COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES
860 NORTH BUSH STREET · UKIAH · CALIFORNIA · 95482
120 WEST FIR STREET · FT. BRAGG · CALIFORNIA · 95437

BRENT SCHULTZ, DIRECTOR
TELEPHONE: 707-234-6650
FAX: 707-463-5709
FB PHONE: 707-964-5379
FB FAX: 707-961-2427
pbs@mendocinocounty.org
www.mendocinocounty.org/pbs

January 29, 2019

Planning – Ukiah	Mendocino Historical Review Board	Mendocino City CSD
Department of Transportation	State Clearinghouse	Mendocino FPD
Environmental Health - Fort Bragg	Department of Forestry/ CalFire	Cloverdale Rancheria
Building Inspection - Fort Bragg	Department of Fish and Wildlife	Manchester Point Arena Rancheria
Assessor	Coastal Commission	Redwood Valley Rancheria
Sonoma State University	US Fish & Wildlife Service	Sherwood Valley Band of Pomo

CASE#: CDP_2017-0046
DATE FILED: 12/12/2017
OWNER: KANUNGNIJ LEMLEY AND JAN BOLT AND SUE BOLT
APPLICANT: KANUNGNIJ LEMLEY
AGENT: WYNN CONSULTING, BLAIR FOSTER
REQUEST: Standard Coastal Development Permit for the stabilization of house foundation including installation of sixteen 50 ft. deep caissons, 140 ft. long grade beam, and tie back cables between house and slide to stabilize the house foundation.
LOCATION: In the Coastal Zone, in the Town of Mendocino, 100± ft. north of the intersection of Lansing Street (CR 500) and Heeser Drive (CR 407FF), located at 11050 Lansing St. (APN: 119-060-26).
STAFF PLANNER: KEITH GRONENDYKE
RESPONSE DUE DATE: February 12, 2019

PROJECT INFORMATION CAN BE FOUND AT:
https://www.mendocinocounty.org/government/planning-building-services/public-agency-referrals

Mendocino County Planning & Building Services is soliciting your input, which will be used in staff analysis and forwarded to the appropriate public hearing. You are invited to comment on any aspect of the proposed project(s). Please convey any requirements or conditions your agency requires for project compliance to the project coordinator at the above address, or submit your comments by email to pbs@mendocinocounty.org. Please note the case number and name of the project coordinator with all correspondence to this department.

We have reviewed the above application and recommend the following (please check one):

☐ No comment at this time.

☐ Recommend conditional approval (attached).

☐ Applicant to submit additional information (attach items needed, or contact the applicant directly, copying Planning and Building Services in any correspondence you may have with the applicant)

☐ Recommend denial (Attach reasons for recommending denial).

☐ Recommend preparation of an Environmental Impact Report (attach reasons why an EIR should be required).

☐ Other comments (attach as necessary).

REVIEWED BY:

Signature _____ Department _____ Date _____

REPORT FOR: Standard Coastal Development Permit **CASE #: CDP_2017-0046**

OWNER: LEMLEY KANUNGNIJ P AND LEMLEY KANUNGNIJ P

APPLICANT: LEMLEY KANUNGNIJ P

AGENT: Wynn Coastal Planning, Blair Foster

REQUEST: Standard Coastal Development Permit for the stabilization of house foundation including installation of sixteen 50 ft. deep caissons, 140 ft. long grade beam, and tie back cables between house and slide to stabilize the house foundation.

LOCATION: In the Coastal Zone, in the Town of Mendocino, 100± ft. north of the intersection of Lansing Street (CR 500) and Heeser Drive (CR 407FF), located at 11050 Lansing St. (APN: 119-060-26).

ACREAGE: ± 0.54 acres

GENERAL PLAN: RR1:U **ZONING:** MRR:1 **COASTAL ZONE:** YES

EXISTING USES: Single family residence **SUPERVISORIAL DISTRICT:** 5

TOWNSHIP: 17 North **RANGE:** 17 West **SECTION:** 19 **USGS QUAD#:** 28 (Mendocino)

RELATED CASES ON SITE: EM 2017-0004 (Stabilize foundation); BF 2017-0848 (Stabilize foundation for SFR); BF 2002-0368 (Demo SFR); BF 2002-0295 (SFR); TU 2002-0071 (encroachment permit to relocated new driveway); CDP 2000-0067; CDP 2000-0035.
RELATED CASES IN VICINITY:

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES (ACRES)	ADJACENT USES
NORTH:	Rural Residential (RR 1)	Mendocino Rural Residential (MRR-1)	4.24	Single Family Residential
EAST:	Suburban Residential (SR 20K)	Mendocino Suburban Residential (MSR)	0.40 ±	Single Family Residential
SOUTH:	Rural Residential (RR 1)	Mendocino Rural Residential (MRR-1)	0.74	Single Family Residential
WEST:	Open Space (OS, Pacific Ocean)	Mendocino Open Space (MOS, Pacific Ocean)	2.49 ±	Open Space

REFERRAL AGENCIES:

- ☒ Planning (Ukiah)
- ☒ Department of Transportation
- ☒ Environmental Health (Ukiah - FB)
- ☒ Building Inspection (FB)
- ☐ Emergency Services
- ☒ Assessor
- ☐ Farm Advisor
- ☐ Agriculture Commissioner
- ☐ Forestry Advisor
- ☐ Air Quality Management District
- ☐ ALUC
- ☐ County Water Agency
- ☐ Archaeological Commission
- ☒ Sonoma State University
- ☐ US Fish & Wildlife Service
- ☒ MHRB
- ☒ Sherwood Valley Band of Pomo Indians
- ☒ Manchester-Point Arena Rancheria
- ☐ Trails Advisory Council
- ☐ Native Plant Society
- ☒ State Clearinghouse
- ☐ Caltrans
- ☒ CalFire
- ☒ Department of Fish & Game
- ☒ Coastal Commission
- ☐ RWQCB
- ☐ Division of Mines & Geology
- ☐ Department of Health Services
- ☒ Department of Parks & Recreation
- ☐ Department of Conservation
- ☐ Soil Conservation Service
- ☐ Army Corps of Engineers
- ☐ Westport MAC
- ☐ Russian River Flood Control/Water Conservation Improvement District
- ☒ Cloverdale Rancheria
- ☐ CHP
- ☐ MTA
- ☐ County Addresser
- ☐ LAFCO
- ☐ Gualala MAC
- ☐ Laytonville MAC
- ☐ Westport MAC
- ☐ Sierra Club
- ☐ School District
- ☐ Sewer District
- ☒ Mendocino City CSD
- ☒ Mendoocino FPD
- ☐ Community Svcs
- ☐ City Planning
- ☒ Redwood Valley Rancheria

ADDITIONAL INFORMATION: Emergency Coastal Development Permit EM 2017-0004 was approved to stabilize the foundation of the residence on the property. Building Permit 2017-0848 permitted the foundation stabilization construction.

ASSESSOR'S PARCEL #: 1190602600

PROJECT COORDINATOR: Keith Gronendyke **PREPARED BY:** Keith Gronendyke **DATE:** 01/015/2019

ENVIRONMENTAL DATA
(To be completed by Planner)

COUNTY WIDE

Yes	No		
NO		1.	**Alquist-Priolo Earthquake Fault Zone – Geotechnical Report #GS_____**
NO		2.	**Floodplain/Floodway Map –Flood Hazard Development Permit #FP_____**
NO / NO		3.	**Within/Adjacent to Agriculture Preserve / Timberland Production**
NO		4.	**Within/Near Hazardous Waste Site**
YES		5.	**Natural Diversity Data Base**
NO		6.	**Airport CLUP Planning Area – ALUC#_____**
☒	☐	7.	**Adjacent to State Forest/Park/Recreation Area.**
☒	☐	8.	**Adjacent to Equestrian/Hiking Trail.**
☒	☐	9.	**Hazard/Landslides Map** See Geotechnical Reports for property
☐	☒	10.	**Require Water Efficient Landscape Plan.**
☐	☒	11.	**Biological Resources/Natural Area Map.**
☒	☐	12.	**Fire Hazard Severity Classification: ☐ LRA ☐ SRA-CDF#** High Fire Hazard
☐	☒	13.	**Soil Type(s)/Pygmy Soils.** 161 – Heeser Sandy Loam, 2 to 15 percent slopes
☐	☒	14.	**Wild and Scenic River.**
☒	☐	15.	**Specific Plan Area.** Mendocino Town Plan
☒	☐	16.	**State Permitting Required/State Clearinghouse Review**
☐	☒	17.	**Oak Woodland Area**

COASTAL ZONE

Yes	No		
NO		16.	**Exclusion Map.**
Critical		17.	**Coastal Groundwater Study Zone.**
NO		18.	**Highly Scenic Area/Special Communities.**
☒	☐	19.	**Land Capabilities/Natural Hazards Map.** Non Prime Ag Land; Beach deposits and stream alluvium and terraces (Zone 3)
☒	☐	20.	**Habitats/ESHA/Resources Map.** Coastal Prairie Grassland
☒	☐	21.	**Appealable Area/Original Jurisdiction Map.**
☒	☐	22.	**Blayney-Dyett Map.** Existing public access shown along Lansing Street on east side of property.
☒	☐	23.	**Ocean Front Parcel (Blufftop Geology).**
☒	☐	24.	**Adjacent to beach/tidelands/submerged land/Public Trust Land.**
☐	☒	25.	**Noyo Harbor/Albion Harbor.**

COUNTY OF MENDOCINO
DEPT OF PLANNING & BUILDING SERVICES
120 WEST FIR STREET
FORT BRAGG, CA 95437
Telephone: 707-964-5379

Case No(s) CDP-2017-0046
CDF No(s)
Date Filed 12-12-2017
Fee $ 5,983.00
Receipt No. PRJ-018499
Received by (N) WALDMANJ
Office Use Only

COASTAL DEVELOPMENT PERMIT APPLICATION FORM

Name of Applicant	Name of Owner(s)	Name of Agent
Kanungnij (Nit) Lemley	same	Blair Foster, Wynn Coastal Planning
Mailing Address	**Mailing Address**	**Mailing Address**
2981 Sumter Valley Circle Henderson, NV 89052	same	703 North Main Street Fort Bragg, CA 95437
Telephone Number	**Telephone Number**	**Telephone Number**
(707) 671-3319	same	707-964-2537

I certify that the information submitted with this application is true and correct:

Signature of ~~Applicant~~/Agent 12-11-2017 Date

Signature of Owner 12/11/17 Date

Driving Directions

Located on the west side of Lansing Street, approximately 100 feet north of its intersection with Heeser Drive in the town of Mendocino.

Assessor's Parcel Number(s

119-060-26-00

Parcel Size	Street Address of Project
0.5 +/- ☐ Square Feet ☒ Acres	11050 Lansing Street Mendocino CA 95460 **Please note: Before submittal, please verify correct street address with the Planning Division in Ukiah.**

COASTAL DEVELOPMENT PERMIT
APPLICATION QUESTIONNAIRE

The purpose of this questionnaire is to relate information concerning your application to the Planning & Building Services Department and other agencies who will be reviewing your project proposal. The more detail that is provided, the easier it will be to promptly process your application. Please answer all questions. Those questions which do not pertain to your project, please indicate "Not Applicable" or "N/A".

1. Describe your project and include secondary improvements such as wells, septic systems, grading, vegetation removal, roads, etc.

   Stabilization of House Foundation: install 16, 50-foot deep caissons, 140-foot long grade beam and tie back cables between the house and slide to stabilize the house foundation. Decorative landscaping will be removed for construction and then re-planted with drought tolerant native species that will not contribute to bluff erosion or instability of the bluff.

2. If the project is residential, please complete the following:

TYPE OF UNIT	NO. OF STRUCTURES/ UNITS	EXISTING SQ. FT.	PROPOSED SQ. FT.	TOTAL SQ. FT. PER STRUCTURE
☒ Single Family Residence		3440	0	3440
☐ Garage, detached		0	0	0
☒ Patio		215	0	215
☐ Guest Cottage		0	0	0
☒ Gazebo		200	0	200
☒ Solar Panels		0	0	0
☒ Water Tank		75	0	75
☒ Propane Tank		32	0	32
☒ Driveway		2000	0	2000
☐ Retaining Wall		0	0	0
☐ Garden Fence		0	0	0
☐ Perimeter Fence		300	0	300
☒ Concrete Caissons	16	0	400	400

3. Are there existing structures on the property? ☒ Yes ☐ No
   If yes, describe below and identify the use of each structure on the plot plan.

   Single Family Residence with attached garage, well, water tank, gazebo, perimeter fencing.

4. Utilities will be supplied to the site as follows: (all existing)

A. Electricity
- ☒ Utility Company
- ☐ Utility Company (requires extension of services to site): _____ feet _____ miles
- ☐ On Site generation, Specify:
- ☐ None

B. Gas
- ☒ Utility Company/Tank: propane tank
- ☐ None

C. Telephone: ☒ Yes ☐ No

5. Will there be any exterior lighting? ☐ Yes ☒ No
If yes, describe below and identify the location of all exterior lighting on the plot plan and building plans.

Shielded, downcast fixtures existing, no new lighting proposed.

6. What will be the method of sewage disposal? Existing; no changes proposed

- ☐ Community sewage system, specify supplier ___
- ☒ Septic Tank (indicate primary + replacement leachfields on plot plan)
- ☐ Other, specify _____

7. What will be the domestic water source? (existing)
- ☐ Community water system, specify supplier _____
- ☒ Well ☒ On-Site ☐ Off-site
- ☐ Spring ☐ On-Site ☐ Off-site
- ☐ Other, specify _____

8. Is any grading or road/driveway construction planned? ☒ Yes ☐ No

Estimate the amount of grading in cubic yards 400 cy cut /400 cy fill in same locations to balance on site (eCDP # 2017-04 included grading for drilling equipment access; however, this was deemed unnecessary and therefore not included in this permit application). If greater than 50 cubic yards or if greater than 2 feet of cut or 1 foot of fill will result, please provide a grading plan.

There will be absolutely no change to after caissons are installed and original cut is filled in area not occupied by development necessary for foundation support.

Estimate the length of the proposed road/driveway: n/a
Describe the terrain to be traversed (e.g., steep, moderate slope, flat, etc.).

9. Will vegetation be removed on areas other than the building sites and roads? ☐ Yes ☒ No
If yes, explain:

How many trees will be removed to implement the project: 0. Indicate on the site plan all trees to be removed that are greater than 12-inches in diameter (measured four feet from the ground). If applicable, please indicate on the site plan the size, location and species of all on-site trees that provide screening from public view areas.

10. Is the proposed development visible from:

A. State Highway 1? ☐ Yes ☒ No
B. Park, beach or recreation area? ☒ Yes ☐ No

If you answered yes to either question, explain:
Visible from Mendocino State Headlands State Park. Proposed development would be below grade and not visible when complete.

11. Project Height. Maximum height of structure(s).

Below grade.

12. Describe all exterior materials and colors of all structures. n/a

	Material	Color
Siding:		
Trim:		
Stone Trim:		
Chimney:		
Window Frames:		
Doors, person:		
Doors, garage:		
Roofing:		

13. Are there any water courses, anadromous fish streams, sand dunes, rookeries, marine mammal haul-out areas, wetlands, riparian areas, pygmy vegetation, rare or endangered plants, animals or habitat which support rare and endangered species located on the project site or within 100 feet of the project site?

There are no special status plants communities, wetland or riparian areas that were observed on the subject parcel or within 100 feet of the proposed development.

14. If the project is **commercial, industrial**, or **institutional,** complete the following:

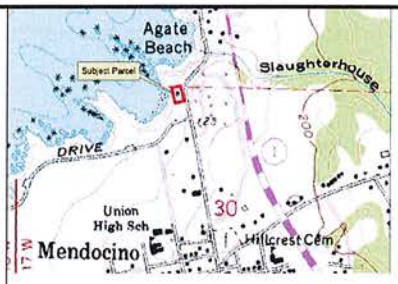
N/A

Total square footage of all structures: _____
Estimated employees per shift: _____
Estimated shifts per day: _____
Type of loading facilities proposed: _____

Will the proposed project be phased? ☐ Yes ☐ No

If Yes, explain your plans for phasing.
Parking will be provided as follows: N/A
Number of Spaces Existing_____ Proposed_____ Total_____

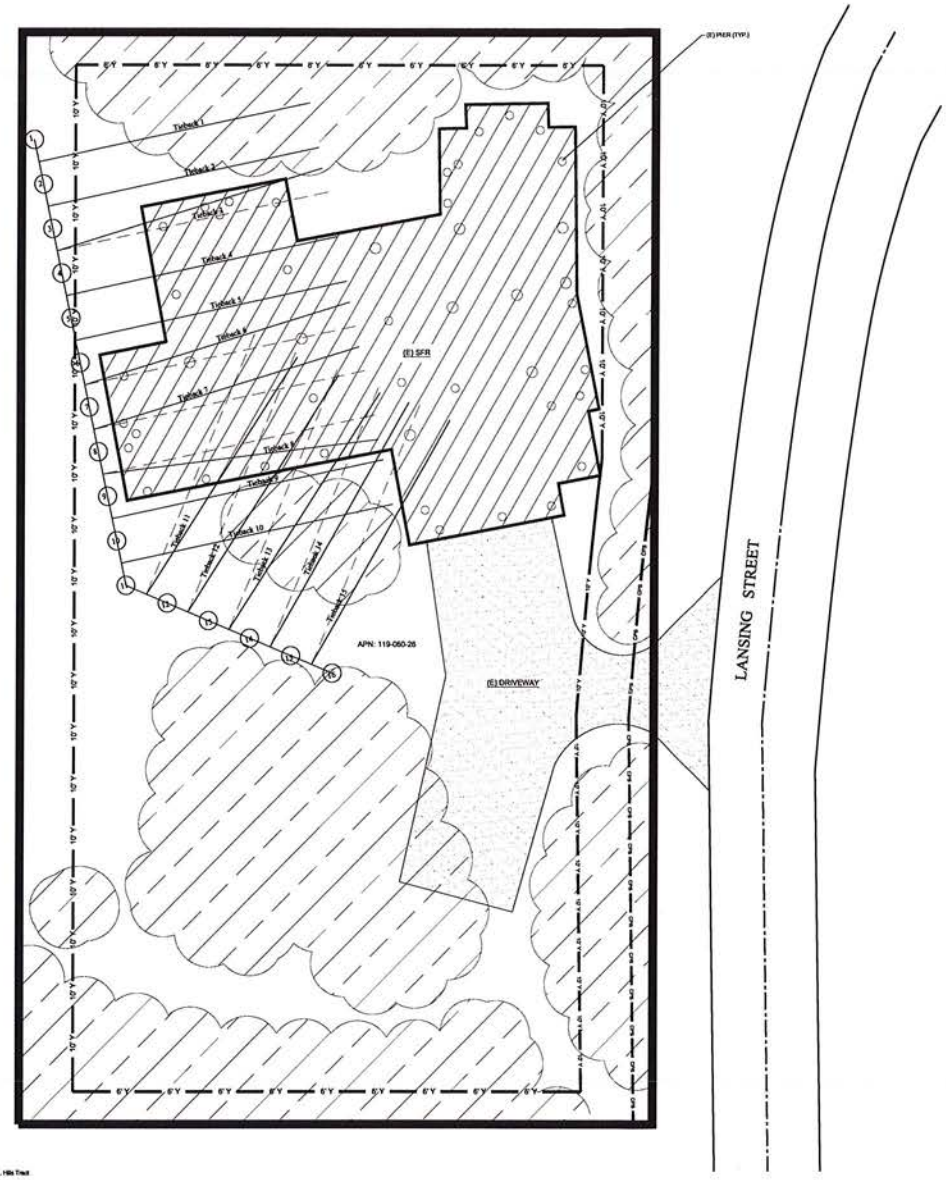
Number of standard spaces _____ Size _____
Number of handicapped spaces _____ Size _____



LEGEND
- SCHEMATIC - FOUNDATION REPAIR
- (E) DRIVEWAY
- 10' FRONT & REAR YARD SETBACK
- 6' SIDE YARD SETBACK
- CORRIDOR PRESERVATION SETBACK
- (E) TREES & SHRUBS

N
W E
S

0' 10' 20' 30'



SITE PLAN 1" = 10' 1

The lands of Lemley,
Point-of-View Subdivision & Portion Hesser Tract 1, Hills Tract

General Notes

General Plan Designation:	RR-1
Zoning District:	Mendocino Town Plan
Urban/Rural:	Urban/Rural
Highly Scenic Area:	N
Proposed Land Use:	SFR
Appealable to Coastal Commission:	Y
Entitlement Permit Type:	CDP
Yard Setbacks:	Front & Rear = 10' Side = 6'
Corridor Preservation Setback:	25'
Height Limit:	28'
Environmental Constraints:	N
Potential Geologic Hazards:	Y
Landscaping:	n/a
Water Source:	On-site well
Wastewater Disposal:	MCSD
Tree Removal:	n/a
Gross Site Area:	0.54 ac (23,515 sf)

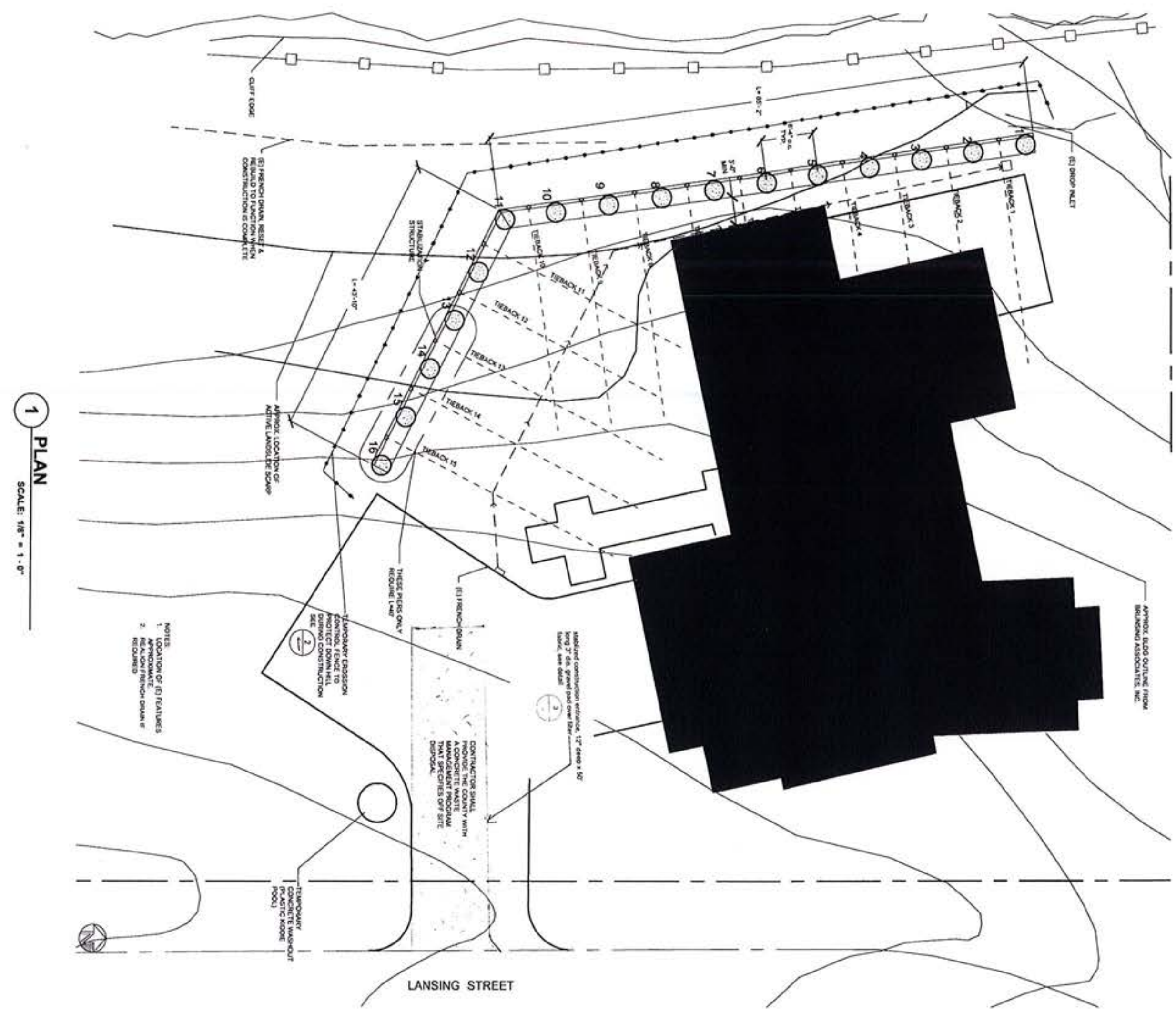
Landform Alteration:

Cut	400 cy
Fill	400 cy

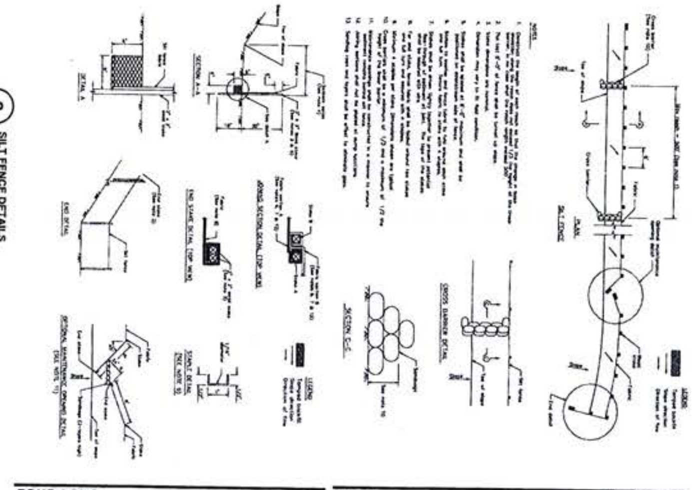
* In some locations to balance on-site.

