CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, 10th Floor
Long Beach, CA 90802-4302
(562) 590-5071

Filed: 8-7-97
49th Day: 9-25-97
180th Day: 2-3-98
Staff: JLR/LB JLR
Staff Report: 8-18-97
Hearing Date: Sept. 9-12, 1997
Commission Action:

STAFF REPORT: PERMIT AMENDMENT

APPLICATION NO.: 5-94-281-A1

APPLICANT: Alberto Aguilera

PROJECT LOCATION: 15000 Corona del Mar, Pacific Palisades

DESCRIPTION OF PROJECT PREVIOUSLY APPROVED: Demolish a single family residence and construct a 5,675 sq. ft., 2-story, 28' high single family residence with a 2-car garage.

DESCRIPTION OF AMENDMENT: The applicant proposes to add an additional 1,194 sq. ft., increase the blufftop setback an additional 40 feet and construct a 3-car garage rather than a 2-car garage.

LOCAL APPROVALS RECEIVED: Approval-in-Concept City of Los Angeles

---

SUMMARY OF STAFF RECOMMENDATION:

The staff recommends that the Commission determine that the proposed development, along with the proposed amendment, subject to the conditions below, is consistent with the requirements of the Coastal Act. A Special Condition requires the applicant to record an amendment to a deed restriction for assumption of risk which was required when the Commission previously, conditionally approved the original coastal development permit.

PROCEDURAL NOTE: The Commission's regulations provide for referral of permit amendment requests to the Commission if:

1) The Executive Director determines that the proposed amendment is a material change,

2) Objection is made to the Executive Director's determination of immateriality, or

3) the proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material. 14 Cal. Admin. Code 13166.

SUBSTANTIVE FILE DOCUMENTS:

1. Geotechnical Engineering Investigation Report prepared by MTC Engineering, Inc., dated June 24, 1994.

2. Approval from City of Los Angeles Grading Division of the Department of Building and Safety (Log # 37441)

STAFF RECOMMENDATION:

Staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions

The Commission hereby grants, subject to the conditions below, an amendment to the permit for the proposed development on the grounds that the development, as conditioned, will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Special Conditions

Staff Note: All Standard and Special Conditions imposed by the Commission on the previous permit are still in effect except as herein amended.

1. Assumption of Risk

Prior to issuance of Coastal Development Permit 5-94-281A and/or 5-94-281, the applicant shall execute and record, in a form and content acceptable to the Executive Director, an amendment to the original assumption of risk deed restriction recorded pursuant to CDP 5-94-281 on May 15, 1995 as Instrument No. 95 778109. The recorded amendment shall revise the deed restriction so that the assumption risk extends to the proposed development as amended by CDP 5-94-281A.

III. Findings and Declarations

The Commission hereby finds and declares as follows:

A. Project Description

The applicant is proposing to change the size of a previously approved single-family residence from approximately 5,625 sq. ft. to 6,819 sq. ft. Additionally, the proposed single family residence will be sited at a different location on the subject parcel because the applicant is proposing to increase the blufftop setback by an additional 40 feet. The proposed residence will also require less extensive foundation improvements because the depth of the pilings has been reduced.

B. Natural Hazards

The Commission conditionally approved the original permit on February 9,

1995. The Commission found the project approvable because the applicant provided adequate geology reports and the City of Los Angeles Grading Division conditionally approved the permit. The Commission also required that the applicant submit verification that all recommendations contained in the various geotechnical reports be incorporated into the project's final design. Attached to this report is the original staff report which has a more detailed analysis regarding geologic constraints on the subject lot. The development, as now proposed, will have a new design and the applicant has obtained new geology information. The gross floor area of the residence will be increased by approximately 1,194 sq. ft. and the improvements will be located closer to the street rather than the blufftop.

As noted above, the applicant has obtained updated geology reports regarding the project as now designed and sited. The proposed amendment has been reviewed and conditionally approved by the City of Los Angeles Grading Division. The applicant's Geotechnical Report prepared by MTC Engineering, Inc. concluded that a new residential structure is geologically feasible "provided that the recommendations of the report are properly incorporated into design and followed during construction. The geologist is still required to sign-off the final plans as specified in the Commission's previously required Special Condition. Therefore, the Commission does not need to require a new Special Condition requiring the applicant to submit verification that all geology/soils recommendations be incorporated into the final design.

The Commission, in previous permit actions on development in this area has found that there are certain risks associated with hillside development, including the proposed development, that can never be entirely eliminated. The applicant's geology report also supports this conclusion because the site has been subject to landslides. In addition to the general risks associated with hillside development in geologically hazardous areas, the Commission notes that its approval is based on professional reports and professional engineering solutions that are the responsibility of the applicants. Based on the presence of landslides throughout this area and site specific soil/geologic constraints addressed in the applicant's geology report, the applicant shall, as a condition of approval, assume the risks inherent in potential slope failure from erosion.

Therefore, the recordation of the previous assumption of risk deed restriction will have to be amended because: (1) a deed restriction runs with both the land and the original approved project, (2) the recorded assumption of risk was based on a previous design and previous geology reports and City approvals, and (3) the project has a new design, new geology information and a new City grading permit approval. Even though the proposed improvements are located more inland of the bluff, there are still geologic risks associated on the subject lot. Therefore, the Commission finds that it is necessary for the applicant to revise the recorded assumption of risk to provide that the permittee assumes the risks associated with the project as revised. Only as conditioned, is the proposed amendment consistent with Section 30253 of the Coastal Act regarding natural hazards. The Commission further finds, that as conditioned, the proposed amendment is consistent with the Commission's previous conditional approval.

JLR:

9409F

CALIFORNIA COASTAL COMMISSION
SOUTH COAST AREA
245 W. BROADWAY, STE. 380
P.O. BOX 1450
LONG BEACH, CA 90802-4416
(310) 590-5071

Filed: 1-5-95
49th Day: 2-23-95
180th Day: 7-4-95
Staff: JLR-LB MR
Staff Report: 1-20-95
Hearing Date: Feb. 7-10, 1995
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 5-94-281

APPLICANT: Michael A. Hermosillo

PROJECT LOCATION: 15000 Corona del Mar, Pacific Palisades

PROJECT DESCRIPTION: Demolish a single-family residence and construct a 5,675 sq. ft., 2-story, 28' high, single-family residence with five parking spaces.

Lot area:	0.77 acre
Building coverage:	3,400 sq. ft.
Pavement coverage:	6,350 sq. ft.
Landscape coverage:	9,700 sq. ft.
Parking spaces:	five spaces
Zoning:	R-1
Plan designation:	Low-Density Residential
Project density:	N/A
Ht abv fin grade:	28'

LOCAL APPROVALS RECEIVED: Approval in Concept-City of Los Angeles

SUBSTANTIVE FILE DOCUMENTS: City adopted Brentwood-Pacific Palisades Community Plan.

SUMMARY OF STAFF RECOMMENDATION:

Staff is recommending approval with special conditions addressing natural hazards.

---

1 of 8
Exhibit 1
5-94-281

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions.

