CALIFORNIA COASTAL COMMISSION
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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-00-009

Applicant: Del Mar Beach Club (DMBC) Agent: Walter F. Crampton

Description: Installation of five, 36 inch diameter buried and drilled piers ranging from approximately 28 to 70 ft. deep perpendicular to the beach below an existing 66 unit, 3 story condominium complex. Also proposed is the payment of an in-lieu fee for sand replenishment.

Site: On the public bluff below 825 South Sierra Avenue, Solana Beach, San Diego County. APN's 298-240-33, 34, 35, 36, 39 and 40.

Substantive File Documents: City of Solana Beach General Plan and Zoning Ordinance San Diego County LCP; Special Use Permit #17-99-35; "Geotechnical Investigation and Basis of Design Coastal Bluff Stabilization at Southwest Property Corner Del Mar Beach Club" by Group Delta Consultants, Inc. dated May 19, 2000; "Alternatives Analysis Drilled-Pier Wall Del Mar Beach Club" by Group Delta Consultants, Inc. dated May 19, 2000; City of Del Mar Ordinance 30.50 (Beach Preservation Initiative); CDP Nos. F4051/Del Mar Beach Club; 6-83-509/Del Mar Beach Club; 6-89-281/Del Mar Beach Club.

STAFF NOTES:

Summary of Staff's Preliminary Recommendation:

Staff is recommending approval of the subject development subject to a number of special conditions. The applicants have demonstrated that the existing seawall and mid-bluff retaining wall which protect the blufftop condominium structures are in danger from erosion. The applicants have submitted a detailed alternative analysis including seacave infilling, reconstructed bluff face and a tiedback seawall, and have concluded that the proposed development is the only available alternative at this time to protect the structures. The Commission's staff engineer and geologist have reviewed the applicants' geotechnical assessment and concur with its conclusions.

The subject development has been conditioned to mitigate its impact on coastal resources such as scenic quality, public access and recreation opportunities, and shoreline sand supply. The applicant is also proposing to pay a beach sand mitigation fee to mitigate the direct and long-term impacts on shoreline sand supply.

I. PRELIMINARY STAFF RECOMMENDATION:

MOTION: ***I move that the Commission approve Coastal Development Permit No. 6-00-9 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions.

See attached page.

III. Special Conditions.

The permit is subject to the following 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 pier installation, site, landscape, irrigation and drainage

plans in substantial conformance with the submitted plans dated 9/21/99 by Group Delta Consultants, that include the following measures to mitigate the impacts of the shoreline protection devices and address overall site stability. Said plans shall first be approved by the City of Solana Beach and include the following:

a. All existing permanent irrigation located on the blufftop site shall be removed or capped.

b. All runoff from impervious surfaces on the top of the bluff shall be collected and directed away from the bluff edge towards the street.

c. Existing accessory improvements (i.e., decks, patios, walls, etc.) located in the geologic setback area on the blufftop site shall be detailed and drawn to scale on the final approved site plan and shall include measurements of the distance between the accessory improvements and the bluff edge (as defined by Section 13577 of the California Code of Regulations) taken at 6 or more locations. The locations for these measurements shall be identified through, but not limited to, permanent markers, benchmarks, survey position, and written descriptions (the same as utilized for as-built plans required pursuant to Special Condition #5 below).

d. During construction of the approved development, disturbance to sand and intertidal areas shall be minimized to the maximum extent feasible. All excavated beach sand shall be redeposited on the beach. Local sand, cobbles or shoreline rocks shall not be used for backfill or for any other purpose as construction material.

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

2. Mitigation for Impacts to Sand Supply. 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 $47,567.00 has been deposited in an interest bearing account designated by the Executive Director, in-lieu of providing the total amount of sand to replace the sand and beach area that would be lost due to the impacts of the proposed protective structure. The methodology used to determine the appropriate mitigation fee for the subject site(s) is that described in the staff report dated 2/27/01 prepared for Coastal Development Permit #6-00-9. 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.

3. Monitoring Program. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, a monitoring program prepared by a licensed geologist or geotechnical engineer for the site and piers structures which provides for the following:

a. An annual evaluation of the condition and performance of the pier structures addressing whether any significant weathering or damage has occurred that would adversely impact the future performance of the structures.

b. Annual measurements of any differential retreat between the natural bluff face and the pier structures. 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 May 1 of each year (beginning the first year after construction of the project is completed) for a period of three years and then, each third year following the last the annual report, for the life of the approved pier structure. 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 and the stability of the overall bluff face below and adjacent to the development site and the impact of the pier structures on the bluffs to either side of the wall. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the project including the coloring and texturing of exposed sections of the pier structure.

d. An agreement that the permittees shall apply for a coastal development permit within three months of submission of the report required in subsection c. above (i.e., by August 1st) for any necessary maintenance, repair, changes or modifications, including the coloring and texturing of exposed sections of the piers, 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 monitoring program shall be reported to the Executive Director. No changes to the monitoring plan shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

4. 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 within Fletcher Cove public parking spaces. 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 seawall. 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.

5. Storm Design/As-Built Plans. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit certification by a registered civil engineer that the proposed shoreline protective devices are designed to withstand storms comparable to the winter storms of 1982-83.

Within 60 days following completion of the project, the permittee shall submit as-built plans of the approved pier structures which include measurements of the distance between the condominium structure, its accessory structures, and the bluff edge (as defined by Section 13577 of the California Code of Regulations) taken at 6 or more locations. The locations for these measurements shall be indentified through, but not limited to, permanent markers, benchmarks, survey position, and written descriptions, to allow annual measurements to be taken at the same bluff location and comparisons between years to provide information on bluff retreat.

