitat, and substrate for insects. Breaks in the riparian vegetation from the road and housing development have resulted in less forage and canopy for fish.

Mitigation measures for fish on the property would be related to timber harvesting within the WLPZ of E Branch Valencia Creek, and the generation of sediment in the Class **III** watercourses.

plant:

This property is not within the range of any RTE species and none were noted on the site.

### Ancient Trees

No ancient trees were left on the site from the turn of the century logging

### Recreation

Recreation on the property includes observing wildlife, hiking and horseback riding. Future harvesting will be selective, and should be designed to enhance or maintain the aesthetics surroundings.

### Cultural

THP 1-88-202 SCR submitted an Archaeological Records Check and the information center indicated no recorded archaeological sites. The presence of archeological or historical sites **was** not observed. **An** intensive survey was not conducted. If any sites are found in the future, they will be preserved.

### Timber Description

The merchantable timber on this property is an approximately 180 acre stand of coast redwood. The redwood occurs in well-stocked clumps, intermixed with scattered Douglas-fir, **tan** oak, madrone and bay laurel. There are also a few large **areas** with hardwoods, shrubs and forbs. The average site index is site III.

The age of the stand is 95-100 years old, a result of clearcutting which took place at the turn of the century. Growth slowed as the trees grew larger and closer together, and began competing for available water, nutrients, and sunlight. Selective harvests in 1976 and 1988/1989 reduced competition, and trees in all size classes were retained.

Future harvests, as discussed later in plan, will continue to create an uneven-aged stand. This will be accomplished by selectively thinning clumps of redwoods. The goal of future selective harvests will be to produce adequate light for vigorous stump sprouting, to promote growth on residual trees, to promote continued production of high quality redwood timber by maintaining good spacing and good distribution of diameter classes, and to maintain an aesthetically pleasing forest.

## **TIMBER INVENTORY**

### **Sampling Method**

An inventory of the 180 acres of merchantable timber was conducted in November of 1999. This cruise consisted of the tallying of 20 one-fifth acre fixed radius plots. Plot locations were made to insure representative sampling.

Diameters (dbh) were measured or estimated at breast height. The form factor was measured with a Releskop or estimated on all sample trees. This form factor is the diameter at 16 feet above the stump (form point) divided by the dbh. All measurements are taken outside the bark.

Bole height was measured with a Releskop or estimated on all sample trees to height which is equivalent to 40 percent of the diameter at form point. Logs were cruised in variable log lengths to optimize recovery. Defect was estimated with cull segments or as a scaling deduction from a log. Minimum log size used is 6 inches by 12 feet. Minimum dbh cruised was 12 inches. All volumes are presented as Scribner short log (16') scale. Growth rate information was collected by boring the outer 25% of selected trees and measuring radial growth and age.

### **Results**

The redwood averages 22" dbh, with a net merchantable volume of 22 thousand board feet (MBF) per acre. The Douglas-fir averages 34" dbh and less than 1 MBF per acre. The total net

(MBF) per acre. The Douglas-fir averages 34" dbh and less than 1 MBF per acre. The total ~~net~~ merchantable volume of both species is 22.5 MBF per acre for a total of 4.058 MBF. The volume per acre reflects the presence of hardwood trees within the stand of merchantable timber. These small areas with hardwood trees were included in the cruise. Although numerous, ~~their~~ location made them too difficult to remove ~~from~~ the redwood timber type that was cruised. Large areas of continuous hardwood stands (approximately 20 acres) were not cruised.

## TIMBER STAND SUMMARY

### REDWOOD

	Diameter Class (inches)				
	<u>12-16</u>	<u>18-24</u>	<u>26-34</u>	<u>36+</u>	<u>Total</u>
<b>Trees per Acre</b>	14	18	11	2	<b>45 trees</b>
<b>Net Volume/Acre(BdFt)</b>	1800	<b>7600</b>	10,300	2300	<b>22 MBF</b>

**Limitation:** All cruise data presented in this report is intended to be used as a guide for this management plan only, and should not be extended or taken out of context for any other purposes.

## MANAGEMENT PRACTICES

### Roads

There is a short system of *dirt* logging roads on the property. These connect with the Bean Hill Road system, which is a rocky private road. A portion of the western edge of the property is adjacent to this road. This road continues south to Cox ~~Road~~ (paved county road). The owner has access through ~~this~~ route for log hauling

The past harvesting in 1988/1989 hauled logs out towards the northeast on a logging road system that crosses two neighboring properties. These agreements have expired, but may be ~~used~~ again in the future

The primary potential urban interface consideration is log truck traffic on this ~~county~~ road

harvesting will help to reduce neighborhood impacts

### Fire Protection

The property is located on slopes above Valencia Creek. The rocky road system provides good access for fire fighting. The property is heavily wooded, and future harvesting needs to provide for fire protection. Forest Practice Rules, including those regarding fire protection, will be followed in future timber harvest operations. The slash will be lopped after each operation to reduce fire danger.

No residences are located on or adjacent to the property. The closest residence is located south of the parcel on the ranch near **Cox Road**. A fire protection zone should be established around any future structures built within **300** feet of the harvest area.

### Recreation

No recreational enhancements of the property are planned. The visual aesthetics of the property will be preserved through careful planning and supervision of timber harvesting operations.

### Wildlife

Management activities are directed at protecting and enhancing wildlife diversity. The selective cutting practices have the goal of creating several age classes and canopy layers. This will create habitat for a wider range of species.

Redwood and Douglas-fir snags will be retained during harvest operations where they do not present a safety or fire hazard. Downed logs (16" by 20' minimum) will also be retained. Several large Douglas-fir trees were observed to have poor health and vigor. These trees could be recruited for future snags and downed logs. They should be retained where they will not compete for sunlight with other trees.

### Timber Management

#### Harvest

The stand of timber has regenerated from clearcut logging at the turn of the century. It now

contains a medium to well-stocked stand of approximately 100-year-old redwood trees. The average site index for the stand is site **III**. The average growth rate of the stand is approximately 2 1/2 % per year. The trees are competing with each other for sunlight, water, and **nutrients**, and the growth rate is slow.

Based upon this information, a selective harvest is recommended for **next** year (2000). The goal is to begin to create a healthy uneven-aged stand where harvests are sustainable (harvest does not exceed growth). The current stand of redwood has approximately 22 thousand board feet (MBF) per acre. The harvest should remove about 8 **MBF** per acre or 1,500 MBF total (adjusted for leaving additional trees for watercourse protection). This will leave residual stands of 14 MBF per acre. Approximately 40-50% of the trees **18"** in diameter or more should be harvested. In order to move towards an optimal uneven-aged size class distribution, some trees from **all** size classes should be retained. However, trees in the 26-34" diameter range should account for a large proportion of harvested trees. No trees under 18" diameter will be removed unless damaged. At least **75** square feet of basal area (Site **III** lands) must be retained as required by the Forest Practice Rules.

The increased light and growing space that is provided by the removal of harvested trees increases the growth of residual trees and initiates the sprouting of a new generation of redwood trees. The residual stand, anticipated to grow at an average growth rate of 3-4%, will reach approximately 23 **MBF** per acre in 15 years.

Future selective harvests are recommended on roughly a 10 to **15** year **cutting** cycle. These should harvest in the range of 40-50% of the trees 18"+ dbh. Over the long term, overall growth on the property will improve **as** sprouts reach maturity and contribute to the harvest. Growth should be re-evaluated in the **future** to see if the level of harvest needs to be adjusted to maintain a balance between growth and harvest.

### **Logging Practices**

**Most** of the 180 acres harvest area is on moderately steep terrain. These stands **may** be tractor logged (about 150 acres) **using** the existing network of skid **trails** and logging roads. The **last** THP classified the soil erosion hazard rating as moderate in these tractor logging areas.

The remaining 30 acres of redwoods are located on steep slopes that require the use of a



yarder (cable logging system). The last THP classified the soil erosion hazard rating as extreme, but using a yarder eliminated the use of skid trails on these steep slopes

There is one segment of road near the northeast end of the property that was installed to provide access for a yarder. It was constructed and then recontoured and grass seeded/mulched after the last harvest. **This** will need to be done for future harvests.

Several Class II and III watercourses are located within the proposed harvest area. These watercourses should not be crossed with skid trails where possible. Past logging operations did not use skid trail crossings.

### **Soil Stabilization**

The harvest area is located on the slopes above E Branch Valencia Creek. Special consideration will be given to soil stabilization measures.

The proper location and construction of roads and skid trails is critical to minimizing the potential for soil erosion. All trails and roads are in place, and proper drainage devices will be installed as part of each future harvest operation. These devices include waterbreaks, outsloping, grass seeding and mulching, and the use of temporary culverts on the **dirt** road system. It is recommended that all dirt roads used be grass seeded after proper drainage devices are installed.

Except for this short system of seasonal dirt logging roads, the haul route uses permanent rocked and paved roads. The use of the proper logging system is also critical to minimizing soil erosion. The steep area will use a yarder to eliminate the need for new skid trail construction.

### **Watercourse Protection**

Future logging will take place within the watercourse and lake protection zone (WLPZ) on the both sides of E. Branch Valencia Creek (Class II). Current shade canopy in this area is approximately 90% by ocular estimate. Within the WLPZ, Forest Practice Rules require the retention of trees to provide canopy cover that protects stream temperature. Additional requirements include retaining trees on the streambank, excluding ground based equipment within the WLPZ, and falling trees away from the stream. **In** addition, a Santa Cruz County ordinance requires that a 50 foot no harvest zone be established adjacent to each side of E. Branch Valencia Creek. This ordinance is

currently subject to litigation

Several Class III watercourses flow within stands of merchantable timber. These watercourses drain directly into E Branch Valencia Creek. These are watercourses that flow water only during periods of rainfall.

