CALIFORNIA COASTAL COMMISSION
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Filed:	1-11-02
49th Day:	3-01-02
180th Day:	7-10-02
Staff:	MS-LB
Staff Report:	February 12, 2002
Hearing Date:	March 5-8, 2002
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-01-488

RECORD PACKET COPY

APPLICANT: Peter W. Biche

AGENT: Srour and Associates, Attn: Elizabeth Srour

PROJECT LOCATION: 3220 The Strand, City of Hermosa Beach, Los Angeles Co.

PROJECT DESCRIPTION: Demolition of an existing triplex and construction of a two-story (over basement level), 25-foot high, 3,752 square-foot single-family residence with three on-site parking spaces, on a 2,495 square-foot R1-zoned beachfront lot.

Lot Area	2,495 square feet
Building Coverage	1,433 square feet
Pavement Coverage	982 square feet
Landscape Coverage	80 square feet
Parking Spaces	3
Zoning	R1
Plan Designation	Low Density Residential (LD)
Ht above existing grade	25 feet

SUBSTANTIVE FILE DOCUMENTS:

1. City of Hermosa Beach Land Use Plan, certified 4/21/82.
2. City of Hermosa Beach Approval in Concept, 12/20/01.
3. Coastal Development Permits 5-01-186 (Doukoullos), 5-00-451 (Scott), 5-00-446 (Campbell) and 5-00-271 (Darcy).
4. *Wave Run-up Study, 3220 The Strand, Hermosa Beach, CA* prepared by Skelly Engineering, October 2001.
5. *Geotechnical Engineering Investigation, Biche Residence 3220 The Strand, Hermosa Beach, CA* (Project No. 9339-01) prepared by NorCal Engineering, May 18, 2001.

SUMMARY OF STAFF RECOMMENDATION

Staff is recommending that the Commission **APPROVE** a coastal development permit for the proposed development with special conditions addressing height, residential density and parking; also requiring agency approval, conformance to drainage and landscaping plans, conformance with geotechnical recommendations, recordation of an "Assumption of Risk" deed restriction and a "No Future Protective Device" deed restriction. The major issue of this staff report concerns beachfront development that could be affected by flooding during strong storm events.

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 Coastal Development Permit No. 5-01-488 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

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. 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

A) By acceptance of this permit, the applicant acknowledges and agrees: (i) that the site may be subject to wave up-rush and flooding; (ii) to assume the risks to the applicant and 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 applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, which reflects the above restriction on development. The deed restriction shall include a legal description of the applicant's 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. No Future Shoreline Protective Device

A) By acceptance of this permit, the applicant agrees, on behalf of himself and all other successors and assigns, that no shoreline protective device(s) shall ever be constructed to protect the subject property approved pursuant to Coastal Development Permit No. 5-01-488, including future improvements, in the event that the property is threatened with damage or destruction from waves, erosion, storm conditions or other natural hazards in the future. By acceptance of this permit, the applicant hereby waives, on behalf of himself and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.

B) **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, which reflects the above restriction on development. The deed restriction shall include a legal description of the applicant's 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.

3. Height

No portion of the roof of the proposed structure shall exceed twenty-five feet (25') in elevation above the existing grade.

4. Residential Density and Parking

The permitted use of the approved structure is a single family residence. A minimum of three parking spaces shall be provided and maintained on the site to serve the approved single-family residence. Any proposed change in the number of units or change in use shall be submitted to the Executive Director to determine whether an amendment to this permit is necessary pursuant to the requirements of the Coastal Act and the California Code of Regulations.

5. Storage of Construction Materials, Mechanized Equipment and Removal of Construction Debris

The permittee shall comply with the following construction-related requirements:

(a) Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of construction-related materials, and to contain sediment or contaminants associated with construction activity, shall be implemented prior to the on-set of such activity;
(b) No construction materials, debris, or waste shall be placed or stored where it may enter a storm drain or be subject to tidal erosion and dispersion;
(c) All trash and debris shall be disposed in the proper trash or recycling receptacle at the end of every construction day.
(d) Construction debris and sediment shall be properly contained and secured on site with BMPs, to prevent the unintended transport of sediment and other debris into coastal waters by wind, rain or tracking. All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil;
(e) Construction debris and sediment shall be removed from construction areas as necessary to prevent the accumulation of sediment and other debris which may be discharged into coastal waters. All debris and trash shall be disposed of in the proper trash and recycling receptacles at the end of each construction day;
(f) The discharge of any hazardous materials into any receiving waters shall be prohibited;
(g) A pre-construction meeting should be held for all personnel to review procedural and BMP/GHP guidelines;
(h) All BMPs shall be maintained in a functional condition throughout the duration of the project.
(i) Debris shall be disposed at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is required.

6. Drainage and Polluted Runoff Control Plan

A) **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit for the review and approval of the Executive Director a drainage and runoff control plan, including supporting calculations, which indicate that drainage and polluted runoff controls shall incorporate structural and non-structural Best Management Practices (BMPs) designed to minimize the volume, velocity and pollutant load of storm water and other runoff leaving the developed site. The plans shall be

reviewed and approved by the consulting engineering geologist to ensure the plan is in conformance with the geologists' recommendations. All design and construction plans, including but not limited to grading plans, foundation plans, site plans, floor plans, elevation plans, roof plans, landscape and hardscape plans shall be consistent with the final drainage and runoff control plan. In addition to the specifications above, the plans shall be in substantial conformance the following requirements:

(1) Selected BMPs (or suites of BMPs) shall be designed to treat or infiltrate storm water from each runoff event.
(2) Design elements, which will serve to reduce directly connected impervious area and maintain permeable space within the development shall be incorporated where feasible. Options include the use of alternative design features such as concrete grid driveways and/or pavers/stepping stones for walkways, and porous material for or near walkways and driveways;
(3) Runoff from all roofs, parking areas, driveways and other impervious surfaces shall be collected and directed through a system of vegetated and/or gravel filter strips or other media filter devices, where feasible. The filter elements shall be designed to 1) trap sediment, particulates and other solids and 2) remove or mitigate contaminants through infiltration and/or biological uptake. The drainage system shall also be designed to convey and discharge excess runoff from the building site to the street in a non-erosive manner.
(4) The plan shall include provisions for maintaining the drainage and filtration systems, including structural BMPs, in a functional condition throughout the life of the approved development. Such maintenance shall include the following: (1) the drainage and filtration system shall be inspected, cleaned and repaired prior to the onset of the storm season, no later than September 30th each year and (2) should any of the project's surface or subsurface drainage/filtration structures fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.

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

7. Conformance of Plans to Recommendations and Requirements

A) All final design and construction plans shall meet or exceed all recommendations and requirements contained in Geological Investigation Report No. 9339-01 prepared by Keith D. Tucker, Project Engineer, NorCal Engineering dated May 18, 2001, Wave Impact Study prepared by Skelly Engineering dated October 2001 and the requirements of the City of Hermosa Beach, Department of Building and Safety, to the extent that they are consistent with the conditions imposed by the Commission.

B) The permittees 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

8. Regional Water Quality Control Board Approval

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, applicant shall provide to the Executive Director a copy of a permit issued by the ***Regional Water Quality Control Board***, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the ***Regional Water Quality Control Board***. Such changes shall not be incorporated into the project until the applicant obtains 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

The subject site is located at 3220 The Strand within the City of Hermosa Beach, Los Angeles County (Exhibit 1). The site is a beachfront lot located between the first public road and the sea. The 2,495 square-foot lot is located on the inland side of The Strand, an improved public right-of way that separates the residential development from the public beach (Exhibit 2). The Strand is used by both residents and visitors for recreation activities (walking, jogging, biking, etc.) and access to the shoreline. It extends for approximately 10 miles, from 45th Street (the border between El Segundo and Manhattan Beach) to Herondo Street (the border between Hermosa Beach and Redondo Beach). The project is located within an existing urban residential area, located approximately one-half mile north of the Hermosa Beach Pier. There is an approximately 300-foot wide sandy beach between the subject property and the mean high tide line. Vertical public access to this beach is available to pedestrians via public right-of-way at the western ends of 34th Place (240 feet north) and Longfellow Place (60 feet south) (Exhibit 2).

The applicant is proposing demolition of an existing triplex and construction of a two-story (over basement level), 25-foot high (above existing grade) single family residence with 3,322 square feet of living space (Exhibit 3). On-site parking for the proposed single family residence will be provided with a 429 square-foot, two-car garage and an open guest parking space on the driveway apron, with vehicular access from Hermosa Avenue (Exhibit 5). Two retaining walls are also proposed to support the basement level (Exhibit 6). The retaining wall on the north property line is approximately 33-feet long and 7-feet, 4-inches high. The retaining wall on the south property line is approximately 22-feet long and 42-inches high. The applicant proposes to construct the residence and guest parking space on a 2,495 square-foot R1 zoned lot in Hermosa Beach. The proposed project conforms to the proposed LUP 25-foot height limit for R1 zoned single family residences and conforms to the setback limits for front and side yards. The required front yard setback minimum is 10 percent of lot depth (no less than 5 feet) and the required side yard setback minimum is 10 percent of lot width (no less than 3 feet). The applicant proposes an 8-foot, three-

inch front yard setback (lot depth is 83 feet) and a 3-foot side yard setback (lot width is 30 feet). Three hundred fifty cubic yards of grading and a 6-foot maximum height of cut slope are proposed to allow construction of the basement level. The soil will be cut from the site and exported to Redondo Beach Disposal Site. No encroachment into City property is proposed.

B. Previous Commission Actions in Project Area

The Commission has recently reviewed the potential for wave attack and beach erosion when considering new development and residential renovation projects on beachfront lots in Orange and southern Los Angeles Counties, even when the proposed development is located in established neighborhoods with wide sandy beaches. The reason for this is that with sea level rise, areas that were historically only rarely subject to inundation may experience increasing erosion and wave damage in the future.

In response to this concern, the Commission has required applicants in these areas to investigate the likelihood of wave attack. Because areas on the shoreline may experience wave attack with changing conditions, the Commission has imposed special conditions requiring the recordation of an "Assumption of Risk" deed restriction. Since shoreline protective devices can hasten shoreline erosion and sand loss, the Commission has also required developers of beachfront structures to record a deed restriction agreeing not to install a shoreline protective device (seawall or revetment) in the future. Recent projects similar to the currently proposed development in Hermosa Beach include Coastal Development Permits 5-01-186 (Doukoullos), 5-00-451 (Scott), 5-00-446 (Campbell) and 5-00-271 (Darcy). Projects throughout Hermosa Beach are used for comparative purposes in the current situation because of the consistent site characteristics, including the wide sandy beach and an improved public right-of way between the subject site and the mean high tide line.

C. Hazards

The proposed project is on a parcel of beachfront property located at the northern portion of Hermosa Beach, which is at the southern end of the Santa Monica Littoral Cell. The lot is fronted by The Strand, an improved non-vehicular coastal right-of-way that runs adjacent and parallel to a wide sandy beach. This approximately three hundred foot wide sandy beach presently provides homes and other structures in the area a measure of protection from wave runup and flooding hazards, however beach erosion is seasonal and is subject to extreme storm events that may expose the proposed development to wave runup and subsequent flood damage.

Section 30253 of the Coastal Act states, in part:

New development shall:

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

Section 30251 of the Coastal Act states in part:

> *... Permitted development shall be sited and designed ... to minimize the alteration of natural land forms, ...*

Wave Runup and Flooding Hazards

Section 30253 (1) states that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard. Since any development on a beachfront site may be subject to flooding and wave attack, the Commission requires wave runup studies for beachfront development to assess the potential hazard from wave attack, flooding and erosion. Commission staff has consistently requested that the wave runup, flooding, and erosion hazard analyses anticipate wave and sea level conditions (and associated wave runup, flooding, and erosion hazards) through the life of the development. For a 75 to 100 year structural life, that would be taking the 1982/83 storm conditions (or 1988 conditions) and adding in 2 to 3 feet of sea level rise. The purpose of this analysis is to determine how high any future storm damage may be so the hazards can be anticipated and so that mitigation measures can be incorporated into the project design.

The applicant provided a Wave Runup Study for the subject property, as is consistently required by the Commission for shoreline development in southern Los Angeles County and Orange County. The Wave Runup Study was prepared by Skelly Engineering and is dated October 2001. Based on the conclusion of the Wave Runup Study done for the property, the proposed development is not anticipated to be subject to hazards from flooding and wave runup during the life of the development (Exhibit 4h).

The shoreline has experienced some erosion despite efforts to control the movement of sand. The sandy beach, which is normally over 300 feet wide, west of The Strand provides more than adequate protection to the property. Additionally, "the King Harbor breakwater to south of the site acts as a littoral barrier which helps to stabilize the shoreline in front of the subject property" (Exhibit 4a).

