

## CALIFORNIA COASTAL COMMISSION

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Filed: May 10, 1999  
 49th Day: June 28, 1999  
 180th Day: November 6, 1999  
 Staff: GDC-SD  
 Staff Report: May 20, 1999  
 Hearing Date: June 7-11, 1999

REGULAR CALENDAR  
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-99-41

Applicant: Ludmilla Bradley

Agent: Anthony-Taylor Consultants

Description: Construction of an approximately 13 ½ to 15 ½ foot-high, 107 foot-long concrete seawall with caissons and tie-backs, cement slurry backfill, an erosion control mesh anchored over the backfill section of the seawall and colored/textured shotcrete over the face of the lower bluff at the north end of the seawall.

Site: On public beach fronting 560 Neptune Avenue, Encinitas, San Diego County.  
 APN(s) 256-084-07

STAFF NOTES:Summary of Staff's Preliminary Recommendation:

The subject site has suffered a number of bluff collapses over the last several years. In response to some of these collapses, several unpermitted protection structures were constructed. After a major collapse in 1991, the applicant received several emergency permits to construct an upper bluff retention system that has been constructed. However, the site has continued to experience erosion since this time and the applicant has submitted documentation that the existing single family residence is threatened from bluff erosion at this time.

Staff has reviewed the proposed seawall request and is recommending approval of the proposed application with several special conditions requiring payment of an in-lieu fee to mitigate loss of sand; monitoring of the seawall's condition and performance, recordation of deed restrictions addressing future erosion and assumption of risks; certification that the seawall will be storm resistant; submission of other governmental permits and future maintenance. With these conditions, impacts of the seawall on coastal resources will be minimized or mitigated, consistent with Chapter 3 Policies of the Coastal Act.

Substantive File Documents: Certified Encinitas Local Coastal Program (LCP); Updated Geotechnical Evaluation/Bradley Property by Anthony-Taylor Consultants dated December 11, 1998; Supplemental Project Discussion/Bradley Bluff Protection by Anthony-Taylor Consultants dated March 18, 1999; CDP Nos. 6-91-312-G; 6-93-36-G, 6-93-85, 6-93-131, 6-93-136, 6-95-66, 6-98-39, 6-98-133; U.S. Army Corps of Engineers, Los Angeles District (September 1991) State of the Coast Report, San Diego Region (CCSTWS), and all Technical Support Documents prepared for this study; San Diego Association of Governments (July 1993) Shoreline Preservation Strategy (including technical report appendices, The Planners Handbook, Beachfill Guidelines, and Seacliffs, Setbacks and Seawalls Report); Stone, Katherine E. and Benjamin Kaufman (July 1988) "Sand Rights: A Legal System to Protect the 'Shores of the Sea'", Journal of the American Shore and Beach Preservation Association, Vol. 56, No. 3, pp. 8 - 14; Tait, J.F. and Gary B. Griggs (1990) "Beach Response to the Presence of a Seawall," Journal of the American Shore and Beach Preservation Association, Vol. 58, No. 2, pp. 11 - 28; Group Delta Consultants, Inc. (November 3, 1993) "Shoreline Erosion Evaluation Encinitas Coastline, San Diego County, California" prepared for Mr. and Mrs. Richard Cramer (Project No. 1404-EC01); Everts, Craig (1991) "Seacliff Retreat and Coarse Sediment Yields in Southern California," Proceedings of Coastal Sediments '91, Specialty Conference/WR Div./ASCE, Seattle WA; Sunamura, T. (1983) "Processes of Sea Cliff and Platform Erosion," in CRC Handbook of Coastal Processes and Erosion, P.D. Komar (ed), CRC Press, Boca Raton, FL; Beach Bluff Erosion Technical Report for the City of Encinitas by Zeiser Kling Consultants, Inc. dated January 24, 1994; Sterrett, E.H. and R.E. Flick. "Shoreline Erosion Atlas." Shoreline Erosion Assessment and Atlas of the San Diego Region, vol. II. Sacramento, California: California Department of Boating and Waterways, 1994; Reconnaissance Report for the Encinitas Shoreline by the U.S. Army Corps of Engineers, dated March 1996; Final Draft Technical Report for the City of Encinitas Comprehensive Coastal Bluff and Shoreline Plan by Moffatt and Nichol Engineers, dated February 1996; Commission Cease and Desist Order No. CCC-97-CD-02

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PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit for the proposed development, subject to the conditions below, on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the

ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. Final Plans. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and written approval of the Executive Director, final seawall, site, landscape, irrigation and drainage plans that are in substantial conformance with the plans by Anthony-Taylor Consultants dated September 21, 1998 submitted with this application. However, the plans shall be modified to include the following measures to mitigate the impacts of the seawall and address overall site stability. Said plans shall first be approved by the City of Encinitas and include the following:

- a. Sufficient detail regarding the construction method and technology utilized for texturing and coloring the seawall. Said plans shall confirm, and be of sufficient detail to verify, that the seawall color and texture closely matches the adjacent natural bluffs, including provision of a color board.
- b. All existing debris material (concrete, concrete columns and gunite) associated with the unpermitted shoreline protective devices shall be removed and not used as backfill behind the seawall.
- c. During construction of the approved development, disturbance to sand and intertidal areas shall be minimized to the maximum extent feasible. All excavated beach sand shall be redeposited on the beach. Local sand, cobbles or shoreline rocks shall not be used for backfill or for any other purpose as construction material.

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

2. Mitigation for Impacts to Sand Supply. Within the deadline specified below, the applicant shall provide evidence, in a form and content acceptable to the Executive Director, that a total fee of \$16,411.27 has been deposited in an interest bearing account designated by the Executive Director, in-lieu of providing sand to replace the sand and

beach area that would be lost due to the impacts of the proposed protective structure. The methodology used to determine the appropriate mitigation fee for the subject site(s) is that described in the staff report dated 5/20/99 prepared for coastal development permit #6-99-41. All interest earned shall be payable to the account for the purposes stated below.

The purpose of the account shall be to establish a beach sand replenishment fund to aid SANDAG, or a Commission-approved alternate entity, in the restoration of the beaches within San Diego County. The funds shall solely be used to implement projects which provide sand to the region's beaches, not to fund operations, maintenance or planning studies. The funds shall be released only upon approval of an appropriate project by the Executive Director of the Coastal Commission. The funds shall be released as provided for in a MOA between SANDAG, or a Commission-approved alternate entity, and the Commission, setting forth terms and conditions to assure that the in-lieu fee will be expended in the manner intended by the Commission. In the event the MOA is terminated, the Commission can appoint an alternative entity to administer the fund.

The evidence of payment of the total fee required above shall be submitted to the Executive Director within the deadline specified in the Final Stipulated Judgment entered in California Coastal Commission v. Bradley, Case No. NO7148.

3. Monitoring Program. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, a plan prepared by a licensed geologist or geotechnical engineer for a seawall and water wells monitoring program which includes the following:

- a. Provisions for conducting an annual evaluation of the condition and performance of the approved seawall and water wells, addressing whether any significant weathering or damage has occurred that would adversely impact the future performance of the wall or wells. This evaluation shall include an assessment of the color and texture of the wall comparing the appearance of the wall to the surrounding native bluffs.
- b. Provisions for submittal of a report to the Executive Director of the Coastal Commission on May 1 of each year (beginning the first year after construction of the project is completed), for the life of the project. Each report shall be prepared by a licensed geologist or geotechnical engineer. The report shall include the evaluations from subsection a. above and shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the project.
- e. An agreement that the permittees shall apply for a coastal development permit within three months of submission of the report required in subsection b. above (i.e., by August 1) for any necessary maintenance, repair, changes or modifications to the project recommended by the report that require a coastal development permit.

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

4. Construction Schedule/Staging Areas/Access Corridors. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, detailed plans identifying the location of access corridors to the construction sites and staging areas, and a final construction schedule. Said plans shall include the follow criteria specified via written notes on the plan:

- a. Use of sandy beach and public parking areas outside the actual construction site, including on-street parking, for the interim storage of materials and equipment is prohibited.
- b. No work shall occur on the beach on weekends or holidays during the summer months (start of Memorial Day weekend to Labor day) of any year.
- c. Equipment used on the beach shall be removed from the beach at the end of each workday.
- d. Access corridors shall be located in a manner that has the least impact on public access and existing public parking areas. Use of public parking areas for staging/storage areas is prohibited.

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

5. Assumption of Risk. 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 shall provide: (a) that the applicant understands that the site may be subject to extraordinary hazard from erosion and bluff collapse, and the applicant assumes the liability from such hazards; and (b) the applicant unconditionally waives any claim of liability on the part of the Commission or its successors in interest for damage from such hazards and agrees to indemnify and hold harmless the Commission, its officers, agents, and employees relative to the Commission's approval of the project for any damage due to natural hazards. The document 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 Coastal

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

6. Other Permits. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit copies of all other required local, state or federal discretionary permits for the development herein approved. Any mitigation measures or other changes to the project required through said permits shall be reported to the Executive Director and shall become part of the project. Such modifications, if any, may require an amendment to this permit or a separate coastal development permit.

7. Future Maintenance/Debris Removal. Within 15 days of completion of construction of the protective device(s) the permittees shall remove all debris deposited on the beach or in the water as a result of construction of the shoreline protective device(s). The permittees shall also be responsible for the removal of debris resulting from failure or damage of the shoreline protective devices(s) in the future. In addition, the permittee shall maintain the permitted seawall, shotcrete wall and chain-link mesh in its approved state except to the extent necessary to comply with the requirements set forth below. Maintenance of the seawall shall include maintaining the color, texture and integrity. Any change in the design of the project or future additions/reinforcement of the seawall beyond minor regrouting or other exempt maintenance, as defined by Section 13252 of the California Code of Regulations, will require a coastal development permit. However, in all cases after inspection, if it is apparent that repair and maintenance is necessary, the permittee shall contact the Commission office to determine whether permits are necessary.

