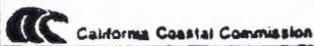


Del Norte



California Coastal Commission

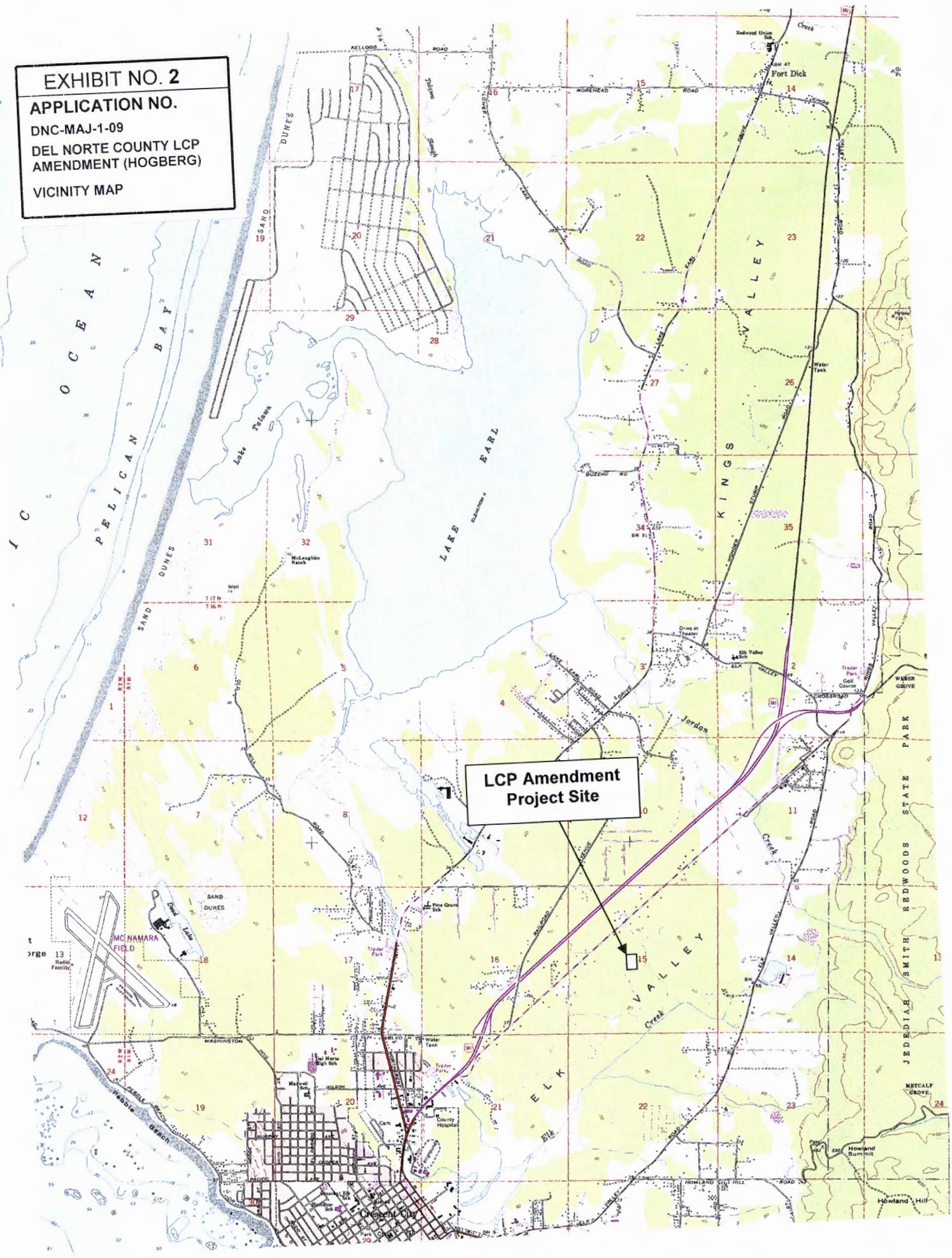
# LOCATION MAP



County of Del Norte

EXHIBIT NO. 1  
 APPLICATION NO.  
 DNC-MAJ-1-09  
 DEL NORTE COUNTY LCP  
 AMENDMENT (HOGBERG)  
 LOCATION MAP

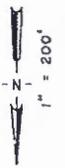
**EXHIBIT NO. 2**  
**APPLICATION NO.**  
DNC-MAJ-1-09  
DEL NORTE COUNTY LCP  
AMENDMENT (HOGBERG)  
VICINITY MAP



**LCP Amendment  
Project Site**

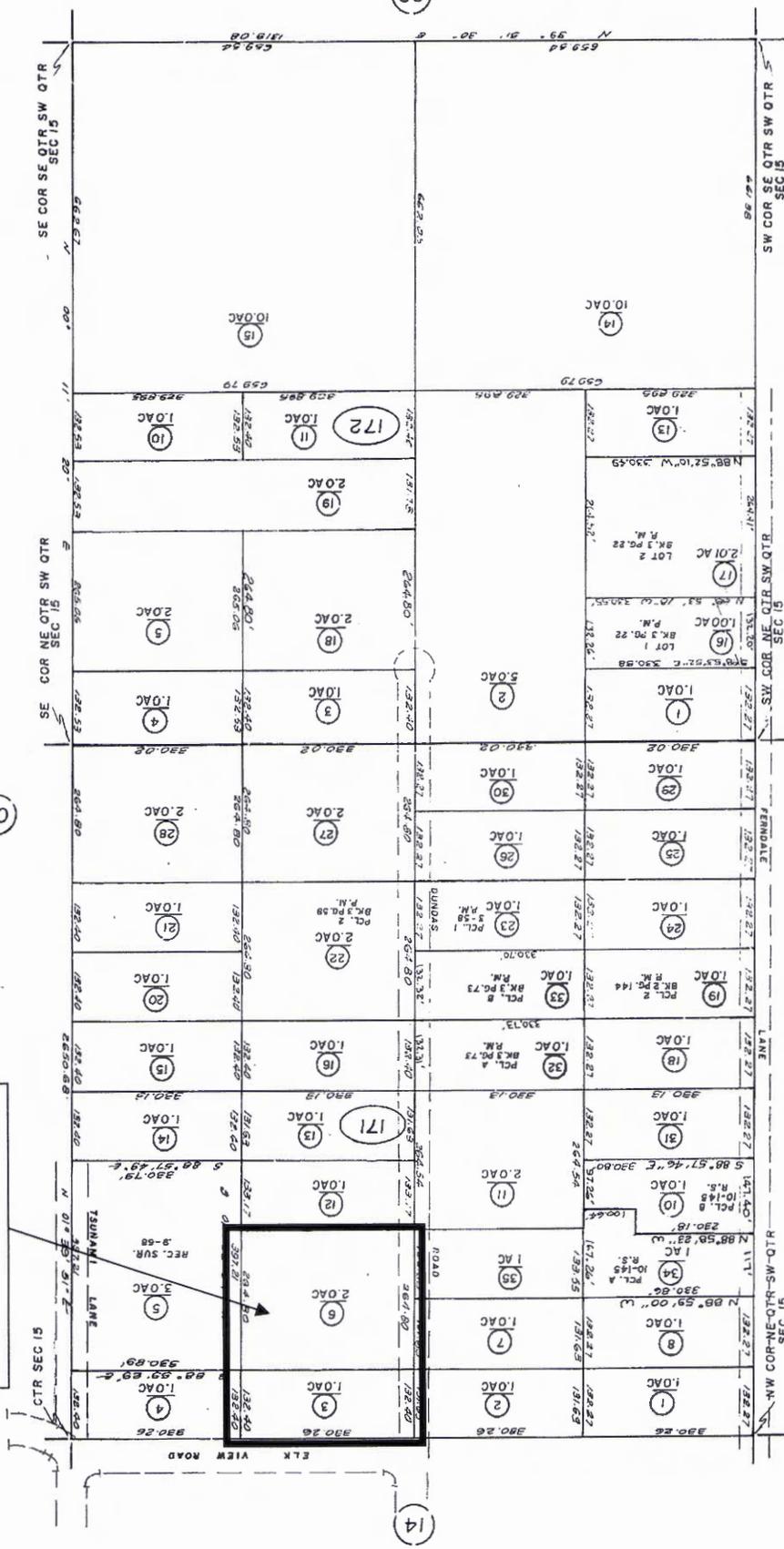


112-17



E 1/2 SW 1/4 SEC 15 T.16N., R.1W., H.B&M.

LCP Amendment Project Site



**EXHIBIT NO. 3**

**APPLICATION NO.**  
 DNC-MAJ-1-09 - DEL NORTE  
 COUNTY LCP AMENDMENT  
 (HOGBERG)

**COUNTY OF DEL NORTE  
 ASSESSOR'S PARCEL MAP  
 112-17**

EXHIBIT NO. 4

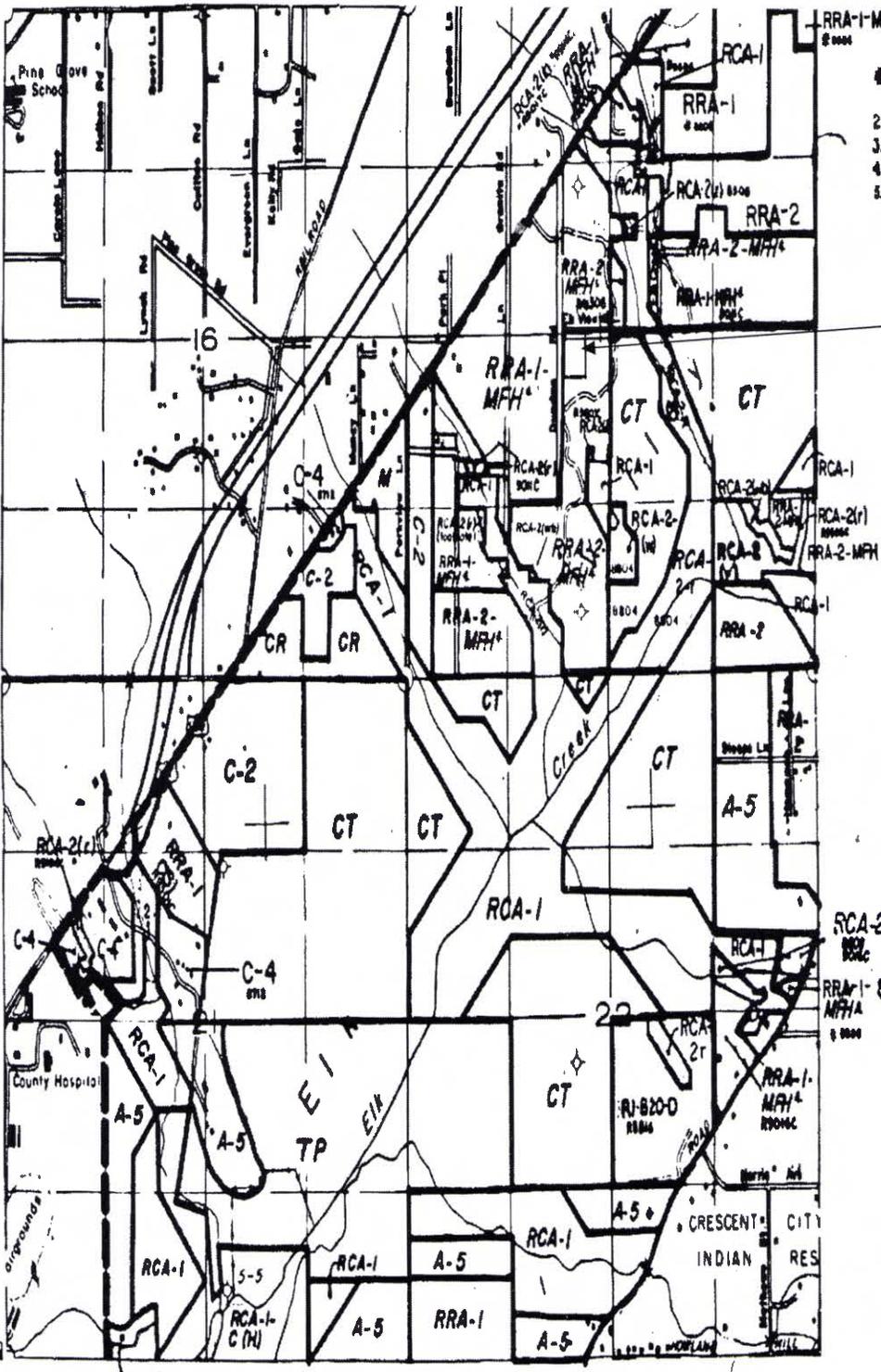
APPLICATION NO.

