

CALIFORNIA COASTAL COMMISSION

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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-99-103

Applicant: William Redd, Jack Morrison, Nancy O'Neal, Gary Glasgow, Ann Baker, Janet Davidi, Gary Garber (Coastal Preservation Association)

Agent: Walt Crampton

Description: Filling an approximately 400-foot long stretch of seacaves/undercut area at the base of a coastal bluff on public beach below seven single-family residences with a colored and textured erodible concrete mixture. Fill would be a maximum of 11 feet high, a maximum 17 feet deep, with an average height of approximately 7 feet. Payment of a \$91,806 fee to SANDAG's Sand Mitigation Fee program.

Site: Public beach and bluff face below 201, 205, 211, 215, 219, 225, 231 Pacific Avenue, Solana Beach, San Diego County. APN 263-323-04, -03, -02, -01; 263-312-16, -15, -14.

STAFF NOTES:

Summary of Staff's Preliminary Recommendation:

Staff is recommending approval of the proposed shoreline protective device. There are no existing primary structures in danger from erosion; therefore, the Commission is not required to approve shoreline protection under Section 30235 of the Coastal Act. The project is expected to have some adverse impacts on the visual quality of the area and on sand supply. However, the project is proposed as a preventative measure to stop or reduce the potential for collapses of the overhanging area and to stabilize the bluff area in an area where there is evidence of the presence of a "clean sands" lens. Based on the information submitted by the applicants, if erosion at the site is not slowed through a project such as the one proposed, bluff retreat is expected to continue at a rapid pace, soon potentially threatening the existing bluff-top structures. At that point, it can be reasonably anticipated that far more massive, permanent shoreline protection (such as a 35-foot high seawall) would be proposed in order to protect the existing residences.

Thus, the proposed project will have the effect of significantly delaying the construction of much more massive shoreline protection, which would have much more significant adverse impacts on coastal resources such as visual quality, shoreline sand supply, public access, and recreation. The applicants have designed the project to reduce the impact to public resources to the greatest extent feasible. Special Conditions will ensure the project minimizes adverse impact to shoreline processes, public access and recreation, and the visual quality of the shoreline, because the fill will not encroach beyond the bluff face, will be colored and textured to match the surrounding natural bluffs, and must be monitored to assure it will erode consistent with the native bluff material.

Substantive File Documents: City of Solana Beach General Plan and Zoning Ordinance; certified County of San Diego Local Coastal Program; Group Delta Consultants, Inc. (GDC) "Shoreline Erosion Study North Solana Beach," 8/20/98; GDC, "Response to Review Comments Contiguous Sea Cave and Notch Infill," 12/14/98; Southland Geotechnical Consultants "Geotechnical Evaluation of Coastal Bluff Property for Proposed Residential Addition," 11/23/98; GDC, "Additional Supporting Material," 5/21/99; GDC, "Soil Boring and Geologic Interpretation," 10/10/99.

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 applicants shall submit for review and written approval of the Executive Director, final notch/seacave fill, site, landscape, irrigation and drainage

plans in substantial conformance with the submitted plans dated 6/8/99 by Group Delta Consultants, that include the following measures to mitigate the impacts of the notch/seacave fill and address overall site stability. Said plans shall first be approved by the City of Solana Beach and include the following:

- a. Sufficient detail regarding the construction method and technology utilized for texturing and coloring the notch/seacave fill. Said plans shall confirm, and be of sufficient detail to verify, that the notch/seacave color and texture closely matches the adjacent natural bluffs, including provision of a color board indicating the color of the fill material.
- b. The notch/seacave shall conform as closely as possible to the natural contours of the bluff, and shall not protrude beyond the existing "drip-line" (a parallel line extending down from the face of the bluff above the notch).
- c. Any existing permanent irrigation system located within the geologic setback area (40 feet from the bluff edge) on any of the eight bluff top sites shall be removed or capped.
- d. All runoff from impervious surfaces on each of the eight sites shall be collected and directed away from the bluff edge towards the street.
- e. Existing accessory improvements (i.e., decks, patios, walls, etc.) located in the geologic setback area on any of the eight sites shall be detailed and drawn to scale on the final approved site plan.
- f. 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. Monitoring Program. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, a plan prepared by a licensed geologist or geotechnical engineer for a seacave area monitoring program which includes the following:

- A. Current measurements of the distance between each residence and the bluff edge (as defined by Section 13577 of the California Code of Regulations), and provisions for these measures to be taken annually after completion of construction for the life of the project. The locations for these measurements

shall be identified through permanent markers, benchmarks, survey position, written description, etc. so that annual measurements can be taken at the same bluff location and comparisons between years can provide information on bluff retreat.

- B. Provisions for, measurements of any differential retreat between the natural bluff face and the seacave/undercut area face, taken at both ends of the seacaves and at 20-foot intervals (maximum) along the top of the seacave/undercut face, and the bluff face intersection annually after completion of construction for the life of the project. Measurements can be taken through aerial photography. The program shall describe the method by which such measurements shall be taken.
- C. Provisions for submittal of a report to the Executive Director of the Coastal Commission on June 1 of each year for three years beginning after completion of construction. Each report shall be prepared by a licensed geologist or geotechnical engineer. The report shall contain the measurements and evaluation required in sections a and b above. The report shall also summarize all measurements and provide some analysis of trends, annual retreat or rate of retreat, and the stability of the overall bluff face, including the upper bluff area, and the impact of the notch/seacave fill on the bluffs to either side of the fill, and shall include suggestions that do not involve the construction of structures on the face of the bluff for correcting any problems. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. If the notch/seacave plug is found to extend seaward of the face of the natural bluff by more than six (6) inches in any location, the report shall include alternatives and recommendations to remove or otherwise remedy this condition such that no seaward extension of the fill will remain.
- D. Provisions for submission of a report containing the information identified in section D above at 3 year intervals following the last annual report, for the life of the project. However, reports shall be submitted in the Spring of any year in which the following event occurs:
 - 1. A 20-year storm event
 - 2. An "El Niño" storm event
 - 3. A major tectonic event magnitude 5.5 or greater affecting San Diego County

Thus reports may be submitted more frequently depending on the occurrence of the above events in any given year.

- E. An agreement that the permittee shall apply for a coastal development permit within three months of submission of the report required in subsection D and E above (i.e., by September 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.

3. State Lands Commission Approval. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, a written determination from the State Lands Commission that:

- a) No state lands are involved in the development; or
- b) State lands are involved in the development, and all permits required by the State Lands Commission have been obtained; or
- c) State lands may be involved in the development, but pending a final determination of state lands involvement, an agreement has been made by the applicant with the State Lands Commission for the project to proceed without prejudice to the determination.

4. U.S. Army Corps of Engineers Permit. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittees shall provide to the Executive Director a copy of a U.S. Army Corps of Engineers permit, or letter of permission, or evidence that no Corps permit is necessary. Any mitigation measures or other changes to the project required through said permit 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.

5. Storage and Staging Areas/Access Corridors. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, final plans indicating the location of access corridors to the construction site and staging areas. The final plans shall indicate that:

- a. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces with the exception of 12 parking spaces within the City-owned parking lot on Pacific Avenue, southeast of Fletcher Cove. During the construction stages of the project, the permittee shall not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time, except for the minimum necessary to construct the notch fill. Construction equipment shall not be washed on the beach or in the Fletcher Cove parking lot.

- b. Access corridors shall be located in a manner that has the least impact on public access to and along the shoreline.
- c. No work shall occur on the beach on weekends or holidays between Memorial Day weekend and Labor Day of any year.
- d. The applicant shall submit evidence that the approved plans/notes have been incorporated into construction bid documents. The staging site shall be removed and/or restored immediately following completion of the development.

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.

6. Future Response to Erosion. If in the future the permittee seeks a coastal development permit to construct bluff or shoreline protective devices, the permittee will be required to include in the permit application information concerning alternatives to the proposed bluff or shoreline protection that will eliminate impacts to scenic visual resources, recreation and shoreline processes. Alternatives shall include but not be limited to: relocation of all or portions of the principle structures that are threatened, structural underpinning, and other remedial measures capable of protecting the principal structures and providing reasonable use of the property, without constructing bluff or shoreline stabilization devices. The information concerning these alternatives must be sufficiently detailed to enable the Coastal Commission to evaluate the feasibility of each alternative, and whether each alternative is capable of protecting existing structures that are in danger from erosion. No additional bluff or shoreline protective devices shall be constructed on the adjacent public bluff face above the approved notch fill or on the beach in front of the proposed notch fill unless the alternatives required above are demonstrated to be infeasible. No shoreline protective devices shall be constructed in order to protect ancillary improvements (patios, decks, fences, landscaping, etc.) located between the principal residential structures and the ocean.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, each applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the 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 material amendment to this coastal development permit approved by the Commission or an immaterial amendment approved by the Executive Director.

7. Assumption of Risk. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, each applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide: (a) that each applicant understands that the site may be subject to extraordinary hazard from bluff collapse and erosion and the applicant assumes the liability from such hazards; and (b) each 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 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 Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

8. Contribution to SANDAG's Sand Mitigation Fee Program. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$91,806 has been deposited in an interest bearing account designated by the Executive Director. The methodology used to determine the contribution amount proposed by the applicants for the subject site(s) is that described in Exhibit #7 to the staff report dated 9/20/99 prepared for Coastal Development Permit #6-99-103. 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. If the MOA is terminated, the Commission can appoint an alternative entity to administer the fund.

9. Future Maintenance/Debris Removal. The permittees shall remove all debris deposited on the beach or in the water as a result of construction of shoreline protective device. The permittees shall also remove all debris deposited on the beach or in the water as a result of failure or damage of the shoreline protective device in the future. In addition, the permittees shall maintain the permitted notch/seacave fill in its approved state except to the extent necessary to comply with the requirements set forth below. Maintenance of the notch/seacave fill shall include maintaining the color, texture and integrity. Any change in the design of the project or future additions/reinforcement of the notch/seacave fill beyond minor regrouting or other exempt maintenance as defined in

Section 13252 of the California Code of Regulations to restore the notch/seacave fill to its original condition as approved herein, will require a coastal development permit. **However, in all cases, if after inspection, it is apparent that repair and maintenance is necessary, including maintenance of the color of the fill to ensure a continued match with the surrounding natural bluffs, the permittees shall contact the Commission office to determine whether permits are necessary, and shall subsequently apply for a coastal development permit for the required maintenance.** If at any time after project completion, the notch/seacave fill is found to extend seaward of the face of the natural bluff by more than six (6) inches in any location, the permittees shall obtain and implement a coastal development permit to remove or other remedy this condition such that no seaward extension of the fill remains.

10. As-Built Plans. Within 60 days following completion of the project, the permittee shall submit as-built plans of the approved seacave/notch fill. In addition, within 60 days following completion of the project, the permittee shall submit certification by a registered civil engineer, acceptable to the Executive Director, verifying the seacave/notch fill has been constructed in conformance with the approved plans for the project.

11. Public Rights. By acceptance of this permit, each applicant acknowledges, on behalf of him/herself and his/her successors in interest, that issuance of the permit and construction of the permitted development shall not constitute a waiver of any public rights which may exist on the property.

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. The proposed project involves filling a 400-foot long undercut/seacave area at the base of an 80-foot high coastal bluff below seven single-family residences in the City of Solana Beach. The fill would be as high as approximately 11 feet and as deep as 17 feet, with an average height of approximately 7 feet. The average depth of the fill would be approximately 6 feet. The filled area would begin approximately 300 feet north of Fletcher Cove. All of the bluffs and beach at the project site are in public ownership, with the exception of the bluff face below 231 Pacific Avenue, which is owned by the bluff-top property owner.

The proposed notch fill ("notch" and "undercut area" are used interchangeably throughout this report) would consist of a colored and textured erodible mixture designed to match the natural appearance of the surrounding bluffs and to erode at the same rate as the bluffs. Access to the site would be from the Fletcher Cove access ramp. The applicants are proposing to use a portion of the Fletcher Cove beach parking lot for staging and storage. In addition, the applicants are offering to proposing with this application to contribute \$91,806 to the San Diego Association of Governments'

(SANDAG) Sand Mitigation Fee program to help offset negative impacts to sand supply associated with the proposed project.

The applicants had previously proposed a larger scale project where the notch fill would have been a maximum of 19 feet high, 17 feet deep, with an average height of approximately 12 feet (#6-98-144). However, the applicants withdrew the application and resubmitted the project in its current scale.

The City of Solana Beach does not yet have a certified LCP, and the project site is located in an area of the Commission's original jurisdiction. Therefore, the Chapter 3 policies of the Coastal Act are the standard of review.