8. As-Built Plans. WITHIN 60 DAYS FOLLOWING COMPLETION OF THE PROJECT, the permittee shall submit as-built plans of the approved seawall and associated structures and submit certification by a registered civil engineer, acceptable to the Executive Director, verifying the seawall and associated structures have been constructed in conformance with the approved plans for the project. These plans shall include photographs sufficient to document the color and texture of the seawall

9. Condition Compliance. WITHIN NINETY (90) DAYS OF COMMISSION ACTION OF THIS COASTAL DEVELOPMENT PERMIT APPLICATION, or within such additional time as the Executive Director may grant for good cause, the applicants shall satisfy all requirements specified in the conditions hereto that the applicants are required to satisfy prior to issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

#### IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description/History. The proposed project involves the construction of an approximately 13 ½ to 15 ½ foot-high, 107 foot-long "cast-in-place"

concrete seawall with caissons and tie-backs, backfill behind the seawall consisting of concrete slurry covered in earth and an anchored wired erosion mesh over the backfilled area. An application of colored and texture shotcrete is also proposed for the lower bluff area on the north end of the seawall. The project will also include a system of dewatering and landscaping improvements. The subject seawall will be approximately 3 ½ feet thick at its base tapering to approximately 2 ½ feet at its top and will follow the toe of the bluff for approximately 50 feet along the southern portion of the property. The northern 57 feet of the seawall will be approximately 15 ½ feet high and be located up to 16 feet seaward of the toe of the bluff. The seawall is proposed to be 16 feet seaward of the bluff in this area because the bluff suffered several collapses. The project will in effect rebuild this collapsed bluff area by back-filling behind the seawall. The proposed seawall will be attached on the south end to a similarly designed approximately 12 foot-high, 120 foot-long seawall which was approved by the Commission in January, 1999 (CDP No. 6-98-133/Gozzo, Sawtelle, Fischer). The face of the proposed seawall and shotcrete has been designed for coloring, texturing and sculpting to allow for a more natural appearance.

The subject development is located at the base of an approximately 95 ft. high, privately owned, coastal bluff on the west side of Neptune Avenue in Encinitas fronting one vacant lot on the north side and a single family residence on the south lot. The edge of the bluff is located approximately 5 feet from the rear of the existing residence. The existing approximately 30 feet of the upper portion of the bluff face is covered by a tie-back shotcrete retaining wall structure which extends across the full width of the subject lots. The Commission issued an emergency permit for the construction of the upper shotcrete wall in December 1991 (CDP No. 6-91-312-G), followed by a series of extensions to the emergency permit. The required follow-up coastal development permit for the emergency permit(s) has only recently been applied for through the City of Encinitas, which has not yet acted on the application. In addition, sometime after completion of the upper shotcrete wall, several unpermitted shoreline protective devices were installed. These include five landscaping/retaining walls installed in the mid-bluff area ranging from 15 to 55 feet in length, a lower concrete seawall at the base of the bluff and gunite cover over the lower bluff face. The lower retaining wall and gunite have each failed resulting in the accumulation of debris material on the bluff face and the beach and an acceleration of bluff erosion. In addition, the mid-bluff retaining walls are currently subject to failure. The coastal development permit application under review at the City includes retention and repair of these five mid-bluff landscaping/retaining walls.

Although the City of Encinitas has a certified LCP and has been issuing coastal development permits since May of 1995, the proposed development is located within the Commission's area of original jurisdiction where permit jurisdiction is not delegated to the local government. As such, the standard of review is Chapter 3 policies of the Coastal Act, with the certified LCP used as guidance.

2. Geologic Conditions and Hazards. Section 30235 of the Coastal Act states, in part:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be

permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.

In addition, 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...

Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" solutions alter natural shoreline processes. Thus, such devices are required to be approved only when necessary to protect existing structures in danger from erosion. The Coastal Act does not require the Commission to approve shoreline altering devices to protect vacant land or in connection with construction of new development. A shoreline protective device proposed in those situations is likely to be inconsistent with various other Coastal Act policies. For example, Section 30253 addresses new development and requires that it be sited and designed to avoid the need for protective devices that would substantially alter natural landforms along bluffs and cliffs.

In addition, the Commission has generally interpreted Section 30235 to require the Commission to approve shoreline protection only for existing principal structures. The Commission must always consider the specifics of each individual project, but has found in many instances that accessory structures such as patios, decks and stairways are not required to be protected under Section 30235 or can be protected from erosion by relocation or other means that does not involve shoreline protection. The Commission has historically permitted at grade structures within the geologic setback area recognizing they are expendable and capable of being removed rather than requiring a protective device that alters natural landforms along bluffs and cliffs.

Pursuant to Section 30253 of the Coastal Act, in approving new development on blufftop lots, structures are required to be setback an appropriate distance (based on a site specific geotechnical report) from the edge of the bluff that will allow for the natural process of erosion without triggering the need for a seawall. This "geologic setback area" is so designated to accommodate the natural erosion of the bluff. In other words, on blufftop lots, residences are set back from the bluff edge to allow the natural process of erosion to occur on the site without causing the residence to be threatened. Thus, at some future point when evidence of some erosion of the setback area is identified (even undercutting



and subsequent block failures), this does not necessarily confirm the need for bluff or shore protection to protect the residence.

While the subject site on top of the bluff is comprised of two lots, one of which is vacant, the vertical seawall is proposed to protect the existing home on the remaining lot. A series of geotechnical investigations have been performed for the subject site to document the need for shoreline protection. The most recent report dated December 11, 1998, and supplemental report on March 18, 1999, documents recent failures that have occurred at the subject site that place the residence in danger. These reports indicate that the upper bluff shotcrete wall is currently being undermined by the failures of two mid-bluff retaining walls and the failure of the upper bluff shotcrete would directly impact the residence and place it in danger. As the report indicates, the mid-bluff is threatened by the continued deterioration of the lower bluff caused by an "existing joints/fracture within the exposed Torrey Sandstone Formation" and the constant scouring and sloughing affect of wave action on the unprotected bluff. The joints and fractures within the Torrey Sandstone appear to be a "significant contributing factor" to the collapsed bluff area on the north section of the subject site. The curved area created by the collapse, in turn, creates re-refraction of wave energy resulting in an acceleration of erosion to the bluffs. The March 18, 1999, supplemental report indicates that the central and northern sections of the lower bluff within the collapsed area have retreated approximately 2-3 feet within the last several months.

The submitted reports also document that the existing residence is less than five feet from the edge of the bluff and that the angle of repose of the bluff intersects with the existing residence. In addition, the applicant has submitted a slope stability analysis for the site which indicates that the projected failure surface for the bluff fronting the subject properties intersects the bluff under the residence with a factor of safety of less than 1 (.90); indicating that the bluff is only marginally stable and that if some method of stabilization is not provided, a slope failure may occur. Thus, given the amount of documented erosion on the site over the last several years, the failure of various unpermitted structures, the low factor of safety and the distance of the residence from the bluff edge, substantial evidence has been provided to document that the existing primary blufftop structure is in danger from erosion. However, there are a variety of ways in which the threat from erosion could be addressed. Under the policies of the Coastal Act, the project must also be found to be the least environmentally damaging alternative. Based on the above, the Commission finds that the existing single family residence is threatened and that a shoreline altering device must be approved pursuant to Section 30235 of the Coastal Act.

The geotechnical reports also document other considered alternatives to the proposed seawall. The applicant reviewed alternatives including: 1) relocation of the residence 2) below ground caissons and grade beam system 3) removal of the upper landscape retaining walls and 4) different lower seawall alignments. Both the relocation of the residence and below grade support were determined to be infeasible since neither alternative would protect the residence from the present danger of erosion. Relocation of the home further landward would not protect the home because the angle of repose of the

existing bluff extends almost to the street. Also, due to the angle of repose, the unprotected bluff would soon expose any below grade support system to public view. Removal of the upper landscape retaining walls was rejected since the removal of the walls would only increase the risk that the upper bluff wall would fail.

Finally, the applicant considered different alignments and heights for the proposed lower seawall and the proposed wall was determined to be most feasible alternative. The southern 50 foot-long section of the seawall has been minimally designed with a proposed width of 3 ½ ft. at the base and a height of 13 ½ feet above MSL and will follow the toe of the bluff. It will connect to a similar wall to the south that is approximately 12 feet high. Both the southern and northern sections of the seawall are proposed to be colorized and textured to match the surrounding bluffs. The northern 57 foot-long section of the wall, however, will not follow the toe of the bluff but will instead extend up to 16 feet seaward of the toe in a generally straight design to enclose an area where the bluff has collapsed. The collapsed area was created recently, as a result of bluff erosion caused by wave action accelerated by inadequately designed and unpermitted shoreline protective devices that have failed. The collapsed area is filled with debris material from the failed protective devices. The applicant's engineer has indicated that instead of attempting to construct the seawall to curve inland to follow the current toe of the bluff, the proposed enclosure and rebuilding of the collapsed area was chosen in order to lessen the end effects and limit the height of the wall. According to the applicant's report, a curved wall following the toe of the bluff in the collapsed area would focus wave energy against the center of the curved area and cause refraction of wave action against the northern end of the proposed wall. In addition, due to the need to support the lower sections of the bluff, a wall placed along the toe of the bluff within the collapsed area would necessitate a height in excess of 26 feet. Alternatively, the chosen northern wall design will be approximately 15 ½ feet-high and, since it will be generally a straight wall, the end effects will be minimized to the maximum extent possible.

As noted above, the applicant considered removal of the mid-bluff landscape retaining walls as one alternative to the proposed seawall. As indicated in the engineer's letter of March 18, 1999, the mid-bluff landscaping walls are in a state of failure such that the upper shotcrete wall is threatened. Any removal of the landscaping retaining walls would increase the risk that the upper shotcrete wall would fail resulting in the loss of the residence. Therefore, removal of the mid-bluff landscape retaining walls was not considered a feasible alternative. This portion of the proposed development is not within the Commission's regular permit jurisdiction. The City is currently reviewing a coastal development permit application for these mid-bluff repairs. Commission staff has reviewed the proposal to retain and repair the mid-bluffs. Based upon this review, it appears that the Commission's approval of the subject development will not prejudice the City's ability to act on the application for the mid-bluff walls and upper bluff protection, nor does the construction of this seawall dictate from an engineering standpoint, the presence, type, or amount of upper bluff construction that may be required in the future.