DNC-MAJ-1-09

DEL NORTE COUNTY LCP  
AMENDMENT (HOGBERG)

SITE AERIAL





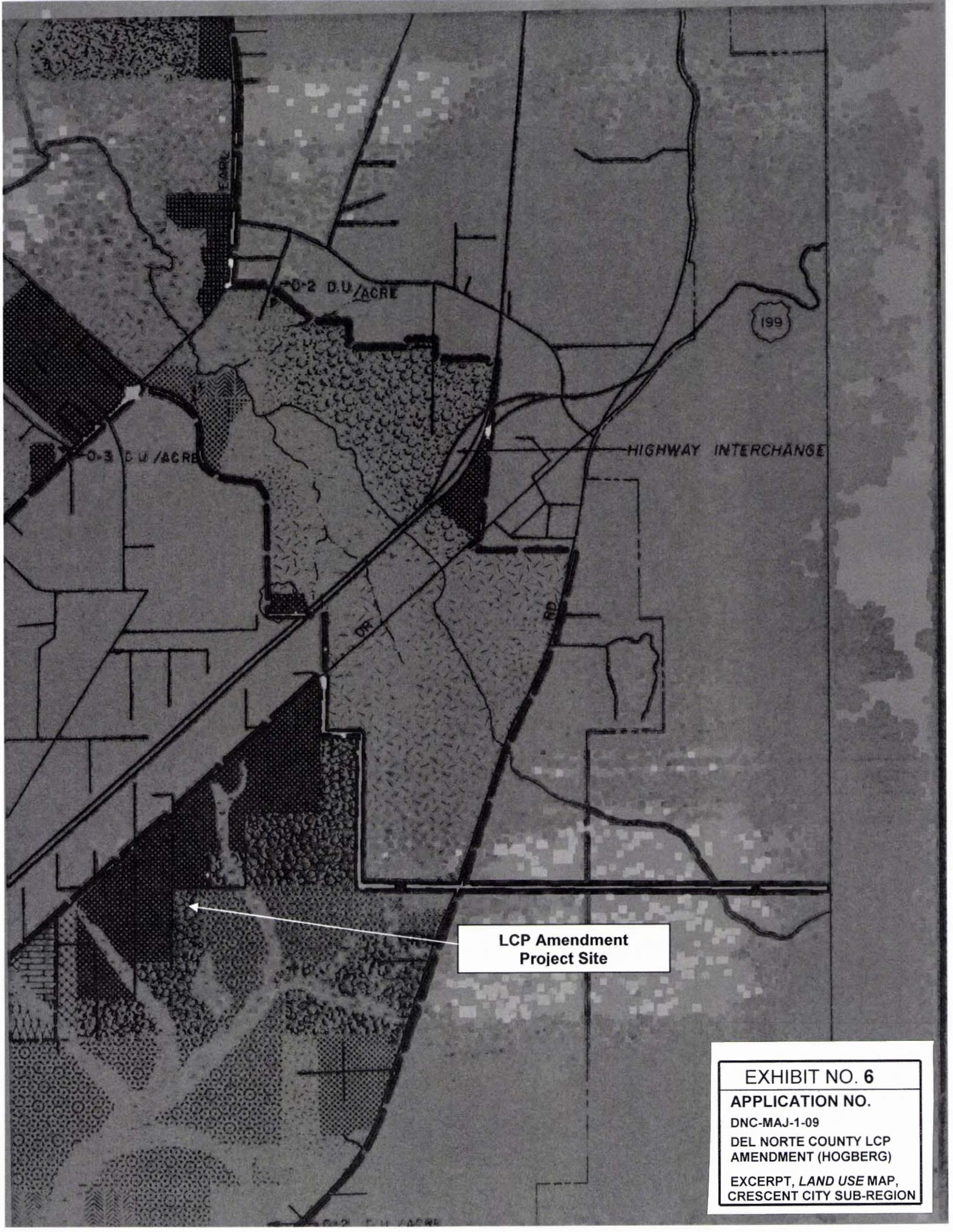
- # See Record File
- 2. See rezoning 000'
- 3. SEE REZONE 331C
- 4. RDCBC
- 5. See R0101C Fernandez

LP Amendment  
Project Site

Section 21.06.050 Ordinance 88-03  
**DEL NORTE CO. ZONING MAP**  
**AREA C-9**  
 SECTIONS 15, 16, 21, 22  
 TWP 16 N RGE 1W HB 8M  
 CRESCENT CITY AREA

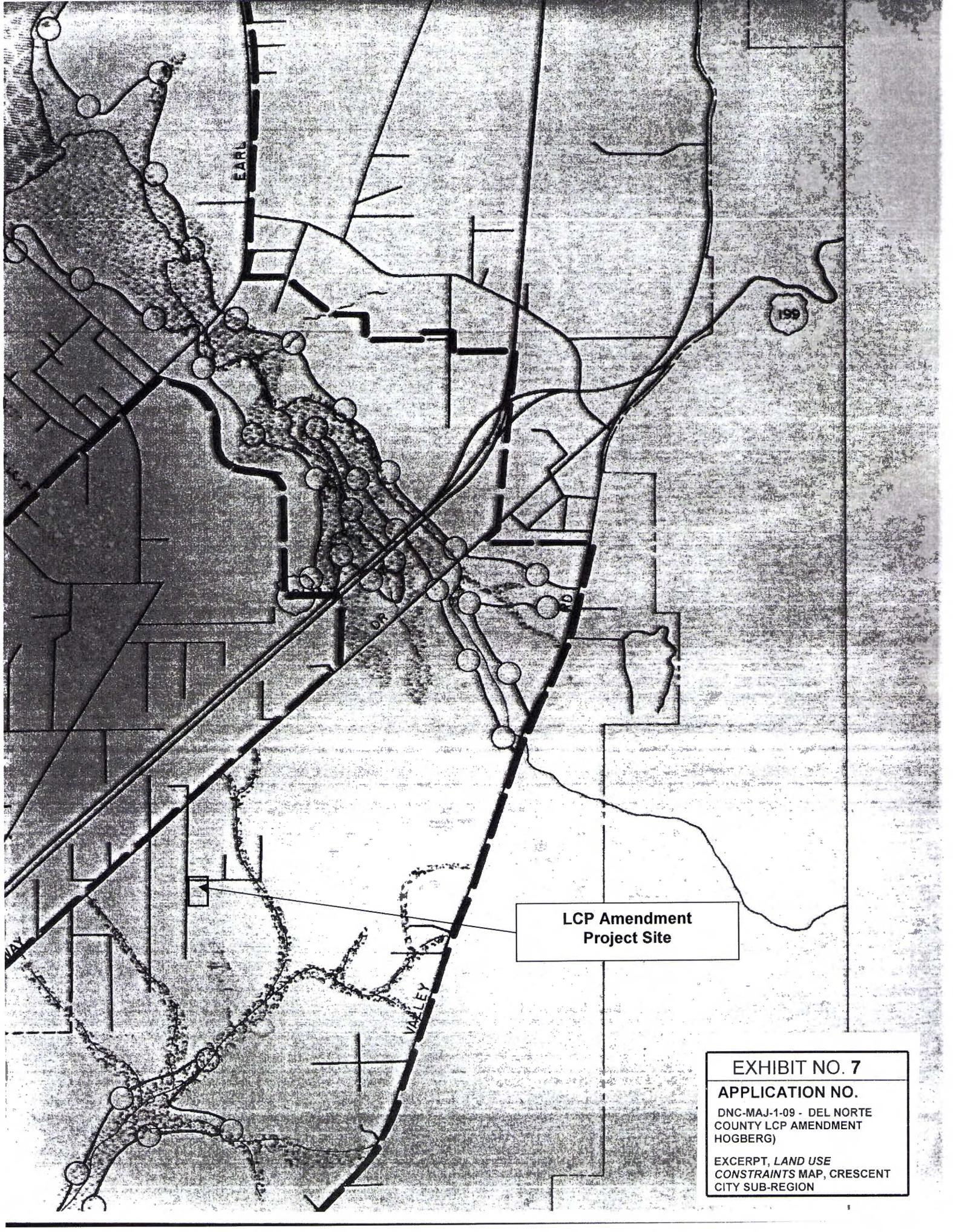
APPROVED BY PLANNING COMMISSION A. J. ...  
 APPROVED BY BOARD OF SUPERVISOR \_\_\_\_\_  
 COUNTY OF DEL NORTE, CALIFORNIA  
 03-03 Sept 8.83 Revised 06-13-06  
 REVISED 1/14/8

**EXHIBIT NO. 5**  
**APPLICATION NO.**  
 DNC-MAJ-1-09  
 DEL NORTE COUNTY LCP  
 AMENDMENT (HOGBERG)  
 EXISTING COASTAL ZONING  
 MAP C-9



LCP Amendment  
Project Site

**EXHIBIT NO. 6**  
**APPLICATION NO.**  
DNC-MAJ-1-09  
DEL NORTE COUNTY LCP  
AMENDMENT (HOGBERG)  
EXCERPT, LAND USE MAP,  
CRESCENT CITY SUB-REGION



LCP Amendment  
Project Site

**EXHIBIT NO. 7**  
**APPLICATION NO.**  
DNC-MAJ-1-09 - DEL NORTE  
COUNTY LCP AMENDMENT  
(HOGBERG)  
**EXCERPT, LAND USE**  
**CONSTRAINTS MAP, CRESCENT**  
**CITY SUB-REGION**

**BOARD OF SUPERVISORS  
COUNTY OF DEL NORTE  
STATE OF CALIFORNIA**

<b>EXHIBIT NO. 8</b>
APPLICATION NO. DNC-MAJ-1-09 - DEL NORTE CO. LCP AMENDMENT (HOGBERG)
COUNTY RESOLUTION OF TRANSMITTAL NO. 2009-033 FOR LAND USE PLAN MAP AMENDMENT (1 of 2)

**RESOLUTION NO. 2009 - 033**

**A RESOLUTION OF THE DEL NORTE COUNTY BOARD OF SUPERVISORS  
SUBMITTING A LOCAL COASTAL PLAN AMENDMENT TO THE CALIFORNIA  
COASTAL COMMISSION FOR CERTIFICATION REVIEW.**

**WHEREAS**, on February 1, 1984, the California Coastal Commission certified the Del Norte County Local Coastal Plan; and

**WHEREAS**, the Del Norte County Board Local Coastal Plan provides for amendments to the Local Coastal Plan; and

**WHEREAS**, the Board of Supervisors have held public hearings and considered requests to amend the Local Coastal Plan including the Land Use Plan and the implementing Title 21 Coastal Zoning; and

**WHEREAS**, the requests for amendment have been reviewed and processed pursuant to the provisions of the Local Coastal Plan and Title 21 (Coastal Zoning); and

**WHEREAS**, pursuant to the California Environmental Quality Act (CEQA) an environmental document has been prepared and circulated for each request in compliance with CEQA which the Board has determined as adequate for each request; and

**WHEREAS**, the Board of Supervisors now finds that it is in the interest of the orderly development of the County and important to the preservation of the health, safety, and general welfare of the residents of the County and amends the Local Coastal Program as follows:

1. R0705C/GPA0703C Hogberg -- Amending Coastal zoning map C-9 from RRA-2-MFH to RRA-1-MFH and General Plan Amendment from Rural Residential - Two Acre Minimum Lot Size to Rural Residential - One Acre Minimum Lot Size.
2. R0903C Del Norte County - Amendment to Title 21 Zoning - Chapter 21.45 Flood Damage Prevention.
3. Del Norte County - Ordinance Amending Title 21 Zoning - Chapter 21.46 General Provisions - Section 21.46.070 Height Restrictions.

**WHEREAS**, the proposed amendments are consistent with the provision of the Coastal Act of 1976, the Del Norte County Local Coastal Plan and are intended to be carried out in a manner in conformity with the Coastal Act and the implementing Local Coastal Plan.

**NOW THEREFORE, BE IT RESOLVED AS FOLLOWS:**

1. The above listed and described changes are hereby approved and adopted as amendments to the Del Norte County Local Coastal Plan.
2. The Board of Supervisors of the County of Del Norte directs and authorizes that the above listed amendments are within the California Coastal Zone and are to be transmitted to the Coastal Commission for its review and certification for the unincorporated area of the County.
3. The Chair of this Board is hereby authorized and directed to sign and certify all maps, documents, and other materials and to take other necessary steps in accordance with this Resolution to reflect the above described action by the Board of Supervisors.

4. These amendments shall take effect and be enforced thirty (30) days after the date of the passage of the companion ordinance, and after approval of the amendment by the Coastal Commission, whichever is later.

**PASSED AND ADOPTED** this 9th day of June 2009, by the following polled vote of the Board of Supervisors of the County of Del Norte.

AYES: Supervisors McNamer, McClure, Sullivan, Finigan, Hemmingsen

NOES: None

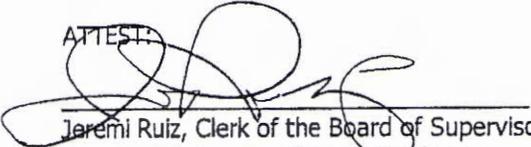
ABSTAIN: None

ABSENT: None



Gerry Hemmingsen, Chair  
Del Norte County Board of Supervisors

ATTEST:

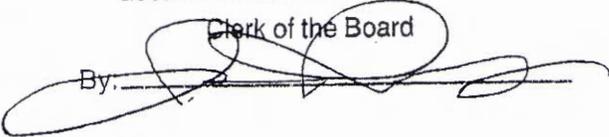


Jeremi Ruiz, Clerk of the Board of Supervisors  
County of Del Norte, State of California

Date: 6-09-09

I hereby certify that according to the provisions of Government Code Section 25103, delivery of this document has been made.

Clerk of the Board

By: 

2092

RESOLUTION NO. 2009-022

**A RESOLUTION OF THE DEL NORTE COUNTY BOARD OF SUPERVISORS  
SUBMITTING AN ORDINANCE AMENDING ORDINANCE NO. 83-03 AND  
COUNTY CODE TITLE 21 BY ADOPTING NEW COASTAL ZONING MAP C-9 (Hogberg)  
TO THE COASTAL COMMISSION AS AN LCP AMENDMENT**

**WHEREAS**, the County of Del Norte has adopted an ordinance amending the local Coastal Plan and Title 21 Coastal Zoning Ordinance; and

**WHEREAS**, this amendment has been reviewed and processed pursuant to the provisions of the Local Coastal Plan and Title 21 (Coastal Zoning); and

**WHEREAS**, a negative declaration has been prepared for rezone in compliance with the California Environmental Quality Act; and

**WHEREAS**, this ordinance is intended to be carried out in a manner in conformity with the Coastal Act and the implementing Local Coastal Plan; and

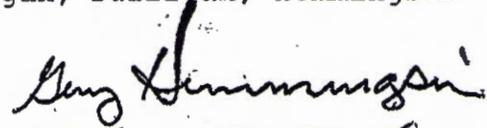
**WHEREAS**, this amendment shall take effect and be enforced thirty (30) days after the date of the passage of the companion ordinance, and after approval of the amendment by the Coastal Commission, whichever is later.

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Supervisors of the County of Del Norte, State of California do hereby approve the changes as outlined by the attached Ordinance; and

**BE IT FURTHER RESOLVED**, that by submission of such changes to the Coastal Commission for certification, the Board of Supervisors is requesting the subject amendments be identified as requiring rapid and expeditious action.