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 seawall and soil nails have been constructed in conformance with the approved plans for the project.

6. 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.

7. Future Maintenance/Debris Removal. Within 15 days of completion of construction of the protective devices the permittees shall remove all debris deposited on the bluff, beach or in the water as a result of construction of shoreline protective devices. The permittees shall also be responsible for the removal of debris resulting from failure or damage of the shoreline protective devices in the future. In addition, the permittee shall maintain the permitted pier structure in its approved state. Any change in the design of the project or future coloring and texturing of exposed portions of the pier structure, beyond exempt maintenance as defined in Section 13252 of the California Code of Regulations to restore the structure 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, the permittee shall contact the Commission office to determine whether permits are necessary, and, if necessary, shall subsequently apply for a coastal development permit for the required maintenance.**

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

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. Proposed is the installation of five, 36-inch diameter equally spaced, below-grade drilled piers into the face of a coastal bluff perpendicular to the beach. The piers will range from approximately 28 to 70 ft. deep extending approximately 35 feet along the southern property line into an approximately 70 ft-high bluff below an existing 66 unit, 3 story condominium complex on an approximately 3.88 acre site. To address the potential adverse impact to sand supply, the applicant also proposes the payment of an in-lieu fee for the future purchase of sand.

The bluffs below and north of the existing condominium complex currently contain a series of shoreline and bluff stabilization devices including an approximately 540 foot-long, 15 foot-high vertical seawall, an approximately 40 foot-long, 10 foot-high mid-bluff retaining wall, cribwalls, landscaping and gunnite over portions of the upper bluff. The proposed project will essentially represent an eastern extension of the existing seawall's southern return wall. In addition, the southwest corner of the existing structure on both its west and south sides has been underpinned with twenty-nine, 18 inch concrete drilled piers that extend into the blufftop approximately 23 to 31 feet deep. A private beach access stairway is also located on the bluff face approximately 100 yards south of the proposed development site. The bluffs to the south of the subject site lie within the City of Del Mar and remain natural without shoreline protective devices. The bluff at this location is owned by the applicant with a lateral open space and access easement extending over the beach seaward of the existing seawall.

The project site is located in the City of Solana Beach which was previously within the jurisdiction covered by the certified County of San Diego Local Coastal Program (LCP). Because of the incorporation by the City, the certified County LCP no longer is applicable and the standard of review is the Chapter 3 Policies of the Coastal Act with the County LCP used as guidance.

2. Permit History. The subject condominium complex was constructed in the early 1970's prior the enactment of the Coastal Act. As previously described, the bluffs fronting the condominiums contain several shoreline protective devices many of which were constructed following enactment of the Coastal Act and have received Coastal Commission approval. In 1980, the Commission approved the construction of an approximately 540 foot-long, 15 foot-high concrete seawall at the base of the bluff below the condominiums (CDP #F4051/Del Mar Beach Club). In 1984, the Commission approved the installation of deeper foundation footings and backfill for the seawall which had become undermined by the loss of sand (CDP #6-83-509/Del Mar Beach Club). In 1989, the Commission approved the construction of an approximately 40 foot-long, 15 foot-high mid-bluff retaining wall and installation of twenty-nine, 18 inch drilled piers to underpin the southwest corner of the condominium structure (6-89-281/Del Mar Beach Club). In each of the above cited permits, the Commission determined that the existing condominium complex was threatened and that the proposed structures were necessary to

protect the existing condominiums. Special conditions for the earlier Commission actions included provisions for a lateral access easement over portions of the property which lie seaward of the seawall, coloring the seawall and retaining walls consistent with the natural appearance of the bluff, landscaping of the bluff with drought tolerant and native coastal plants, maintenance of structures and removal of all permanent irrigation devices from 40 feet landward of the bluff's edge.

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:
>
> (l) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
>
> (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs...

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

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

they are expendable and capable of being removed rather than requiring a protective device that alters natural landforms along bluffs and cliffs.

The proposed project involves the installation of five, 36-inch diameter below-grade drilled piers that will be placed in the face of the bluff along the southern property line of the subject site in order to protect the existing seawall and the existing condominiums from the threat of erosion. The plans submitted for the proposal identifies that the existing condominium structure is located approximately 10 feet from the edge of the bluff. The pier structure is proposed to commence at the east end of the lower seawall's southern return wall and extend 35 feet up the bluff, perpendicular to the beach, up to the existing concrete caissons at the top of the bluff beneath the condominiums. Once completed, the condominium complex will be protected by the existing approximately 540 foot-long seawall along its seaward side and a southern wall that consists of the existing seawall's return wall, the proposed 35 foot-long pier structure and the existing caisson underpinnings at the top of the bluff.

The applicant has submitted a detailed geotechnical report which identifies that the existing seawall and the southwest corner of the blufftop condominium are threatened by erosion which flanks the existing south side of the seawall ("Geotechnical Investigation and Basis of Design Coastal Bluff Stabilization at Southwest Property Corner Del Mar Beach Club" by Group Delta Consultants, Inc. dated May 19, 2000).

The geotechnical report identifies the bluff immediately south of and adjacent to the proposed project is nearly vertical and extends approximately 70 feet in height. Its formation consists of an underlying layer of Torrey Sandstone and an upper layer of Marine Terrace Deposits. The beach immediately south of the subject property is described as a cove with a bluff that is eroding at a faster rate than is typical for the Solana Beach shoreline. The geotechnical report documents that this southern bluff retreated approximately 10 feet between 1977 and 1988, and since 1988, has retreated an additional 8 feet. From this information the report concludes that the erosion rate is approximately 0.8 feet per year and twice as high as other areas along the Solana Beach shoreline. The report attributes the accelerated erosion rate to the northeast trending faults that lie within the bluff at this location which have weakened the Torrey Sandstone and resulted in the formation of three seacaves.