According to the consultant, the subject site is on shoreline located at the southern end of the Santa Monica Littoral Cell. The Wave Runup Study states:

> *"A littoral cell is a coastal compartment that contains a complete cycle of littoral sedimentation including sources, transport pathways and sediment sinks. The Santa Monica Littoral Cell extends from Point Dume to Palos Verdes Point, a distance of 40 miles. Most of the shoreline in this littoral cell has been essentially stabilized by man. The local beaches were primarily made by man through nourishment as a result of major shoreline civil works projects (Hyperion Treatment Plant, Marina Del Rey, King Harbor, etc.). The up-coast and down-coast movement of sand along the shoreline is mostly controlled by groins, breakwaters and jetties and is generally to the south. A major sink for the beach sands is the Redondo Submarine Canyon located at the entrance to King Harbor.*
>
> *Prior to the construction of most of the shoreline stabilization structures near the site the Mean High Tide (MHT) line in November 1935 was about 100 feet from the western property line. An aerial photograph of the shoreline taken on June 30, 1986, available from the City of Hermosa Beach, shows the beach to be about 320'*

wide. The MHT line is now about 300 feet from the western property line." (Exhibit 4a)

There is currently a wide sandy beach in front of the proposed development (Exhibit 4g). In addition, the existing development was not adversely affected by the severe storm activities, which occurred during the El Niño winter of 1982-83 and the "400 year" wave event of January 18, 1988 (Exhibit 4e). Since the proposed development is no further seaward of existing development, which has escaped storm damage during severe storm events, the proposed development is not anticipated to be subject to wave hazard related damage. Nonetheless, any development on a beachfront site may be subject to future flooding and wave attack as coastal conditions (such as sand supply and sea level) change.

The wave runup report concludes the following:

> *"Wave runup and overtopping will not impact the property over the life of the proposed improvement. The proposed development and existing development will neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or adjacent area. There are no recommendations necessary for wave runup protection. The proposed project minimizes risks from flooding."* (Exhibit 4h).

This submitted wave runup study is similar to other wave runup studies done for projects along The Strand in Hermosa Beach. Based on the information provided and information from other projects in the area, staff concurred with the conclusion of the studies that the sites were not subject to hazards from flooding and wave runup. The proposed development, therefore, can be allowed under Section 30253 of the Coastal Act, which requires new development to "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..."

Although the applicant's report indicates that the site is safe for development at this time, beach areas are dynamic environments, which may be subject to unforeseen changes. Such changes may affect beach processes, including sand regimes. The mechanisms of sand replenishment are complex and may change over time, especially as beach process altering structures, such as jetties, are modified, either through damage or deliberate design. Therefore, the presence of a wide sandy beach in October 2001 does not preclude wave runup damage and flooding from occurring at the subject site in the future. The width of the beach may change, perhaps in combination with a strong storm event like those, which occurred in 1983 and 1988, resulting in future wave and flood damage, to the proposed development.

Given that the applicant has chosen to implement the project despite potential risks from wave attack, erosion, or flooding, the applicant must assume the risks. Therefore, the Commission imposes Special Condition One for an "Assumption of Risk" agreement. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. In addition, the condition ensures that future owners of the property will be informed of the risks and the Commission's immunity from liability, through the requirement that a deed restriction be recorded. As conditioned, the Commission finds the proposed project is consistent with Section 30253 of the Coastal Act.

No Future Shoreline Protective Device

The Coastal Act limits construction of protective devices because they have a variety of negative impacts on coastal resources, including adverse effects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of beach. Under Coastal Act Section 30235, a shoreline protective structure must be approved if: (1) there is an existing principal structure in imminent danger from erosion; (2) shoreline altering construction is required to protect the existing threatened structure; and (3) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply.

The Commission has generally interpreted Section 30235 to require the Commission to approve shoreline protection for development only for existing principal structures. The construction of a shoreline protective device to protect new development would not be required by Section 30235 of the Coastal Act. The proposed project involves the construction of a new single-family residence. In addition, allowing the construction of a shoreline protective device to protect new development would conflict with Section 30251 of the Coastal Act, which states that permitted development shall minimize the alteration of natural land forms, including beaches which would be subject to increased erosion from such a device.

In the case of the current project, the applicant does not propose the construction of any shoreline protective device to protect the proposed development. It is not possible to completely predict what conditions the proposed structure may be subject to in the future. Consequently, it is conceivable the proposed structure may be subject to wave runup hazards that could lead to a request for a protective device.

Shoreline protective devices can result in a number of adverse effects on the dynamic shoreline system and the public's beach ownership interests. First, shoreline protective devices can cause changes in the shoreline profile, particularly changes in the slope of the profile resulting from a reduced beach berm width. This may alter the usable area under public ownership. A beach that rests either temporarily or permanently at a steeper angle than under natural conditions will have less horizontal distance between the mean low water and mean high water lines. This reduces the actual area in which the public can pass on public property.

The second effect of a shoreline protective device on access is through a progressive loss of sand as shore material is not available to nourish the bar. The lack of an effective bar can allow such high wave energy on the shoreline that materials may be lost far offshore where it is no longer available to nourish the beach. A loss of area between the mean high water line and the actual water is a significant adverse impact on public access to the beach.

Third, shoreline protective devices such as revetments and bulkheads cumulatively affect shoreline sand supply and public access by causing accelerated and increased erosion on adjacent public beaches. This effect may not become clear until such devices are constructed individually along a shoreline and they reach a public beach. As set forth earlier in this discussion, Hermosa Beach is currently characterized as having a wide sandy beach. However, the width of the beach can vary, as demonstrated by severe storm events. The Commission notes that if a seasonal eroded beach condition occurs with greater frequency due to the placement of a shoreline protective device on the subject site, then the subject beach would also accrete at a slower rate. The Commission also notes that many studies performed on both oscillating and eroding beaches have concluded that loss of beach occurs on both types of beaches where a shoreline protective device exists.

Fourth, if not sited in a landward location that ensures that the seawall is only acted upon during severe storm events, beach scour during the winter season will be accelerated because there is less beach area to dissipate the wave energy. Finally, revetments, bulkheads, and seawalls interfere directly with public access by their occupation of beach area that will not only be unavailable during high tide and severe storm events, but also potentially throughout the winter season.

Section 30253(2) of the Coastal Act states that new development shall neither create nor contribute to erosion or geologic instability of the project site or surrounding area. Therefore, if the proposed structure requires a protective device in the future it would be inconsistent with Section 30253 of the Coastal Act because such devices contribute to beach erosion.

In addition, the construction of a shoreline protective device to protect new development would also conflict with Section 30251 of the Coastal Act. Section 30251 states that permitted development shall minimize the alteration of natural landforms, including sandy beach areas, which would be subject to increased erosion from shoreline protective devices. The development is not subject to wave runup and flooding. Based on the information provided by the applicant, no mitigation measures, such as a seawall, are anticipated to be needed in the future. The coastal processes and physical conditions are such at this site that the project is not expected to engender the need for a seawall to protect the proposed development. There currently is a wide sandy beach in front of the proposed development that provides substantial protection from wave activity.

To further ensure that the proposed project is consistent with Sections 30251 and 30253 of the Coastal Act, and to ensure that the proposed project does not result in future adverse effects to coastal processes, the Commission imposes Special Condition Two. Special Condition Two requires the applicant to record a deed restriction that would prohibit the applicant, or future landowner, from constructing a shoreline protective device for the purpose of protecting any of the development proposed as part of this application. This condition is necessary because it is impossible to completely predict what conditions the proposed structure may be subject to in the future.

The Commission has required deed restrictions that prohibit construction of shoreline protective devices for new development on beachfront lots throughout southern Los Angeles County and Orange County. The "No Future Shoreline Protective Device" condition is consistent with prior Commission actions for development along Hermosa Beach. For instance, the Commission approved Coastal Development Permits 5-01-186 (Doukoullos), 5-00-059 (Danner), 5-00-086 (Wells) and 5-00-114 (Heuer) with the "No Future Shoreline Protective Device" condition.

By receiving recordation of a deed restriction agreeing that no shoreline protective devices shall ever be constructed to protect the development approved by this permit, the Commission makes it clear that it's approval is based on the understanding the house will be safe from potential wave runup and flooding damage. Based on Special Condition Two, the Commission also requires that the applicant remove the structure if any government agency has ordered that the structure be removed due to wave runup and flooding hazards. In addition, in the event that portions of the development are destroyed on the beach before they are removed, the landowner shall remove all recoverable debris associated with the development from the beach and ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.

As conditioned, the Commission finds that the proposed project is consistent with Section 30251 of the Coastal Act, which requires that permitted development shall minimize the alteration of natural land forms, and Section 30253, which requires that geologic and flood hazards be minimized, and that stability and structural integrity be assured.

Conclusion

The Commission finds that hazards potentially exist from wave runup and flooding at the subject site. Therefore, to ensure that the proposed project is consistent with Sections 30251 and 30253 of the Coastal Act and to ensure that the proposed project does not result in future adverse effects to coastal processes, Special Conditions One and Two require the applicant to record "Assumption of Risk" and "No Future Shoreline Protective Device" deed restrictions on the deeds for the subject property. The applicant agrees with the staff recommendation and accepts the conditions. As conditioned, the Commission finds that the proposed project is consistent with Coastal Act Sections 30251 and 30253.

Agency Approval

The applicant proposes 350 cubic yards of grading under the two-story structure to accommodate a subsurface basement level. The applicant submitted a Geotechnical Engineering Investigation Report (NorCal Engineering, May 18, 2001) that concluded that the proposed development is acceptable from a geotechnical engineering standpoint. According to the report, two subsurface exploratory borings at a maximum depth of 15 feet below current ground elevations were part of the geotechnical investigation and showed that no groundwater was encountered and no caving occurred to the depth of the borings (Exhibit 7a & b).[1] Both borings were done on the east side of the project site (near Hermosa Avenue) where the deepest grading will occur (Exhibit 7c). The rectangular lot is elongated in an east to west direction with topography of the property descending gradually from east to west on the order of 10 feet. No borings were done on the west side (The Strand). Although the geotechnical report states that groundwater was not encountered at the depths of the borings, the Commission is imposing Special Condition No. 8 requiring agency approval from the Regional Water Quality Control Board if groundwater is encountered and dewatering is necessary.

D. Community Character / Visual Quality

Section 30251 of the Coastal Act states in part:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas....*

This section of The Strand includes one, two, and three floor single family residences and some older duplexes. The Strand is a heavily used pedestrian path used for walking, jogging, biking and inline skating. The Commission and the City have found that the moderate heights enhance the recreational experience. The majority of these structures do not exceed 25 feet in height. Allowing building heights above the 25-foot limit would serve to negatively impact coastal views and the character of the surrounding community. In order to protect community character and visual quality, Special Condition 3 limits the development at a maximum of 25 feet above the existing grade interpolated by the City of Hermosa Beach Planning Department. This height is consistent with the general height of the area.

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[1] Geotechnical Engineering Investigation Report – Biche Residence 3220 The Strand Hermosa Beach, California, NorCal Engineering Project Number 9339-01, May 18, 2001.

The proposed project has a roof height of 25 feet above the existing grade as interpolated by the City of Hermosa Beach Planning Department. Therefore, the proposed single family residence complies with the 25-foot height limit in the City of Hermosa Beach proposed certified LUP and previous Commission approvals. The scenic and visual qualities of the area will not be negatively impacted by the proposed structure. In order to ensure that the proposed project is constructed as approved, the approval is conditioned to limit the roof height to 25 feet. No portion of the structure shall exceed 25 feet in elevation above the grade interpolated by the City of Hermosa Beach Planning Department unless approved by an amendment to this coastal development permit. Only as conditioned is the proposed project consistent with the Coastal Act's visual resource policies.

E. Public Access/Parking

As described above, The Strand and the adjacent beaches are a public recreational resource. The walkways provide an urban recreational experience popular throughout the Los Angeles area. The Commission has imposed Special Condition 4 to protect the quality of that recreational experience. The Commission has consistently found that a direct relationship exists between residential density, the provision of adequate parking, and the availability of public access to the coast.

Section 30252 of the Coastal Act states, in part:

> *The location and amount of new development should maintain and enhance public access to the coast by... (4) providing adequate parking facilities....*

Many of the older developments in Hermosa Beach do not provide adequate on-site parking. As a result, many residents and guests park on the surrounding streets, where there is a parking shortage, and has negatively impacted public access to the beach. Visitors to the beach use these streets for parking. Residents of the area and their guests are using the small amount of parking that may be available for the general public on the surrounding streets.

To assure the development has adequate parking for the owners' uses, Special Condition 4 is imposed to provide for three on-site parking spaces. In this case, the proposed project provides a two-car garage and an on-site guest parking space on the driveway apron (Exhibit 5). Therefore, the proposed project provides an adequate parking supply for the proposed single family residence. The proposed project is consistent with prior Commission decisions for Hermosa Beach that required two parking spaces per residential unit and provisions for guest parking. The Commission finds that, only as conditioned to maintain the proposed three on-site parking spaces, is the proposed project consistent with Section 30252 of the Coastal Act.