A harvest inspection report from the 1988 THP indicates the presence of an old water diversion structure located about 100 feet north of the south property line on Valencia Creek. This uptake is used for irrigation. There are also several springs and a spring box located within the harvest area. These resources were protected during past harvesting, and will be protected in the future. This protection includes buffers and during THP preparation, the notification of neighbors of the intent to harvest/domestic water supply inquiry as required by the Forest Practice Rules.

### **Timber Stand Improvement**

In order to achieve a fully stocked stand for the future, tree planting and sprout thinning is recommended. The objective is to achieve a fully stocked stand of redwoods with an average spacing of 10-14 feet. This stand improvement will be conducted in areas that have supported redwood in the past.

Multiple stump sprouts resulting from harvesting should be thinned to an average of 2-3 healthy sprouts per stump. This practice should be completed about 5 years after harvest, or when competition dictates. This will produce healthier and more vigorous young trees in the understory. Dead and unhealthy small trees and sprouts should be removed to reduce competition and reduce fire hazard. All harvest areas will have the slash lopped to within 30 inches of the ground.

Tree planting should be limited to those areas that are open enough for a good chance of establishment and growth. Areas for planting trees should be cleared of brush and logging slash during the clean up after logging. It is recommended that 2-0 (2 year old) redwood seedlings from the appropriate seed zone be planted on a 8' by 8' spacing. The removal of competing vegetation around each seedling for the first 3 years will likely be necessary for seedling survival. Protection such as tubing seedlings may be necessary if deer browsing occurs.

