

**CALIFORNIA COASTAL COMMISSION**

South Coast Area Office  
290 Oceangate, Suite 1000  
Long Beach, CA 90802-4302  
(213) 590-5071



**Tu 4 a** RECORD PACKET COPY

Filed: 10/25/01  
49th Day: 12/13/01  
180th Day: 04/23/02  
Staff: MS-LB  
Staff Report: 11/20/01  
Hearing Date: December 11, 2001  
Commission Action:

**STAFF REPORT: CONSENT CALENDAR**

**APPLICATION NUMBER:** 5-01-157

**APPLICANT:** Christine & Ravi Sharma

**AGENT:**

**PROJECT LOCATION:** 1080 W.31<sup>st</sup> Street, San Pedro, City of Los Angeles  
(Los Angeles County)

**PROJECT DESCRIPTION:** Demolition of a single story single family residence and construction of a 3,891 square-foot, 2-story, single family residence with four on-site parking spaces located on a 9,031 square-foot lot; construct an eight-foot high, rear yard retaining wall.

Lot Area	9,031 sq. ft.
Building Coverage	2,176 sq. ft.
Pavement Coverage	1,400 sq. ft.
Landscape Coverage	2,000 sq. ft.
Parking Spaces	4 existing spaces
Zoning	R-1
Planning Designation	Single family residential
Ht above final grade	25 feet, 9 inches

**LOCAL APPROVAL:** Approval In Concept, City of Los Angeles, 2001-1626, April 6, 2001

**SUBSTANTIVE FILE DOCUMENTS:** San Pedro Certified Land Use Plan

**SUMMARY OF STAFF RECOMMENDATION:**

Staff is recommending that the Commission grant a coastal development permit for the proposed development with special conditions relating to the recordation of an assumption of risk deed restriction; conformance with geologic and soil recommendations, and erosion control and drainage requirements.

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**STAFF RECOMMENDATION:**

The staff recommends that the Commission adopt the following resolution to **APPROVE** the coastal development permit application with special conditions:

**Motion**

*"I move that the Commission approve with special conditions Coastal Development Permit 5-01-157 per the staff recommendation as set forth below"*

Staff recommends a **YES** vote which would result in the adoption of the following resolution and findings. An affirmative vote by a majority of the Commissioners present is needed to pass the motion.

**I. Resolution: Approval with Conditions**

The Commission hereby **APPROVES** a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

**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 this permit is reported to the Commission. 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. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. 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.
5. 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.

### III. Special Conditions

#### 1. **Assumption of Risk, Waiver of Liability and Indemnity**

- A) By acceptance of this permit, the applicants acknowledge and agree: (i) that the site may be subject to hazards from landslide, erosion and/or earth movement, (ii) to assume the risks to the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- B) **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicants' entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

#### 2. **Conformance of Plans to Recommendations and Requirements**

- A) All final design and construction plans, including foundations, grading, and drainage plans, shall meet or exceed all recommendations and requirements contained in Combined Geological Investigation and Soil Report No. 000519, prepared by T.I.N. Engineering Company, dated June 08, 2000 and the requirements of the City of Los Angeles, Department of Building and Safety, to the extent that they are consistent with the conditions imposed by the Commission.
- B) The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a

Commission amendment of this coastal development permit unless the Executive Director determines that no amendment is required.

### 3. Erosion and Drainage Control

**A. Prior to Issuance of the Coastal Development Permit**, the applicant shall submit, for review and approval of the Executive Director, a plan for erosion and drainage control.

#### 1) Erosion and Drainage Control Plan

(a) The erosion and drainage control plan shall demonstrate that:

- Erosion and sedimentation shall be limited to the maximum extent practicable.
- During construction, erosion on the site shall be controlled to avoid adverse impacts on adjacent properties, and the hillside.
- The following temporary erosion control measures shall be used during construction: temporary sediment basins (including debris basins, desilting basins or silt traps), temporary drains and swales, sand bag barriers, silt fencing, stabilize any stockpiled fill with geofabric covers or other appropriate cover, install geotextiles or mats on all cut or fill slopes, and close and stabilize open trenches as soon as possible.
- Permanent erosion and drainage control measures shall be installed to ensure the stability of the site, adjacent properties, and public streets.
- The erosion and drainage control plans shall show all roof drainage.

(b) The erosion control plan shall include, at a minimum, the following components:

- A narrative report describing all temporary run-off and erosion control measures to be used during construction and all permanent erosion control measures to be installed for permanent erosion control.
- A site plan showing the location of all temporary erosion control measures.
- A schedule for installation and removal of the temporary erosion control measures.
- A written review and approval of all erosion and drainage control measures by the applicant's engineer and/or geologist.
- A written agreement indicating where all excavated material will be disposed and acknowledgement that any construction debris disposed within the coastal zone requires a separate coastal development permit.

(c) The permanent site drainage control plan shall design an appropriate suite of Best Management Practices designed to ensure that:

- Run-off from the project shall not increase the sediment or pollutant load in the storm drain system above pre-development levels.
  - Run-off volume and velocity, to the maximum extent practicable, shall not exceed pre-development levels.
  - All run-off from all roofs, patios, driveways and other impervious surfaces on the site shall be collected and discharged to the street to avoid ponding and/or erosion either on or off the site.
- (d) The drainage control plan shall include, at a minimum, the following components:
- The location, types and capacity of pipes, drains and/or filters proposed.
  - A schedule for installation and maintenance of the devices.
  - A site plan showing finished grades at two-foot contour intervals and drainage improvements.
- (e) These erosion and drainage control measures shall be required to be in place and operational on the project site prior to or concurrent with the initial grading operations and maintained throughout the development process to minimize erosion and sediment from the runoff waters during construction. All sediment shall be retained on-site unless removed to an appropriately approved dumping location either outside the coastal zone or to a site within the coastal zone permitted to receive fill.
- (f) The plan shall also include temporary erosion control measures should grading or site preparation cease for a period of more than 30 days, including but not limited to: stabilization of all stockpiled fill, access roads, disturbed soils, and cut and fill slopes with geotextiles and/or mats, sand bag barriers, and/or silt fencing; and include temporary drains and swales and sediment basins. These temporary erosion control measures shall be monitored and maintained until grading or construction operations resume.