Not based on Record of Survey.
Design review, not meant for construction.

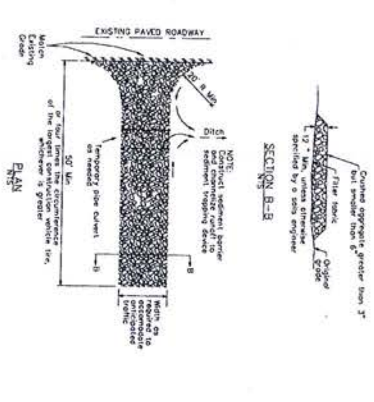
SHEET 1 OF 1 SHEETS	REVISION	BY	DATE	APN: 119-060-26-00 DRAWN BY: TH DATE: 10/1/2017 SCALE: AS SHOWN APPROVED BY: AW	LEMLEY 11050 LANSING STREET MENDOCINO, CA 95460	Wynn Coastal Planning 703 N. Main Street Fort Bragg, California 95437 (707) 964-2537 www.WCPlan.com	BIOLOGY	Based on a map by: Brunsing Associates, Inc. 3468 Skylane Blvd., Suite 201 Santa Rosa, California 95403 (707) 528-6108



1 PLAN
SCALE: 1/8" = 1'-0"



2 SILT FENCE DETAILS
NTS



3 STABLIZED CONSTRUCTION ENTRANCE
SCALE: NTS

EROSION CONTROL PLAN

LEMLEY RESIDENCE- STABILIZATION STRUCTURE
11050 LANSING STREET
MENDOCINO, CA 95460

SCALE: AS NOTED
DRAWN: AK
JOB: 17-116

SHEET G1

Duncan Engineering, Inc.
PO Box 1348
Mendocino, CA 95460
707-964-9604 ph
707-964-0998 fax

NUMBER	DATE	REVISIONS	BY

OWNER: Lemley
APN: 119-060-26
GP/ZONE: RR1
ADDRESS: 11050 Lansing St. Mendocino, CA

Aerial Photograph Map

Wynn COASTAL PLANNING

703 North Main Street, Fort Bragg CA 95437
ph: 707-964-2537 fx: 707-964-2622
www.WCPlan.com

SUBMITTAL

December 11, 2017

Planning and Building Services
120 West Fir Street
Fort Bragg, CA 95437

RE: Coastal Development Permit Application (Lemley)

Owner: Kanungnij (Nit) Lemely

Site: 11050 Lansing Street
Mendocino, CA
APN 119-060-26-00

To Whom It May Concern:

Enclosed, please find a copy of our Application to the County of Mendocino for a Coastal Development Permit for the above parcel, as a followup to the issuance of Emergency CDP #2017-0004.

The following items are included in this submittal:

1. Application forms, four copies.
2. Signature and Authorization pages of application, one copy.
3. Full sized set of plans.
4. Wynn Coastal Planning Biological Scoping Survey (two copies)
5. BACE Geotechnical Report
6. Application Fee
7. Sonoma State University Check ($75)
8. Mailing envelopes and list of surrounding properties and owners.

Please let me know if you have any questions or comments.

Sincerely,

Blair Foster

Encl: Sonoma State University Fee; Coastal Development Permit Application Packet; plans (full size)

CC: Nit Lemley, applicant; file

Mendocino County
Planning and Building Services

860 North Bush Street
Ukiah, CA 95482
(707) 234-6650

120 West Fir Street
Fort Bragg, CA 95437
(707) 964-5379

Paid By: LEMLEY KANUNGNIJ P
PO BOX 622

MENDOCINO NV 95460

CDP_2017-0046

Receipt: PRJ_018499
Date: 12/12/2017
Pay Method: CHECK 1086
Received By: JESSIE WALDMAN

Project Number: CDP_2017-0046
Project Description: Lemley.CDPS For EM_2017-0004
Site Address: 11050 LANSING ST

Fee Description	Account Number	Qty	Fee Amount
BASE FEES	1100-2851-822609		$5,306.00
CDPS BASE			$5,306.00
DOT FEES	1100-1910-826182		$150.00
UMIN UMAJ COT DR CDPA CDPS SFR DOT2E			$150.00
EH FEES	1100-4011-822606		$300.00
CDPA CDPS EM EH FEE			$300.00
GENERAL PLAN	1100-2851-826188		$116.00
			$116.00
RECORDS MANAGEMENT	1222-2852-826260		$111.00
			$111.00

Total Fees Paid: $5,983.00

NOTICE OF PENDING PERMIT

A COASTAL PERMIT APPLICATION FOR DEVELOPMENT ON THIS SITE IS PENDING BEFORE THE COUNTY OF MENDOCINO.

Proposed Development:	Stabilization of House Foundation: install 16, 50-foot deep caissons, 140-foot long grade beam and tie back cables between the house and slide to stabilize the house foundation. Decorative landscaping will be removed for construction and then re-planted with drought tolerant native species that will not contribute to bluff erosion or instability of the bluff.
Location:	11050 Lansing Street, Mendocino CA 95460
Applicant:	Kanungnij Lemley
Agent:	Blair Foster, Wynn Coastal Planning 707-964-2537
Assessor's Parcel Number:	119-060-26
Date Notice Posted:	December 12, 2017

FOR FURTHER INFORMATION, PLEASE TELEPHONE OR WRITE TO:

County of Mendocino, Planning and Building Services
120 West Fir Street
Fort Bragg, CA 95437
Office 707 964 5379 Fax 707 961 2427 Hours: 8am to 12:00 and 1pm to 5pm

CERTIFICATION AND SITE VIEW AUTHORIZATION

1. I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application, and all attached appendices and exhibits, is complete and correct. I understand that the failure to provide any requested information or any misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the County.

2. I hereby grant permission for County Planning and Building Services staff and hearing bodies to enter upon and site view the premises for which this application is made in order to obtain information necessary for the preparation of required reports and render its decision.

Mary M. Foster — 12-11-2017

~~Owner~~/Authorized Agent — Date

NOTE: IF SIGNED BY AGENT, OWNER MUST SIGN BELOW.

AUTHORIZATION OF AGENT

I hereby authorize See attached Authorization of Agent form to act as my representative and to bind me in all matters concerning this application.

Owner — 12/11/17

Owner — Date

MAIL DIRECTION

To facilitate proper handling of this application, please indicate the names and mailing addresses of individuals to whom you wish correspondence and/or staff reports mailed if different from those identified on Page One of the application form.

Name	**Name**	**Name**
Mailing Address	**Mailing Address**	**Mailing Address**

DECLARATION OF POSTING

At the time the application is submitted for filing, the applicant must **Post**, at a conspicuous place, easily read by the public and as close as possible to the site of the proposed development, notice that an application for the proposed development has been submitted. Such notice shall contain a general description of the nature of the proposed development and shall be on the standard form provided in the application packet. If the applicant fails to post the completed notice form and sign the **Declaration of Posting**, the Department of Planning and Building Services cannot process the application.

As **Proof of Posting**, please sign and date this Declaration of Posting form when the site is posted; it serves as proof of posting. It should be returned to the Department of Planning and Building Services with the application.

Pursuant to the requirements of Section 20.532.025(H) of the Mendocino County Code, I hereby certify that on December 12, 2017, I or my authorized representative posted the "NOTICE OF PENDING PERMIT" for application to obtain a Coastal Development Permit for the development of:

Stabilization of House Foundation; install 16, 50-foot deep caissons, 140-foot long grade beam and tie back cables between the house and slide to stabilize the house foundation. Decorative landscaping will be removed for construction and then re-planted with drought tolerant native species that will not contribute to bluff erosion or instability of the bluff.

Located at: 11050 Lansing Street, Mendocino

The public notice was posted at: Gate at driveway entrance to parcel.

(A conspicuous place, easily seen by the public and as close as possible to the site of proposed development)

~~Owner~~/Authorized Representative

12-11-2017
Date

(A copy of the notice that was posted shall be attached to this form)

NOTE: YOUR APPLICATION CANNOT BE PROCESSED UNTIL THIS "DECLARATION OF POSTING" IS SIGNED AND RETURNED TO PLANNING AND BUILDING SERVICES.

INDEMNIFICATION AND HOLD HARMLESS

ORDINANCE NO. 3780, adopted by the Board of Supervisors on June 4, 1991, requires applicants for discretionary land use approvals, to sign the following Indemnification Agreement. Failure to sign this agreement will result in the application being considered incomplete and withheld from further processing.

INDEMNIFICATION AGREEMENT

As part of this application, applicant agrees to defend, indemnify, release and hold harmless the County of Mendocino, its agents, officers, attorneys, employees, boards and commissions, as more particularly set forth in Mendocino County Code Section 1.04.120, from any claim, action or proceeding brought against any of the foregoing individuals or entities, the purpose of which is to attack, set aside, void or annul the approval of this application or adoption of the environmental document which accompanies it. The indemnification shall include, but not be limited to, damages, costs, expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent, passive or active negligence on the part of the County, its agents, officers, attorneys, employees, boards and commissions.

Date: 12-11-2017

Applicant

Wynn COASTAL PLANNING

703 North Main Street, Fort Bragg CA 95437
ph: 707-964-2537 fx: 707-964-2622
www.WCPlan.com

AUTHORIZATION OF AGENT

I hereby authorize Wynn Coastal Planning to act as my representative and to bind me in all matters concerning all application for permits or approvals for the proposed development on my parcel after obtaining my express written approval.

Site Address: 11050 Lansing Street, Mendocino CA 95460

AP Number 119-060-26-00

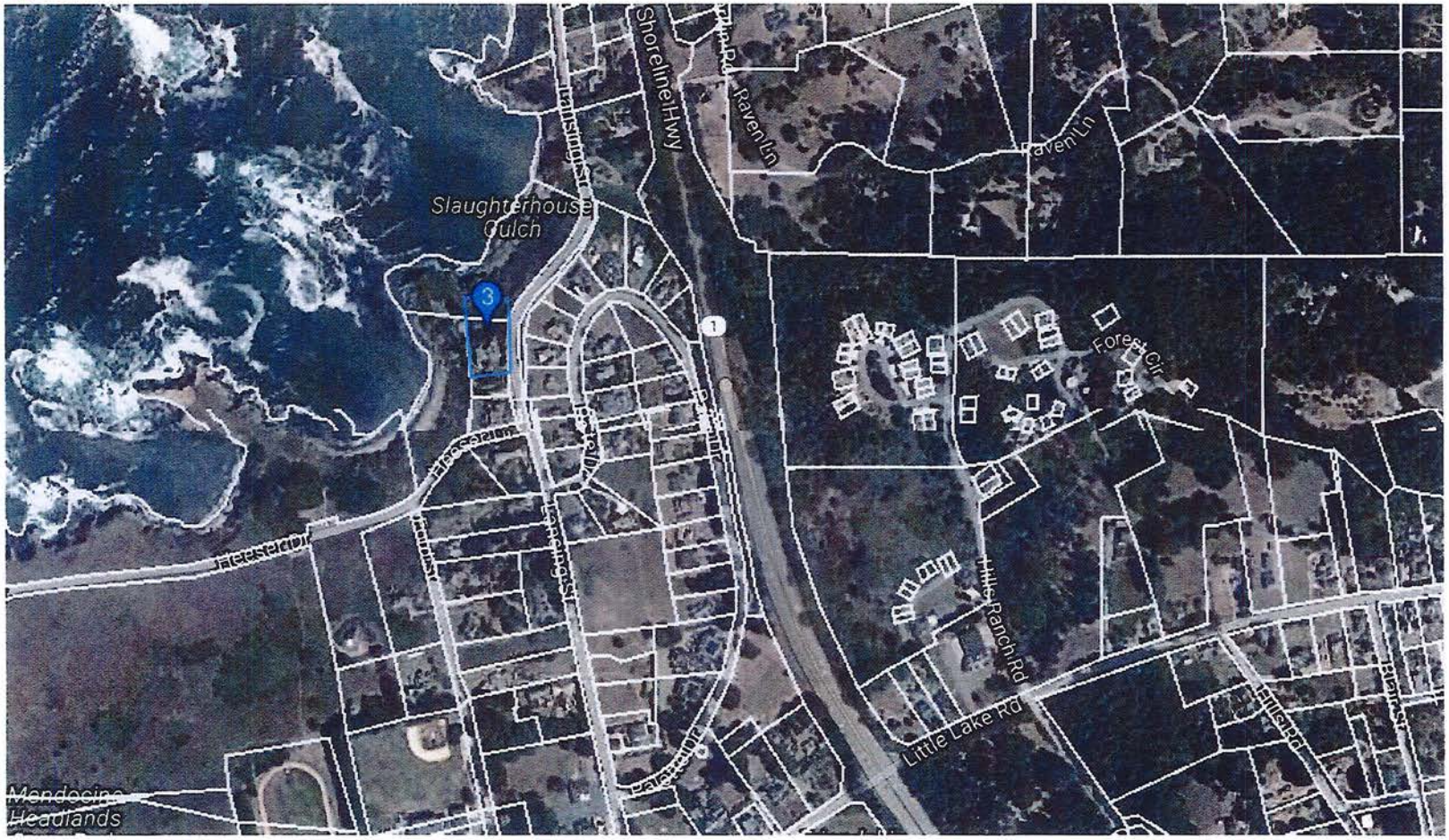
Owner Signature

Kanungnij Lemley

11/13/2017

date

PARCELQUEST



PARCEL QUEST

3 Property Address: 11050 LANSING ST MENDOCINO CA 95460

Ownership

County:	**MENDOCINO, CA**
Assessor:	**SUSAN RANOCHAK, ASSESSOR**
Parcel # (APN):	**119-060-26-00**
Parcel Status:	**ACTIVE**
Owner Name:	**LEMLEY KANUNGNIJ P**
Mailing Address:	**PO BOX 622 MENDOCINO CA 95460**
Legal Description:	

Assessment

Total Value:	**$1,262,849**	Use Code:	**0001**	Use Type:	**RESID. SINGLE FAMILY**
Land Value:	**$210,366**	Tax Rate Area:	**104-001**	Zoning:	**RR1 1**
Impr Value:	**$1,052,483**	Year Assd:	**2017**	Census Tract:	**110.02/4**
Other Value:		Property Tax:		Price/SqFt:	
% Improved:	**83%**	Delinquent Yr:			
Exempt Amt:	**$7,000**	HO Exempt:	**Y**		

Sale History

	Sale 1	Sale 2	Sale 3	Transfer
Document Date:	**06/15/2016**	**05/11/2016**	**06/05/2012**	**06/15/2016**
Document Number:	**07503**	**05825**	**08473**	**07503**
Document Type:				
Transfer Amount:				
Seller (Grantor):				

Property Characteristics

Bedrooms:	Fireplace:	Units:
Baths (Full):	A/C:	Stories:
Baths (Half):	Heating:	Quality:
Total Rooms:	Pool:	Building Class:
Bldg/Liv Area:	Park Type:	Condition:
Lot Acres:	Spaces:	Site Influence:
Lot SqFt:	Garage SqFt:	Timber Preserve:
Year Built:		Ag Preserve:
Effective Year:		

GENERAL NOTES:

0. THESE PLANS DEPICT ONLY THE MAIN ELEMENTS OF THE STRUCTURAL SYSTEM. Items like Electrical, Mechanical, Architectural, Plumbing, Waterproofing, Flashing, Windows and Finish details, Fire & Life Safety, etc. are depicted elsewhere in the plans. If no details are included in the project plan set, building codes and industry best practice shall be used.
1. These plans are created assuming the individual in charge of construction is experienced and capable in constructing buildings shown on these plans. This individual shall hereafter be referred to as the "Contractor."
2. The contractor shall verify all dimensions, elevations and site conditions before starting work and shall notify the Engineer in responsible charge of any discrepancies. Do not begin construction until plans approved by the Planning and Building Department. Do not begin building until all the plans and details are read and understood.
3. All omissions and conflicts between the various elements of the working drawings and/ or specifications shall be brought to the attention of the Engineer in responsible charge before proceeding with work so involved.
4. Resolve any conflicts on the drawings with the Engineer in responsible charge before proceeding with construction.
5. All material and work shall conform to the requirements of the 2016 California Building Code (CBC).
6. Provide manufacturer's approved product evaluation reports (ICC Reports) and a list of all proposed substitutions to the Engineer for review and written approval before fabrication and/ or installation.
7. Neither the owner nor Engineer will enforce safety measures or regulations. The contractor shall design, construct, and maintain all safety devices including shoring and bracing, and shall be solely responsible for conforming to all Local, State and Federal safety and health standards, laws and regulations. The contract drawings and specifications represent the finished structure and do not indicate methods, procedures or sequence of construction. The contractor shall take necessary precautions to maintain and insure the integrity of the structure during construction. If a lawsuit is filed by one of the contractor's or subcontractor's employees, or any one else, the contractor will indemnify, defend and hold the owner and Duncan Engineering - Structural Engineer harmless of any and all such claims.
8. It shall be the responsibility of the contractor to assure that all structural elements and members (i.e. roof, slab, columns etc.) are adequately braced during construction. Bracing of such elements and members shall remain in place until they are properly secured.
9. Construction material shall be evenly distributed if placed on framed floors or roofs. Loads shall not exceed the allowable loading for the supporting members and their connections.
10. Specific details or notes on other sheets shall prevail over standard notes on this sheet. Where construction details are not shown or noted for any part of the work, such details shall be the same as for similar work shown on the drawings.
11. The contractor shall determine the location of the utility services in the area to be excavated prior to beginning excavation.
12. No pipes, ducts, sleeves, chases etc., shall be placed in slabs, beams, columns, walls, etc., unless specifically shown or noted. Nor shall any structural member be cut for pipes, ducts, etc., unless specifically shown. Obtain prior written approval for installation of any additional pipes, ducts, etc.
13. Any proposed structural changes shall be brought to the engineer's attention and the change approved in writing prior to implementing structural changes. Contractor assumes all liability for changes made without engineer's consent.
14. Where Structural Observations are indicated, they shall take place when the project is 85% framed.
15. Contractor shall read plans and details entirely prior to begining construction.

FOUNDATION NOTES:

1. Design based on a Geotechnical Investigation by Brunsing Associates Inc. dated March 31, 2017 (11573.05).
2. The contractor shall read and understand the geotechnical report before beginning construction. A copy of the report shall be kept on site during construction.
3. All foundation excavations and backfill shall be reviewed and approved by Brunsing prior to placing any reinforcements.
4. Finished grade shall be sloped away from the structure and restore existing ground contours.
5. All earthwork (cut, fill, subgrade preparation under conc. slabs, etc) require special inspection.
6. Existing trench drains shall be restored once construction completed. Field adjustments may be made.

PRESTRESS STELL NOTES:

1. See sheet S4 for additional information.
2. T= Design force for Tieback, 100 kips.
3. fpu=Minimum Ultimate Tensile Stress of Steel in the tieback (ksi)
4. As (min)=minimum cross sectional area of steel in Tieback (sq in)
5. Steel for Tieback ASTM Designation A416 (strands)
6. As (min)= $\frac{1.5T}{0.75 fpu}$

REINFORCED CONCRETE NOTES:

1. All concrete construction shall conform to ACI-318-14.
2. Cement shall conform to ASTM C-150, type II.
3. Aggregates shall conform to ASTM C-33 for normal weight concrete and ASTM C-330 for light weight concrete.
4. Headed anchor bolts shall conform to ASTM f1554, Grade 36. Hooked anchor bolts shall conform to ASTM A-36.
5. All reinforcing steel, anchor bolts, dowels and other inserts shall be secured in position and inspected by the local building department inspector prior to the pouring of any concrete.
6. Finished surfaces of floor slabs shall not deviate more than 1/8" from the lower edge of a 10 foot straight edge.
7. Concrete shall meet the following design criteria:

Location	Minimum 28 day comp strength	Minimum Cement	Maximum Aggregate	Maximum Slump
All, piers included	3000 psi	5.5 sacks/ yd	3/4"	4"
grade beams	3500 psi	6.0 sacks/yd	3/4"	4"

7. Concrete water to cement ratio shall not exceed 0.50.
8. Concrete mix testing and design shall meet the requirements of Section 1903 and 1905 respectively of the 2016 CBC, and these specifications.
9. Admixtures shall be reviewed by the Engineer. Calcium Chloride or added Chlorides are not permitted.
10. Dry pack shall be 1 part cement and 2 parts sand by volume.
11. Provide a 3/4 inch chamfer on exposed corners.
12. Construction joints shall be roughened to 1/4" amplitude minimum or keyed joints per plan. Wait 48 hours between pours.
13. The location of all slab on grade construction, control, and weakened plane joints not specifically indicated on the drawings shall be reviewed and approved by the engineer prior to the placing of reinforcement. Typically expansion joints are 1"x1/8" sawcut at 10' oc ea way -other options available if requested in advance.
14. Concrete curing shall be per the provisions of the Building Code Requirements for Reinforced Concrete of the American Concrete Institute.
15. All concrete shall be consolidated with mechanical vibrators.
16. Maximum freefall of concrete shall not exceed 48".
17. Up to 20% of concrete may be replaced with flyash with an approved mix. Supplier shall demonstrated mix has been previously used and achieved requried compressive strength.

REINFORCING STEEL NOTES:

1. Bar reinforcing shall conform to ASTM A615, Grade 60 or ASTM A706 EXCEPT VERT. BARS IN DRILLED PIERS ARE GR 75.
2. All welded reinforcement shall be ASTM A706.
3. Welding of reinforcing steel shall conform to AWS D1.4-98 and CBC Standard 19-1. The contractor shall prepare a written welding procedure specification conforming to the requirements of to AWS D1.4-98 for each welded splice. The producer of the reinforcing bars shall report the chemical composition and carbon equivalent of the steel to the contractor.
4. Welded wire fabric shall conform to ASTM A185. Lap 12" where spliced.
5. Reinforcing detailing, fabrication and placing shall conform to the provisions of the Building Code Requirements for Reinforced Concrete of the American Concrete Institute.
6. Vertical bars in walls shall be accurately positioned at the center of the wall unless otherwise noted, and shall be tied in position at the top and bottom at intervals not exceeding 192 bar diameters.
7. Dowels shall be the same size and spacing as wall reinforcement.
8. The clear distance between parallel reinforcement in a layer shall not be less than 1-1/2 times the nominal diameter of the reinforcement, or 1-1/3 times the maximum size aggregate, nor less than 1-1/2 inches.
9. All reinforcing steel, anchor bolts, hold down anchors, dowels and inserts shall be well secured in position prior to placing concrete or grout.
10. Reinforcing steel shall be provided with the following amounts of concrete cover unless otherwise noted:

Concrete cast against earth	3"
Formed concrete exposed to earth or weather:	
No. 6 through No. 18 bar	2"
No.5 or smaller bars	1 1/2"
Columns (including ties and spirals)	1 1/2"
Beams and Girders (including stirrups)	1 1/2"
Slabs and Walls (No. 11 bar and smaller)	3/4"

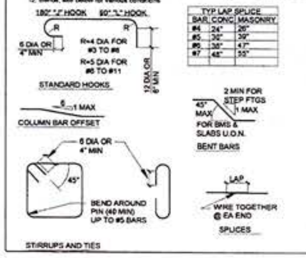
11. Splices:

Vertical wall bars shall be spliced at or near floor lines. Stagger bottom splices at least 5'-0" from splices in other bottom reinforcement. Stagger splices in top reinforcement similarly. Beam and girder splices, if necessary, shall be at midspan for top bars and at the support for bottom bars.