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

Exhibit 1
2 of 8
5-94-281

III. Special Conditions.

1. Plans Conforming to Geologic/Soils Recommendations:

All recommendations contained in the Geotechnical Engineering Investigation Report prepared by MTC Engineering, Inc., dated June 24, 1994, regarding the proposed development, shall be incorporated into all final design and construction including grading and drainage. All plans must be reviewed and approved by the consultants. Prior to issuance of the permit, the applicant shall submit, for review and approval by the Executive Director, evidence of the consultant's review and approval of all project plans.

The final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission relative to construction, grading and drainage. Any substantial changes in the proposed development approved by the Commission which may be required by the consultant shall require an amendment to the permit or a new coastal permit.

2. Assumption of Risk:

Prior to the issuance of the Coastal Development Permit, the applicant (and landowner) shall execute and record a Deed Restriction, in a form and content acceptable to the Executive Director, which shall provide: (a) that the applicant understands that the site may be subject to extraordinary hazard from erosion and slope failure, and the (b) applicant hereby waives any future claims of liability against the Commission or its successors in interest for damage from such hazards. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens.

IV. Findings and Declarations.

The Commission hereby finds and declares as follows:

A. Project Description and Location:

The applicant proposes to demolish a single-family residence and construct a 5,675 sq. ft., 2-story, 28' high, single-family residence with five parking spaces. The proposed project is located on a blufftop lot within an established single-family neighborhood in Pacific Palisades, a planning subarea within the City of Los Angeles. The project is located on a 160' high cliff inland of Pacific Coast Highway. Portions of this bluff face have failed in the past. The applicant has submitted a Geotechnical Engineering Investigation Report prepared by MTC Engineering, Inc. dated June 24, 1994. Following is a brief description of the project as excerpted from a City staff report:

The subject property consists of an approximately 100-foot x 200-foot level pad fronting Corona Del Mar. A cliff, approximately 160 feet high,

Exhibit 1
3 of 8
5-94-281

100 feet wide, and 200 feet long, forms the southern portion of the subject lot. The subject lot is bounded by adjacent existing dwellings and a small private park to the east and west. A two-story single-family dwelling and a swimming pool are situated on the level pad of the subject property.

.....Slope within and adjacent to the subject property descends to the southwest to Pacific Coast Highway at approximate slope ratios ranging from 1:1 to near vertical. The northeast portion of the subject property is relatively level and has been slightly modified by past grading activity associated with construction of the existing single-family residence. The area below the near vertical slope on the western portion of the subject site has been modified by grading activity conducted by Cal Trans in 1978 by the placement of earth fill to help buttress the steep non-marine terrace deposits exposed in the natural slope above Pacific Coast Highway.

It was reported by the owner's representative that approximately 15 to 20 feet of the back yard was lost during the January 17, 1994 Northridge Earthquake. Several tension cracks were observed near the edge of the cliff.

B. Natural Hazards:

Section 30253 of the Coastal Act provides in part:

New Development shall:

(1) Minimize risks to life and property in areas of high geologic, floor, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The proposed project is located on a 160' high cliff that has been subject to historic and prehistoric landslides. Past geological studies within the Pacific Palisades area have been conducted to analyze the relationship of historic to prehistoric landslides within this area. Attached as Exhibit F is a 1982 U.S.G.S. map by John T. McGill showing the location of the past landslides. Following is a conclusion of that survey:

The map clearly shows that the existence and distribution of prehistoric landslides foreshadowed further extensive slope failures in Pacific Palisades--in certain general parts of the area and in many specific localities. More than one-half of the number of prehistoric moderately thick to deep-seated landslides have been partly or wholly active in historic time. As much as two-thirds of the number of historic moderately thick to deep-seated landslides have occurred in areas of prehistoric landslides. Most of the mapped prehistoric shallow landslides have become sites of historic shallow failures.

Exhibit 1
4 of 8
5-94-281

These relationships imply that if detailed information on prehistoric landslides and on landslide hazards had been available and appropriate regulations had been imposed prior to development of the area, most of the subsequent landslide damage could have been prevented....

The tragic experience of the Pacific Palisades area should also be an object lesson for other local governments that anticipate the urbanization of undeveloped hillside areas. If large-scale maps showing previous landslides are available or are obtained prior to development, they can alert public officials and others to a potential for landslide hazards and a need for timely and effective actions to protect the future safety of people and property. The hazards should be intensively studied and evaluated by qualified engineering geologists and geotechnical engineers so that they can be avoided or corrected by suitable means. Otherwise, hillside developments not only will be damaged by landsliding, but they may themselves greatly accelerate the natural process and aggravate its effects.

The proposed development is located on a blufftop lot consisting of graded uncertified fill. The applicant's Geotechnical Report prepared by MTC Engineering, Inc. raises issues specific to the site that requires construction methods that are the responsibility of the applicant to carry out in a safe manner. Following is an excerpt from that report:

The horizontal sand and gravel strata are grossly unstable on the southwesterly 80 feet of the property. A careful examination of the exterior of the dwelling shows severe new cracks were found on the southwestern portion of the property and the foundation was settled resulting from January 17, 1994 Northridge Earthquake.

The pre-existing sea cliff has failed in prior years and will undoubtedly continue to fail in the future. The U.S.G.S. Map M.1.284 shows the sea cliff to have failed since January 1, 1952 and also between March 1884 and January 1, 1952. Some measurements of the success has been attained by property owners in removing a portion of the upper slope and replacing it with soil-cement. Piling, grouting, and guniting to mitigate weathering processes are possibilities.

The City's Municipal Code requires a minimum factor of safety of 1.5 on the entire site. A portion of the rear of the subject lot, including the bluff, has a factor of safety of less than 1.5. The applicant received a zoning modification of the Code from the City to allow the residence to be setback from the blufftop and constructed within an area that will be stabilized to provide a minimum slope stability factor of safety of 1.5. The City's modification did not require the applicant to stabilize the remainder of the lot to a minimum of a 1.5 factor of safety. According to the City's findings, that would not be feasible. Following are the City's findings:

1. The request is a slight modification of the Code requirement and satisfies the spirit and intent of the Code inasmuch as the portions of the site supporting habitable structures will be stabilized to

Exhibit 1
5 of 8
5-94-281

provide a minimum slope stability factor of safety of 1.5, thereby mitigating potential damage to structures due to the possible failure of the adjacent slope, and the hazard to life is not increased.

2. Strict compliance with the Code requirement is impractical inasmuch as the slope that is required to have a slope stability safety factor of 1.5 is the cliff above Pacific Coast Highway, and compliance would require a structural reinforcing system for the slope be provided for a height of over 141 feet, that must extend across adjacent lots on both sides of the subject property.

Thus, the City, in part, required the following site specific conditions:

19. A registered grading deputy inspector approved by and responsible to the project geotechnical engineer shall be required to provide continuous inspection for the proposed slot cutting, underpinning, shoring, tie-back, buttress, and the drilling and installation of all deep foundations.

20. As required by the referenced board letter the Covenant and Agreement shall list this approval letter and the referenced reports as being on file with the Department of Building and Safety, and clearly state that the site has been subject to landslides and that the entire site is not stabilized and may be subject to future landslides.