F. Construction and Post Construction BMPs

Section 30231 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.

The existing condition of the project site is 100 percent impermeable. On January 28, 2002, the applicant submitted a landscaping and drainage plan to include post-construction BMPs for review by Coastal Commission staff. The plan includes some pervious surfaces on the project site (Exhibit 8), which will reduce the volume and velocity of storm water runoff that can be expected to leave the site. In the northwest corner, the low point on the site, an area of concrete paving with 4-inch pebble inlays is proposed to accept a majority of the water that will permeate before it reaches a sump pump basin also located in the northwest corner of the site. The pebbles will be resting on a bed of sand at this location, where the remainder of the site the pebbles will be resting in a mortar bed. A 20 square-foot permeable planting area near the entrance of the structure on the east side of the site is also proposed. The project consists of a complete demolition and rebuild therefore affords an opportunity to improve water quality. After reviewing the landscape and drainage plans, water quality staff concurs that the BMPs that have been incorporated into the proposed project are adequate in meeting the needs of the Commission in protecting water quality resources.

Pollutants commonly found in runoff associated with residential use include petroleum hydrocarbons including oil and grease from vehicles; heavy metals; synthetic organic chemicals including paint and household cleaners; soap and dirt from washing vehicles; dirt and vegetation from yard maintenance; litter; fertilizers, herbicides, and pesticides; and bacteria and pathogens from animal waste. This pollutant laden water leaves the residential site, enters the storm drain system and is ultimately discharged to coastal waters without treatment. The discharge of these pollutants to coastal waters can cause cumulative impacts such as: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation which provide food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; and acute and sub lethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes and reduce optimum populations of marine organisms and have adverse impacts on human health.

In order to find the proposed development consistent with the water and marine resource policies of the Coastal Act, the Commission finds it necessary to require the incorporation of the proposed Best Management Practices which are designed to control the volume, velocity and pollutant load of storm water leaving the developed site. However, critical to the successful function of post-construction structural BMPs in removing pollutants in storm water to the Maximum Extent Practicable (MEP), is the application of appropriate design standards for sizing BMPs. The majority of runoff is generated from small storms because most storms are small. Additionally, storm water runoff typically conveys a disproportionate amount of pollutants in the initial period that runoff is generated during a storm event. Designing BMPs for the small, more frequent storms, rather than for the large infrequent storms, results in improved BMP performance at lower cost.

The Commission finds that sizing post-construction structural BMPs to accommodate (infiltrate, filter or treat) the runoff from a storm runoff event, in this case, is equivalent to sizing BMPs based on the point of diminishing returns (i.e. the BMP capacity beyond which, insignificant increases in pollutants removal (and hence water quality protection) will occur, relative to the additional costs). Therefore, the Commission requires the conformance to landscaping and drainage plans submitted on January 23, 2002. These selected post-construction structural BMPs were sized based on design criteria specified in Special Condition 6, and the Commission finds this will ensure

that the proposed development will be designed to minimize adverse impacts to coastal resources, in a manner consistent with the water and marine policies of the Coastal Act.

In addition, in order to ensure that construction and materials are managed in a manner, which avoids impacts to coastal waters, the Commission imposes Special Condition 5. Special Condition 5 requires that construction materials, debris, or waste be placed or stored where it will not enter storm drains or be subject to tidal erosion and dispersion; removal of debris within 24 hours of completion of construction; implementation of Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed such that construction debris and sediment are properly contained and secured on site and to prevent the unintended transport of sediment and other debris into coastal waters by wind, rain or tracking.

Therefore, the Commission finds that the proposed project, as conditioned to incorporate and maintain a drainage and polluted runoff control plan and to comply with construction phase BMPs, is consistent with Section 30231 of the Coastal Act.

G. Conformance of Plans to Recommendations and Requirements

Recommendations regarding the grading and construction of the single family residence with a basement level and retaining walls have been provided in reports submitted by the applicants. Adherence to the recommendations and requirements contained in these reports and named by the City of Hermosa Beach Department of Building and Safety is necessary to ensure assure the stability of the permitted development. As conditioned, the development will assure stability and structural integrity, and neither creates nor contributes significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way requires the construction of protective devices that would substantially alter natural landforms. Therefore, adherence to the recommendations and requirements, to the extent that they are consistent with the conditions imposed by the Commission, is necessary to ensure that the developments are consistent with Section 30253 of the Coastal Act.

Special Condition 7 requires the applicants to conform to the geological recommendations in Report No. 9339-01 and the recommendations in the wave impact report prepared for the site.

H. Local Coastal Program

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal development permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program, which conforms with Chapter 3 policies of the Coastal Act:

> (a) *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). A denial of a Coastal Development Permit on grounds it would 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) shall be accompanied by a specific finding which sets forth the basis for such conclusion.

The Commission conditionally certified the City of Hermosa Beach Land Use Plan on August 19, 1981. The Land Use Plan (LUP) was effectively certified with suggested modifications on April 21, 1982. The modifications were accepted and the LUP is certified. The City submitted a final draft of its zoning and implementation ordinances (LIP) and a revision to their LUP in 2000. The amendment and Implementation ordinance was scheduled for public hearing and Commission action at the October 8, 2001 meeting, but the City withdrew. Therefore, these have not been certified and the standard of review for development in Hermosa Beach is still the Coastal Act.

The proposed development as conditioned is consistent with the public access, recreation, community character, and hazard policies of Chapter 3 of the Coastal Act. The proposed development as conditioned by the Commission addresses the LUP's concern with respect to the scale of development and the preservation of street parking for public use. The development is consistent with the parking management, density, and land use provisions of the certified LUP and its proposed revisions. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the City's ability to prepare a Local Coastal Program consistent with the policies of Chapter 3 of the Coastal Act, as required by Section 30604(a).

I. California Environmental Quality Act (CEQA)

Section 13096 Title 14 of the California Code of Regulations requires Commission approval of a coastal development permit application 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 that would substantially lessen any significant adverse effect that the activity may have on the environment.

The proposed project, as conditioned, has been found consistent with the Chapter 3 policies of the Coastal Act. All adverse impacts have been minimized and there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact that the activity may 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.

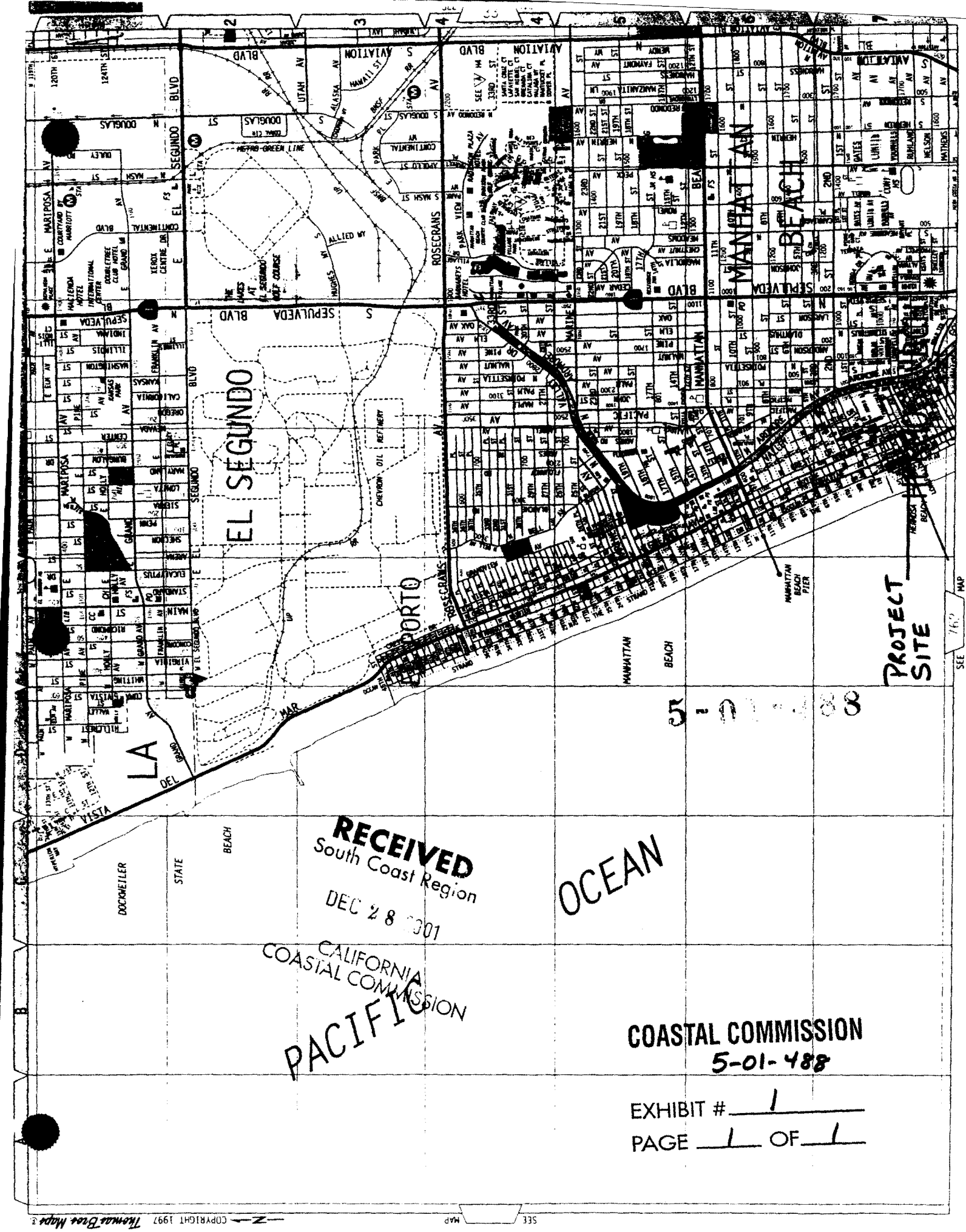
EL SEGUNDO
MANHATTAN BEACH
LA PORTO
OCEAN
PACIFIC
PROJECT SITE
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EXHIBIT # 1
PAGE 1 OF 1

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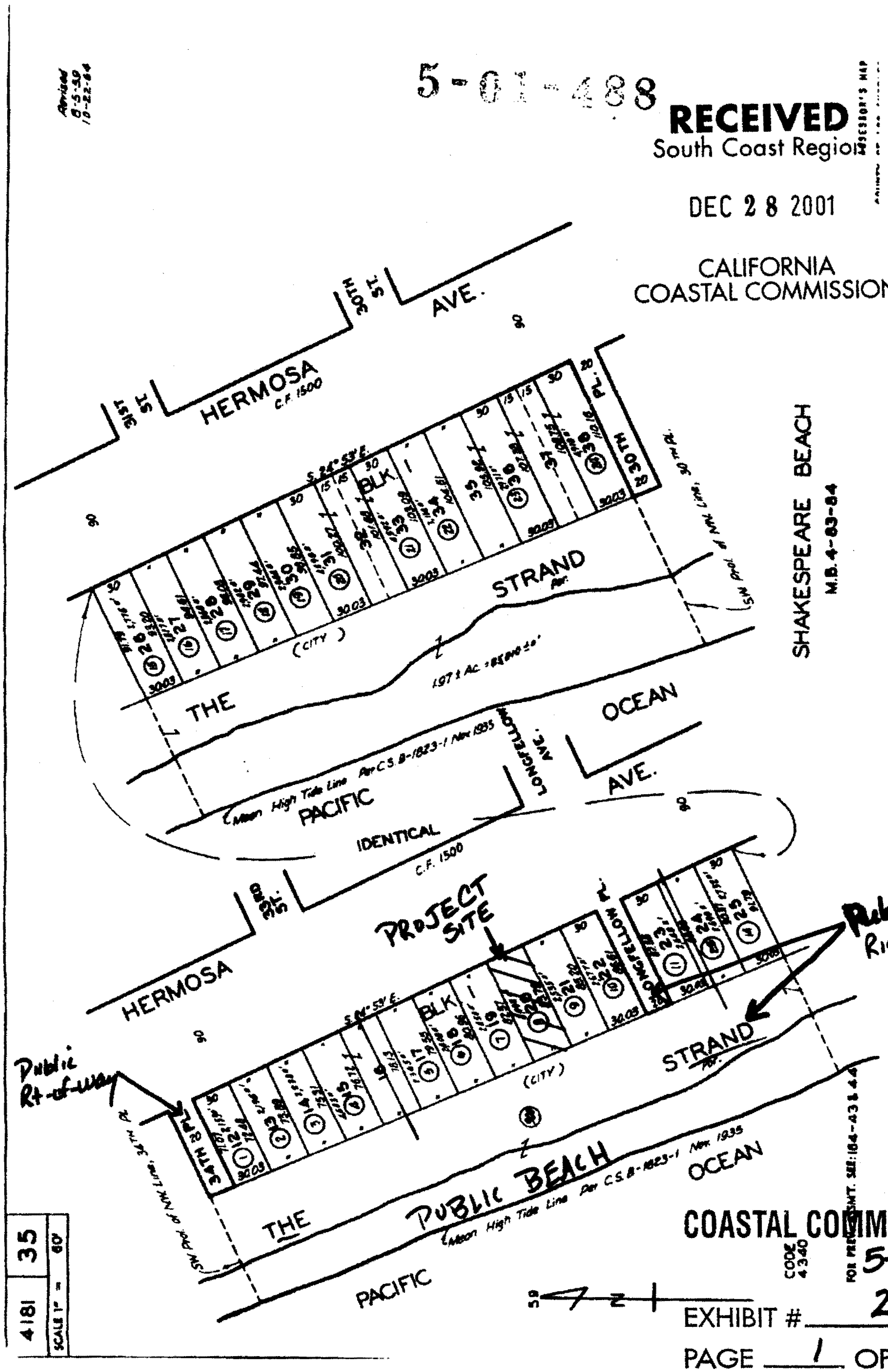