B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

#### **IV. Findings and Declarations:**

The Commission hereby finds and declares:

##### **A. Project Description and Location**

The applicant proposes to demolish an existing one-story single family residence and construct a new two-story, 3,891 square-foot, 25'9" high single family residence with four on-site parking spaces and a rear-yard retaining wall that is located approximately thirty feet from the rear of the house (Exhibit 2 a,b). Construction of an eight-foot high retaining wall that will run across the width of the lot (approximately 50 feet) includes piles for structural support and a return wall on each end of the wall that is approximately eight feet long. The proposed wall is located on the upper slope of a hill that is adjacent to vacant lot that contains a natural eroding channel. The channel is not a significant stream (blue-line stream).

The proposed project is located on a 9,031 square-foot lot located on a hill approximately 2,400 feet inland from the sea (Point Fermin Park). The lot measures approximately 50 feet wide by 202 feet long and consists of a level building pad and an approximately 1.75:1 rear descending slope that is approximately 50 feet high that descends down a hillside to a vacant lot. The building pad is developed with an existing single-family residence. The proposed project site is located in an established residential neighborhood in the San Pedro area of the City of Los Angeles.

##### **B. Community Character and Scale**

The proposed project is located approximately 2,400 feet inland from Point Fermin Park, which is a bluff top park over looking the Pacific Ocean. The project site is situated in a single-family residential area. The neighborhood consists of similar one and two-story homes. The proposed project conforms to the certified LUP height, residential density and parking policies and does not alter the community character or scale. The project site is located near Leland Street, which runs perpendicular to Paseo Del Mar, a main public street that runs along the coastline. The project site is inland of any LUP designated visual corridors and recreational areas, therefore not impacting views to and along the coast.

##### **C. Geology: Safety of Development**

Section 30253 of the Coastal Act states in part:

New development shall:

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

In addition, the certified LUP states in part that:

The following requirements shall apply to all new development proposed in the hazardous areas designated on Appendix D – Geologically Hazardous Areas map: Prior to the approval of any coastal permit, it shall be determined that the proposed development will neither create nor contribute significantly to erosion, geologic instability or destructions of the site...

The location of the project site is not in a LUP designated hazardous area. The geologic and soil report prepared by T.I.N. Engineering Company (June 8, 2000), including state certified consulting engineering geologist A.G. Keene's geologic evaluation dated May 24, 2000, state that the proposed development is considered feasible from an engineering geologic and soils standpoint (Exhibit 3a).

The reports state that the existing home is underlain by topsoil that consists of expansive adobe clay and bedrock that consists of Altamira shales of the Monterey formation. In the rear slope area, the site is underlain with topsoil, colluvium that consists of sandy clay with sandstone bedrock fragments, and bedrock. The report states that the on-site topsoil and colluvium are soft and are not suitable for foundation support due to a high potential for settlement (Exhibit 3a). The report recommends that the proposed two-story house and new retaining wall should be founded on spread footings or pile foundations penetrating into the underlying competent bedrock, which is estimated to be at least 3 feet below the existing grade. The proposed project plans reflect the recommendation and the Commission has included Special Condition No. 2 to require that the development conform to all recommendations made in the geological and soil report (T.I.N. Engineering Company, June 8, 2000) and by the City of Los Angeles Department of Building and Safety.

The geologic report states that the factor of safety for the existing slope on the subject property exhibits factors-of-safety in excess of 1.5 against gross failure and that the potential for gross failure is considered to be low if the subject site is improved in accordance with the geologic recommendations. The report further states that the colluvium on the rear slope is subject to creeping. The report lists recommendations for the design of a continuous wall which should be designed as a retaining wall supporting the height of loose soil on the upslope side with no permissible resistance provided by the loose soil on the downslope side (T.I.N. Engineering Company, June 8, 2000) (Exhibit 3 g, h) The applicant proposes to build a new retaining wall approximately 4 to 5 feet away from the top of the existing rear slope, on the slope face. Grading for the retaining wall will consist of approximately 170 cubic feet of earth that will be removed and then back filled to expand the yard. The applicant contends that he was advised by the City, following a site inspection, to build the retaining wall to help protect the property against soil creep. As mentioned above, the proposed wall will run the width of the lot (50 feet), with an 8-foot long return wall on each end.

The geologic and soils reports conclude that the proposed development is considered feasible from an engineering geologic and soil standpoint and will be safe from landslide and slumping provided the recommendations with respect to foundations, drainage and grading are incorporated into the plans and implemented. Therefore, to ensure that the recommendations made by the consultants are implemented the applicant shall submit evidence indicating that the consultants have reviewed the plans and all recommendations have been incorporated into the design.

Furthermore, in previous actions on hillside development in geologically hazardous areas the Commission has found that there are certain risks that can never be entirely eliminated. Although the certified LUP does not designate the area of the project site a "hazardous area", the registered geologist has determined that the structure shows slight evidence of foundation distress and the soils are expansive and that the rear slope is subject to soil creep. This is evidence to the Commission that there is some certain risk associated with the project site. In addition, the Commission notes that the applicant has no control over off-site or on-site conditions that may change and adversely affect the hillside slope on the property. Therefore, based on the information in the applicant's geologic reports and the City's review, the Commission finds that the proposed project is subject to risk from erosion and/or slope failure (topple) and that the applicant should assume the liability of such risk. The assumption of risk, when recorded against the property as a deed restriction, will show that the applicant is aware of and appreciates the nature of the hazards which may exist on the site and which may adversely affect the stability or safety of the proposed development. The Commission, therefore, finds that only as conditioned will the proposed development be consistent with Section 30253 of the Coastal Act.

**D. Erosion and Sediment Control**

Section 30231 of the Coastal Act states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

A potential impact to habitat, as a result of any construction, is siltation of ocean waters due to unrestricted runoff and erosion. To prevent this and to assure protection of offshore waters, the Commission has imposed conditions (Special Condition No. 3) to prevent erosion during construction and discharge of excess water over the face of the hillside. The soil engineer for the project recommends that all roof and surface drainage be conducted away from the development in engineered non-erosive devices to a safe point of discharge and to the street and that no site runoff drainage should be allowed to cross over the tops of the slopes except in engineered non-erosive devices. It is also recommended that all slabs and planted areas be sloped to drain to a safe point of collection (Exhibit 3b), and all roof drainage should be collected in eave gutters that discharge directly into engineered non-erosive drainage devices. The applicant proposes to direct all drainage to the street and Special Condition No. 2 requires that the development conform to all recommendations made in the geological and soil report (T.I.N. Engineering Company, June 8, 2000). As conditioned, the proposed development is consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30231.