The geotechnical report identifies that the south end of the existing lower seawall and the mid-bluff retaining wall located on the south side of the property are currently threatened due to the growth of a seacave that has formed (on the adjacent property to the south) along a northeast trending fault which extends onto the subject property. The report asserts that once the erosion generated by the growth of the seacave reaches the area behind the south end of the seawall, the wall will be undermined resulting in the loss of backfill and the subsequent failure of the mid-bluff wall that is supported by the seawall and its backfill. Although the report asserts that the seawall and mid-bluff are in immediate danger, the report notes that the southwest corner of the condominium complex will not be immediately threatened since it has the temporary support of pier/caissons that underpin the corner of the structure. However, the Commission has

previously determined in approving the existing seawall, mid-bluff retaining wall and pier underpinning of the condominium that the existing structures are required to protect the condominium complex which otherwise would be threatened by erosion. Therefore, if the seawall and mid-bluff retaining wall are allowed to fail, the blufftop condominium complex will again be threatened by erosion which, potentially, could require much more substantial shoreline protection than currently exists.

While the existing structure at the top of the bluff is not immediately threatened, the report describes that the existing bluff face below the southwest corner of the structure is nearly vertical and that with the continued rapid retreat of the bluff, the caissons beneath the condominium structure will become exposed in a relatively short period. Exhibit 4 has been prepared by the applicant to demonstrate the likely visual affect the exposure of the existing caisson underpinnings would have. The subject proposal therefore has the two-fold effect of preventing the failure of the lower seawall and the eventual exposure of the caissons that underpin the condominium structure. The applicant's engineer has identified that the first three piers east of the seawall will serve primarily to protect the flanking of the seawall structure. The engineer asserts that if only the first three piers are permitted, the bluff will continue to recede at a rapid rate toward the condominium complex and soon will expose the upper caissons. With the placement of two additional piers, their high profile exposure will be inhibited for the foreseeable future.

Alternatives

Although it has been documented that the lower seawall and mid-bluff retaining wall are threatened by erosion, there are a variety of ways in which the threat can be addressed. Under the policies of the Coastal Act, the project must be the least-environmentally damaging feasible alternative.

The applicant has submitted an analysis by a geotechnical engineer identifying several alternatives to the proposed development. These include: the fill of the seacaves, reconstruction of the bluff and construction of a tiedback seawall. Each of these alternatives would need to be installed on or below the bluffs south of the subject property line. In addition, the analysis has identified that these would be preferable solutions over that which is proposed since they would result in preserving the rapidly eroding bluff and could be designed to appear more natural than the proposed piered wall structure. However, these preferred alternatives have proven to be infeasible since the structures would need be constructed within the City of Del Mar which prohibits the construction of shoreline devices in the area proposed.

As previously described, the subject site is located within the City of Solana Beach and its southern lot line borders the City of Del Mar. The primary source of the erosion threat to the lower seawall and mid-bluff retaining wall comes from the eroding bluffs and seacaves within the City of Del Mar that extend northeasterly into the City of Solana Beach beneath the subject site. The applicants have previously approached the City of Del Mar with a proposal to fill the seacaves with an erodible mix and to recontour a section of the bluff. However, the City notified the applicant that the City of Del Mar's

zoning code prohibits the construction of shoreline protection devices more than five feet west of the "Shore Protection Area" (SPA) line.

In 1988, the residences of Del Mar approved "Measure D" a beach preservation initiative that required the abatement of existing non-conforming shoreline protection devices within the City and a prohibition on the construction of new shoreline protection devices more than 5 feet west of a delineated SPA line. The SPA line adjacent to the subject development is approximately 70 to 80 feet east of the beach at this location. This is because the top edge of the bluff on the southern lot has been determined to be much further inland than in Solana Beach. Because of this bluff edge determination, the City of Del Mar's SPA line, which determines the appropriate citing of shoreline protection devices, is located too far inland to accommodate the applicant's request for shoreline protection. Because the applicant cannot construct their preferred solution to protect the existing seawall, mid-bluff retaining wall and the southwest corner of the condominium complex, they have no other option than the proposed pier structure.

In summary, the existing seawall and mid-bluff retaining wall which protects the existing condominium complex are threatened by the rapid erosion of the bluff to south which is eroding in a northeasterly direction toward the seawall and retaining wall. In addition, seacaves have formed within the bluff to the south and currently extend along fault lines directly under the seawall, mid-bluff wall and southwest corner of the condominium complex further threatening the structures. Given these threats, substantial evidence has been provided to document that seawall and mid-bluff retaining wall are in danger from erosion. If these structures fail, support for the upper bluff will be eliminated resulting in a threat to the existing caissons that underpin the condominium complex at the top of the bluff which will lead to a threat to the condominiums. In addition, an alternatives analysis has been presented by the applicant which demonstrates that the proposed solution is the least environmentally damaging feasible alternative. Therefore, the Commission is required to approve a shoreline altering device to protect the existing structures, pursuant to Section 30235 of the Coastal Act.