In spite of general natural hazards and loss of structures in this area, the applicant's engineer and the City have provided testimony, that with specific construction methods, a residential structure can be built. The applicant's Geotechnical Report prepared by MTC Engineering, Inc. concluded "that the development of a new residential structure with adequate footing setback and/or caisson embedment depth is feasible from engineering geologic and soils engineering viewpoints provided that the recommendations of the report is properly incorporated into design and followed during construction." (See Exhibit E) Therefore, the Commission finds that in order to be consistent with Section 30253 of the Coastal Act, the applicant must conform to the recommendations contained in the aforementioned soils and geology reports. The Commission further finds that the proposed residence, as conditioned to conform to the consultant's geology and soils recommendations, will minimize risks of developing in this area that may occur as a result of natural hazards. Furthermore, the Commission finds that the design, reports and construction methods that are represented as guaranteeing safety are the responsibility of the applicant. Therefore, in order to be consistent with Section 30253 of the Coastal Act, the applicant must also record a deed restriction assuming the risk of developing in this hazardous area, and waiving the Commission's liability for damage that may occur as a result of such natural hazards.

C. Local Coastal Program:

Section 30604 (a) of the Coastal Act states that:

Exhibit 1

Prior to certification of the Local Coastal Program, a Coastal Development Permit shall be issued if the issuing agency, or the Commission on appeal,

finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local coastal program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).

The City of Los Angeles has not prepared a draft Land Use Plan for this planning subarea. However, approval of the proposed development, as conditioned to minimize risks from natural hazards, will not prejudice the City's ability to prepare a certifiable Local Coastal Program. The Commission, therefore, finds that the proposed project is consistent with Section 30604 (a) of the Coastal Act.

D. Public Access

The proposed residence is located on a 160' high blufftop lot on the inland side of Pacific Coast Highway. The existing residence, which had severe structural damage from the January 17, 1994 Northridge earthquake, will be demolished. The proposed house will be set back from the blufftop an additional 80' from the previous location. There are no public walkways or parkland located adjacent to the property. the proposed project, which provides five parking spaces, will have no adverse impacts on public access or public recreation.

E. Sensitive Environmental Habitat

The subject lot, which has been previously used for residential purposes, contains no sensitive environmental habitat. The subject site is surrounded by existing residential development. The proposed project, which is not located near any parkland, will have no adverse impacts on sensitive environmental habitat resources.

F. Consistency with the California Environmental Quality Act (CEQA).

Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5 (d) (2) (i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment.

The proposed project has been conditioned in order to be found consistent with the natural hazards policies of the Coastal Act. Mitigation measures to conform to the consultant's geology/soils recommendations and to record a deed restriction assuming the risk of developing in this hazardous area, will minimize all adverse impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may

Exhibit 1
7 of 8
5-94-281

have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.

3668F

JLR:b11

Exhibit 1
8 of 8
5-94-281

Quality Mapping Service
Zoning Consultants

VICINITY MAP

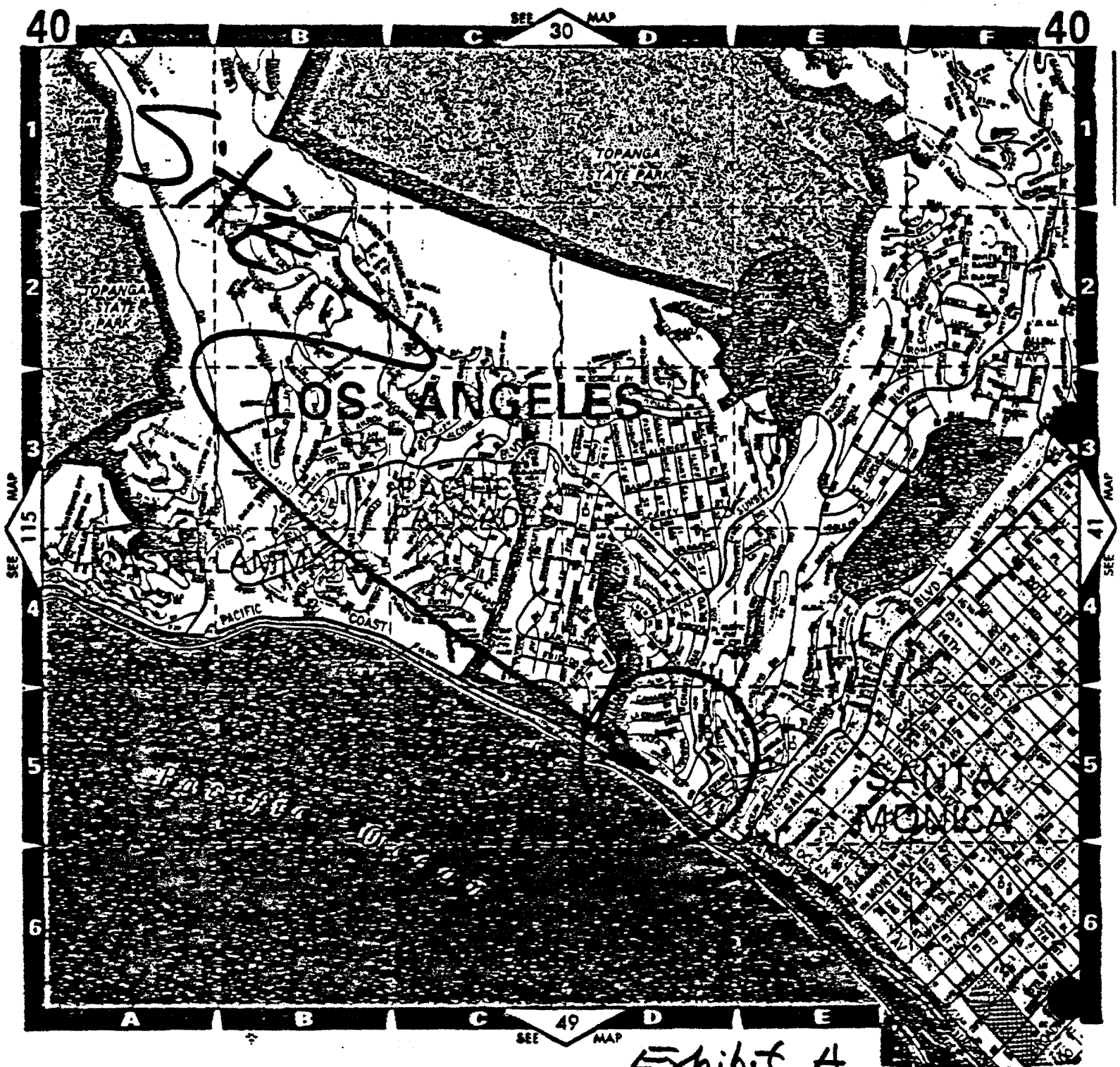
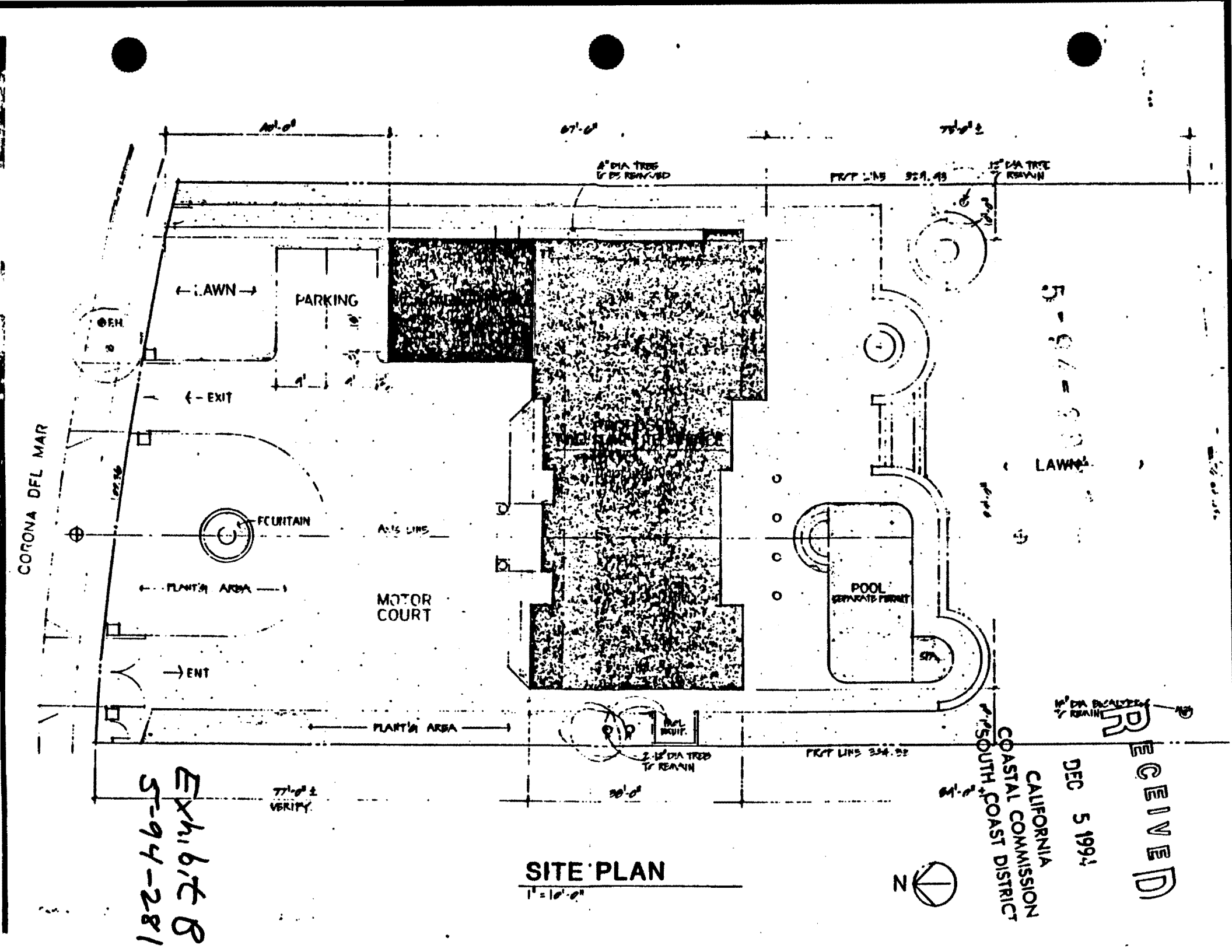