**E. Local Coastal Program**

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

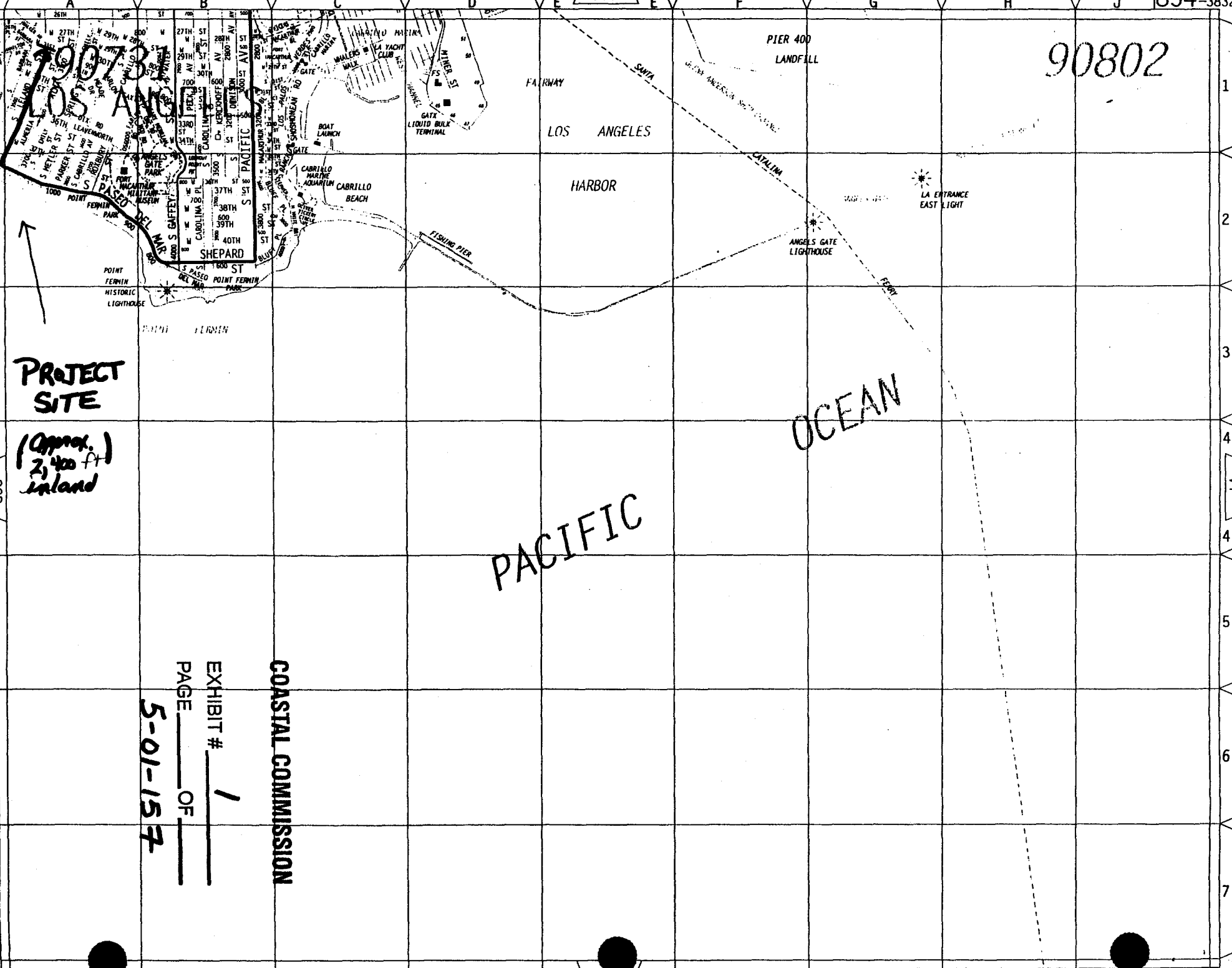
Prior to certification of the Local Coastal Program, a Coastal Development Permit shall be issued if the issuing agency, or the Commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted 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).

On September 12, 1990, the Commission certified, with suggested modifications, the land use plan portion of the San Pedro segment of the City of Los Angeles' Local Coastal Program. The certified LUP contains polices to guide the types, locations and intensity of future development in the San Pedro coastal zone. Among these polices are those specified in the preceding section regarding geological concerns, height and residential density policies. As conditioned the project will not adversely impact coastal resources. The Commission, therefore, finds that the project, as conditioned, will be consistent with the Chapter 3 policies of the Coastal Act and will not prejudice the ability of the City to prepare a Local Coastal Program implementation program consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

**F. California Environmental Quality Act**

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) 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 effect which the activity may have on the environment.

As proposed, there are no feasible alternatives or mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the proposed project is found consistent with CEQA and the policies of the Coastal Act.



PROJECT  
SITE

(Approx.  
2,400 ft)  
inland

EXHIBIT # 1  
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COASTAL COMMISSION

90802

LOS ANGELES CO.