Sand Supply/In Lieu Mitigation Fee

Although construction of the subject shoreline device is necessary to protect the existing seawall and mid-bluff retaining device and, thereby, the existing principle structures on the site, Section 30235 of the Coastal Act requires that the shoreline protection be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The applicant's engineer has indicated that the proposed pier installations will serve to extend the life of the southern 158 feet of the existing seawall an additional 30 years. The existing seawall is approximately 540 feet long, however a well fortified private access stairway intersects the seawall approximately 158 feet north of its southern end. Therefore, the applicant's engineer has determined that the installation of the pier structure will essentially serve to protect and extend the life of this southern 158 foot-long section since the access stairway essentially serves as a (mid-seawall) return wall. As such, the continued service of this section of the seawall will have a number of adverse impacts to public resources associated with its continued use. The natural

shoreline processes referenced in Section 30235, such as the formation and retention of sandy beaches, can be significantly altered by continued use 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 and maintained 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. The loss of beach material that will be a direct result of this project can be balanced or mitigated by obtaining similar quality and quantity of sediment from outside the littoral cell and adding this sediment to the littoral cell. There are sources of beach quality sediment that can be drawn upon to obtain new sediment for the littoral cell. Unfortunately there is not a source of extra beach land that can be used to add new land area to the littoral cell. Beach nourishment is a method that allows us to shift the shore profile seaward and create a new area of dry beach. This will not create new coastal land, but will provide many of the same benefits that will be lost when the beach area is covered by a seawall or "lost" through passive erosion when the back bluff location is fixed.

It is possible to estimate the volume of sand needed to create a given area of dry beach through beach nourishment. The proposed project will result in a loss of 1,185 sq. ft. of beach due to the long-term (approximately 30 years) physical encroachment of the seawall and infill (based on a 158-foot length and 7.5 foot width). In addition, there will be 948 sq.ft. of beach area that will no longer be formed because the back of the beach will be fixed. This 2,133 sq.ft. of beach area [1,185 + 948] cannot be directly replaced by land, but a comparable area can be built through the one-time placement of 1,920 cubic yards of sand on the beach seaward of the seawall as beach nourishment. Thus, the impact of the seawall on beach area can be quantified as 1,920 cubic yards of sand. This

estimate is only a "rough approximation" of the impact of the seawall on beach area because a one-time placement of this *volume* of sand cannot result in creation of beach *area* over the long term.

In addition to the impact on beach area, there is the amount of beach material that would have been added to the beach if natural erosion had been allowed to continue at the site, which can be calculated at a volume of 1,738 cubic yards. This 1,738 cubic yards of sand that would have been added to the littoral cell, plus the 1,920 cubic yards of sand associated with the impact to beach area, totals 3,658 cubic yards of sand that are needed to balance the quantifiable impacts from the entire project. Given these adverse impacts, the applicant has proposed to pay an in-lieu fee as mitigation. Special Condition #2 memorializes the applicant's proposal and requires the applicant to deposit an in-lieu fee to fund beach sand replenishment of 3,658 cubic yards of sand, as mitigation for impacts of the proposed shoreline protective device on beach sand supply and shoreline processes.

In the case of the proposed project, the fee calculates to be $47,554.00 based on 3,658 cubic yards of sand multiplied by the cost of obtaining (and placing on the beach) one cubic yard of sand, as proposed by the applicants' engineer at $13 per cubic yard.

The following is the methodology used to develop the in-lieu fee amount. The methodology uses site-specific information provided by the applicant as well as estimates, derived from region-specific criteria, of both the loss of beach material and beach area which could occur over the life the structure, and of the cost to purchase an equivalent amount of beach quality material and to deliver this material to beaches in the project vicinity.

The following is a description of the methodology. The actual calculations which utilize values that are applicable to the subject sites, and were used as the basis for calculating the estimated range of the mitigation fee, is attached as Exhibit 5.

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

$\mathbf{M = V_t \times C}$

where

M = Mitigation Fee

$\mathbf{V_t}$ = Total volume of sand required to replace losses due to the structure, through reduction in material from the bluff, reduction in nearshore area and loss of available beach area (cubic yards). Derived from calculations provided below.

C = Cost, per cubic yard of sand, of purchasing and transporting beach quality material to the project vicinity ($ per cubic yard). Derived from the average

of three written estimates from sand supply companies within the project vicinity that would be capable of transporting beach quality material to the subject beach, and placing it on the beach or in the near shore area.

$$V_t = V_b + V_w + V_e$$

where

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

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

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

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

where

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

L = Design life of armoring without maintenance (yr.) If maintenance is proposed and extends the life of the seawall beyond the initial

estimated design life, a revised fee shall be determined through the coastal development permit process.

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

h = Total height of armored bluff (ft.)

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

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

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

R_{cu} = Predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming no seawall were installed (ft/yr). This value can be assumed to be the same as R unless the applicant provides site-specific geotechnical information supporting a different value.

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

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

$\mathbf{V_W = R \times L \times v \times W}$

where

R = Long-term regional bluff retreat rate (ft./yr.), based on historic erosion, erosion trends, aerial

photographs, land surveys, or other accepted techniques. For the Encinitas area, this regional retreat has been estimated to be 0.2 ft./year. This value may be used without further documentation. Alternative retreat rates must be documented by the applicant and should be the same as the predicted retreat rate used to estimate the need for shoreline armoring.

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

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

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

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

where

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

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

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

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

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

The above-described impacts on the beach and sand supply have previously been found to result from seawalls in other areas of North County. In March of 1993, the Commission approved CDP #6-93-85/Auerbach, et al for the construction of a seawall fronting six non-continuous properties located in the City of Encinitas north of the subject site. In its finding for approval, the Commission found the proposed shoreline protection would have specific adverse impacts on the beach and sand supply and required mitigation for such impacts as a condition of approval. The Commission made a similar finding for several other seawall developments within San Diego County including an August 12, 1999 approval (ref CDP No. 6-99-100/Presnell, et. al) for the approximately 352-foot-long seawall project located two lots south of the subject development. (ref. CDP Nos. 6-93-36-G/Clayton, 6-93-131/Richards, et al, 6-93-136/Favero, 6-95-66/Hann, 6-98-39/Denver/Canter and 6-99-41/Bradley).