## **MAPS**

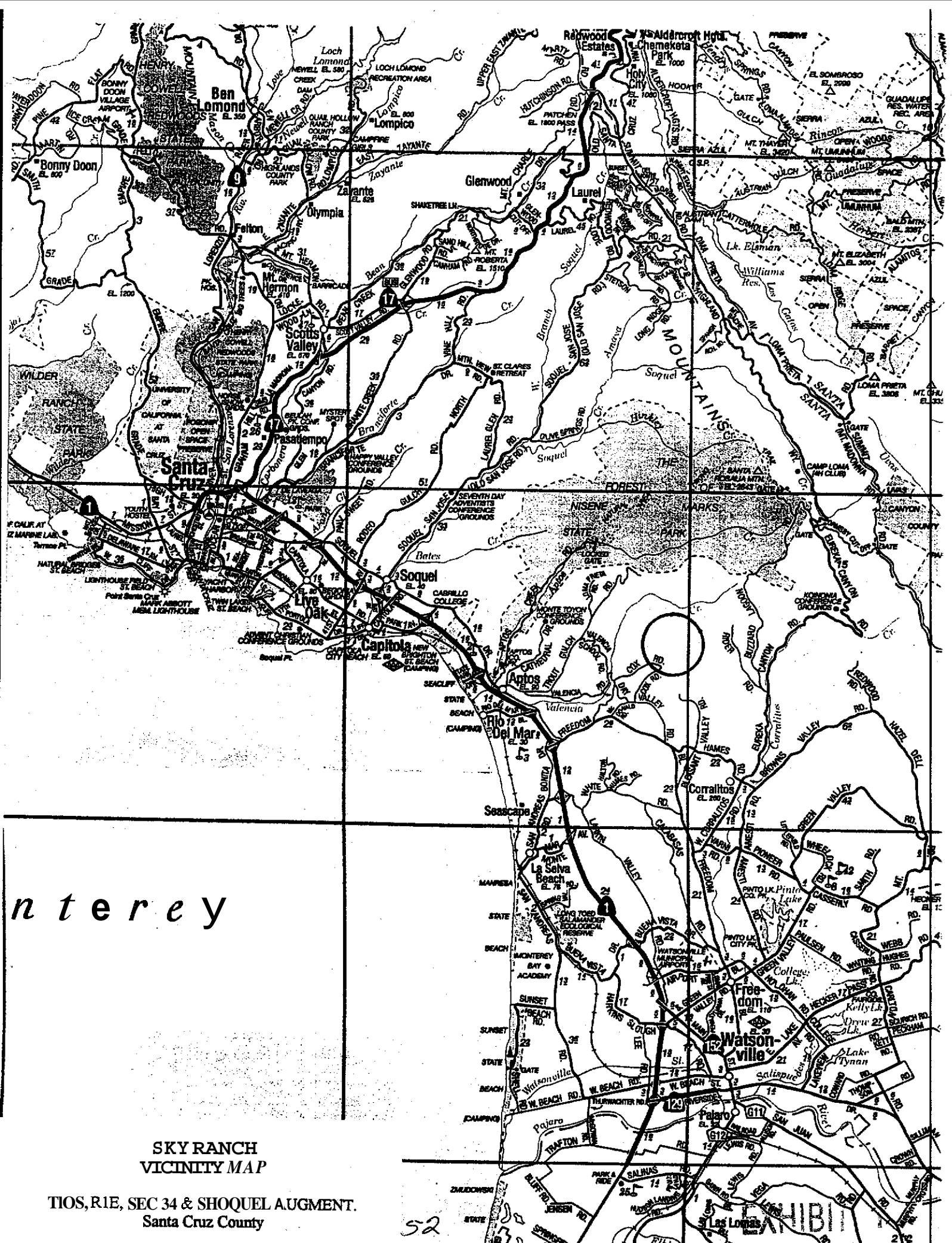
**Vicinity Map**

**Plat Map**

**Topographic Map**

**Soil Type Map**

**Cooper Clark Landslide Map**



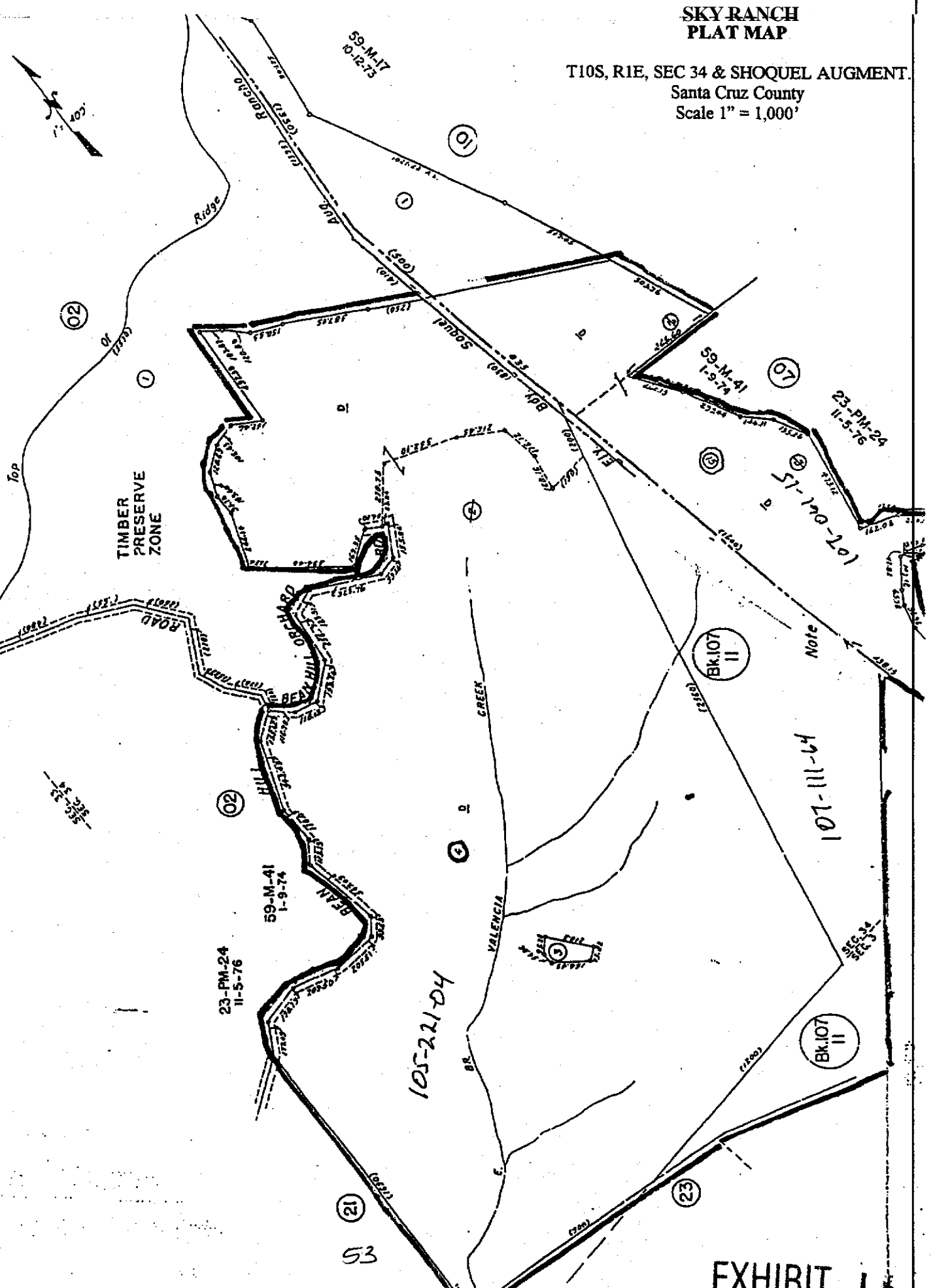
105-22

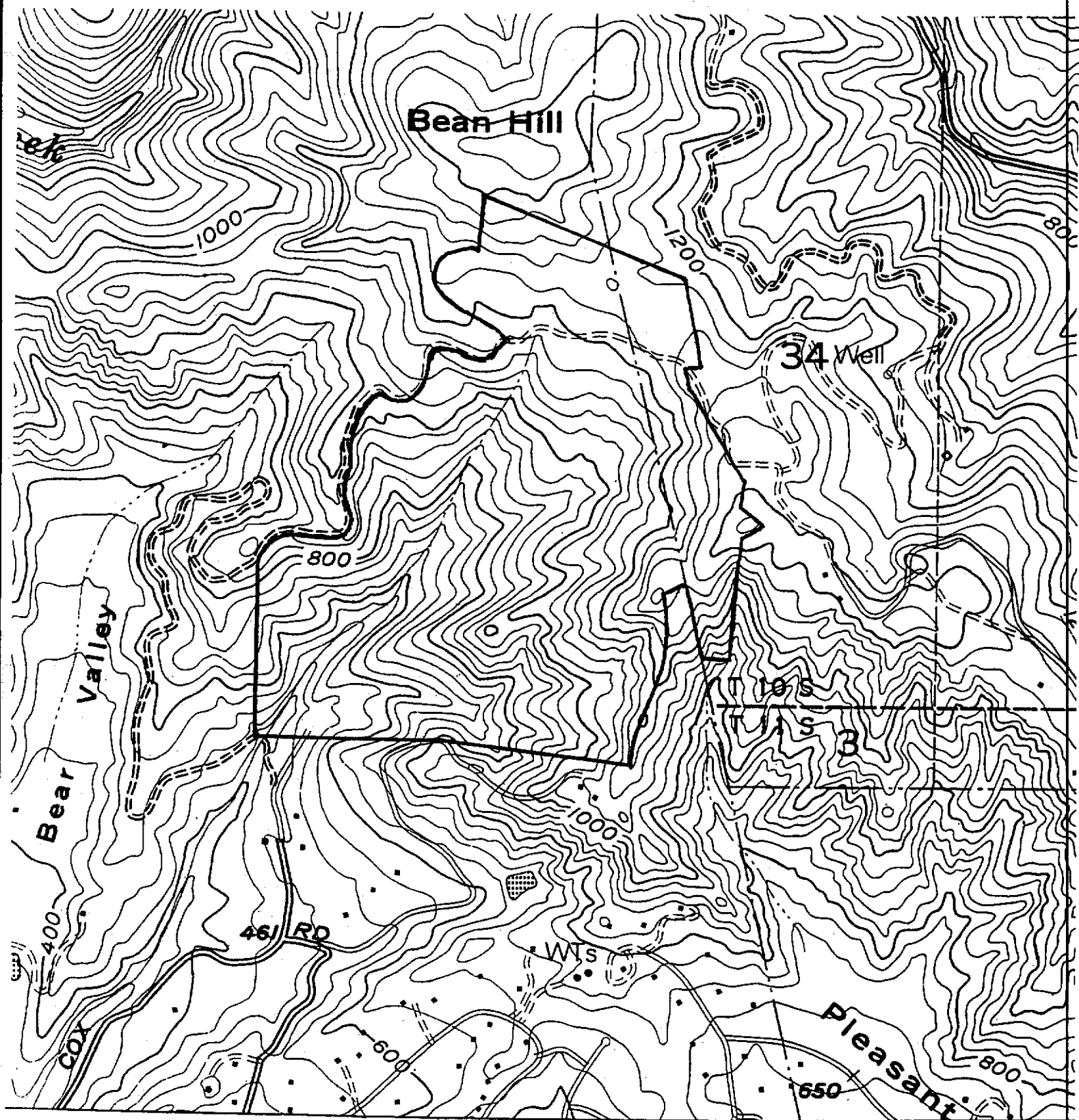
Tax Area Code  
69-042

UNLAWFUL ENCROACHMENT  
POR. SEC. 34, T.10S, R.1E, M.D.B. & M. PROJECTED

# SKY RANCH PLAT MAP

T10S, R1E, SEC 34 & SHOQUEL AUGMENT.  
Santa Cruz County  
Scale 1" = 1,000'





SKY RANCH  
TOPOGRAPHIC MAP

T10S, R1E, SEC 34 & SHOQUEL AUGMENT.

Santa Cruz county

Scale 1" = 1,000'

Property Line

— 54



EXHIBIT 1-1

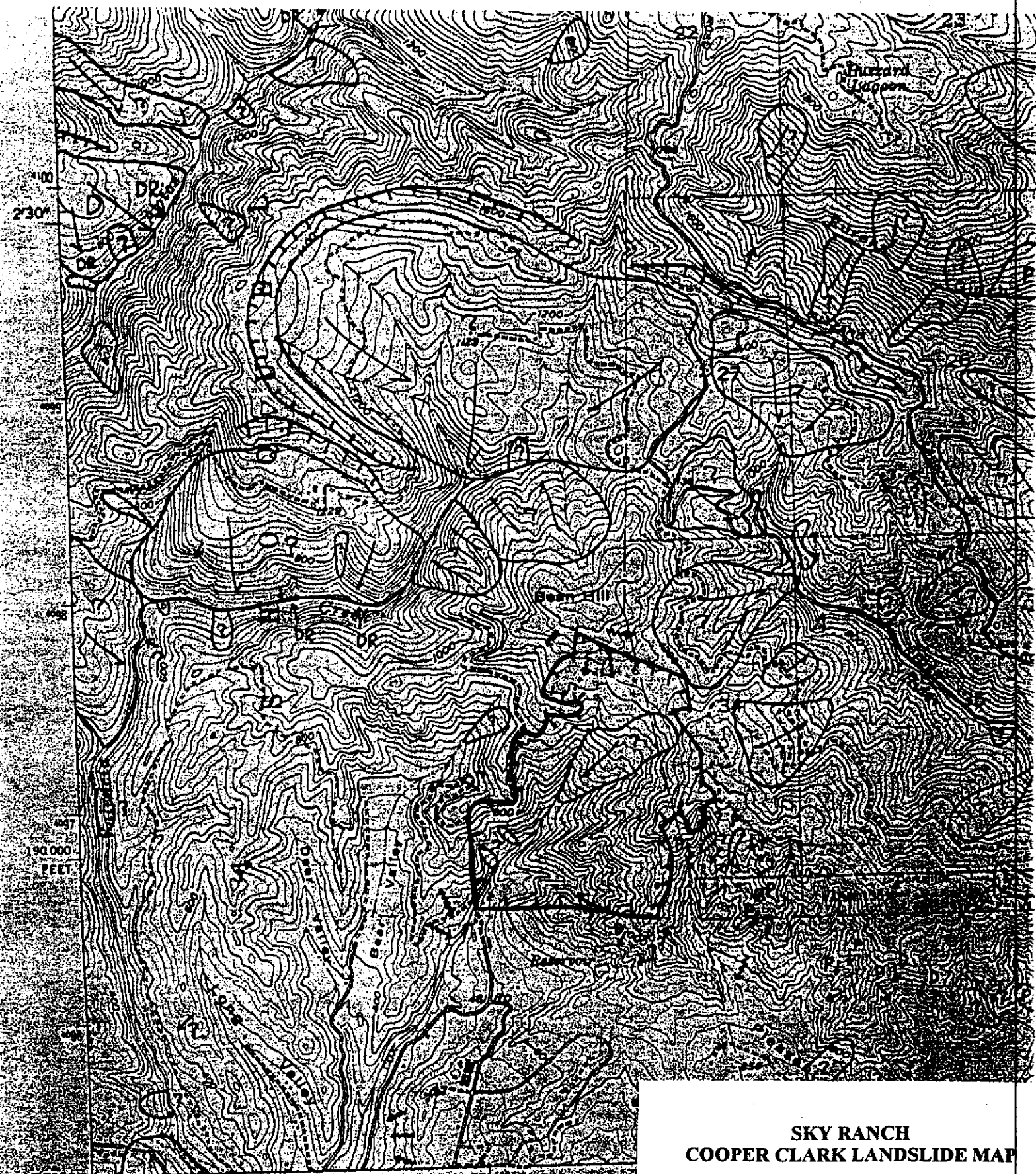
# SKY RANCH SOILS MAP

T10S. R1E. SEC 34 & SHOQUEL AUGMENT.  
Santa Cruz County  
Scale 1:24,000

Property Line

Ben Lomond sandy loam	112
Ben Lomond-Felton complex	115
Lompico-Felton complex	144
Nisene-Aptos complex	157/156
Diablo clay	127
Zayante-Rock outcrop complex	184
Zayante coarse sand	182





# **SKY RANCH COOPER CLARK LANDSLIDE MAP**

T10S, R1E, SEC 34 & SHOQUEL AUGMENT.  
Santa Cruz County  
Scale 1:24,000



Property Line  
Possible landslide



Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by multiplex methods  
Aerial photographs taken 1953. Field check 1955.  
Polyconic projection, 1927 North American datum.  
10,000-foot grid based on California coordinate system, zone 3.  
1000-meter Universal Transverse Mercator grid ticks.