In summary, the Commission finds that there is a threat to the existing single family residence that must be addressed by a structural solution. An alternative analysis

presented by the applicant demonstrates that there are no feasible less environmentally-damaging alternatives to the proposed project. Therefore, the Commission finds that the proposed project is consistent with Coastal Act section 30235

Although construction of a seawall is required to protect the existing principle structures on the site, Section 30235 of the Coastal Act requires that the shoreline protection be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. There are a number of adverse impacts to public resources associated with the construction of shoreline structures. The natural shoreline processes referenced in Section 30235, such as the formation and retention of sandy beaches, may be altered by construction of a seawall, since bluff retreat is one of several ways that beach area and beach quality sand is added to the shoreline. This retreat is a natural process resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse, saturation of the bluff soil from ground water causing the bluff to slough off and natural bluff deterioration. When a seawall is constructed on the beach at the toe of the bluff, it directly impedes these natural processes.

Many of the effects of a structure on the beach are temporary or difficult to distinguish from all the other actions which modify the shoreline. Nevertheless, some of the effects which a structure may have on natural shoreline processes can be quantified. Three of the effects from a shoreline protective device which can be quantified are: 1) loss of the beach area on which the structure is located; 2) the long-term loss of beach which will result when the back beach location is fixed on an eroding shoreline; and 3) the amount of material which would have been supplied to the beach if the back beach or bluff were to erode naturally.

Based on review of the proposed seawall application, the Commission finds that the following impacts on beach sand supply would result from construction of the proposed seawall. The proposed seawall, which is approximately 100 ft. long by 3 ft. thick, will encroach onto and permanently displace an estimated 300 sq. ft. of public beach area that is currently available for public use. In addition, over the expected life of the seawall, it is estimated that an additional 414 sq. ft. of public beach area will be lost to public use due to the seawall's prevention of the landward migration of the beach in this location (based on information provided by the applicant's engineer that the expected life of the seawall is approximately 23 years and the long-term erosion rate at the base of the bluff is .2 ft. per year). Finally, based on a rough approximation of current and future bluff profiles, it is estimated that approximately 1,978.2 cubic yards of beach quality sand will be deprived the beach over the life of the seawall due to the seawall's effect on the natural processes of the bluff.

Special Condition #2 requires the applicant to deposit an in-lieu fee to fund beach sand replenishment projects as mitigation for impacts of the proposed shoreline protective device on beach sand supply and shoreline processes. The following is the methodology used by Commission staff develop the in-lieu fee amount. The methodology uses site-specific information provided by the applicant as well as estimates, derived from region-specific criteria, of both the loss of beach material and beach area which could occur over

the life the structure, and of the cost to purchase an equivalent amount of beach quality material and to deliver this material to beaches in the project vicinity.

The following is a description of the methodology. The actual calculations which utilize values that are applicable to the subject sites, and were used as the basis for calculating the estimated range of the mitigation fee, are attached as Exhibit A to this report.

Fee = (Volume of sand for mitigation) x (unit cost to buy and deliver sand)

$$M = V_t \times C$$

where

**M** = Mitigation Fee

**V<sub>t</sub>** = Total volume of sand required to replace losses due to the structure, through reduction in material from the bluff, reduction in nearshore area and loss of available beach area (cubic yards). Derived from calculations provided below.

**C** = Cost, per cubic yard of sand, of purchasing and transporting beach quality material to the project vicinity (\$ per cubic yard). Derived from the average of three written estimates from sand supply companies within the project vicinity that would be capable of transporting beach quality material to the subject beach, and placing it on the beach or in the near shore area.

$$V_t = V_b + V_w + V_e$$

where

**V<sub>b</sub>** = Volume of beach material that would have been supplied to the beach if natural erosion continued, based on the long-term regional bluff retreat rate, design life of the structure, percent of beach quality material in the bluff, and bluff geometry (cubic yards). This is equivalent to the long-term reduction in the supply of bluff material to the beach resulting from the structure.

**V<sub>w</sub>** = Volume of sand necessary to replace the beach area that would have been created by the natural landward migration of the beach profile without the seawall, based on the long-term regional bluff retreat rate, and beach and nearshore profiles (cubic yards)

$V_e$  = Volume of sand necessary to replace the area of beach lost due to encroachment by the seawall; based on the seawall design and beach and nearshore profiles (cubic yards)

$$V_b = (S \times W \times L/27) \times [(R h_s) + (h_u/2 \times (R + (R_{cu} - R_{cs})))]$$

where

$R$  = Long-term regional bluff retreat rate (ft./yr.), based on historic erosion, erosion trends, aerial photographs, land surveys, or other accepted techniques. For the Encinitas area, this regional retreat has been estimated to be 0.2 ft./year. This value may be used without further documentation. Alternative retreat rates must be documented by the applicant and should be the same as the predicted retreat rate used to estimate the need for shoreline armoring.

$L$  = Design life of armoring without maintenance (yr.) If maintenance is proposed and extends the life of the seawall beyond the initial estimated design life, a revised fee shall be determined through the coastal development permit process.

$W$  = Width of property to be armored (ft.)

$h$  = Total height of armored bluff (ft.)

$S$  = Fraction of beach quality material in the bluff material, based on analysis of bluff material to be provided by the applicant

$h_s$  = Height of the seawall from the base to the top (ft)

$h_u$  = Height of the unprotected upper bluff, from the top of the seawall to the crest of the bluff (ft)

$R_{cu}$  = Predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming no seawall were installed (ft/yr). This value can be assumed to be the same as  $R$  unless

the applicant provides site-specific geotechnical information supporting a different value.

$R_{CS}$  = Predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming the seawall has been installed (ft/yr). This value will be assumed to be zero unless the applicant provides site-specific geotechnical information supporting a different value.

NOTE: For conditions where the upper bluff retreat will closely follow the lower bluff, this volume will approach a volume of material equal to the height of the total bluff, the width of the property and a thickness equal to the total bluff retreat that would have occurred if the seawall had not been constructed. For conditions where the upper bluff has retreated significantly and would not be expected to retreat further during the time that the seawall is in place, this volume would approach the volume of material immediately behind the seawall, with a thickness equal to the total bluff retreat that would have occurred if the seawall had not been constructed.

$$V_w = R \times L \times v \times W$$

where

$R$  = Long-term regional bluff retreat rate (ft./yr.), based on historic erosion, erosion trends, aerial photographs, land surveys, or other accepted techniques. For the Encinitas area, this regional retreat has been estimated to be 0.2 ft./year. This value may be used without further documentation. Alternative retreat rates must be documented by the applicant and should be the same as the predicted retreat rate used to estimate the need for shoreline armoring.

$L$  = Design life of armoring without maintenance (yr.) If maintenance is proposed and extends the life of the seawall beyond the initial estimated design life, a revised fee shall be determined through the coastal development permit process.

$v$  = Volume of material required, per unit width of beach, to replace or reestablish one foot of beach seaward of the seawall; based on the vertical distance from the top of the beach berm to the seaward limit of reversible sediment movement (cubic yards/ft of width and ft. of retreat). The value of  $v$  is often taken to be 1 cubic yard per square foot of beach. In

the report, "Oceanside Littoral Cell Preliminary Sediment Budget Report" (December 1987, part of the Coast of California Storm and Tide Wave Study, Document #87-4), a value for  $v$  of 0.9 cubic yards/square foot was suggested. If a vertical distance of 40 feet is used for the range of reversible sediment movement,  $v$  would have a value of 1.5 cubic yards/square foot (40 feet x 1 foot x 1 foot / 27 cubic feet per cubic yard). These different approaches yield a range of values for  $v$  from 0.9 to 1.5 cubic yards per square foot. The value for  $v$  would be valid for a region, and would not vary from one property to the adjoining one. Until further technical information is available for a more exact value of  $v$ , any value within the range of 0.9 to 1.5 cubic yards per square foot could be used by the applicant without additional documentation. Values below or above this range would require additional technical support.

$W$  = Width of property to be armored (ft.)

$$V_e = E \times W \times v$$

where

$E$  = Encroachment by seawall, measured from the toe of the bluff or back beach (ft.)

$W$  = Width of property to be armored (ft.)

$v$  = Volume of material required, per unit width of beach, to replace or reestablish one foot of beach seaward of the seawall, as described above;

The San Diego Association of Governments (SANDAG) has adopted the Shoreline Preservation Strategy for the San Diego region and is currently working on techniques toward its implementation. The Strategy considers a full range of shoreline management tactics, but emphasizes beach replenishment to preserve and enhance the environmental quality, recreational capacity, and property protection benefits of the region's shoreline. Funding from a variety of sources will be required to implement the beach replenishment and maintenance programs identified in the SANDAG Strategy. In this particular case, SANDAG has agreed to administer a program which would identify projects which may be appropriate for support from the beach sand replenishment fund, through input from the Shoreline Erosion Committee which is made up of representatives from all the coastal jurisdictions in San Diego County. The Shoreline Erosion Committee is currently monitoring several large scale projects, both in and out of the coastal zone, they term "opportunistic sand projects", that will generate large quantities of beach quality material

suitable for replenishing the region's beaches. The purpose of the account is to aid in the restoration of the beaches within San Diego County. One means to do this would be to provide funds necessary to get such "opportunistic" sources of sand to the shoreline.

The applicant is being required to pay a fee in-lieu of directly depositing the sand on the beach, because the benefit/cost ratio of such an approach would be too low. Most of the adverse effects of the seawall on sand supply will occur gradually. In addition, the adverse effects impact the entire littoral cell but to different degrees in different locations throughout the cell (based upon wave action, underwater canyons, etc.) Therefore, mitigation of the adverse effects on sand supply is most effective if it is part of a larger project that can take advantage of the economies of scale and result in quantities of sand at appropriate locations in the affected littoral cell in which it is located. The funds will be used only to implement projects which benefit the area where the fee was derived, and provide sand to the region's beaches, not to fund operations, maintenance or planning studies. Such a fund will aid in the long-term goal of increasing the sand supply and thereby reduce the need for additional armoring of the shoreline in the future. The fund also will insure available sandy beach for recreational uses. The methodology, as proposed, ensures that the fee is roughly proportional to the impacts to sand supply attributable to the proposed seawall. The methodology provides a means to quantify the sand and beach area that would be available for public use, were it not for the presence of the seawall.