2. Permit History.

The Commission has a permit history on all seven of the bluff-top structures above the project site, as listed below. Exhibit #5 to the staff report gives the text of the special conditions relating to future shoreline protection that were placed on each site by past permit action.

201 Pacific Avenue

The Commission approved an expansion and remodel of the residence in February 1982 (#6-81-306). The only special condition placed on the permit was for recordation of a waiver of liability deed restriction. In November 1984, the Commission approved filling a seacave in the bluff below the residence (#6-84-550). The most recent permit approved on the site in June 1994 involved construction of a second story addition on the landward side of the residence (#6-94-32/Redd). The Commission imposed a condition requiring the applicant to acknowledge that if bluff protective work was proposed in the future, that an alternatives analysis must be completed. The findings in support of this condition indicate that it is intended to notify the applicant and future property owners of the Coastal Act requirement that alternatives to proposed shoreline protection projects be examined. The condition does not require that the applicant waive any rights under Section 30235 of the Coastal Act to shoreline protection to protect existing primary structures. Further, the findings do not state or suggest that the condition was intended to constitute a waiver of any potential rights under Section 30235. The project was approved by the Commission on the consent calendar.

205 Pacific Avenue

In March 1978, the Commission approved construction of an addition to the existing single-family residence on the site, and in July 1978 a non-material amendment to demolish and reconstruct the entire residence, including the addition, in the same location, was approved (F6569). The only special condition placed on the permit was for submittal of a drainage plan.

211 Pacific Avenue

In September 1995, the Commission approved construction of an addition including a new third level to the existing two-level single-family residence (#6-95-95/O'Neal). The Commission imposed a condition requiring the applicant to record a deed restriction acknowledging that if bluff protective work was proposed in the future, that an alternatives analysis must be completed. The findings in support of this condition indicate that it is intended to notify the applicant and future property owners of the Coastal Act requirement that alternatives to proposed shoreline protection projects be examined. The condition does not require that the applicant waive any rights under Section 30235 of the Coastal Act to shoreline protection to protect existing primary structures. Further, the findings do not state or suggest that the condition was intended to constitute a waiver of any potential rights under Section 30235. An additional condition placed on the permit notified the applicant that in the event that erosion/bluff failure threatened accessory structures in the future, the Commission would consider removal of these structures as the preferred and practical alternative to bluff and shoreline protection. The project was approved by the Commission on the consent calendar.

215 Pacific Avenue

In February 1999, the Commission approved construction of a 1,355 sq.ft. first and second story addition to the existing residence (#6-98-131/Glasgow). The applicant's geotechnical engineer determined that the new construction, located a minimum of 40-feet away from the bluff edge, will not be subject to threat from bluff erosion within the next 75 years. A condition on the permit required the applicant to record a deed restriction acknowledging that if bluff protective work was proposed in the future, that an alternatives analysis must be completed. The findings in support of this condition indicate that it is intended to notify the applicant and future property owners of the Coastal Act requirement that alternatives to proposed shoreline protection projects be examined. The condition does not require that the applicant waive any rights under Section 30235 of the Coastal Act to shoreline protection to protect existing primary structures. Further, the findings do not state or suggest that the condition was intended to constitute a waiver of any potential rights under Section 30235. A transcript of the hearing is attached as Exhibit #6

219 Pacific Avenue

In January 1981, the Commission approved a permit for demolition of the single-family residence on the bluff top, and construction of a new residence (#6-81-279/Baker). However, the permit expired, and in February 1984, the Commission approved (#6-84-62/Baker) for the same demolition and construction of a 3,300 sq.ft. residence. Conditions placed on the permit involved submittal of an updated geology report, landscape plan, and an assumption of risk condition. Other permits include the approval in December 1997 of the temporary placement and removal of riprap boulders along the base of the bluff (#6-97-149/Baker). A non-material amendment to allow the riprap to remain on the site until May 15, 1998 was approved by the Executive Director in April

1998, and in May 1998, the Commission approved a second amendment allowing the riprap to remain until June 15, 1998. All of the riprap has been removed from the site at this time.

225 Pacific Avenue

In March 1974, the Commission approved demolition of the single-family residence on the site and approval of a new 2-story single-family residence set back from the bluff-top 25 feet (#F1258/Slade). The permit was approved with no special conditions.

231 Pacific Avenue

The residential site on the bluff-top has a considerable permit history beginning in March, 1983, when the Commission approved demolition of an existing bungalow and construction of a wooden deck, windscreen and railing extending 2 to 4 feet over the bluff edge (#6-83-22/Clemens). In February 1988, the Commission approved construction of first and second story additions and remodeling of the existing residence on the site (#6-88-6/Victor). A condition placed on the permit notified the applicant that in the event that erosion/bluff failure threatened accessory structures in the future, the Commission would consider removal of these structures as the preferred and practical alternative to bluff and shoreline protection. The condition does not require that the applicant waive any rights under Section 30235 of the Coastal Act to shoreline protection to protect existing primary structures. Further, the findings do not state or suggest that the condition was intended to constitute a waiver of any potential rights under Section 30235. The project was approved on the consent calendar.

In May, 1992, the Commission approved filling of two seacaves in the bluffs below the residence (#6-92-82/Victor). In January 1998, the Commission approved of the temporary placement and removal of riprap boulders along the base of the bluff (#6-98-2/Garber). However, the riprap was never placed.

3. 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...

The proposed project involves filling a 400-foot long undercut/seacave area on the public beach at the base of the publicly-owned bluffs (with the exception of 231 Pacific Avenue, where the bluff face is owned by the bluff-top property owner). The fill would be as high as 11 feet and as deep as 17 feet, although the average depth of the fill area is approximately 6 feet, and the average height of the fill would be approximately 7 feet. The fill would consist of an erodible mixture designed to erode at the same rate as the surrounding bluffs.

As characterized by the geotechnical report submitted by the applicants, the project is proposed as a preventative measure to preserve "the integrity and visual aesthetics of a 60-foot [high] section of sloping coastal bluff and to mitigate a significant and ongoing public hazard to the beach-going public." The geotechnical report does not assert that the existing seven bluff-top structures are in danger from erosion. The report notes, however, that there are significant overhangs at the base of the bluff which will eventually collapse, undermining the upper bluff and triggering progressive upper-bluff failures. The report also states that the overhangs within the lower sea cliff, are "highly unstable at this time and subject to failure in the near future if exposed to any more cobble abrasion at the base of the sea cliff." The proposed project would reduce this instability. The report notes that since the conclusion of last winter's El Niño storms, numerous collapses of the overhanging areas have occurred. There is currently very little sand on the beach, and the bluffs receive near constant wave action. Prior to El Niño the undercutting that had occurred was slower because the presence of sand meant the bluffs received less wave action.

The proposed project is somewhat different than seacave projects approved by the Commission in the past, because instead of filling an individual, well defined seacave, the applicants are proposing to fill a 400-foot long notch which has developed at the base of the bluff. The applicants have revised the maximum height of the proposed notch fill from 19 feet to 11 feet, however, the 400-foot long project is still significantly larger in scale than other seacave plugs approved by the Commission in the past. A more "typical" seacave fill project might consist of filling a cave 8-10 feet high, 10-12 feet wide, and 10-15 feet deep. By filling a particular cave, an extensive bluff collapse, and possibly construction of more massive amounts of shoreline protection, can be forestalled with relative little impact on sand supply and the visual quality of the bluffs.

However, although not a "traditional" seacave, the proposed project is expected to also significantly delay the need for far more massive shoreline protection. The subject site is approximately 175 feet south of the site where a 35-foot high seawall was approved by the Commission in August 1999 (#6-99-100). The seawall at that location is intended to protect eight existing single-family residences from erosion due largely to the presence of a "clean sands" lens located between the Torrey Sandstone and Marine Terrace Deposits

at approximately elevation 25-35 ft. The clean sand layer can be described as a very loose sandy material with a limited amount of capillary tension and a very minor amount of cohesion, both of which cause the sandy material to dissipate easily, making this clean sand layer, once exposed, susceptible to wind blown erosion and continued sloughing as the sands dries out and loses the capillary tension that initially held the materials together. Gentle sea breezes and any other perturbations, such as landing birds or low-flying helicopters, can be sufficient triggers of small or large volume bluff collapses, since the loss of the clean sands eliminates the support for the overlying, slightly more cemented, terrace deposits.

Of the seven residences above the project site on the bluff-top, one is currently as close as 8 feet from the bluff edge (211 Pacific Avenue), one is at least 32 feet from the bluff edge (215 Pacific Avenue), and the remaining structures are between 18 and 22 feet from the edge of the bluff. These distances are relatively large for Solana Beach, where very few residences are farther than 25 feet from the bluff edge. However, the presence of the clean sand lens creates a process where the clean sands rapidly undermine the upper sloping terrace deposits causing the upper bluff to collapse thereby exposing more clean sands to wind erosion which then results in more upper bluff collapses. This cycle occurs so quickly (over months or days, rather than years) that the upper bluff never achieves a stable angle of repose. This process is currently taking place north of the subject site, as demonstrated by a significant bluff failure that occurred approximately 350 feet north of the subject site. The cycle of collapse and retreat can only be halted by constructing protection at least 35 feet high in order to completely cover the clean sand lens.

At this time, there are no clean sands exposed on the subject site. The geology report submitted by the applicants describes the existing crust on the sloping surface of the upper bluff face as an important contributor to surficial stability. The crust forms by downward migration of the clay and iron-mineral cement from the beach ridge deposits at the top of the bluff. The crust provides some protection from erosion by rilling, and helps stabilize the moisture content of the dune and beach deposits. To test for the presence of clean sands on the site, the applicants' engineer performed a soil boring between the residential structure at 219 Pacific Avenue and the top of the bluff. The boring report indicates that there is a clean sand deposit at a depth of approximately 49 feet (elevation 35), essentially the same geologic circumstance at the seawall site to the north. Although the boring was limited to one boring at one location, it does provide some evidence of the presence of a clean sands lens on the project site at least at that location. Thus, it is likely that if undermining of the bluff continues, removing the protective crust and exposing the clean sands, the type of erosion and bluff retreat which has occurred north of the subject site resulting in approval of a 350-foot long, 35-foot high seawall on the subject site. By preventing the exposure of the clean sands, the proposed project will avoid, at least for the estimated twenty-year life span of the fill, the cycle of rapid bluff retreat associated with the clean sands, and the need to construct the type of much more massive shoreline protection that is under construction north of the site.

It is very difficult to assess exactly how long it would be before any cleans sands would be exposed on the site of the project were not built. Based on the experience of the bluffs

north of the site, the clean sands appear to have been exposed within the last three years. The process of undercutting and notching of the bluffs represents the natural process of bluff retreat and erosion in North County. However, the process has clearly accelerated in Solana Beach over the last several years as the amount of sand on the beaches has decreased and the bluffs are subject to more frequent wave action. Nevertheless, there is no indication that the existing bluff-top residences are in danger at this time, only that eventually, if the existing overhangs are allowed to collapse, the existing bluff-top structures will be threatened.

In reviewing requests for shoreline protection, the Commission must assess the need to protect private residential development with the potential adverse impacts to public resources associated with construction of shoreline protection. In this particular case, the project is proposed as a preventative measure and is not required to protect the existing bluff-top structures. Because the residences are not in danger from erosion at this time, the Commission is not required to approved shoreline protection under Section 30235 of the Coastal Act. However, in numerous past actions, the Commission has found that the filling of seacaves as a preemptive measure, even if not required to protect existing primary structures, is the alternative most protective of coastal resources. This is because although there are impacts associated with filling seacaves, the impacts tend be fewer and lesser in scale than those that would occur if the seacave were allowed to collapse, and seawalls and upper bluff structures were constructed.

Impacts to Coastal Resources from Shoreline Protection

Construction of seawalls and/or upper bluff protection can result in significant adverse impacts to public resources, including loss of the public sandy beach area displaced by the structure, "permanently" fixing the back of the beach, which leads to the narrowing and eventual disappearance of the beach in front of the structure, and a reduction or elimination of sand contribution to the beach from the bluff. Other impacts of seawalls include sand loss from the beach due to wave reflection and scour, accelerated erosion on adjacent unprotected properties and the adverse visual impacts associated with construction of shore/bluff protective device on the contrasting natural bluffs.

The natural shoreline processes referenced in Section 30235, such as the formation and retention of sandy beaches, can be significantly 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.

Some of the effects of a shoreline protective structure on the beach such as scour, end effects and modification to the beach profile are temporary or difficult to distinguish from all the other actions which modify the shoreline. Seawalls also have non-quantifiable effects to the character of the shoreline and visual quality. However, 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.