**TIMBER HARVEST PLAN 1-88-202 SCR**

STATE OF CALIFORNIA  
DEPARTMENT OF FORESTRY  
RM-63(6/86)

TIMBER HARVESTING PLAN

( FOR ADMINISTRATIVE USE ONLY

( THP No. 1-88-202 SCR

( Date Recd APR 07 1988

( Date Filed APRIL 18, 1988

( Date Apprvd MAY 23 1988

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 Brooktree Heights, A Limited Partnership

Address P. O. Box 66689

City Scotts Valley State CA Zip 95066 Phone (408) 335-5377

2. TIMBERLAND OWNER(S): Name Same as above

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

3. TIMBER OPERATOR(S): Name Big Creek Lumber Co.

Address 3564 Highway 1 License # A-300 ✓

City Davenport State CA Zip 95017 Phone 408-423-4156

4. PLAN SUBMITTER(S): Name Big Creek Lumber Co.

If the plan submitter is different from 1, 2, or 3 explain authority to submit plan:

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

Name Michael E. Jani

Address 3564 Highway 1

City Davenport State CA Zip 95017 Phone 408-423-4156

6. RPF preparing the THP: Name Michael E. Jani

Address 3564 Highway 1 Registration Number 1856

City Davenport State CA Zip 95017 Phone 408-423-4156

COF STOCK NO. 7540-130-0063

7. Expected commencement date of timber operations: May 31 ~~March 1~~, 1988

8. Expected completion date of timber operations: May 22 ~~March 1~~, 1991

9. Forest products to be harvested: redwood and Douglas-fir 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. ☒ Southern Subdistrict of the Coast Forest District

5. ☐ High-Use Subdistrict of the Southern Forest District

11. Location of the timber operation by legal description:

Base and Meridian: ☒ Mount Diablo, ☐ Humboldt, ☒ San Bernardino

Section	Township	Range	Approximate Acreage	County	(Optional, Assessors Parcel No.)
<u>ptn.</u>					
<u>Shoquel</u>	<u>10S</u>	<u>1E</u>	<u>180</u>	<u>Santa Cruz</u>	<u>107-111-64</u>
<u>Augment.</u>					<u>107-061-15</u>
<u>W<math>\frac{1}{2}</math> Sec.</u>					<u>105-221-04</u>
<u>34</u>	<u>10S</u>	<u>1E</u>			

TOTAL ACREAGE 180

NOTE: Additional sheets may be necessary.

12. ☐ Yes ☒ No Is a tiarberland conversion permit in effect? If yes, list permit number and date of expiration: APR
13. ☐ Yes ☒ No Is there a THP on file with COF for any portion of the plan area for which a report of satisfactory stocking has not been issued by COF?  
If yes, identify the THP number: ...
14. ☒ 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 ☒ Selection - designate basal area stocking standards to be met: Site III- 75 sq. ft.

8 ☐ Commercial thinning - designate basal area stocking standards to be met: ...

9 ☐ Sanitation salvage - when will stocking be met: ...

10 ☐ Special treatment areas 11 ☐ Rehabilitation of understocked areas

12 ☐ Alternative prescription 13 ☐ Transition method

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

16.a. ☐ Yes ☒ No Are any exceptions to the standard silvicultural methods or treatments permitted in the rules proposed for this plan? If yes, explain and justify the exception in an addendum.

b. ☐ Yes ☒ No Will artificial regeneration be required to restock the logged area?

17. ☐ Yes ☒ No Are broadleaf or optional species proposed for management? See item 18

18. ☐ Yes ☒ No Are broadleaf or optional species to be used to meet stocking standards?

If the answer to items 17 or 18 is yes, list the species and provide the information required by the rules:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### HARVESTING PRACTICES AND EROSION CONTROL

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

1☒ Tractor, skidder, forwarder      2☐ Balloon, helicopter      3☒ Cable, ground-lead  
4☐ Cable, high-lead      5☒ Cable, skyline      6☐ Animal

7☐ Other: \_\_\_\_\_

20. ☐ Yes ☒ No Will tractor constructed layouts be used?

21. ☒ Yes ☐ No Will tractors be used for directional tree pulling?

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

22. ☒ Yes ☐ No Operations on unstable soils or slide areas?

23. ☒ Yes ☐ No Operations on slopes over 65%?

24. ☐ Yes ☒ No Operations on slopes over 50% with high or extreme EHR?

25. ☒ Yes ☐ No Operations within cable yarding areas?

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

see addendum "Harvesting Practices"

\_\_\_\_\_  
\_\_\_\_\_

26. Indicate erosion hazard ratings present on this THP:

☐ Low,      ☒ Moderate,      ☐ High,      ☒ Extreme

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

see addendum "Harvesting Practices" #23 a

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

28. ☒ Yes ☐ No Are any alternative practices or exceptions to the standard harvesting or erosion control practices permitted in the rules proposed for this plan? If yes, explain and justify:

see addendum "Harvesting Practices" 22,23,25

29. ☒ Yes ☐ No Are timber operations proposed for the winter period? If yes, provide a winter period plan in an addendum or specify compliance with 16 CAC 914.7(c), 934.7(c) or 954.7(c). No winter period plan is needed for cable, helicopter, or balloon yarding. **Compliance with 14CAC 914.7(c) for all tractor operations.**

#### ROADS AND LANDINGS

30. ☒ Yes ☐ No Will any roads or landings be constructed or reconstructed?  
If yes, check items 31 through 37 that apply:
31. ☐ Yes ☒ No Will new roads be wider than single lane with turnouts?
32. ☐ Yes ☒ No Will any landings exceed the maximum size specified in the rules?
33. ☒ Yes ☐ No Are logging roads or landings proposed in areas of unstable soils or known slide-prone areas?
34. ☐ Yes ☒ No Will new roads exceed a grade of 15% or pitches of 20% for distance greater than 500 feet?
35. ☐ Yes ☒ No Are roads to be constructed, other than crossings, within the watercourse and lake protection zone of a class I or II watercourse?
36. ☐ Yes ☒ No Will roads or landings longer than 100 feet in length be located on slopes over 65%, or on slope over 50% which are within 100 feet of the boundary of a watercourse or lake protection zone?
37. ☐ Yes ☒ No Are exemptions proposed for flagging or otherwise identifying the location of roads to be constructed?
38. If any of items 31 through 37 are answered 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.

#### WATERCOURSE AND LAKES

39. ☒ 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 ☒ No Are any in-lieu practices and/or alternative practices proposed for watercourse or lake protection? If yes, explain and justify:

Are any exceptions proposed for the following watercourse and lake protection zone practices? Check items 41 through 43 that apply.

41. ☐ Yes ☒ No Exclusion of the use of watercourses, marshes, wet meadows, and other wet areas for landings, roads, or tractor roads?
42. ☐ Yes ☒ No Retention of non-commercial vegetation bordering and covering meadows and wet areas?

43. ☐ Yes ☒ No Directional felling of trees within the zone away from the watercourse or lake?

44. ☐ Yes ☒ No Increase or decrease of width(s) of the zone(s)?

NA 45. ☐ Yes ☐ No Protection of watercourses which conduct class IV waters?

46. ☐ Yes ☒ No Exclusion of heavy equipment from the zone?

47. ☐ Yes ☒ No Retention of 50% of the overstory canopy in the zone?

48. ☐ Yes ☒ No Retention of 50% of the understory in the zone?

If any of items 41 through 48 are answered yes, explain and justify it required by the rules and provide necessary information in an addendum.

49. ☒ Yes ☐ No Are residual trees or harvest trees going to be marked within the watercourse or lake Protection zone? If not explain:

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

#### WILDLIFE

51. ☐ Yes ☒ No Are any known rare or endangered species or species of special concern, including key habitats, see associated with the THP area? If yes, in an addendum identify the species and the provisions wildlife ad. to be taken for protection of the species.

52. ☐ 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:

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

#### CULTURAL RESOURCES

54.a. ☐ Yes ☒ No Has an archaeological survey been made of the areas to be harvested?

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

55. ☐ Yes ☒ 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.

## HAZARD REDUCTION

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

1[ ] Pile and burn, 2[ ] Logging, 3[ ] Other: \_\_\_\_\_

4[X] Not applicable no fire protection zone present

NA 57 [ ] Yes [ ] No If the clearcutting method is used, will broadcast burning 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[X] Timber operator, 3[ ] Timberland owner

## PUBLIC NOTICE

59. [X] Yes [ ] No Are there any ownerships within 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 Intent to Harvest timber must be included with the plan.

## PESTS

60. [ ] 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 activities including but not limited to other THPs in the area of the proposed THP which may combine with the effects of your timber harvesting operation to cause significant adverse cumulative environmental effects? [X] Yes, [ ] No If yes, please describe the other land use(s) and the likely effects as well as any mitigation which would reduce the negative effect in an addendum.

...

64. I have notified the timber owner and the timberland owner, in writing, of their responsibilities for:

1. ☐ Yes ☒ No The stocking requirements of the rules
2. ☐ Yes ☒ No The maintenance of erosion control structures requirements at the rules
3. ☐ Yes ☒ No The marking requirements contained in the rules

**timber operator assumes all the above responsibilities**

65. ☒ 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 impact on the environment

☒ I will not have a significant adverse impact on the environment.

If the operation will have a significant adverse impact on the environment, in an addendum explain why any alternatives or additional mitigation measures that would reduce the impact are not 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: Michael E. Jani Date 11-16-87

68.

CERTIFICATION

The above conforms to my/our plan and, 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 operations for compliance with the Forest Practice Act and forest practice rules.