The above-described impacts on the beach and sand supply have previously been found to result from seawalls in other areas of Encinitas. In January of 1999, the Commission approved CDP #6-98-133(Gozzo, Sawtelle and Fischer) for the construction of a 120 foot-long seawall fronting two properties located immediately south of the subject site. In its finding for approval, the Commission found the proposed shoreline protection would have specific adverse impacts on the beach and sand supply and required mitigation for such impacts as a condition of approval. The Commission made a similar finding for several other seawall developments along Neptune Avenue (ref. CDP Nos. 6-93-36-G/Clayton, 6-93-85/Auerbach, et al., 6-93-131/Richards, et al., 6-93-136/Favero, 6-95-66/Hann and 6-98-39/ Denver/Canter).

In addition to the adverse impacts the seawall will have on the beach as detailed above, the Commission finds that the proposed seawall could also have adverse impacts on adjacent unprotected properties caused by wave reflection, which leads to accelerated erosion. Numerous studies have indicated that when continuous protection is not provided, unprotected adjacent properties experience a greater retreat rate than would occur if the protective device were not present. This is due primarily to wave reflection off the protective structure and from increased turbulence at the terminus of the seawall. According to James F. Tait and Gary B. Griggs in Beach Response to the Presence of a Seawall (A Comparison of Field Observations) "[t]he most prominent example of lasting impacts of seawalls on the shore is the creation of end scour via updrift sand impoundment and downdrift wave reflection. Such end scour exposes the back beach, bluff, or dune areas to higher swash energies and wave erosion." As such, as the base of the bluff continues to erode on the unprotected adjacent properties, failure of the bluff is



likely. Thus, future failures could "spill over" onto other adjacent unprotected properties, prompting requests for much more substantial and environmentally damaging seawalls to protect the residences. This then starts a "domino" effect of individual requests for protection.

In response to these concerns, the applicant's engineer has noted that the proposed seawall has incorporated a number of features into its design. First, the subject seawall will be keyed into the existing seawall to the south which eliminates any "end effects" at this connection. Secondly, rather than follow the toe of the bluff for the northern 57 feet of the wall, the applicant proposes to enclose the collapsed area by placing the wall up to 16 feet seaward in a generally straight northerly direction. The proposed straight design will lessen the focused wave reflection on the property's north end which would occur if the wall were designed in a curved form around the toe of the bluff. In addition, a colored and textured shotcrete application is proposed to connect the proposed seawall with the neighboring property's existing shotcrete wall such that the end affects on the north will be reduced.

Although many repair and maintenance activities are exempt from coastal development permit requirements under Section 30610(d), such activities that enlarge or expand a structure are not exempt. In addition, certain methods of repair and maintenance of seawalls are not exempt (see California Code of Regulations Section 13252). Special Condition #3 requires that the applicant monitor the wall and water drains to assure that they continue to perform adequately. Special Condition #7 advises the applicants that ongoing maintenance and repair activities which may be necessary in the future could require permits and advises the applicant to contact the Commission to determine permit requirements prior to undertaking any repairs.

To assure the proposed shore/bluff protection has been constructed properly, Special Condition #8 has been proposed. This condition requires that, within 60 days of completion of the project, as built-plans and certification by a registered civil engineer be submitted that verifies the proposed seawall has been constructed in accordance with the approved plans.

The applicant has indicated that other permits are being pursued through the City of Encinitas. There may also be state or federal agencies having jurisdiction over this project. Conditions of approval and/or mitigation measures may be required from these agencies. As such, Special Condition #6 has been proposed. This condition requires the applicant to submit copies of any discretionary permits obtained from other local, state or federal entities. Should any project modifications be required as a result of any of these permits, the applicant is further advised that an amendment to this permit may be necessary to incorporate such mitigation measures into the project.

In addition, the applicants are proposing to construct the development in an area subject to wave and storm hazards. Although the applicants' geotechnical report asserts that the proposed development can withstand such hazards and protect existing development from such hazards, the risk of damage to the structure and the existing development cannot be

eliminated entirely. The Commission finds that in order for the proposed development to be consistent with the Coastal Act, the applicants must assume the risks of damage from flooding and wave action. As such, Special Condition #5 requires the applicants to execute assumption of risk documents, waiving any liability on the part of the Commission for approving the proposed development. In addition, these conditions require the applicants to indemnify the Commission in the event that third parties bring an action against the Commission as a result of failure of the proposed development to withstand and protect against the hazards.

In summary, the applicants have documented that the existing residence on the bluff top is in danger from erosion and bluff failure. Thus, the Commission is required to approve protection for the home pursuant to Section 30235 of the Act. There are no other less damaging feasible alternatives available to reduce the risk from bluff erosion. Since the proposed seawall, even as minimally designed, will have adverse impacts on beach sand supply, Special Conditions require the applicant to pay an in-lieu mitigation fee to offset this impact. Therefore, as conditioned, the Commission finds that the proposed seawall is consistent with Sections 30235 and 30253 of the Coastal Act.

3. Visual Resources/Alteration of Natural Landforms. 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, and, where feasible, to restore and enhance visual quality in visually degraded areas.

The proposed development will occur at the base of an approximately 95 ft. coastal bluff fronting a City public beach park. An approximately 600 foot-long, 12 foot-high seawall, similar in design to the proposed development, lies immediately south of the subject site. An application of shotcrete has been applied to the bluff face on the adjacent northern property. A series of upper bluff retention systems have been installed above the subject site and above the approximately 600 foot-long seawall to the south. The bluffs north of the site have a variety of permitted and unpermitted upper bluff retention systems and seawalls. The bluff above and the beach below at the subject site are filled with debris resulting from the collapse of unpermitted shoreline protective devices.

While the surrounding bluffs are currently armored with a variety of shore and bluff protective structures as noted above, the proposed 13 ½ to 15 ½ foot-high seawall to be constructed along the base of the bluff still raises concerns relative to its adverse impacts on visual resources within this scenic coastal area. In order to address this concern and reduce potential adverse visual impacts associated with the proposed development, the proposed seawall has been minimally designed on its southern half with a proposed height of approximately 13 ½ feet above MSL and will be placed to follow the toe of the bluff. It will connect to an approximately 12 foot-high seawall to the south. Due to the

slope stability requirements of the northern half of the bluff, the northern half of the wall will rise to approximately 15 ½ feet above MSL. It also will not be placed close to the toe of the bluff but rather will extend seaward up to 16 feet from the existing toe of the bluff. Because the bluff directly above the proposed northern section of the wall is in a state of collapse, the wall will be placed seaward to enclose and backfill the collapsed area. The backfill will consist of a concrete slurry base covered with earth. In addition, a vinyl coated chain-link mesh will be secured over the backfill area using soil anchors and will be landscaped using hydroseeding techniques. A surface treatment will also be incorporated that allows for coloring and texturing of the seawall to reduce the contrast between the wall and the adjacent natural bluff. In addition, with Special Condition #7 requiring the removal of all debris material currently onsite, the proposed development will be a visual improvement over existing conditions. Therefore, as conditioned, the Commission finds that potential visual impacts associated with the proposed development have been reduced to the maximum extent feasible, consistent with Section 30251 of the Coastal Act.

4. Public Access/Recreation. Pursuant to Section 30604 (c), the Coastal Act emphasizes the need to protect public recreational opportunities and to provide public access to and along the coast. Section 30210 of the Coastal Act is applicable to the proposed development and states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

In addition, Section 30212 of the Act is applicable and states, in part:

- (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:
  - (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,
  - (2) adequate access exists nearby....

Additionally, Section 30220 of the Coastal Act provides:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

The project site is located on a public beach utilized by local residents and visitors for a variety of recreational activities. The beach is owned by either the City of Encinitas or is State Lands. The site is located approximately one block north of the City of Encinitas' "Stone Steps" public access stairway. The proposed seawall will be constructed on sandy

beach area that is currently available to the public. The project will have several adverse impacts on public access.

The proposed seawall, although minimally designed to be located at the toe of the bluff on its southern section, will project up to 16 feet seaward of the toe of the bluff on its northern section. In addition, the beach along this area of the coast is narrow and at high tides and winter beach profiles, the public may be forced to walk virtually at the toe of the bluff or the area is impassable. As such, any encroachment of structures, no matter how small, onto the sandy beach in this area, reduces the beach area available for public use. This is particularly true given the existing beach profiles and relatively narrow beach. However, the Commission finds this design to be the less environmentally-damaging alternative capable of protecting the existing structure from the danger of bluff collapse.

As debris dislodged from the seawall either during construction or after completion also has the potential to affect public access, Special Condition #7 has also been proposed. This condition notifies the applicant that they are responsible for maintenance and repair of the seawall and that should any work be necessary, they should contact the Commission office to determine permit requirements. In addition, the condition requires the applicants to be responsible for removal of debris deposited on the beach during and after construction of the project.

In addition, the use of the beach or public parking areas for staging of construction materials and equipment can also impact the public's ability to gain access to the beach. The applicants are proposing to use the vacant portion of the applicant's property construction staging and storing. Beach construction equipment and personnel are proposed to access the development site through the Moonlight Beach access ramp approximately 1-2 blocks south of the site. Construction vehicles traveling along the access ramp at Moonlight Beach will have an adverse impact on the ability of the public to access Moonlight Beach and to walk along the beach to the north during low tides. However, this ramp is the only way heavy equipment can reach the project site. To further impact public access by usurping even a small amount of parking in the lot would significantly adversely impact public access. As such, Special Condition #4 has been proposed to require that a staging area plan be submitted that indicates that no portion of the beach will be used for storage of materials and equipment, and requires that no public parking lots will be used for staging. In addition, Special Condition #4 prohibits construction on the beach during weekends and holidays in the summer months of Memorial Day to Labor Day of any year. Therefore, impacts to the public will be minimized to the greatest extent feasible.