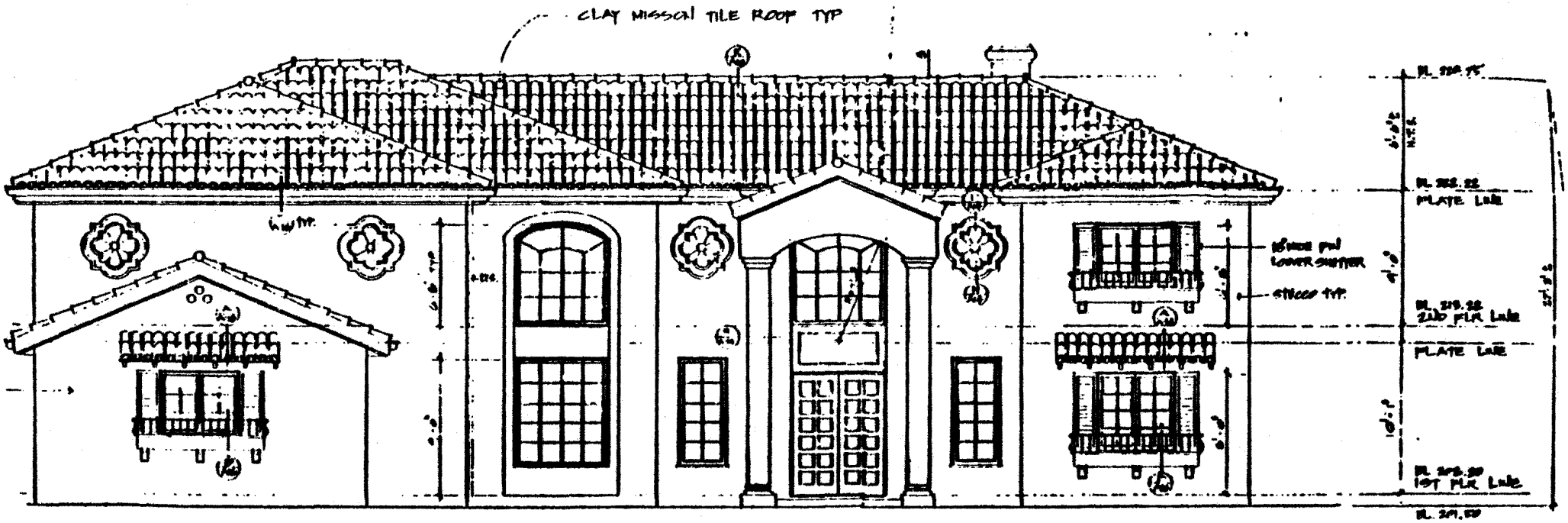
Exhibit A
5-94-281

6356 Van Nuys Boulevard, Suite 207 • Van Nuys, California 91401 • (818) 997-7949 • Fax: (818) 997-0351



RECEIVED
DEC 5 1994
CALIFORNIA
COASTAL COMMISSION
SOUTH COAST DISTRICT

Exhibit 8
5-94-281



NORTH ELEVATION

Exhibit C
5-94-28

CITY OF LOS ANGELES
CALIFORNIA

RICHARD J. RIORDAN
MAYOR

November 15, 1994

Log # 37441
C.D. –

(SOILS/GEOLOGY FILE-2)

Alberto Aguilera
128 S. Montebello Blvd
Montebello, CA 90640

TRACT: 9377
LOT: 7
LOCATION: 15000 CORONA DEL MAR

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soils/Geo Reports	110-SG01-94	10/08/94 06/24/94	MTC Engineering

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soils/Geo Reports	110-SG01-94	03/14/94 08/04/94	MTC Engineering
Department Letters	35904	05/24/94	Bldg & Safety
	36400	07/11/94	
	36769	09/15/94	
Board Letters	941233	08/16/94	

Exhibit D
1 of 4
5-94-281

The current and previous referenced reports concerning a proposed single-family residence have been reviewed by the Grading Division of the Department of Building and Safety. According to the reports, the existing residence will be demolished due to earthquake damage. The site is located at the top of a steep coastal bluff.