Loss of beach material and loss of beach area are two separate concerns. A beach is the result of both sandy material and a physical area between the water and the back beach. Thus, beach area is not simply a factor of the quantity of sandy beach material. In Solana Beach, the shoreline is a shallow bedrock layer covered by a thin veneer of sand. The bedrock layer provides an area for collection of sandy material. The sand material is important to the overall beach experience, but even without the sand, the bedrock layer provides an area for coastal access between the coastal bluff and the ocean.

Filling seacaves or notches have some, but not all, of the same impacts as seawalls. Like a seawall, seacaves adversely impact shoreline processes in that by reducing the risk of bluff collapse, the sandy material of the bluff does not contribute to the beach as it eventually would if the site were left unprotected and the bluffs allowed to erode naturally. Thus, by reducing beach nourishment material, filling of seacaves or notched areas does adversely impact beach access and recreation, although to a lesser degree than a seawall. Similarly, although seacave fill does not permanently fix the back beach location, by reducing the risk of bluff collapse, it slows the landward movement of the back beach location. Seacave plugs or notch fills tend to be smaller in height and width and thus less visually obtrusive than seawalls; however, they do alter the natural landform of the bluffs, and, if not carefully constructed and monitored, can be very conspicuous.

Unlike a seawall, however, seacave fills are generally set into the bluff face and do not take up a portion of the beach seaward of the bluff face that would otherwise be available for public use. Because such structures are set within the bluff, the accelerated erosion from increased wave reflection and "edge effects" to adjacent properties associated with seawalls are reduced or avoided. Further, notch fills do not prevent the erosion of bluff face material onto the beach via subaerial erosion since they do not cover any portion of the upper bluff as a seawall or upper bluff work would. In the past, seacave were typically filled with a concrete material that did permanently fix the back of beach, similar to a seawall. However, in the last several years, most fill projects have been constructed using a "lean" concrete mixture designed to erode at the same rate as the surrounding bluffs. Thus, the back of the beach is not permanently fixed in place in these instances.

Thus, the proposed notch fill project would have some impacts on shoreline sand supply, but less of an impact than a seawall. The fill would not permanently fix the back beach or prevent sand contribution from the bluff. However, the purpose of the project is to significantly slow the process of bluff collapse and retreat, which delays that portion of sand contribution from the bluff, and slows the landward moving of the back beach.

Alternatives

The applicants have explored alternatives to the proposed notch fill, including placing riprap at the site, constructing a seawall, groundwater controls and irrigation restrictions, underpinning the existing bluff top structures, chemical grouting, and removing or relocating portions of the existing primary structures. The first two alternatives, the placement of riprap and construction of seawall, involve the placement of permanent structures on the public beach and/or bluff face that would occupy sandy beach available for public access and recreation and permanently fix the back of the beach. Clearly, these alternatives would not be environmentally preferable.

The report submitted by the applicants' engineer strongly supports the strict control of planting and irrigation on bluff top lots to prevent excess moisture from triggering collapses of bluff-top sediments. However, the analysis emphasizes that the instability that the project would protect against is the result of ongoing wave action at the base of the bluffs. Instituting stricter landscaping and irrigation controls would not stop the undercutting or chunking of the bluffs. Nevertheless, these measures should still be instituted to reduce the potential for water-related collapses in the future.

The use of chemicals for densification of loose, compressible soils has become more common in recent years. However, the analysis states that in order to for chemical grouting to effectively "glue" the bluff sands in a stable formation, the outer 5 to 10 feet of the bluff face would have to be permeated. Chemical grouts are injected under pressure, and the engineer has stated that it would be essentially impossible to effectively contain a bluff face during pressure injection, and even controlled grouting could blow out portions of the slope face if any excess pressure buildup occurred. In addition, the process of injecting a chemical into sand under pressure on an unstable coastal bluff presents a significant construction challenge and safety issue. Thus, it does not appear that the technology exists at this time to stabilize a coastal bluff with chemicals in place of shoreline protection.

The analysis indicates that a below-grade retention system or underpinning of the existing homes could potentially be considered as an alternative to the proposed project; however, this would not stop the notches from collapsing and eventually undermining the homes, unless the piers were 80 feet deep and sufficiently stable to entirely support each residence. The applicant's engineer has argued this significant amount of construction is infeasible, especially since the homes aren't in danger at this time. In addition, if there are clean sands on the site which become exposed and trigger upper bluff collapses, either piers or a below-grade retention system would soon be exposed to view, which is probably a less-desirable visual condition than the relatively low-scale proposed notch fill.

Removal of portions of the primary structures could potentially postpone the time at which shoreline protection was required, depending, of course, upon how much of each bluff top structure was removed. However, the homes are not currently in jeopardy, and

the applicants have not indicated any willingness to remove portions of their homes at this time. By the time the primary structures are in danger, the proposed project would not be an option, as a permanent shoreline protective device such as a seawall would be required to protect the homes. Therefore, removal of portions of the homes is not a feasible alternative to the proposed project.

Because the homes are not currently in jeopardy at this time, under Section 30235, a shoreline protective device is not required to be approved by the Commission. Thus, the "no project" alternative is a potential option in this case. The Commission is faced with a choice between not allowing the fill to be constructed, and having perhaps 3-5 years of bluffs in their natural, unprotected state, with the beaches benefiting from the sand contribution associated with natural erosion and landward movement of the location of the back beach, but with the probable construction of a 35-foot high seawall (with all of the resultant resource impacts) at the end of that time. Or, allowing the filling to occur, which will have noticeable but relatively minimal resource impacts, and would avoid the need for a seawall for perhaps 20 years or more.

The proposed project would not extend beyond the face of the bluff, would erode at a rate similar to the surrounding bluffs, and would occupy area under an overhanging bluff which is not suitable for public access or recreation. The proposed development has been designed to have the least environmental impact, through use of an erodible concrete fill, and coloring and texturing of the fill. In addition, the applicants have also proposed payment of \$91,806 to SANDAG's Sand Mitigation Fee program to help mitigate any remaining impacts of the proposed fill.

As noted above, 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. Thus, the Commission has typically required that in order to mitigate the loss of beach material and beach area which occurs over the life of seawall, applicants pay a fee in-lieu of actually depositing beach quality material sand on beaches in the project vicinity. The methodology used to determine the amount of the mitigation fee 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 the beach.

Although there are impacts to sand supply associated with filling seacaves or notches, as discussed above, the Commission has not in the past required payment of an in-lieu fee as mitigation for filling of seacaves or notches because the methodology established for quantifying the impacts of seawalls does not apply in whole to seacave/notch fills. Because they are set within the bluff face, unlike seawalls, seacave/notch fills do not result in a loss of beach area which was otherwise available for public recreational use, and the back of the beach is not permanently fixed if the cave/notch is filled with an erodible mixture. However, the applicants have correctly noted that the proposed infill

would reduce the contribution of bluff material to the beach and would slow the natural process of landward movement of the back beach, and thus, have offered a mitigation fee using the same basic criteria established in the seawall mitigation fee. The calculations which were used by the applicants' engineer as the basis for calculating the estimated range of the proposed fee, are attached as Exhibit #7 to this report. The contribution to sand replenishment projects as a result of the proposed project will have a direct benefit to recreation by increasing beach width, but should also reduce erosion on the project site, thus further delaying the eventual need for a seawall.

The proposed notch fill will represent an alteration of the natural coastline. However, given the amount of coastal erosion which has occurred in the area over the last several years, Solana Beach is currently faced with the possibility of armoring the entire shoreline north of Fletcher Cove with seawalls such as the 352-foot long, 35-foot high wall approved by the Commission in August of this year. The subject site is an area where existing development is not currently jeopardized by bluff retreat, where a relatively minor amount of shoreline protection is still a feasible alternative to a seawall. The applicants have documented that failure to pursue the notch fill is likely to result in requests for shoreline and/or upper bluff protection in the future which, if permitted, could have a far greater impact on coastal resources than the proposed project. This would be the case even if clean sands are not present on the site. Furthermore, should the beach receive sand in the future, such sand might cover the area of the notchfill should a sand replenishment project be implemented in the future. The impacts of the proposed project have been minimized to the greatest extent feasible. Payment of \$91,806 to SANDAG's Sand Mitigation Fee program will mitigate the adverse impacts to sand supply to the extent feasible. Special Condition #8 requires the applicant to deposit the money as proposed to fund beach sand replenishment efforts.

In addition, as fill of the seacave/notch will reduce the potential for a significant bluff failure, the applicants, the City and the region as a whole will have more time to pursue other non-structural methods, such as beach replenishment, to protect the bluffs and delay the need for more substantial shoreline protection. Therefore, the Commission finds that approval of the proposed notch fill is consistent with the long-term goals of the Coastal Act regarding the protection of natural shoreline processes, natural landforms and local shoreline sand supply.

However, although the Commission finds that the project has been designed to minimize the risks associated with their implementation, the Commission also recognizes the inherent risk of shoreline development. The fill will be subject to wave action and will be surrounded by an eroding bluff. Thus, there is a risk of bluff failure during and after construction of the fill. In addition, there is a risk of damage to the notch fill or damage to property as a result of wave action on the fill. Given that the applicants have chosen to construct the notch fill despite these risks, the applicants must assume the risks. Accordingly, Special Condition #7 requires that the applicants record a deed restriction that evidences their acknowledgment of the risks and that indemnifies the Commission against claims for damages that may be brought by third parties against the Commission as a result of its approval of this permit. Special Conditions #4 requires the applicant to

submit a copy of any required permits from the Army Corps of Engineers, to ensure that no additional requirements are placed on the applicant that could require an amendment to this permit.

Special Condition #1 requires the applicants to submit final plans for the project indicating that the seawall conforms to the bluff contours and to demonstrate that existing irrigation systems within the geologic setback area on the blufftop have been removed, as these would impact the ability of the fill to adequately stabilize the site. In order to monitor the status of the notch fill and to ensure that that the fill continues to function as proposed, thus avoiding future requests for more substantial protective devices, Special Condition #2 has been proposed. Special Condition #2 requires submittal and implementation of a monitoring program to include, at a minimum, periodic measurements of the distance between the bluff edge and the residence, an evaluation of the condition of the notch fill (i.e., whether any significant weathering or damage has occurred that would adversely impact the performance of the notch fill) and measurements of the distance between the face of the notch fill and the bluff face, to ensure the fill material is eroding as designed. The reports must be submitted to the Commission yearly for the first three years, then at three-year intervals and/or following any major storm event, whichever is more frequent. The condition requires that should the notch fill be found to extend seaward of the face of the natural bluff by more than six (6) inches in any location, the report must include alternatives and recommendations to remove or otherwise address this condition.

Special Condition #9 requires the permittees to maintain the notch fill; for example, the removal of debris deposited on the beach during construction of the fill or damage to the fill in the future. Minor regrouting or exempt maintenance as defined by Section 13252 of the California Code of Regulations to restore the notch fill to its original condition as approved herein (i.e., color, texture, etc.) shall not require an additional coastal development permit or amendment. However, whenever changes or maintenance on the seacave is proposed, the applicant shall contact the Commission office to determine whether permits are necessary.

In addition, in the event that it is determined through the monitoring report or visual observation that the notch fill extends seaward of the face of the natural bluff more than six inches, Special Condition #9 requires that the applicant obtain and implement a coastal development permit to remove the portion extending onto the beach, or to implement other corrective measures. The purpose of this condition is to ensure that the permittees will remove any portion of the fill that extends seaward of the bluff face pursuant to a coastal development permit. If for an unforeseen reason the Coastal Commission refuses to grant such a permit, the permittee should obtain an amendment to this permit. With removal of any protruding portion of the fill, the notch fill will have only a limited effect on visual and recreational resources. Thus, the Commission can be assured that, as conditioned, the proposed project will function properly, that the fill will be properly maintained and that any adverse impacts to shoreline processes have been or will be mitigated.

Special Condition #6 requires a deed restriction acknowledging that alternative measures must be implemented on the applicants blufftop property in the future, should additional stabilization be required, which would avoid additional alteration of the natural landform of the public beach or coastal bluffs, but would stabilize the principle residential structures and provide reasonable use of the property. The condition will ensure that future property owners will be aware that any future proposals for additional shoreline protection, such as upper bluff stabilization, will require an alternatives analysis. If there are feasible alternatives to shoreline protection that would have less impact on visual quality, sand supply, or public access, the Commission may require implementation of those alternatives.

To assure the proposed fill has been constructed properly, Special Condition #10 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 notch fill has been constructed in accordance with the approved plans.