In addition to the above-described direct interference with public access by the proposed seawall, there are a number of indirect effects as well. Shoreline processes, sand supply and beach erosion rates are all affected by shoreline structures and thus can alter public access and recreational opportunities.

The precise impact of shoreline structures on the beach is a persistent subject of controversy within the discipline of coastal engineering. However, the Commission is led to the conclusion that if a seawall works effectively on a retreating shoreline, it results in impacts on the beach. As discussed previously, the construction of a shore/bluff protective structure has a number of quantifiable and not so quantifiable impacts on the local sand supply on the adjacent sandy beach. Briefly stated, the seawall will halt natural bluff retreat, preventing bluff material from becoming part of the sand supply; will physically occupy beach area, displacing recreational use of a public beach, thereby creating a burden on the public; will halt the landward migration of the beach; and, the vertical seawall can cause increased turbulence, accelerating the pace of sand scour, steepening the beach profile and causing the beach to become narrower and eventually disappear. To mitigate these impacts, Special Condition #2 requires the applicant to deposit an in-lieu fee to fund beach sand replenishment.

The Commission recognizes that any type of shoreline protective devices have been shown to have adverse impacts upon the beach. As stated elsewhere in these findings, Section 30235 of the Act allows for the use of such a device where it is required to protect existing development and where it has been designed to mitigate adverse impacts upon shoreline sand supply. In order to mitigate the known adverse impacts, the Commission typically requires an offer of dedication of lateral public access in order to balance the burden placed on the public with a public benefit. However, in this case, the City and the State Lands Commission have both agreed that the MHTL currently is at the toe of the existing bluff. As such, public access is assured through the public ownership of the beach.

In summary, the applicants have documented that the existing bluff top residence is in danger from erosion and subsequent bluff failure. Thus the Commission is required to approve the protection for the residence. There are no less environmentally damaging alternatives available to reduce the risk of bluff erosion. Therefore, as conditioned, the Commission finds the proposed development to be consistent with the public access policies of the Coastal Act.

5. Coastal Act Violation History. As stated in the project history portion of this recommendation, the applicant has previously obtained temporary emergency coastal development permits to carryout shoreline and bluff protective work. The applicant failed to timely file for follow-up permanent coastal development permits and consequently on July 10, 1997, the Commission issued Cease and Desist Order No. CCC-97-CD-02 to require the applicant to file for permanent permits for the unpermitted development. The applicant and the Commission have recently reached settlement concerning a violation of that cease and desist order (*CCC v. Bradley, Case No. No7148*). Agreed upon terms of settlement require the applicant to submit a coastal development permit application to correct the unpermitted nature of the development existing on the subject site.

Although development has taken place prior to submission of this permit application, consideration of the application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Approval of the permit does not constitute a waiver of any legal action with regard to this violation of the Coastal Act that may have

occurred; nor does it constitute admission as to the legality of any development undertaken on the subject site without a coastal development permit.

6. Local Coastal Planning. Section 30604 (a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

The subject site is located on the beach within the City of Encinitas. In November of 1994, the Commission approved, with suggested modifications, the City of Encinitas Local Coastal Program (LCP). Subsequently, on May 15, 1995, coastal development permit authority was transferred to the City. Although the site is within the City of Encinitas, it is within the Commission's area of original jurisdiction. As such, the standard of review is Chapter 3 policies of the Coastal Act, with the City's LCP used as guidance.

As shoreline erosion along the coast rarely affects just one individual property, it is imperative that a regional wide solution to the shoreline erosion problem be addressed and solutions developed to protect the beaches. Combined with the decrease of sandy supply from coastal rivers and creeks and armoring of the coast, beaches will continue to erode without being replenished. This will, in turn, decrease the public's ability to access and recreate on the shoreline.

Based on specific policy and ordinance language requirements placed in the LCP by the Commission, the City of Encinitas is in the process of developing a comprehensive program addressing the shoreline erosion problem in the City. The intent of the plan is to look at the shoreline issues facing the City and to establish goals, policies, standards and strategies to comprehensively address the identified issues. To date, the City has conducted several public workshops and meetings on the comprehensive plan to identify issues and present draft plans for comment. However, at this time it is uncertain when the plan will come before the Commission as an LCP amendment or when it will be scheduled for local review by the Encinitas City Council.

In the case of the proposed project, site specific geotechnical evidence has been submitted indicating that the existing structure on the blufftop is in danger. The Commission feels strongly that approval of the proposed project should not send a signal that there is no need for site specific geotechnical review to determine the safe location for placement of new development on the blufftop. This approach would result in total armoring of the shoreline where there is any existing development even if the development is not in danger from erosion, inconsistent with Section 30253 and the public access and recreation policies of the Coastal Act. Although the erosion potential on the subject site is such that action must be taken promptly, decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of such a decision on the entire reach, not through "piece meal" construction of seawalls for individual properties which could further exacerbate the

problem. Planning for comprehensive protective measures which may include a combination of continual lower bluff protection constructed in substantial segments, limits on future bluff development and ground and surface water controls, in conjunction with beach replenishment, should occur to avoid the need for substantial alteration of the natural landform in the future.

Based on the above findings, the proposed seawall development has been found to be consistent with the Chapter 3 policies of the Coastal Act in that the need for the seawall has been documented, its adverse impacts on public access, beach sand supply and potential impacts to adjacent unprotected properties will each be mitigated. Therefore, the Commission finds that approval of the proposed seawall development will not prejudice the ability of the City of Encinitas to prepare a comprehensive plan addressing the City's coastline as required in the certified LCP and consistent with Chapter 3 policies.

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

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(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.

The proposed project has been conditioned in order to be found consistent with the geologic stability and public access policies of the Coastal Act. Mitigation measures will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned, is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