If the seawall or the proposed piered wall were damaged in the future (e.g. as a result of wave action, storms, etc.) it could threaten the stability of the site, which could lead to requests for more bluff alteration. Damage to the seawall or proposed pier structures could adversely affect the beach by resulting in debris on the beach and/or creating a hazard to the public using the beach. Therefore, in order to find the proposed pier structure consistent with the Coastal Act, the Commission finds that protective pier structure in its approved state must be maintained for the estimated life of the structure. Further, in order to ensure that the permittee and the Commission know when repairs or maintenance are required, the permittee must monitor the condition of the proposed pier structure annually, for three years and at three year intervals after that, unless a major storm event occurs. The monitoring will ensure that the permittee and the Commission are aware of any damage to or weathering of the pier structures and can determine whether repairs or other actions are necessary to maintain the piers in its approved state.

Therefore, Special Condition #3 requires the applicant to submit a monitoring report which evaluates the condition and performance of the pier structure and overall site stability, and submit an annual report with recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. These modifications would include the color and texturing of the portions of the pier structure which may become exposed over time.

Special Condition #1 requires the applicants to submit final plans for the project that demonstrate that all runoff on the top of the bluff is collected and directed away from the bluff, that all permanent irrigation on the blufftop be removed or capped and that disturbance to the sand and intertidal areas be minimized. The final plans requirement is designed to ensure that overall site conditions which could adversely impact the stability of the bluff have been addressed.

To assure the proposed shore/bluff protection has been constructed in compliance with the approved plans, Special Condition #5 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 piered structure has been constructed in accordance with the approved plans.

There may also be other local, state or federal agencies having jurisdiction over this project. Conditions of approval and/or mitigation measures may be required from these agencies. As such, Special Condition #8 has been imposed. This condition requires the applicant to submit copies of any discretionary permits obtained from other local, state or federal entities before the commencement of the proposed repairs. Should any project modifications be required as a result of any of these permits, the applicant is further advised that an amendment to this permit may be necessary to incorporate such mitigation measures into the project. This condition ensures that if other required permits are not obtained, the project will not be initiated until necessary amendments, if any, to this permit are obtained. In addition, to ensure consistency with local approvals, Special Condition #1 requires the applicant to submit to the Executive Director for review and written approval final repair plans that have been approved by the City of Solana Beach.

Also, due to the inherent risk of shoreline development, Special Condition #6 requires the applicant to waive liability and indemnify the Commission against damages that might result from the proposed shoreline devices or their construction. The risks of the proposed development include that the proposed shoreline devices will not protect against damage to the residences from bluff failure and erosion. In addition, the structures themselves may cause damage either to the applicants' residences or to neighboring properties by increasing erosion of the bluffs. Such damage may also result from wave action that damages the proposed structures. Although the Commission has sought to minimize these risks, the risks cannot be eliminated entirely. Given that the applicants have chosen to construct the proposed shoreline devices despite these risks, the applicants must assume the risks. Accordingly, Special Condition #6 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. Only as conditioned can the proposed project be found consistent with Sections 30235 and 30253 of the Coastal Act.

Special Condition #7 notifies the applicants that they are responsible for maintenance of the herein-approved shore and bluff protection to include removal of debris deposited on the beach during and after construction of the structures. The condition also indicates that, should it be determined that maintenance of the proposed structures are required in the future, including the application of color and texture to the any exposed section of the pier structure, the applicant shall contact the Commission office to determine if permits are required.

In summary, the applicants have documented that the existing seawall and mid-bluff retaining wall which protect the existing condominium complex at the top of the bluff are in danger from erosion. In addition, the applicants have submitted an alternatives analysis which documents that the proposed development is the least environmentally damaging feasible alternative. Thus, the Commission is required to approve the proposed protection for the seawall and mid-bluff wall which protects the existing condominium complex. Since the proposed piered wall structure may contribute to erosion and

geologic instability over time on adjacent unprotected property and also deplete sand supply, the applicant has proposed to pay an in-lieu mitigation fee to offset this impact. Therefore, as conditioned, the Commission finds that the proposed seawall is consistent with Sections 30235, and 30253 of the Coastal Act.

4. Visual Resources/Alteration of Natural Landforms. Section 30251 of the Coastal Act states, in part:

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

As previously described, the proposed development involves the below-grade installation of five, 36-inch diameter piers that will extend approximately 35 feet in a east/west direction perpendicular to an approximately 70 foot-high privately owned bluff. The bluff north of the subject installation site consists of an approximately 540 foot-long, 15 foot-high vertical seawall, an approximately 40 foot-long, 10 foot-high mid-bluff retaining wall, a series of cribwalls, gunnite sprayed over portions of the upper bluff and landscaping. The bluffs immediately south of the pier installation site remain in their natural, unarmored condition. Because the proposed development is designed to be below-grade, its visual impact to the surrounding environment will not be immediately noticeable. However, according to the geotechnical report, the bluffs south of the proposed east/west pier structures will continue to erode in the direction of the proposed piers such that eventually portions of the below-grade piers will be exposed. The applicants have proposed that as the piers become exposed that their appearance be mitigated by the construction of structural covering that will connect the exposed piers and which, along with the piers, can be colored and textured to match the surrounding natural bluff. Because the extent, location and type of necessary treatment will not be known until the pier structures area exposed, the subject permit action does not authorize the proposed treatment of the structures at this time.