Brooktree Heights, A Limited Partnership, by Hill and Dale Land  
Timber Owner: Company, General Partner, Richard H. Guelich III, President

Signature: Richard H. Guelich III Date 5/23/88

Printed Name: Richard H. Guelich III

Brooktree Heights, A Limited Partnership, by Hill and Dale  
Timberland Owner: Company, General Partner, Richard H. Guelich III, President

Signature: Richard H. Guelich III Date 5/23/88

Printed Name: Richard H. Guelich III

Timber Operator: Big Creek Lumber Co. by Michael E. Jani

Signature: Michael E. Jani Date 4-5-88

Printed Name: Michael E. Jani

DIRECTOR OF FORESTRY

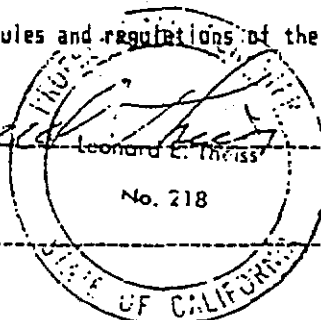
This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and with the Forest Practice Act.

By: Leonard E. Thriss  
( Signature )

( Date ) 5/23/88

( Printed Name )

( Title )





## ADDENDUM

### HARVESTING PRACTICES

22. Operations on unstable soils or slide areas.

Explanation: Several slides occurred on the property during the winters of 1982 & 83. The slides within the intergorges of the main watercourse are too numerous to map and will not be affected by the proposed harvest. The slides located on the plan map have been numbered and described below. They represent the slides that harvesting may impact.

Slide 1- A small cut bank failure whose toe must be partially removed to reopen the truck road.

Justification- The toe removal will have an insignificant effect on the stability of the slide. Even if the mass moves again, it will only go as far as the road surface. To reconstruct the road to avoid the slide would cause more disruption and result in a road with an undesirable adverse grade.

Slide 2- By far the most active and difficult of all the slides. This is a mass slump which probably originates far above in large depressions in the grassland. The existing road crosses this slump in a zone where channelling begins for watercourses below.

Justification- The road into and out of the slumpy ground is in good condition. Little work will be required to reopen the road. Culverts may be helpful in directing water away from the slide mass and into the channels. If excavation is minimized, the use of the road should not add to the instability of the area. To reconstruct a new road elsewhere, would still require crossing this slide mass and necessitate much more soil disruption.

Slide 3- Large cut bank failure which ended up in the road.

Justification- Reuse of the existing road will result in less soil disruption initially and less potential for further disruption. The slide mass can be almost entirely removed and incorporated into the road prism.

Slide 4- Large, muddy slurry/ debris avalanche which originated from a non-compacted road or landing fill above. The slide material was deposited in the road below.

Justification- The roads were not damaged by the slide. The upper road will require careful drainage so as to avoid channelling water onto the slide face. The lower road can be easily reopened by pushing off the woody debris and incorporating the non-organic material into the road surface.

Slide 5- Another large mud and debris avalanche possibly caused by improper erosion control placement above.  
 Justification- the entire slide area can be avoided- the trail above can be reused but upon completion of use, the water must be channelled away from the affected area. The trail is in the best available location and provides the best access for the timber beyond. The proposed road construction nearby drops rapidly so as to avoid the scarp section of the slide. By the time the road crosses the slide area, it's in the area of slide deposition on a stable flat below the scarp. The road surface from the slide to the yarder landing proposed will be either rocked or packed with slash following operations so as to minimize soil erosion from the surface.

### 23. Operations on slopes over 65%.

Explanation: There are many areas within the proposed tractor operation area where the average slope exceeds 65%. In all cases, these areas are accessed by existing truck roads or skid roads which are still functional.

Justification-

- a.) Environmental- proper use and winterization of existing roads and trails will result in significantly less environmental damage than if a whole new logging network is constructed. Following use of these trails, waterbarring and the packing of slash into the soil surface will minimize erosion. Isolated patches of bare mineral soil will be seeded with rye grass to add to the protection of soil and water.
- b.) Economical- When looking at cable harvesting as a possible alternative for these areas, the costs of logging isolated pockets of timber on steep slopes become prohibitive. Additionally, the terrain doesn't allow for enough deflection to insure adequate residual stand protection.

### 25. Operations within cable yarding areas.

Explanation: Most of the plan area has been tractor yarded before using constructed roads and trails which still appear useable. The area designated on the THP map as cable ground is a rough estimate of what wasn't tractor logged before. Until the timber is marked, the actual breakoff between the two won't be known.

Justification- Rule 914.3a allows for tractor operations where deflection is low. Additionally, once the timber is marked, and should tractor loggable timber be found within designated cable areas, the RPF will notify the Director in writing to request a minor deviation pending field review and approval. Tractor operations will be limited only to areas with existing usable access and outside the WLPZ.

## ROADS AND LANDINGS

33. Explain: adequately described in "Harvesting Practices Addendum #22

Justification: adequately justified in "Harvesting Practices Addendum" #22(slides 1-5)

50. WATERCOURSE AND LAKE PROTECTION ZONES

Slope Class	30%	30-50%	50-70%
<b>Class I</b> zone width	50'	100'	150'
Class II zone width	50'	50'	100'
Class III zone width	no zones required or necessary		

WILDLIFE

51. During the course of marking, observations will be made to determine if there are any endangered species or habitats within the plan area. The County planning department will be consulted. Should any be located, the Department will be notified immediately and the proper measures taken.

61. CUMULATIVE IMPACTS

The plan area is located at the head of a large drainage. There are no significant outside influences affecting the plan area. Downstream from the plan area, housing, farming and ranching all contribute to the sedimentation and pollution of the watercourse.

Timber harvesting, as currently practiced in the Santa Cruz mountains and as proposed in this plan should have no negative impacts. Harvesting should have a net benefit to water quality and soil erosion in that the reopening of the road system will allow the operator to redo erosion control that is non-existent or has been so heavily damaged or breeched that it's no longer effective.

**ARCHAEOLOGICAL RECORDS CHECK REQUEST  
OR REGISTERED PROFESSIONAL FORESTERS**

Information Center file # **87-THP-191**

TO: California Archaeological Inventory  
Northwest Information Center  
Department of Anthropology  
Sonoma State University  
Rohnert Park, CA 94928  
(707) 664-2494  
Attention: Christian Gerike

FROM: Michael E. Jani

535 38th Ave.

Santa Cruz, CA. 95062

Phone #: 408-476-1015

CDF Timber Harvest Plan# not issued yet

RPF License # 1856

County Santa Cruz

Township/Range-Section ptn. Rancho Shoguel, T10S, R1E

USGS Topographic Quadrangle: Loma Prieta

REPLY BY: X Mail Only (\$15.00\*)      Telephone (\$20.00\*)

I have been granted access to data at the Northwest Information Center of the California Archaeological Inventory and will not disclose specific site locations to unauthorized individuals or in publicly distributed documents without the written consent of the State Historic Preservation Office. Site records and reports resulting from this project will be submitted to the Northwest Information Center within 30 days after completion of the records/reports. I understand that future access to data at the Northwest Information Center is contingent upon compliance with the terms of this paragraph.

Michael E. Jani  
Signature

11-17-87  
Date

NOTE: This request cannot be processed without a project map and prepayment (please make check payable to California Archaeological Inventory).

- For Information Center Use Only -

The project area has has not been archaeologically surveyed (S- ) and  
contains the following recorded archaeological or historical site(s):

X See attached map for site location(s). Please contact CDF Archaeologist Dan Boster or Richard Jenkins (916) 322-0171 for further information.

X contains no recorded archaeological sites. This records check did not include the National Register or Historic Places, the California Inventory of Historic Resources, and California Historical Landmarks. Nor does it include an evaluation of the possibility of unrecorded archaeological or historic resources.

Christian Gerike  
Information Center Staff

11/29/87  
Date

## ESTIMATED SURFACE SOIL EROSION HAZARD

RM-87 (4/84)

112,115,144 and 157 S.C. County Soil Survey

STATE OF CALIFORNIA,  
BOARD OF FORESTRY

I. SOIL FACTORS all SANDY LOAMS 41-80% slopes				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	11	11	11
2. PERMEABILITY	Slow	Moderate	Rapid			
Rating	5-4	3-2	1	3	3	3

	Shallow	Moderate	Deep			
	1"-19"	20"-39"	40"-60" (+)			
Rating	15-9	8-4	3-1	3	6	11

GREATER

	Low	Moderate	High				FACTOR RATING BY AREA		
	(-) 10-39%	40-708	71-1008				A	B	C
Rating	10-6	5-3	2-1	2	2	4	19	22	21

Slope	5-15%	16-30%	31-40%	41-50%	51-70%	71-80% (+)			
Rating	1-3	4-6	7-10	11-15	16-25	26-35	11	20	31