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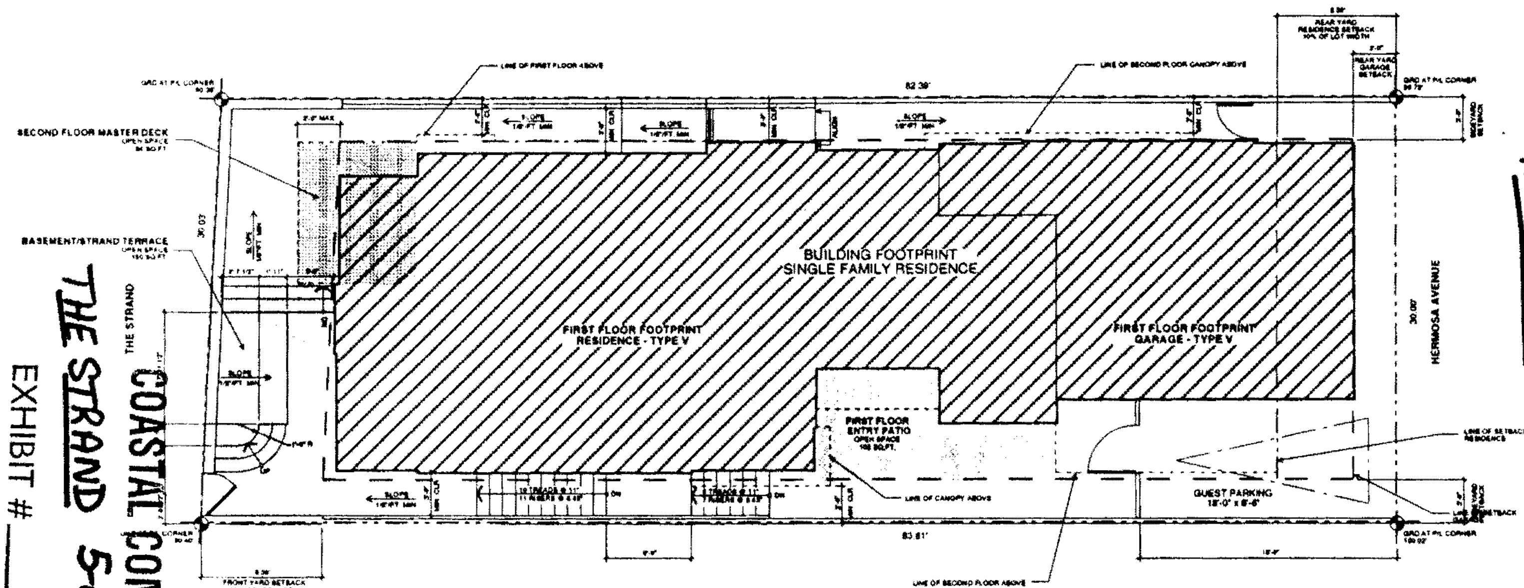
5-01-4

EXHIBIT # 2
PAGE 1 OF 1

Los Angeles, CA , 2001-2002 - 4181-035-008, Sheet: 1 of 1



OPEN SPACE CALCULATION:

BASEMENT	150 SQ.FT.	● STRAND TERRACE
FIRST FLOOR	103 SQ.FT.	● ENTRY PATIO
SECOND FLOOR	84 SQ.FT.	● MASTER DECK
TOTAL	337 SQ.FT.	
REQUIRED	300 SQ.FT.	

COASTAL COMMISSION
THE STRAND 5-01-488
EXHIBIT # 3
PAGE 1 OF 2

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GENERAL NOTES.

DIMENSIONING

A. DO NOT SCALE DRAWINGS. REFER TO DIMENSIONS SHOWN.
B. VERIFY ALL EXISTING CONDITIONS & INFORM ARCHITECT OF ANY DISCREPANCIES.
C. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO FACE OF MASONRY OR STUD.

INSULATION

A. INSULATION OF BUILDING ENVELOPE SHALL BE CONTINUOUS.
B. SOUND INSULATION SHALL BE INSTALLED AT ALL INTERIOR PARTITIONS, FLOOR JOISTS AT FIRST AND SECOND FLOOR AND AROUND ALL PLUMBING PIPES.

SHOP DRAWINGS AND SAMPLES

A. THE FOLLOWING SHOP DWG. MUST BE SUBMITTED AND APPROVED IN WRITING BY ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO FABRICATION: STRUCTURAL STEEL, DOORS AND WINDOWS, ALL MILLWORK, CABINETRY, PRE CAST CONCRETE, MARBLE & GRANITE, SANDSTONE, TILE AND ANY OTHER CUSTOM COMPONENTS.
B. THE FOLLOWING SAMPLES MUST BE SUBMITTED FOR WRITTEN APPROVAL BY ARCHITECT PRIOR TO PROCEEDING WITH WORK: MILLWORK, TYPICAL CABINET WITH STAIN AND/OR PAINT FINISH, PRE CAST CONCRETE, ALL STONE OR CERAMIC FINISHES, PAINT AND STAIN COLOR, WROUGHT IRON (TYPICAL SECTION ONLY) AND ANY OTHER CUSTOM FINISHES.

SHOP DRAWINGS AND SAMPLES (CONT.)

C. SHOP DRAWINGS OR SAMPLES MAY RESULT IN ARCHITECT'S REJECTION OF SAID WORK.

MILLWORK AND CABINETRY

A. THE MOLDING SCHEDULE IS SHOWN ON FINISH SCHEDULE UNDER THE RESPECTIVE ROOM NAME & NUMBERS. REFER TO INTERIOR DETAIL SHEETS FOR MOLDING PROFILE AND SPECIFICATION.
B. UNLESS SPECIFIED OTHERWISE, PROVIDE FIVE ADJUSTABLE 3/4" WOOD SHELVES, PAINTED AND/OR STAINED AS SCHEDULED AT LINEN AND STORAGE CLOSETS.
C. U.N.O. PROVIDE HEAVY DUTY 1-3/8" DIAMETER CHROME POLES W/ END ROSETTES AT ALL CLOSETS AS SHOWN.
D. U.N.O. BUILT IN DRESSERS AT CLOSETS TO BE PAINT GRADE WOOD, 42" HIGH W/ FOUR DRAWERS. VERIFY W/ INTERIOR ELEVATIONS.

FRAMING

A. ROUGH CARPENTER TO COORDINATE FRAMING LAYOUT W/ LIGHTING, PLUMBING AND MECHANICAL PLANS AND INFORM ARCHITECT OF ANY DISCREPANCIES. ALL REQ'D FURRING, SOFFITS AND CLG. JOISTS FOR VOLUME CLG. SHALL BE INCLUDED IN THE BID.
B. REFER TO BUILDING SECTIONS, INTERIOR ELEVATIONS, REFLECTED CEILING PLAN OR ELETRICAL PLAN AND CEILING DETAILS FOR VOLUME CEILINGS.
C. NON-STRUCTURAL FRAMING MAY NOT BE SHOWN ON STRUCTURAL PLANS. ROUGH CARPENTER TO REVIEW ALL ARCHITECTURAL SHEETS FOR CLEAR UNDERSTANDING OF WORK TO BE INCLUDED IN BID.
D. 2x6 FRAMING OR MULTIPLE ROWS OF 2x4 SHALL BE USED FOR ALL EXTERIOR STUD FRAMING AND ON THE INTERIOR OF BASEMENT. 2x4 FRAMING OR MULTIPLE ROWS OF 2x4 SHALL BE USED FOR ALL INTERIOR WALLS OF FIRST AND SECOND FLOORS.
E. PROVIDE DRAFT STOPS AS REQUIRED BY SECTION 708 OF THE 1994 UBC OR CURRENT BUILDING CODE. ENCLOSED SPACES IN STUD WALL PARTITIONS AND FURRED WALLS SHALL BE FIRE STOPPED AT TOP AND BOTTOM AND AT MID-POINT IN WALL MORE THAN 10 FEET HIGH. VERIFY W/ STRUCTURAL PLAN.
F. PROVIDE STRAP REINFORCEMENT AT ALL HEADERS.

KEYNOTES:

N

KAA
KIRKPATRICK ASSOCIATES ARCHITECTS AIA

Project
3220 THE STRAND RESIDENCE

3220 THE STRAND
HERMOSA BEACH
CALIFORNIA 90254

Revisions

SEPT. 19, 2001	SCHEMATIC ESTIMATE SET
OCT. 12, 2001	PROGRESS SET
OCT. 17, 2001	CITY SUBMITTAL APPROVAL IN CONCEPT
NOV. 29, 2001	PROGRESS SET
DEC. 17, 2001	CITY RE-SUBMITTAL APPROVAL IN CONCEPT

Stamp

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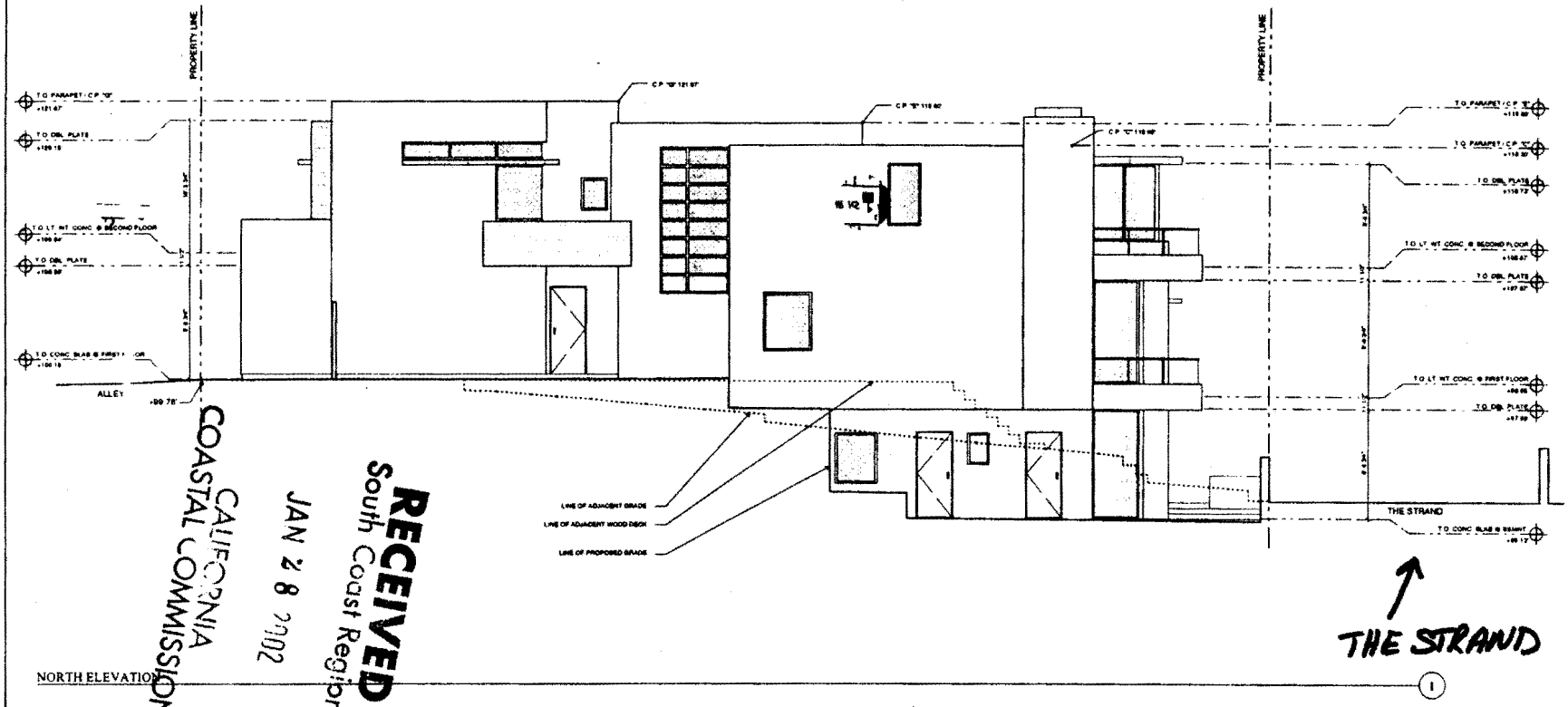
Scale: 1/4" = 1'-0"
Sheet Title: SITE PLAN
Sheet Number: A-0.1



NORTH ELEVATION

1

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COASTAL COMMISSION
5-01-478

EXHIBIT # 3
PAGE 2 OF 2

GENERAL NOTES:

A) CONTRACTOR TO VERIFY CONFORMANCE TO REQUIRED BUILDING HEIGHTS AND BUILDING ENVELOPES. PROVIDE CERTIFIED SURVEY OF REQUIRED BUILDING HEIGHT. INFORM ARCHITECT OF ANY DISCREPANCIES.