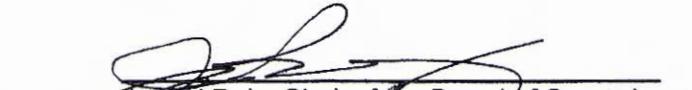
**PASSED AND ADOPTED** this 12th day of May 2009, by the following polled vote:

AYES: Supervisors McNamer, Finigan, Sullivan, Hemmingsen  
NOES: None  
ABSTAIN: None  
ABSENT: Supervisor McClure



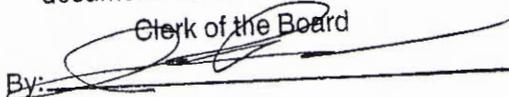
Gerry Hemmingsen, Chairman  
Del Norte County Board of Supervisors

ATTEST:

  
Jeremi Ruiz, Clerk of the Board of Supervisors  
County of Del Norte, State of California

Date: 5-12-09

I hereby certify that according to the provisions of Government Code Section 25103, delivery of this document has been made.

Clerk of the Board  
By: 

APPROVED AS TO FORM:

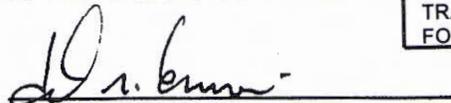
  
John Henion  
Del Norte County Counsel

EXHIBIT NO. 9
APPLICATION NO. DNC-MAJ-1-09 - DEL NORTE COUNTY LCP AMENDMENT (HOGBERG) COUNTY RESOLUTION OF TRANSMITTAL NO. 2009-022 FOR ZONING AMENDMENT

## APPLICATION NO.

DNC-MAJ-1-09

DEL NORTE COUNTY LCP  
AMENDMENT (HOGBERG)COUNTY ZONING AMENDING  
ORDINANCE NO. 2009-07

**BOARD OF SUPERVISORS  
COUNTY OF DEL NORTE  
STATE OF CALIFORNIA**

**AN ORDINANCE AMENDING ORDINANCE NO. 83-03  
AND COUNTY CODE TITLE 21 BY ADOPTING NEW COASTAL ZONING MAP C-9  
(Hogberg) TO THE COASTAL COMMISSION AS AN LCP AMENDMENT**

The Board of Supervisors, County of Del Norte, State of California, does ordain as follows:

Section I: Section 2.D.2 of the Coastal Zoning enabling Ordinance No. 83-03 and County Code Title 21 is hereby amended by deleting therefrom Coastal Zoning Area Map C-9 and amending same with a new Coastal Zoning Area Map C-9 as specified in attached Exhibit "A" and subject to the following condition:

Section II: This ordinance shall take effect and be enforced thirty (30) days after the date of its passage or approval of the rezone by the Coastal Commission, whichever is the latter.

## Findings of

Fact: This Ordinance is passed and adopted based upon the findings cited in the Staff Report and the Board of Supervisors hereby makes said findings as more particularly described in said Staff Report, which is herein incorporated by reference (65804(c)(d) of the Government Code).

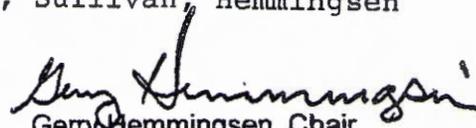
**PASSED AND ADOPTED** this 12th day of May 2009 by the following polled vote:

AYES: Supervisors McNamer, Finigan, Sullivan, Hemmingsen

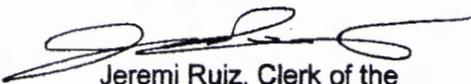
NOES: None

ABSENT: Supervisor McClure

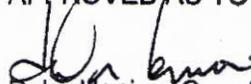
ABSTAIN: None

  
Gerry Hemmingsen, Chair  
Del Norte County  
Board of Supervisors

ATTEST:

  
Jeremi Ruiz, Clerk of the  
Board Of Supervisors, County of  
Del Norte, State of California

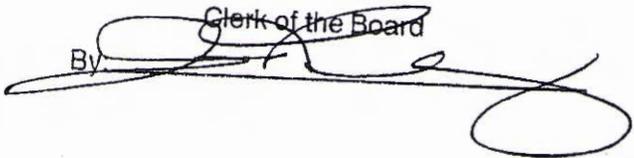
APPROVED AS TO FORM:

  
John Henion, County Counsel  
County of Del Norte, State of California

Date: 5-12-09

I hereby certify that according to the provisions of Government Code Section 25103, delivery of this document has been made.

Clerk of the Board

By 

# STOVER ENGINEERING

Civil Engineers and Consultants

**RECEIVED**

MAR 18 2010

PLANNING  
COUNTY OF DEL NORTE

Job Number: 3668

18 March 2010

PO Box 783 - 711 H Street  
Crescent City CA 95531  
Tel: 707.465.6742  
Fax: 707.465.5922  
info@stovereng.com

STAN HOGBERG  
2315 PARKWAY DRIVE  
CRESCENT CITY, 95531

EXHIBIT NO. 11

APPLICATION NO.

DNC-MAJ-1-09 - DEL NORTE  
COUNTY LCP AMENDMENT  
(HOGBERG)

GENERAL PLAN AMENDMENT  
& ZONING RECLASSIFICATION  
IMPACT ASSESSMENT (1 of 9)

RE: Land Use Plan Map and LCPZEO Amendments (Hogberg RR 1/2|RRA-2-MFH → RR 1/1|RRA-1-MFH) – Traffic Impact at Full Build-out

Dear Stan,

At your request, Stover Engineering has prepared a comprehensive traffic analysis in response to Part C of the California Coastal Commission's letter dated January 19, 2010 to the County of Del Norte Community Development Department. Part C addresses concerns the Coastal Commission has in regards to the proposed land use and zoning designation amendment. The first concern is the impact the increased traffic at full build-out will have on Dundas Road and its intersections. The second concern is the ability for emergency responders to have access during emergency situations. It is our opinion, based on traffic analysis and correspondence with local emergency providers, mitigation is not required for the proposed land use and zoning designation amendment.

Coastal Commission staff has requested an analysis of the traffic impact on Dundas Road "... at full build-out within the RR 1/1|RRA-1 and RR 1/2|RRA-2 areas together with the likelihood of additional requests for similar zoning in areas in proximity to the proposed amendment (e.g., on the eastern side of Dundas Road south of the Hogberg properties within NE1/4, SW1/4, Sec 15, T16N, R1W)..." Two intersections of primary concern are Elk View Road with Dundas Road and Dundas Road with Parkway Drive. Estimated maximum trip generations were calculated for AM and PM using the total number of possible developed parcels permitted under the current zoning requirements whose primary ingress and egress is Dundas Road. This will be used as the baseline for our traffic impact analysis. Calculations are based on the ITE Trip Generation Manual, 5<sup>th</sup> Edition.

The estimated peak trip generation under current zoning and land use for Elk View Road at the Dundas Road intersection was calculated to be 41 trips in the AM and 53 trips in the PM. Dundas Road south of the Elk View Road intersection was calculated to have 24 trips in the AM and 30 trips in the PM under current zoning and land use. Dundas Road at the Parkway Drive intersection was calculated to have 76 trips in the AM and 100 trips in the PM under current zoning and land use. There are two potential parcels in addition to the Hogberg property that are included in the area the Coastal Commission defines. Estimated trip generations for three new parcels along Dundas Road are calculated to increase by 2 trips in the AM and 3 trips in the PM. Estimated trip generations for Elk View Drive are unchanged. The increase in estimated trip generations is insignificant and does not affect the overall serviceability of Dundas Road.

STAN HOGBERG  
18 MARCH 2010  
Page 2

Adequacy of transportation infrastructure has been discussed with local primary emergency service providers and their responses can be found on pages 1 through 3 of the previous DNC-MAJ-1-05 LCP Amendment application (Attached). The Crescent Fire Protection District and the Del Norte Ambulance had some general concerns of the serviceability of the existing road conditions but believe the connectivity of the existing road system seems to be adequate. The California Department of Forestry was also concerned with the current level of serviceability but believes increased densification generally decreases the severity of fire due to larger areas cleared of brush and better maintenance of road systems. Del Norte County Sheriff Department had no concern with the serviceability of the road system. These comments were made when the proposed general plan amendment and zoning changes were for a larger area. The number of potential parcels under this zoning amendment has been reduced significantly from the DNC-MAJ-1-05 LCP Amendment but approvals from local primary emergency service providers are still applicable.

Estimated trip generation models are not affected by the potential lot increase due to the proposed zoning amendment or potential future zoning amendments at adjacent properties. The primary concern is the serviceability for emergency responders upon full build-out. The existing roadways are currently not developed to the current standards but serviceability could be improved with enforcement of governing agencies' standards for new development on future projects.



Very truly yours,

STOVER ENGINEERING

Sean Ewing, P.E.  
Project Engineer

Attachment (5 Pages)

QA/QC WLS

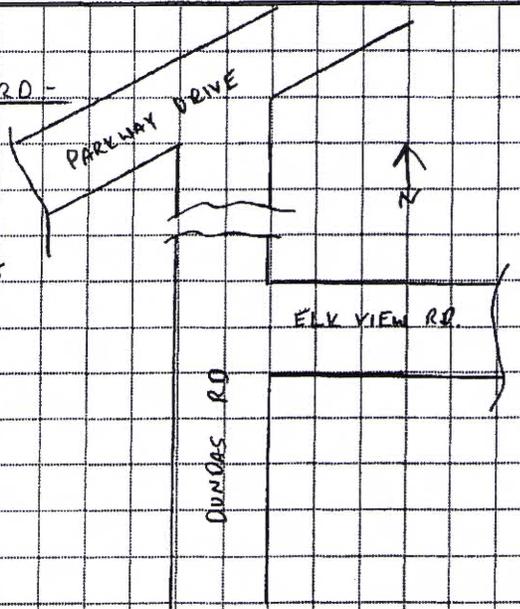
209

STOVER ENGINEERING

INTERSECTION OF ELK VIEW RD W/ DUNDAS RD -

ELK VIEW FROM THE EAST -

TRIBUTARY ROADS	# OF EX(OR) POTENTIAL LOTS BASED ON CURRENT ZONING
BROWN RD	8
JOSEPH LN	0
ELK CREEK RD	14
ELK VIEW RD	1
TSUNAMI LN	21
TOTAL = 44 LOTS	



TRIP GENERATION -

AM -  $L_n(T) = 0.858 L_n(X) + 0.464 = 3.71$  ∴ T = 41 TRIPS

PM -  $L_n(T) = 0.892 L_n(X) + 0.590 = 3.966$  ∴ T = 53 TRIPS

DUNDAS RD FROM THE SOUTH -

DUNDAS RD 23 (E) OR POTENTIAL LOTS BASED ON CURRENT ZONING  
 3 (N) LOTS TO POTENTIALLY REQUEST ZONING CHANGES  
 ON THE EAST SIDE OF DUNDAS RD SOUTH OF  
 THE HOGGERG PROPERTIES WITHIN NE 1/4, SW 1/4,  
 SEC 15, T 16N, R 1W.

TOTAL = 26 LOTS

TRIP GENERATION -

EXISTING AM -  $L_n(T) = 0.858 L_n(X) + 0.464 = 3.15$  ∴ T = 24 TRIPS

EXISTING PM -  $L_n(T) = 0.892 L_n(X) + 0.590 = 3.387$  ∴ T = 30 TRIPS

NEW AM -  $L_n(T) = 0.858 L_n(X) + 0.464 = 3.259$  ∴ T = 26 TRIPS

NEW PM -  $L_n(T) = 0.892 L_n(X) + 0.590 = 3.498$  ∴ T = 33 TRIPS

INTERSECTION OF DUNDAS RD W/ PARKWAY DRIVE -

DUNDAS -

TRIBUTARY ROADS	# OF LOTS OR POTENTIAL		ZONING CHANGES EAST OF ROEBERG PROPERTIES WITHIN NE 1/4 SW 1/4 SECTION, RW
	LOTS BASED ON CURRENT ZONING	(N) LOTS TO POTENTIALLY REQUEST	
BROWN RD	8		N/A
JOSEPH LN	0		N/A
ELK CREEK RD	14		N/A
TSUNAMI LN	21		N/A
ELK VIEW RD	1		N/A
JEREMIAH CT	8		N/A
DUNDAS RD	38		3
TOTAL =		90	3

TRIP GENERATION -

EXISTING AM -  $L_n(T) = 0.858 L_n(X) + 0.464 = 4.325$  ∴ T = 76 TRIPS

EXISTING PM -  $L_n(T) = 0.892 L_n(X) + 0.590 = 4.604$  ∴ T = 100 TRIPS

NEW AM -  $L_n(T) = 0.858 L_n(X) + 0.464 = 4.353$  ∴ T = 78 TRIPS

NEW PM -  $L_n(T) = 0.892 L_n(X) + 0.590 = 4.633$  ∴ T = 103 TRIPS

**DNC-MAJ-1-05, Hogberg LCP Amendment**  
Additional Application Information Requests  
Prepared June 8, 2006, Revised 8/01/2006

Hogberg Proposed Changes: RR 1 / 2 → RR 1/1; RRA-2-MFH → RRA-1-MFH

***“Adequacy of Area to Support New Development – Sewage Disposal”***

It was requested that APN 112-171-05 be investigated for its suitability to support on-site sewage disposal treatment.

A site investigation was conducted in April 2006 and results indicate that this parcel has suitable soil conditions and space to support on-site sewage disposal. A copy of the report has been attached for your information.

***“Adequacy of Area to Support New Development – Transportation Infrastructure”***

A supplemental analysis of the effects the increased density would have on fire, police, and other emergency responder services for the entire Dundas/Jeremiah/Elk View/Tsunami abutting area if the area were built out to one-dwelling-per-acre density, was requested. The analysis is to include consultations with the affected public safety provider agencies and identify all feasible mitigation measures.

The proposed general plan amendment and zoning changes were discussed with each emergency responder agency representative and an existing road system map provided with the project and the surrounding areas overlaid upon it. The agency representatives providing input are listed below:

1. Chief Steve Wakefield, Crescent Fire Protection District (CFPD);
2. Peace Officer Jim Smith, California Department of Forestry (CDF);
3. Ron Sandler, CEO, Del Norte Ambulance (DNA); and
4. Sheriff Dean Wilson, Del Norte County Sheriff's Department (DNCSD).