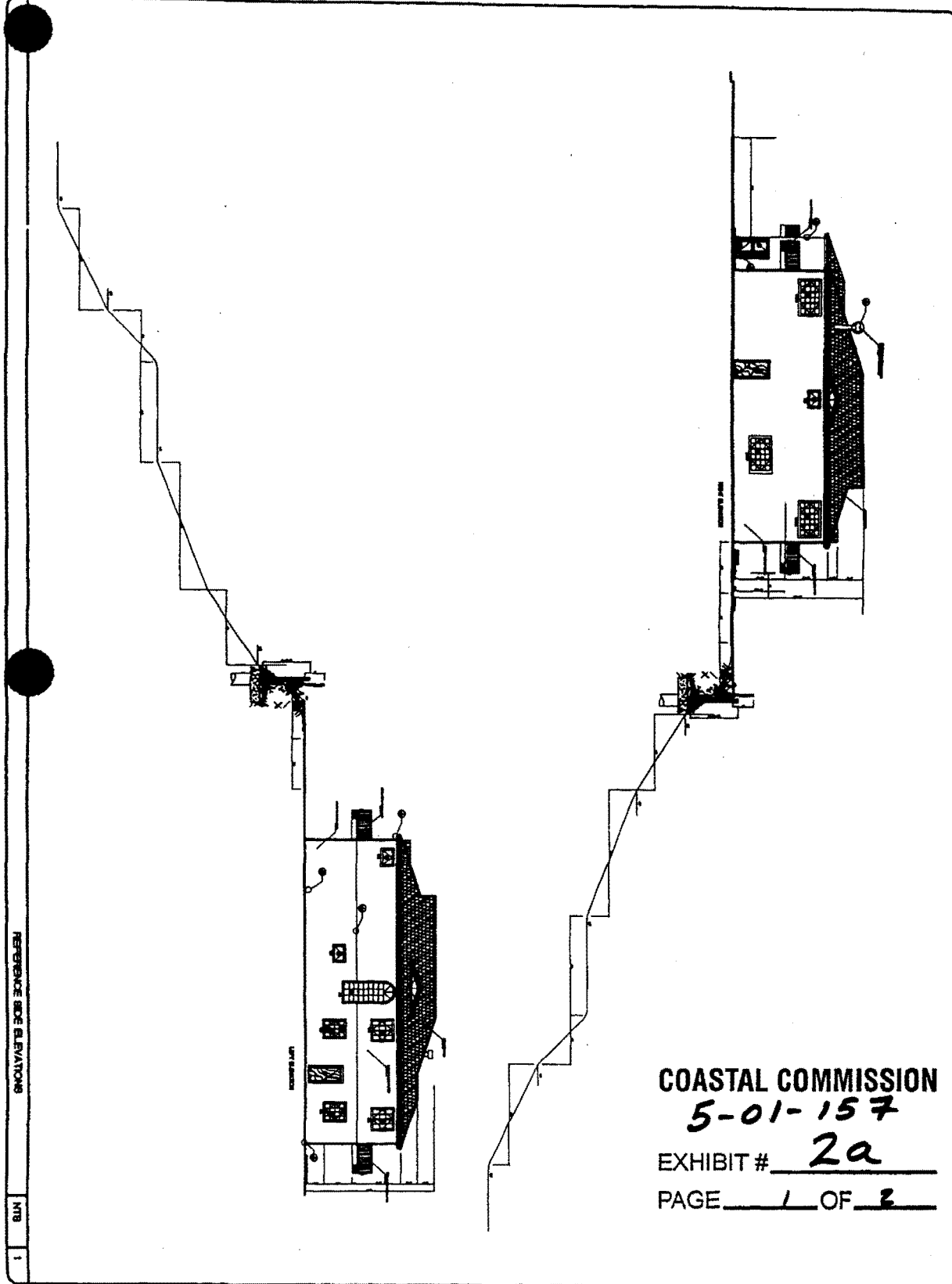
SEE MAP 853

MAP

MAP

MAP

MAP



SHARMA RESIDENCE

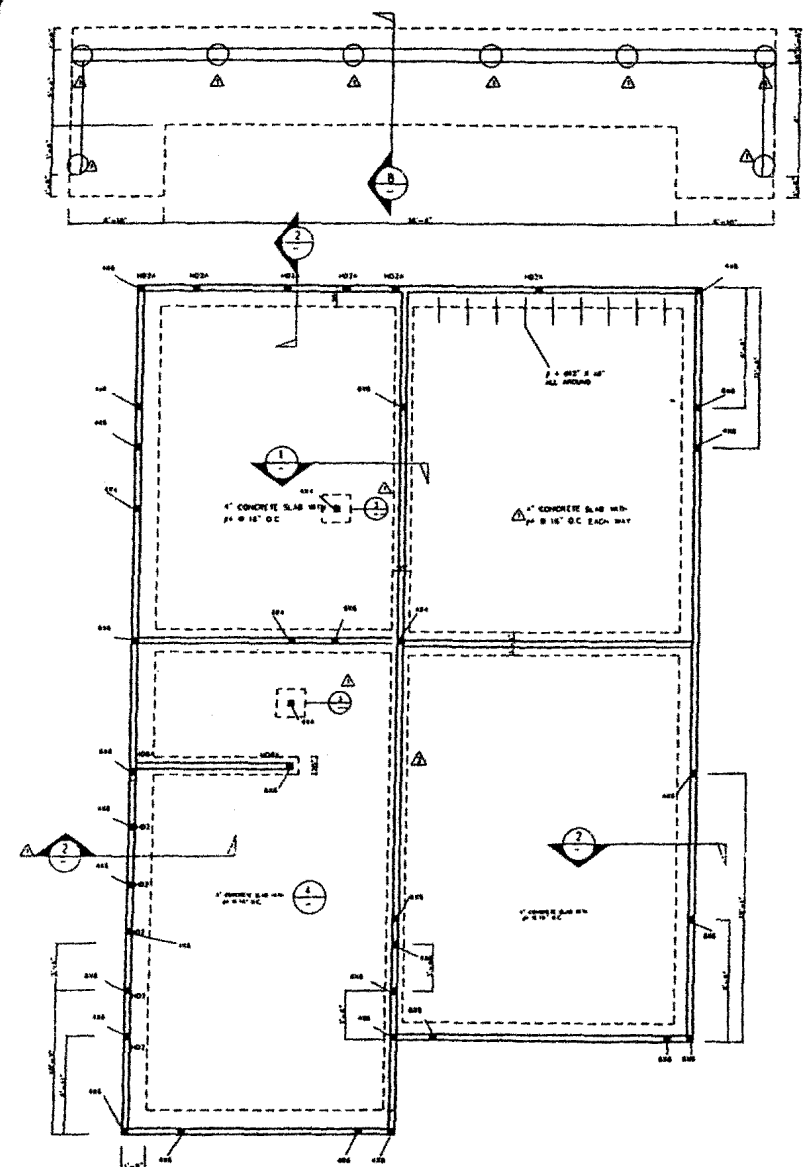
1080 31ST STREET  
SAN PEDRO, CALIFORNIA

**URS**

URS ASSOCIATES  
ARCHITECTURE AND PLANNING  
1000 10TH AVENUE  
SUITE 1000  
SAN FRANCISCO, CA 94103  
TEL 415 774 2000  
FAX 415 774 2001

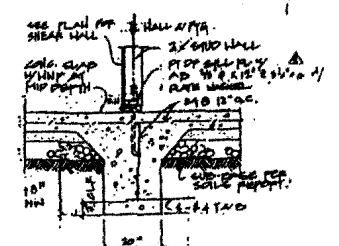
A-4.1

Verticality: 1/4" = 1'-0" Horizontal: 1/4" = 1'-0"