B) PROVIDE SELF ADHERING MODIFIED BITUMEN (APPY SEAL OR EQUAL) EXTENDING 24" EACH SIDE AT ALL VALLEYS, RADIUS WALLS, CRICKETS, TOPS OF WALLS, CONFINED RAKES AND TRANSITION AREAS. ADD WATER DIVERTER @ CONFINED RAKES.

C) PROVIDE SELF ADHERING MODIFIED BITUMEN AT ALL ROOF ATTACHMENT POINTS. TYP. INSTALL SHINGLE FASHION WITH BUILDING PAPER.

D) PROVIDE CONTINUOUS COPPER SHEET METAL WEEP SCREED. LOCATE WEEP SCREED AT LOWEST POSSIBLE POINT OF CONCRETE FOOTING AND SILL PLATE JURICTURE.

E) PROVIDE UL APPROVED SPARK ARRESTORS AT TOPS OF ALL FIREPLACE CHIMNEYS.

F) PARAPETS, SATELLITE ANTENNAE, RAILS, SKYLIGHTS, ROOF EQUIPMENT MUST BE WITHIN HEIGHT LIMIT.

KEY NOTES:

1

KAA
KIRKPATRICK ASSOCIATES ARCHITECTS AIA

Project
3220 THE STRAND RESIDENCE

3220 THE STRAND
HERMOSA BEACH
CALIFORNIA 90254

Revisions
SEPT 10 2001 SCHEMATIC ESTIMATE SET
OCT 12 2001 PROGRESS SET
OCT 17 2001 CITY SUBMITTAL APPROVAL IN CONCEPT
NOV 29 2001 PROGRESS SET
DEC 17 2001 CITY RE SUBMITTAL APPROVAL IN CONCEPT

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Job Number
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Scale
1/4" = 1'-0"

Sheet Title
NORTH ELEVATION

Sheet Number
A-3.1

SE SKELLY ENGINEERING

I. INTRODUCTION

The purpose of this wave runup study is to determine if the proposed development will be subject to wave runup or wave attack over the typical life (75 years) of the development. If the property will be subject to wave runup or wave attack the analysis will discuss the possible frequency of occurrence, what the predicted wave overtopping water volume and resulting flood water height will be on the property, and how, if necessary, to manage the overtopping waters. The analysis also will determine if the property will be subject to direct wave attack over the project life. If the property is subject to wave attack then the analysis will include design parameters for wave forces. The analysis uses design storm conditions typical of the January 18-19, 1988 and winter of 1982-83 type storm waves and beach conditions.

The subject property, 3220 The Strand in Hermosa Beach, is a rectangular lot approximately 30' X 83'. The lot is fronted by The Stand, a coastal boardwalk, which is adjacent to a wide sandy beach (approximately 300 feet wide) and the Pacific Ocean. This shoreline is located at the southern end of the Santa Monica Littoral Cell. A littoral cell is a coastal compartment that contains a complete cycle of littoral sedimentation including sources, transport pathways and sediment sinks. The Santa Monica Littoral Cell extends from Point Dume to Palos Verdes Point, a distance of 40 miles. Most of the shoreline in this littoral cell has been essentially stabilized by man. The local beaches were primarily made by man through nourishment as a result of major shoreline civil works projects (Hyperion Treatment Plant, Marina Del Rey, King Harbor, etc.). The up-coast and down-coast movement of sand along the shoreline is mostly controlled by groins, breakwaters, and jetties and is generally to the south. A major sink for the beach sands is the Redondo Submarine Canyon located at the entrance to King Harbor.

Prior to the construction of most of the shoreline stabilization structures near the site the Mean High Tide (MHT) line in November 1935 was about 100 feet from the western property line. An aerial photograph of the shoreline taken on June 30, 1986, available from the City of Hermosa Beach, shows the beach to be about 320' wide. The MHT line is now about 300 feet from the western property line. The wide sandy beach in front of The Strand and this property is normally over 300 feet wide and provides more than adequate protection for the property. The King Harbor breakwater to the south of the site acts as a littoral barrier which helps to stabilize the shoreline in front of the subject property. Over the vast majority of time wave runup will not reach The Strand or the property. However, the beach in this area is subject to seasonal erosion due to extreme event storm events which can erode the beach back to near The Strand.

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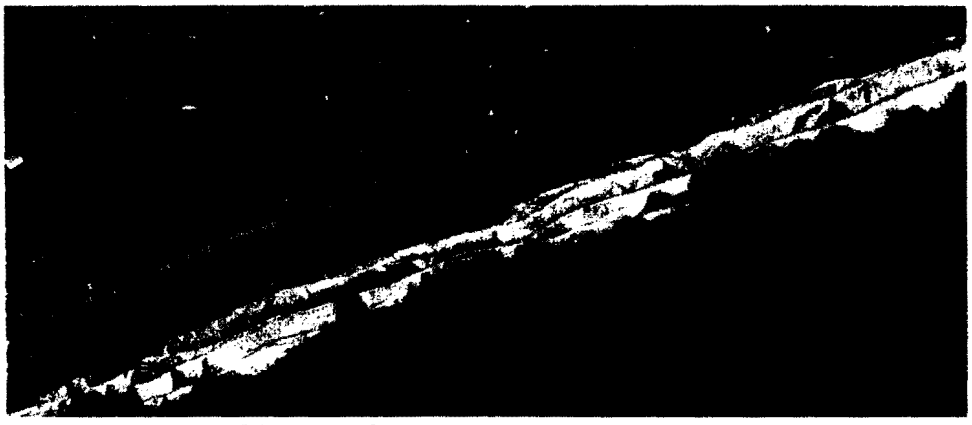
II. DATUM & DATA

The datum used in this report is Mean Sea Level (MSL), which is +0.14 feet National Geodetic Vertical Datum (NGVD). The units of measurement in this report are feet (ft), pounds force (lbs), and second (sec). A topographic map prepared by Denn Engineers was used for site elevations. The NOAA Nautical Chart #18744 was used to determine bathymetry. Aerial photographs, from the early 1960's to 1981 and aerial photographs taken annually from 1982 thru 1999, were reviewed for shoreline changes. Architectural drawings of the proposed development prepared by Kirkpatrick Associates Architects, dated September 10, 2001, were also reviewed.

III. SITE BEACH EROSION & WAVE ATTACK

In order to determine the potential for wave runup to reach the site historical aerial photographs over the last four decades were reviewed. None of the photographs showed that wave runup reached The Strand over the four-decade time frame. Photograph 1, taken on January 19, 1988 the day after the "400 year" wave event, shows the eroded beach in front of the property. However, the beach did not erode back to The Strand but wave runup may have reached near The Strand. Photograph 2, taken January 9, 1999, shows what could be described as the normal beach width (about 350 feet). A review of the annual aerial photographs over the last 20 years shows a very wide beach even though the photos were taken in the winter and spring, when the beach is seasonally the narrowest. Based upon review of the aerial photographs, it is highly unlikely that the shoreline will erode back to The Strand allowing direct wave attack on The Strand and ultimately the property. However, under severely eroded beach conditions and extreme storms wave runup may reach The Strand. In order to determine the impact of runup reaching The Strand a runup and overtopping analysis will be performed.



Photograph 1. 3220 The Strand, January 19, 1988.

Photograph 2. January 19, 1999 showing wide beach in front 3220 The Strand.

IV. WAVE RUNUP AND OVERTOPPING

As waves encounter the beach in front of the property water rushes up, and sometimes over, the beach berm towards The Strand and property. Often, wave runup and overtopping, strongly influence the design and the cost of coastal projects. Wave runup is defined as the vertical height above the still water level to which a wave will rise on a structure (beach slope) of infinite height. Overtopping is the flow rate of water over the top of a finite height structure (the steep beach berm) as a result of wave runup.

Wave runup and overtopping is calculated using the US Army Corps of Engineers Automated Coastal Engineering System, ACES. ACES is an interactive computer based design and analysis system in the field of coastal engineering. The methods to calculate runup and overtopping implemented within this ACES application are discussed in greater detail in Chapter 7 of the Shore Protection Manual (1984). The overtopping estimates calculated herein are corrected for the effect of onshore winds. Figure 1 is a diagram showing the analysis terms.

SKELLY ENGINEERING

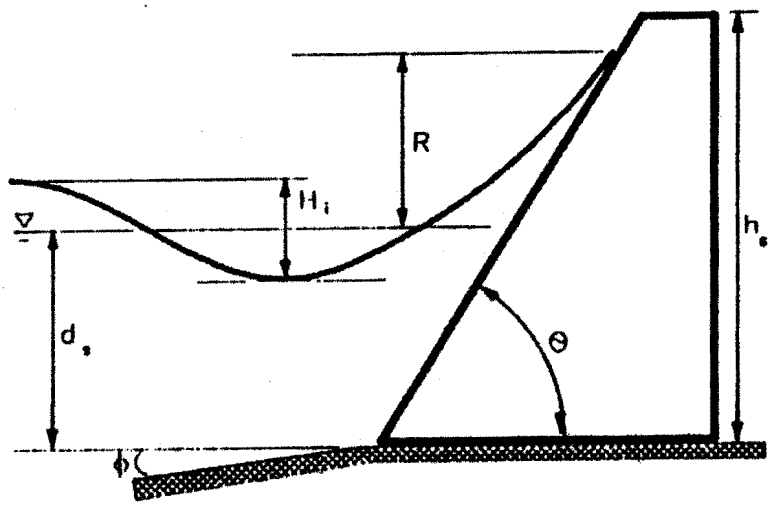


Figure 1. Wave runup terms from ACES manual.

The empirical expression for the monochromatic-wave overtopping rate is:

$$Q = C_w\sqrt{gQ_0^* H_0^3}\left(\frac{R+F}{R-F}\right)^{\frac{-0.1085}{a}}$$

where

Q = overtopping rate/unit length of structure
C_w = wind correction factor
g = gravitational acceleration
Q_0^*,α = empirical coefficients (see SPM Figure* = 7-27)
H_0 = unrefracted deepwater wave height
R = runup
F = h_s - d_s = freeboard
h_s = height of structure
d_s = water depth at structure

The correction for offshore winds is:

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$$C_w = 1 + W_f\left(\frac{F}{R}+0.1\right)\sin\theta$$

where

$$W_f = \frac{U^2}{1800}$$

U = onshore wind speed (mph)

The wave, wind, and water level data used as input to the ACES runup and overtopping application was taken from the historical data reported in USACOE (1986) and updated as necessary. The shoreline fronting this property has experienced many storms over the years. These events have impacted coastal property and beaches depending upon the severity of the storm, the direction of wave approach and the local shoreline orientation. The ACES analysis was performed on an extreme wave condition when the beach is in a severely eroded condition. The El Niño waves during the 1982-83 winter eroded beaches throughout Southern California. But the subject property and adjacent properties were not subject to wave runup attack during that winter. The wave and water level conditions on January 18, 1988 have been described by Dr. Richard Seymour of the Scripps Institution of Oceanography as a "400 year recurrence" event. While the property still was not subject to wave overtopping attack during this event, the beach was eroded along this section of shoreline and portions of the King Harbor breakwater/jetty were damaged. The wave runup conditions considered for the analysis use the maximum unbroken wave at the shoreline when the shoreline is in an eroded condition similar to January 19, 1988.