Special Condition #3 requires the applicant to submit a monitoring report which evaluates the condition and performance of the pier structure and overall site stability, and submit an annual report with recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. These modifications must include the color and texturing of the portions of the pier structure as they become exposed over time. In addition, the condition requires the applicant to submit an application for any necessary maintenance or repairs to the exposed portions of the pier structure within three months following the submission of a monitoring report which identifies exposure of the pier structure. In this way, the Commission can be assured that once the pier structure becomes exposed it will be treated in a way that will reduce its visibility such that it will blend with the natural bluffs in the area to the maximum extent feasible.

The proposed development is necessary to protect and maintain an existing seawall for approximately 30 additional years and to inhibit the visual exposure of pier/caissons that underpin the southwest corner of the condominium complex at the top of the bluff. The applicant has demonstrated that the seawall and mid-bluff wall are currently in danger from erosion. Th applicant has also indicated that the existing condominium is not in danger at this time, however, if the seawall fails, the caisson underpinnings of the structure will become exposed and eventually fail which would endanger the condominium complex. Because the primary structure is not threatened at this time, the Commission is not required to approve the installation of piers which only serve to protect and inhibit the exposure of the caissons that underpin the primary structure. The applicant has indicated that the two most eastern of the proposed five piers are designed to prevent erosion from undermining that portion of the condominium structure. Although the Commission is not required to approve these two additional piers, allowing them to be installed at this time may result in less adverse impacts to the visual resources of the shoreline over the long term. The applicant has indicated that the twenty-nine, 18-inch pier/caissons that underpin the southwest corner of the condominium complex were only designed to be a temporary measure to protect the structure should erosion threaten it in the future. The applicant's engineer has indicated that it appears they were not designed to be masked or colorized once exposed. Therefore, if erosion is allowed to continue unabated, these caissons will become exposed and create a visual blight. In contrast, if the subject request is approved, the potential for exposure of the upper caissons will be reduced. In addition, the applicant proposes to color and texture the five subject pier structures to match as closely as possible the natural surrounding bluffs should they ever become exposed. Although textured to match, their eventual exposure and treatment will result in an east/west directed wall on the face of the bluff which is not likely to appear very natural. Therefore, the Commission must determine whether, on balance, the proposed development involving 5 piers will have less adverse impacts to the visual resources of the shoreline than allowing the erosion to continue and, thus expose the 29 caissons at the top of the bluff which underpin the southwest corner of the condominium complex. In this case, the Commission finds the proposed five piers that are proposed to be colored and textured once exposed, will have less adverse impacts to the visual resources of the area than the exposure of the pier/caisson underpinnings of the condominium complex.

Therefore, as conditioned, the Commission finds that potential visual impacts associated with the proposed development have been reduced to the maximum extent feasible and the proposed development will include measures to prevent impacts that would significantly degrade the adjacent park and recreation area (public beach). Thus, the project can be found consistent with Sections 30240(b) and 30251 of the Coastal Act.

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

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

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

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

Additionally, Section 30220 of the Coastal Act provides:

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

The project site is located on a private bluff adjacent to a public beach utilized by local residents and visitors for a variety of recreational activities. The site is located at the south end of Solana Beach near the jurisdictional divide of Solana Beach and the City of Del Mar. Although the project will be constructed on privately owned bluffs, it will have several adverse impacts on public access since the primary result of the project will be extension of approximately 30 years to the life of an existing seawall structure.

The existing seawall is approximately 540 feet-long and extends approximately 7.5 feet seaward of the toe of the bluff. The beach along this area of the coast is narrow and at high tides and winter beach profiles, the public may be forced to walk virtually at the toe of the bluff or the area could be impassable. As such, an encroachment of any amount, including 7.5 feet for a length of 540 feet onto the sandy beach, reduces the beach area available for public use and is therefore a significant adverse impact. This is particularly true given the existing beach profiles and relatively narrow beach.

In addition to the above described direct interference with public access by the proposed continue use of the seawall, there are a number of indirect effects as well. Shoreline processes, and supply and beach erosion rates are affected by shoreline structures as described in Section 3 of this report, and thus alter public access and recreational opportunities.

It is generally accepted that the dividing line between public tidelands and private upland to tidal boundary in California is the mean high water datum (MHW). From an engineering point of view, a water boundary determined by tidal definition is not a fixed mark on the ground, such as a roadway or a fence; rather, it represents a condition at the

water's edge during a particular instant of tidal cycle. The line where that datum intersects the shoreline will vary seasonally. Reference points such as Mean Sea Level and Mean High Water Datum, are calculated and reflect the average height of the tide levels over a period of time.

Development along the shoreline which may burden public access in several respects has been approved by the Commission. However, mitigation for any adverse impacts of the development on access and public resources is always required. The Commission's permit history reflects the experience that development can physically impede public access directly, through construction adjacent to the mean high tide line in areas of narrow beaches, or through the placement or construction of protective devices seawalls, riprap, and revetments. Since physical impediments adversely impact public access and create private benefit for the property owners, the Commission has found in such cases (in permit findings of #4-87-161 [Pierce Family Trust and Morgan], #6-87-371 [Van Buskirk], #5-87-576 [Miser and Cooper]) that a public benefit must arise through mitigation conditions in order that the development will be consistent with the access policies of the Coastal Act, as stated in Sections 30210, 30211, and 30212.