In summary, the existing primary bluff-top structures have not been demonstrated to be in danger from erosion. Therefore, the Commission is not required to approve shoreline protection under Section 30235 of the Coastal Act. However, the proposed notch fill will significantly reduce the potential for bluff collapse and the need for more substantial shoreline altering devices in the future. The project has been designed to have a minimal impact on shoreline processes, and the applicants have proposed to pay a fee to SANDAG for beach replenishment projects. Given the above special conditions, the risk to the bluff top structures will be reduced with minimal adverse impacts to shoreline sand supply. Therefore, the proposed project can be found consistent with Sections 30235 and 30253 of the Coastal Act.

4. Visual Resources. Section 30251 of the 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 is located on the face of a coastal bluff at beach level. Undercutting of the bluffs and sea caves are a fairly prominent feature of the shoreline in this area, and filling this area will alter the natural appearance of the bluffs. However, the project has been reduced in scale such that the highest point of the fill will be approximately 11 feet. Unlike the 19-foot high notch fill proposed previously, the current proposal would not completely fill in the notch to its upper limit. Thus, the irregular notching and overhanging of the bluffs, which is a defining feature of the natural landform in the area, would not be completely eliminated.

In addition, the notch fill material will be colored and texture to approximate the appearance of the surrounding bluffs. Matching fill material to the appearance of natural bluffs can be a tricky process, as it can take weeks or even months before the material fully cures, and thus it is difficult to tell at the time of application how well the fill material will blend into the surrounding natural bluffs. Another difficulty is that even once cured, weathering can change the appearance of either the plug or the surrounding bluffs. Thus, even if the notch fill matches the natural bluffs closely one year, several years later there may be a distinct difference in appears.

Therefore, Special Condition #1 requires the applicant to submit final plans of the method chosen to color and texturize the fill material, with a color board indicating the color of the fill material. Per Special Condition #2, the applicant is also required to maintain the color of the fill to ensure the material continues to blend in with the surrounding bluffs in the future.

Furthermore, the height of the proposed fill will be low enough that if sand does return to the beaches in this area, or if sand replenishment projects are undertaken, the sand, depending on the total volume, could cover the proposed fill eliminating the visual impact. Three sand replenishment projects have already been approved in Solana Beach, including the on-shore deposition of 570,000 cubic yards of sand on Solana Beach beaches from Cliff Street to Dahlia Street (which including the subject site) associated with the Federal Navy Homeporting project (CD-95-95; CD-29-97). Although the Homeporting project turned out to be infeasible due to factors other than the suitability of Solana Beach as a replenishment site, a related sand replenishment project is currently being reviewed by the Commission. Placement of 44,000 cubic yards of sand associated with the grade separation/beach nourishment project was approved by the Commission in October 1995 for deposition at Fletcher Cove (#6-94-207) and deposited earlier this year. A pilot program for the deposition of approximately 6,500 cubic yards of sand on the beach at Fletcher Cove and 2,000 cubic yards of material at Tide Beach Park was approved by the Commission in July 1998 (#6-98-68). Through projects such as these, the visual impact of the project could be eliminated entirely. In addition, the applicant is proposing to contribute \$91,806 to SANDAG for beach replenishment efforts. If sand returns to the beach, or is placed on the beach through beach replenishment efforts, the fill could be completely covered for as long as the sand remains.

There are numerous seacave plugs along the bluffs in Solana Beach. There are also a number of notch fills north of the subject site. When constructed and maintained to the match the bluffs, these fills, while visible, are relatively inconspicuous and do not represent a significant visual blight. The appearance of the proposed project would be consistent with the various existing fill projects located in the bluffs along the northern stretch of Solana Beach. The proposed fill would be considerably less visually prominent than traditional seawall projects or riprap revetments. The fill has been designed to erode at the same rate as the surrounding bluffs, and if this does not prove to be the case, Special Condition #9 requires the applicant to apply for a coastal development permit to remove the portion of the fill extending from the face of the bluff. Thus, although the project will have an impact on the appearance of the bluffs, the project has been designed

and conditioned to match the surrounding natural bluffs to the maximum extent feasible, thereby reducing potential negative visual impacts to a less than significant level. Therefore, the Commission finds that the subject development is consistent with Section 30251 of the Coastal Act.

5. Public Access. Many policies of the Coastal Act address the provision, protection and enhancement of public access to and along the shoreline, in particular, Sections 30210, 20211, 30212.5, 30221, 30223 and 30252. These policies address maintaining the public's ability to reach and enjoy the water, preventing overcrowding by providing adequate recreational area, protecting suitable upland recreational sites, and providing adequate parking facilities for public use. In addition, Section 30604(c) requires that a specific access finding be made for all development located between the sea and first coastal roadway. In this case, such a finding can be made.

The subject project is located on the bluff formation directly adjacent to a public beach. Although public lateral access is available along the entire stretch of coastline in this area, mostly at low tides, vertical access is available only at a limited number of public accessways. Because of the nature of the topography of the area, with steep, fragile coastal bluffs between the first public roadway and the coastline, and the existing, highly developed pattern of development, the provision of additional vertical public access is not practical at this time. In addition, there is an existing public beach stairway approximately one block south of the subject site at the Tide Beach Park. The proposed seacave filling will not impact this accessway.

Shoreline protection projects do have the potential to impact existing lateral access along the beach. Structures which fix the back of the beach stop the landward migration of the beach profile while the shoreward edge continues to erode, thereby reducing the amount of dry sandy beach available to the public. In the case of the proposed notch fill, the fill material has been designed to erode with the natural bluffs, and thus will not permanently fix the back of the beach. The fill will not extend beyond the face of the bluff onto sandy beach currently usable by the public.

The City of Solana Beach owns the bluff face and beach on the subject site, with the exception of the bluff face at 231 Pacific Avenue, which is owned by the bluff-top property owner. This stretch of beach has historically been used by the public for access and recreation purposes. Special Condition #11 acknowledges that the issuance of this permit does not waive the public rights that exist on the property. The fill may be located on State Lands Property, and as such, Special Condition #3 requires the applicant to obtain any necessary permits or permission from the State Lands Commission to perform the work.

The use of the beach or public parking areas for staging of construction materials and equipment also adversely impacts the public's ability to gain access to the beach. The applicants having submitted a preliminary staging and storage plan which proposes to use the Fletcher Cove parking lot. This lot is the main public parking area for Fletcher Cove,

and use of this area for staging and storage would have a significant adverse impact on public beach access.

In past projects, the Commission has allowed private applicants constructing shoreline protective devices to use up to 12 spaces in an existing City-owned parking lot across the street from Fletcher Cove known as the "Distillery Lot" (for its previous use) for temporary staging and storage of equipment during construction. In addition, steel-tracked construction equipment (which cannot traverse asphalt streets) have been allowed to be stored upland of the Fletcher Cove access ramp, in an area which is not currently used for parking.

This free, City-owned parking area is within easy walking distance of Fletcher Cove and is currently available to any beach users or patrons of the several small commercial facilities surrounding the lot. However, it is also the only off-street, open area in the vicinity of Fletcher Cove which can accommodate the type of equipment and vehicles required to construct the proposed project, other than Fletcher Cove itself. In addition, the City of Solana Beach has in the past indicated that the lot is used only minimally, and thus has an excess capacity which can be allocated to staging and storage for the project, with only a minimal impact to beach uses.

Therefore, Special Condition #5 prohibits the applicants from storing vehicles on the beach overnight, using any public parking spaces other than the 12 Distillery spaces for staging and storage of equipment, and prohibits washing or cleaning construction equipment on the beach or in the parking lot. The condition also prohibits construction on the sandy beach during weekends and holidays between Memorial Day to Labor Day of any year. Except for minor exempt maintenance as defined by Section 13252 of the California Code of Regulations, any other work will require an amendment to this permit or a new coastal development permit. Therefore, impacts to the public will be minimized to the greatest extent feasible. Thus, as conditioned, the Commission finds the project consistent with the public access and recreation policies of the Coastal Act.

Therefore, as conditioned, the Commission finds that the subject proposal will not result in any significant adverse impacts on beach access or public recreation consistent with Sections 30210, 30211, 30212.5, 30221, 30223 and 30252, pursuant to Section 30604(c) of the Coastal Act.

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 was previously in the County of San Diego Local Coastal Program (LCP) jurisdiction, but is now within the boundaries of the City of Solana Beach. The City will, in an likelihood, prepare and submit a new LCP for the area to the Commission for review. Because of the incorporation of the City, the certified County of San Diego

Local Coastal Program no longer applies to the area. However, the issues regarding protection of coastal resources in the area have been addressed by the Commission in its review of the San Diego County LUP and Implementing Ordinances. As such, the Commission will continue to utilize the San Diego County LCP documents for guidance in its review of development proposals in the City of Solana Beach until such time as the Commission certifies an LCP for the City.

In preparation of an LCP, the City of Solana Beach is faced with many of the same issues as the City of Encinitas, located immediately north of Solana Beach, whose LCP was certified by the Commission in March 1995. The City of Encinitas' LCP includes the intent to prepare a comprehensive plan to address the coastal bluff recession and shoreline erosion problems in the City. The plan will include at a minimum, bluff top setback requirements for new development and redevelopment; alternatives to shore/bluff protection such as beach sand replenishment, removal of threatened portions of a residence or the entire residence or underpinning existing structures; addressing bluff stability and the need for protective measures over the entire bluff (lower, mid and upper); impacts of shoreline structures on beach and sand area as well as mitigation for such impacts; impacts for groundwater and irrigation on bluff stability and visual impacts of necessary/required protective structures.

The bluffs in this section of the Solana Beach coastline are mostly in public ownership and for the most part pristine, devoid of shore and bluff protection structures or private access stairways. Approval of the proposed project should not send a signal that there is no need to address a range of non-structural alternatives to protect existing development. It would be premature to commit the entire Solana Beach shoreline to armoring without a thorough analysis of alternatives. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, ground and surface water controls, beach replenishment, and even continual lower bluff protection constructed in substantial segments, as with the proposed project. Decisions regarding future shoreline protection must be done through a comprehensive planning effort that analyzes the impact of approving shoreline protection on the entire City shoreline. Within the limits of the proposed project development, as conditioned, the project can be found consistent with the Chapter 3 policies of the Coastal Act, and will not prejudice the ability of the City of Solana Beach to complete a certifiable local coastal program. However, these issues of shoreline planning will need to be addressed in a comprehensive manner in the future through the City's LCP certification process.

The project site is designated Open Space Recreation in the City of Solana Beach Zoning Ordinance and General Plan, and was also designated for open space uses under the County LCP. As conditioned, the subject development is consistent with these requirements. Therefore, the Commission finds the proposed development, as conditioned, conforms to all applicable Coastal Act Chapter 3 policies, and the subject development will not prejudice the ability of the City of Solana Beach to complete a certifiable local coastal program.

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

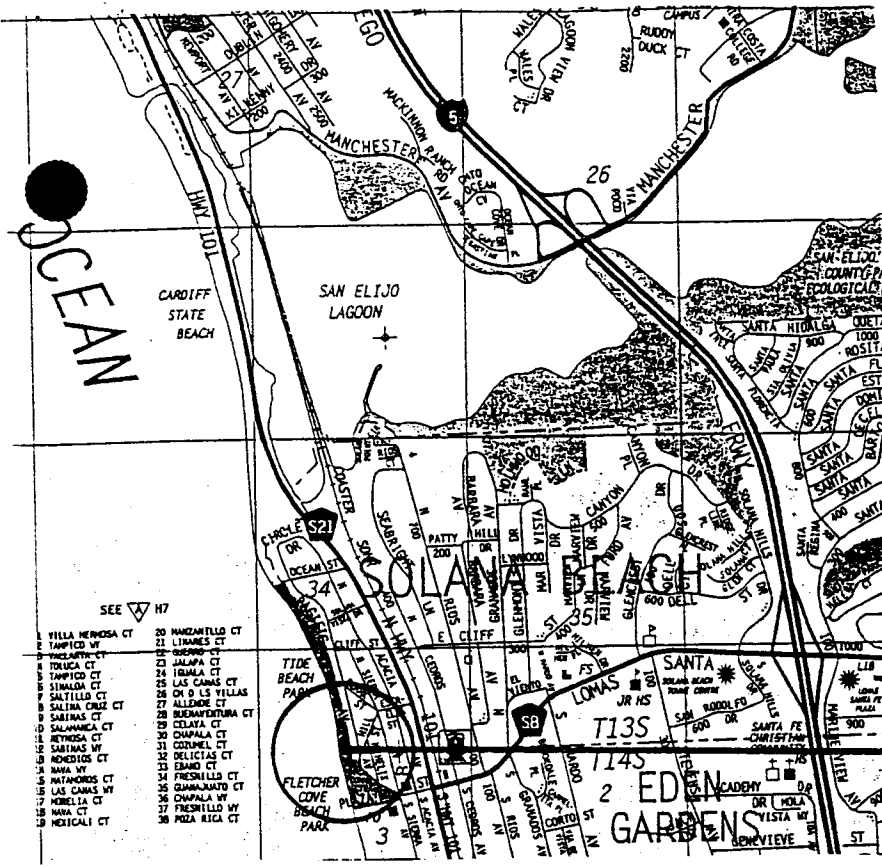
Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) 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, visual quality and public access policies of the Coastal Act. Mitigation measures, including conditions addressing monitoring the notch fill and the color of construction materials, 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 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.