Concrete:

Splices in No. 4 or smaller bars shall be 40 diameters. Splices in adjacent bars shall be staggered 5'-0".
Splices for No. 5 & No.6 reinforcing shall be 54 diameters. Splices in adjacent bars shall be staggered 6'6".
Splices in No. 7 and larger bars shall be 78 diameters. Splices in adjacent bars shall be staggered 8'-0".

12. Bends, see below for various conditions



TYP LAP SPLICE		
BAR	CONC	MASONRY
#4	24"	26"
#5	30"	39"
#6	36"	47"
#7	48"	55"

STRUCTURAL STEEL NOTES:

1. Design, fabrication and erection shall conform to the specifications and standard of the American Institute of Steel Construction, as contained in the "AISC manual of Steel Construction", 10th edition.
2. All structural steel shall be erected plumb and true to line. Temporary bracing shall be installed and shall be left in place until other means is provided to adequately brace the structure.
3. Submit steel shop drawings to the Structural Engineer for review prior to fabrication.
4. Structural Steel Grades:

A. Shapes and Plates	ASTM A36
B. Structural Tubing	ASTM A500, grade B
C. Steel Pipes	ASTM A53 type E or S, grade B
D. Wide Flange Columns	ASTM A572, grade 50
E. Anchor and Machine Bolts	ASTM A307
F. High Strength Bolts	ASTM A325 type N, S
G. Welded Headed Studs	ASTM A108

5. All bolts shall be machine bolts unless otherwise noted.
6. All connections not shown shall conform to the "AISC manual of Steel Construction", 14th edition.
7. Place non-ferrous, nonshrink grout (Burke or approved equal) under all base plates before adding vertical load.
8. Welding procedures, electrodes and welder qualifications shall conform to the "Code for Welding in Building Construction", American Welding Society, and the AISC "Specifications for the Design, fabrication and Erection of Structural Steel for Buildings". E70XX electrodes shall be used unless otherwise noted. All welders shall have evidence of passing the AWS Standard Qualification Tests. All groove or butt welds shall be complete penetration welds. All exposed butt welds shall be ground smooth.
9. See Architectural drawings for nailer holes, welded studs or other items not shown in these drawings. Where steel is embedded in concrete or masonry, provide holes as required for passage of continuous reinforcing bars where indicated on the drawings.
10. Wire brush, solvent clean and shop prime all steel. Paint concealed shapes, tubes, posts, and plates w/ two coats of finish paint.
11. Where approved fabricators are noted in the Special Inspection Requirements, note approved fabricators are those shops listed by ICBO/ICC, AISC, COLA or other nationally recognized agencies. Approved fabricators certificates shall be provided with the completed special inspection form if this exception to special inspection is to be used.

ABBREVIATIONS

AB	ANCHOR BOLT	MATL	MATERIAL
ADDL	ADDITIONAL	MAX	MAXIMUM
ALT	ALTERNATE	MB	MACHINE BOLT
APA	AMERICAN PLYWOOD ASSOCIATION	MECH	MECHANICAL
ARCH	ARCHITECTURAL	MFR	MANUFACTURER
AWPA	AMERICAN WOOD PRESERVERS ASSOCIATION	MIN	MINIMUM
B	BOTTOM	MISC	MISCELLANEOUS
BLKG	BLOCKING	MTL	METAL
BM	BEAM	NIC	NOT IN CONTRACT
BN	BOUNDARY NAIL	NO	NUMBER
BRG	BEARING	NS	NEAR SIDE
BTWN	BETWEEN	NTS	NOT TO SCALE
BOT	BOTTOM	O/	OVER
CIP	CAST-IN-PLACE	OC	ON CENTER
CJ	CONSTRUCTION JOINT	OD	OUTSIDE DIAMETER
CL	CENTER LINE	OF	OUTSIDE FACE
CLR	CLEARANCE	OH	OPPOSITE HAND
COL	COLUMN	OPNG	OPENING
CONC	CONCRETE	OPP	OPPOSITE
CONN	CONNECTION	ORIG	ORIGINAL
CONST	CONSTRUCTION	OSB	ORIENTED STRAND BOARD
CONT	CONTINUOUS	PL	PLATE
DBL	DOUBLE	PLCS	PLACES
DF	DOUGLAS FIR/LARCH	PLYWD	PLYWOOD
DP	DEEP	PSL	PARRALLEL STRAND LUMBER (PARALLAM)
DIA	DIAMETER	PT	PRESERVATIVE TREATED
DIM	DIMENSION	PW	PLATE WASHER
DJ	DECK JOIST	R	RADIUS
DWG	DRAWING	REF	REFERENCE
DWL	DOWELL	REINF	REINFORCEMENT
E	EXISTING	REQD	REQUIRED
EA	EACH	RF	ROOF
EF	EACH FACE	RFT	RAFTERS
EL	ELEVATION	RW	RETAINING WALL
ELEC	ELECTRICAL	SAD	SEE ARCHITECTURAL DETAILS
ELEV	ELEVATOR	SCHED	SCHEDULE
EMBED	EMBEDMENT	SECT	SECTION
EN	EDGE NAIL	SEP	SEPARATION
EQ	EQUAL OR EQUIVALENT	SIM	SIMILAR
ES	EACH SIDE	SN	SHEAR NAIL
EW	EACH WAY	SPEC	SPECIFICATION
EXT	EXTERIOR	SPS	STRUCTURAL PLYWOOD SHEATHING
FDN	FOUNDATION	SQ	SQUARE
FF	FINISHED FLOOR	STD	STANDARD
FJ	FLOOR JOIST	STGR	STAGGER
FG	FLOOR GIRDER	STIFF	STIFFENERS
FOC	FACE OF CONCRETE	STR	STRUCTURAL
FOS	FACE OF STUD	STR I	STRUCTURAL I
FRM	FRAMING	T	TOP
FRT	FIRE-RETARDANT TREATED	T&B	TOP & BOTTOM
FS	FAR SIDE	T&G	TONGUE & GROOVE
FTG	FOOTING	THK	THICKNESS/THICK
GA	GAUGE	THR	THREADED
GALV	GALVANIZED	TN	TOENAIL
GLB	GLUED LAMINATED BEAM	TOP	TOP OF PARAPET
GR	GRADE	TOW	TOP OF WALL
H	HORIZONTAL	TYP	TYPICAL
HDR	HEADER	UBC	UNIFORM BUILDING CODE
HGR	HANGER	UON	UNLESS OTHERWISE NOTED
HGT	HEIGHT	V	VERTICAL
HORIZ	HORIZONTAL	VERT	VERTICAL
HSH	HORIZONTALLY SLOTTED HOLES	VSH	VERTICAL SLOTTED HOLES
ID	INSIDE DIAMETER	WD	WOOD
IF	INSIDE FACE	WP	WATERPROOF OR WORK POINT
I JST	I-JOIST	WPJ	WEAKENED PLANE JOINT
INT	INTERIOR	WT	WEIGHT
JST	JOIST	WWF	WELDED WIRE FABRIC
JT	JOINT	W/	WITH
LDGR	LEDGER	W/O	WITH OUT
LTWT	LIGHT WEIGHT		
LSL	LAMINATED STRAND LUMBER (TIMBERSTRAND)		
LVL	LAMINATED VENEER LUMBER		
MAX	MAXIMUM		

DESIGN CRITERIA

2016 California Building Code (CBC)
SITE CLASS D
SDS=1.097 g
SD1=0.656 g
SDC=E

DESIGN BASED ON GEOTECHNICAL INVESTIGATION BY BRUNSING & ASSOCIATES, 3/31/2017 (11573.05)

INDEX TO STRUCTURAL PLANS (by Duncan Engineering Inc):

DEFFERED SUBMITTALS:

TIEBACK ANCHOR SHOP DRAWINGS

SPECIAL INSPECTION/ INSPECTOR REQUIREMENTS (CBC chapter 17):

1. The special inspector shall be employed by the owner per Section 1704 of the 2013 CBC.
2. The report(s) prepared by the special inspector shall be signed by a licensed California Civil Engineer or qualified individual and shall be submitted to the Building Official and the Engineer of Record.
3. The special inspection shall be continuous during the performance of the work unless otherwise specified.
4. The special inspector must be certified by the Building Official to perform the types of inspections specified.
5. The Special Inspections listed are in addition to the inspections required by CBC Section 108. Special inspection is not a substitute for inspection by the Building Official. Specially inspected work that is installed or covered without the approval of the building official and the special inspector is subject to removal or exposure.
6. The Special Inspector & the Engineer shall be notified a minimum of 120 hours(1 week) before observation. Delinquent notification may require demolition of covering materials to facilitate observation.
7. No inspections/observations required if no indications listed on chart below

SUMMARY OF STRUCTURAL CONTINUOUS AND PERIODIC SPECIAL INSPECTION:

	Special Inspection -per 1704 & 1707			
	N/A	Continous	Periodic	Notes/comments
1. Earthwork/site prep				
A. Engineered Fill			yes	
B. Foundation Excavations			yes	
C. Subgrade Pre-soak & prep				
D. Drilled Piers		yes		
2. Concrete (CBC 1701.5.1)				
A. Inspection of Reinforcing			yes	
B. Epoxied bolts (if req'd)				
C. Embeded bolts				
D. Placing concrete		yes		
E. Making cylinders		yes		
3. Prestressed Concrete				
A. Tendon Layout		yes		
B. Stressing Tandons		yes		
4. Masonry (CBC 1701.5.7 & 2105)	N/A			
A. drill and epoxy to existing masonry				
5. Structural Steel				
A. Shop welding	*			performed in approved fabricators shop*
B. Field welding				
C. High Strength Bolting (A325 & A490)				
6. Structural Wood				
A. Nailing (5<4"), diaph., shearwalls				
B. Holdowns				
C. drag struts				
7. Special Inspections (other)				
A.________				

*see Structural Steel Notes for req'd infor re approved fabricators shop

	Structural Observation-per 1709			
	N/A	Continoue	Periodic	Notes/Comments
1. Engineer of Record Observation	na			
A. Footing Excavations				
B. Reinforcemtn prior to Concrete Placement				
C. Framing (vertical system)				
D. Shear (walls and diaphragms)				
E. Other________				

NOTE:
Special Inspector Name & Phone #: Brunsing Associates 707-838-3027, drilled piers, conc. placement, cylinders, prestress
Engineers Name & Phone # David Duncan, 707-964-9604

Contractor Responsibility (per 1709.2): Each Contractor or Sub-Contractor responsible for the construction of the wind and/or seismic resisting system that is listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work requiring special inspection. The contractors's statement of responsibility shall contain the following:

1. **Acknowledgement of awareness of the special requirements contained in the statement of special inspections;**
2. **Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official;**
3. **Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of the reports; and**
4. **Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.**

1 LOCATION PLAN

NOTE: IF ARCHITECTURAL DETAILS OR NOTES ON OTHER SHEETS ARE FOUND TO CONFLICT WITH THESE STRUCTURAL DETAILS AND NOTES, NOTIFY ENGINEER & ARCHITECT

NUMBER	DATE	REVISIONS	BY

Duncan Engineering Inc.
PO Box 1348
Mendocino, CA 95460
707-964-9604 ph
707-964-0995 fax

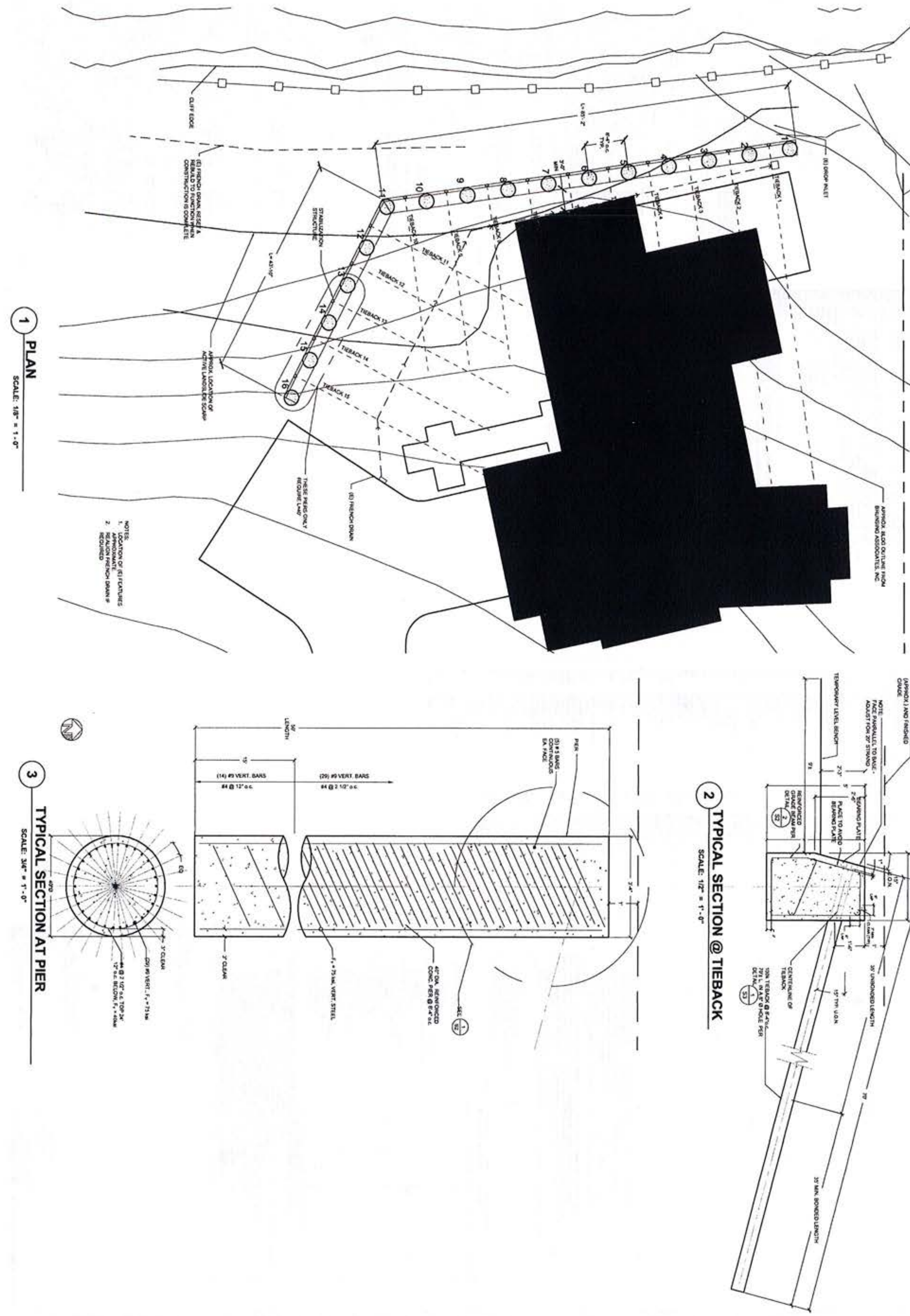
REGISTERED PROFESSIONAL ENGINEER DAVID ROY DUNCAN No. S4300 Exp 12/31/17 STRUCTURAL STATE OF CALIFORNIA

SHEET NAME: STRUCTURAL NOTES

PROJECT NAME & LOCATION: LEMELY RESIDENCE STABILIZATION
11050 LANSING STREET.
MENDOCINO, CA

DATE	6-7-17
SCALE	VARIES
DRAWN	DRD
JOB	17-116
FILE	17-116 SN
UPDATED	

SHEET SN OF SHEETS



DATE	06/2017
SCALE	AS NOTED
DRAWN	AK
JOB	17-116
FILE	17-116-S1.dwg
UPDATED	

SHEET S1 OF SHEETS

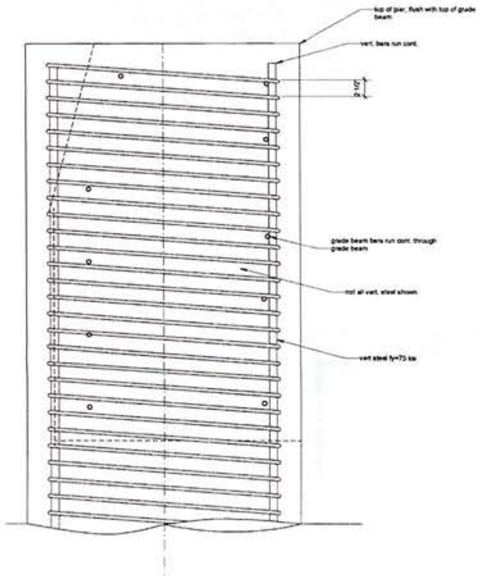
PLAN, SECTION @ TIEBACK & SECTION @ PIER

LEMLEY RESIDENCE- STABILIZATION STRUCTURE
11050 LANSING STREET
MENDOCINO, CA 95460

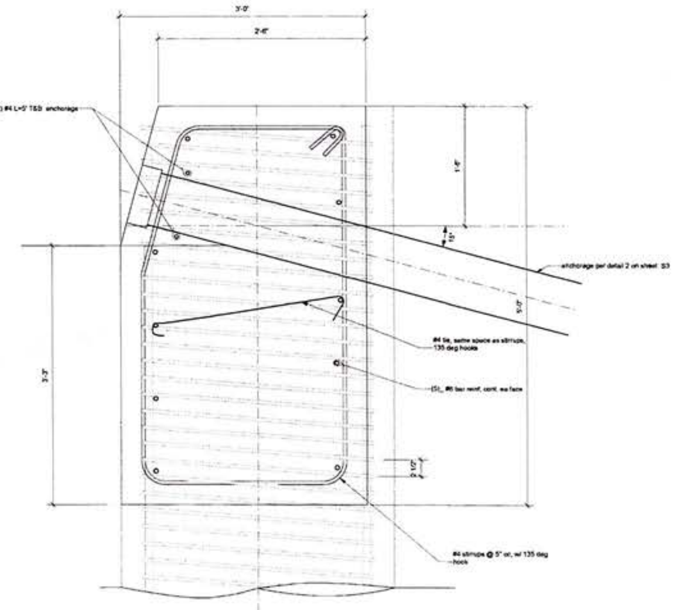
REGISTERED PROFESSIONAL ENGINEER · STRUCTURAL · STATE OF CALIFORNIA · No. 4300 · Exp. 12/31/17

Duncan Engineering, Inc.
PO Box 1248
Mendocino, CA 95460
707-964-9604 ph
707-964-0998 fax

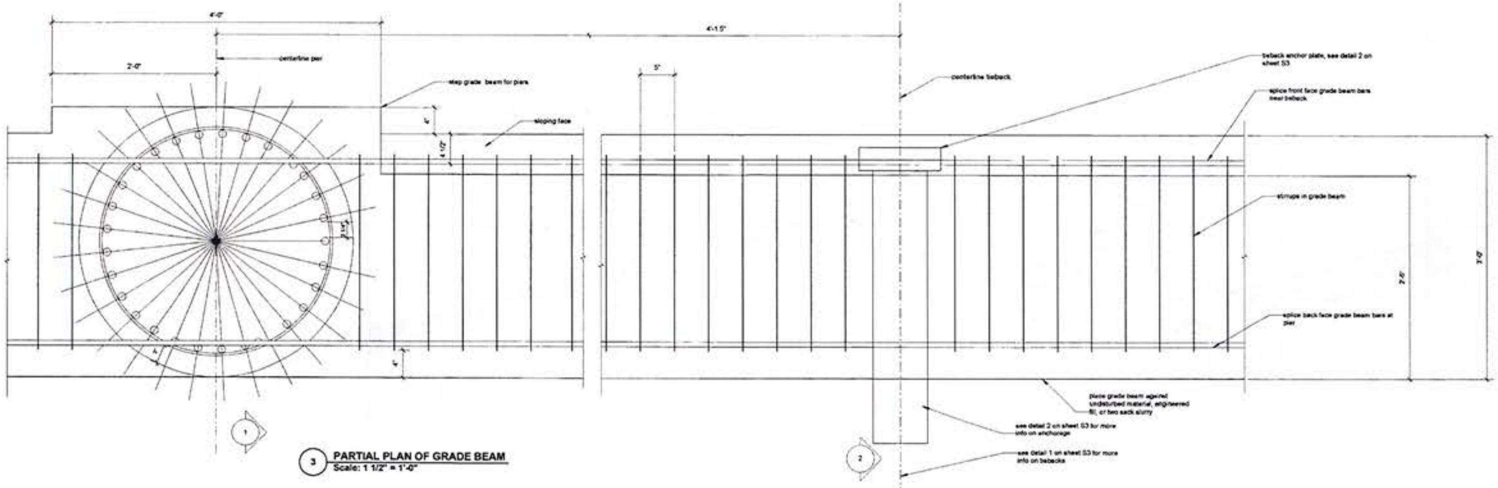
NUMBER	DATE	REVISIONS	BY



1 SECTION AT PIER TOP
Scale: 1 1/2" = 1'-0"



2 SECTION AT TIEBACK
Scale: 1 1/2" = 1'-0"



3 PARTIAL PLAN OF GRADE BEAM
Scale: 1 1/2" = 1'-0"

DATE	6-7-17
SCALE	VARIES
DRAWN	DRD
JOB	17-116
FILE	17-116 S3
UPDATED	

SHEET NAME: TIEBACK NOTES

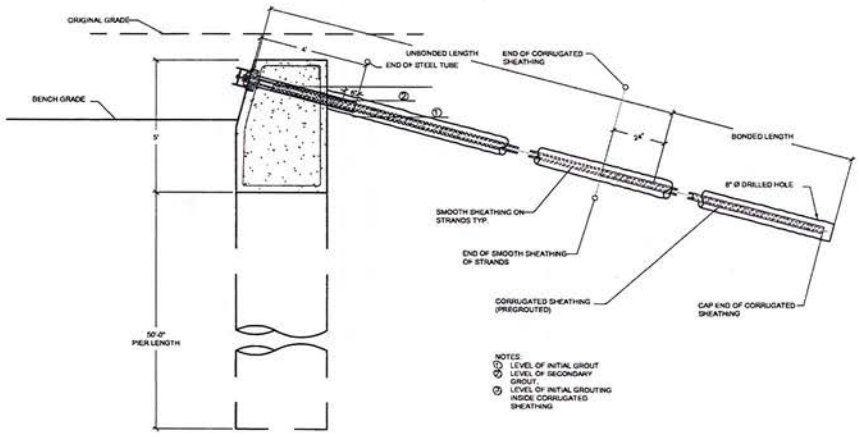
PROJECT NAME & LOCATION:
LEMELY RESIDENCE STABILIZATION
11050 LANSING STREET.
MENDOCINO, CA

SHEET **S2** OF SHEETS

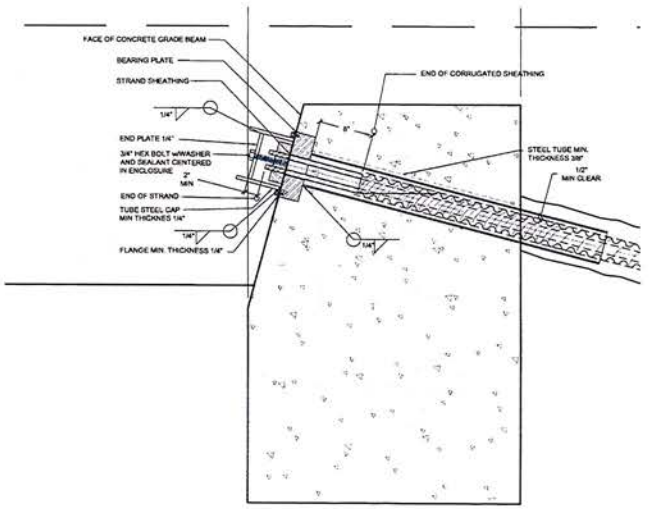
REGISTERED PROFESSIONAL ENGINEER — David Roy Duncan — No. S4300 — Exp. 12/31/17 — STRUCTURAL — STATE OF CALIFORNIA

Duncan Engineering Inc.
PO Box 1348
Mendocino, CA 95460
707-964-9604 ph
707-964-0098 fax

NUMBER	DATE	REVISIONS	BY

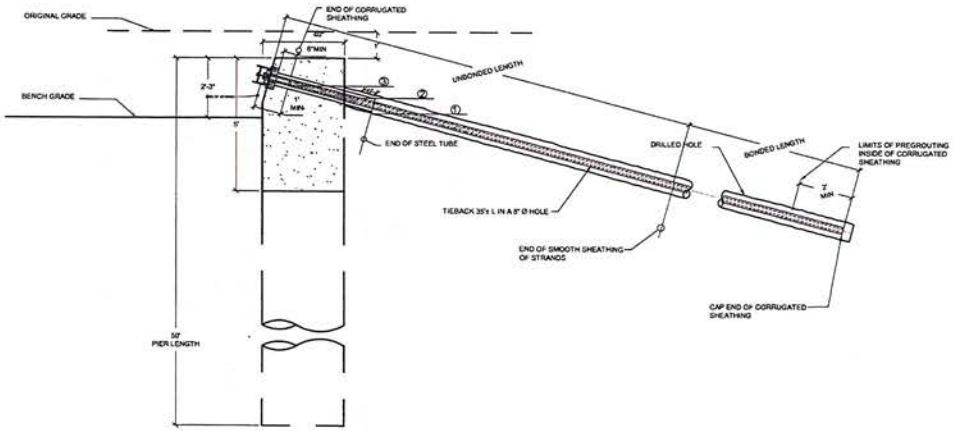


ALTERNATE 'A'



2 **ANCHORAGE ENCLOSURE DETAIL**

SCALE: 1 1/2" = 1' - 0"



ALTERNATE 'B'

1 **TIEBACK ANCHOR**

SCALE: 1/2" = 1' - 0"

Duncan Engineering, Inc.
PO Box 1345
Mendocino, CA 95460
707-964-9604 ph
707-964-9605 fax

NUMBER | DATE | REVISIONS | BY

TIEBACK DETAILS

PROJECT DESCRIPTION
LEMLEY RESIDENCE- STABILIZATION STRUCTURE
11090 LANSING STREET
MENDOCINO, CA 95480

DATE	06/07/17
SCALE	AS NOTED
DRAWN	AK
JOB	17-118
FILE	17-118 S2.dwg
UPDATED	

SHEET
S3
OF SHEETS

10-1. TIEBACK ANCHORS

Whenever the Standard Specifications are listed below it shall be understood to mean the latest edition of the California Department of Transportation (Caltrans) Standard Specifications.