Immediate concerns of the emergency responding agencies were common to all except for the law enforcement agency, who did not have any concerns. The concerns have been summarized in the following table. All the agencies indicated that these conditions exist now. Comments regarding increased traffic and emergency response were anecdotal. Additional traffic was already addressed by the Applicant's engineer.

## DNC-MAJ-1-05, Hogberg LCP Amendment

-Continued-

### Summary of the Concerns by Emergency Provider

AGENCY	DENSITY INCREASE CONCERNS	COMMENTS
CFPD, Structure Fire Protection & Medical Emergency	<ol style="list-style-type: none"> <li>1. Safety due to increased traffic and existing road conditions.</li> <li>2. Longer response times due to traffic, lack of visible addresses or use of nonstandard signage and existing road conditions.</li> <li>3. Ability to respond in multi-agency event because of existing road conditions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connectivity of the existing road system seems adequate.</li> </ol>
DNA, Medical Emergency	<p>Items 1 – 3 above were concerns shared by DNA also;</p> <ol style="list-style-type: none"> <li>4. If gated communities, provisions for an additional emergency access. (Note: Gated communities are not being proposed.)</li> </ol>	<ol style="list-style-type: none"> <li>1. See Item #1 above.</li> </ol>
CDF, Non-structure Fire Protection	<ol style="list-style-type: none"> <li>1. General lack of maintenance for current level of response is a concern; and</li> <li>2. Ability to respond with increased traffic and substandard road widths.</li> </ol>	<ol style="list-style-type: none"> <li>1. Generally increased density use decreases the severity of fire because of larger areas cleared of brush; and</li> <li>2. Generally better maintenance of road systems is also a consequence of higher density areas.</li> </ol>
DNCS, Law Enforcement	None	No concerns with existing road system.

### Effects of Increased Density on the Existing Road System

1. Increased number of emergency responses to the area and safety concerns because of existing road conditions;
2. Increased traffic using the existing streets and therefore potential for increased vehicular accidents;
3. Slower response times because of increased traffic, existing street conditions and lack of visible street signs and home addresses;
4. Increased chance for multi-agency response events and inability of the existing road system to accommodate the responding vehicles simultaneously resulting in longer response time;
5. Increased density potentially makes the area higher priority for maintenance and capital improvement projects; and
6. Reduction of non-structure fire fuels because of increased clearing and grubbing on smaller parcel sizes.

## DNC-MAJ-1-05, Hogberg LCP Amendment

-Continued-

### Mitigation Measures

Regarding Effects 1, 2, 3, & 4, the road is currently not developed to current standards and mitigation for the existing inadequacies is that the agencies enforce their standards. For new development, the best solution is developing the road through conditioning of future projects.

Effects #s 5 & 6 provide positive impacts and therefore do not need mitigation.

Effect #6, which is the reduction of non-structure fire fuels, provides mitigation to Effects #s 1-4 by reducing the number of emergency responders needing to enter the area during a catastrophic event.

### *"Development Timing and Intensity of Rural Land Divisions"*

Before rural land divisions can proceed in areas outside of existing developed areas, 50 percent of the usable parcels within the existing area must already be developed i.e. 50% pre-developed threshold. If this is met, then the land division size for newly created parcels would be no smaller than the average size of surrounding parcels.

In order to determine if the 50% pre-development threshold is met, it was requested that a data base of Del Norte County Planning Area No. 4 parcels be compiled, detailing how many useable parcels within the planning area have been developed and how many remained vacant. In addition, it was requested that a similar analysis be performed on a rationally delineated "surrounding area", which would detail parcel size mean, median and mode. Then based upon the aforementioned results, perform an analysis as to whether further subdivision of either or both of APNs 112-171-05 or -06 could be found consistent with the rural lands divisions requirements.

- 50% Pre-development Threshold

Del Norte County CDD staff compiled the information for Planning Area No. 4 and found a total of 424 useable parcels and of that total, 64.4% had been developed. Consequently the 50% threshold is met. A copy of the analysis summary has been included.

- Surrounding Area Analysis

A surrounding area was delineated in coordination with CDD staff. The boundaries selected were based upon relative proximity to the project area, presence of the Elk Creek drainage basin or roads and zoning/land uses of the surrounding project areas.

# STOVER ENGINEERING

Civil Engineers and Consultants

PO Box 783 - 711 H Street  
Crescent City CA 95531  
Tel: 707.465.6742  
Fax: 707.465.5922  
info@stovereng.com

HEIDI KUNSTAL, SENIOR PLANNER  
COUNTY OF DEL NORTE  
COMMUNITY DEVELOPMENT DEPARTMENT  
981 H STREET  
CRESCENT CITY CA 95531

Job Number: 3668

10 September 2007

**RECEIVED**

SEP 10 2007

PLANNING  
COUNTY OF DEL NORTE

RE: Hogberg GPA and Rezone

Dear Ms. Kunstal,

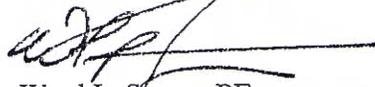
Mr. Hogberg has reconsidered the parcels to be included in his proposed general plan amendment (GPA) and rezone. Please find enclosed a map of the proposed lots to be included. Also enclosed is the petition and copies of the deeds for the affected parcels. I kindly request that the application be amended with the enclosed information.

The proposed parcels to be included in the GPA and rezone include assessor parcels 112-142-41, 112-171-03 and 06. Note that APN 112-142-41 is two acres in size but cannot be split any further without offsite sewage treatment. This is due to its topography with a drainage course crossing the parcel. The only parcel that can be split under this proposal is APN 112-171-06. The proposed zoning for APN 112-142-41 is consistent with the current density of the 12 parcels located north and east of the parcel.

I trust this provides the necessary information to proceed with the development application. Please feel free to contact me if you have any questions.

Very truly yours,

STOVER ENGINEERING



Ward L. Stover, PE  
Principal

Enclosures

# STOVER ENGINEERING

Civil Engineers and Consultants

PO Box 783 - 711 H Street  
Crescent City CA 95531  
Tel: 707.465.6742  
Fax: 707.465.5922  
info@stovereng.com

HEIDI KUNSTAL, PLANNER  
COUNTY OF DEL NORTE  
981 H STREET STE 110  
CRESCENT CITY CA 95531

Job Number: 3668

24 November 2008

RE: Hogberg Rezone R0705C/GPA0703C

Dear Ms. Kunstal,

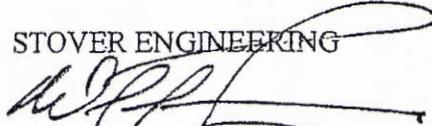
I am writing on behalf of my client Stan Hogberg. He is very interested in seeing his rezone/general plan amendment application go before the Planning Commission and then the Board of Supervisors. I believe we have submitted all the items previously requested to deem the application complete. We kindly request that the application be deemed complete and process to submit to the Planning Commission.

It appears that there are now only two parcels zoned RRA-2-MFH affected by this application. They are APN 112-171-03 and 06. These parcels are adjacent to lands already zoned RRA-1-MFH so the proposed rezone is consistent with the adjacent lands.

Thank you in advance for considering this issue and I look forward to working with you, the Planning Commission and Board of Supervisors to reach a proposal that can be considered and approved by the Coastal Commission. Please feel free to contact me if you have any questions.

Very truly yours,

STOVER ENGINEERING

  
Ward L. Stover, PE  
Principal

Received

NOV 25 2008

Engineering  
County of Del Norte

cc: Stan Hogberg

9099

# **STOVER ENGINEERING**

PO Box 783 - 711 H Street - Crescent City, California 95531 (707) 465-6742 Fax (707) 465-5922  
e-mail: [stovereng@aol.com](mailto:stovereng@aol.com)

STAN HOGBERG  
2315 PARKWAY DRIVE  
CRESCENT CITY, CA 95531

Job Number: 3668

29 April 2005

**EXHIBIT NO. 12**

**APPLICATION NO.**

DNC-MAJ-1-09 - DEL NORTE  
COUNTY LCP AMENDMENT  
(HOGBERG)

ONSITE SEWAGE DISPOSAL  
SUITABILITY EVALUATIONS  
FOR APN 112-171-06 (1 of 31)

RE: On-site Sewage Disposal Evaluation – APN 112-171-06

Dear Mr. Hogberg:

Stover Engineering was retained by you to perform an on-site sewage disposal evaluation for the subject parcel located off Dundas Road in Crescent City, California. Based upon our investigation, it is our opinion that a suitable on-site sewage disposal system plus a reserve area can be situated on Lot 1 as shown on the site plan. Lot 2 testing was performed by Tromble Engineering and the sizing of its primary and reserve areas as shown on the site map are based upon Tromble Engineering's calculations. This report conforms to the Del Norte County On-site Sewage Disposal Ordinance. The observations and recommendations are based on the information collected on the investigation date and subsequent percolation testing at the specific test hole locations.

We conducted a site investigation on 24 November 2004 and a second site investigation on 30 March 2005 for additional soil profile information on Test Hole 2. Leon Perrualt, REHS, from the Del Norte County Health Department was present during the investigation of the profile holes. Test Holes (TH-1 & TH-2) were dug with a backhoe generally to a depth of 8 feet and for TH-2, to a depth of 17 feet for the second investigation. The soil properties in TH-1 and TH-2 were found to be similar, consisting of dark brown loamy topsoil in the top ½ foot, followed by sandy loam of a color ranging from reddish brown to yellowish orange, from ½ to 8 feet and in TH-2, the sandy loam horizon continued to a depth of 17 feet. No groundwater or mottling was observed in any of the test holes. The attached exploratory logs indicate the soil types and where observed in the test holes.

Textural analysis was performed for both holes on 3 December, 2004. Based on the textural analysis TH-1 was determined to be Zone 2 and TH-2 was determined to be Zone 1.

Percolation testing was performed for both test holes on 7 March, 2005. Since the work was performed during the wet weather season, no presoaking of the test holes was required. The bottom of each percolation test hole was at 3 feet below the ground surface. Stabilized percolation rates of 2.7 minutes per inch (MPI) were observed for both test holes.

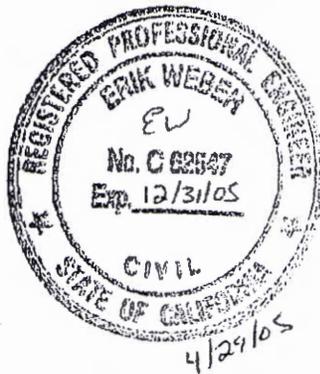
Based on the apparent separation distance to the water table and our calculations, a "standard leach field" may be constructed as there is sufficient room on Lot 1 to site a primary and reserve sewage disposal system, and sufficient room on Lot 2 for the same as shown on the site plan. Attached are our

Stan Hogberg; APN 112-171-06  
29 April 2005  
Page 2

field data and calculations. Layout drawings of the sites, exploratory logs, laboratory results and a copy of SDS report prepared by Tromble Engineering for Lot 2 are also attached.

Please be informed that grading activities which disturb the primary or reserve disposal field areas as indicated on the site plan will alter the suitability of the existing soils and could subsequently invalidate the findings of our report. In addition, the placement of future improvements including but not limited to wells and water lines must adhere to the Del Norte County On-site Disposal Ordinance with respect to setbacks.

We trust this provides the information you require. Please feel free to contact me if you have any questions.



QA/QC *WLS*  
Attachment (20 Pages)

Very truly yours,

STOVER ENGINEERING

*Josh Runnion*  
Joshua Runnion, EIT  
Assistant Engineer

*Erik Weber*  
Erik Weber, PE  
Project Engineer

HOGBERG SDS  
SHP. 3 OF 22

SITE EVALUATION SUMMARY

OWNER: STAN HOGBERG DATE: 4/5/05  
 ADDRESS: 2315 PARKWAY DRIVE JOB NO. 36623  
CL A.P.N. 152-171-06  
 LOCATION: OFF OF DULLES, EAST SIDE, SOUTH OF ELK VIEW RD.  
 LOT SIZE: 2 AC WATER SYSTEM WELL

GROUND SLOPE

SETBACKS

(Del Norte County Minimum)

Property Line

Well

Water Line

Stream

Drainage Channel

Ocean, Lake, etc.