- SEE H7
- 1 VILLA HEROSA CT
 - 2 TAPICO CT
 - 3 TRUCA CT
 - 4 TAPICO CT
 - 5 SIMOLA CT
 - 6 SALTILLO CT
 - 7 SALINA CRUZ CT
 - 8 SAIBAS CT
 - 9 SALAMANCA CT
 - 10 MITHOSA CT
 - 11 SARTAS WY
 - 12 MONEDIOS CT
 - 13 NANA WY
 - 14 INTANORES CT
 - 15 LAS CAMAS WY
 - 16 CAMPALA WY
 - 17 NANA CT
 - 18 MEDICALI CT
 - 19 MACHAFELLO CT
 - 20 LINARES CT
 - 21 JALAPA CT
 - 22 LAS CAMAS CT
 - 23 OH S LS VILLAS
 - 24 ALLENDE CT
 - 25 BUEHARTURA CT
 - 26 CELAYA CT
 - 27 CAMPALA CT
 - 28 EDANO CT
 - 29 FRESNILLO CT
 - 30 GUANAJATO CT
 - 31 CAMPALA WY
 - 32 FRESNILLO WY
 - 33 POZA RICA CT

SITE

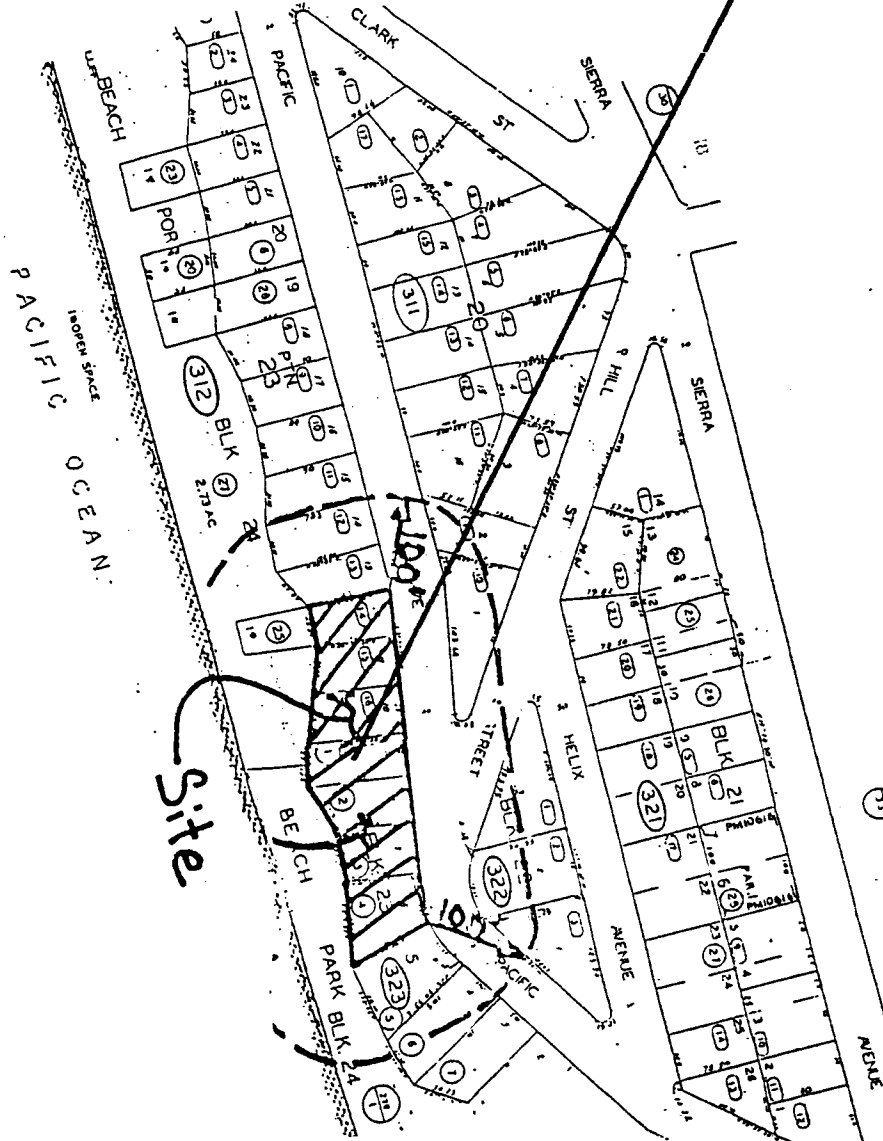
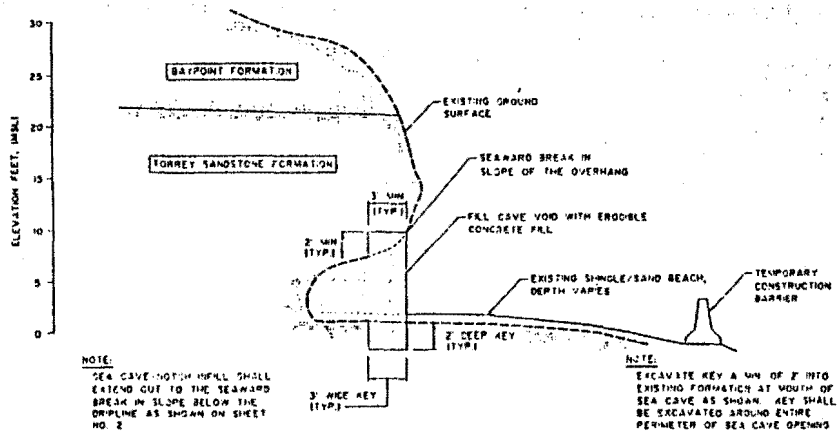
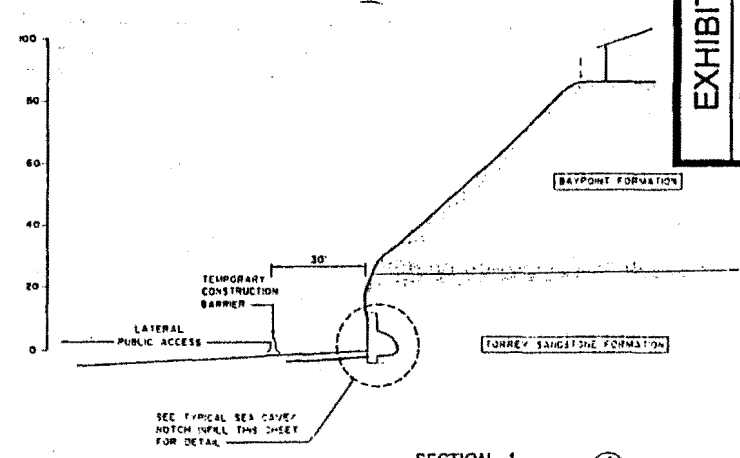


EXHIBIT NO. 1
APPLICATION NO.
6-99-103
Location Map

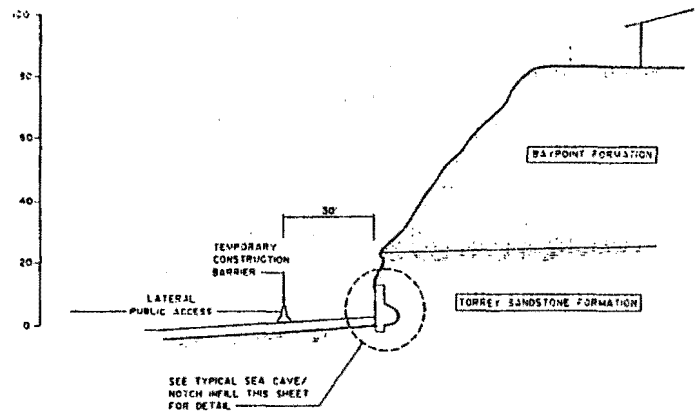
California Coastal Commission



TYPICAL SEA CAVE/NOTCH INFILL - SECTION
 NO SCALE



SECTION - 1
 SCALE: 1"=20' (HORIZ. VERT) 1/2"



SECTION - 2
 SCALE: 1"=20' (HORIZ. VERT) 2/3"

NOTE: IF DRAWING IS NOT FULL SIZE (1/4"X36") THEN REDUCE SCALE ACCORDINGLY
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 0 1 2 3

CALIFORNIA COASTAL DEVELOPMENT PERMIT NO.: _____
 PLANS PREPARED UNDER THE SUPERVISION OF: _____
 DATE: _____
 ENGINEER OF WORK: _____
 P.C.E. NO.: _____ EXP. DATE: _____

GROUP DELTA CONSULTANTS, INC.
 ENGINEERS & GEOLOGISTS
 4455 WALNUT CANYON ROAD, SUITE 100
 SAN DIEGO, CALIFORNIA 92123
 (619) 573-1777

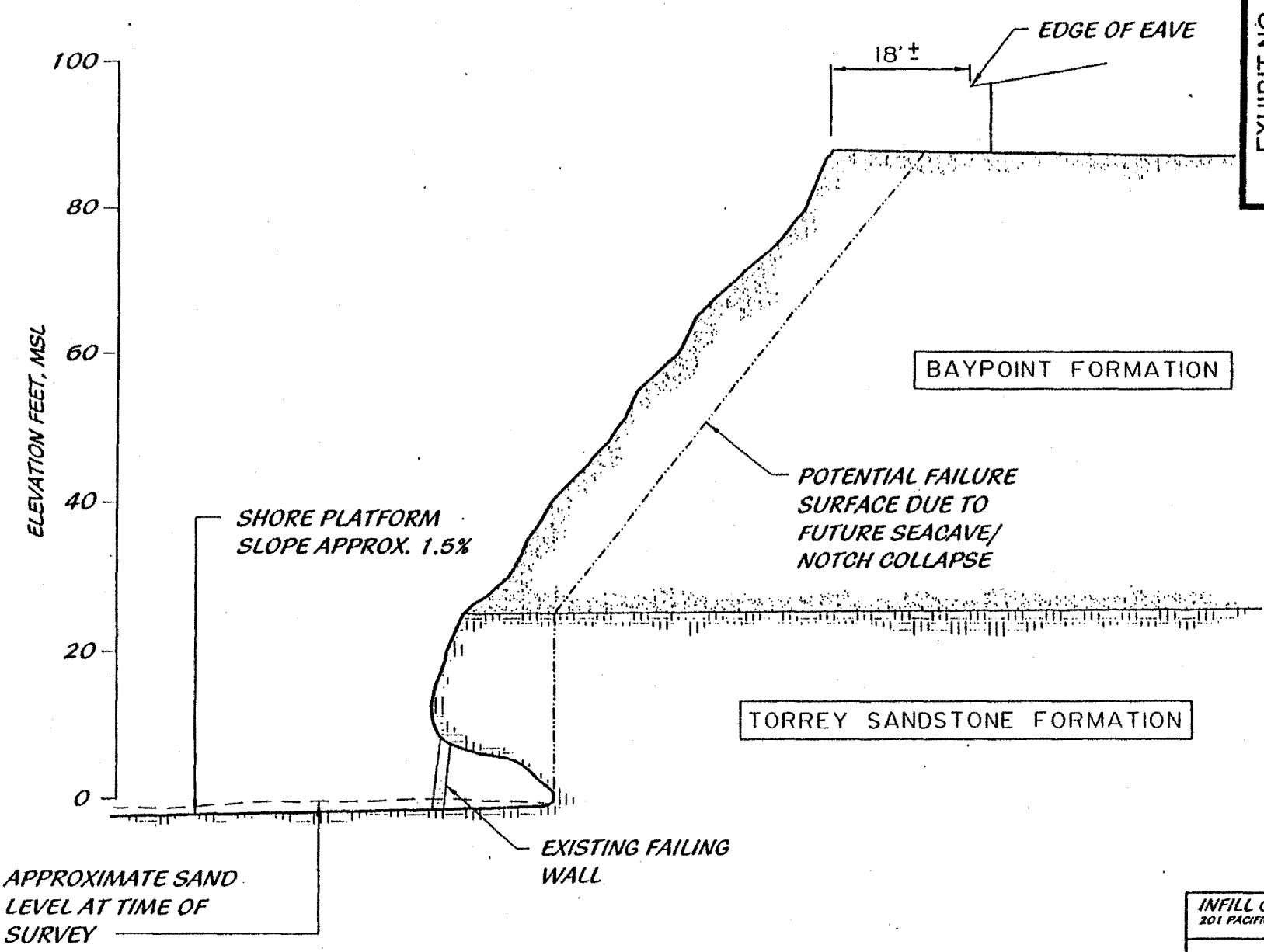
DESIGN	REV.	REVISIONS	BY	DATE	APP.