Anchors at the retaining wall, consisting of holes drilled in foundation material, grouted steel bars or strands, and anchorage assemblies, and testing of installed anchors shall conform to the details shown on the plans, the provisions in Section 50, "Prestressing Concrete," of the latest edition of the Caltrans Standard Specifications, and these special provisions.

Foundation investigations are included in the "Materials Information" available to the Contractor in conformance with the provision in Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work," of the Standard Specifications.

Difficult tieback installation is anticipated due to the presence of caving soils, hazardous and contaminated materials, serpentine materials, high ground water, cobbles and boulders, subsurface concrete debris, low overhead clearance, underground utilities, overhead utilities, the requirements of tieback embedment into rock, sound control, vibration monitoring, and traffic control.

The Contractor shall determine the bond length necessary to meet acceptance criteria specified herein.

The substitution of reduced prime of corrosion original tracings will not be required for tieback anchor installations.

In fabricating, handling, stopping, and placing tieback anchors, adequate care shall be taken to avoid damage to the sheathing. Damage to the sheathing caused by handling and fabricators prior to tieback anchor installation shall be repaired or replaced as determined by the Engineer. Repair procedure for the sheathing shall be included in the working drawings.

MATERIALS

Whenever "member" is referred to in Section 50, "Prestressing Concrete," of the Standard Specifications, it shall be considered to mean tieback anchor.

Structural steel for the tieback retaining wall shall conform to the provisions in Section 55, "Steel Structures," of the Standard Specifications and these special provisions. Structural steel shall consist of the anchorage assembly and the anchorage enclosure. The anchorage assembly and the anchorage enclosure shall be galvanized as indicated on the plans. The provisions of "Welding Quality Control" of these special provisions shall not apply to the anchorage enclosure or to the weld between the steel tube and the bearing plate of the anchorage assembly for tiebacks. These provisions shall apply to all other welds of structural steel for tieback retaining walls.

The permanent bearing plate of the tieback anchor shall effectively distribute the design force (T) to the concrete, such that the concrete bearing stress does not exceed 1.5 fcc and the bearing stress does not exceed 0.35 fy for steel nor 0.30 fc for non-steel or cast iron.

Grout shall conform to the provisions in Section 50-1.09, "Handling and Grouting," of the Standard Specifications. Fine aggregate may be added to the grout mixture of portland cement and water used outside of the grouted sheathing in drilled holes which are 9 inches or greater in diameter, but only to the extent that the cement content of the grout is not less than 500 kg per cubic meter of grout. Fine aggregate, if used, shall conform to the provisions in Section 90-2, "Materials," and Section 90-3, "Aggregate Gradings," of the Standard Specifications.

The plastic sheathing for tieback anchors shall conform to one of the following: polyvinyl chloride (PVC) sheathing, high density polyethylene (HDPE) sheathing, or polypropylene sheathing.

Corrugated plastic sheathing shall be PVC or HDPE. The width of corrugations, the distance between corrugations, and the height of corrugations of corrugated plastic sheathing shall be approximately the same.

PVC sheathing may be used for corrugated sheathing and smooth sheathing for bar tendons. PVC sheathing shall conform to ASTM Designation: D 1784, Class 13464-B. Corrugated PVC sheathing shall have a nominal wall thickness of 1.0 mm.

HDPE sheathing may be used for corrugated sheathing and smooth sheathing for bar tendons. HDPE sheathing shall have a density between 940 kg/m^3 and 960 kg/m^3, as measured in accordance with ASTM Designation: D 792, A-2. Corrugated HDPE sheathing shall have a nominal wall thickness of 1.5 mm for sheathing with an outside diameter of 75 mm or greater, and a nominal thickness of 1.0 mm for sheathing with an outside diameter less than 75 mm, with a tolerance of minus 0.25 mm.

HDPE sheathing may be used for the smooth sheathing encapsulating individual strands of strand type tendons. Smooth HDPE sheathing for encapsulating strands shall have a minimum wall thickness of 1.0 mm. Polypropylene sheathing may be used for the smooth plastic sheathing encapsulating individual strands of strand type tendons. Polypropylene sheathing shall have a density between 900 kg/m^3 and 910 kg/m^3. Smooth polypropylene sheathing shall have a minimum wall thickness of 1.0 mm.

The smooth sheathing for the unbonded length of the individual strands shall have sufficient strength to prevent damage during construction operations and shall be watertight, chemically stable without embrittlement or softening, and nonreactive with concrete, steel, or corrosion inhibiting grease. Smooth plastic sheathing, including joints, shall be watertight.

The corrugated sheathing, including joints, shall have sufficient strength to prevent damage during construction operations and shall be grout-tight and watertight, chemically stable without embrittlement or softening, and nonreactive with concrete, steel, or corrosion inhibiting grease.

The transition between the corrugated plastic sheathing and the anchorage assembly shall be an approved detail that allows tressing to the design force without evidence of distress in the corrugated plastic sheathing.

Additional requirements for tiebacks with strand type tendons are as follows:

A. The strand anchorage assembly shall include an approved permanent type wedge retaining device. Where high strength bolts are a part of the device, the tensile capacity of the high strength bolts shall be 0.3 times the ultimate strength of the strands.

B. The individual strands of a tendon, except for the bonded length, shall be fully coated with corrosion inhibiting grease and then encapsulated by a seventh HDPE or polypropylene sheath. The corrosion inhibiting grease shall fill all space between strand wires and shall encapsulate the strand giving an encasement diameter at least 0.12-mm greater than the diameter of the bare strand. The sheath shall be hot melt extruded onto the strand or shall be shop applied by an approved method that ensures that all spaces between the sheath and the strand and between the strand wires are filled with corrosion inhibiting grease.

C. The corrosion inhibiting grease shall provide a continuous unbroken film of corrosion protection to the prestressing steel and lubrication between the strand and the sheathing, shall resist flow from the sheathing, shall be chemically stable and nonreactive with the prestressing steel, sheathing material, and concrete, and shall be organic with appropriate polar, moisture displacing, and corrosion inhibiting additives.

D. The corrosion inhibiting grease shall have the physical properties listed in Table 3.2.1 of the Post Tensioning Manual, Fourth Edition, by the Post Tensioning Institute and as modified below. At least 40 days before use, a sample from the lot to be used and test results shall be provided for the corrosion inhibiting grease.

Test	Requirements	ASTM Designation:
Water Soluble Ions: Nitrates	10 ppm max.	D 3867
Corrosion Test	Grade 7 or better	B 117, D 610
5% Salt Fog @ 38° C. 125 psi spraying on 76 mm x 152 mm 12 panel Type 5, 1005 hrs min.		
Compatibility with sheathing: Hardness change & volume change of polymer after exposure to grease 40 days at 66° C.	15% max. 10% max.	D 4289, except use D 792 for density

E. A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications, shall be furnished to the Engineer certifying that the corrosion inhibiting grease complies with the requirements herein if sample and test results are not provided for the lot used.

CONSTRUCTION

Tieback anchors shall be installed in accordance with the manufacturer's recommendations. In case of a conflict between the manufacturer's recommendations and these special provisions, these special provisions shall prevail.

Water and grout from tieback anchor construction operations shall not be permitted to fall on public traffic, to flow across shoulders or lanes occupied by public traffic, or to flow into landscaping, gutters, or other drainage facilities. Excessive amounts of water shall not be used in any of the drilling and the tieback anchor installation procedures.

Tieback anchor steel shall be protected prior to completion of all grouting against rust, corrosion and physical damage in conformance with the provisions in Section 50, "Prestressing Concrete," of the Standard Specifications. In addition, there shall be no evidence of distress in the plastic sheathing or crushing of the cement grout within the pregrouted sheathing.

The tieback anchorage assembly shall be protected against rust, corrosion, and physical damage prior to completion of all grouting of enclosure or encasement in concrete.

The tieback anchor installation method selected by the Contractor shall be sufficient to achieve the loadings specified herein. Holes for tieback anchors shall be drilled in the foundation to a depth sufficient to provide the necessary bond length beyond the minimum unbonded length shown on the plans.

Tieback anchorage holes shall be drilled by either the rotary or rotary percussion drilling method.

The top level of tiebacks shall be installed in drilled holes advanced with drill casing. Drill casing shall be removed while filled with grout as the initial grout is being placed.

The diameter of the drilled hole shall be large enough to provide a minimum of 1 inch grout cover within the bonded length of the tendon. Centralizers shall be used within the bonded length of the tendon.

Pregrouting shall occur at least 48 hours before placing the tendon in the drilled hole.

Prior to installing each anchor assembly into the drilled hole, the anchor assembly shall be clean and free of oil, grease, or other extraneous substances, and any damage to the sheathing shall be repaired or replaced.

Grout for all stages of tieback construction shall be injected at the low end of the void being filled and shall be expelled at the high end until there is no evidence of entrapped air, water, or drilled grout. The grout shall be placed using grout tubes, unless another method is approved by the Engineer. The quantity of the grout and the grout pressures shall be recorded.

Voids in the foundation material may be encountered along the length of the drilled hole which may affect drilling and grouting. Measures such as the use of a "grout sock" may be necessary to avoid the excessive loss of grout into the voids encountered.

After placing initial grout, the anchor shall remain undisturbed until the grout has reached a strength sufficient to provide anchorage during testing operations.

Additional requirements for tiebacks with strand type tendons are as follows:

A. The Contractor shall have the option of using Alternative A or Alternative B as shown on the plans for tieback tendons.

B. For Alternative A and Alternative B, strand tendons shall be sheathed with corrugated sheathing. The individual strands within the bonded length shall be separated by spacers so that the entire surface of each strand is bonded to the grout. The maximum spacing of strand spacers shall be 5 feet. The strand spacers shall be plastic and of a construction and strength that will provide support for the individual strands during construction operations.

C. For Alternative A, the bonded length of the tendon shall be sheathed with corrugated sheathing and pregrouted full length of the corrugated sheathing before placing the tendon in the hole. The corrugated sheathing shall lap the smooth sheathing on the strands 24 inches. For this alternative, the initial grout in the drilled hole may be placed before or after insertion of the strand tendon.

D. For Alternative B, the tendon shall be sheathed full length with corrugated sheathing and pregrouted a minimum length of 24 inches before placing the tendon in the hole. After placing the tendon into the drilled hole and before placing initial grout in the drilled hole, the grout shall be injected at the low end of the corrugated sheathing and the grout shall be expelled at the high end until there is no evidence of entrapped air, water, or diluted grout.

E. For Alternative A and Alternative B, anchors in holes of 6 inch diameter and smaller shall be initially grouted to within 6 inches of the end of the steel tube. Grout in the unbonded length shall not be placed under pressure. After placing the initial grout, the anchor shall remain undisturbed until the grout has reached a strength sufficient to provide anchorage during testing operations.

F. For Alternative A and Alternative B, anchors in holes of greater than 6 inch diameter shall be initially grouted within the bond length. After placing the initial grout, the anchor shall remain undisturbed until the grout has reached a strength sufficient to provide anchorage during testing operations.

Testing

All tiebacks shall be load tested by a proof test. Load testing shall be performed against a temporary waler which bears against existing soil or waters or against the permanent concrete waler. The permanent waler shall either attain a compressive strength of 3250 psi or cure for 7 days before loading. Bearing pads shall be kept a minimum of 12 inches away from the edges of the drilled hole. Temporary wales or waters shall remain the property of the Contractor. The magnitude of applied test loads shall be determined with a calibrated pressure gauge or a load cell. Movements of the end of the tieback, relative to an independent fixed reference point, shall be measured and recorded to the nearest 0.025 mm at each load increment during the load tests. The Contractor shall perform the measuring and recording and shall furnish the Engineer copies of the recorded measurements.

The proof test shall be conducted by measuring the test load applied to the tieback and the tieback end movement during incremental loading and unloading of the anchor in accordance with the loading schedule. The test load shall be held constant for 10 minutes. During the test load hold, the movement of the end of the tendon shall be measured at 1, 2, 3, 4, 5, 6, and 10 minutes. If the total movement between one minute and 10 minutes exceeds one mm, the test load shall be held for an additional 50 minutes. Total movement shall be measured at 15, 20, 25, 30, 45, and 60 minutes. If the test load is held for 60 minutes, a creep curve showing the creep movement between one minute and 60 minutes shall be plotted as a function of the logarithm of time.

LOADING SCHEDULE		
		PROOF TEST
		AL
		0.25T
		0.50T
		0.75T
		1.00T
		1.25T
		LOCK OFF LOADS)
		AL
T = Design force for the anchor shown on the plans		
AL = Alignment load		

For proof tests, each increment of load shall be applied in less than one minute and held for at least one minute but not more than 2 minutes or as specified above. The observation period for the load held shall start when the pump begins to apply the last increment of load.

The jacking equipment, including the tendon movement measuring system, shall be stable during all phases of the tieback loading operations.

All tiebacks shall be proof tested. If 1.5 times the design force cannot be obtained, the tieback shall be redrilled and replaced. Tieback anchors shall not be retested, unless the tieback bond length is post-grouted after the unacceptable test.

A performance tested tieback is acceptable if:

A. The measured elastic movement exceeds 0.80 of the theoretical elongation of the unbonded length plus the jacking length at the maximum test load; and

B. The creep movement between one and 10 minutes is less than 1/32 inch.

A proof tested tieback is acceptable if:

A. The pattern of movements is similar to that of adjacent performance tested tiebacks; and

B. The creep movement between one and 10 minutes is less than 1/32 inch.

Proof tested tiebacks which fail to meet acceptance criterion B will be acceptable if the maximum load is held for 60 minutes and the creep curve plotted from the movement data indicates a creep rate of less than 1/16 inch for the last log cycle of time.

Lock-off

After successful testing of the tiebacks, the tiebacks shall be tensioned against the structure and locked off at a load equal to 0.2 T - T+100 kips. The lock-off force is the load on the jacks which is maintained while the anchor head or anchor nuts on the tieback are permanently set. Immediately after lock-off, a 6 lift-off test shall be performed to demonstrate that the specified lock-off force was obtained. Adjustments in the shim thickness shall be made if required to maintain the specified lock-off force.

For strand tendons, the permanent wedges shall be fully set in the anchor head while the tendon is stressed to the test load of 1.5 T , and then locked off at the lock-off force by removal of the shims or other appropriate means.

Grouting to the level of secondary grouting to the dimensions shown on the plans shall be completed only after successful testing and lock-off has been completed. At least 24 hours after the secondary grout has set, the remaining void in the steel tube and bearing plate shall be filled with grout. Grout shall be injected at the low end and expelled at the high end until there is no evidence of entrapped air or water. A minimum grout head of 24 inches shall be maintained until the grout has set.

The tieback anchor head or anchor nuts shall be enclosed with a grouted anchorage enclosure device. After grouting the steel tube, the bearing plate surface shall be cleaned, welded plated, and the anchorage enclosure bolted in place. After bolting the anchorage enclosure in place the void in the anchorage enclosure shall be filled with grout by injecting grout at the low end of the void and venting at the high end. Any holes in the top of the anchorage enclosure used for grout placement shall be cleaned and sealed with sealant. Sealant shall be a non-sag polysulfide or polyurethane sealing compound conforming to the provisions in Federal Specification TT-S-230, Type II.

Duncan Engineering Inc.
PO Box 1348
Mendocino, CA 95460
707-964-6570 phone
707-964-0958 fax

SUBMITTAL DATE	REVISIONS	BY

STRUCTURAL ENGINEER'S SEAL

REGISTERED PROFESSIONAL ENGINEER
No. S4300
Exp. 12/31/17
STRUCTURAL
STATE OF CALIFORNIA

PROJECT NAME
TIEBACK NOTES

PROJECT ADDRESS
LEMELY RESIDENCE STABILIZATION
11050 LANSING STREET.
MENDOCINO, CA

DATE	6-7-17
SCALE	VARIES
DRAWN	DRD
JOB	17-116
FILE	17-116 S4
UPDATED	

SHEET
S4
OF SHEETS

COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES
860 NORTH BUSH STREET · UKIAH · CALIFORNIA · 95482
120 WEST FIR STREET · FT. BRAGG · CALIFORNIA · 95437

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pbs@co.mendocino.ca.us
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COASTAL DEVELOPMENT PERMIT
AUTHORIZATION FOR EMERGENCY WORK
CASE FILE EM #2017-0004

OWNER:	Nit Lemley 11050 Lansing Street Mendocino, CA 95460
APPLICANT:	Brent Anderson, General Contractor P.O. Box 53 Fort Bragg, CA 95437
SITE ADDRESS/APN:	The site is located on the west side of Lansing Street approximately 100 feet north of its intersection with Heeser Drive in the Town of Mendocino, at 11050 Lansing Street (APN: 119-060-26). All work would take place on the subject parcel.

NATURE OF EMERGENCY: Stabilization of house foundation weakened by the subsidence of land sliding into the ocean, through a series of caissons and grade beams installed between house and slide. Failure to install the tie back system (described below) will result in structures collapsing and eventually sliding into the ocean.

CAUSE OF EMERGENCY: Imminent hazard to subject residence due to erosion and landslide failure due to weak nature of Franciscan rock on the property, decreased stability of the bluff due to wave erosion at the toe of cliff, and introduction of water into the landslide area from rainfall and groundwater; all hazards exacerbated by winter 2016-2017 storms.

REMEDIAL ACTION: Install 16, 50–foot deep caissons, 140-foot long grade beam and tie back cables between the house and slide to stabilize the house foundation per attached plans. Grading for drilling equipment access will be necessary. All cuts will be returned to existing levels once work is completed. Decorative landscaping will be removed for construction and then re-planted with drought tolerant native species that will not contribute to bluff erosion or instability of the bluff.

CIRCUMSTANCES TO JUSTIFY EMERGENCY: There have been two geotechnical investigations for the property: 1) A 2006 investigation *Geotechnical Investigation Proposed Landslide Mitigation Lemley Property 11050 Lansing Street, Mendocino, California* (BACE Geotechnical, 2006) and 2) an update to the 2006 investigation titled *Geotechnical Investigation Report Updated, Landslide Affecting 11050 Lansing Street, Mendocino, California* (BAI, 2017). The circumstances to justify the emergency are detailed in the two reports.

The 2006 report concluded that "*the erosion and landslide failure is due to the inherent weak nature of the Franciscan rock at the site, and decreased stability of the bluff due primarily to ocean wave erosion at the toe. Introduction of water into the landslide area from rainfall and groundwater seepage from inland areas is also a factor in the loss of stability* (BACE Geotechnical, 2006)." The 2006 report stated "***The landslide poses an imminent hazard to the subject residence, which should be mitigated immediately***. *The backyard area of the property is already distressed, but not as yet the drilled-pier supported house itself. From an engineering geologic and geotechnical engineering standpoint, we conclude that the site is suitable for implementation of a stabilization plan. BACE's recommendations are presented in Section 6.0 of this report for protection of the residence from future effects of erosion and the associated, progressive, landsliding of the unstable terrace deposit sands and underlying weathered shale bedrock exposed on the bluff face (BACE Geotechnical, 2006)." BACE's 2006 report also states that "**The recommended plan is not intended to stabilize the erosion and surficial sliding that is occurring on the bluff face in the area downslope from the residence**. Instead, the plan is designed to separate and stabilize the upper area at the headscarp of the bluff, which is visible in the terrace deposits in the*

backyard of the property, from the unstable downslope area of the bluff, using a subsurface geotechnical reinforcement technique that includes deep, tied-back reinforced concrete drilled piers (BACE Geotechnical 2006)."

The 2017 updated geotechnical report provided recommendations to stabilize the house and a small portion of the yard and noted that the remaining portions of the property to the south of the retaining structure would still be affected by the landslide (BAI 2017). The updated report also stated *"Our previous report recommendations [BACE Geotechnical 2006] for grading, foundations, and drainage remain valid ..."*

A Biological Scoping Survey (Wynn Coastal Planning, 2017) was conducted for the property and identified no special status plant communities, wetland, or riparian areas on the subject parcel or within 100 feet of the proposed development.

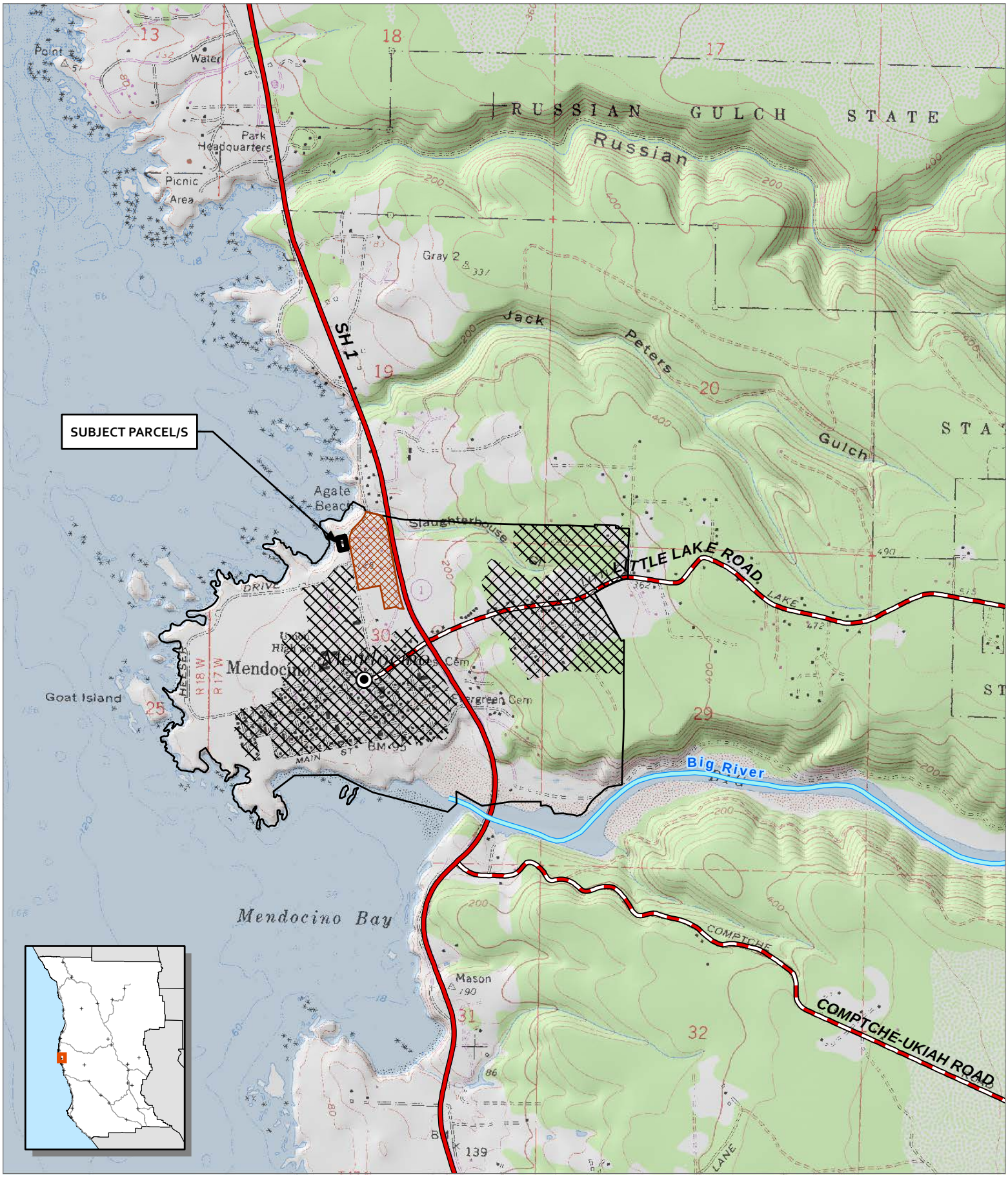
This emergency permit is effective immediately and shall become null and void at the end of sixty (60) days. Prior to expiration of this Emergency Permit, the applicant shall submit a standard Coastal Development Permit application for the work authorized by this permit.