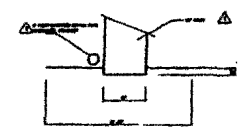


FOUNDATION PLAN

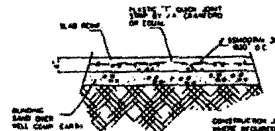
1" = 1/4" 7



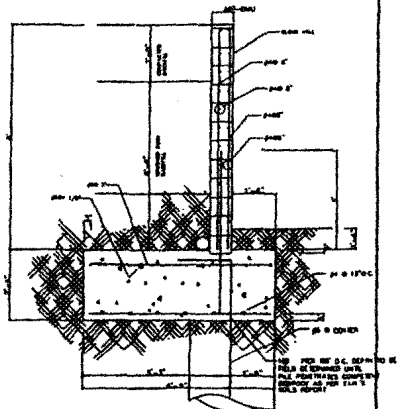
DETAIL NTS 1



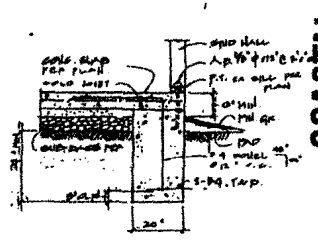
DETAIL 1" 5



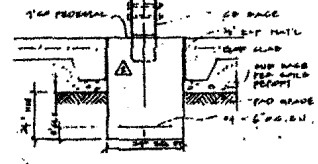
CONC. SLAB NTS 4



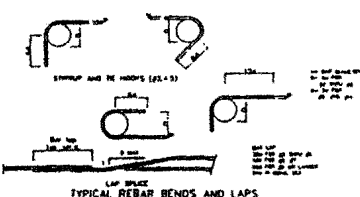
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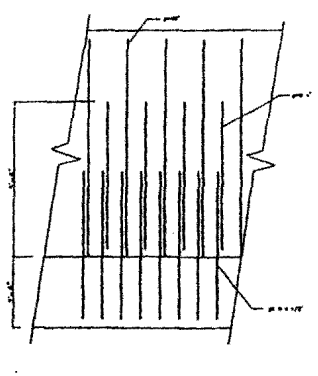
DETAIL NTS 2



DETAIL NTS 3



DETAILS NTS 6



DETAILS NTS 9

RETAINING WALL NTS 8

RETAINING WALL NTS 9

## Surficial Slope Stability

Surficial slope stability analyses were based on an assumed planar infinite slope with a constant thickness of soil overlying the bedrock. A perched groundwater level a minimum of three feet above the potential slip surface was assumed resulting in seepage forces parallel to the potential slip surface. The rear 1  $\frac{3}{4}$ :1 descending slope was used for analysis. The computations are presented in the attached Plate 8.2. A minimum factor of safety was computed which is greater than 1.5, the Building Code minimum. However, the colluvium on the rear slope is subject to creeping.

## Conclusions and Recommendations

### General

Based upon our evaluation of the site and soil conditions, the foregoing data and information, the following conclusions and recommendations are made. Construction of the proposed house additions and new retaining wall is feasible from the standpoint of geotechnical and geologic engineering practice at the subject site, provided all recommendations and conditions made herein, in addition to those made by the engineering geologist, Appendix D, are incorporated into all design. The thickness of earth materials and the depths to foundation stratum indicated in this report are based on the data obtained from the locations of the exploratory trenches and observed outcrops. The actual thickness of earth materials and depths to foundation stratum between the exploratory trenches may vary from that indicated herein. The design and construction procedures should take this into account.

1. It was our finding that the on-site topsoil and colluvium were soft and are not considered suitable for foundation support due to a high potential for settlement. The proposed two-story house addition and new retaining wall should be founded on spread footings or pile foundations penetrating into the underlying competent bedrock as specified below. The depth to competent bedrock is estimated to be at least 3 feet below the existing grade.
2. The existing house foundations encountered in the trenches T-1 and T-2 were founded approximately one foot into the soft topsoil. We recommend that the existing house foundations to be utilized for support of the proposed second-story additions be underpinned with new foundations penetrating into competent bedrock.
3. All new foundations to be located adjacent to the rear slope area should be horizontally setback at least one-third of the height of the rear slope from the face of the rear slope per the Building Code requirement, which is to be approximately 17 feet. The proposed retaining wall to be located on the rear slope may be founded on pile foundations penetrating into competent bedrock in order to obtain an adequate setback.

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statutory permits or contracting in order to ascertain that the intents of our recommendations are conveyed.

### **Drainage Control**

Control of soil moisture is essential for the long term performance of improvements, particularly those located on or near expansive soils. All roof and surface drainage should be conducted away from the development in engineered non-erosive devices to a safe point of discharge and to the street. No site runoff drainage should be allowed to cross over the tops of slopes except in engineered non-erosive devices.

Slabs and planted areas immediately adjacent to the dwelling or appurtenant structures should slope away from said structures to mitigate pooling of water. All slabs and planted areas should be sloped to drain to a safe point of collection. Slabs should have a minimum slope of one percent and planted areas a minimum of three percent. All roof drainage should be collected in eave gutters that discharge directly into engineered non-erosive drainage devices. All joints in slab and swales should be maintained sealed with an appropriate joint compound.

Drainage devices shall be provided as specified by the Building Code and Grading Ordinances.

### **Plan Reviews**

Final development plans should be reviewed by this office to ascertain that the general intents of the recommendations of this report have been incorporated into the plans. Additional structures not analyzed during this investigation should be reviewed by a representative of this office.