Bluff or outbank

SEPTIC TANK

LEACHFIELD

X (10')	X (10')
X (100')	X (100')
X (10')	X (10')
X (100')	X (100')
X (50')	X (50')
X (50')	X (100')
X (25')	X (25')

PRIMARY AREA SITES: P<sub>1</sub>

REPLACEMENT AREA SITES: F<sub>1</sub>

OTHER EXCAVATIONS: NONE

DEPTH TO HARDPAN, BEDROCK, ETC.: -

DEPTH TO GROUNDWATER: NONE OBSERVED

DEPTH TO MOTTILING: NONE / OBSERVED

OTHER FACTORS: -

SOIL ANALYSIS ZONE: TH-1 - ZONE 2

PERCOLATION RATE: 2.7 MPI

DEPTH OF SOIL UNDER

TH-2 - ZONE 1

TH-1: 8'

LEACHFIELD REQUIRED: TH-2: 12'

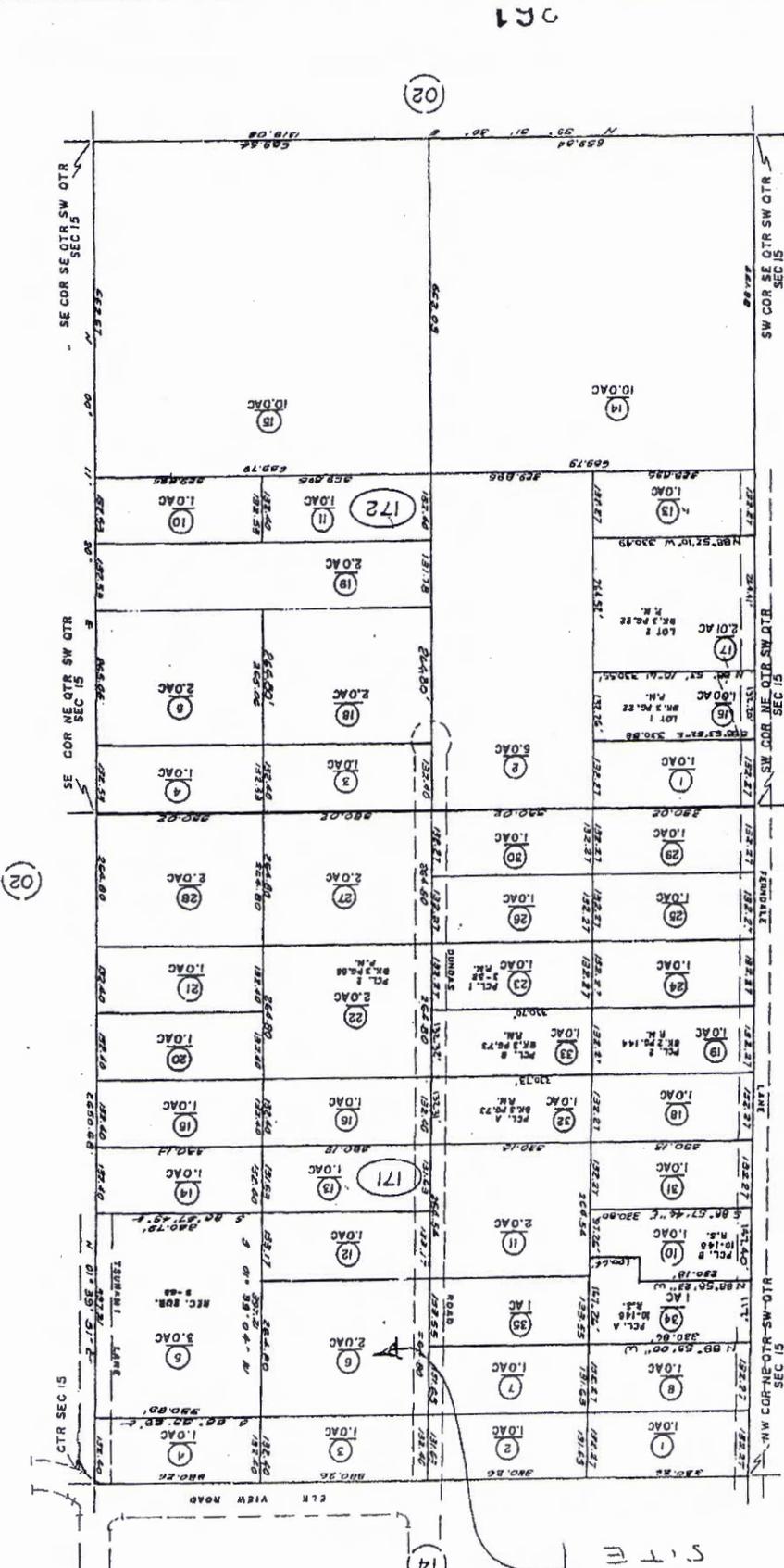
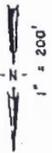
BOTH THs  
ACTUAL DEPTH TH-1: 8'

AVAILABLE: TH-2: 17'

REPLACEMENT AREA AVAILABLE: YES

ADEQUATE: YES

OTHER COMMENTS:



SHT. 4 of 22

APR. 112-171-06

SUBJECT PROPERTY PROJECT SITE



Client STAN HOGBERG Project SDS 3668 1106826  
Job Number 3668 Date 5-5-05 Calc'd By SDR Checked By \_\_\_\_\_ Sheet 6 of 22

ON-SITE SEWAGE DISPOSAL SYSTEM

DESIGN BASED ON "MANUAL OF SEPTIC TANK PRACTICE"  
AND EPA DESIGN MANUAL 625

3 BEDROOM, SINGLE FAMILY RESIDENCE = 450 GPD

DN. CO.  
ORDINANCE

SEPTIC TANK

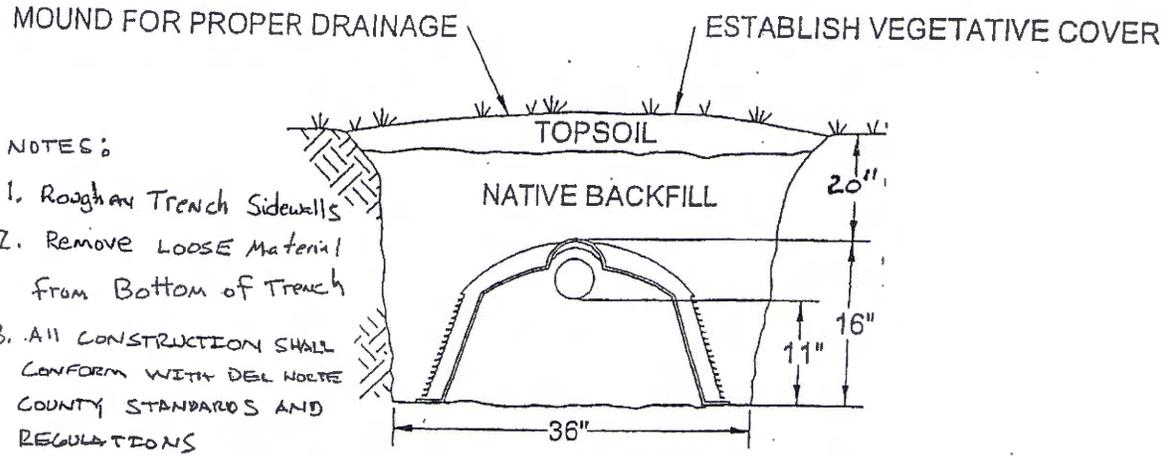
MINIMUM SIZE PER UPC : 1000 GAL  
MINIMUM SIZE PER SEPTIC ORDINANCE : 1200 GAL

TABLE  
1-2

USE 1200 GALLON SEPTIC TANK

THIS SYSTEM DESIGN COMPLIES WITH THE  
DEL NORTE COUNTY ON-SITE SEWAGE DISPOSAL  
SYSTEMS ORDINANCE. (CHAPTER 14.12)

TRENCH DETAIL @ TEST HOLE 1



LEACHFIELD

Percolation Rate = 2.7 MPI  $\therefore$  APPLICATION RATE = 1.2 gpd/sf

NORTH COAST BASIN PLAN

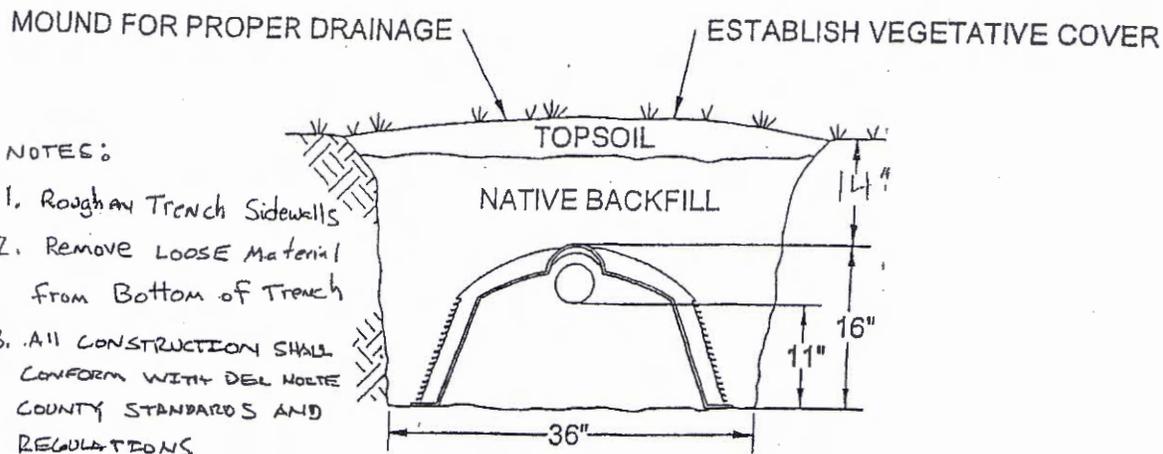
Table 4-2. RATES OF WASTEWATER APPLICATION FOR ABSORPTION AREAS

Soil Texture	Percolation Rate Minutes per Inch	Application Rate Gallons per Day per Square Foot
Gravel, coarse sand	<1	Not Suitable
Coarse to medium sand	1 - 5	1.2
Fine sand, loamy sand	6 - 15	1.1 - 0.8
Sandy loam, loam	16 - 30	0.7 - 0.6
Loam, porous silt loam	31 - 60	0.5 - 0.4
Silty clay loam, clay loam -a,b	61 - 120	0.4 - 0.2

Note: Application rates may be interpolated based on percolation rates, within the ranges listed above.

- a. Soils without expandable clays.
- b. These soils may be easily damaged during construction.

TRENCH DETAIL @ TEST HOLE 2



NOTES:

1. Roughen Trench Sidewalls
2. Remove LOOSE Material from Bottom of Trench
3. All CONSTRUCTION SHALL CONFORM WITH DEL Norte COUNTY STANDARDS AND REGULATIONS

LEACHFIELD

Percolation Rate = 2.7 mpe ∴ APPLICATION RATE = 1.2 gpd/sf

NORTH COAST BASIN PLAN

Table 4-2. RATES OF WASTEWATER APPLICATION FOR ABSORPTION AREAS

Soil Texture	Percolation Rate Minutes per Inch	Application Rate Gallons per Day per Square Foot
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Silty clay loam, clay loam -a,b	61 - 120	0.4 - 0.2

Note: Application rates may be interpolated based on percolation rates, within the ranges listed above.

- a. Soils without expandable clays.
- b. These soils may be easily damaged during construction.

FOR TH-1 & TH-2

Required Absorption Area (AA) = Flow / Application Rate

$$AA = \frac{450 \text{ gpd}}{1.2} = 375 \text{ FT}^2$$

Standard Trench Length ( $L_1$ ) =  $L_1 = AA / \text{Trench Width}$

$$L_1 = 375 / 3' = 125 \text{ LF}$$

% Length of Std. Trench = .85 (Table 3 MSTP)

Adjusted Length ( $L_2$ ) =  $L_1 (.85)$

$$L_2 = 106.25$$

USE 2 - 54' LATERALS

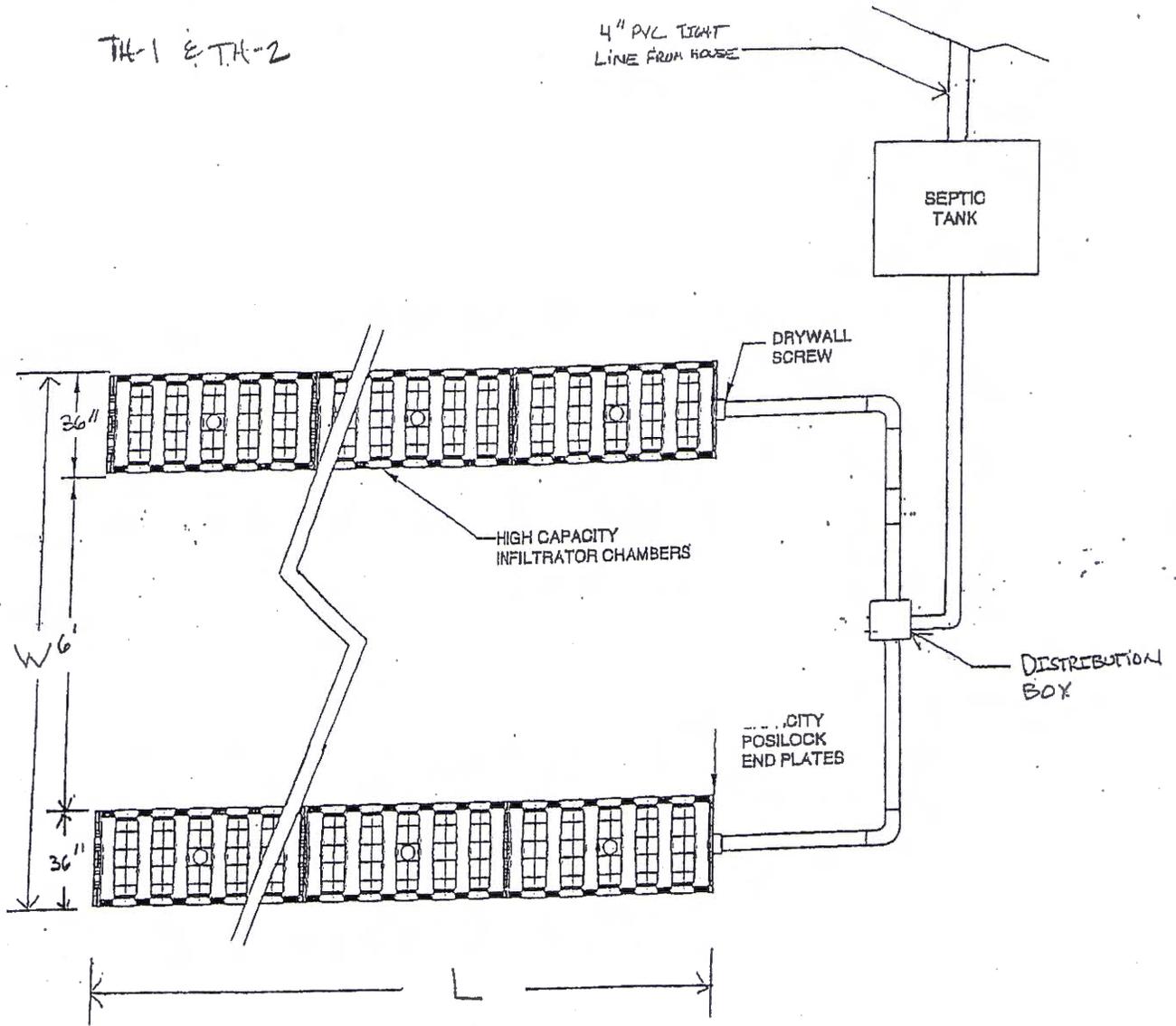
LATERAL LENGTH ( $L_3$ ) = 54'