During the earthquake the outer 15-20 feet of the bluff failed. Stability analyses in the reports indicate that the steep slope and the level lot area are potentially unstable for a distance of up

to 110 feet from the top of the slope.

The Board of Building and Safety Commissioners has approved a Building Code Modification Request to allow construction of a new residence without stabilizing the slope and adjacent level lot area.

The reports are acceptable, provided the following conditions are complied with during site development:

1. All conditions of the referenced Board letter dated August 16, 1994 shall apply.

2. All slope failure debris shall be removed from the site under the direction of the consultants.

3. Footings located within 110 feet of the top of the steep slope shall be designed for an equivalent fluid pressure of 35 psf per foot of depth, for that portion of the pile above the potential slip surface, as recommended.

4. The depth to the potential slip surface shall be determine from figure A.7 of the report dated June 24, 1994, as recommended.

5. For pile design the efp shall be multiplied times the pile spacing.

6. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans include the recommendations contained in their reports.

7. All recommendations of the report which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

8. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

9. A grading permit shall be obtained for all structural fill and retaining wall backfill.

10. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM 1557.

Exhibit D
2 of 4
5-94-281

11. All roof and pad drainage shall be conducted to the street in an acceptable manner.

12. Concentrated drainage shall not be allowed to drainover the steep slope.

13. All open ground fractures shall be sealed to prevent water infiltration, under the direction of the consultants.

14. The geologist and soil engineer shall inspect the excavations for the footings to determine that they are founded in the recommended strata before calling the Department for footing inspection.

15. Pile and/or caisson foundation ties are required by Code Section 91.2908(b). Exceptions and modification to this requirement are provided in Rule of General Application 662.

16. Prior to the placing of compacted fill, a representative of the consulting Soils Engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the City Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed with the Department upon completion of the work. The fill shall be placed under the inspection and approval of the Foundation Engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

17. Prior to the pouring of concrete, a representative of the consulting Soil Engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the City Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work.

18. The dwelling shall be connected to the public sewer system.

19. A registered grading deputy inspector approved by and responsible to the project geotechnical engineer shall be required to provide continuous inspection for the proposed slot cutting, underpinning, shoring, tie-back, buttress, and the drilling and installation of all deep foundations.

Exhibit D
3 of 4
5-94-281

20. As required by the referenced board letter the Covenant and Agreement shall list this approval letter and the referenced reports as being on file with the Department of Building and Safety, and clearly state that the site has been subject to landslides and that the entire site is not stabilized and may be subject to future landslides.

LARRY WESTPHAL
Chief of Grading Division

DANA V. PREVOST
Engineering Geologist I

THEO R. SEELEY
Geotechnical Engineer I

DVP/TRS:rlm
A:\NOV37441
(213) 485-2160

cc: MTC Engineering
WLA District Office

Exhibit D
4 of 4
5-94-281

slope stability analyses, respectively. The inputs, outputs and results of the slope stability analyses are shown in Appendix A and summarized below:

Failure Mode	Static/ Seismic	Factor of Safety	Required Setback	Remarks
1	static	1.41	----	Existing Condition
1	seismic	1.22	----	Existing Condition
2	static	1.10	----	Existing Condition
2	seismic	0.98	----	Existing Condition
1	static	1.50	96'	Setback = 96 feet
1	seismic	1.25	87'	Setback = 87 feet
2	static	1.50	100'	Setback = 100 feet
2	seismic	1.25	98'	Setback = 98 feet

The slope stability analyses indicate the following findings:

1. The existing slope is stable but without adequate factors of safety in static slope stability consideration.

2. The existing slope is not stable in pseudo-static (seismic slope stability consideration. If a horizontal acceleration equal to 15 percent of the gravity applies to the slope during an earthquake, the upper slope may fail.

3. A setback distance of 100 feet from the top of the existing slope will provide factors of safety equal to or greater than 1.5 for static slope stability condition and 1.25 for seismic slope stability condition.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Based upon the findings of our site observation, data research, subsurface exploration, geologic and engineering evaluation and analysis, it is our opinion that the existing residence is too

Exhibit E
1 of 8
5-94-281

close to the tension cracks caused by the recent Northridge earthquake, however, will be subject to future geologic hazard such as landslide or slippage and will not meet the requirement of current building code if the existing distressed foundation is only to be repaired and reinforced. It is also our findings that the development of a new residential structure with adequate footing setback and/or caisson embedment depth is feasible from engineering geologic and soils engineering viewpoints provided that the recommendations of the report is properly incorporated into design and followed during construction. Shallow foundation with adequate setback distance or deep foundation with adequate embedment depth can be used for support of structures.

If our recommendations presented in this report are properly followed, the development of a single family residence at the site will not be affected by any geologic hazard from landslide settlement or slippage and will not adversely affect the stability condition of subject site and adjacent properties.

5.2. Footing Setback

If conventional spread footings are to be used for support of building, a minimum footing setback of 100 feet is required. If portions of the footings of a building is to be placed within 100 feet from the top of the slope, deep foundation such as caisson with adequate length should be used. The minimum caisson length to pass through the potential slide plane are shown on Plate F and listed below:

setback, ft	95	90	85	80	75	70	65	60	55	50
Minimum Length, ft	5	10	15	18	21	25	30	35	39	43

5.3. Site Preparation

The general grading guidelines are presented below to provide a basis for quality control during site grading. All fill behind the wall should be placed and compacted with engineering control under the observation and testing by the Project Soils Engineer or his representative and in accordance with the requirements listed below.

a. Remove all vegetation, loose soil, non-certified fill, and other deleterious materials prior to fill placement.

b. If conventional spread footings are to be used, two feet of soil below the existing grade or the bottom of the footing,

Exhibit E
2 of 8
5-94-281

whichever is deeper, should be removed and recompacted as certified fill. The compacted fill should have a minimum dry density 90 percent of the maximum dry density as determined by ASTM Designation D-1557-78. The removal and recompaction can be limited to the building area and at least 5 feet beyond the footings.

c. Attention should be paid to observe any incompetent soil below the recommended depth of removal and recompaction. If encountered, the incompetent soil should be removed to the competent soil before the placement of new compacted fill.

d. The bottom of removal should be scarified a minimum of 6 inches and thoroughly moistened to near the optimum moisture content. The scarified soil should also be compacted to a minimum dry density 90 percent of the maximum dry density as determined by ASTM D-1557-78.

e. Fill materials should be placed in controlled layers which, when compacted, should not exceed 6 inches in thickness.

f. The excavated site soils, cleaned of deleterious material, can be re-used for fill. Rock larger than 6 inches should not be buried or placed in compacted fill.

g. All grading work should be performed in conformance with the local jurisdiction's current grading ordinances and per the grading recommendations contained herein.

h. The bottom of removal and the placement of the fill soil should be observed and tested by the Project Soils Engineer or his representative. A 24 hours notice for testing and inspection is required.

i. At least one field density test should be performed for each two feet of lift.

j. Final grading shall provide a positive drainage away from the footings of the retaining wall in compliance with the local jurisdictions grading requirements.