### **On-Site Construction Reviews**

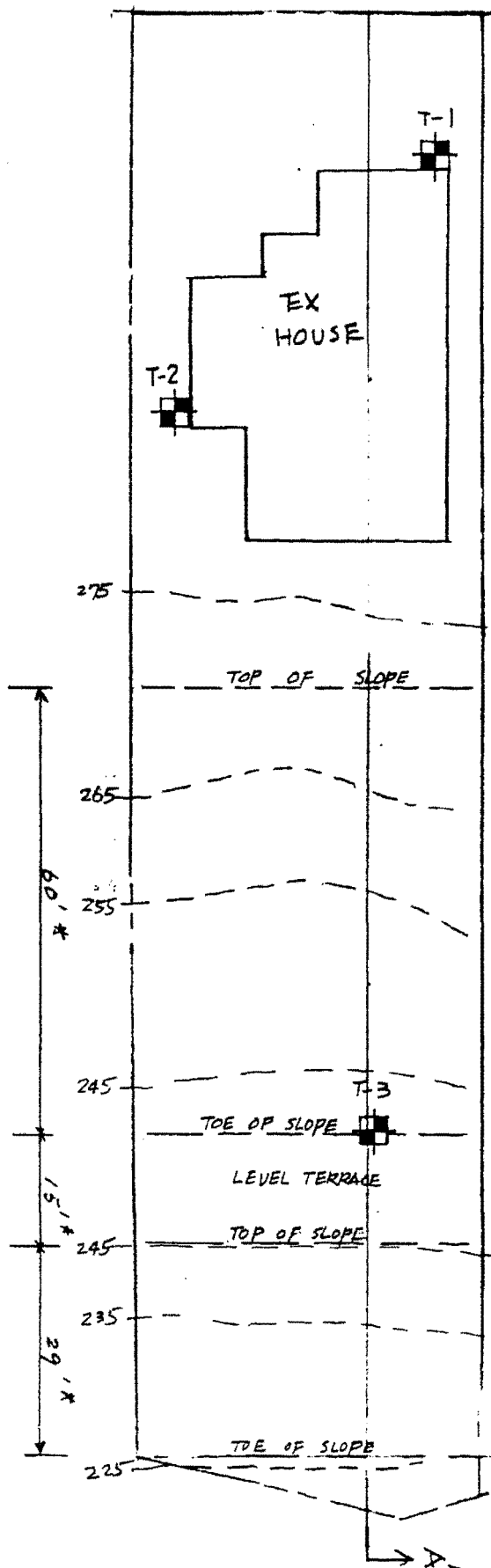
On-site construction reviews of all drainage and foundation work should be performed by a field representative of this office to ascertain compliance with the recommendations of this report. Final grading and/or construction should be observed and a written observation form or report issued by this office stating that the work meets the recommendations of this report. The stages at which our on-site construction reviews are to be performed should include, but are not necessarily be limited to, the following stages of work:

1. Continuous on-site observation of all drilled pile excavations, and final observation and verification of borehole depths following placement of steel reinforcement, immediately prior to pouring concrete.
2. Observation of footing excavations prior to placement of form boards or reinforcing steel.

**COASTAL COMMISSION**

EXHIBIT # 36  
PAGE \_\_\_\_\_ OF \_\_\_\_\_

WEST 31<sup>ST</sup> STREET



**LEGEND**



EXPLORATORY TRENCH T-1

T-1

NOTE: \* FIELD MEASUREMENT  
SHOWN ELEVATION FROM APPENDED GEOLOGY REPORT

SCALE 1" = 20'



COASTAL COMMISSION

EXHIBIT # 3C

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**5-01-157**

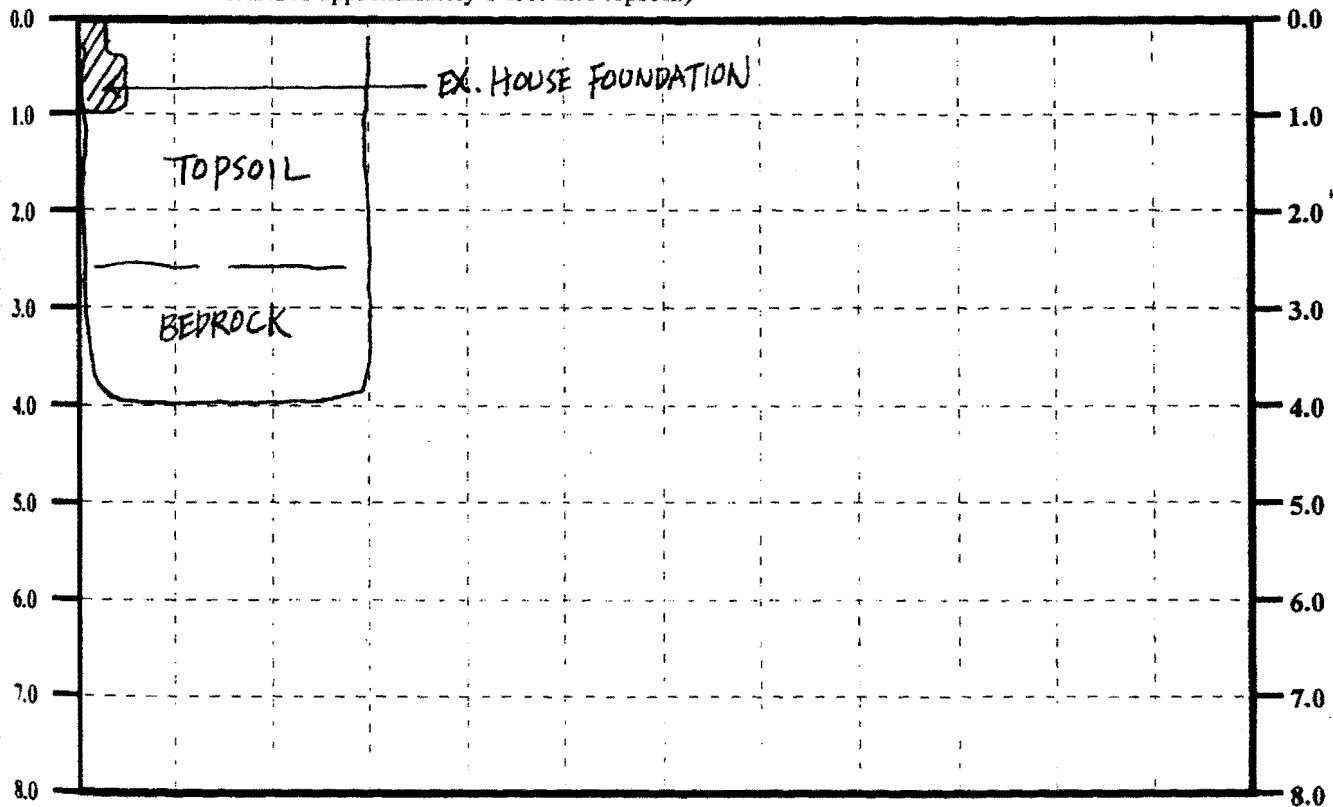
**SITE PLAN**

# EXCAVATED TEST TRENCH T-1 LOG

0.0' - 2.5' Topsoil - dark brown, moist to very moist, moderately soft, expansive, adobe clay (CL).

2.5' - 4.0' Bedrock - light brown and gray, hard, well-bedded, diatomaceous shale interbedded with siltstone.

(No caving encountered. No groundwater encountered. Existing building foundation founded approximately 1 foot into topsoil.)