RECOMMENDED BY:

BILL KINSER, SENIOR PLANNER — DATE: 9-12-17

APPROVED BY:

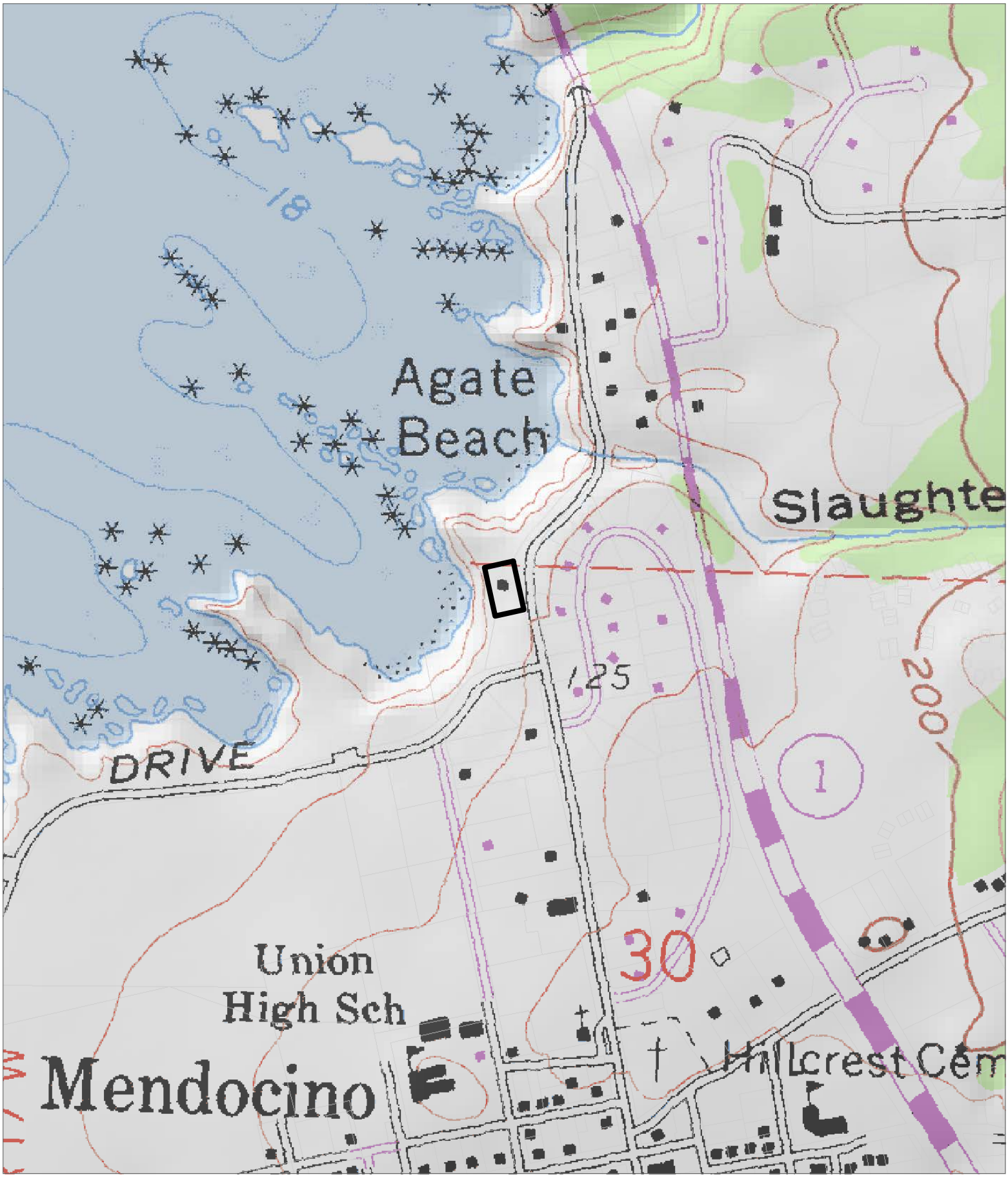
IGNACIO GONZALEZ, INTERIM DIRECTOR — DATE: 9.12.17



CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

0 950 1,900 Feet
0 0.175 0.35 Miles
1:24,000

LOCATION MAP



CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

0 250 500 Feet
0 0.0425 0.085 Miles
N W E S
1:6,000

TOPOGRAPHIC MAP
CONTOUR INTERVAL IS 40 FEET

Brunsing Associates, Inc.

March 31, 2017

11573.05

Nit Lemley
Post Office Box 622
Mendocino, CA 95460
nitlemley@yahoo.com

RE: Geotechnical Investigation Report Update, Landslide Affecting 11050 Lansing Street, Mendocino, California

Brunsing Associates, Inc. (BAI) is pleased to present this update to our previous geotechnical investigation report for 11050 Lansing Street, Mendocino, California. Our previous report was dated August 1, 2006. We also reviewed data (geologic map, cross sections, boring logs and letters) produced by Cotton Shires Associates, Inc. dated 2007 and 2008.

Field Reconnaissance

BAI's principal engineering geologist, Erik Olsborg met with your real estate agent, Mr. Lou Rosenberger and Mr. Michael Dell'Ara and observed the site on March 3, 2017. Our geologist also photographed the landslide area during his visit.

Conclusions

The recommendations provided below are to stabilize the house and a small portion of the yard. The remaining portions of the property to the south of the retaining structure will still be affected by the landslide.

Our previous report recommendations for grading, foundations and drainage remain valid and suitable for design, with the following updated discussions and recommendations.

Slope Stability Analysis

We performed a bluff stability analysis that corresponded, as a minimum, to the guidelines by Dr. Mark J. Johnsson, Staff Geologist, California Coastal Commission, "Establishing Development Setbacks from Coastal Bluffs", Proceedings, California and the World Ocean '02. Dr. Johnsson recommends a factor of safety greater than or equal to 1.5 for static conditions and 1.1 for seismic conditions and a horizontal seismic coefficient of 0.15.

Geologic cross section of landslide, shown on Plate 14 of our previous 2006 report, was created using contours from a site plan by Diamond Phillips Architects, dated April 2002, and field measurements and data from our 2006 subsurface exploration. The location of the cross-section used for our stability analyses is shown on Plate 2 of our previous report.

From our borings, four soil and rock units, with different density and strength parameters, were identified within the bluff for our stability analyses. Unit "1" is the upper silty sand soils (terrace

deposits) that are loose to medium dense. Unit "2" is the upper deeply weathered bedrock. Unit "3" is the deeper, little weathered bedrock. Unit "4" is the existing landslide material. Table 1 summarizes soil and rock parameters used.

Table 2: Soil and Rock Parameters

Unit	Wet Density (pcf)	Cohesion (psf)	Friction Angle (ϕ)
1	120	650	32
2	135	1100	35
3	135	1400	35
4	125	800	30

The above assigned strengths were determined from blow counts and strength test results obtained from this site and adjacent sites, as well as from back-analysis of the slope stability calculations. The stability of the slope was analyzed using the computer program SLIDE 5.0 version 5.044 by Rocscience, Inc. The results of our stability analyses are presented in Appendix A.

RECOMMENDATIONS

Drilled Piers

To provide lateral support and protection from the landslide a row of drilled cast-in-place concrete (CIPC) piers connected at the top by a grade beam and tie-backs should be constructed on the bluff side (west and southwest) of the house, as shown on Plate 1. The grade beam should be at least 3 feet wide and 6 feet in depth. Drilled piers should penetrate through the overlying weak terrace deposits and landslide debris and penetrate the underlying moderately weathered sandstone. Drilled piers should be at least 36 inches in diameter and at least 50 feet deep below the existing ground surface; a structural engineer should design the piers based on our minimum requirements and additional lengths or size for the structure. The 4 piers at the southeast end of the structure can be 40 feet in depth instead of 50 feet.

Spacing for the piers should be no closer than 3 pier diameters, center to center. Support for the piers may be gained from skin friction resistance within supporting bedrock equal to 800 psf of pier surface area for dead plus long-term live downward loads. For the total downward load design, including wind or seismic forces, increase downward capacity by one-third. Uplift frictional capacity for piers should be limited to 2/3 of the allowable downward capacity. Both downward and uplift frictional capacity should be neglected in the terrace deposits.

When final pier depths have been achieved, as verified by BAI, the bottoms of the pier holes should be thoroughly cleaned of loose material. BAI should observe the drilling and final clean out of the pier holes, prior to the placement of reinforcing steel and/or concrete.

If groundwater is encountered during construction, the pier holes should be dewatered prior to placement of reinforcing steel and concrete. Alternatively, if more than six inches of ground water has entered the pier hole, concrete can be tremied into place with and adequate head to

displace water or slurry. Concrete should not be placed by freefall in such a manner as to hit the sidewalls of the excavation.

Caving was encountered in our test borings B-3 (south of the house). If piers are drilled during the wet/rainy season, severe caving could occur. The driller should be prepared to case pier holes where caving occurs. If used, the casing would need to be withdrawn from the pier holes as the pier concrete is placed. Practical drilling refusal was encountered at 45.5 feet within test boring B-4. Difficult drilling conditions could be encountered within hard bedrock. The drilling contractor should be prepared to use rock-coring equipment.

As the landslide continues to move the space between the drilled piers will become exposed. This exposed soil between the drilled piers will need to be shotcreted or provided with some other barrier, to keep the soil between the piers from eroding.

The LPILE analysis results, including deflection, shear and moment diagrams, are presented in Appendix B.

The previously drilled borings by Cotton, Shires & Associates, as shown on Plate 1, should be drilled out to a larger diameter (up to 30 inches) and deeper that previously drilled (38 instead of 35 feet). These drilled out borings should be filled with concrete and reinforcing steel; a structural engineer should design the reinforcing.

Tie-Back Anchors

Tiebacks are in-situ, laterally installed (directionally-drilled) reinforcing elements embedded with grout in boreholes. Tiebacks consist of high-strength steel cables or rods that are post-tensioned onto steel base plates, placed into the grade beam system, after installation of the cables or rods within a sleeve in the laterally drilled borehole.

For preliminary design one row of tiebacks is recommended. As the landslide continues to move, another row of tiebacks maybe needed at a low depth. The center-to-center spacing for the tiebacks is 7.5 feet, with each tieback inclined at about 15 degrees downward (from horizontal). The tiebacks should be at least 70 feet long (total length) with at least 35 feet of unbonded length, and a bore diameter of at least 8 inches. The tiebacks should be designed to resist a minimum load of at-least 100 kips. Tiebacks can be attached to the grade beam or the piers. Tieback testing should conform to the requirements of the structural engineer and all tie-backs should be proof tested to 150 percent of their design load with at least one performance tested to 150 percent of design load.

Design provisions for corrosion protection of the tiebacks is required. For preliminary design of the tiebacks by the structural engineer, the following average, ultimate (no geotechnical factor of safety) bedrock parameter valves will be subject to further confirmation during final design:

Average friction resistance of sandstone/shale, "f" = 4,000 psf
Average unit weight of sandstone/shale, "γ" 130 pcf

Seismic Design Criteria

The structures should be designed and constructed to resist the effects of strong ground shaking (on the order of Modified Mercalli Intensity IX) in accordance with current building codes. The California Building Code (CBC) 2016 edition indicates that the site classification for the property is Site Class C. CBC indicates that the following seismic design parameters are appropriate for the site:

Table 1: Seismic Design Parameters

Site Class	=	D
Mapped Spectral Response Acceleration at 0.2 sec	S_S =	1.645g
Mapped Spectral Response Acceleration at 1.0 sec	S_1 =	0.757g
Modified Spectral Response Acceleration at 0.2 sec	S_{MS} =	1.645g
Modified Spectral Response Acceleration at 1.0 sec	S_{M1} =	0.984g
Design Spectral Response Acceleration at 0.2 sec	S_{DS} =	1.097g
Design Spectral Response Acceleration at 1.0 sec	S_{D1} =	0.656g
Site Coefficient	F_a =	1.0
Site Coefficient	F_v =	1.3
Seismic Design Category	=	E

Additional Services

Prior to construction, BAI should review the final grading and foundation plans, and soil related specifications for conformance with our recommendations.

During construction, BAI should be retained to provide periodic observations, together with field and laboratory testing, during site preparation, placement and compaction of fills, and foundation construction. Foundation excavations should be reviewed by BAI while the excavation operations are being performed.

Respectfully submitted,

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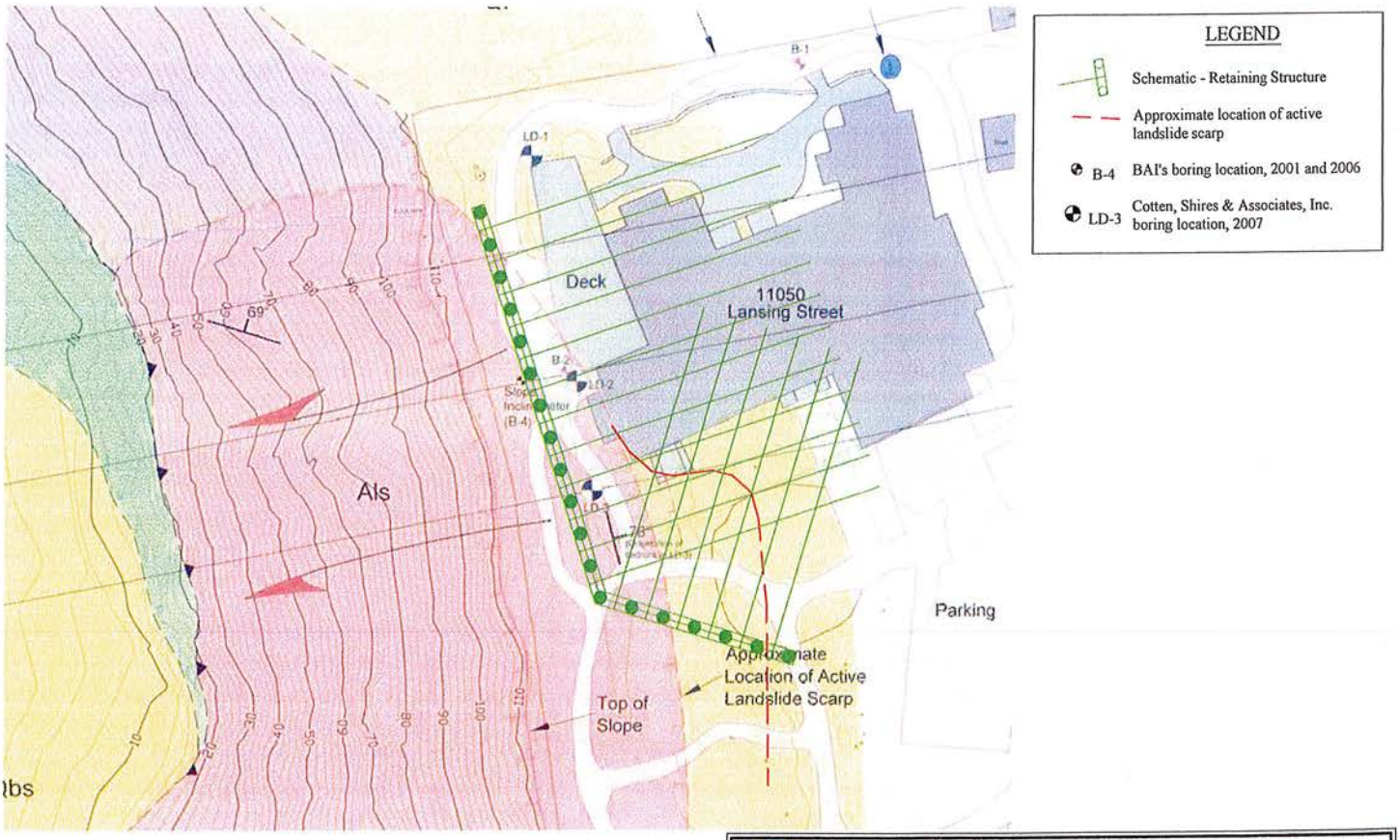
Geotechnical Engineer – 2894

KAC/EEO/kac
Attachments 9 Plates



REFERENCE:
Base map prepare by Cotton, Shires & Associates, Inc., Plate No. 1, dated December 2007

NORTH

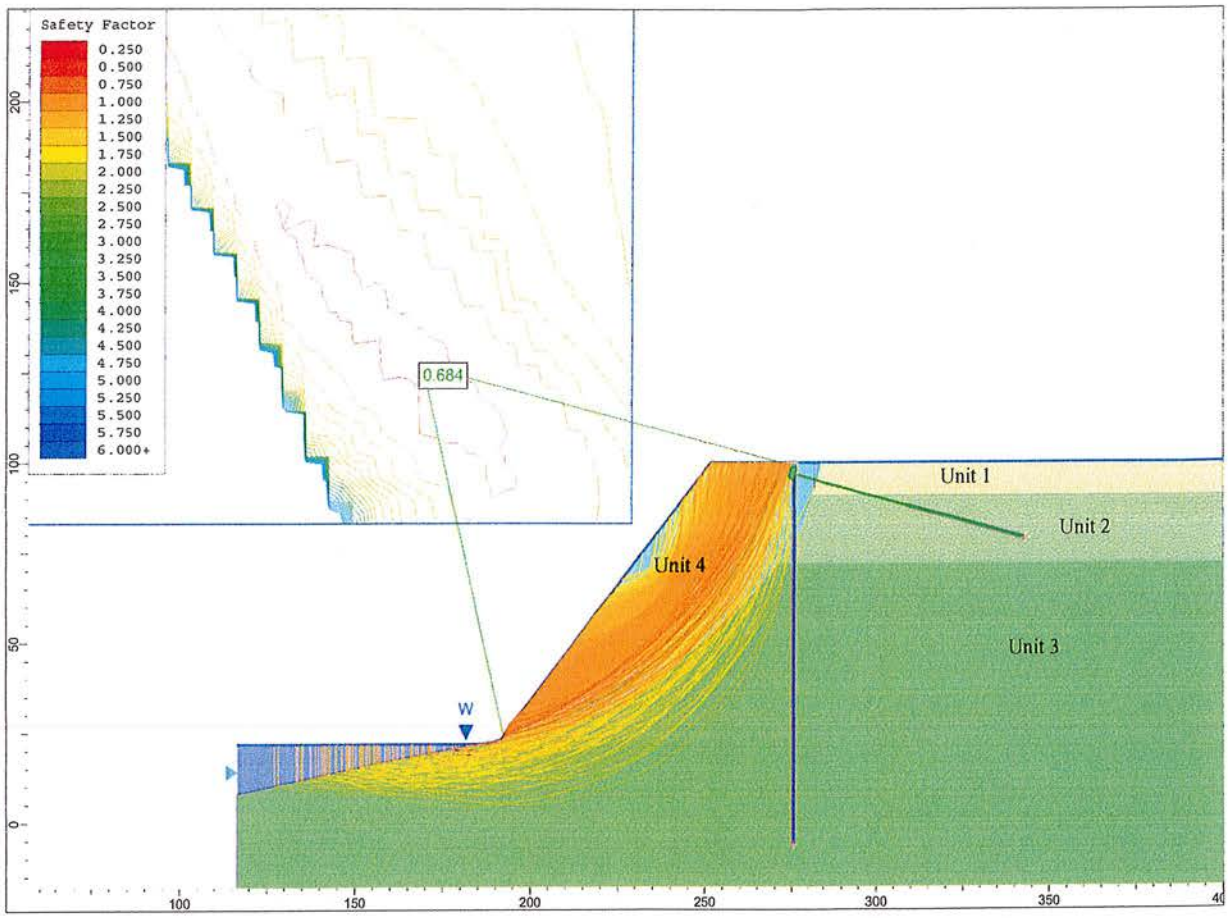
APPROXIMATE SCALE (FEET)
0 10 20 40

Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 528-6108

Job No.: 11573.05
Appr.: EEO
Date: 03/31/17

SITE MAP
LEMLEY RESIDENCE
11050 Lansing Street
Mendocino, California

PLATE 1



Notes:

1. Factor of Safety is greater than 1.5 beyond retaining structure
2. Static Condition

APPROXIMATE SCALE (FEET)

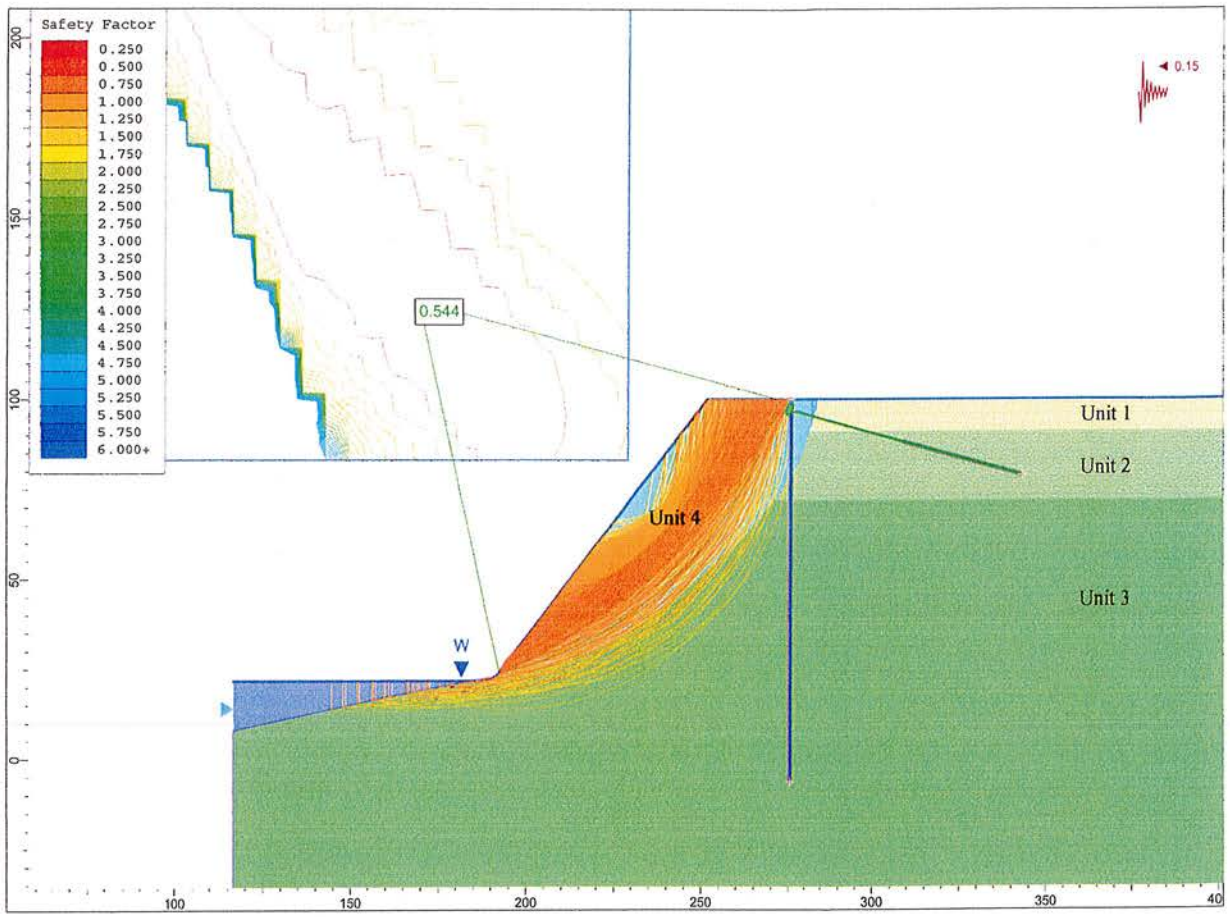
0 20 40 80

Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 528-6108

Job No.: 11573.05
Appr.: KAC
Date: 03/31/17

STATIC SLOPE STABILITY CROSS SECTION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
A1