SEA CAVE & NOTCH INFILL - 201 THROUGH 231 PACIFIC AVENUE
DETAILS & SECTIONS

CITY OF SOLANA BEACH

1831-EGG
 DRAWING NO. _____
 SHEET **4** OF **5**
 6-30-98
 DATE OF PRINT

Handwritten notes:
 1/1/00
 7/2



201 PACIFIC AVE - (REDD RESIDENCE)
SECTION - A

SCALE: 1"=20' (HORIZ.:VERT.)



INFILL GEOMETRIC DATA			
201 PACIFIC AVENUE			
DEPTH =	MAX. 17.0'	MIN. 1.5'	AVG. 9.5'
ELEV. =	MAX. 19.0'	MIN. -1.0'	AVG. 5.5'
LENGTH =	APPROXIMATELY 130'		

Figure No.: 2

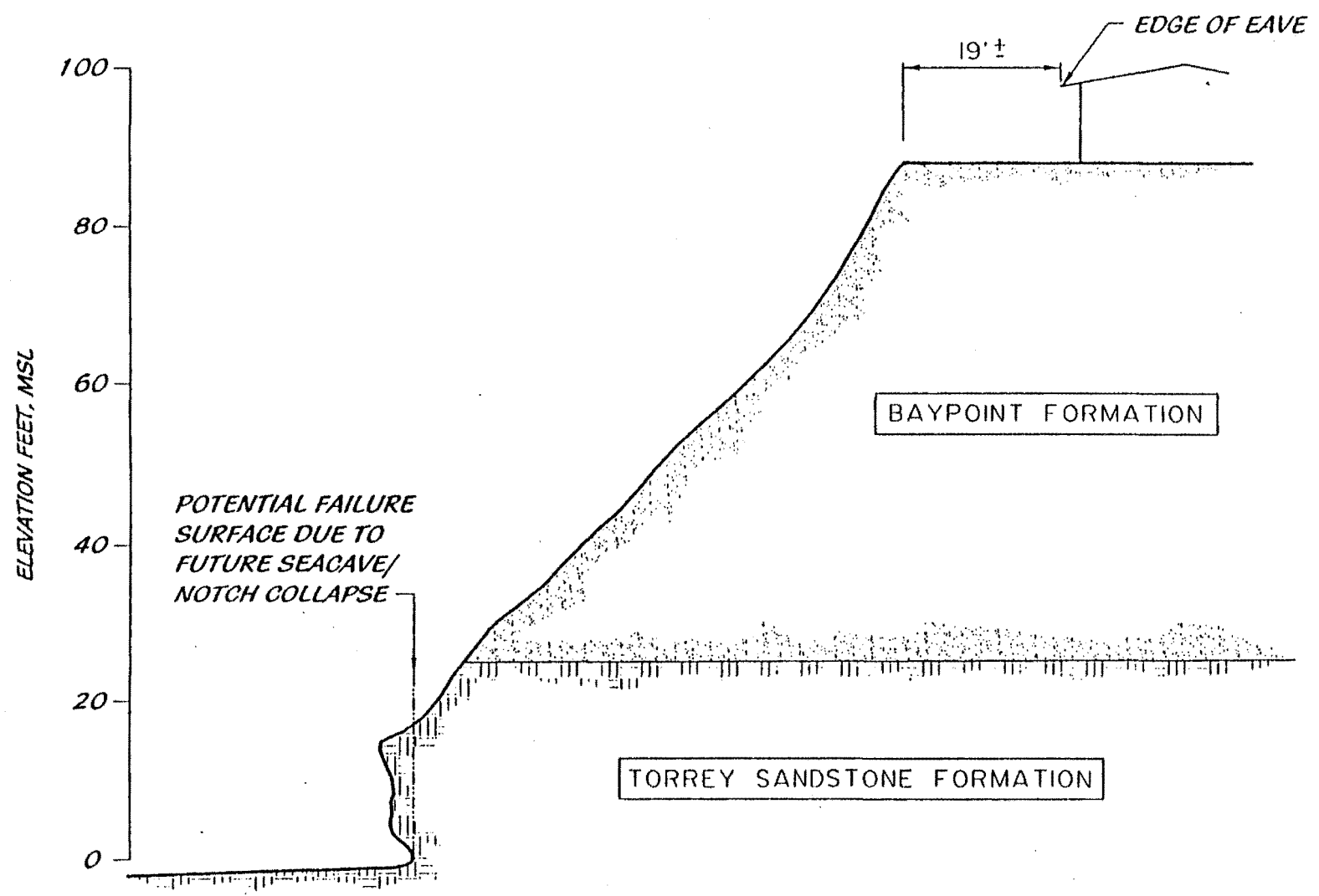
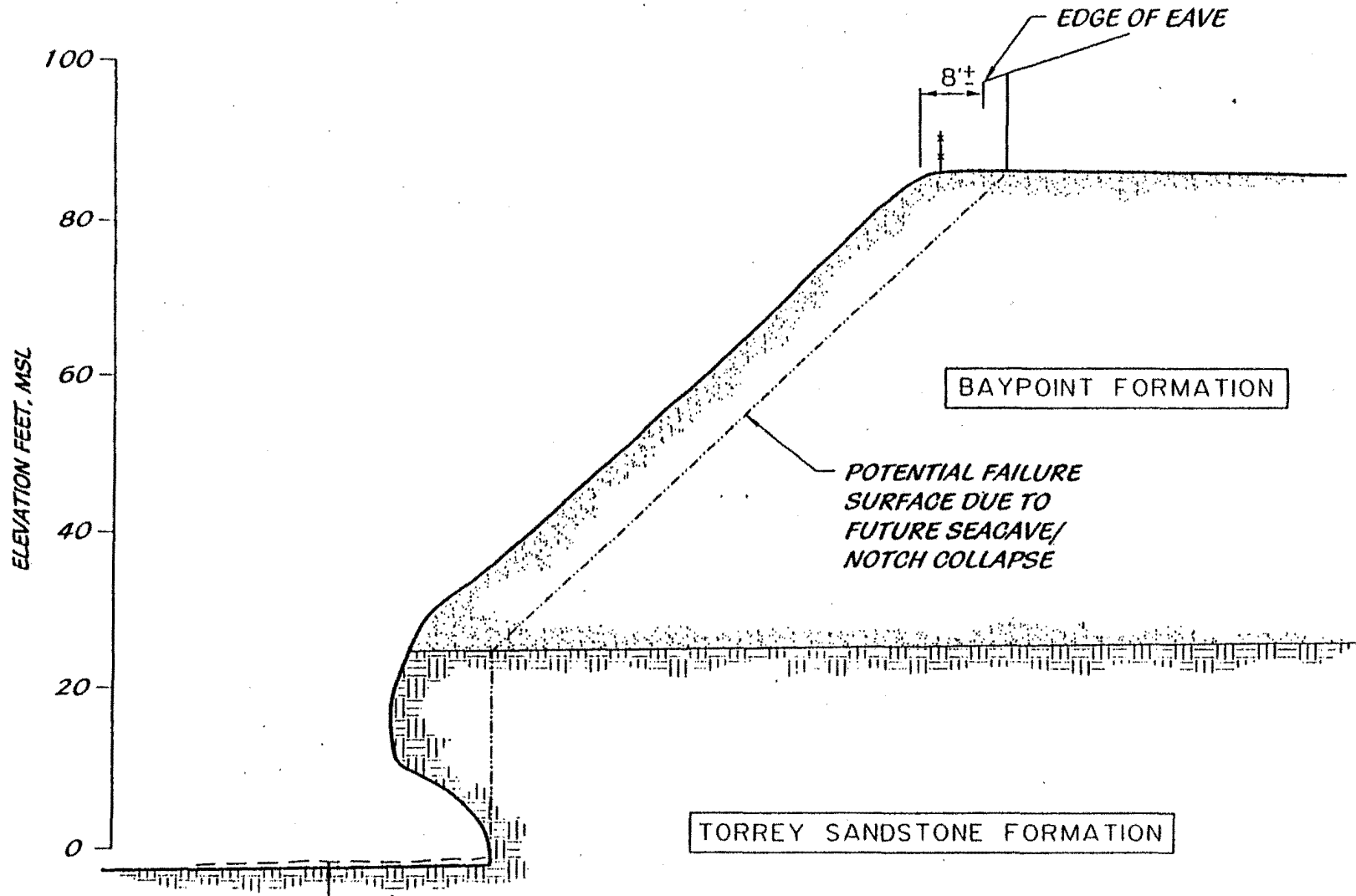


Figure No.: 3

205 PACIFIC AVE - (MORRISON RESIDENCE)
SECTION - B
SCALE: 1"=20' (HORIZ.:VERT.)

B
1

INFILL GEOMETRIC DATA 205 PACIFIC AVENUE		
DEPTH =	MAX.: 11.0'	MIN.: 1.5' AVG. = 7.0'
ELEV. =	MAX.: 14.5'	MIN.: -1.0' AVG. = 5.5'
LENGTH =	APPROXIMATELY 80'	



APPROXIMATE SAND
LEVEL AT TIME OF
SURVEY

TORREY SANDSTONE FORMATION

BAYPOINT FORMATION

POTENTIAL FAILURE
SURFACE DUE TO
FUTURE SEAGAVE/
NOTCH COLLAPSE

EDGE OF EAVE
8'

APPROXIMATE SAND
LEVEL AT TIME OF
SURVEY

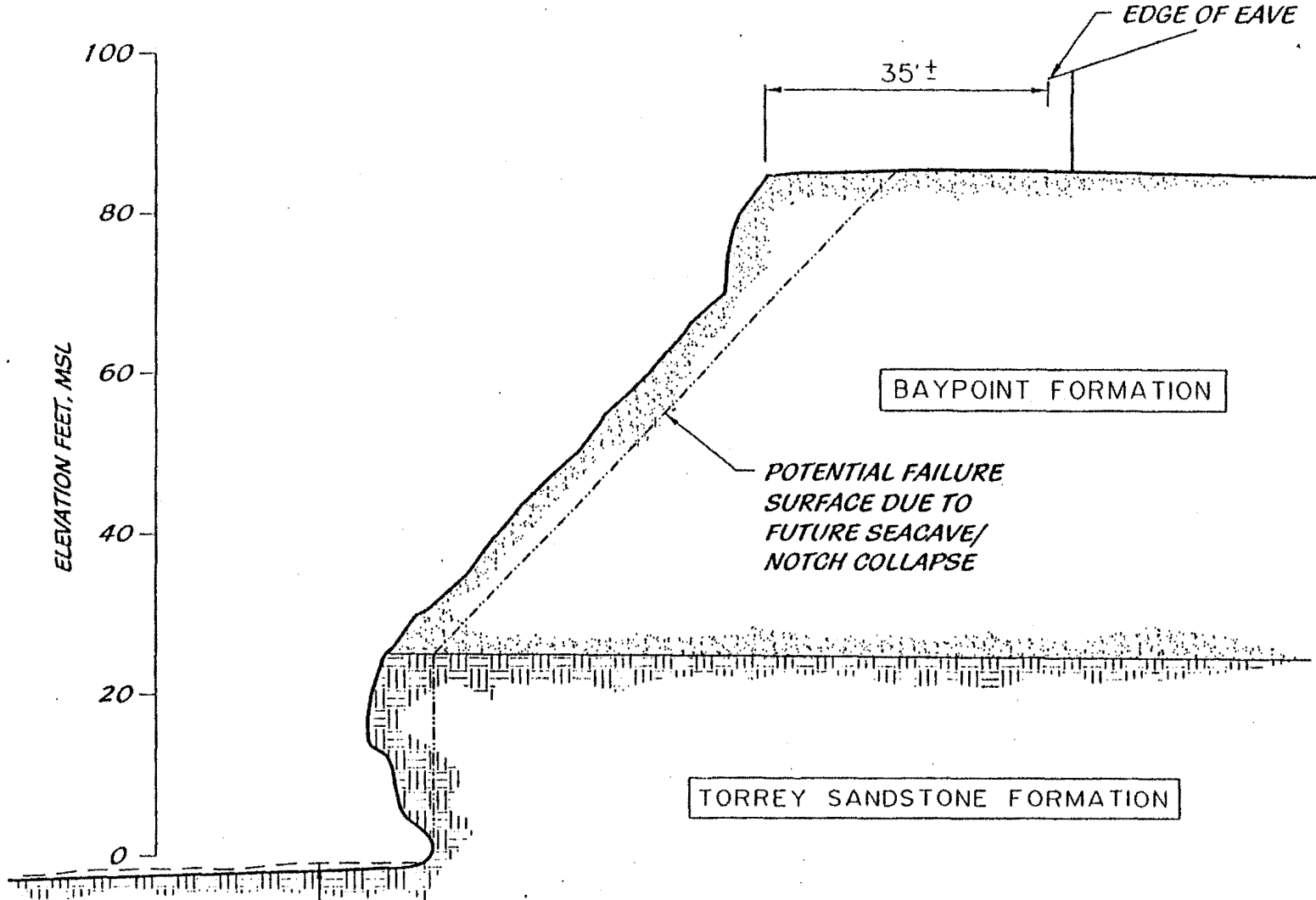
211 PACIFIC AVE - (O'NEAL RESIDENCE)
SECTION - C

SCALE: 1"=20' (HORIZ.:VERT.)