LEACHFIELD WIDTH ( $L_4$ ) = 12'

See typical layout on following sheet

TYPICAL LAYOUT (NOT TO SCALE)

TH-1 & TH-2



L = length of lateral  
 W = OVERALL LATERAL FIELD WIDTH (SMALL DIMENSION)

L = 54'  
 W = 12'

EXPLORATION TEST LOG

Project Name STAN HOOPER Job Number 2668 Sample Date 11-24-04 Logged By TC

Hole Number 1 Hole Type R.A. LHR Hole Elevation \_\_\_\_\_ APN 112-171-06

Soil Sample	Depth (ft)	Soil Description (Soil, Color, Moisture, Consistency, Water Levels)	
	0	LOAM	DAKE BRAIN
	1	SANDY LOAM	REDISH BROWN
	2		GRANULAR LOOSE STRUCTURE
	3	SANDY LOAM	YELLOWISH ORANGE
	4		
	5		
	6		
	7		
	8		
	9		
	10	NO WATER OBSERVED	
	11	NO MOTTLING	
	12	ROOTS TO 6'	
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
	22		
	23		

EXPLORATION TEST LOG

Project Name STAFF HOUSING Job Number 3668 Sample Date 11-24-01 Logged By TC

Hole Number 2 Hole Type BACKHOLE Hole Elevation \_\_\_\_\_ APN 112-171-060

Soil Sample	Depth (ft)	Soil Description (Soil, Color, Moisture, Consistency, Water Levels)	
	0		
	1	LOAM SANDY LOAM	DARK REDDISH REDISH BROWN
	2		
	3		GRANULAR LOOSE STRUCTURE
	4	SANDY LOAM	YELLOWISH ORANGE
	5		
	6		
	7		
	8		
	9		
	10	NO WATER OBSERVED	
	11	NO MOTTLING	
	12	EOD 11' 8"	
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
	22		
	23		

EXPLORATION TEST LOG

Project Name STAN HOGBERG Job Number 3668 Sample Date 3-30-04 Logged By EKLW

Hole Number 2 Hole Type BACKHOLE Hole Elevation \_\_\_\_\_ APN 112-171-06

Soil Sample	Depth (ft)	Soil Description (Soil, Color, Moisture, Consistency, Water Levels)		
	0	LOAM	DK. BROWN.	
	1	SANDY	REDDISH	
	2	LOAM	BROWN	
TA SAMPLE TAKEN AT THIS DEPTH	3	SANDY	YELLOWISH	GRANULAR
	4	LOAM	ORANGE	LOOSE STRUCTURE
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			
	16			
	17			
	18	NO MOTTLING		
	19	NO WATER		
	20	TO 17' BGS		
	21			
	22			
	23			

**PERCOLATION TEST LOG**

Project Name STAN HERRICK Job Number 3668 Test Date 11/11/06 Logged By JTC

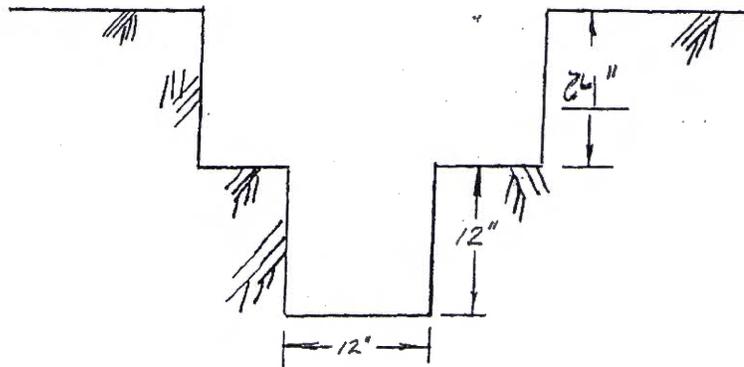
Hole Number 1 Hole Type FOOT HOLE Hole Elevation                      APN 115-171-06

Soil Type                      Water Supply                      Water Table                     

Begin Time	End Time	Begin Level	End Level	Elapsed Time (minutes)	Drop (in)	Rate (min/in)
1000	1015	7 1/4	—	15	—	
1015	1030	1 3/4	12 1/2	1	10.75	1.39
1030	1045	2	10 1/2	1	8.5	1.76
1045	1100	3	10	1	7.0	2.14
1100	1115	2 1/2	9 3/4	1	6.25	2.4
1115	1130	3	7 1/4	1	6.25	2.4
1130	1145	2	8 1/4	1	6.25	2.4
1145	1200	3 1/2	9	1	5.5	2.7
1200	1215	3 3/4	9 1/4	1	5.5	2.7

Maximum Allowable Percolation Rate = 5 min/inch  
 Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 2.7 MIN/INCH



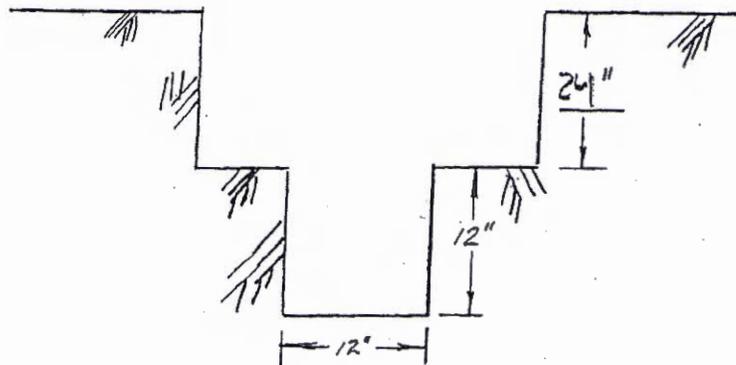
PERCOLATION TEST LOG

Project Name HOGWOOD Job Number \_\_\_\_\_ Test Date 3-7-05 Logged By TC  
 Hole Number 2 Hole Type FOUR HOLES Hole Elevation \_\_\_\_\_ APN 117-171-06  
 Soil Type \_\_\_\_\_ Water Supply \_\_\_\_\_ Water Table \_\_\_\_\_

Begin Time	End Time	Begin Level	End Level	Elapsed Time (minutes)	Drop (in)	Rate (min/in)
1001	1016	7 1/4	—	15	—	—
1016	1031	2 1/2	10 3/4	1	8.25	1.81
1031	1046	1 1/2	9 1/2		8.0	1.875
1046	1101	2 1/2	9 3/4		7.25	2.07
1101	1116	3	9 3/4		6.75	2.22
1116	1131	3 1/4	9 1/4		6.0	2.5
1131	1146	2 1/2	9 1/2		7.0	2.14
1146	1201	3 1/4	9 1/4		6.0	2.5
1201	1216	3 1/2	9 1/2		6.0	2.5

Maximum Allowable Percolation Rate = 5 min/inch  
 Minimum Allowable Percolation Rate = 60 min/inch

STABILIZED RATE = 2.7 MIN/INCH





# LACO ASSOCIATES

CONSULTING ENGINEERS

SHJ. 16 OF 22  
LEONARD M. OSBORNE • CE 38573  
DAVID R. GERVA • CE 57282  
DAVID N. LINDBERG • RG 5581/CEG 1895  
FRANK R. BICKNER • RG 7428  
RONALD C. CHANEY, Ph.D • GE 000934

December 3, 2004

5260.00

Stover Engineering  
711 H Street  
Crescent City, California 95531

Subject: Material Testing Results.

Dear Ward:

Enclosed are the test results you requested. Samples were collected by ( LACO,  Client) and delivered on November 30, 2004.

Tests conducted were:

1. Textural Analysis. (JN3668, TH#1 to TH#2), (Sample Id 04-207)

Please let us know if we can be of further assistance.

Very truly yours,

LACO ASSOCIATES

David Gervan Exp. 12/31/05  
RCE 57282, Exp. 12/31/05

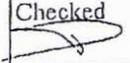
dlr

Stover Engineering

DEC 10 2004

RECEIVED

P:\5200\5260 Stover Engineering\Material Testing\5260 Results 12.03.04.doc

 <b>STOVER ENGINEERING</b> CONSULTING ENGINEERS 21 W. 4TH STREET EUREKA, CA 95501	Project TEXTURAL ANALYSIS	By DLR	Sheet No. 1
	Location JN 3668 TH#1	Date 12/3/04	
	Client STOVER ENGINEERING	Checked 	Job No. 5260.00
	04-207	Date 12/6/04	

**WORK SHEET FOR SOIL TEXTURE (Water Quality Control Board Method)**

Pt #1		Pt #2	
---		---	
100		100	
10:19:00		10:24:00	
62		62	
33		32	
7.6		7.6	
25.4		24.4	
70		70	
17		17	
6.1		6.1	
10.9		10.9	
74.6		75.6	
10.9		10.9	
14.5		13.5	
SANDY LOAM		SANDY LOAM	
ZONE 2		ZONE 2	
25.4		24.4	

- SAMPLE NUMBER
- DEPTH
- A. Owendry Weight (gm)
- B. Starting Time (hr: min: sec)
- C. Temp @ 40 sec. (°F)
- D. Hydrometer Reading @ 40 sec. (gm/l)
- E. Composite Correction (gm/l)
- F. True Density @ 40 sec. (gm/l), (D - E)
- G. Temp. @ 2 hrs. (°F)
- H. Hydrometer Reading @ 2 hrs. (gm/l)
- I. Composite Correction (gm/l)
- J. True Density @ 2 hrs. (gm/l), (H - I)
- K. % Sand =  $100 - [(F/A) \times 100]$
- L. % Clay =  $(J/A) \times 100$
- M. % Silt =  $100 - (K+L)$
- N. USDA Texture
- O. Soil Percolation Suitability Chart Zone
- P. Combine % Silt and Clay



**LACO ASSOCIATES**  
CONSULTING ENGINEERS  
21 W 4TH ST. EUREKA, CA 95501 (707)443-5054

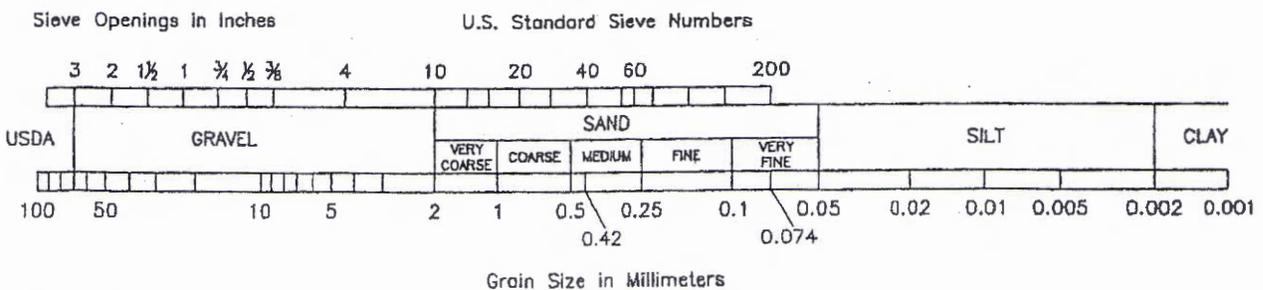
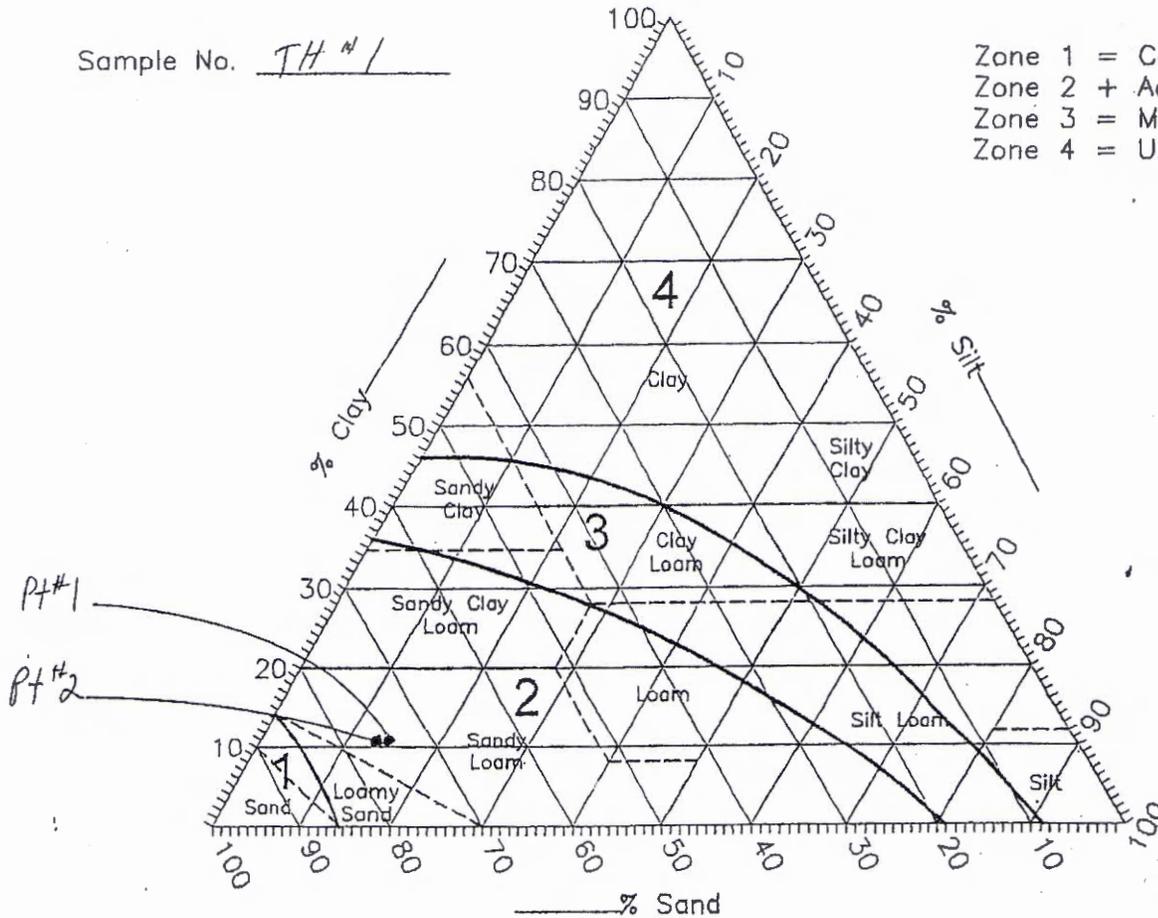
CLIENT	Stover Engineering	DATE	12-3-04
LOCATION	JN3668 TH #1	CHECK	<input checked="" type="checkbox"/>
	04-207	SCALE	5260.00

H26866 SDS SH. 18 of 22

## SOIL PERCOLATION SUITABILITY CHART

Sample No. TH #1

- Zone 1 = Coarse
- Zone 2 + Acceptable
- Zone 3 = Marginal
- Zone 4 = Unacceptable



**INSTRUCTIONS:**

- Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
- Adjust for coarse fragments by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
- Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

**NOTE:** For soils falling in sand, loamy sand or sandy loam classification bulk density analysis will generally not affect suitability and analysis not necessary.