Trench No. T - 1 , Length 3.0' , Width 3.0' , Depth 4.0'

THE LOG OF SUBSURFACE CONDITIONS HEREON APPLIES ONLY AT THE SPECIFIC LOCATION AND THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DATE EXCAVATED : 5/22/2000

DATE: June 8, 2000

JOB NO. : 000519

P L A T E 4.1

COASTAL COMMISSION

T.I.N. ENGINEERING COMPANY

EXHIBIT # 30

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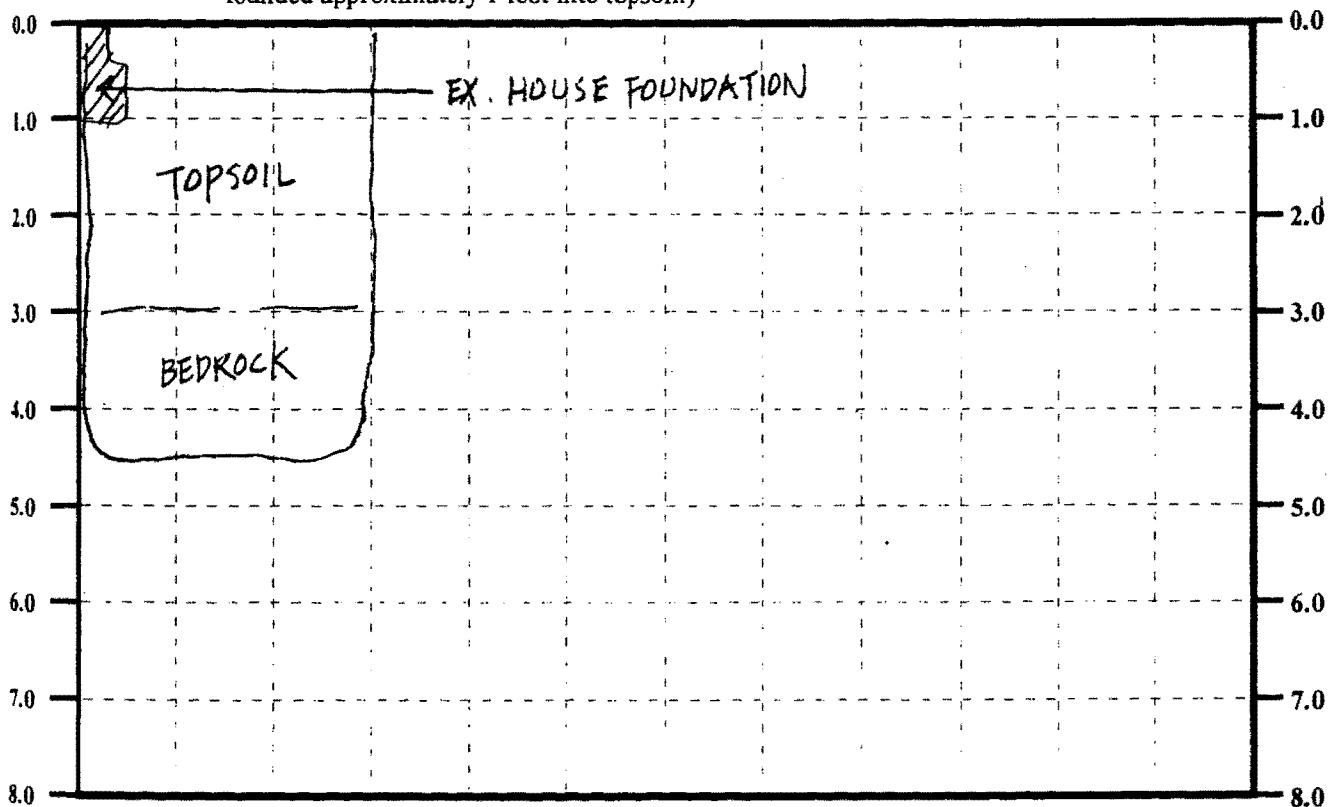
5-01-157

## EXCAVATED TEST TRENCH T-2 LOG

0.0' - 3.0' Topsoil - dark brown, moist to very moist, moderately soft, expansive, adobe clay (CL).

3.0' - 4.5' Bedrock - light brown and gray, hard, well-bedded, platy shale with white coated caliche.

(No caving encountered. No groundwater encountered. Existing building foundation founded approximately 1 foot into topsoil.)



Trench No. T - 2 , Length 3.0' , Width 3.0' , Depth 4.5'

THE LOG OF SUBSURFACE CONDITIONS HEREON APPLIES ONLY AT THE SPECIFIC LOCATION AND THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DATE EXCAVATED : 5/22/2000

DATE: June 8, 2000

JOB NO. : 000519

P L A T E 4 COASTAL COMMISSION

T.I.N. ENGINEERING COMPANY

EXHIBIT # 3e

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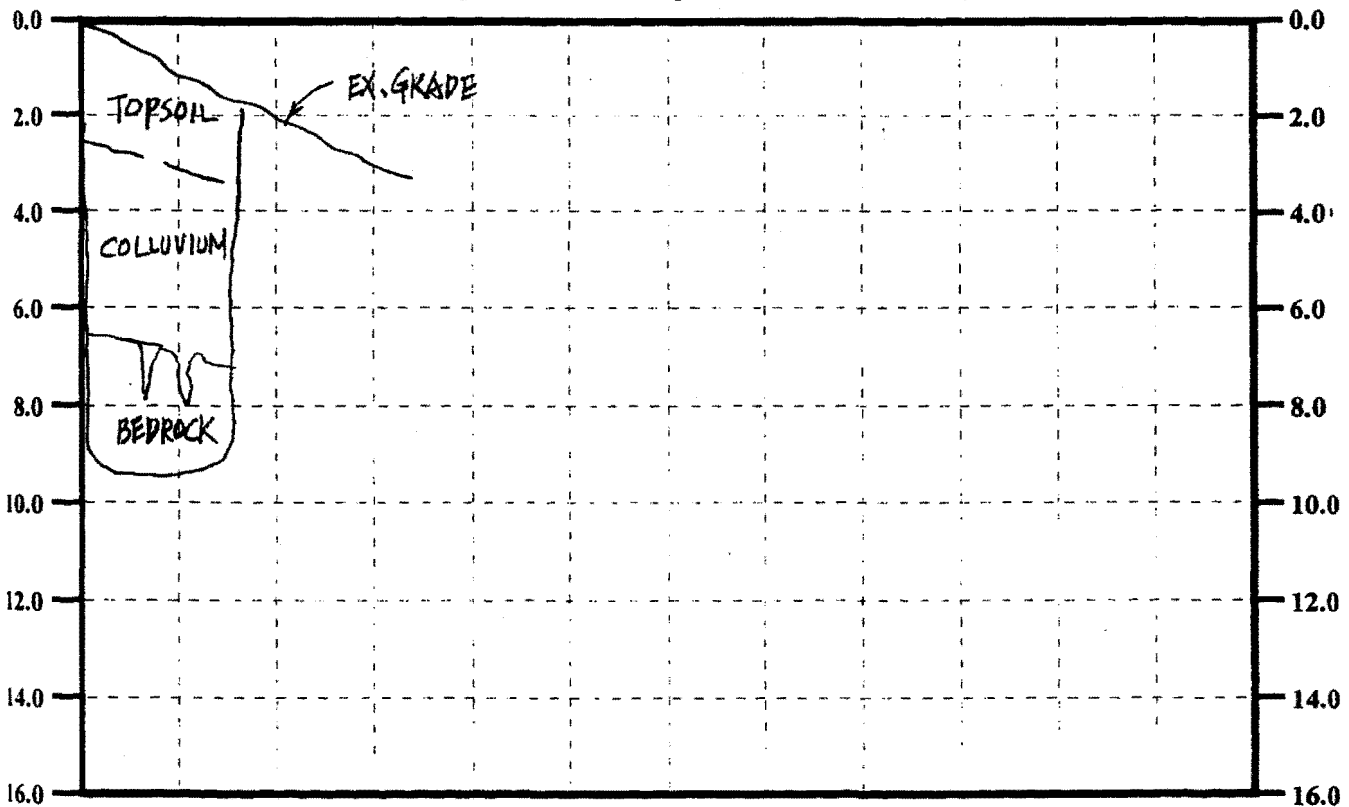
# EXCAVATED TEST TRENCH T-3 LOG