	Low	Moderate	High			
	0-40%	41-80%	81-100%			
Rating	15-8%	7-4	3-1	2	2	2

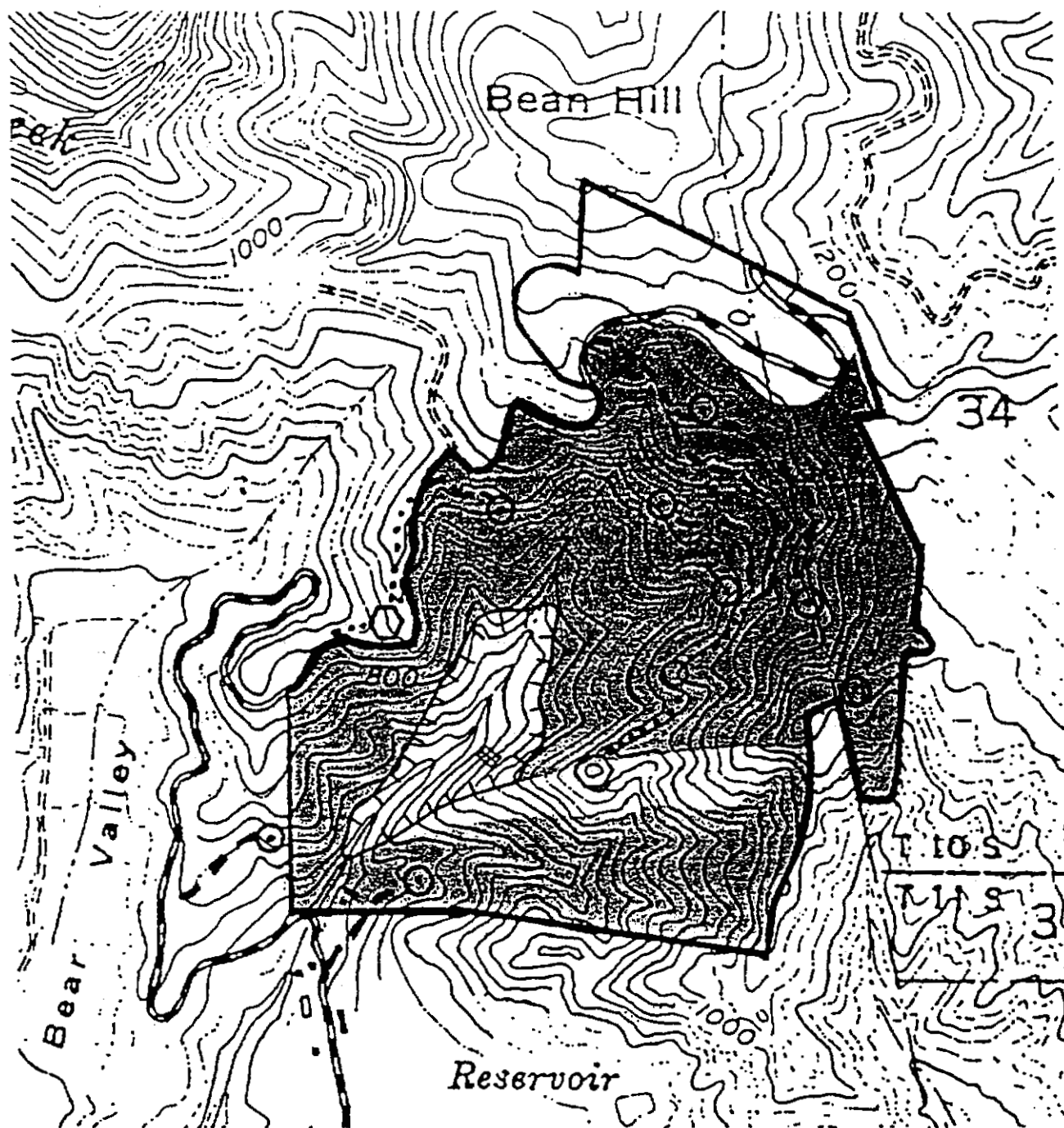
## IV.










	Low	Moderate	High	Extreme			
	(-) 30-39	40-59	60-69	70-80 (+)			
Rating	1-3	4-7	8-11	12-15	15	15	11
TOTAL SUM OF FACTORS					47	59	7

THE DETERMINATION IS

M M E

SROOKTREE RANCH  
HARVEST PLAN MAP



-  HARVEST AREA (tractor/yarder option) Site 111
-  HARVEST AREA (yarder only) EHR-extreme Site III
-  EXISTING LANDING
-  EXISTING SEASONAL ROAD
-  EXISTING ALL WEATHER ROAD
-  PROPOSED YARDER LANDING
-  PROPOSED SEASONAL ROAD
-  SPRING LOT
-  PROPOSED LANDING

SCALE: 1" = 1000'

MAILING LIST

Kenneth and Muriel Marks, 899 Green St., No. 500, San Francisco, CA.  
94133

Juliette W. Suhr, 2770 Weston Rd., Scotts Valley, CA. 95066

Albert S. Smith, 14561 Winchester Blvd., Los Gatos, CA. 95030

John H. Ehret, Trustee, 1253 Cox Rd., Aptos, CA. 95003

Norman and Angelika Black, 441 Ranchitos del Sol, Aptos, CA. 95003

Telford Inc., 600 Rider Rd., Watsonville, CA 95076

Muriel Hauer 2460 Pleasant Valley Rd., Aptos, CA. 95003

Muriel H. Pagani, 2460 Pleasant Valley Rd. Aptos, CA. 95003

Sherry Mehl, County Government Center, 701 Ocean, Santa Cruz, CA. 95060

Pajaro Valley School Dist., 165 Blackburn Ave. Watsonville, CA. 95076

Watsonville Mater Dept., 250 Main St., Watsonville, CA. 95076

4-5-88

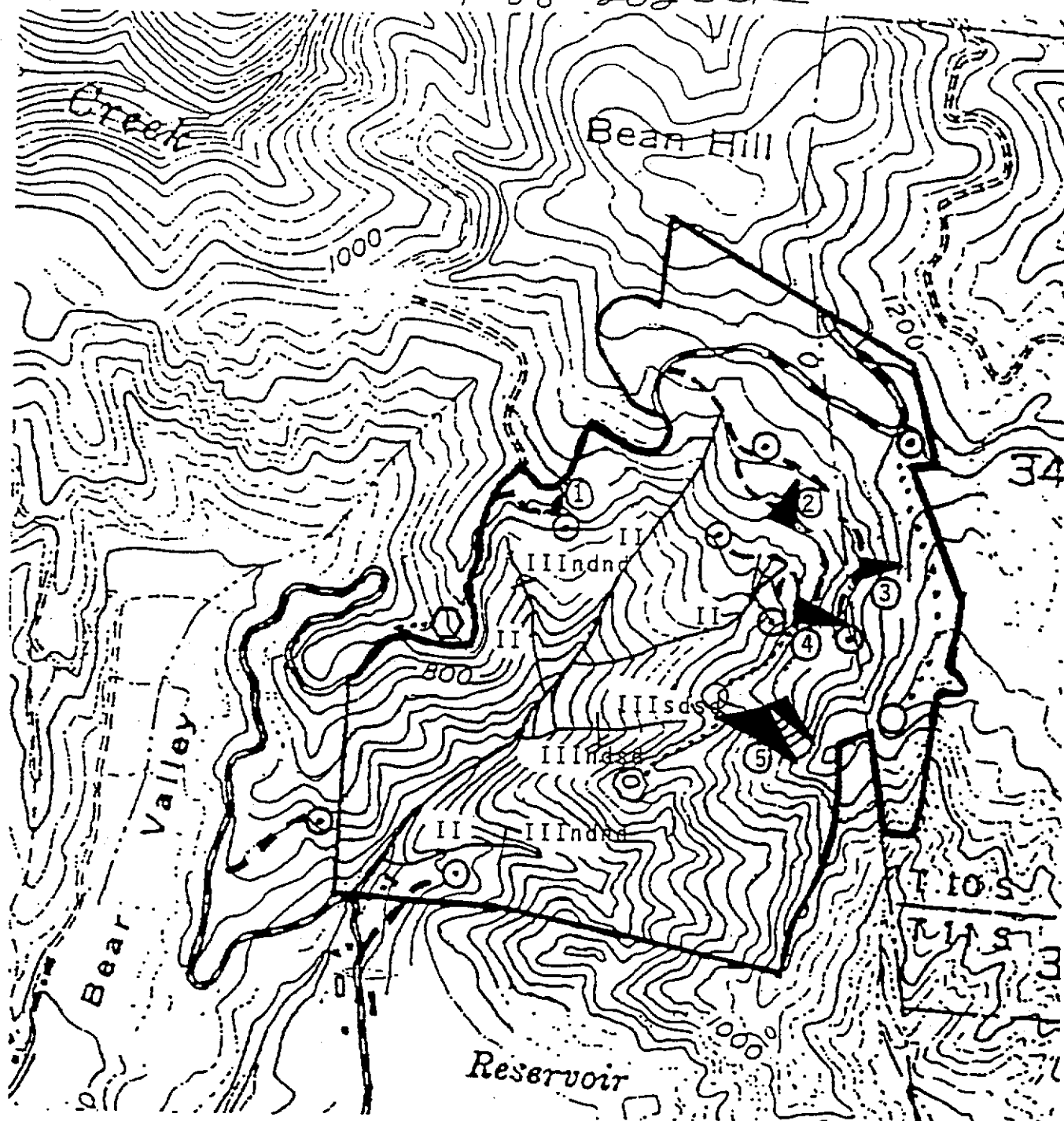
Notice of intent  
Sent to all

M. Jani

APR 5 1988

BROOKTREE FAN<€!  
WATERCOURSE DESIGNATION AND SLIDE AREA MAP

1-88-202 SCR



# PART OF PLAN

SCALE 1" = 1000'

- II WATERCOURSE
- ndnd - WATERCOURSE PROTECTION MEASURE
- ndsd - no dirt, 'no debris
- sdsd - no dirt, stabilize debris
- ▲⑤ - stabilize dirt and debris
- SLIDE AREA, SLIDE NUMBER (refer to section 22, addendum)



REVIEW TEAM RECOHMENTATIONS  
THP 1-88-202 SCR  
Lands of Brooktree Heights

1. A fire protection zone shall be established around the trailer which is currently used for human habitation.
2. At elide 5, the road shall be conetruted across the debris slide scar by placing fill behind a temporary log crib wall. The logs used for cribbing shall be merchantable and held behind stumps. Following the completion of the harvest and before the winter period, the crib logs shall be pulled and the fill allowed to dry ravel down the slopes. If some cutting is needed to cross this area, the cut slope shall be no higher than 6 feet, and no steeper than 3/4:1.