Th 11h

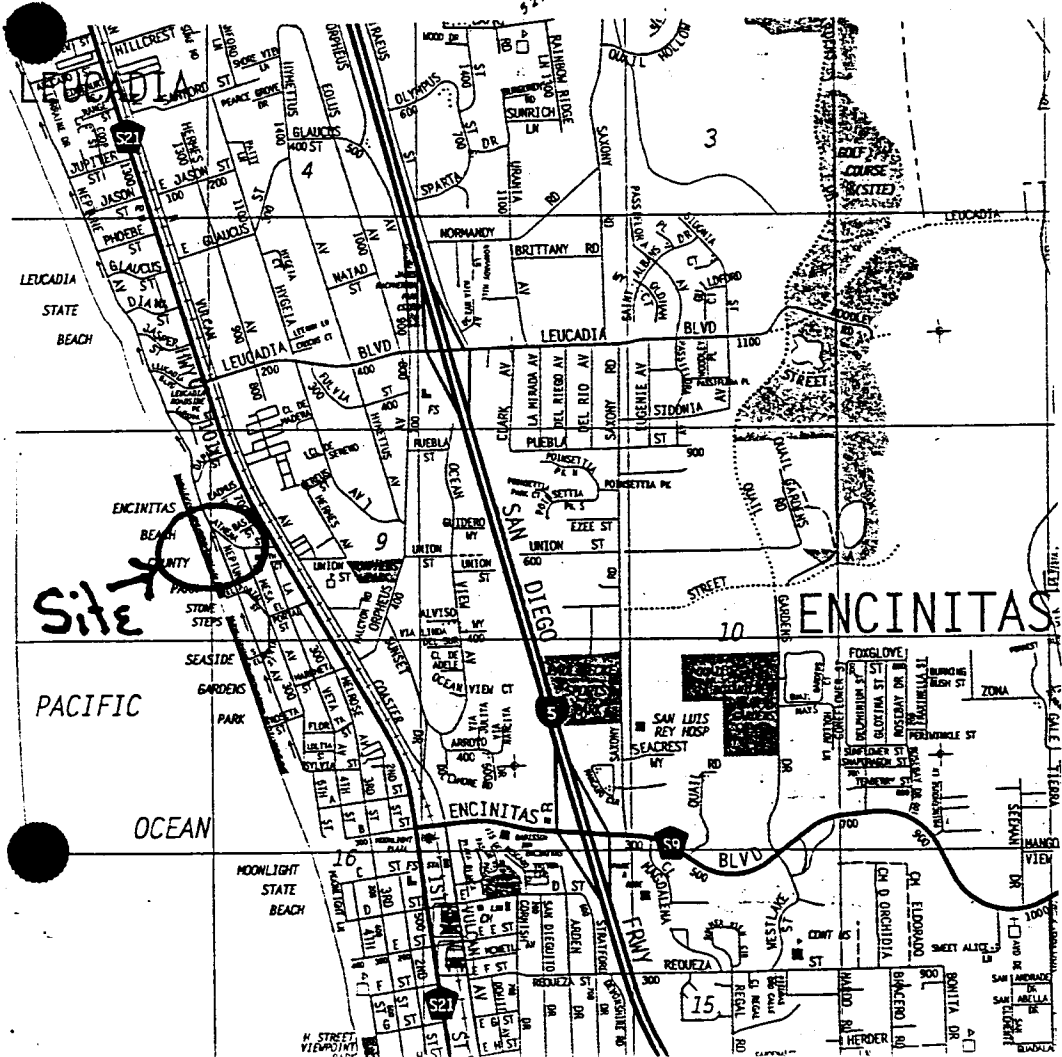
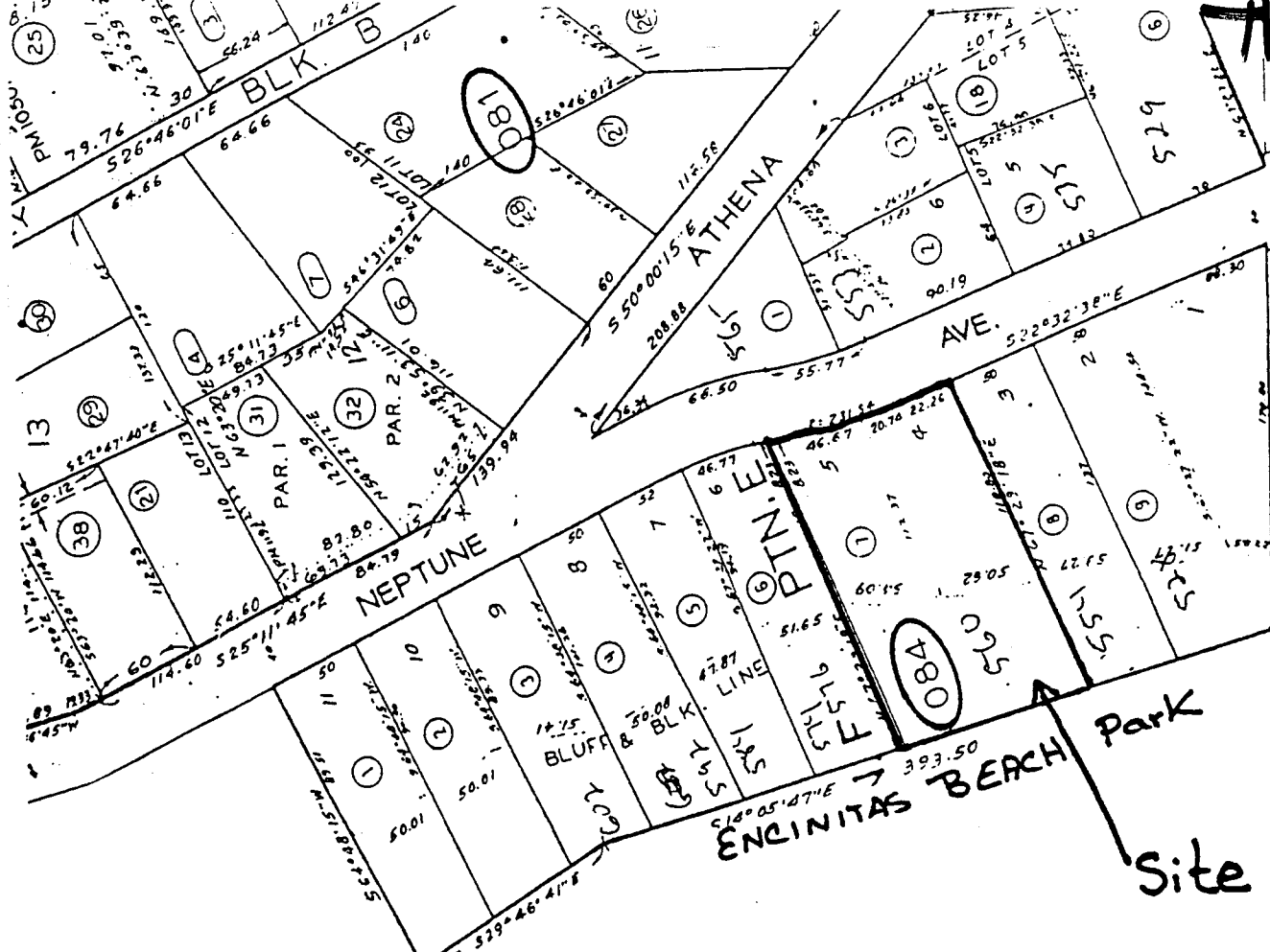
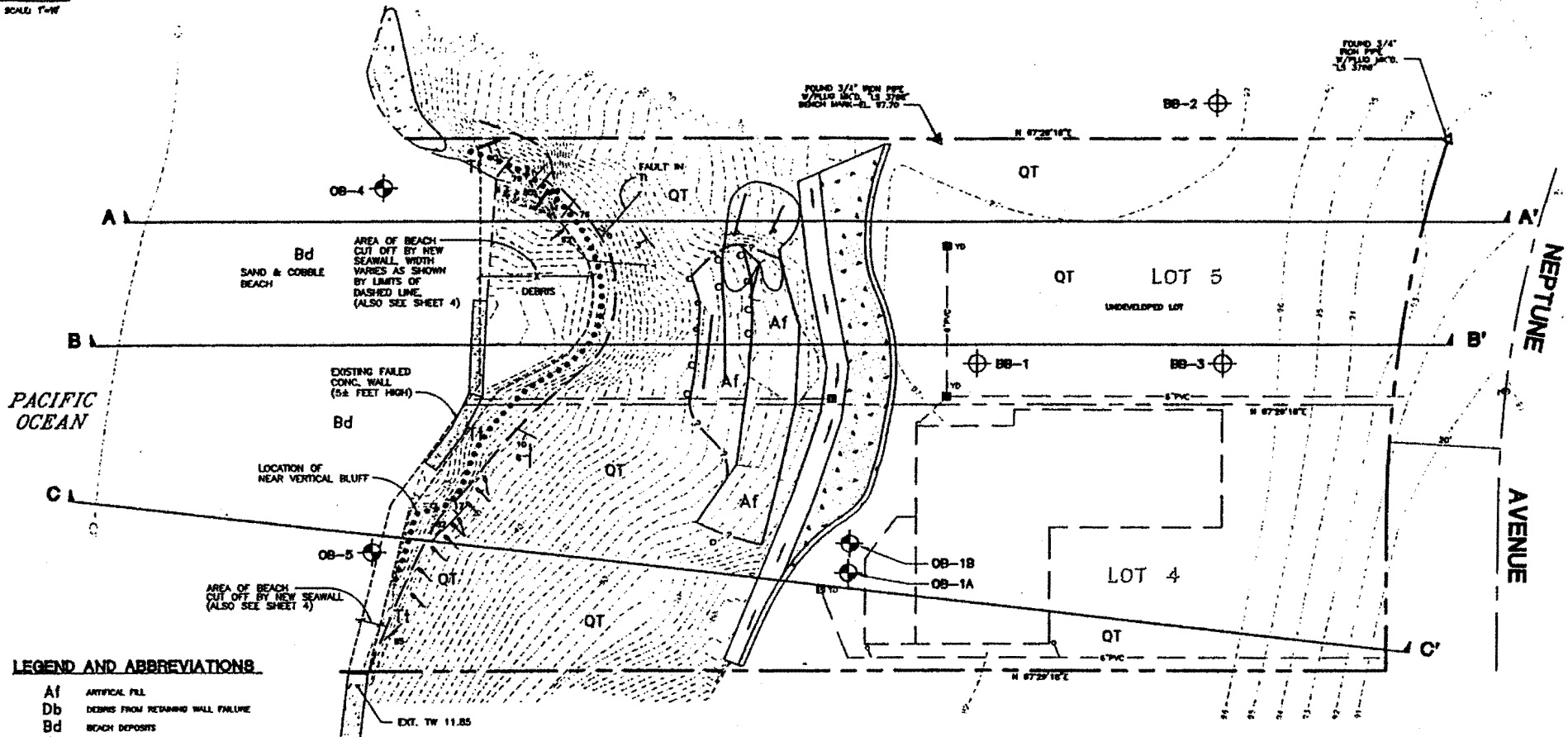


EXHIBIT NO. 1
APPLICATION NO.
6-99-41
Location Map
California Coastal Commission



SCALE 1"=100'



**LEGEND AND ABBREVIATIONS**

- Af ARTIFICIAL FILL
- Db DEBRIS FROM RETAINING WALL FAILURE
- Bd BEACH DEPOSITS
- QT QUATERNARY TERRACE DEPOSITS
- T1 TERTIARY TORREY SANDSTONE
- Ts TOPSOIL/WEATHERED SOIL DEPOSITS
- GEOLOGIC CONTACT (DASHED WHERE UNCERTAIN)

A-A' LOCATION OF CROSS SECTION

OB-5 OGDN CONSULTANT BOREHOLE

BB-3 BUCHANAN INC. BOREHOLE

ATTITUDE OF SHEAR  
(PARALLEL SHEAR)

ATTITUDE OF BEDDING

WATER BEDFACE

ATTITUDE OF JOINT

California Coastal Commission  
**EXHIBIT NO. 2**  
**APPLICATION NO.**  
**6-99-41**  
**Existing Site Plan**



**IMPORTANT NOTICE**

Section 4214/4217 of the Government Code require a Dig Alert identification number to be issued before a Permit to Excavate will be valid. For your Dig Alert Number Call