The onshore wind speed was chosen to be 40 knots. During storm conditions the sea surface rises along the shoreline (super-elevation) and allows waves to break closer to the shoreline and runup on the revetment. Superelevation of the sea surface can be accounted for by: wave set-up (1 to 2.5 feet), wind set-up and inverse barometer (0.5 to 1.5 feet), wave group effects (1 to 2.5 feet) and El Niño and other climatic effects (0.5 to 1.0 feet). Maximum high tide is bout +4.5' MSL. These conditions rarely occur simultaneously. The extreme water elevation used in this analysis is +5.5' MSL (100 year recurrence water level).

The wave that has the greatest runup is the wave that has not yet broken when it reaches the toe of the beach. It is not the largest wave to come into the area. The larger waves break offshore of the beach and lose most of their energy before reaching the shoreline. If the total water depth is 6.5 feet, based upon a maximum scour depth of [illegible]

toe of the beach slope of -1.0 MSL and a water elevation of +5.5' MSL, then the design wave height will be about 6 feet. The average height of the beach berm is about +10.0' MSL. The slope of the beach is about 1/12 (V to H) and the near-shore slope was chosen to be 1/60. **Table I** is the ACES output for these design conditions.

TABLE I

AUTOMATED COASTAL ENGINEERING SYSTEM ... Version 1.02 10/14/2001 15:46
Project: 3320 THE STRAND HERMOSA BEACH WAVE RUNUP STUDY/ANALYSIS

WAVE RUNUP AND OVERTOPPING ON IMPERMEABLE STRUCTURES

Item		Unit	Value	
Wave Height at Toe	Hi:	ft	6.000	Smooth Slop
Wave Period	T:	sec	20.000	Runup and
COTAN of Nearshore Slope			60.000	Overtopping
Water Depth at Toe	ds:	ft	7.000	
COTAN of Structure Slope			12.000	
Structure Height Above Toe	hs:	ft	11.000	
Deepwater Wave Height	H0:	ft	3.231	
Relative Height	(ds/H0):		2.167	
Wave Steepness	(H0/gT^2):		0.251E-03	
Wave Runup	R:	ft	9.256	
Onshore Wind Velocity	U:	ft/sec	67.512	
Overtopping Coefficient	Alpha:		0.700E-01	
Overtopping Coefficient	Qstar0:		0.700E-01	
Overtopping Rate	Q:	ft^3/s-ft	2.186	

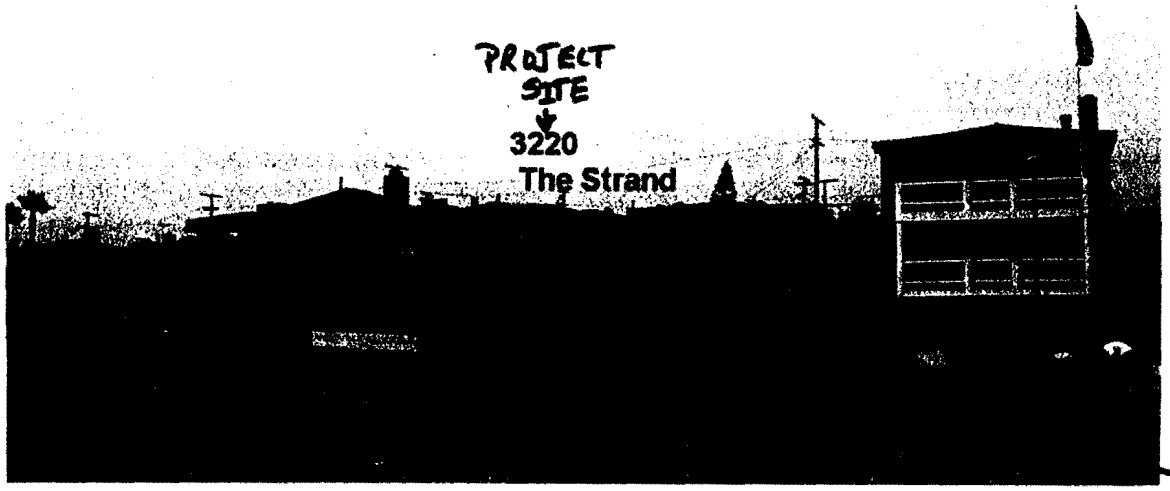
The calculated overtopping rate for the eroded beach conditions a relatively small 2.18 ft^3/s-ft. This flow rate would account for water depths of less than 6 inches. The overtopping waters may reach the seaward side of The Strand under the extreme design conditions. However, The Strand is at about elevation +11' MSL and has a 32 inch high wall on the seaward side so the water will not overtop the wall and strand. The frequency of this type of extreme oceanographic conditions is about once every 100 years.

VI. CONCLUSIONS AND RECOMMENDATIONS

Prediction of runup and overtopping on a beach during extreme storm events is a complex problem. The flow rates presented here represent what is defined as flow which is sustained by continuous volume flow, even though it will actually occur with the cycle of the waves. The calculations made herein use industry standard methods, yet they are

based on several simplifying assumptions (see Chapter 7 of SPM). There are several facts that indicate that wave runup and overtopping will not reach the property or adversely impact the property over the life of the structure.

- There is a very wide (> 300feet) sandy beach in front of the property 99.9% of the time.
- A review of aerial photographs over the last four decades shows little overall shoreline retreat in general and a wide sand beach even at times when the beach is seasonally at its narrowest.
- The shoreline erosion rate is very small and over the life of the structure should not reduce the beach to less than 200' in nominal wide. (200' width of beach (approximately) is recognized by coastal engineers as a sufficiently wide enough beach to provide back-shore protection)
- The property has not been subject to significant wave runup attack in the past.
- The runup analysis shows that the 100 year wave runup event will not reach the property.
- The 32 inch high wall on the western side of The Strand, shown in Photograph 3, will prevent wave overtopping from reaching the property. There is another garden wall on the landward side of The Strand providing even more protection.



Photograph 3. Wide beach and 32" wall fronting The Strand and subject site.

SE SKELLY ENGINEERING

In conclusion, wave runup and overtopping will not impact this property over the life of the proposed improvement. The proposed development and existing development will neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or adjacent area. There are no recommendations necessary for wave runup protection. The proposed project minimizes risks from flooding.

VII. CERTIFICATION

This report is prepared in accordance with accepted standards of engineering practice, based on the site conditions, the materials observed and historical data reported. No warranty is expressed or implied.

VIII. REFERENCES

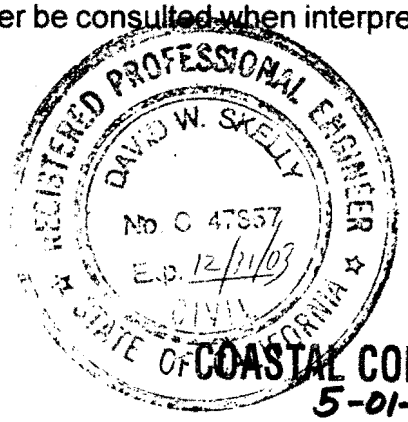
Coastal Construction Manual, 2001 FEMA (Federal Emergency Management Agency) Ref # FEMA-55

Shore Protection Manual, 1984, 4th ed. 2 Vols, US Army Engineer Waterways Experiment Station, Coastal Engineering Research Center, US Government Printing Office, Washington, DC.

USACOE (US Army Corps Of Engineers), 1986, "Southern California Coastal Processes Data Summary" Ref # CCSTW 86-1.

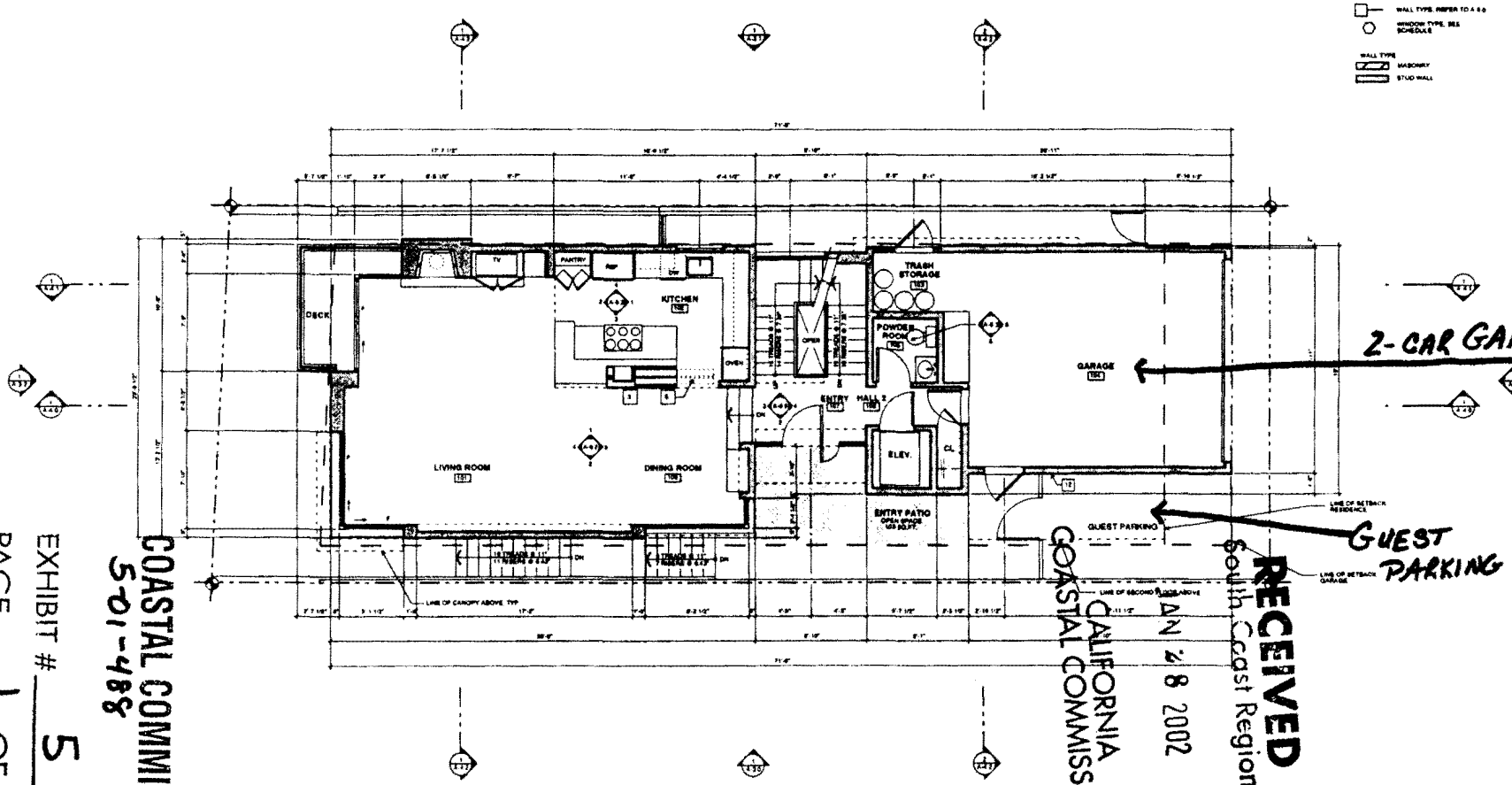
IX. COPYRIGHT

Respectfully Submitted,



David W. Skelly, MS
RCE #47857

619 S. VULCAN AVE, #214B ENCINITAS CA 92024 PHONE 760 942-8379 Fax 942-3686



WALL TYPE
- MASONRY
- STUD WALL

HOSE BIB
KEYNOTE
FIXTURE, SEE SCHEDULE
DOOR TYPE SEE SCHEDULE
APPLIANCE SEE SCHEDULE
FINISH SEE SCHEDULE
WALL TYPE, REFER TO A 6.0
WINDOW TYPE, SEE SCHEDULE

KAA
KIRKPATRICK ASSOCIATES ARCHITECTS AIA

Project
3220 THE STRAND RESIDENCE

3220 THE STRAND
HERMOSA BEACH
CALIFORNIA 90254

Revisions

SEPT. 10 2001	SCHEMATIC ESTIMATE SET
OCT. 12 2001	PROGRESS SET
OCT. 17 2001	CITY SUBMITTAL APPROVAL IN CONCEPT
NOV. 20 2001	PROGRESS SET
DEC. 17 2001	CITY RE-SUBMITTAL APPROVAL IN CONCEPT

Job Number
0110.1

Scale
1/4" = 1'-0"

Sheet Title
FIRST FLOOR PLAN

Sheet Number
A-1.1

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5-01-488

EXHIBIT # 5
PAGE 1 OF

GENERAL NOTES:

DIMENSIONS
A DO NOT SCALE DRAWINGS. REFLECTED CEILING PLANS SHOWN
B VERIFY ALL EXISTING CONDITIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES
C UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO FACE OF MASONRY OR STUD