The development proposed in this application is the construction of five, 36-inch piers to be installed perpendicular to the bluff face within a privately owned bluff. Its purpose is to protect and extend the useful life of a vertical seawall for an additional 30 years. Although the existing seawall adheres closely to the contour of the natural bluff, the seawall will continue to reduce lateral beach access by encroaching onto the beach and will have adverse impacts on the natural shoreline processes.

As stated elsewhere in these findings, Section 30235 of the Act allows for the use of such a device where it is required to protect existing development and where it has been designed to mitigate adverse impacts upon shoreline sand supply. In its approval of the lower 540 foot-long seawall, the Commission required the dedication of a lateral access easement along the beach seaward of the seawall (CDP #4051/DMBC). However, in this case, the applicant has proposed to provide mitigation for adverse impacts on beach and sand area resulting from continued placement of the proposed seawall, which will serve to mitigate the impact of the loss of beach access. The mitigation will be an in-lieu fee which will be utilized for beach replenishment projects within the same littoral cell.

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

In addition, the use of the beach or public parking areas for staging of construction materials and equipment can also impact the public's ability to gain access to the beach.

While the applicant has not submitted a construction staging and material storage plan for the subject development, the closest beach to the site within the City of Solana Beach would occur via Fletcher Cove which is located approximately 1 mile north of the subject site. In addition, since the Conditional Use Permit approved for this project by the City of Solana Beach (#17-99-35 CUP) allows for access via Fletcher Cove, it will likely be used for construction access.

In other developments for shoreline protection along the Solana Beach shoreline, the Commission has authorized the temporary placement of steel-tracked construction equipment (which cannot traverse asphalt streets) upland of the Fletcher Cove access ramp, in an area which is not currently used for parking. In addition, the Commission has previously authorized the use of parking spaces in an existing City-owned parking lot across the street from Fletcher Cove known as the "Distillery Lot" (for its previous use) for staging and storage of equipment during construction. The applicant is proposing to utilize this space for construction staging. 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.

Special Condition #4 prohibits the applicants from storing vehicles on the beach overnight, using any public parking spaces within Fletcher Cove 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. In addition because the proposed project will extend the life of the existing seawall for an additional approximately 30 years, its impact is mitigated by an existing lateral public access easement seaward of the seawall and the proposed payment of an in-lieu fee for sand replenishment. 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.

5. 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 all 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 City of Solana Beach LCP should also address these items in the context of a comprehensive approach to management of shoreline resources. As shoreline erosion along the coast rarely affects just one individual property, it is imperative that a regional wide solution to the shoreline erosion problem be addressed and solutions developed to protect the beaches. Combined with the decrease of sandy supply from coastal rivers and creeks and armoring of the coast, beaches will continue to erode without being replenished. This will, in turn, decrease the public's ability to access and recreate on the shoreline.

In the case of the proposed project, site specific geotechnical evidence has been submitted indicating that the existing seawall and mid-bluff retaining walls below the condominium complex are in danger and their loss would threaten the condominiums. The Commission feels strongly that approval of the proposed project should not send a signal that there is no need to address a range of alternatives to armoring for existing development. 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. Although the erosion potential on the subject site is such that action must be taken promptly, decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of such a decision on the entire City shoreline.

The project site is designated for 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. Based on the above findings, the proposed seawall development has been

found to be consistent with the Chapter 3 policies of the Coastal Act in that the need for the pier structure has been documented and its adverse impacts on beach sand supply and its visual appearance will be mitigated.

Therefore, the Commission finds the proposed 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

6. 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 payment of an in-lieu fee for impacts to sand supply and construction techniques consistent with the geotechnical report, 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. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

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

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

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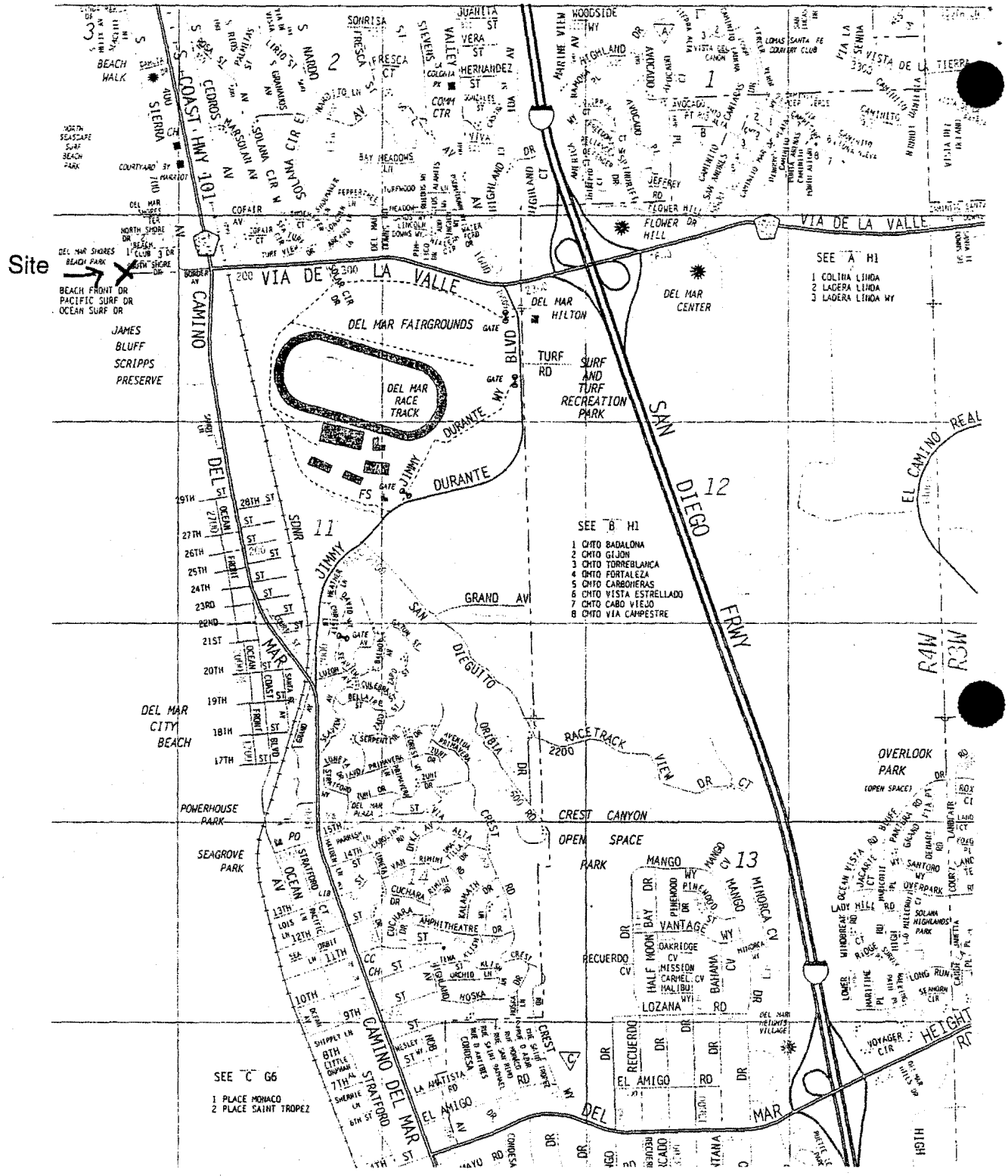