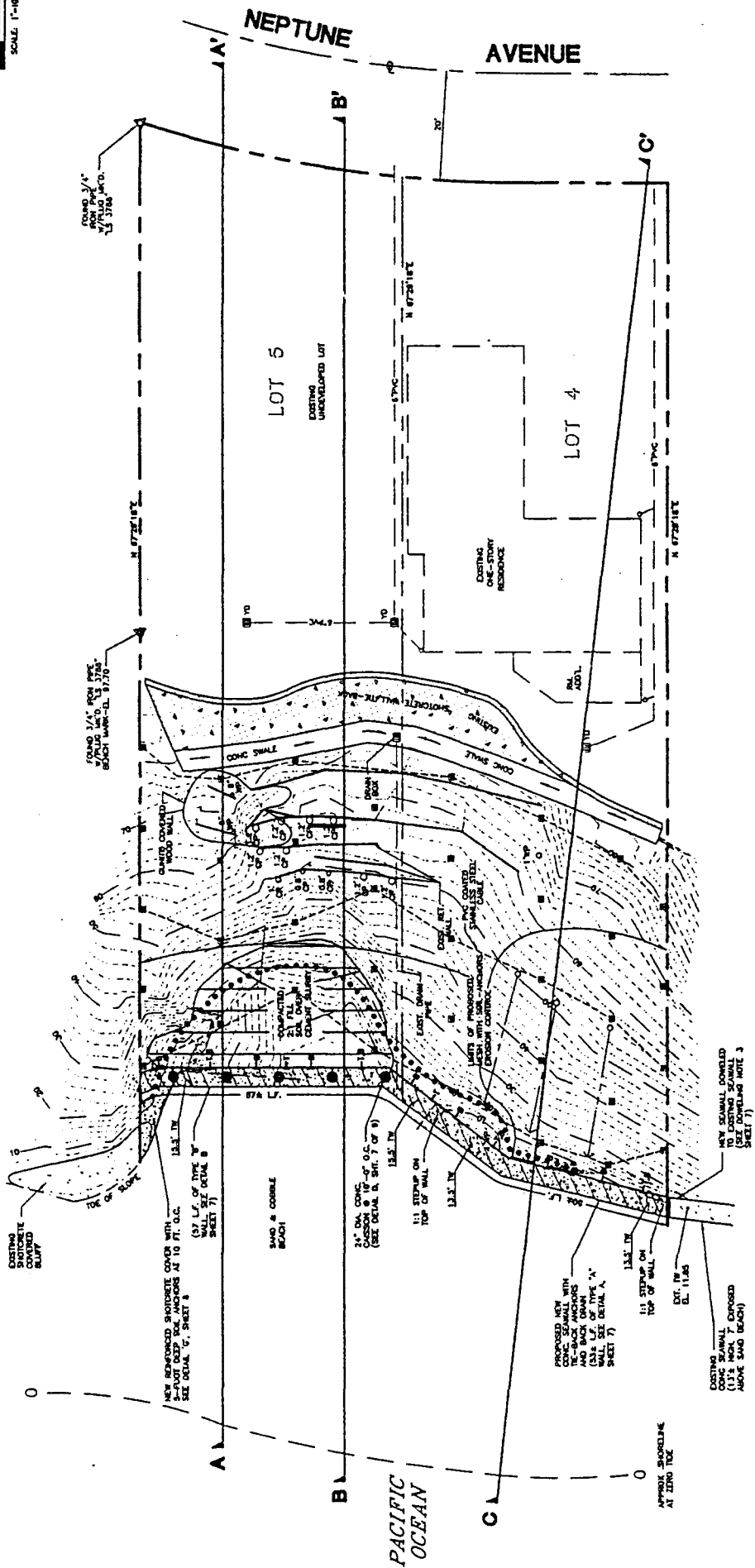


Underground Services Alert

CALL: TOLL FREE 1-800-422-4133

Two Working Days Before You Dig

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**NOT FOR CONSTRUCTION**  
 THIS DRAWING REFLECTS THE RESULTS OF THE FIELD SURVEY AND OTHER INFORMATION CURRENTLY AVAILABLE TO US. IT IS INTENDED FOR INITIAL SITE REVIEW PURPOSES ONLY.



- LEGEND AND ABBREVIATIONS:**
- ▲ UNPAVIMENT FOUND AS NOTED
  - DISTING. 'S' CONTOURS
  - CONC. CONCRETE POST
  - WOOD POST
  - YARD DRAIN
  - PROPERTY LINE
  - (1) 24" DIA. CONC. CESSPOOL
  - 1'-1/2" (10) REBAR (1-TOP, 9-BOTTOM) SEE DETAIL A & B, SHEET 7
  - CHAIN-LINK FENCE & BRICKED CABLE SEE DETAIL C, SHEET 8

- NOTE:** ALSO SEE DETAIL A, SHEET 7 FOR PROPOSED SLOPE SOILS WITH APPROVED SEEDING (M)
- NEW 4-INCH DIAMETER 15-FOOT LONG REBAR ANCHORS AT 10 FT. O.C. SEE DETAIL 'A', SHEET 8
  - NEW REBAR-REINFORCED CONCRETE COVER WITH 4" MIN. CONC. SEE DETAIL 'G', SHEET 8
  - NEW CONC. SCRAMBL (TYPE 'A' AND TYPE 'B') SEE DETAILS A & B, SHEET 7

**EXHIBIT NO. 3**  
**APPLICATION NO.**  
**6-99-41**  
**Proposed Site Plan**

**IMPORTANT NOTICE**

Section 4154/1977 of the Government Code requires a Pre-Construction Meeting with the Commission and the Applicant to discuss the project. For your information, the Commission will be held on the 15th of the month.



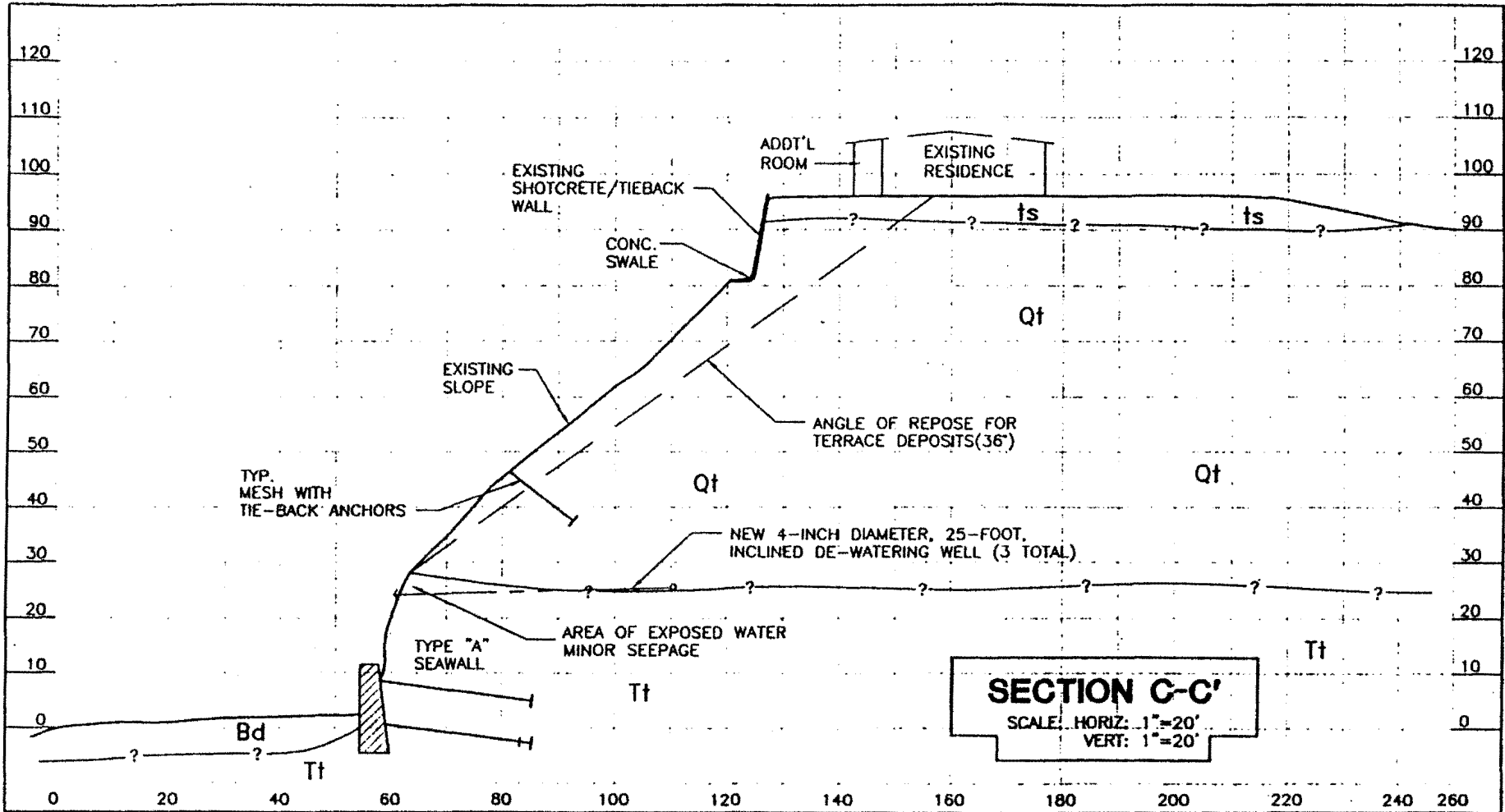
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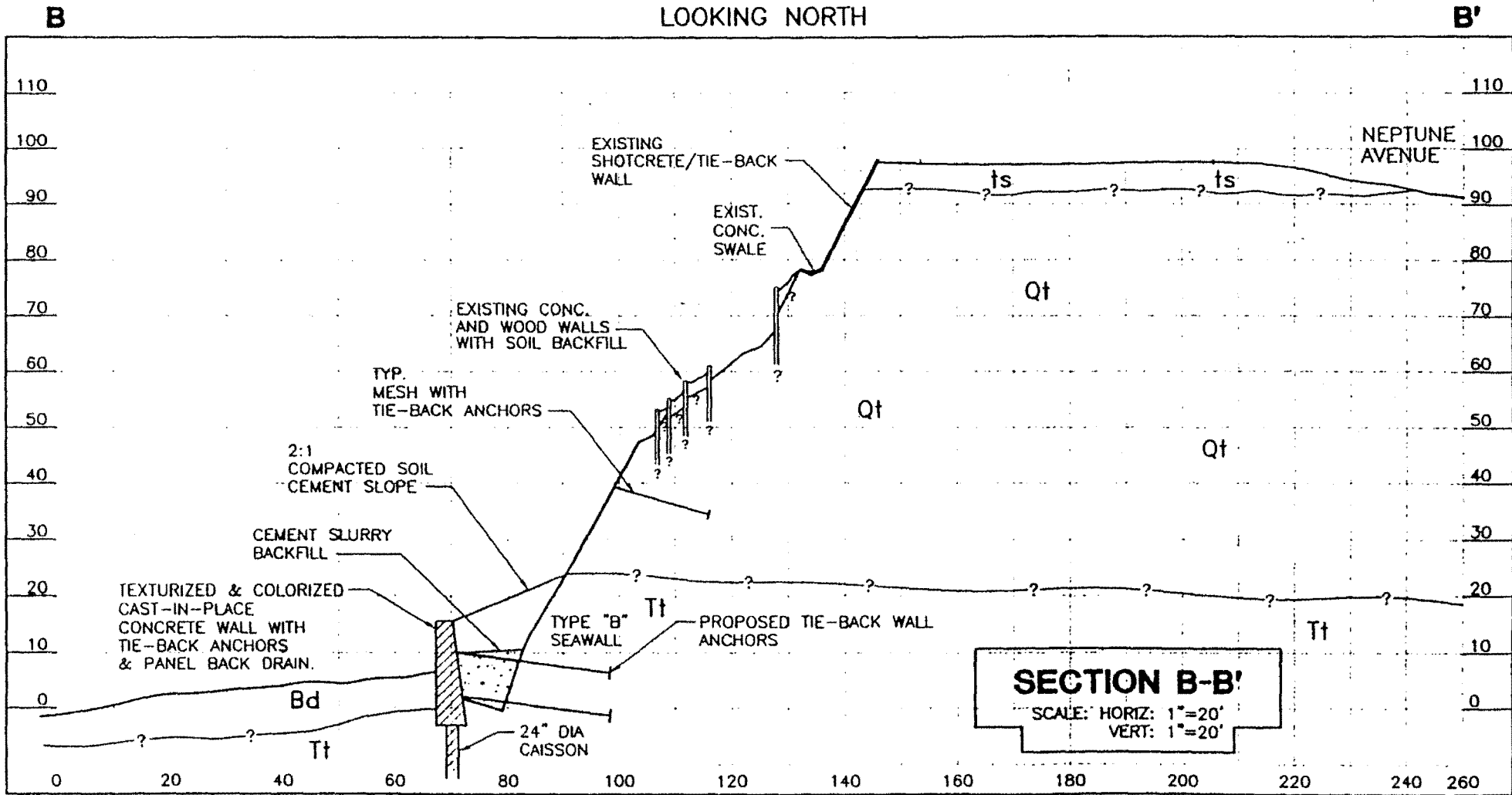
# CROSS SECTION C-C'