INSULATION
A INSULATION OF BUILDING ENVELOPE SHALL BE CONTINUOUS
B SOUND INSULATION SHALL BE INSTALLED AT A.) INTERIOR PARTITIONS, FLOOR JOISTS AT FIRST AND SECOND FLOOR AND AROUND ALL PLUMBING PIPING

SHOP DRAWINGS AND SAMPLES
A THE FOLLOWING SHOP DWG MUST BE SUBMITTED AND APPROVED IN WRITING BY ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO FABRICATION: STRUCTURAL STEEL, DOORS AND WINDOWS, ALL MILLWORK, CABINETRY, PRE-CAST CONCRETE, MARBLE/GRANITE/SANDSTONE/TILE AND ANY OTHER CUSTOM COMPONENTS
B THE FOLLOWING SAMPLES MUST BE SUBMITTED FOR WRITTEN APPROVAL BY ARCHITECT PRIOR TO PROCEEDING WITH WORK: MILLWORK, TYPICAL CABINET WITH STAIN AND/OR PAINT FINISH, PRE-CAST CONCRETE, ALL STONE OR CERAMIC FINISHES, PAINT AND STAIN COLOR, WROUGHT IRON (TYPICAL SECTION ONLY) AND ANY OTHER CUSTOM FINISHES

SHOP DRAWINGS AND SAMPLES (CONT.)
C SHOP DRAWINGS OR SAMPLES MAY RESULT IN ARCHITECT'S REJECTION OF SAID WORK

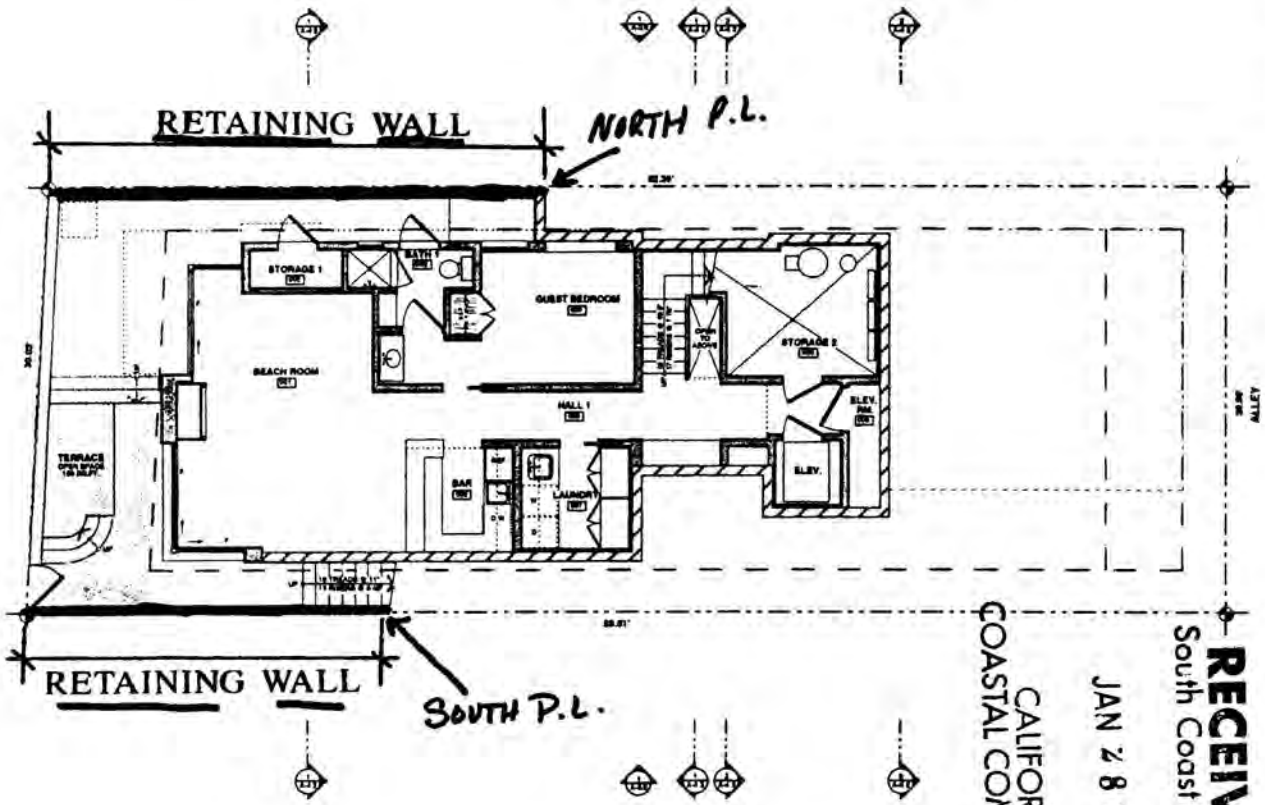
MILLWORK AND CABINETRY
A THE MOLDING SCHEDULE IS SHOWN ON FINISH SCHEDULE UNDER THE RESPECTIVE ROOM NAME/NUMBERS. REFER TO INTERIOR DETAIL SHEETS FOR MOLDING PROFILE AND SPECIFICATION
B UNLESS SPECIFIED OTHERWISE, PROVIDE FIVE ADJUSTABLE 24" WOOD SHELVES, PAINTED ARBOR STAINED AS SCHEDULED AT LINEN AND STORAGE CLOSETS
C U.N.O., PROVIDE HEAVY DUTY 1 1/2" DIAMETER CHROME POLES W/ END ROSETTES AT ALL CLOSETS AS SHOWN
D U.N.O., BUILT-IN DRESSERS AT CLOSETS TO BE PAINT GRADE WOOD, 42" HIGH W/ FOUR DRAWERS. VERIFY W/ INTERIOR ELEVATIONS

FRAMING
A ROUGH CARPENTER TO COORDINATE FRAMING LAYOUT W/ LIGHTING, PLUMBING AND MECHANICAL PLANS AND INFORM ARCHITECT OF ANY DISCREPANCIES. ALL REPD FURRING, SOFFITS, AND CLG. JOISTS FOR VOLUME CLG. SHALL BE INCLUDED IN THE BID
B REFER TO BUILDING SECTIONS, INTERIOR ELEVATIONS, REFLECTED CEILING PLAN OR ELEVATION PLAN AND CEILING DETAILS FOR VOLUME CEILINGS
C NON-STRUCTURAL FRAMING MAY NOT BE SHOWN ON STRUCTURAL PLANS. ROUGH CARPENTER TO REVIEW ALL ARCHITECTURAL SHEETS FOR CLEAR UNDERSTANDING OF WORK TO BE INCLUDED IN BID.
D 2X6 FRAMING OR MULTIPLE ROWS OF 2X4 SHALL BE USED FOR ALL EXTERIOR STUD FRAMING AND ON THE INTERIOR OF GARAGE. 2X6 FRAMING OR MULTIPLE ROWS OF 2X4 SHALL BE USED FOR ALL INTERIOR WALLS OF FIRST AND SECOND FLOORS. PROVIDE DRAFT STOPS AS REQUIRED BY SECTION 709 OF THE 1994 UBC OF CURRENT BUILDING CODE. ENCLOSED SPACES IN STUD WALL PARTITIONS AND FURRED WALLS SHALL BE FIRE STOPPED AT TOP AND BOTTOM AND AT MID-POINT IN WALL MORE THAN 10 FEET HIGH. VERIFY W/ STRUCTURAL PLAN
E PROVIDE BYPASS REINFORCEMENT AT ALL HEADERS

KEYNOTES:

1 WATER HEATER / PUMP / FILTER
2 ELECTRICAL / PHONE / CABLE / SECURITY PANEL
3 LOW WALL, SEE INTR ELEVATIONS
4 CENTRAL VACUUM UNIT
5 PULL-OUT PANTRY W/ ADJ. SHELVING
6 18" X 18" ACCESS PANEL REQUIRED FOR TUB-TRAP SUP. JOINT
7 BUILT-IN DESK, SEE INTR. ELEVATIONS
8 BUILT-IN BENCH W/ STORAGE, SEE INTR. ELEVATIONS
9 UPPER CABINET W/ ADJ. SHELVES
10 LOWER CABINETRY W/ ADJ. SHELVES
11 DRAIN
12 MAILBOX
13 HANDRAIL ROD W/ SHELF ABOVE
14 NON-COMBUSTABLE FIREBRICK HEARTH
15 GAS VALVE
16 TABLE
17 PANTRY
18 TELEVISION. PROVIDE ELEC. AND CABLE ACCESS PER ELEC. PLAN
19 LINE OF SOFFIT ABOVE
20 WINE RACK, SEE INTR ELEVATIONS
21 RECESSED MEDICINE CABINET
22 LINE OF STORY / ROOF ABOVE
23 ACCESS PANEL, VERIFY W/ MFR'S REQT.
24 SOAP / SHAMPOO NICHE, SEE INTR. ELEVATIONS
25 RETAINING WALL
26 HOT MOPPED SHOWER PAN WITH 4" RECESS OR BUILT UP DAM. PROVIDE FINISH PER SCHEDULE AT SHOWER STALL FLOOR AND WALL TO CEILING HT. U.N.O. TILE OBTAINS PER CERAMIC TILE INST. STANDARDS
27 PROVIDE 5/8" TYPE 'X' GYP. BOARD (1 HR. FIRE SEPERATION PER CODE REQ'T) AT WALLS AND CLG. OF ENCLOSED SPACE UNDER STAIRS
28 ALL GARAGE WALLS AND CLG. TO BE PROVIDED W/ 5/8" TYPE 'X' GYP. BOARD (1 HR. FIRE SEPERATION PER CODE REQ'T)
29 PROVIDE AUTOMATIC SPRINKLER SYS. PER CITY ORDINANCE
30 LOCATION OF UTILITY / GAS METER
31 PROVIDE 1 3/8" DIA. MTL. SHOWER BAR. VERIFY WITH CLIENT
32 PLANTER WALL, SEE ELEVATIONS AND SITE PLAN FOR HEIGHT
33 MAILBOX
34 PROVIDE DRYER VENT
35 DECK DRAIN
36 MIRROR, SEE INTR. ELEVATIONS
37 HOSE BIB
38 ADDRESS SIGN (TBD)
39 CONCRETE PLATFORM

N



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KAA
KIRKPATRICK ASSOCIATES ARCHITECTS AIA

3220 THE STRAND RESIDENCE

3220 THE STRAND
HERMOSA BEACH
CALIFORNIA 90254

BASEMENT PLAN

A-1.0

GENERAL NOTES

KEYNOTES:

COASTAL COMMISSION
5-01-482
EXHIBIT #
PAGE 1 OF 1

1.0 Project Description

It is proposed to construct a two-story single family residence with basement on the 30' x 84' subject project. Other improvements will consist of hardscape and landscaping. It is assumed that the proposed grading for the development will include minor cut and fill procedures. Final building plans shall be reviewed by this firm prior to submittal for city approval to determine the need for any additional study and revised recommendations pertinent to the proposed development, if necessary.

2.0 Site Description

The site consists of a residential lot located within the 3200 block of The Strand, in the City of Hermosa Beach. The generally rectangular shaped lot is elongated in an east to west direction with topography of the property descending gradually from east to west on the order of 10 feet. A single-family residence with a legal non-conforming detached garage with above apartment currently occupies the property.

3.0 Site Exploration

The investigation consisted of the placement of two (2) subsurface exploratory borings by a truckmounted hollow stem auger to a maximum depth of 15 feet below current ground elevations. The explorations were visually classified and logged by a field engineer with locations of the subsurface explorations shown on the attached Site Plan. The exploratory borings revealed the existing earth materials to consist of a surficial fill and natural soil.

A detailed description of the subsurface conditions are listed on the excavation logs in Appendix A. It should be noted that the transition from one soil type to another as shown on the borings logs is approximate and may in fact be a gradual transition. The soils encountered are described as follows:

Fill: A surficial fill and disturbed top soil predominately classifying as a dark brown, fine to medium grained, silty SAND was encountered across the site to a depth of one foot. These soils were noted to be loose and damp.

Natural: An undisturbed native soil classifying as a red brown, fine to medium grained, slightly silty SAND was encountered beneath the upper fill soils. These native soils were observed to be medium dense to dense and moist.

The overall engineering characteristics of the earth material were relatively uniform with each excavation. No groundwater was encountered to the depth of our borings and no caving occurred to the depth of our borings.