Notes:

1. Factor of Safety is greater than 1.1 beyond retaining structure
2. Horizontal Seismic Coefficient 0.15

APPROXIMATE SCALE (FEET)

0 20 40 80

Brunsing Associates, Inc.
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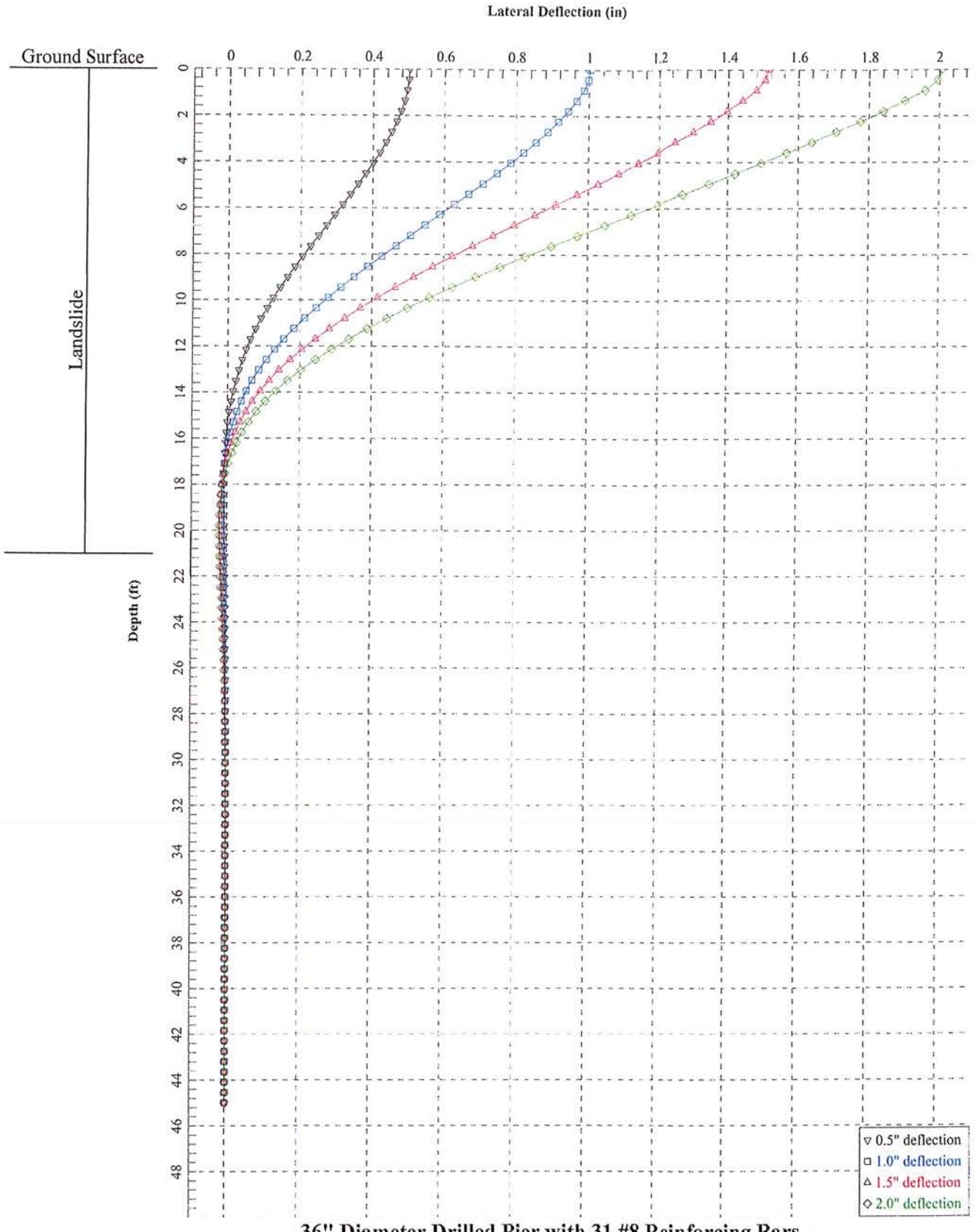
Date: 03/31/17

SEISMIC SLOPE STABILITY CROSS SECTION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
A2



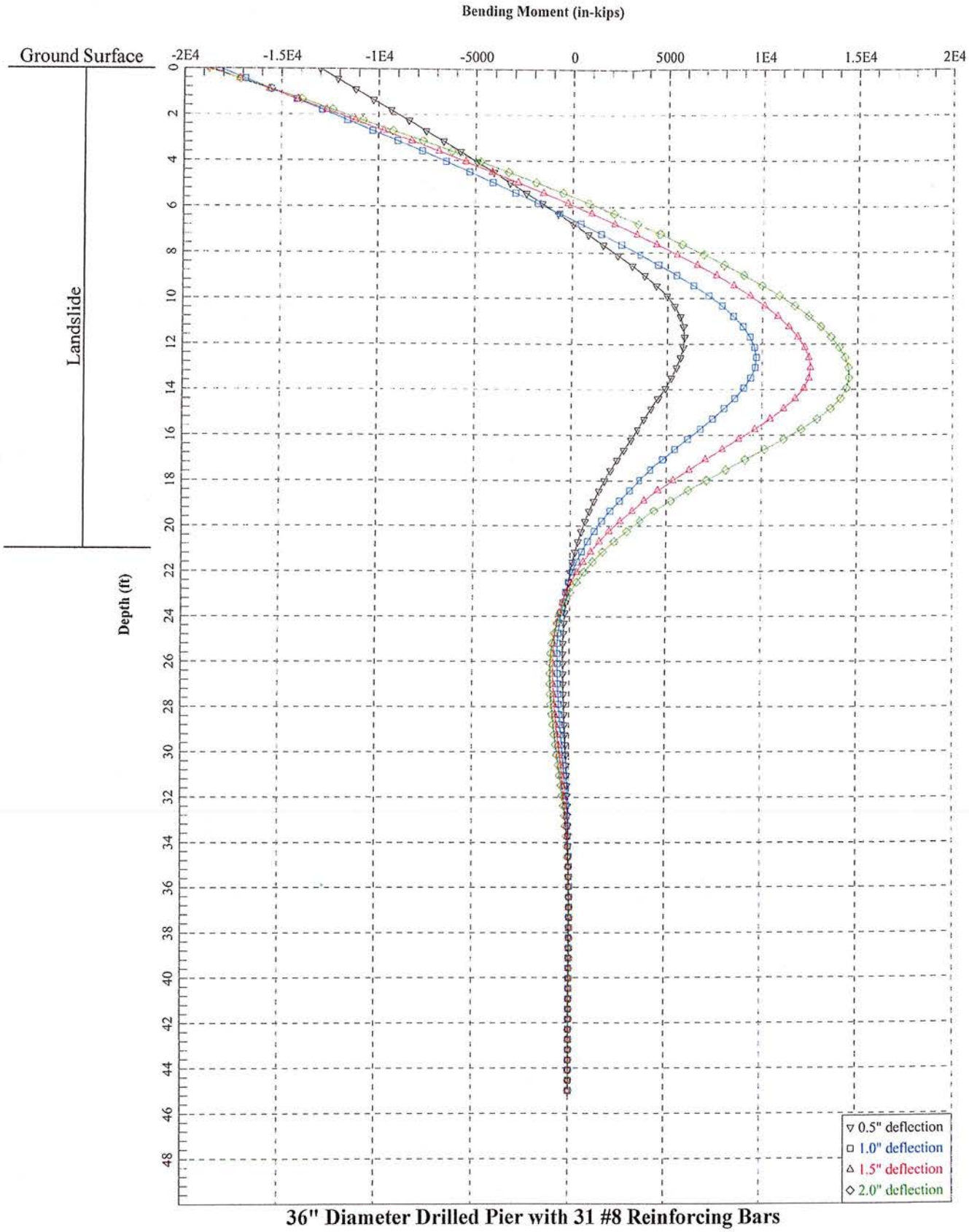
36" Diameter Drilled Pier with 31 #8 Reinforcing Bars

Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 528-6108

Job No.: 11573.05
Appr.: KAC
Date: 03/31/17

LPILE ANALYSIS
FIXED HEAD CONDITION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
B1



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Date: 03/31/17

LPILE ANALYSIS
FIXED HEAD CONDITION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
B2

L:\Geotech Projects\11573.05 Lemley Bluff Repair Plans\Graphics\11573.05_B1 Lemley LPILE Fixed.svg
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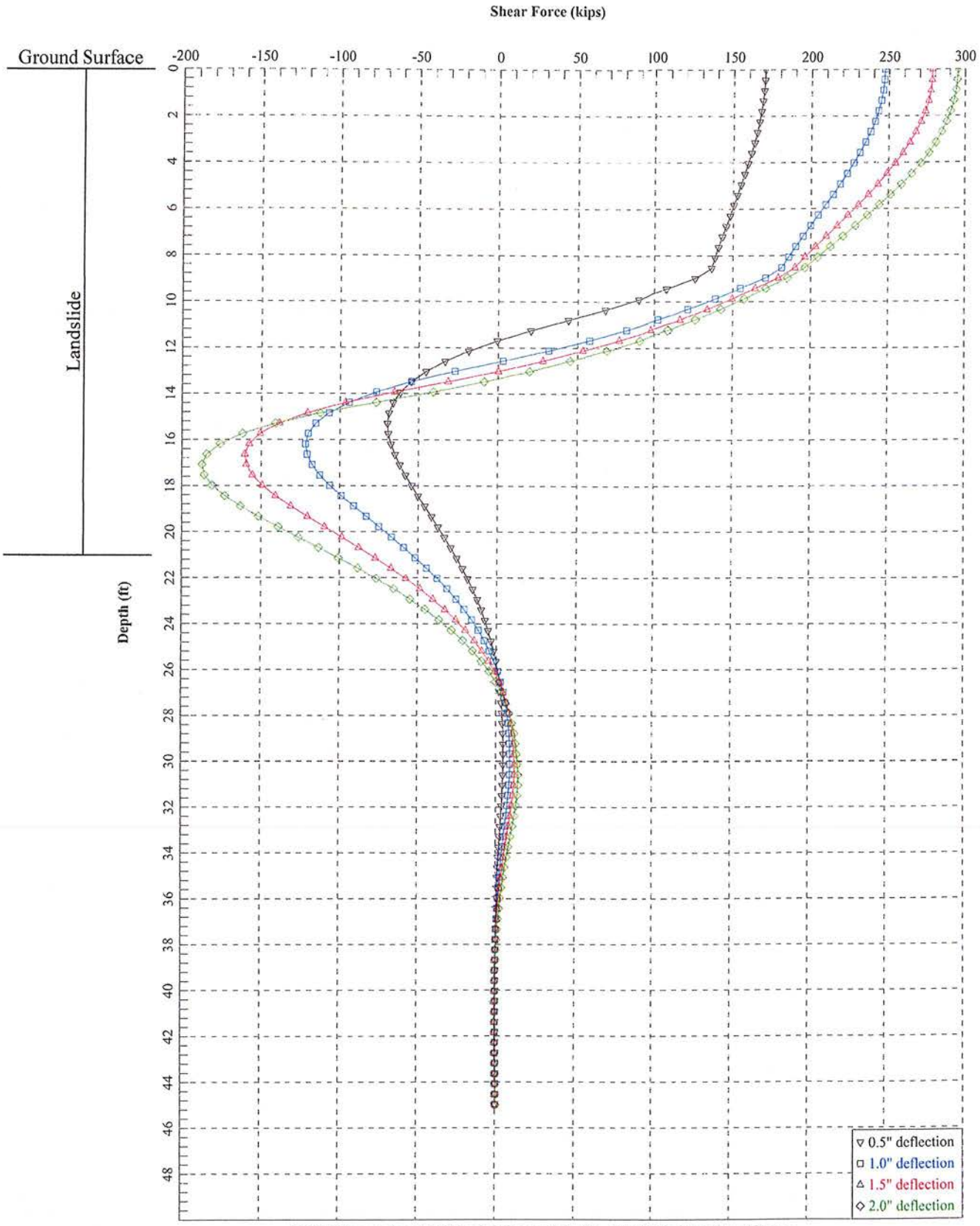

36" Diameter Drilled Pier with 31 #8 Reinforcing Bars

Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 528-6108

Job No.: 11573.05
Appr.: KAC
Date: 03/31/17

LPILE ANALYSIS
FIXED HEAD CONDITION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
B3

I:\Geotech Projects\11573.05 Lemley Bluff Repair Plans\Graphics\11573.05_B1 Lemley LPILE Fixed.dwg
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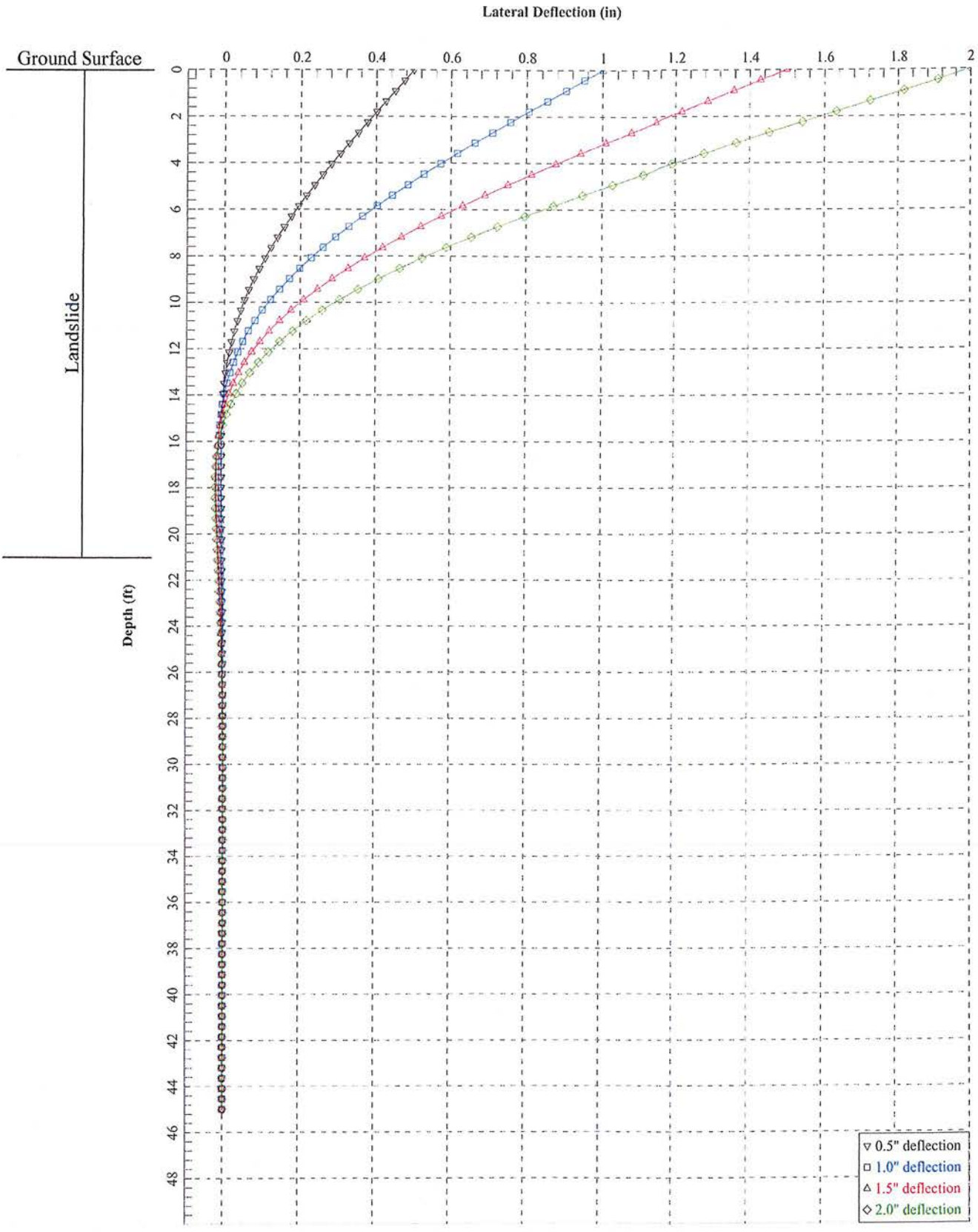


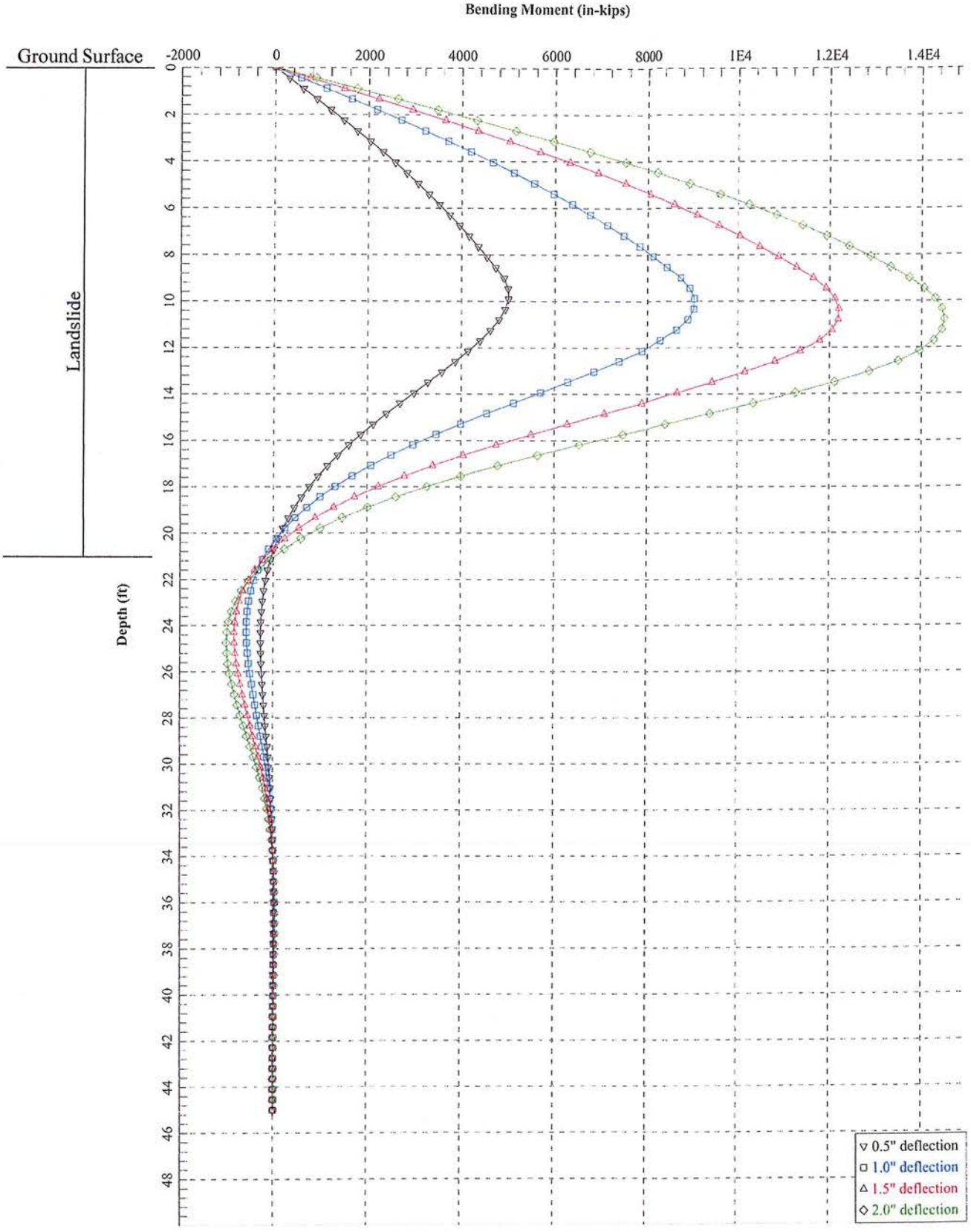
36" Diameter Drilled Pier with 31 #8 Reinforcing Bars

Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 11573.05
Appr.: KAC
Date: 03/31/17

LPILE ANALYSIS
FREE HEAD CONDITION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
B4



36" Diameter Drilled Pier with 31 #8 Reinforcing Bars

Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 11573.05
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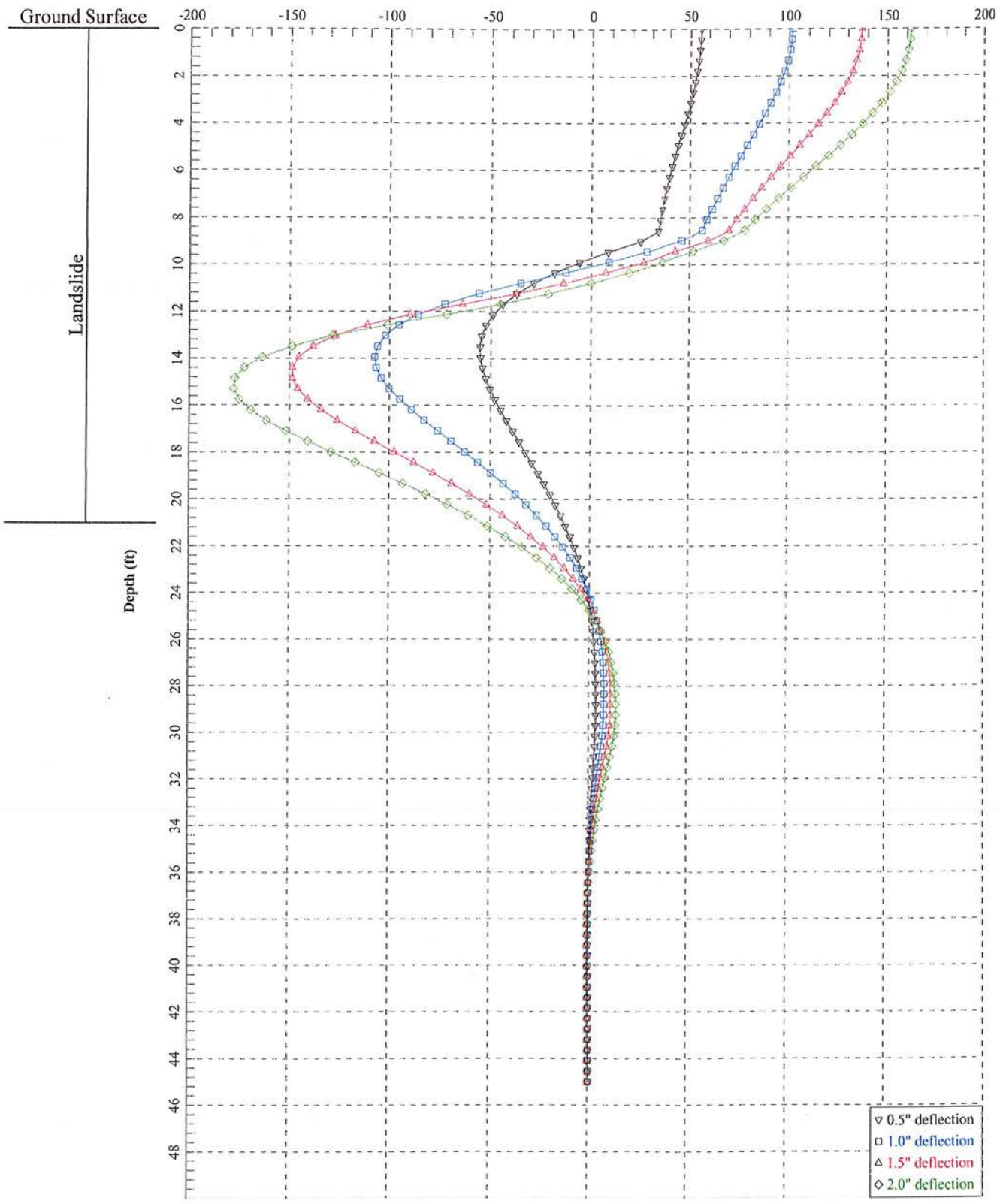
Date: 03/31/17