The new road across the 75% aide slopes shall be built as a partial cut and partial fill, with the fill retained behind a temporary merchantable log retaining wall. Upon completion of use and before the winter period, the slope shall be recontourad by placing the fill on the cut portion of the road. This will probably require using a back hoe or hydraulic excavator to remove the fill from behind the crib logs. The cribbing shall not be removed until after the slope is repaired. The expoaed soil on this steep elope shall be grass seeded and mulched with either slaah or straw.

3. The haul route for this THP will be to the northeast along roads owned by Albert B. Smith and Telford Smith. Road license agreements between these parties and Big Creek Lumber Company are appended. An agreement authorizing Big Creek-s use of roads, trails, and landings on the Suhr property for this timber operation, is also appended.
4. 87 of the THP shall be changed to May 31, 1988, and #8 to May 31, 1991.

PART OF

THESE REVIEW TEAM RECOMMENDATIONS ARE ACCEPTABLE.

  
DALE F. HOLDERMAN, RPF 69  
May 19, 1988

1 (minor)



Aug. 28, 1988

Nancy Drinkard  
Calif. Dept. of Forestry  
Felton Office  
P.O. Drawer F-12

JEP

Dear Nancy:

I would like to request a minor plan amendment for the Brooktree (1-88-2 2' Ranch timber harvest plan. The amendment will include the addition of a constructed skid trail as shown on the attached map. In addition, I would like to upgrade the watercourse classification to class II for the watercourse adjacent to the trail. These changes are necessary to enable log skidding in the area as the 1982 storm caused irreparable damage to the existing skid trail system. The damage stemmed from streamflow erosion which caused streambank collapse which then destroyed the once used main skid road which accessed the entire draw. The new trail will be constructed on generally gentle slopes, well away from the streamcourse. All feasible alternatives have been looked at; this one provides the maximum protection of the streamcourse while remaining economically feasible.

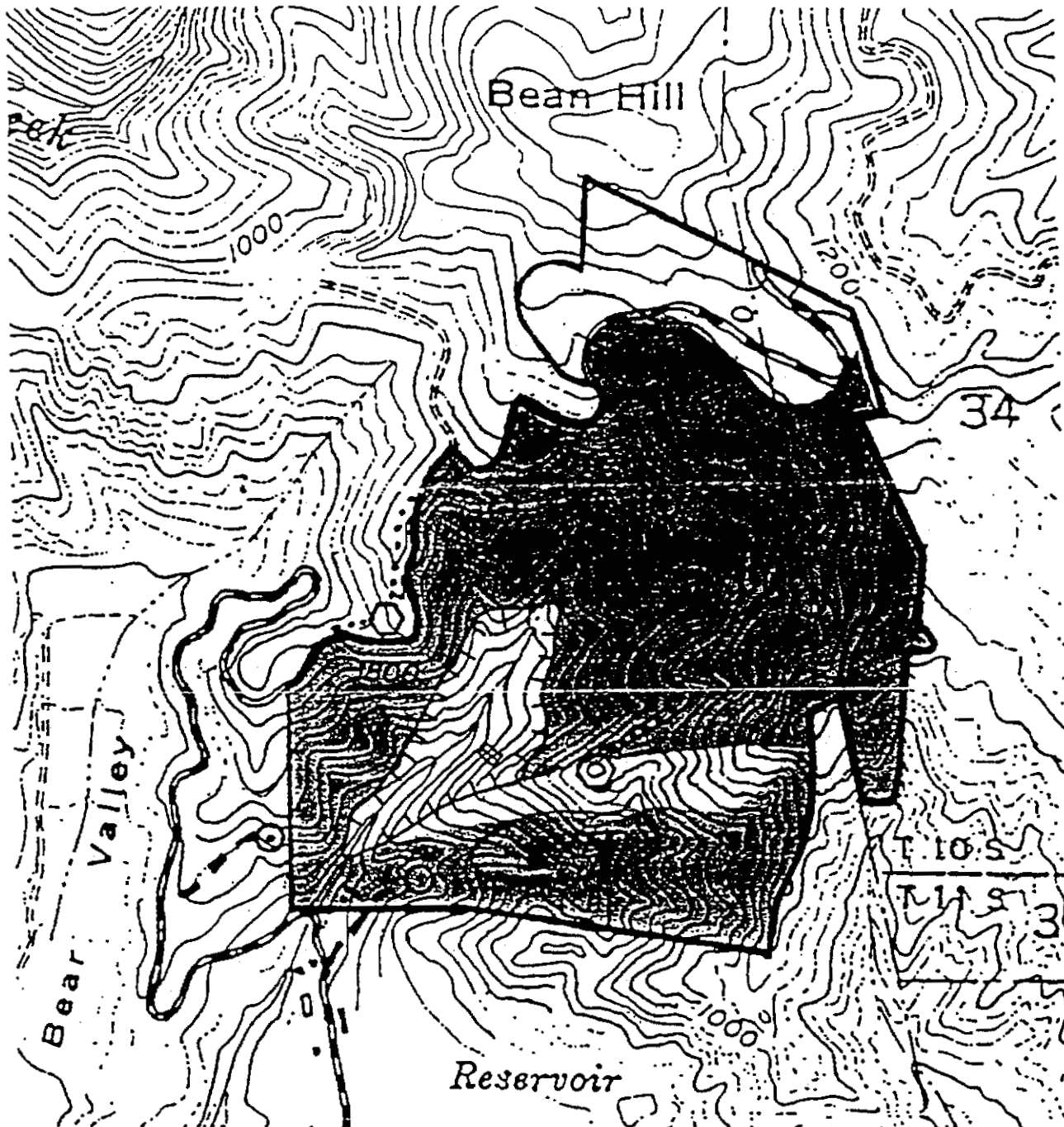
Thank you,











Michael E. Jani

MICHAEL E. JANI

Forester #1856

BROOKTREE RANCH  
HARVEST PLAN MAP

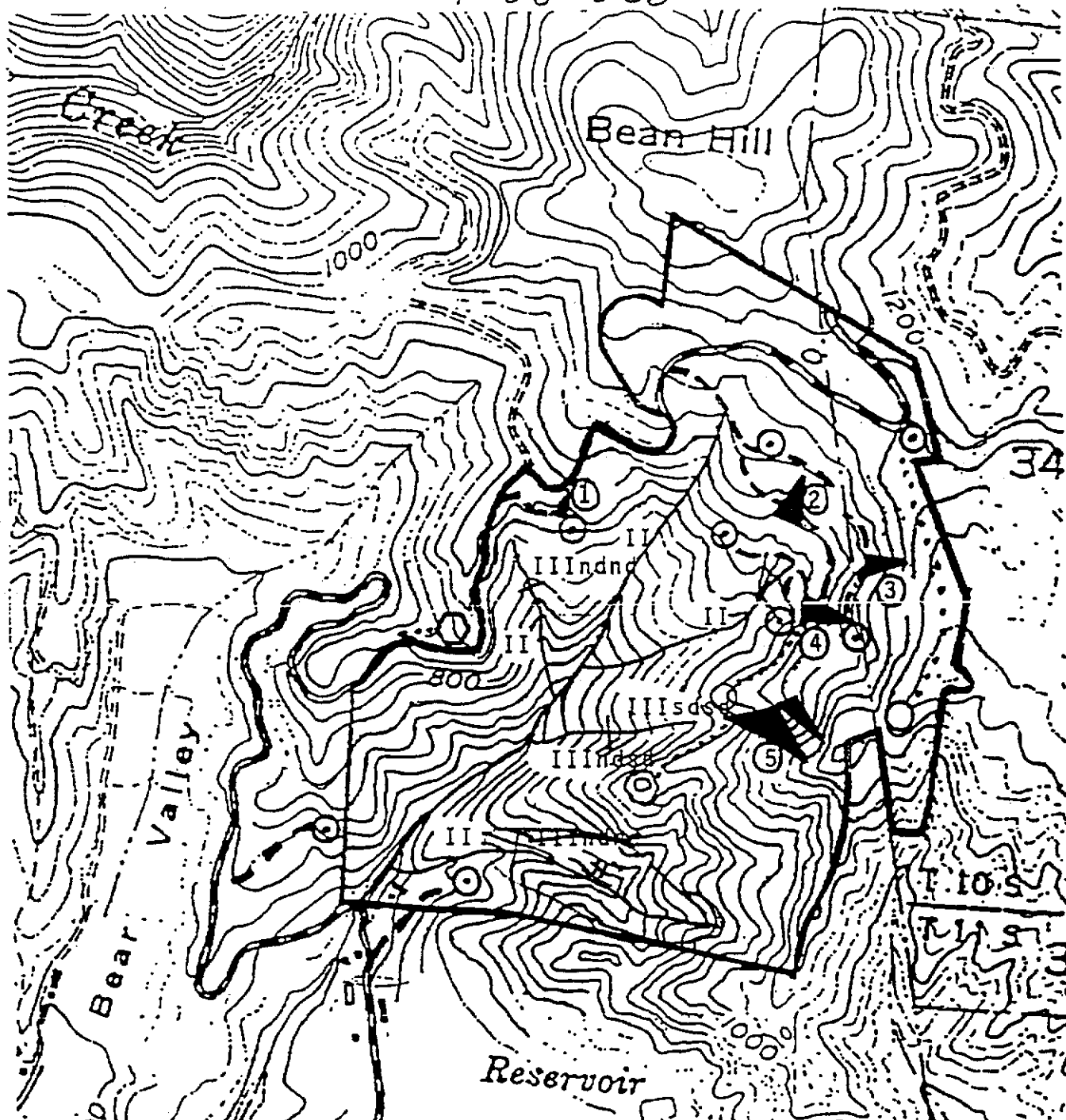


-  HARVEST AREA (tractor/yarder option) Site III
-  HARVEST AREA (yarder only) EHR-extreme Site III
-  EXISTING LANDING
-  EXISTING SEASONAL ROAD
-  EXISTING ALL WEATHER ROAD
-  PROPOSED YARDER LANDING
-  PROPOSED SEASONAL ROAD
-  SPRING LOT
-  PROPOSED LANDING
-  XXXX PROPOSED SKID ROAD (MINOR AMENDMENT)