5.4. Temporary Excavation

Temporary excavation for the development of an at-grade single family residence will not require any special shoring. However, temporary excavation more than five feet in vertical will require conventional shoring per CAL/OSHA Regulations or the temporary excavation should be laid back in accordance with the following recommendations:

Exhibit D
3 of 8
5-94-281

Height of Excavation	Laidback Slope Gradient
< 5 feet	vertical
5 - 10 feet	1H : 1V
> 10 feet	analysis is required

5.5 Shallow Foundation

The following recommendations may be used in the design of shallow foundation.

a. All structural footings should have a minimum setback of 100 feet from the top of the existing slope.

b. All structural footings should be continuous and founded on competent terrace deposits or compacted fill.

c. All structural footings should be supported by at least 2 feet of compacted fill.

d. Footings should have minimum widths of 12, 15 and 18 inches for one, two and three-story structure respectively.

e. Footings should have minimum embedment depth of 12, 18 and 24 inches for one, two and three-story structure.

f. An allowable vertical soil bearing pressure of 1500 pounds per square foot, including dead and real live loads, may be used for footings founded on competent terrace deposits or compacted fill and with minimum width and embedment depth.

g. The above bearing value may be increased by 300 pounds per square foot for each additional foot of embedment depth or width of footings to a maximum allowable bearing capacity of 4500 pounds per square foot. The bearing capacity can be increased by one-third when considering short duration wind or seismic loads.

h. A friction coefficient of 0.4 and a passive earth pressure of 300 pounds per square foot per foot of depth, to a maximum of 4500 pounds per square foot, can be used to resist lateral loads. When combining passive earth pressure and frictional resistance, the component of passive earth pressure should be reduced by one-third.

i. Prior to the placement of concrete or steel in the footing

Exhibit E
4 of 8
5-94-281

excavations, an inspection should be made by the Project Soils Engineer or his representative to ensure that the footing excavations are free of loose and disturbed soils and are embedded in the recommended material.

5.6 Deep Foundation

Deep foundation with adequate embedment depth may be used for support of structures. The following design criteria may be used in the design of deep foundation.

a. Foundation support may be derived by cast-in-place, drilled, concrete caissons designed as skin friction piles.

b. Caissons should be designed by a structural engineer.

c. If caissons are to be placed within 100 feet from the top of the existing slope, the depth below the existing ground surface as listed below should not be considered as a portion of the caisson embedment depth. That is, the terrace deposits or fill soil above the potential slip surfaces with factors of safety equal to 1.50 and 1.25 for static and seismic slope stability conditions should be assumed providing no lateral resistance.

setback, ft	95	90	85	80	75	70	65	60	55	50
Embedment Depth, ft	5	10	15	18	21	25	30	35	39	43

d. The allowable load-carrying capacity of each caisson may be calculated assuming a "skin friction" or adhesion value of 500 pounds per square foot between the shaft of the caisson and the adjacent soils. The end-bearing capacity of the caisson should be ignored.

e. Lateral load can be resisted by passive earth pressure and frictional resistance. A friction coefficient of 0.4 and a lateral passive earth pressure of 400 pounds per square foot per foot of depth, with a maximum value of 6000 pounds per square foot, may be used to resist lateral loads. For design of isolated caisson, the allowable passive pressure may be increased by 100 percent. When combining frictional resistance and passive earth pressure, the passive earth pressure component should be reduced by one-third.

f. Caisson should be tied together with grade and/or tie beams.

Exhibit E
5 of 8
5-94-281

g. Caisson may be assumed to be fixed at the potential slip surface with factors of safety equal to 1.50 and 1.25 for static and seismic slope stability conditions (see Plate F). The depths to the abovementioned potential slip surfaces are listed in Item c.

h. All drilling should be observed and approved by the Project Soils Engineer or Geologist or their representative before placing steel or pouring concrete.

5.7 Retaining Walls

The following recommendations should be followed in the design of retaining walls.

a. The earth pressures on walls retaining level self-drained backfill should be assumed equal to that exerted by an equivalent fluid having a density of 30 pounds per square foot per foot of depth. The recommended equivalent fluid pressure is not applicable to any wall to retain potential slip surface as discussed in Section 4.

b. Any anticipated superimposed loading within a 45 degrees projection plane upward from the bottom of the wall, except retained earth materials, should be considered as surcharge and provided for in the design.

c. The walls should be constructed with weep holes near the bottom on five-foot center, or with perforated drain pipe in a gravel envelope at the bottom and behind the wall. A one-foot thick zone of clean, granular, free-draining earth material should be placed behind the wall to within two feet of the surface. The top two feet of soil should be recompacted to a minimum dry density of 90 percent of the maximum dry density.

d. All aforementioned drainage shall be collected and diverted away from the proposed retaining wall in non-erosive devices.

e. The wall footings should be placed on competent terrace deposit or compacted fill and should have a minimum width of 24 inches and a minimum embedment depth of 18 inches below the lowest adjacent grade.

f. The placement of the backdrain system behind the retaining all should be observed and approved by the Project Soils Engineer or his representative.

Exhibit E
6 of 8
5-94-281

g. Prior to placing concrete in the footing excavations, an inspection should be made by our representative to ensure that the footing excavations are free of loose or disturbed soils and are embedded in the recommended material.

5.8 Slab-On-Grade

If conventional spread footings with adequate setback are to be used for support of structures, floor slabs-on-grade can be used. The floor slabs should be designed for a minimum of four-inch in thickness, reinforced with No.3 bars at 24 inches on center both ways or approved equivalent. Reinforcement should be properly supported to assure desired mid-height placement. The bottom of excavation for concrete slab should be pre-moistened to near the optimum moisture content prior to placing slabs. We recommend that a six-mil plastic vapor barrier should be used for floor slabs in moisture sensitive areas. The vapor barrier be sandwiched by two 2-inch sand layers to protect the barrier from punctures. If caissons with adequate depth are to be used for support of structures, structural slab should be used unless the caissons are designed to bring the soil behind the caisson and above the potential slip surface as shown on Plate F, to minimum factors of safety 1.5 and 1.25 for static and seismic slope stability condition, respectively.

5.9 Site Drainage

Final grading shall provide a positive drainage away from the footings and foundation padin compliance with the local jurisdiction's grading requirements. All pad drainage shall be collected and diverted away from the proposed footing and slab areas in non-erosive devices. All underground plumbing fixtures should be absolutely leak free. Proper drainage shall also be provided away from the construction area during construction.