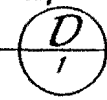
INFILL GEOMETRIC DATA 211 PACIFIC AVENUE		
DEPTH =	MAX.: 7.5'	AVG. = 7.0'
	MIN.: 6.5'	
ELEV. =	MAX.: 15.0'	AVG. = 6.0'
	MIN.: -1.0'	
LENGTH =	APPROXIMATELY 60'	

Figure No.: 4



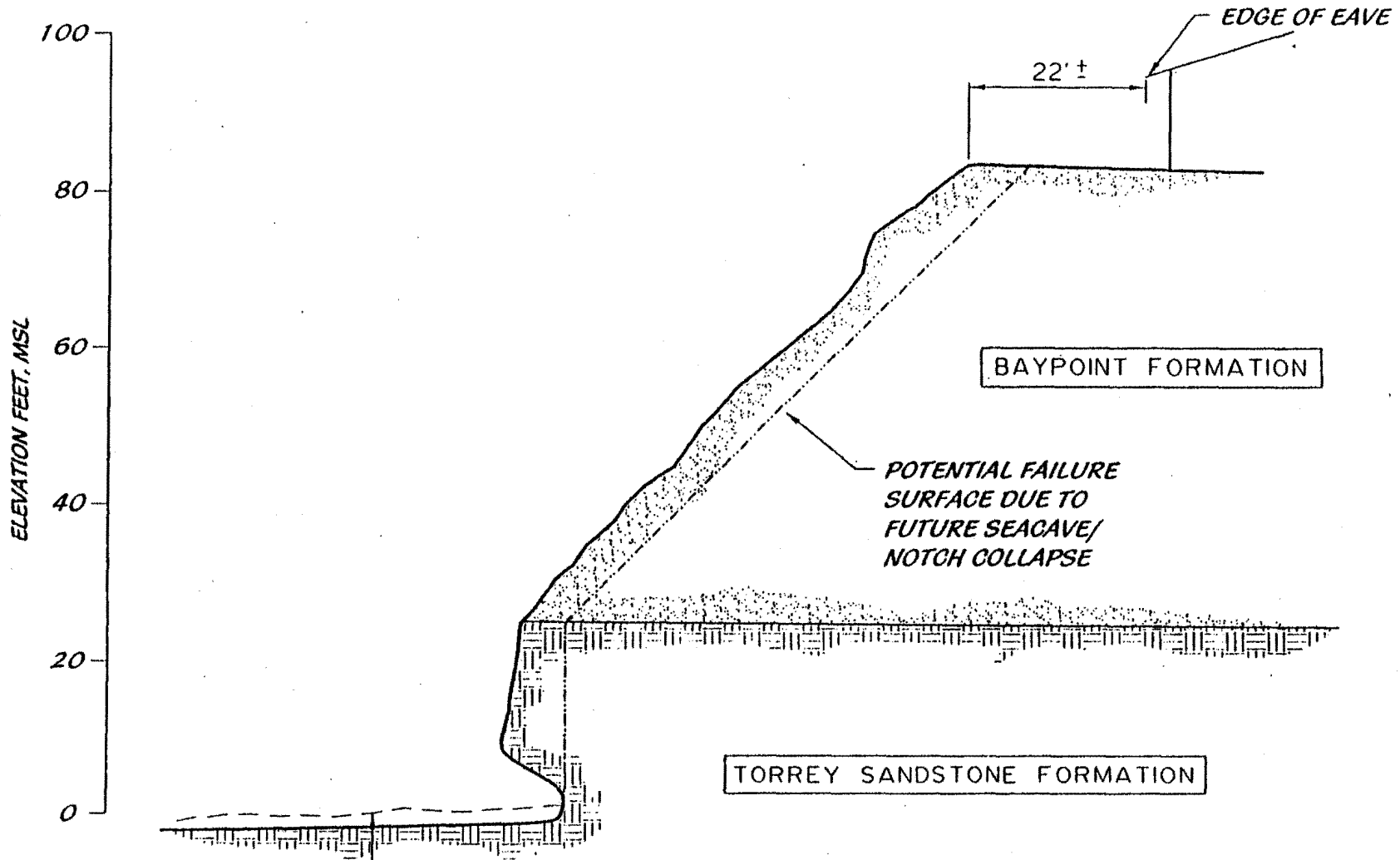
215 PACIFIC AVE - (GLASGOW RESIDENCE)
SECTION - D

SCALE: 1"=20' (HORIZ.:VERT.)



INFILL GEOMETRIC DATA 215 PACIFIC AVENUE		
DEPTH =	MAX.: 8.0'	MIN.: 7.8' AVG. = 7.9'
ELEV. =	MAX.: 15.5'	MIN.: 6.5' AVG. = 7.0'
LENGTH =	APPROXIMATELY 50'	

Figure No.: 5



APPROXIMATE SAND
LEVEL AT TIME OF
SURVEY

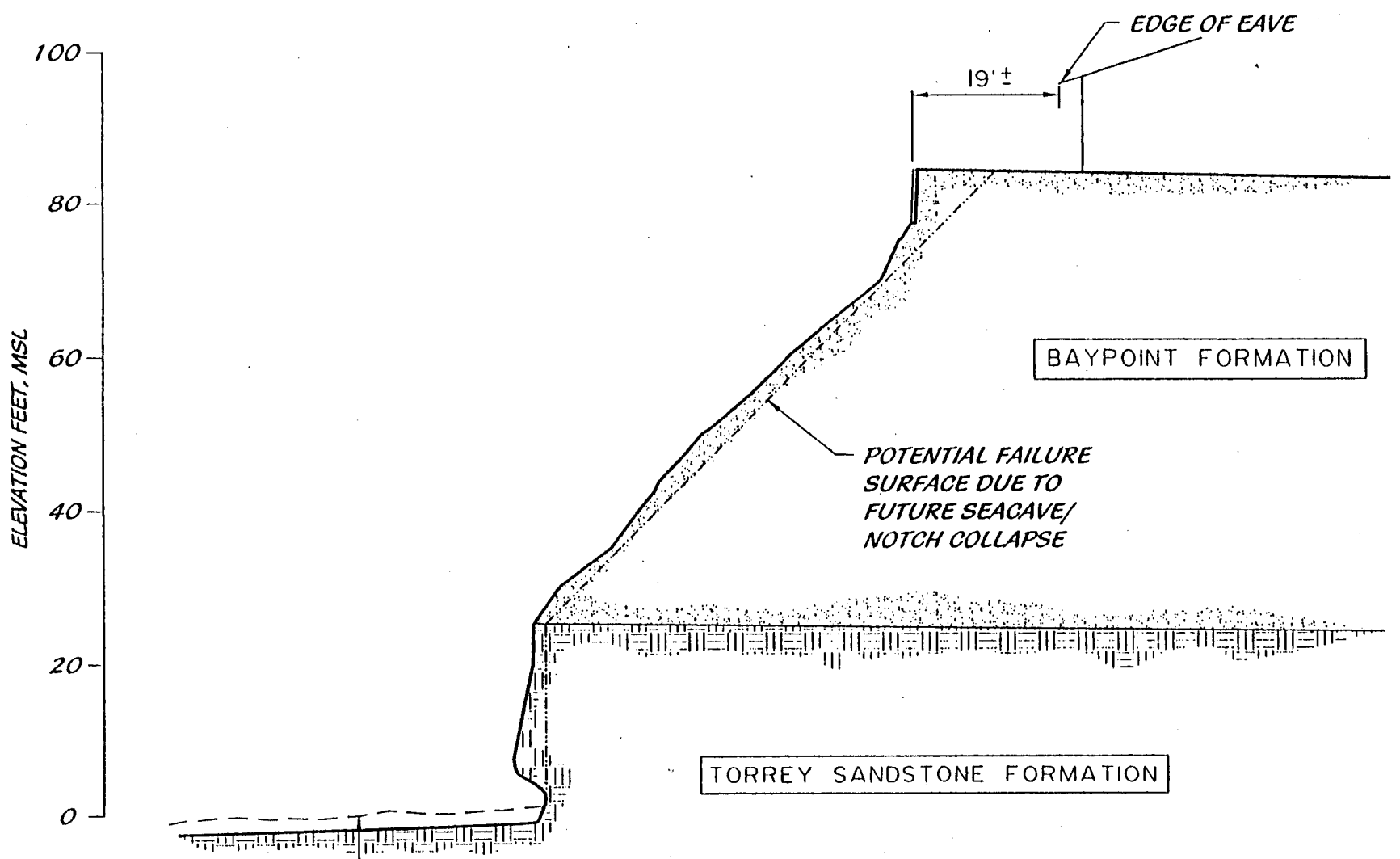
225 PACIFIC AVE - (DAVIDI RESIDENCE)
SECTION - F

SCALE: 1"=20' (HORIZ.:VERT.)



INFILL GEOMETRIC DATA 225 PACIFIC AVENUE		
DEPTH =	MAX: 7.9'	AVG: 6.0'
	MIN: 4.0'	
ELEV. =	MAX: 8.5'	AVG: 8.0'
	MIN: -1.0'	
LENGTH =	APPROXIMATELY 60'	

Figure No.: 7



APPROXIMATE SAND
LEVEL AT TIME OF
SURVEY

231 PACIFIC AVE - (GARBER RESIDENCE)
SECTION - G

SCALE: 1"=20' (HORIZ.:VERT.)

G
1

INFILL GEOMETRIC DATA 231 PACIFIC AVENUE		
DEPTH =	MAX.: 4.0'	MIN.: 4.0' AVG.: 4.0'
ELEV. =	MAX.: 6.0'	MIN.: -1.0' AVG.: 4.5'
LENGTH =	APPROXIMATELY 10'	

Figure No.: 8

Special Conditions Relating to Future Shoreline Protection on Project Site

<u>Site</u>	<u>Permit #</u>	<u>Development Type</u>
<u>201 Pacific Avenue</u> applicant: Weiss current: Redd	6-81-306	Expand and remodel an existing 1,200 sq.ft. single-story residence to a 2-story, 3,051 home.

The only special condition on the permit was for recordation of a waiver of liability deed restriction


<u>201 Pacific Avenue</u> applicant: Redd current: Redd	6-94-32	Construction of a 255 sq.ft. second-story addition to an existing 2,850 sq.ft. 3-level single-family residence on a 5,244 sq.ft. lot.
---	---------	---

Future Shoreline Protective Devices. Prior to the issuance of the coastal development permit, the applicant shall record a deed restriction in a form and content acceptable to the Executive Director, which shall provide that in the event that any bluff protective work is proposed in the future, the applicant acknowledges that, as a condition of filing an application for a coastal development permit, the applicant shall not only be required to provide information that analyzes the proposed project's consistency with Section 30235 of the Coastal Act, but shall provide to the Commission or its successor agency an analysis of alternatives to bluff protective works that may be considered by the Commission or its successor agency in the event it finds that the proposed project does not comply with Section 30235. The alternatives shall include relocation of the principal residence in its entirety, relocation of portions of the residence that are threatened, structural underpinning, or other remedial measures identified to stabilize the residence that do not include bluff or shoreline stabilization devices.

<u>205 Pacific Avenue</u> applicant: Morrison current: Morrison	F6569	Construction of a 155 sq.ft. addition and enclosure of a 208 sq.ft. concrete patio attached to an existing single-family residence. Non-material amendment approved to demolish residence and reconstruct (including addition) in same location.
---	-------	--

The only special condition on the permit was for submittal of a drainage plan.