LPILE ANALYSIS
FREE HEAD CONDITION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
B5



36" Diameter Drilled Pier with 31 #8 Reinforcing Bars

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Santa Rosa, California 95403
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Job No.: 11573.05
Appr.: KAC
Date: 03/31/17

LPILE ANALYSIS
FREE HEAD CONDITION
LEMLEY RESIDENCE BLUFF STABILIZATION
11050 Lansing Street
Mendocino, California

PLATE
B6

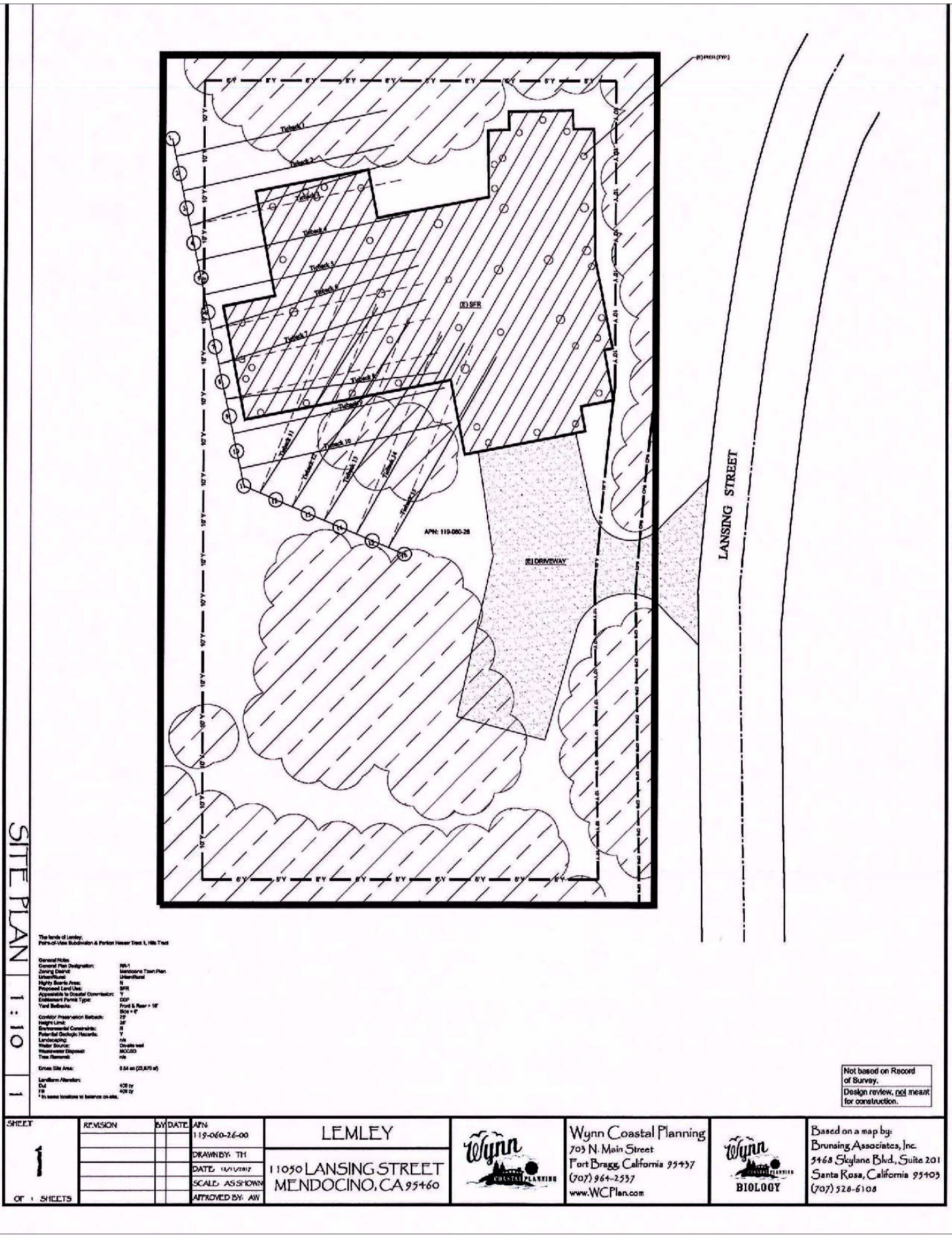
CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

Public Roads

0 25 50 Feet
0 0.00425 0.0085 Miles
N W E S
1:600

AERIAL IMAGERY

THIS MAP AND DATA ARE PROVIDED WITHOUT WARRANTY OF ANY KIND.
DO NOT USE THIS MAP TO DETERMINE LEGAL PROPERTY BOUNDARIES



SITE PLAN 1 : 10 1

SHEET 1 OF 1 SHEETS	REVISION	BY	DATE	APN: 119-060-26-00 DRAWN BY: TH DATE: 10/17/2017 SCALE: AS SHOWN APPROVED BY: AW	LEMLEY 11050 LANSING STREET MENDOCINO, CA 95460	Wynn Coastal Planning	703 N. Main Street Fort Bragg, California 95437 (707) 964-2537 www.WCPlan.com	BIOLOGY	Based on a map by: Brunsing Associates, Inc. 5468 Skylane Blvd., Suite 201 Santa Rosa, California 95403 (707) 528-6108

CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

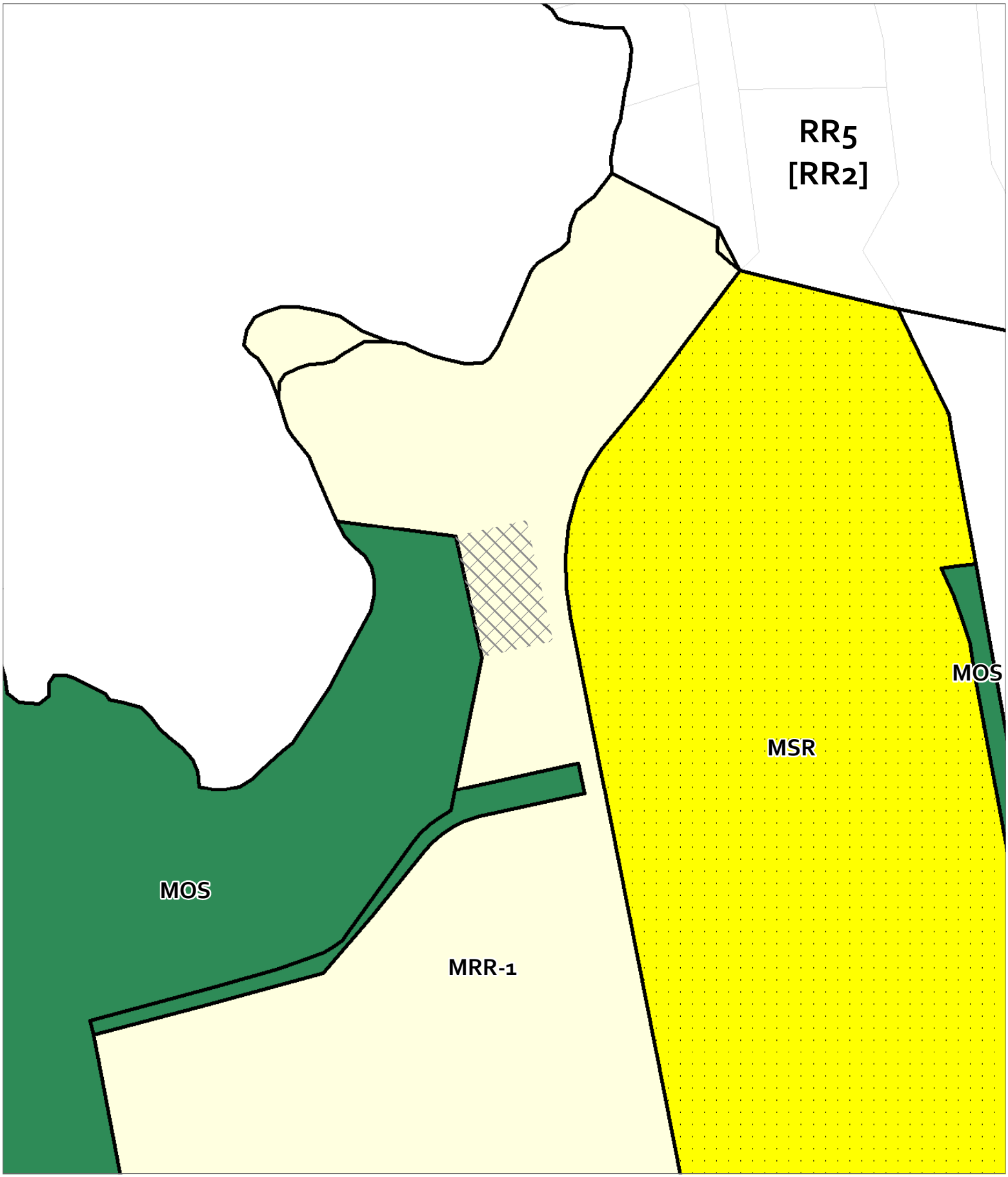
NO SCALE

SITE PLAN

CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

NO SCALE

EROSION CONTROL PLAN

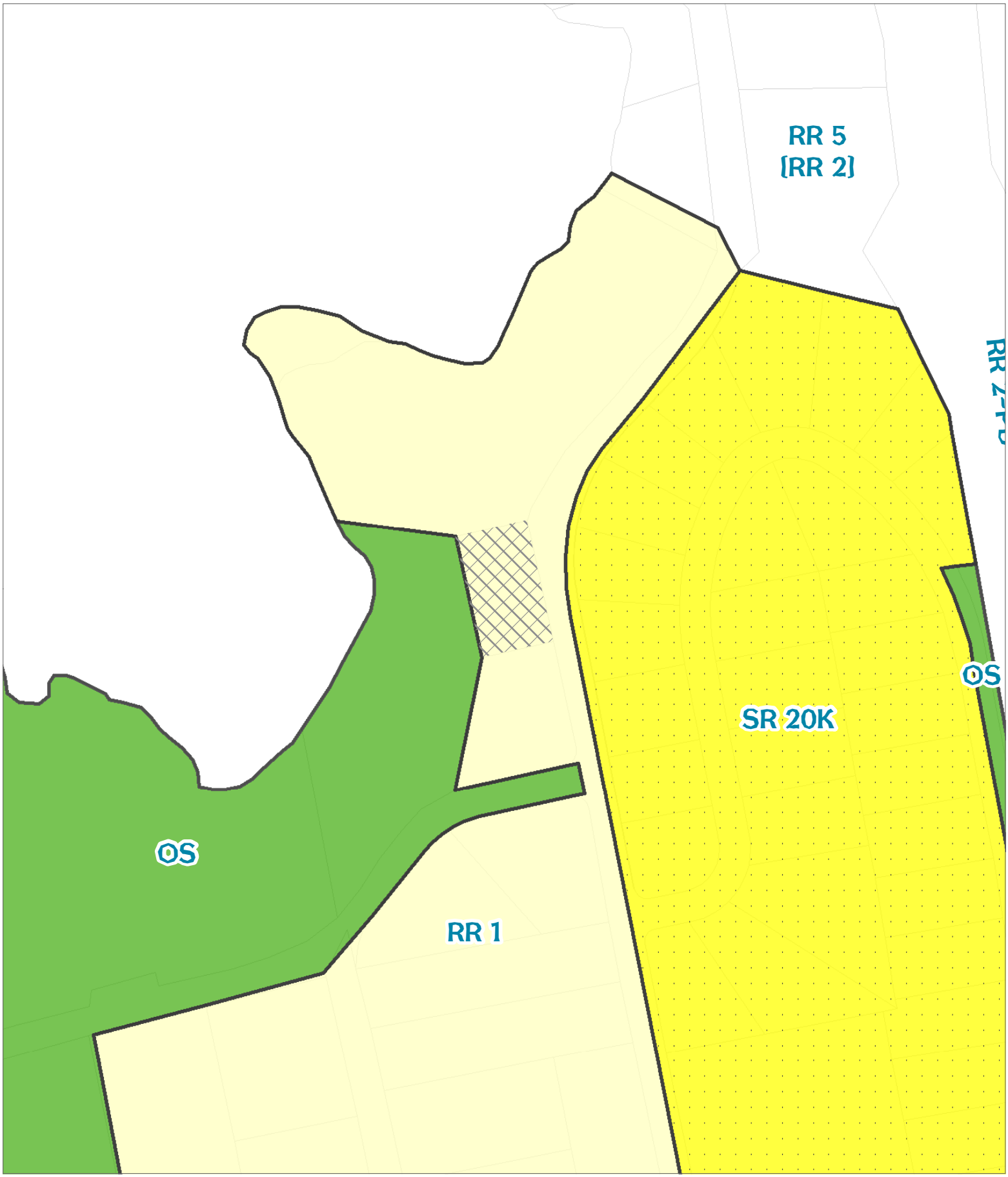


CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

Zoning Districts

0 100 200 Feet
0 0.015 0.03 Miles
N W E S
1:2,400

ZONING DISPLAY MAP

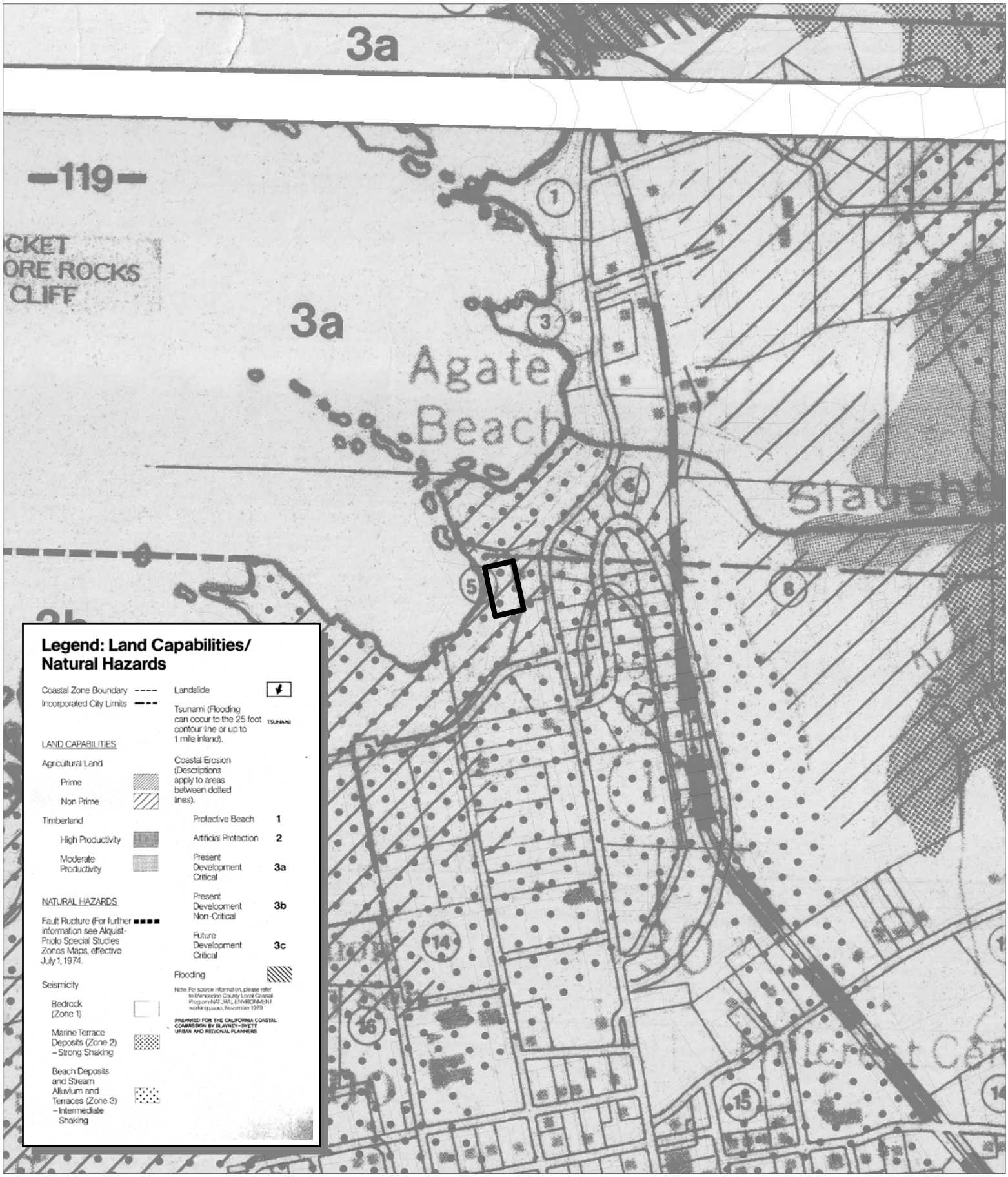


CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

General Plan Classes

0 100 200 Feet
0 0.015 0.03 Miles
N W E S
1:2,400

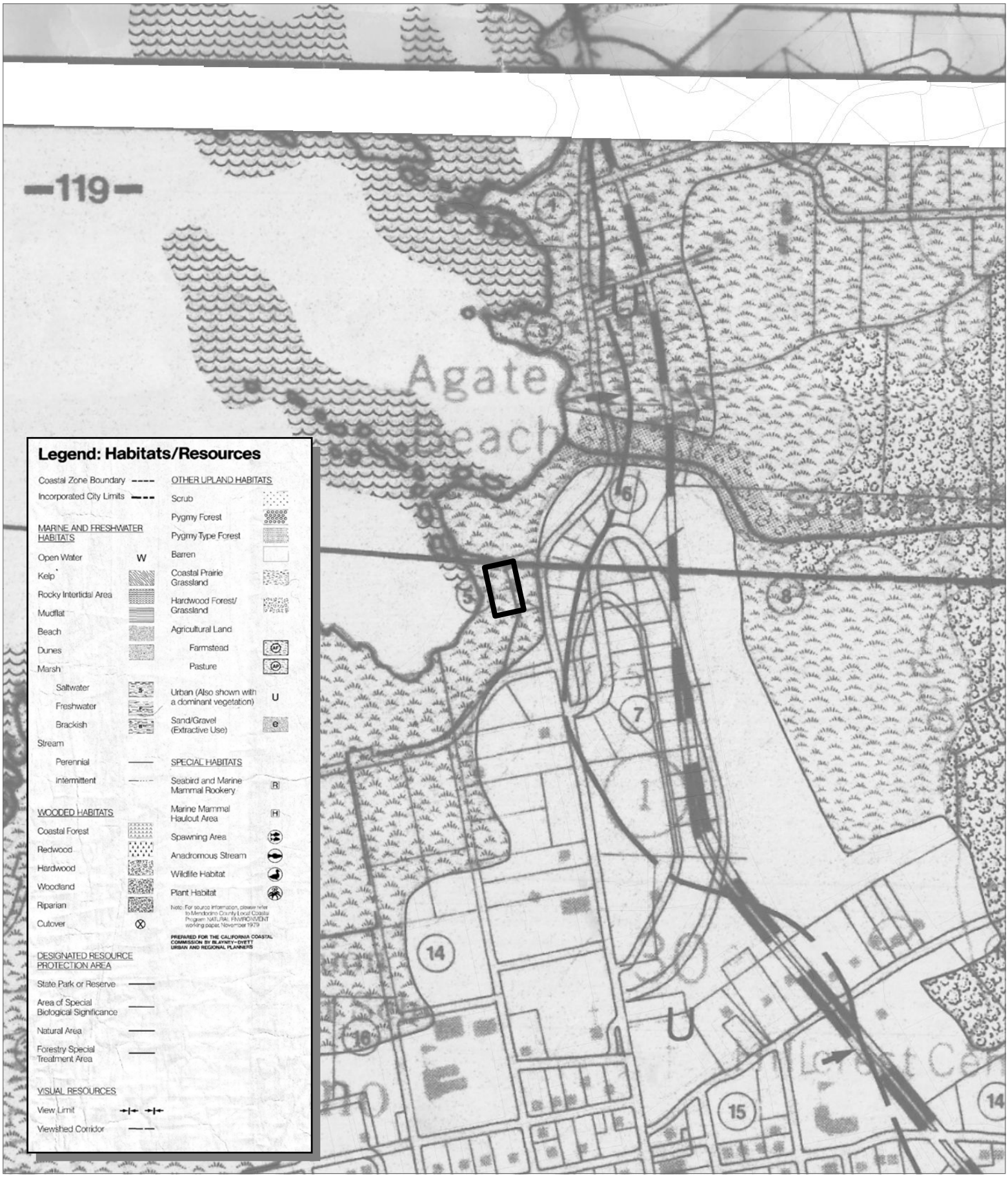
GENERAL PLAN CLASSIFICATIONS



CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

0 250 500 Feet
0 0.0425 0.085 Miles
N W E S
1:6,000

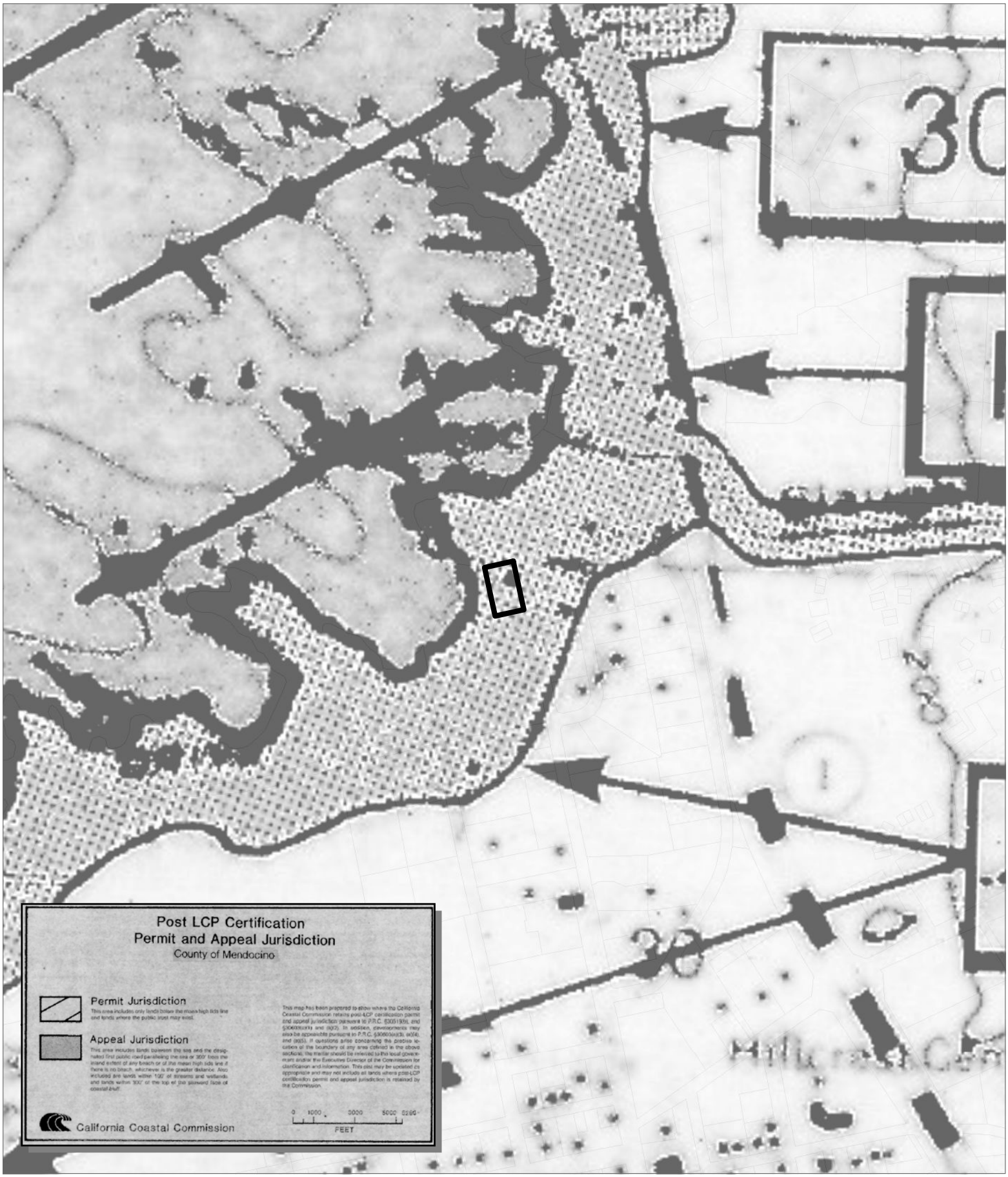
LCP LAND CAPABILITIES & NATURAL HAZARDS



CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

0 250 500 Feet
0 0.0425 0.085 Miles
1:6,000

LCP HABITATS & RESOURCES



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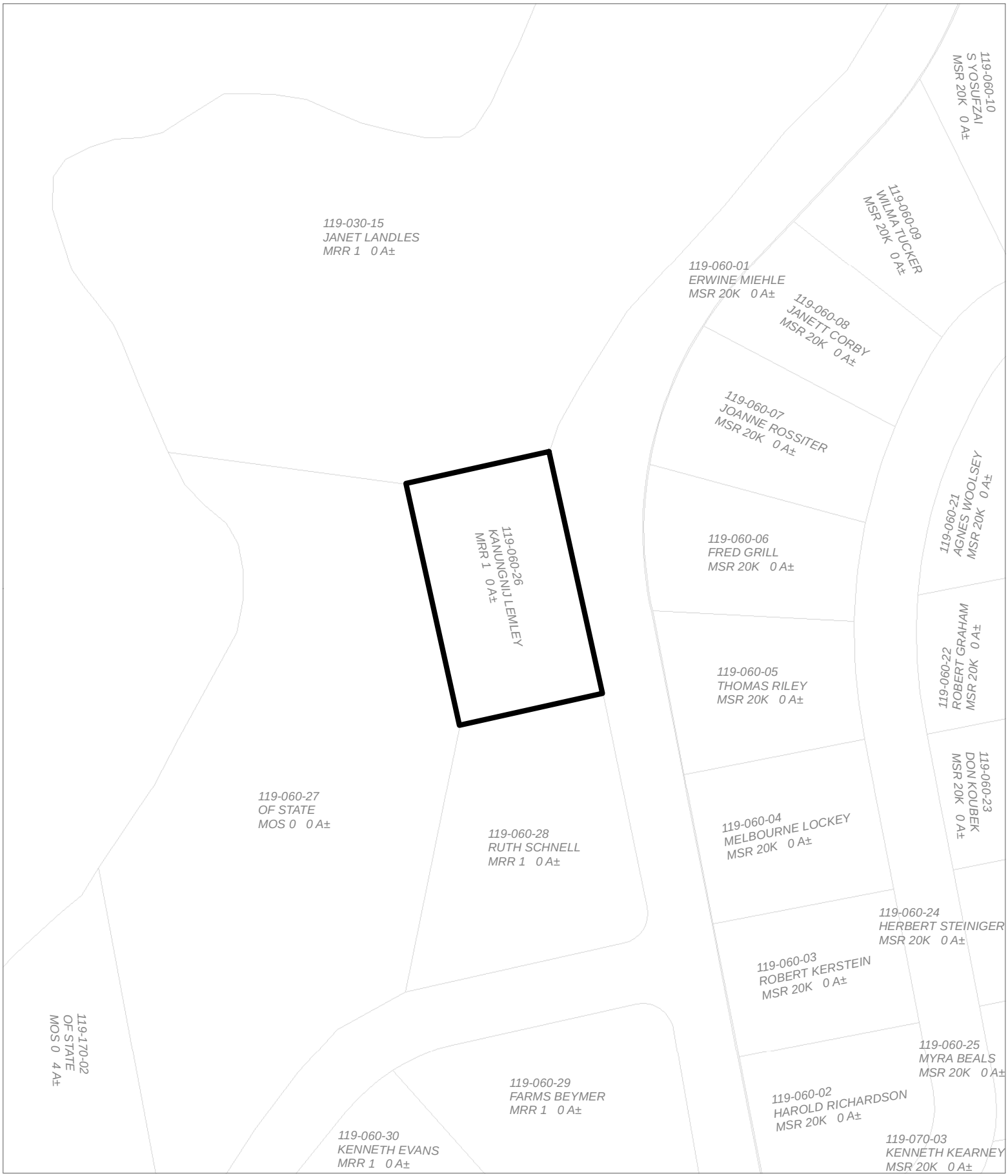
0 250 500 Feet
0 0.0425 0.085 Miles
1:6,000

APPEALABLE AREAS



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APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
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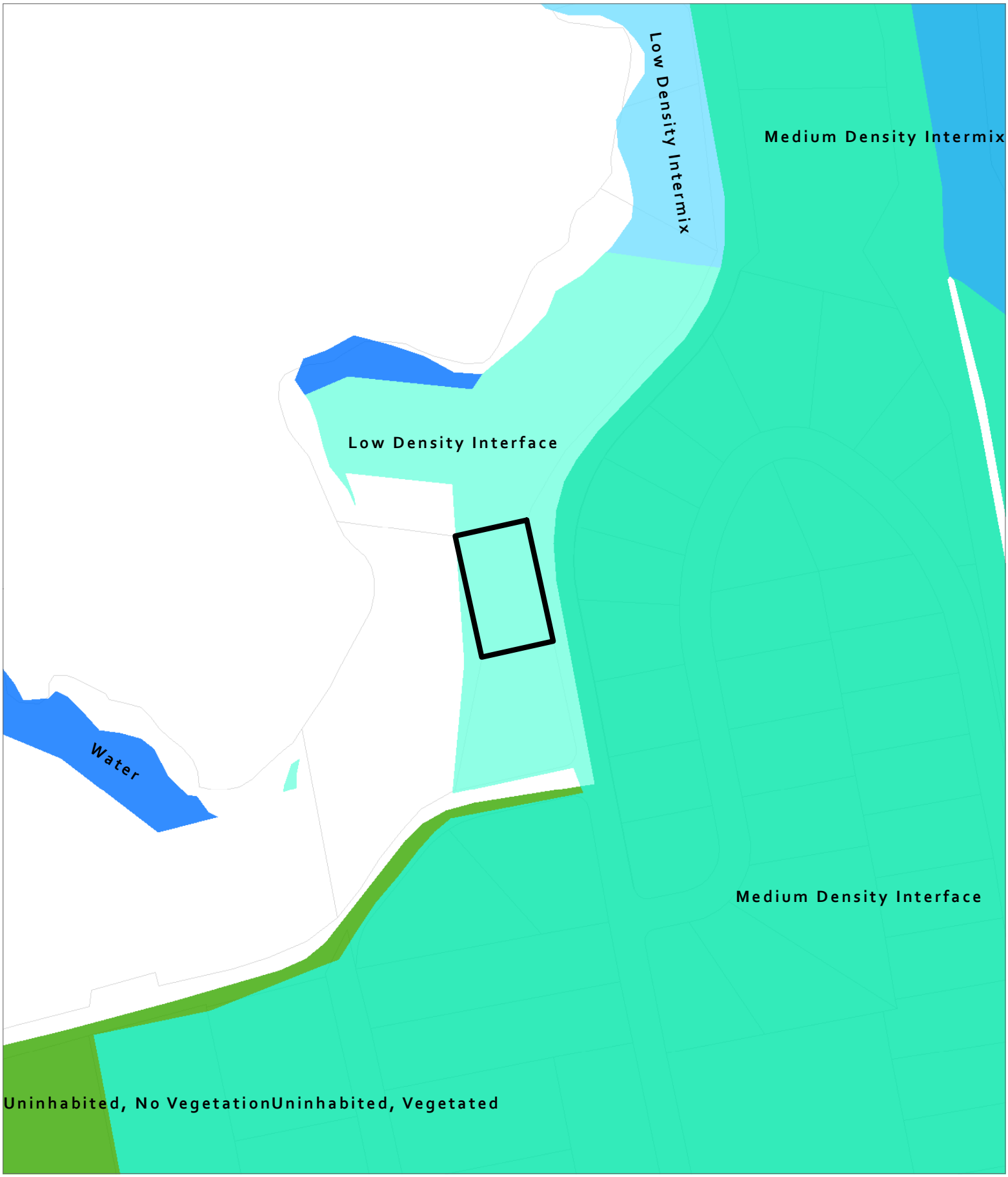
ADDRESS: 11050 Lansing Street, Mendocino

0 50 100 Feet
0 0.0075 0.015 Miles
N W E S
1:1,200

ADJACENT PARCELS



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OWNER: LEMLEY, Kanungnij
APN: 119-060-226
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AGENT: Blair Foster
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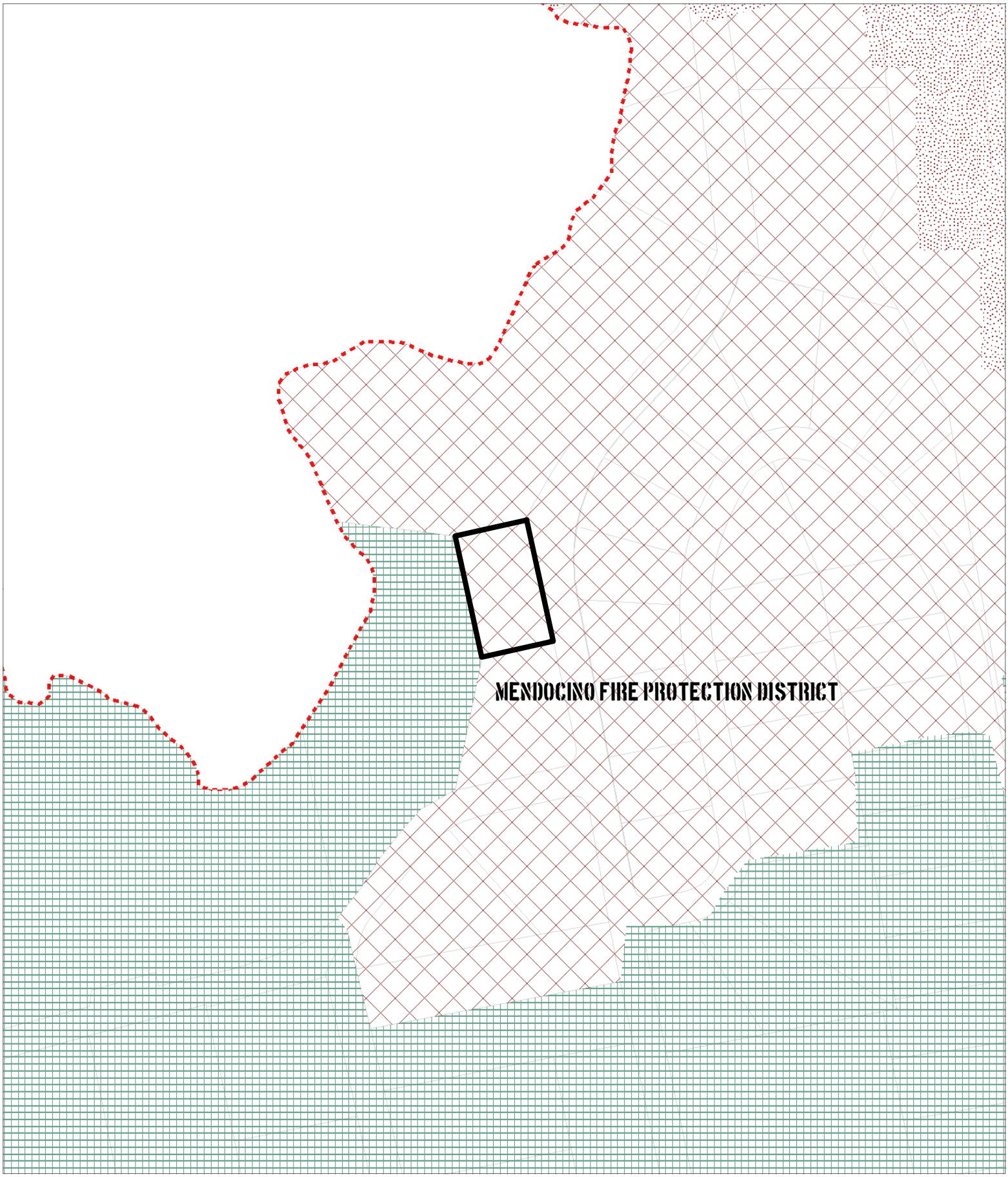
Water

0 100 200 Feet
0 0.015 0.03 Miles
1:2,400

WILDLAND-URBAN INTERFACE ZONES

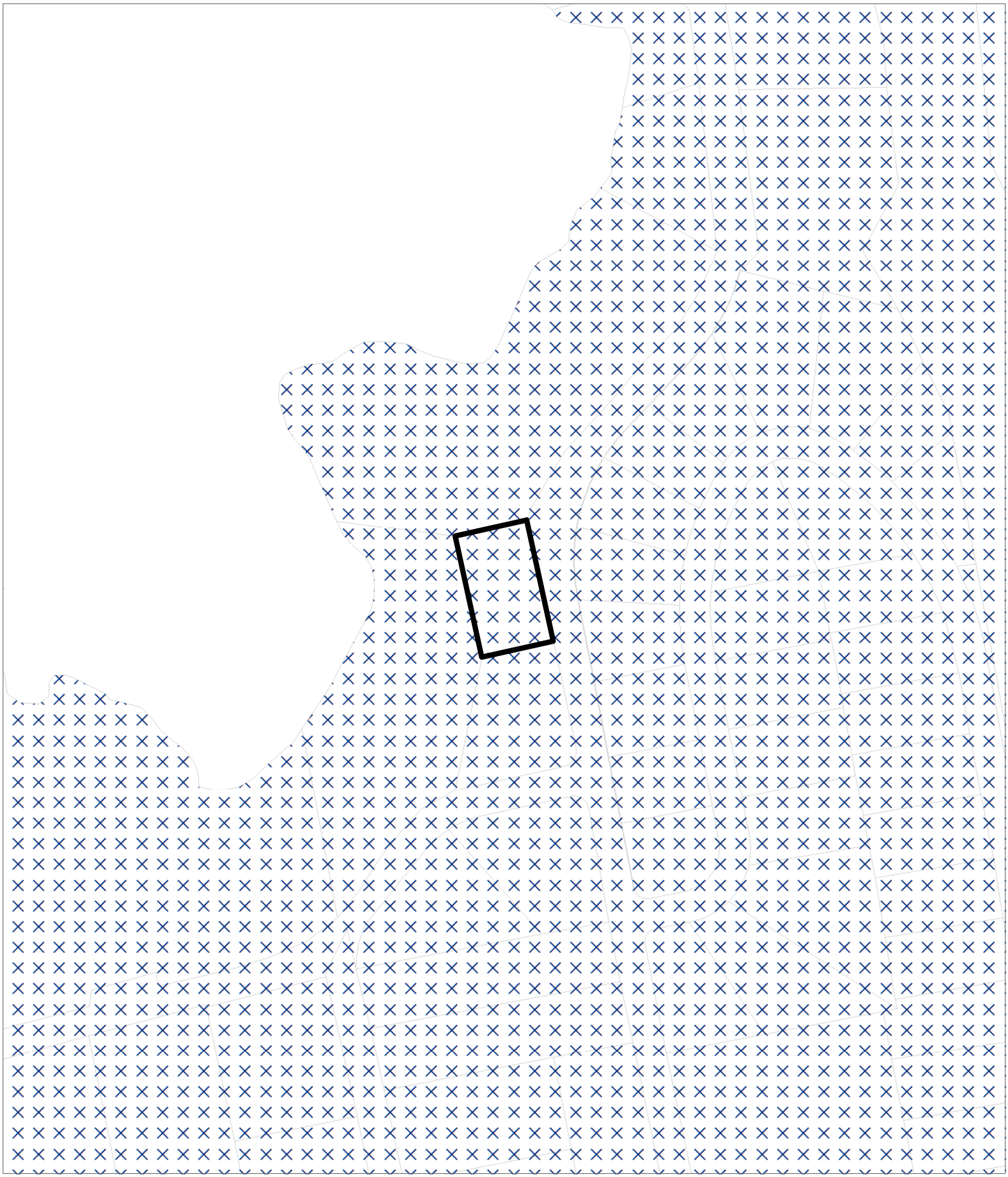


CASE: CDP 2017-0046
OWNER: LEMLEY, Kanungnij
APN: 119-060-226
APLCT: Janungnij (Nit) Lemley
AGENT: Blair Foster
ADDRESS: 11050 Lansing Street, Mendocino

County Fire Districts
Very High Fire Hazard
High Fire Hazard
Moderate Fire Hazard

0 100 200 Feet
0 0.015 0.03 Miles
N W E S
1:2,400

FIRE HAZARD ZONES & RESPONSIBILITY AREAS
STATE RESPONSIBILITY AREA



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OWNER: LEMLEY, Kanungnij
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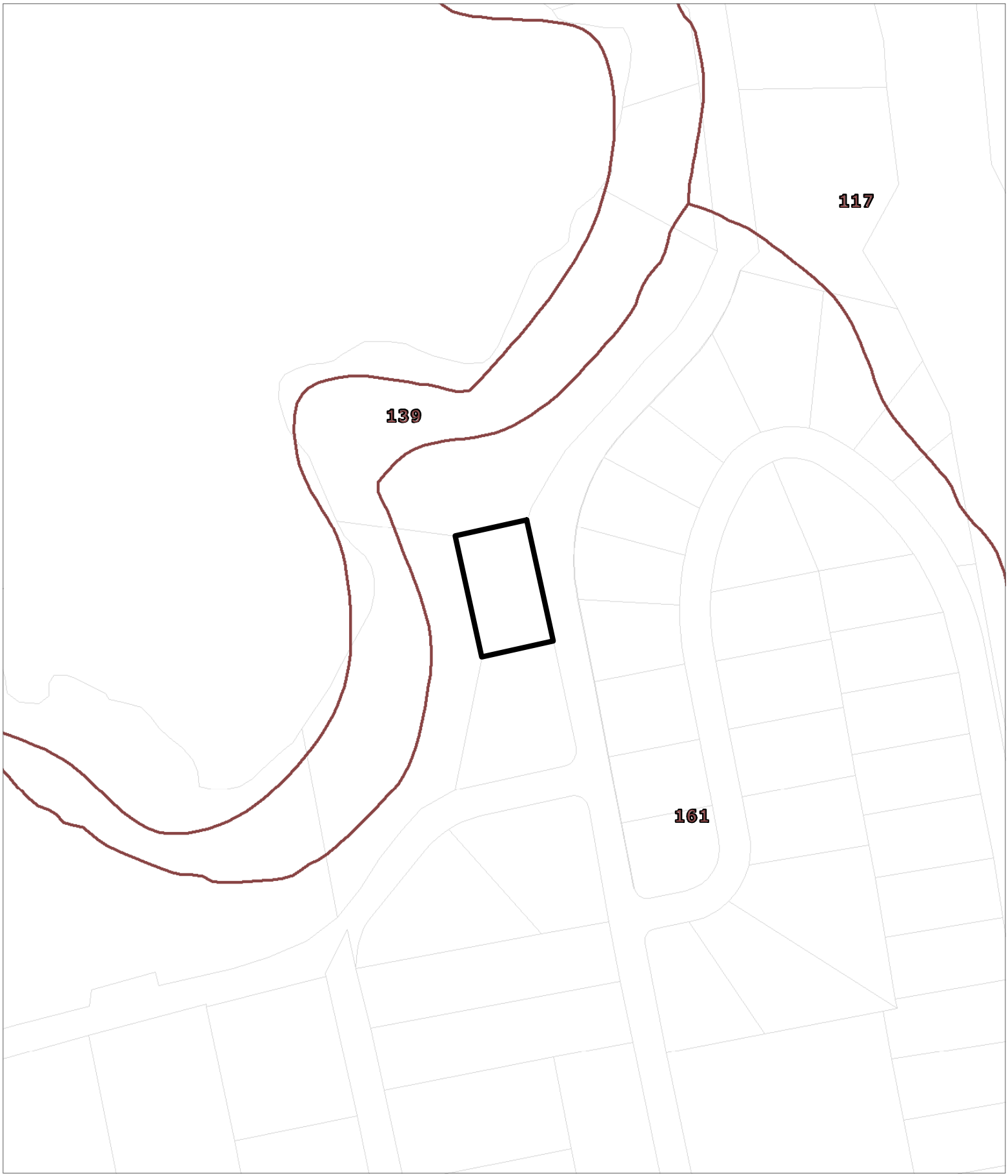
ADDRESS: 11050 Lansing Street, Mendocino

Critical Water Areas

0 100 200 Feet
0 0.015 0.03 Miles
N W E S
1:2,400

GROUND WATER RESOURCES



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OWNER: LEMLEY, Kanungnij
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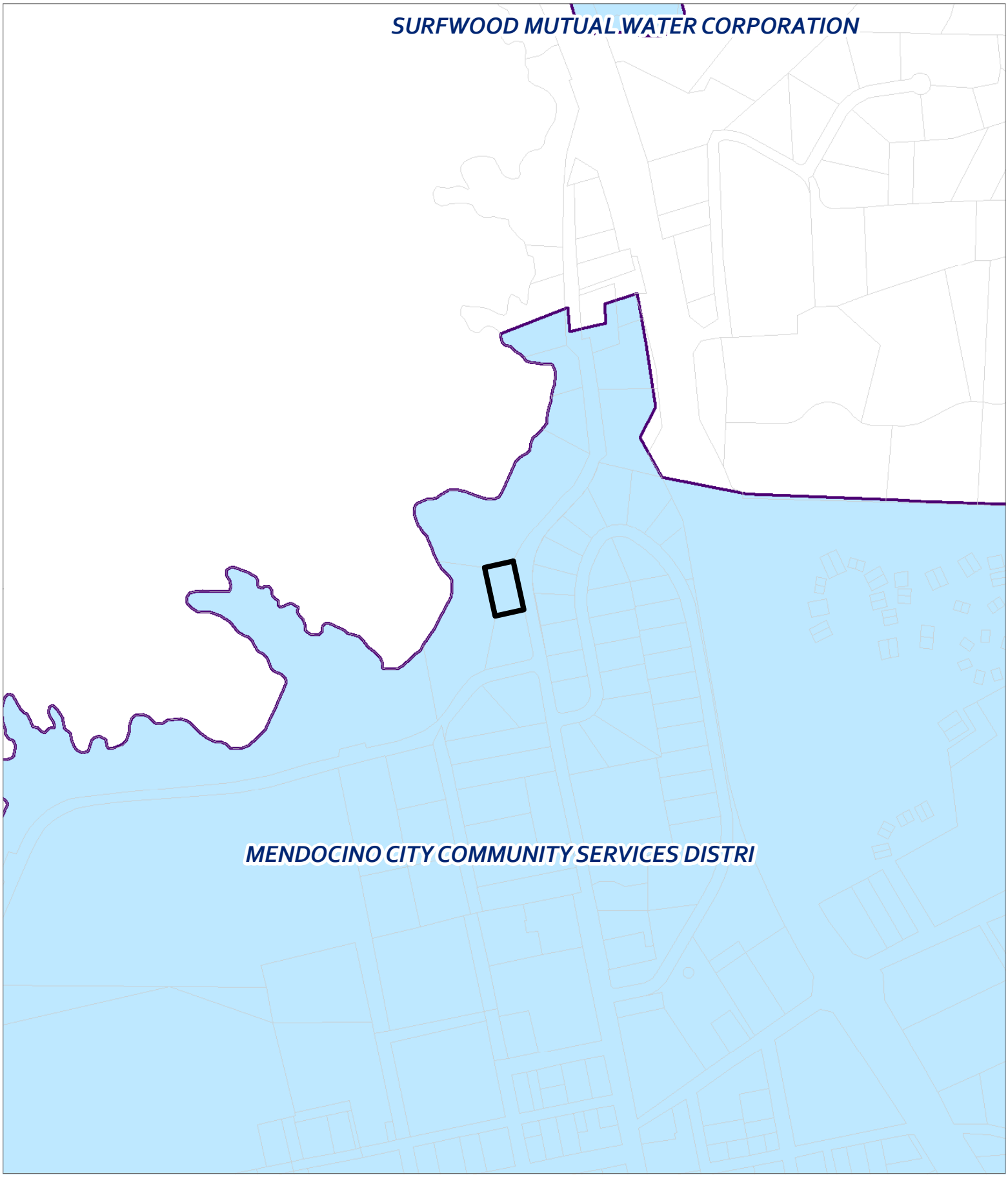
ADDRESS: 11050 Lansing Street, Mendocino

Western Soil Classes

0 100 200 Feet
0 0.015 0.03 Miles
N W E S
1:2,400

LOCAL SOILS



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County Water Districts

0 250 500 Feet
0 0.0425 0.085 Miles
1:6,000

WATER DISTRICTS