**WAB ASSOCIATES**  
CONSULTING ENGINEERS

21 W. 4TH STREET EUREKA, CA 95501

Project TEXTURAL ANALYSIS

By DLR

Sheet No. 1

Location JN 3668 TH#1

Date

12/1/04

Client STOVER ENGINEERING

Checked

Job No.

5260.00

Date

04-207

Total Sample                    ---                    grams

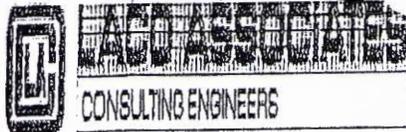
Tare                                    ---                    grams

Net Sample                        2925.6 grams

Retained on #10                    0.0 grams                    0.00% %

Passing #10                        2925.6 grams                    100.00% %

Rock Correction (y/n)            NO



21 W. 4TH STREET EUREKA, CA 95501

Project TEXTURAL ANALYSIS

By DLR

Sheet No. 1

Location JN 3668 TH#2

Date 12/3/04

Client STOVER ENGINEERING

Checked

Job No.  
5260.00

Date

04-207

**WORK SHEET FOR SOIL TEXTURE (Water Quality Control Board Method)**

Pt #1		Pt #2	
---		---	
100		100	
10:36:00		10:41:00	
62		62	
19		18	
7.6		7.6	
11.4		10.4	
70		70	
13		11	
6.1		6.1	
6.9		4.9	
88.6		89.6	
6.9		4.9	
4.5		5.5	
SAND		SAND	
ZONE 1		ZONE 1	
11.4		10.4	

SAMPLE NUMBER

DEPTH

A. Ovendry Weight (gm)

B. Starting Time (hr: min: sec)

C. Temp @ 40 sec. (°F)

D. Hydrometer Reading @ 40 sec. (gm/l)

E. Composite Correction (gm/l)

F. True Density @ 40 sec. (gm/l), (D - E)

G. Temp. @ 2 hrs. (°F)

H. Hydrometer Reading @ 2 hrs. (gm/l)

I. Composite Correction (gm/l)

J. True Density @ 2 hrs. (gm/l), (H - I)

K. % Sand =  $100 - [(F/A) \times 100]$

L. % Clay =  $(J/A) \times 100$

M. % Silt =  $100 - (K+L)$

N. USDA Texture

O. Soil Percolation Suitability Chart Zone

P. Combine % Silt and Clay

TH #2

P:\5200\5260 Stover Engineering\Material Testing\5260\Textural JN3668 04-207.xls



**LACO ASSOCIATES**  
CONSULTING ENGINEERS  
21 W 4TH ST, EUREKA, CA 95501 (707)443-5054

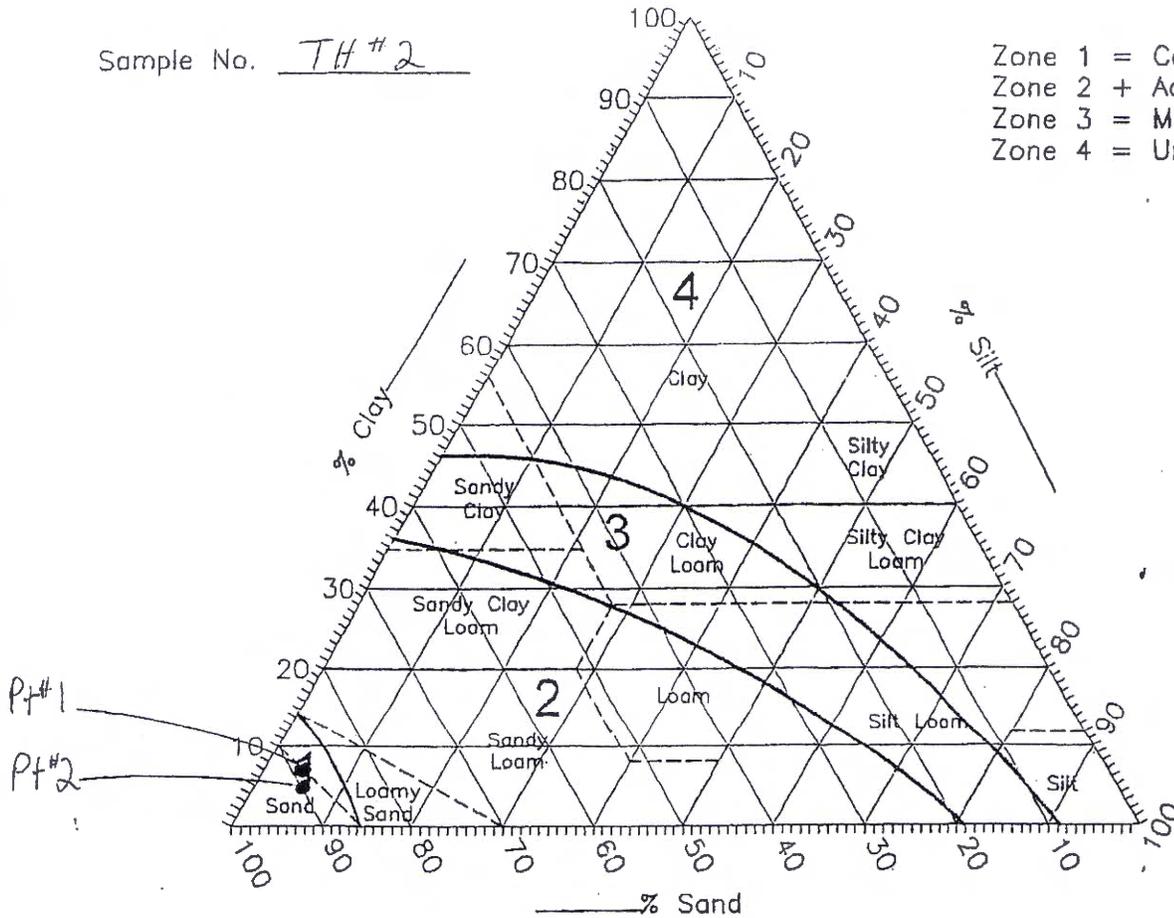
CLIENT	Stover Engineering	DATE	12-3-04
LOCATION	JN3668 TH #2	CHECK	
	04-207	SCALE	5260.00

HOLBROOK SDS SHEET 21 OF 22

## SOIL PERCOLATION SUITABILITY CHART

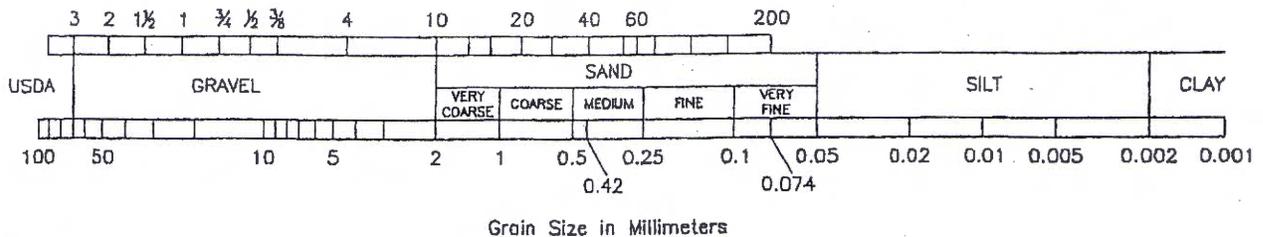
Sample No. TH #2

Zone 1 = Coarse  
Zone 2 = Acceptable  
Zone 3 = Marginal  
Zone 4 = Unacceptable



Sieve Openings in Inches

U.S. Standard Sieve Numbers



### INSTRUCTIONS:

- Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
- Adjust for coarse fragments by moving the plotted point in the sand direction on additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
- Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

### NOTE:

For soils falling in sand, loamy sand or sandy loam classification bulk density analysis will generally not affect suitability and analysis not necessary.

Feb 24, 2003-10:37am  
T:\BLOCK\Charts\ SoilPerc.dwg

 <b>CONSULTING ENGINEERS</b> <small>21 W. 4TH STREET EUREKA, CA 95501</small>	Project	TEXTURAL ANALYSIS	By DLR	Sheet No. 1	
	Location	JN 3668 TH#2	Date		12/01/04
	Client	STOVER ENGINEERING	Checked	Job No.	5260.00
			Date	04-207	

Total Sample                             grams

Tare                                             grams

Net Sample                              3065.6 grams

Retained on #10                      2.8 grams                      0.09% %

Passing #10                              3062.8 grams                      99.91% %

Rock Correction (y/n)                      NO

July 12, 2004

Trinity Developments  
840 "L" Street, Suite  
Crescent City, CA 95531

re: On-Site Sewage Disposal Evaluation  
APN 112-171-06

*Jane*

Dear Sirs;

This is to report on our on-site sewage disposal evaluation of Assessor Parcel 112-171-06, Del Norte County. It is our understanding this parcel will be developed for a single family residence. It is further our understanding that the water supply will be from a private well.

This evaluation report assumes a proposed on-site waste water discharge of 450 gallons per day which is typical design criteria for a three bedroom residence.

The evaluation consisted of a site inspection, the examination of two (2) backhoe excavated exploratory pits, the collection and testing of a soil sample for textural analysis, and the review of data and reports for nearby properties which we have previously evaluated. Attached for your information is an evaluation summary, location map, exploratory logs and the laboratory results of the soil sample.

The textural analysis of the soil sample indicates soil percolation qualities suitable for on-site disposal of septic tank quality effluent. The quality of the soil is such that field percolation tests were not necessary. In the absence of the percolation tests, we recommend the EPA long term loading rate of 0.85 gallons per day per square foot for the design of the disposal field.

No groundwater, or evidence thereof, was encountered to a depth of 8 feet. Soil on the site had in excess of 15% silt and clay which requires a 5 foot separation between the bottom of the leaching trenches and the "highest anticipated ground water". As a result, we recommend that your leaching trenches be no more than 3.0 feet in total depth.

Based on our field work and data analysis, it is our opinion that the subject property is suitable for a conventional on-site sewage disposal system (septic tank/leach field system) within specified limitations and subject to system specifications.

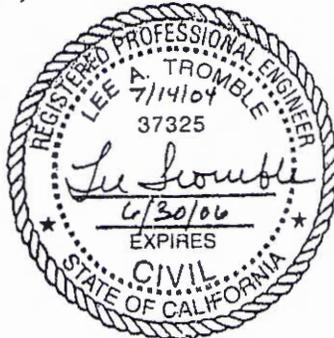
For this property with a three (3) bedroom residence, it is our recommendation that a 1200 gallon septic tank conforming to the requirements of the Uniform Plumbing Code be used. It is further our recommendation that the disposal field consist of 180 lineal feet of leaching trench as shown on the attached sketch. Your leach field must be installed in the area of either of the exploratory pits as shown on the attached location map. All required setbacks from wells, structures, etc. must be maintained.

As stated above, it is our opinion that the subject property is suitable for a conventional on-site sewage disposal system (septic tank/leach field system) within some specified limitations and subject to certain system specifications. If a change in conditions occurs such as a change in the size of the project, change in the location of the disposal field, change in the disposal system specifications, a substantial physical change to the property or other similar change, it will be necessary to review this report and the data herein in the context of those changes. This could require additional field and laboratory work to confirm site suitability and/or to modify the specifications for the on-site sewage disposal system.

If you need any additional information on this matter or if I can be of further assistance, please feel free to call.