6.0 PLANE REVIEW AND OBSERVATION

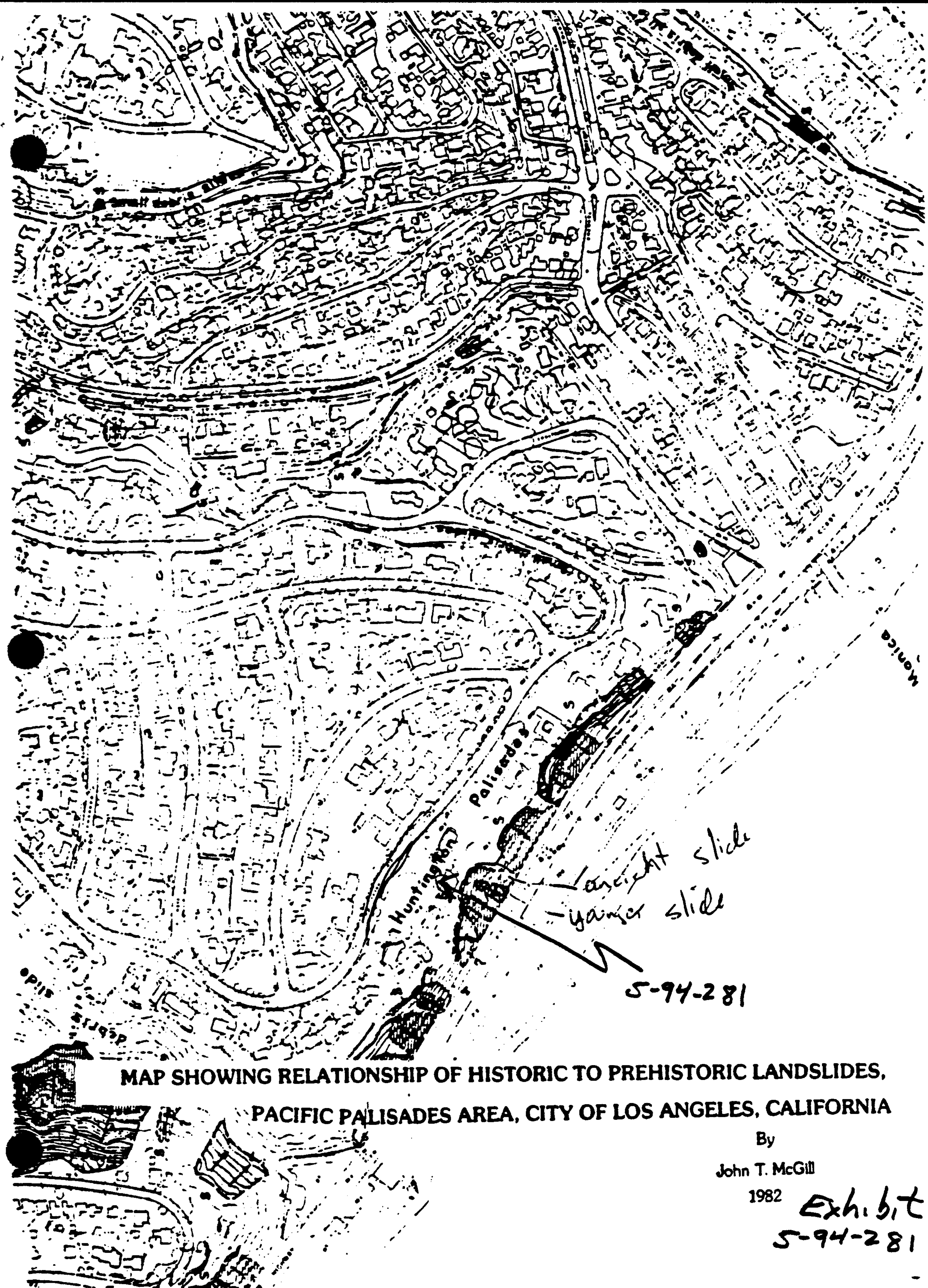
Grading and foundation plans should be reviewed and approved by the Project Soils Engineer and Geologist. Any structural fill should be placed and compacted with engineering control under observation and/or testing by the Project Soils Engineer or his representative. The bottom of footings and the placement of backdrains should also be observed by the Project Soils Engineer or his representative and inspected by City inspector prior to placing concrete or steel.

Exhibit E
7 of 8
5-94-281

7.0 LIMITATIONS

The conclusions and recommendations contained in this report are based upon our data research, subsurface exploration, laboratory testing, geologic and engineering evaluation and analyses, and the assumption that the exploratory test pits are representative of subsurface conditions throughout the property. Variations in site earth materials and their engineering properties may exist between specific test pits. If subsurface conditions different from those encountered in subsurface exploration are observed during construction, MTC Engineering, Inc. should be advised at once and the recommendations contained in this report should be reviewed for accuracy. Since our conclusions and recommendations are based upon data research, site materials, selective laboratory testing, engineering evaluation and analysis in accordance with current standards of practice, our opinion are professional opinions, and no other warranty is expressed or implied.