LOOKING NORTH



California Coastal Commission	EXHIBIT NO. 4
	APPLICATION NO.
	6-99-41
	Cross-Sections of Proposed South Property

# REPAIR PLAN - SECTION B-B'



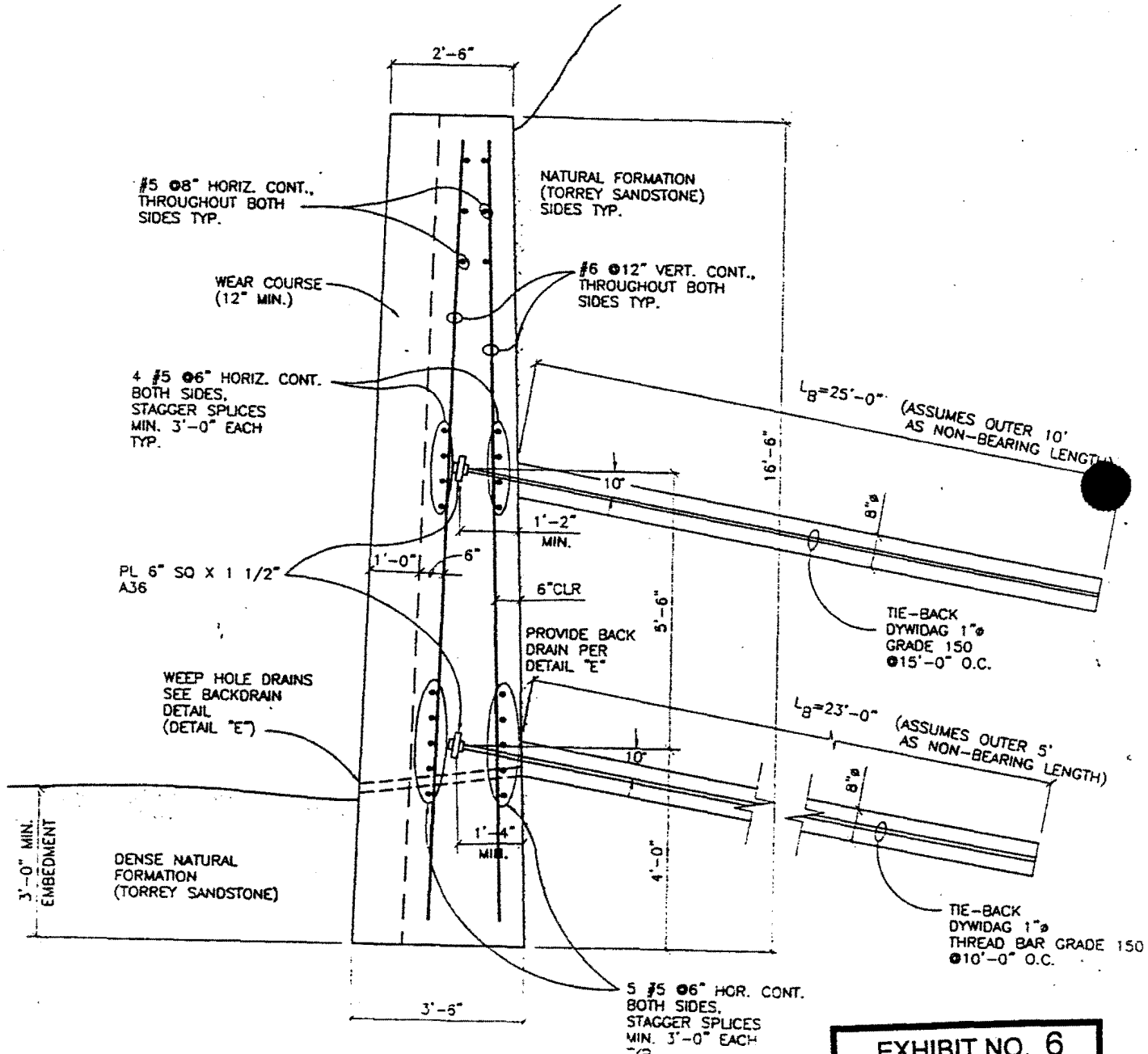
 California Coastal Commission	EXHIBIT NO. 5 APPLICATION NO. <b>6-99-41</b>	Cross-Sections of Proposed North Property
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PRELIMINARY

PROFES

# SOUTH WALL ALONG TOE OF BLUFF

NOT TO SCALE



<b>EXHIBIT NO. 6</b>
<b>APPLICATION NO.</b>
<b>6-99-41</b>
<b>Details of Proposed South Wall</b>
<b>California Coastal Commission</b>

# NORTH WALL FRONTING COLLAPSED AREA

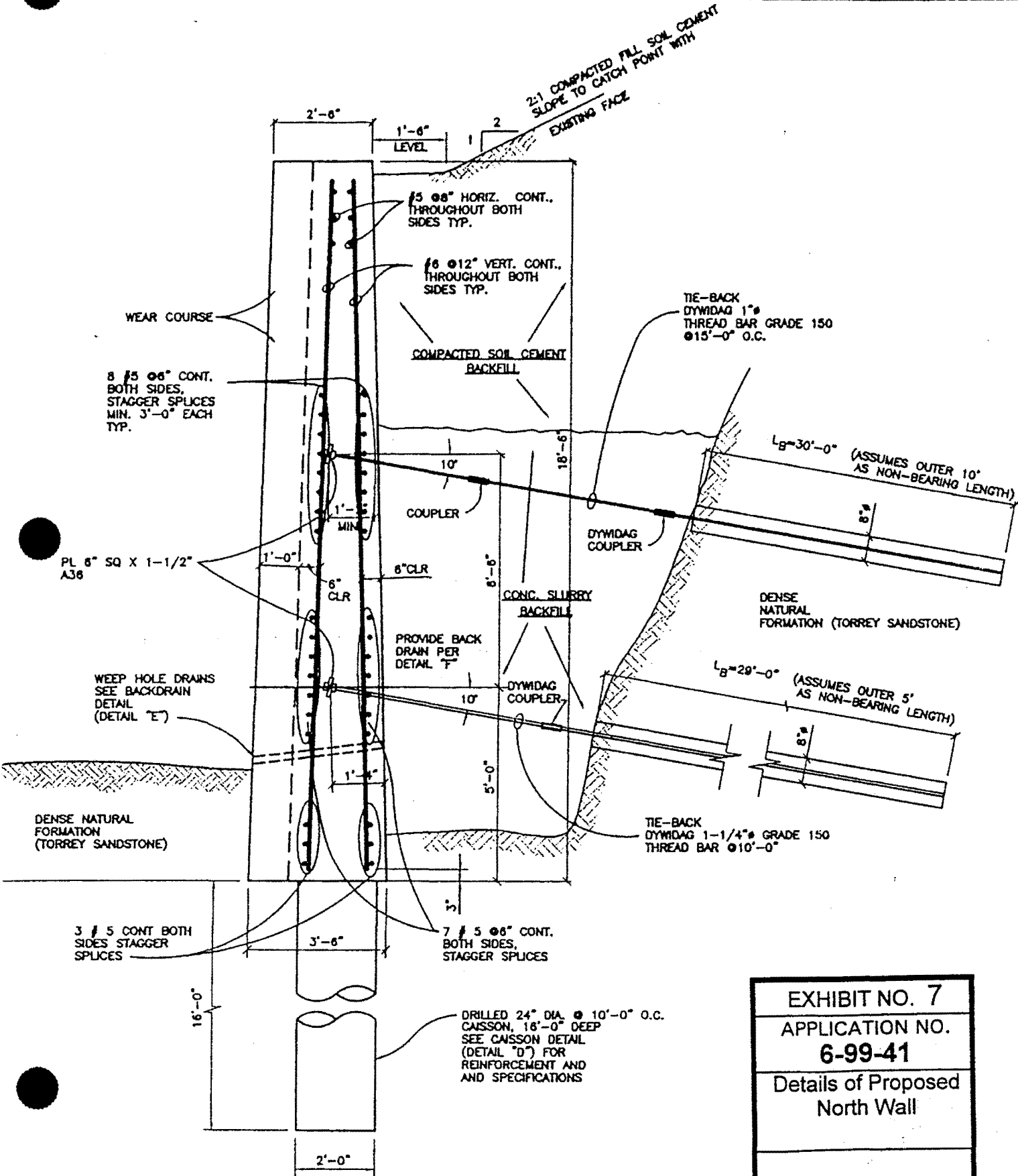


EXHIBIT NO. 7
APPLICATION NO. 6-99-41
Details of Proposed North Wall
California Coastal Commission