Very truly yours,

Lee Tromble



LEE TROMBLE ENGINEERING

879J Street  
Crescent City, CA 95531

Phone (707) 464-1293  
FAX (707) 465-8358

SITE EVALUATION SUMMARY

OWNER: TRINITY DEVELOPMENTS DATE: 7/12/04

ADDRESS: 840 "L" STREET SUITE #1  
CRESCENT CITY, CA APN 112-171-06

LOCATION: EAST SIDE DUNDAS ROAD

LOT SIZE: 2.0 AC WATER SYSTEM: PRIVATE WELL

GROUND SLOPE: SEE LOCATION MAP

SETBACKS	SEPTIC TANK	LEACH FIELD
Well	100'	100'
Stream	100'	100'
Drainage Channel	50'	50'
Ocean, Lake, etc.	100'	100'
Bluff or Cutbank	25'	25'

EXCAVATION PRIMARY AREA: HOLE #1 OR #2

EXCAVATION REPLACEMENT AREA: HOLE #2 OR #1

OTHER EXCAVATIONS: NONE

DEPTH TO HARDPAN, BEDROCK, ETC.: NONE TO OVER 8 FT

DEPTH TO GROUNDWATER: NONE TO OVER 8 FT

DEPTH TO MOTTLING: NONE TO 8 FT

OTHER FACTORS: SEE ATTACHED

SOILS ANALYSIS ZONE: 2 PERCOLATION RATE: -

DEPTH OF SOIL UNDER LEACH FIELD REQUIRED: 3' ACTUAL: > 3'

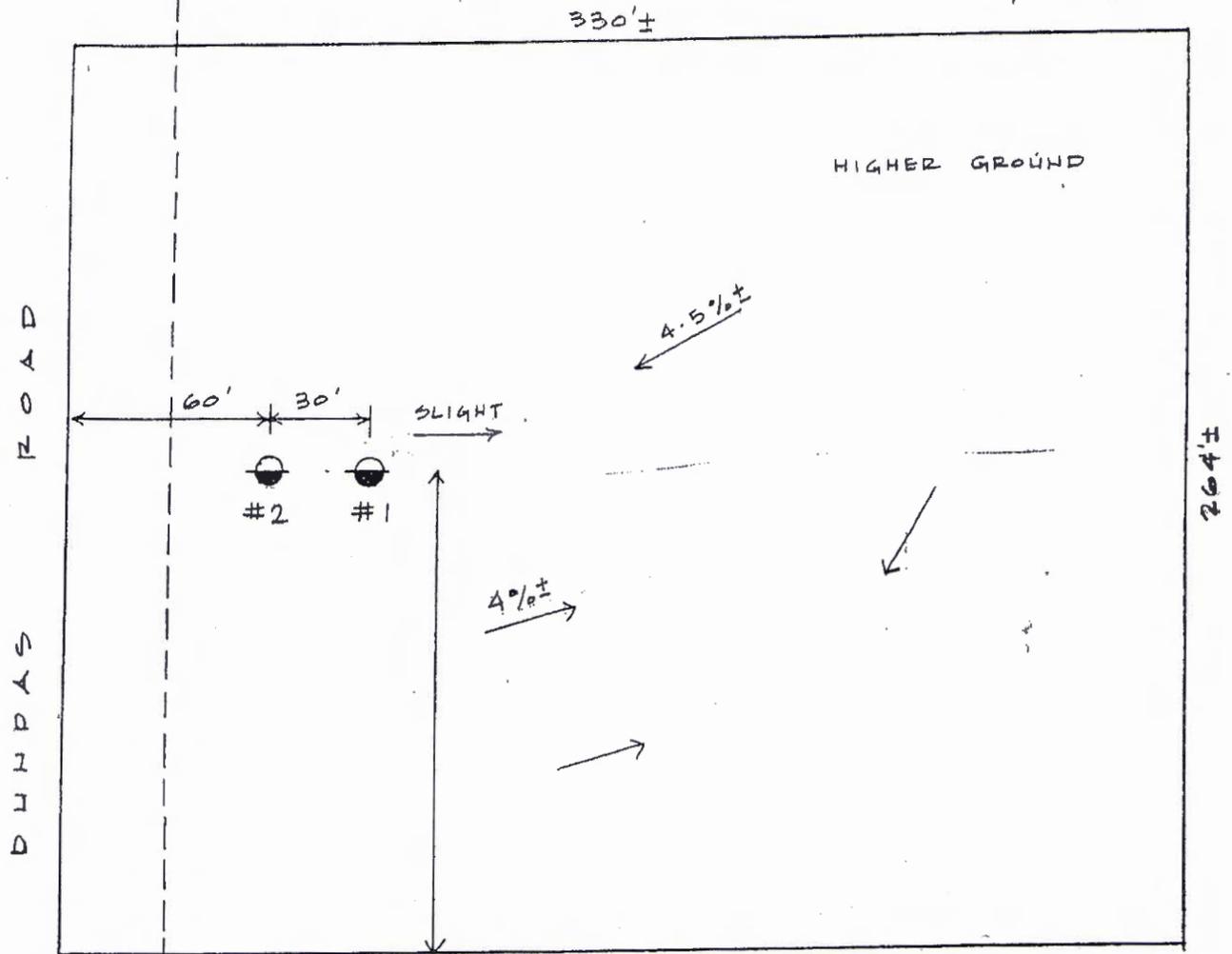
REPLACEMENT AREA AVAILABLE: YES

ADEQUATE: YES

BY LI DATE 12/04  
CHKD. BY DATE

SUBJECT LOCATION MAP  
APH 112-171-2

SHEET NO. 1 OF 1  
JOB NO. 4087



○ BACKHOE EXCAVATED EXPLORATORY TEST HOLE

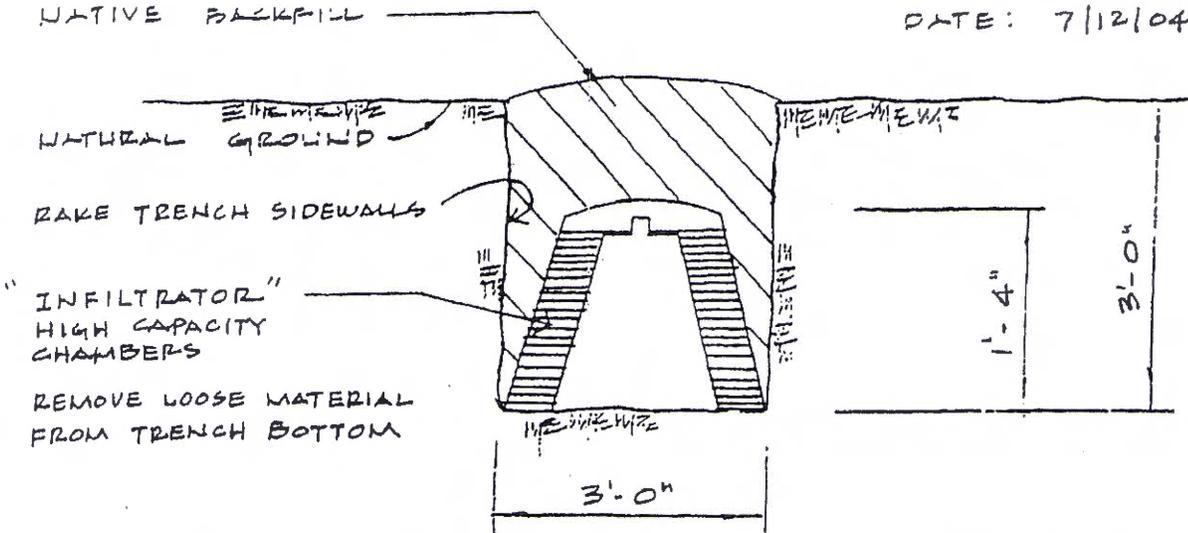
DIMENSIONS TO TEST HOLES ARE APPROX.

**LEE TROMBLE ENGINEERING**

879 J Street  
Crescent City, CA 95531

Phone (707) 464-1293  
FAX (707) 465-8358

APN: 112-171-06  
DATE: 7/12/04



SECTION - DISPOSAL TRENCH

NO SCALE

FLOW (3) BEDROOM HOME, 150 GPP/BDRM

$$Q = 3(150) = 450 \text{ GPD}$$

LOADING RATE USE 0.85 GPD/FT<sup>2</sup>

ABSORPTION AREA

$$AA = \frac{450}{0.85} = 530 \text{ FT}^2$$

TRENCH

$$L = \frac{530}{3} = 180 \text{ LIN. FT.}$$

USE (3) - 60' TRENCHES

NOTES:

1. USE - LONG TRENCHES, 9' CENTER TO CENTER
2. USE DISTRIBUTION BOX FOR EQUAL FLOW DISTRIBUTION BETWEEN TRENCHES.
3. ON SLOPING SITES, TRENCHES SHALL PARALLEL NATURAL GROUND CONTOURS.

# EXPLORATION LOG

OWNER TRINITY DEVELOPMENTS APN 112-171-06  
 ADDRESS 840 "L" STREET SUITE #1 DATE 7/7/04  
CRESCENT CITY, CA LOG BY LT  
 JOB NO. 4087 HOLE NO. 1  
 REMARKS BACKHOE

DEPTH (FT.)	DESCRIPTION / REMARKS	COLOR	MOIST.	SAMPLE
0				
1	LOAM / SANDY LOAM, BLOCKY FRIABLE	MED. BRN. (REDISH)	DAMP	No
2	SANDY LOAM, FRIABLE BLOCKY - GRANULAR	OR. BRN.	DAMP	No
3				
4	LOAMY SAND, GRANULAR, LOOSE DENSITY	DULL, LIGHT YELLOW BRN	DAMP	YES ①
5	APPROX.			
6	LOAMY SAND - SAND GRANULAR - WEAK STRUCTURE	OLIVE YELLOW BRN.	DAMP	No
7	LOOSE			
8	<del>45454</del> NO MOTTLES OF GROUND WATER TO 8 FT.			
9				
10				

# EXPLORATION LOG

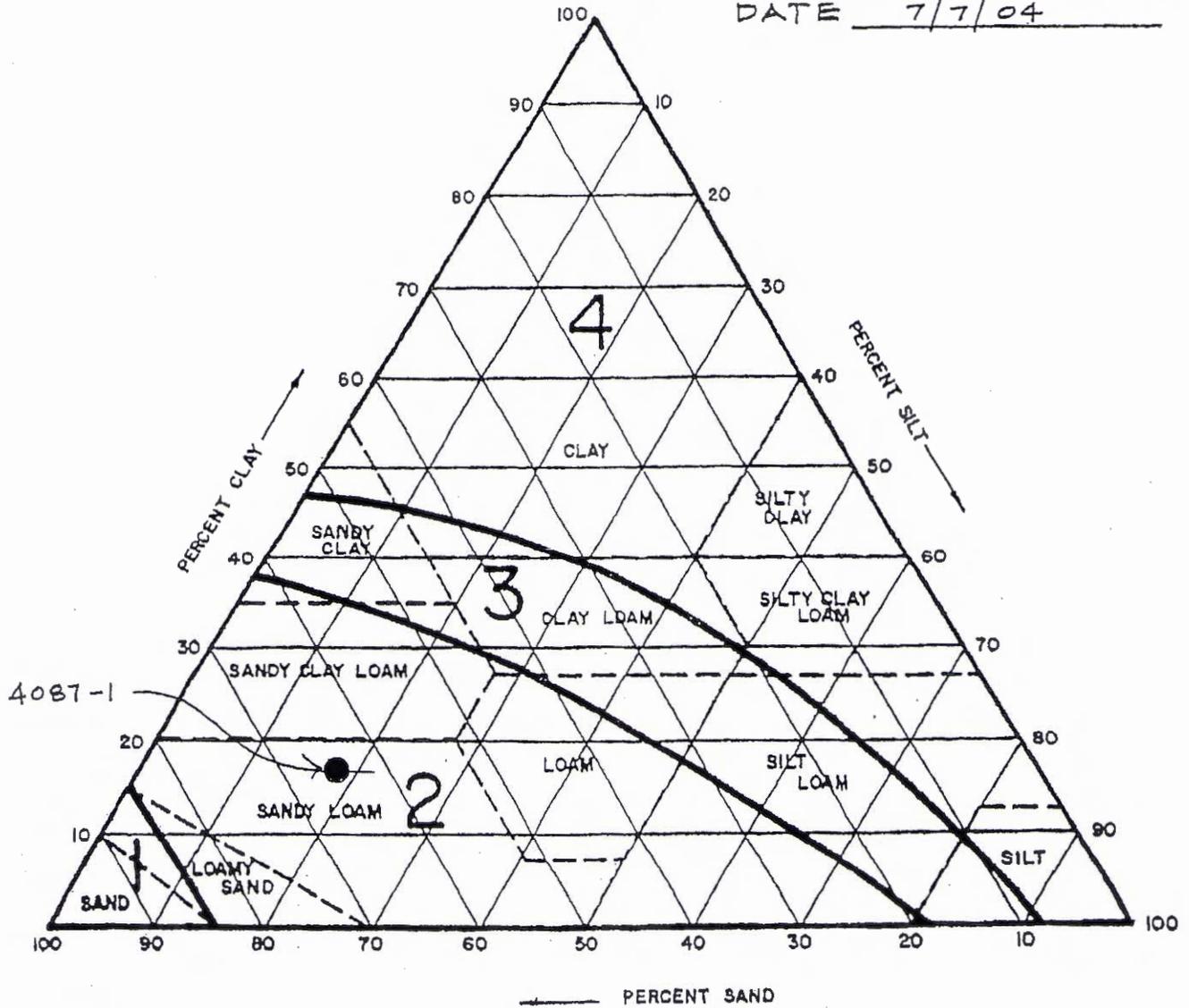
OWNER TRINITY DEVELOPMENTS APN 112-171-06  
 ADDRESS 840 "L" STREET SUITE #1 DATE 7/7/04  
CRESCENT CITY, CA LOG BY LT  
 JOB NO. 4087 HOLE NO. 2  
 REMARKS BACKHOE

DEPTH (FT.)	DESCRIPTION / REMARKS	COLOR	MOIST.	SAMPLE
0				
1	LOAM / SANDY LOAM BLOCKY - FRIBLE	MED. BRN. (REDDISH)	DAMP	No
2	1.3' SANDY LOAM - FRIBLE	OR. BRN.	DAMP	No
3				
4	LOAMY SAND, GRANULAR, LOOSE DENSITY	DULL, LIGHT YELLOW BRN	DAMP	No, LIKE
5	APPROXIMATE			⊖
6	LOAMY SAND - SAND GRANULAR - WEAK STRUCTURE	OLIVE YELLOW BRN.	DAMP	No
7	LOOSE			
8	<del>WATER</del> NO MOTTLES OR GROUND WATER TO 8 FT			
9				
10				

Sample	4087
Pan	8.10
Sam+p+P	532.90
Dry S+P	448.40
Grav+Siev	437.50
Sieve	437.50
Soil + Dish	89.20
Dish	8.10
HR40s	35.00
T40s	70.00
HR2hr	19.50
T2hr	70.00
Samp Wgt	524.80
Dry Samp	440.30
Moisture	84.50
WC%	16.10
Gravel	0.00
CP%	0.00
Soil	81.10
HR40s	35.00
adj	-6.10
Dens40s	28.90
HR2hr	19.50
adj	-6.10
Dens2hr	13.40
Sand	64.36
Clay	16.52
Silt	19.11

SOIL PERCOLATION SUITABILITY CHART

APN 112-171-06  
DATE 7/7/04



- ZONE 1 = COARSE
- ZONE 2 = ACCEPTABLE
- ZONE 3 = MARGINAL
- ZONE 4 = UNACCEPTABLE

JOB NO. 4087  
CLIENT NAME: TRINITY