<u>211 Pacific Avenue</u> applicant: O'Neal current: O'Neal	6-95-95	Construction of a 1,944 sq.ft. addition including a new third level to an existing two-level 1,718 sq.ft. single-family residence including garage on a 4,375 sq.ft. lot.
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EXHIBIT NO. 5
APPLICATION NO. 6-99-103
Past Permit
Conditions
 California Coastal Commission

Future Shoreline Protective Devices. Prior to the issuance of the coastal development permit, each applicant shall record a deed restriction in a form and content acceptable to the Executive Director, which shall provide that in the event that any bluff or shoreline protective work is proposed in the future, the applicant acknowledges that, as a condition of filing an application for a coastal development permit, the applicant shall provide to the Commission or its successor agency an analysis of alternatives to bluff protective works. The alternatives shall include, but not be limited to, relocation of the principal residence in its entirety, relocation of portions of the residence that are threatened, structural underpinning, or other remedial measures identified to stabilize the residence that do not include bluff or shoreline stabilization devices. The document shall be recorded and shall run with the land and bind all successors and assigns.

Protection of Accessory Structures. By acceptance of this permit, the applicant acknowledges that, in the event that erosion/bluff failure threatens the existing patio, fence, or other accessory structures in the future, the Commission will consider removal of these structures as the preferred and practical alternative to proposals for bluff and shoreline protection.

215 Pacific Avenue
applicant: Glasgow
current: Glasgow

6-98-131 Construction of a 1,355 sq.ft. first and second story addition to an existing single-story, 1,590 sq.ft. single-family residence on a 4,875 sq.ft. lot

Future Response to Development. If in the future the permittee seeks a coastal development permit to construct bluff or shoreline protective devices, the permittee will be required to include in the permit application information concerning alternatives to the proposed bluff or shoreline protection. Alternatives include but are not limited to; relocation of portions of the residence that are threatened, removal of accessory structures, structural underpinning, and other remedial measures capable of protecting the residence without bluff or shoreline stabilization devices. The information concerning these alternatives must be sufficiently detailed to enable the Coastal Commission to evaluate the feasibility of each alternative, and whether each alternative is capable of protecting existing structures that are in danger from erosion.

PRIOR TO THE 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 reflect the above information. The recorded 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.

STATE OF CALIFORNIA
COASTAL COMMISSION

ORIGINAL


GARY GLASGOW)
CITY OF SOLANO BEACH)
COUNTY OF SAN DIEGO)

Application No. 6-98-131

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Friday
February 5, 1999
Agenda Item No. 8.b.

Hotel del Coronado
1500 Orange Avenue
San Diego, California

EXHIBIT NO. 6
APPLICATION NO. 6-99-103
Transcript of #6-98-131
 California Coastal Commission

PRISCILLA PIKE
Court Reporting Services

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A P P E A R A N C E S

COMMISSIONERS

- Rusty Areias, Chair
- Sara Wan, Vice Chair
- Penny Allen
- Jeff Brothers, Alternate
- Shirley Dettloff
- Nancy Flemming
- Christine Kehoe
- Pedro Nava
- Dave Potter
- Mike Reilly
- Andrea Tuttle

STAFF

- Peter Douglas, Executive Director
- Ralph Faust, Chief Counsel
- Deborah Lee, District Director

-o0o-

I N D E X T O S P E A K E R S

STAFF

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Executive Director Douglas.....	6

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Tuttle.....	4, 6
Wan.....	5

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Vote.....	8

<u>CONCLUSION</u>	8
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-o0o-

1 California Coastal Commission

2 February 5, 1999

3 Gary Glasgow -- Application No. 6-98-131

4 * * * * *

5 DISTRICT DIRECTOR LEE: ...The next item is Item
6 8.b. This is Application 6-98-131. This is a proposal for a
7 remodel of a single family residence on the bluff top in
8 Solano Beach.

9 Staff is recommending approval of the proposed
10 project with special conditions, which would require the
11 applicant's execution of an assumption of risk, as well as a
12 deed restriction to address future responses to development
13 on this site, and the submittal of final plans.

14 In this case, all of the additions that are
15 proposed are landward of the 40-foot bluff-top setback. We
16 do have a geology report which indicates that the additions
17 will be safe without future protection for the economic life
18 of the structure. There are existing improvements seaward of
19 the remodeling, and no changes to the foundation are involved
20 with the existing structure.

21 While these proposed improvements are landward of
22 the 40-foot setback, and as I said, the geology report
23 indicates that those improvements are expected to be safe for
24 the economic life, this site is part of an application that
25 is for the preventative fill of an undercut area on this

1 site, as well as six others. That item was postponed from
2 today's agenda.

3 As part of our consideration on the concern for
4 future protective work on this site, I want to draw your
5 attention to Special Condition No. 3. As I said, this
6 requires the executive of a deed restriction that would
7 require, if in the future, the applicant tried to --

8 COMMISSIONER TUTTLE: Commissioners, excuse me,
9 this is important. Listen to it, just for a minute.

10 Thank you.

11 DISTRICT DIRECTOR LEE: I'm sorry?

12 COMMISSIONER TUTTLE: Would you start with
13 Condition 3, again, please.

14 DISTRICT DIRECTOR LEE: Okay.

15 Again, I wanted to draw your attention to Special
16 Condition No. 3. This condition is similar to the ones that,
17 I believe, some of you had concerns about at our last
18 hearing, and so I wanted to be clear what we were
19 recommending on today's application.

20 As I said, in this instance, all of the proposed
21 improvements are landward of the 40-foot setback, and there
22 are other existing portions of the home that are seaward of
23 it. They do maintain a fairly substantial setback from the
24 bluff-top setback, and for reference we have a very good
25 exhibit, Exhibit No. 3 in your staff report, so that you can

1 see the relationship.

2 The geology report that was submitted with the
3 proposed remodeling does indicate there will be no need for
4 future shoreline protection for the proposed improvements;
5 however, as I acknowledged, there is an application that has
6 been postponed for preventative fill of an undercut area on
7 this site, and six others. That item was postponed from
8 today's agenda.

9 We still felt that it was appropriate to require
10 the execution of a deed restriction on this site, that would
11 say: if the applicant comes forward for any protection, he
12 will be required to include in the application information
13 concerning alternatives to the proposed protection. Those
14 would include relocation of portions of the residence,
15 removal of accessory structures, underpinning, and other
16 measures.

17 But, it does not absolutely require that the
18 applicant is waiving future protection. It is an
19 informational and an alternatives analysis. And, as I said,
20 I wanted to be clear and on the record what we are
21 recommending.

22 That would conclude our comments.

23 VICE CHAIR WAN: Just a quick comment.

24 I would like you to commend you for putting that
25 in, in this particular case, because the improvements are

1 landward, I would agree you can't require it, but I think
2 starting the process that we have started in this Commission
3 to make these alternatives analyses take place, I think the
4 staff has really done a good job, and I want to commend you
5 on that.

6 And, thank you, Commissioner Tuttle for pointing
7 out the fact that we needed to listen to this, because it is
8 important.

9 COMMISSIONER TUTTLE: It is another piece.

10 VICE CHAIR WAN: It is another piece of the puzzle
11 of what this Commission has been trying to do to make it
12 clear that this state needs to begin to look at how it deals
13 with this issue, and otherwise this state is not going to
14 have any beaches very long.

15 COMMISSIONER ALLEN: I have a similar question,
16 about, though, we have discussed this at length in the last
17 several months, and when we were talking about it in the
18 context of another project -- I believe it was last month --
19 the Commission requested from legal staff some sort of an
20 analysis of the ability to enforce these provisions, and I am
21 wondering at what point will we get some report back on that.

22 EXECUTIVE DIRECTOR DOUGLAS: They are still
23 working on it, and --

24 COMMISSIONER ALLEN: But, it is in process?

25 EXECUTIVE DIRECTOR DOUGLAS: -- I can't -- oh,

1 yes, yes, we just don't have an answer for you yet.

2 COMMISSIONER ALLEN: I mean, it is a critical
3 issue. It is one that this Commission, particularly, has
4 been cognizant of, and I think we really need to explore what
5 our options are, and how far we can go, under the existing
6 laws, and if we can't go as far as we want to go, look at
7 changed legislation.

8 CHAIR AREIAS: Okay, any further discussion?

9 [No Response]

10 Any further discussion?

11 EXECUTIVE DIRECTOR DOUGLAS: I assume that the
12 applicant is in agreement with our conditions, and that there
13 is nobody here to speak on this?

14 VICE CHAIR WAN: Yes, there is.

15 CHAIR AREIAS: There are two speakers, actually,
16 both in favor of the project: Steven Adams, and John Davis.

17 EXECUTIVE DIRECTOR DOUGLAS: And, I believe they
18 are here to answer any questions you may have.

19 CHAIR AREIAS: Well, Steven Adams is here on 8.b.
20 -- yeah, only if there are questions.

21 So, Chris --

22 COMMISSIONER KEHOE: Yes.

23 CHAIR AREIAS: -- do you want to make the motion

24 [MOTION]

25 COMMISSIONER KEHOE: Yes.

1 COMMISSIONER ALLEN: Second.

2 CHAIR AREIAS: Moved by Commissioner Kehoe,
3 seconded by Commissioner Allen, per staff.

4 Any objection to an unanimous roll call?

5 [No Response]

6 Seeing none, so ordered.

7 *

8 *

9 [Whereupon the hearing was concluded.]

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CALCULATION OF MITIGATION FEE
FOR IMPACTS TO SAND SUPPLY
PROPOSED SEA CAVE AND NOTCH INFILL
201- 231 PACIFIC AVENUE
SOLANA BEACH, CALIFORNIA

Basic Equations:

$$M = V_t \times C \quad (1)$$

where,

M = mitigation fee,

V_t = total volume of sand required to replace losses due to the structure, and

C = cost per cubic yard of sand

$$V_t = V_b + V_w + V_e \quad (2)$$

where,

V_b = the amount of beach material that would have been supplied to the beach if natural erosion continued or the long-term reduction in the supply of bluff material to the beach, over the life of the structure; based on the long-term average retreat rate, design life of the structure, percent of beach quality material in the bluff, and bluff geometry (cubic yards)

V_w = the long-term erosion of the beach and nearshore resulting from stabilization of the bluff face and prevention of landward migration of the beach profile; based on the long-term average retreat rate, and beach and near-surface profiles (cubic yards)

V_e = the volume of sand necessary to replace the area of beach lost due to encroachment by the sea cave infill; based on the infill design and beach and nearshore profiles (cubic yards)



EXHIBIT NO. 7
APPLICATION NO. 6-99-103
Proposed Fee
Methodolgy
California Coastal Commission

$$V_b = (R \times L \times W \times h \times S) / 27 \quad (3)$$

where,

R = long-term regional bluff retreat rate (ft/yr),

L = design life of armoring without maintenance (yr),

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,

$$V_w = R \times L \times v \times W \quad (4)$$

where,

R = long-term regional bluff retreat rate (ft/yr),

L = design life of armoring without maintenance (yr),

v = volume of material required, per unit width of beach, to replace or reestablish one foot of beach seaward of the seawall, and

W = width of property to be armored (ft),

$$V_e = E \times W \times v \quad (5)$$

where,

E = average encroachment of infill, measured from back of notch or back beach (ft),

W = width of property to be armored (ft), and

v = volume of material required, per unit width of beach, to replace or reestablish one foot of beach seaward of the infill.

Site-specific values for equation variables:

C = \$13.00 per cubic yard to purchase and deliver sand

R = 0.2 ft/yr

L = 20.0 years

W = 400 feet

S = 0.75

h = 86 feet

v = 0.9 yard³ per foot of width and foot or retreat

E = 5 feet

Utilizing equation (3):

$$V_b = \frac{0.2 \times 20 \times 400 \times 86 \times 0.75}{27}$$

$$V_b = 3822 \text{ yard}^3$$

Utilizing equation (4):

$$V_w = 0.2 \times 20 \times 0.9 \times 400$$

$$V_w = 1440 \text{ yard}^3$$

Utilizing equation (5):

$$V_e = 5 \times 400 \times 0.9$$

$$V_e = 1800 \text{ yard}^3$$

Utilizing equation (2):

$$V_t = 3822 + 1440 + 1800$$

$$V_t = 7062 \text{ yard}^3$$

Utilizing equation (1):

$$M = 7062 \times \$13.00/\text{yd}$$

$$M = \$91,806$$

Sand Mitigation Fee Parameters

W	=	400 ft
E	=	5 ft
v	=	0.9
R	=	0.2 ft/yr
L	=	20 yr
S	=	75%
h	=	86 ft
R_{ca}	=	0.2
R_{ca}	=	0
C	=	\$13/cy