Exhibit E
8 of 8
5-94-281



MAP SHOWING RELATIONSHIP OF HISTORIC TO PREHISTORIC LANDSLIDES, PACIFIC PALISADES AREA, CITY OF LOS ANGELES, CALIFORNIA

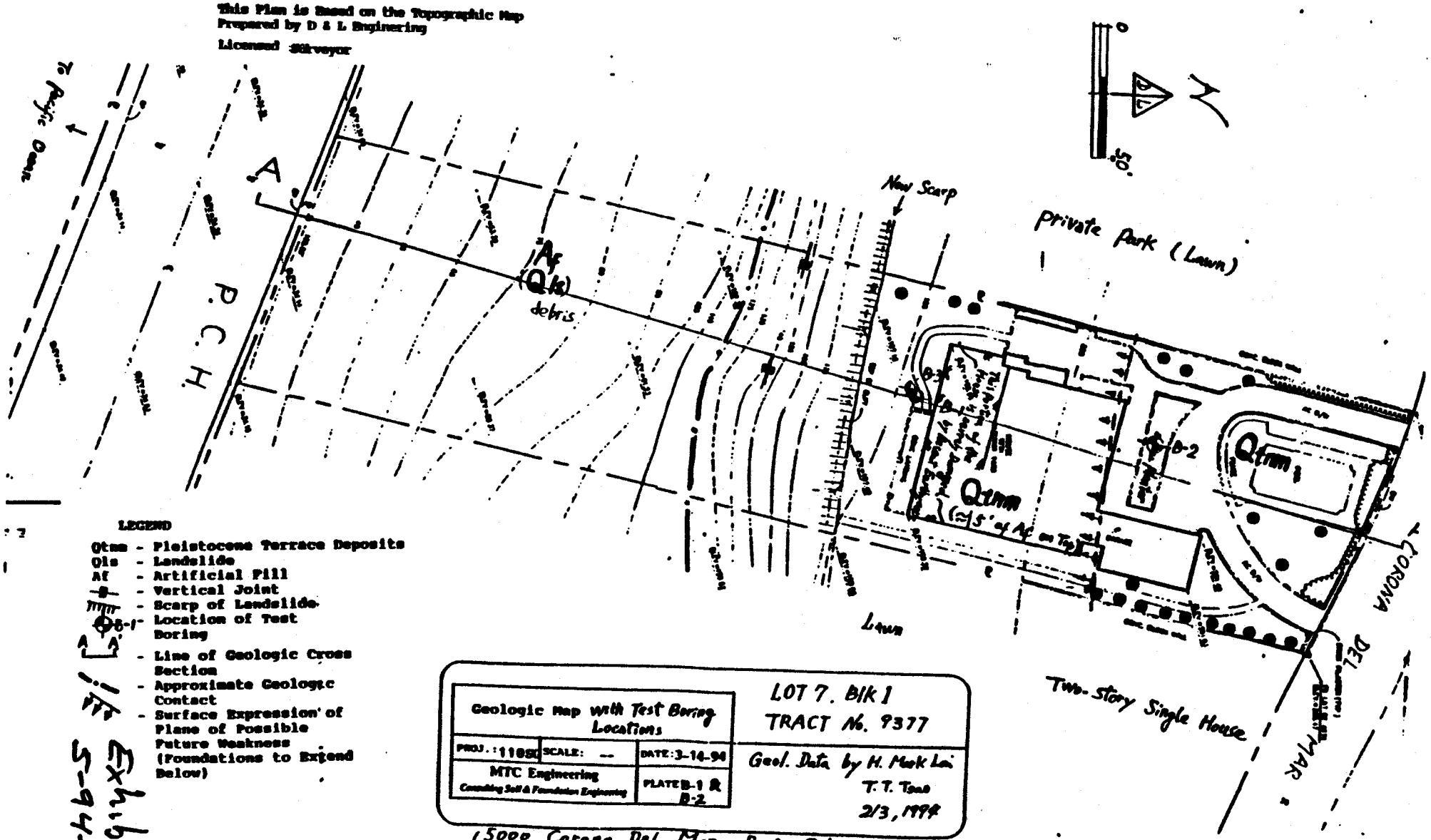
By

John T. McGill

1982

Exhibit F
5-94-281

This Plan is Based on the Topographic Map
Prepared by D & L Engineering
Licensed Surveyor



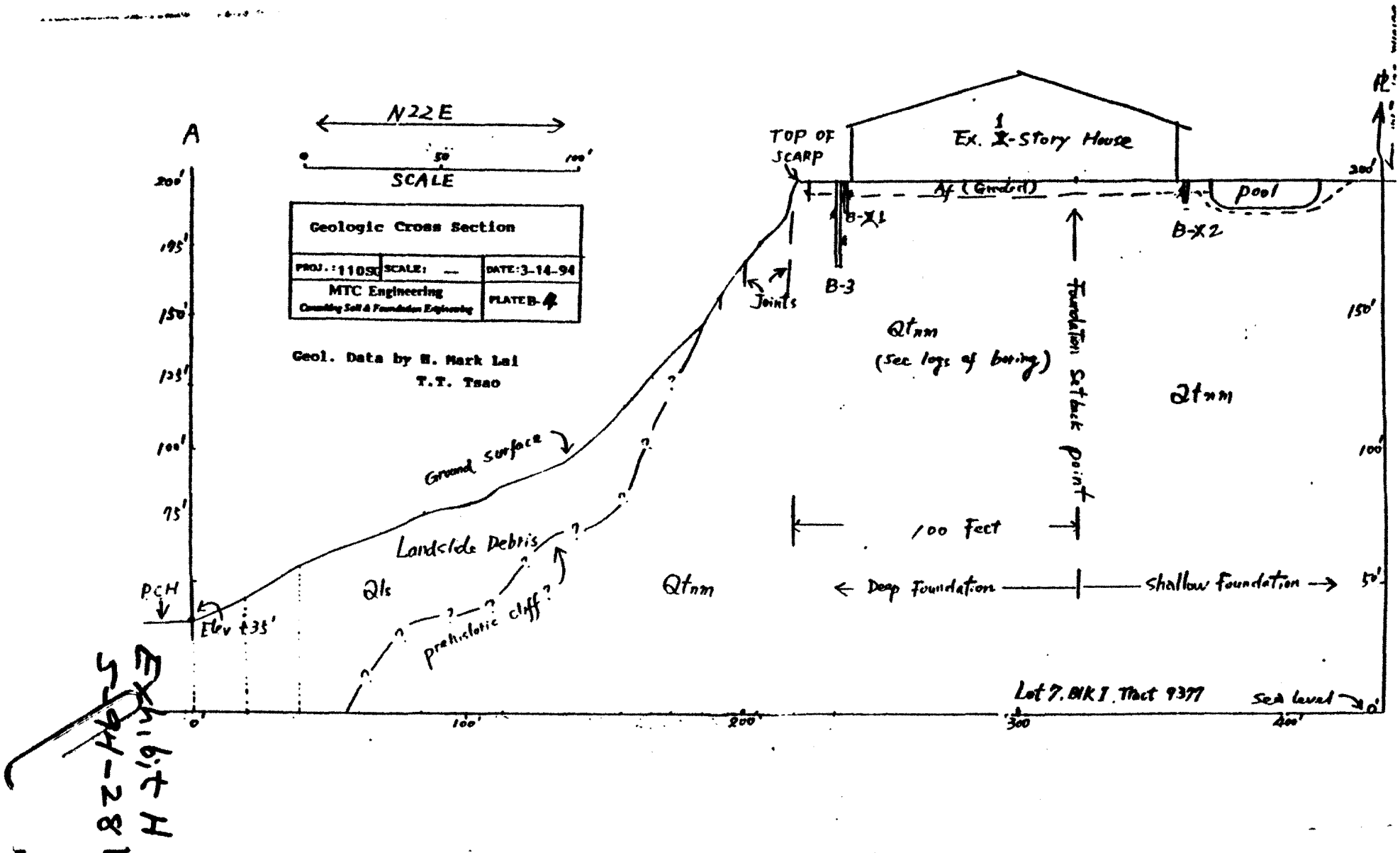
LEGEND

- Qtmm - Pleistocene Terrace Deposits
- Qls - Landslide
- Af - Artificial Fill
- ⊕ - Vertical Joint
- ⊕ - Scarp of Landslide
- B-1 - Location of Test Boring
- A-A' - Line of Geologic Cross Section
- ~~~ - Approximate Geologic Contact
- ~~~ - Surface Expression of Plane of Possible Future Weakness (Foundations to Extend Below)

Geologic Map with Test Boring Locations			LOT 7. Blk 1 TRACT No. 9377
PROJ.: 1185	SCALE: --	DATE: 3-14-94	Geol. Data by H. Mark Lai T. T. Tsao 2/3, 1994
MTC Engineering Consulting Soil & Foundation Engineering		PLATE B-1 & B-2	

15000 Corona Del Mar, Pacific Palisades

Exhibit G
5-94-281


A
N22E
50'
100'
SCALE
Geologic Cross Section
PROJ.: 1105C
SCALE: —
DATE: 3-14-94
MTC Engineering
Consulting Soil & Foundation Engineering
PLATE B-4
Geol. Data by H. Mark Lai
T.T. Tsao
TOP OF SCARP
Ex. 1-Story House
Af (Gindrat)
pool
B-X1
B-X2
B-3
Joints
Qtnm
(see logs of boring)
Foundation Setback point
100 Feet
Ground surface
Landslide Debris
Qls
Qtnm
prehistoric cliff
PCH
Elev ±35'
← Deep Foundation
Shallow Foundation →
Lot 7, Blk 1, Tract 9377
Sea level
200'
195'
150'
135'
100'
75'
50'
0'
100'
200'
300'
400'