SCALE: 1" = 1000'

BROOKTREE RANCH  
WATERCOURSE DESIGNATION AND SLIDE AREA MAP

1-88-202 SCR



# PART OF PLAN

SCALE 1" = 1000'

— II

WATERCOURSE  
WATERCOURSE PROTECTION MEASURE

ndnd

-

no dirt, no debris

ndsd

-

no dirt, stabilize debris

sdsd

-

stabilize dirt and debris

▲ ⑤

SLIDE AREA, SLIDE NUMBER (refer to section 22, addendum)



cc: und by  
2 (minor)

or  
G-1

September 16, 1988

Mr. Leonard Theiss  
Department of Forestry  
P. O. Box 670  
Santa Rosa, CA 95402

Dear Len:

The second Review Team Recommendation on THP 88-202 SCR (see attached) requires that we place certain fill material in the road prism "before the winter period" to help prevent land sliding of the cut face. We would like to amend that requirement by replacing the language quoted above with "before 10 inches of rain have fallen, or November 15th, whichever occurs first". The justification for that change is as follows:

1. The weather can be beautiful between October 15 and November 15.
2. Early rains generally are not intense.
3. Soil generally does not begin to slide until there has been some significant rain.
4. The required work will be completed in a timely fashion before the risk of sliding becomes great.

We have reviewed the proposed change with Nancy Drinkard, and would very much appreciate your approval. The additional time will be very helpful to us in that it should enable us to complete the operation this year.

Sincerely,

DALE F. HOLDERMAN  
Registered Professional Forester  
License Number 69

OK; discussed w/  
Tom Spittler, Div. Mins;  
Jelly on 9/16/88  
JF

## **TIMBER CRUISE SUMMARY**

PROJECT REPORT(LA)  
CATALOG

PROJECT BROOKTRE  
TWP 10S RGE 01E SEC 34

Tract: BROOKTREE HTS

PAGE 1  
DATE: 12/06/99  
TIME: 12:11pm

TYPE	NO	ACRES	SP	YRS	D4H	FF	BOL HGT	BA/A SQFT	TREE /AC	LOGS /AC	AVE CF	LOG BF	-PER CF	ACRE- BF	---TOTAL---	---
0001	180.00															
	DF	100	34.1	82	111	1.8	0.3	1	96	489	80	405	143	73		
	RW	100	21.8	82	83	114.6	44.3	104	42	213	4319	22138	7774	39135		
	TYPE		21.9	82	84	116.4	44.5	105	42	215	4399	22542	7918	4058		
PR	180.00															
	DF		34.1	82	111	1.8	0.3	1	96	489	80	405	143	73		
	RW		21.8	82	83	114.6	44.3	104	42	213	4319	22138	7774	3985		
	PROJ						44.5	105	42	215	4399	22542	7918	4058		

PROJECT REPORT(FA)  
SPP, SORT, GRADE, LEN % - BDFT

PROJECT BROOKTRE  
Acres: 180.00

Plots 20 BFT:C  
Trees 183 CUB:1  
TRACT: BROOKTREE HTS

PAGE 1  
DATE: 12/06/1  
TIME: 12:10pm

TLOS R01E S34 T0001

SP	SORT	GRADE	PCT BDFT / BDFT GROSS	ACRE NET	TOT %BDFT/AC MBF	BY GROSS 12-19	LEN. 20-25	AV 26-34	BDFT/ LN	LOG	LOC ACT
DF	DOMESTIC	2SAWMILL	58	267	234	42			100	36	842
DF	DOMESTIC	3SAWMILL	35	163	140	25			100	36	503
DF	DOMESTIC	4SAWMILL	8	52	31	6		4	96	35	114
DF	CULL	0		4							
DF	TOTAL		2	486	405	73		0	100	36	489
RW	DOMESTIC	2SAWMILL	48	11100	10688	1924	1	2	97	38	480
RW	DOMESTIC	3SAWMILL	44	9873	9743	1754		4	82	35	203
RW	DOMESTIC	4SAWMILL	8	1808	1708	307	15	23	19	24	51
RW	CULL	0		428							
RW	TOTAL		98	23208	22138	3985	2	4	84	32	213
PROJECT TOTAL			100	23693	22542	4058	1	4	85	32	215

EXHIBIT 1



TYPE REPORT (IB)  
STAND TABLE BY D4H 1" CLASS - SIDE

PROJECT BROOKTRE TRACT: BROOKTREE HTS Plots 20 BFT:C PAGE 1  
TWP 10S RGE 01E SEC 34 TY 0001 AC 180.00 Trees 183 CUB:1 DATE: 12/06/9  
JH TIME: 12:18pm

SPECIES	D4H	AVE. TOT.HT	TREES/ ACRE	TONS/ ACRE	BA/ ACRE	CUFT/ ACRE	BDFT/ ACRE	BDFT PCT	LOGS/ ACRE	TOTE MBI
DOUG FIR	32	144	0.0	0.08	0.1	3	16	4	0	
	34	138	0.3	2.02	1.6	71	355	88	1	64
	36	151	0.0	0.11	0.1	4	22	5	0	4
	38	171	0.0	0.05	0.0	2	12	3	0	
DOUG FIR AVE.			0.3	2.27	1.8	80	405	2	1	7:
REDWOOD	12	68	3.0	1.34	2.4	54	223	1	4	40
	13	64	0.8	0.38	0.7	15	55	0	1	10
	14	73	4.0	2.64	4.3	106	445	2	7	80
	15	78	0.8	0.63	0.9	25	105	0	2	15
	16	83	5.0	4.83	7.0	193	815	4	9	145
	17	88	0.8	0.95	1.2	38	183	1	2	3:
	18	98	6.3	9.48	11.0	379	1725	8	13	311
	19	105	0.3	0.47	0.5	19	100	0	1	18
	20	112	3.5	7.21	7.6	288	1413	6	10	254
	22	107	3.0	7.36	7.9	294	1450	7	7	262
	23	101	1.0	2.57	2.9	103	523	2	3	94
	24	111	4.0	11.72	12.6	469	2400	11	12	432
	26	121	5.5	20.36	20.3	814	4178	19	16	75:
	27	123	0.5	1.40	2.0	56	320	1	1	58
	28	134	1.0	4.45	4.3	178	985	4	3	177
	30	130	1.8	9.24	8.6	370	2025	9	5	36t
	32	131	1.5	9.05	8.4	362	1995	9	5	35!
	34	137	0.5	3.51	3.2	141	810	4	2	140
	36	139	1.0	8.01	7.1	320	1820	8	3	321
	38	155	0.3	2.39	2.0	96	570	3	1	10:
REDWOOD AVE.			44.3	107.97	114.6	4319	22138	98	104	398!
TYPE AVE.			44.5	110.25	116.4	4399	22542	100	105	4051

PROJECT REPORT(KA)  
STATISTICS - UNSTRATIFIED

PROJECT BROOKTREE TRACT: BROOKTREE HTS	Plots	2	BFT:C	PAGE	1
TWP 10S RGE 01E SEC 34 TY 0001 AC 180.00	Trees	183	CUB:1	DATE:	12/06/
TWP 10S RGE 01E SEC 34 TY 0001	JH			TIME:	12:10p
PROJECT ACRES: 180.00 TOTAL TYPES: 1					

FIXED AREA PLOT SIZE:	F1	0.20	F2	F3
	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES
TOTAL	20	178	8.9	
CRUISE	20	178	8.9	8015
COUNT				PERCENT SAMPLE TREES
BLANKS				2.2
100%		5		

	SAMPLE TREES	TREES /ACRE	AVE D4H	BOLE LEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	6	0.3	34.1	111	1.8	486	405	80	80
REDWOOD	177	44.3	21.8	83	114.6	23208	22138	4405	4319
TOTAL	183	44.5	21.9	84	116.4	23693	22542	4485	4399

SD:1	COEFF. VAR. %	S.E. %	BASAL AREA/ACRE LOW	AVE	HIGH	# OF PLOTS REQ. - 5%	INF. POE 10%	15%
DOUG FIR	447.2	100.0		1.6	3.2			
REDWOOD	39.9	8.9	104.4	114.6	124.9			
TOTAL	41.2	9.2	105.5	116.2	126.9	68	17	8

SD:1	COEFF. VAR. %	S.E. %	NET BF/ACRE LOW	AVE	HIGH	# OF PLOTS REQ. - 5%	INF. POE 10%	15%
DOUG FIR	447.2	100.0		355	710			
REDWOOD	49.3	11.0	19697	22138	24578			
TOTAL	51.1	11.4	19925	22493	25060	104	26	12

SD:1	COEFF. VAR. %	S.E. %	NET CUBIC FT/ACRE LOW	AVE	HIGH	# OF PLOTS REQ. - 5%	INF. POE 10%	15%
DOUG FIR	447.2	100.0		71	142			
REDWOOD	45.2	10.1	3883	4319	4755			
TOTAL	47.0	10.5	3929	4390	4851	88	22	10