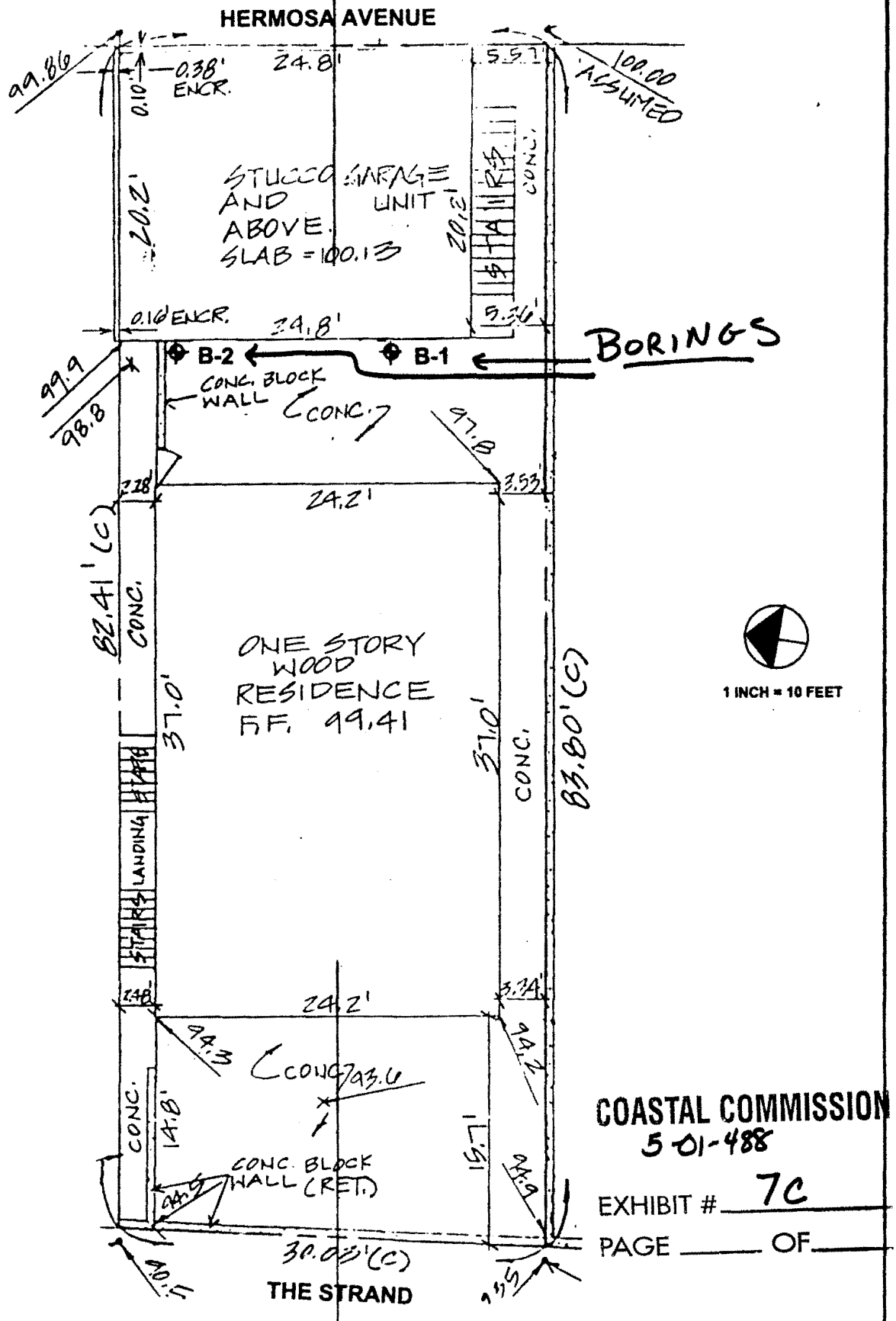
4.0 Laboratory Tests

Relatively undisturbed samples of the subsurface soils were obtained to perform laboratory testing and analysis for direct shear, consolidation tests, and to determine in-place moisture/densities. These relatively undisturbed ring samples were obtained by driving a thin-walled steel sampler lined with one inch long brass rings with an inside diameter of 2.42 inches into the undisturbed soils. Bulk bag samples were obtained in the upper soils for expansion index tests and maximum density tests. Wall loadings on the order of 2,000 lbs./lin.ft. and maximum compression loads on the order of 20 kips were utilized for testing and design purposes. All test results are included in Appendix B, unless otherwise noted.

4.1 **Field moisture content** (ASTM:D 2216) and the dry density of the ring samples were determined in the laboratory. This data is listed on the logs of explorations.

4.2 **Maximum density tests** (ASTM: D-1557-91) were performed on typical samples of the upper soils. Results of these tests are shown on Table I.

1/A-4.0



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5-01-488
EXHIBIT # 7C
PAGE ____ OF ____

NorCal Engineering
SOILS AND GEOTECHNICAL CONSULTANTS

PROJECT 9339-01 | DATE MAY 2001

SITE PLAN
APPROXIMATE LOCATION OF FIELD EXPLORATIONS

KAA KIRKPATRICK ASSOCIATES ARCHITECTS, INC.
4201 Redwood Avenue, Los Angeles, California 90066

TRANSMITTAL

DATE	January 28, 2002	**SUBJECT**	3220 The Stand
TO	Ms. Janna Shackeroff Coastal Commission	**PROJECT**	Biche Residence
		PROJECT NO	01103
FROM	Bob Gdowski	**VIA**	Facsimile (415) 904-5216 FAXED

SENDING 2 items (2 pages incl. cover) enclosed via Facsimile (415) 904-5216.
If enclosures are not as listed, please notify this office immediately.

ITEM	DESCRIPTION	PAGES	DATED	ACTION
1	LANDSCAPE PLAN 8 1/2" x 11" (photocopies,1 copy)	1	1/28/02	For Your Information For your review For your approval
2	LANDSCAPE DETAIL 1 1/2"= 1'-0" (photocopies,1 copy)	1	1/28/02	For Your Information For your review For your approval

REMARKS Dear Janna,

Thank you for your help over the phone today, you were very informative. Please find to follow a Landscape Plan for 3220 The Strand, Hermosa Beach.

You will see that the plan in composed of concrete paving with 4" pebble inlays. In the northwest corner of the site, as noted on the plan, the inlays will be permeable. The pebbles will be resting on a bed of sand, where on the remainder of the site the pebbles will be resting in a mortar bed. The northwest corner is the low point on the site, as well as the location of the sump pump basin. We feel by adding these permeable surfaces that we will be allowing a majority of the water to permeate before it reaches the basin. We have also added approximately twenty square feet of permeable planting area near the entrance as indicated on the plan.

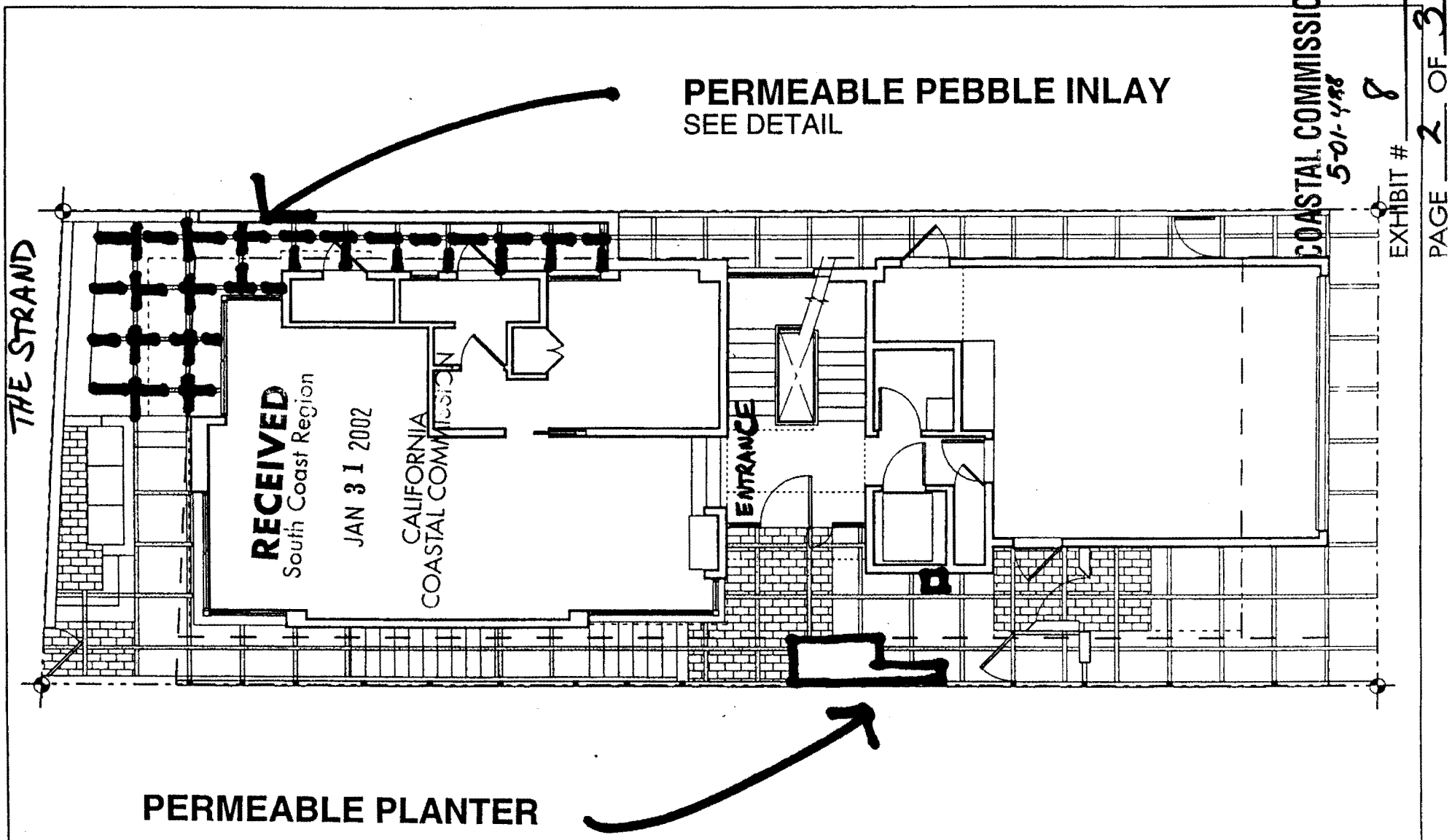
Please call me after you have had the opportunity to review this information. Thank you very much.

Regards,

BY Bob Gdowski

COASTAL COMMISSION
5-01-488
EXHIBIT # 8
PAGE 1 OF 3

tel 310 821 1400
fax 310 821 1440
www.kaa-architects.com



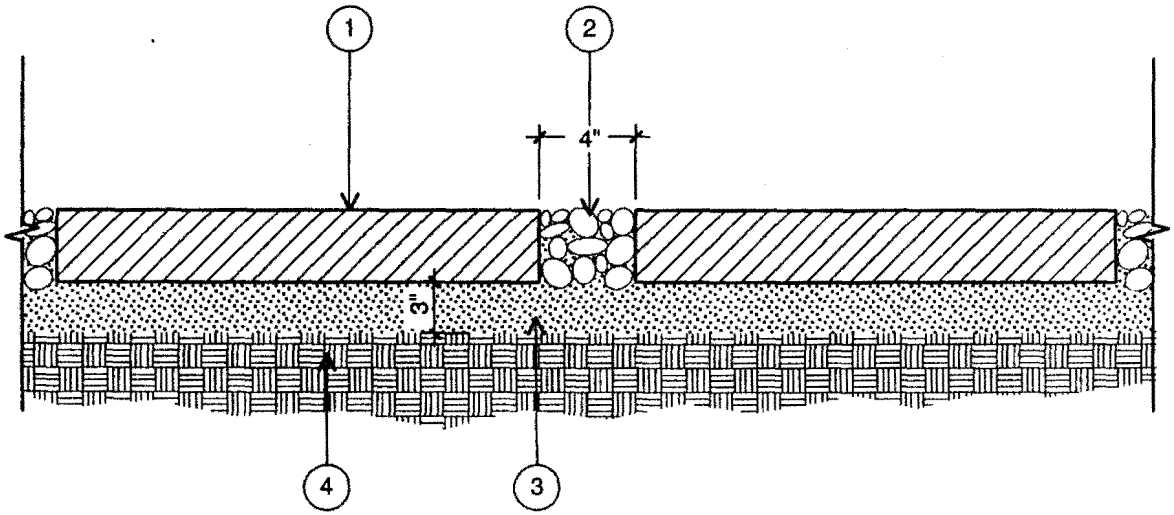
LANDSCAPE PLAN

SCALE: NTS

SK-X.X

Project: Biche Residence
Project Number: 01103
Address: 3220 The Strand
Issue Date: 01/28/02

KAA
Kirkpatrick Associates
Architects aia
4201 Redwood A
Los Angeles, CA
telephone (310)82
fax (310) 821-1440



LEGEND

1. CONCRETE PAVING
2. 1 1/2" - 2" RIVER ROCK
3. COMPACTED SAND BASE
4. SUBGRADE

PEBBLE INLAY DETAIL

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

SK-X.X

Project: Biche Residence
Project Number: 01103
Address: 3220 The Strand
Issue Date: 01/28/02

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