0.0' - 2.5' Topsoil - dark brown, moist to very moist, moderately soft, expansive, adobe clay (CL).

2.5' - 6.5' Colluvium - gray and light brown, moist, soft, silty, sandy clay (SC) with angular boulders sandstone bedrock fragments, up to 6" to 1 foot in diameter.

6.5' - 9.0' Bedrock - light brown and gray, hard, well-bedded, fractured, sandstone shale.

(No caving encountered. No groundwater encountered. )



Trench No. T-3, Length 3.0', Width 3.0', Depth 9.0'

THE LOG OF SUBSURFACE CONDITIONS HEREON APPLIES ONLY AT THE SPECIFIC LOCATION AND THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DATE EXCAVATED : 5/22/2000

DATE: June 8, 2000

JOB NO. : 000519

P L A T E **COASTAL COMMISSION**

**T.I.N. ENGINEERING COMPANY**

EXHIBIT # 3F

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### **Seismic Coefficients**

The following seismic coefficients should be utilized for designs of the proposed structures at the subject site:

- Soil Profile Types:  $S_B$
- Near Source Factor,  $N_a$ : 1.3
- Near Source Factor,  $N_v$ : 1.6

### **Creep**

Any piers or continuous footings penetrating natural surficial material or loose fill on slopes of 3:1 or steeper should be designed for creep loads. Piers should be designed for a creep load of 1,000 pounds per linear foot applied to the length of pier penetrating loose soils. Continuous walls should be designed as retaining walls supporting the height of loose soil on the upslope side with no permissible resistance provided by the loose soil on the downslope side.

Friction piles within 15 feet of the top of the slope or on the slope penetrating natural surficial material or loose fill should be designed for creep loads. Friction piles should be designed for a creep load of 1,000 pounds per linear foot applied to the portion of the pile penetrating loose soils in the downslope direction. A minimum of 3 feet of creep load should be designed for the piles located on the slope.

The required penetration of friction piles into bedrock for creep may be computed by the pole formula in the Building Code utilizing the values given above under "Lateral Design." The friction pile may be assumed to be fixed 3 feet below the bedrock and soil interface. Alternatively, the structural engineer may consider tying the friction piles to the grade beams or continuous footings to act as a moment resisting frame with "pinned connections" or "fixed end conditions." For a "pinned connections" the pile must penetrate into bedrock as required to develop the equivalent fluid passive pressure. For "fixed end conditions" the pole formula may be utilized.

### **Foundation Settlement**

Settlement of new foundation system is expected to occur on initial application of loading. The settlement is expected to be  $\frac{1}{4}$  to  $\frac{3}{4}$  inch, depending upon final loads. Differential settlement is not expected to exceed  $\frac{1}{3}$  inch for a horizontal distance of 30 feet.

COASTAL COMMISSION

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## Retaining Wall

Freestanding walls should be designed per Table as shown in Plate 9. For allowable bearing values see "Spread Footing Foundations." For resistance of lateral loads see "Lateral Design."

Wall should be backfilled with on-site soil materials, compacted as described under "Grading", or with uniform crushed rock vibrated into place, and provided with backfill subdrains. If the wall is backfilled with the latter, the upper two feet should be backfilled with an impermeable layer of compacted earth. The subdrains should consist of 4-inch minimum diameter perforated pipe placed within filter material 3 to 5 inches vertically above the earth, 12 inches horizontally to any soil and 2 inches clear of any masonry or concrete surface. The filter material should consist of  $\frac{3}{4}$  inch crushed rock. The base of the filter material should be three feet wide, or the width of the area to be backfilled whichever is less, placed up against the stem of the wall at a 1:1 slope and a one-foot thickness continued up along the stem of the wall to within 24 inches of the finish grade surface. Perforated pipe should slope at least one percent, preferably two percent to daylight, with perforations pointing down and out to the side. Open head joints in concrete block are often inadequate as grout flow may seal them off.

Where penetration of moisture or water through walls is undesirable the designer should take appropriate measures. As a minimum the designer should give consideration to treatment of the backfill side of the wall with a bituminous coating for resistance to penetration of water vapor. Troweled mortar coats, particularly for masonry surfaces, may be required to level irregular wall surfaces before application of bituminous coatings. In more critical applications, particularly where there may be a hydrostatic head of water, a bituminous membrane or similar system should be considered. All concrete and masonry should be of durable materials and carefully constructed to obtain a watertight member.

## Temporary Construction Excavations

Excavations will be required for the proposed construction. The excavation is expected to expose on-site soils which are not suitable for vertical excavations over five feet. Portions of excavations over five feet should be trimmed to a 1:1 slope gradient. All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavation nor to flow toward it. No vehicular surcharge should be allowed within five feet of the top of cut.

All safety provisions of Cal OSHA and other related statutory agencies should be adhered to, especially as related to support of adjacent structures.

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EXHIBIT # 3h