EXHIBIT NO. 1

APPLICATION NO.

6-00-009

Location Map

California Coastal Commission

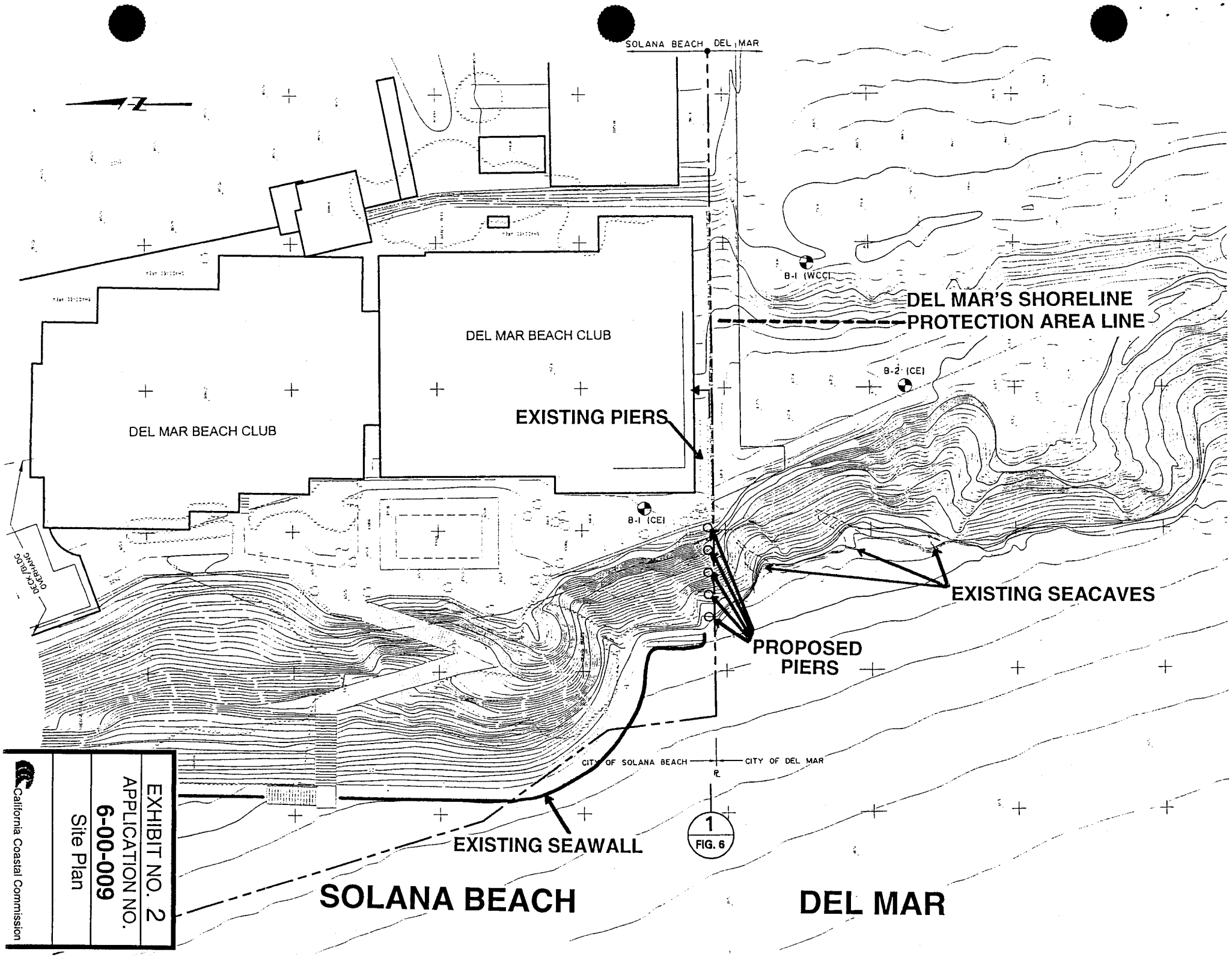
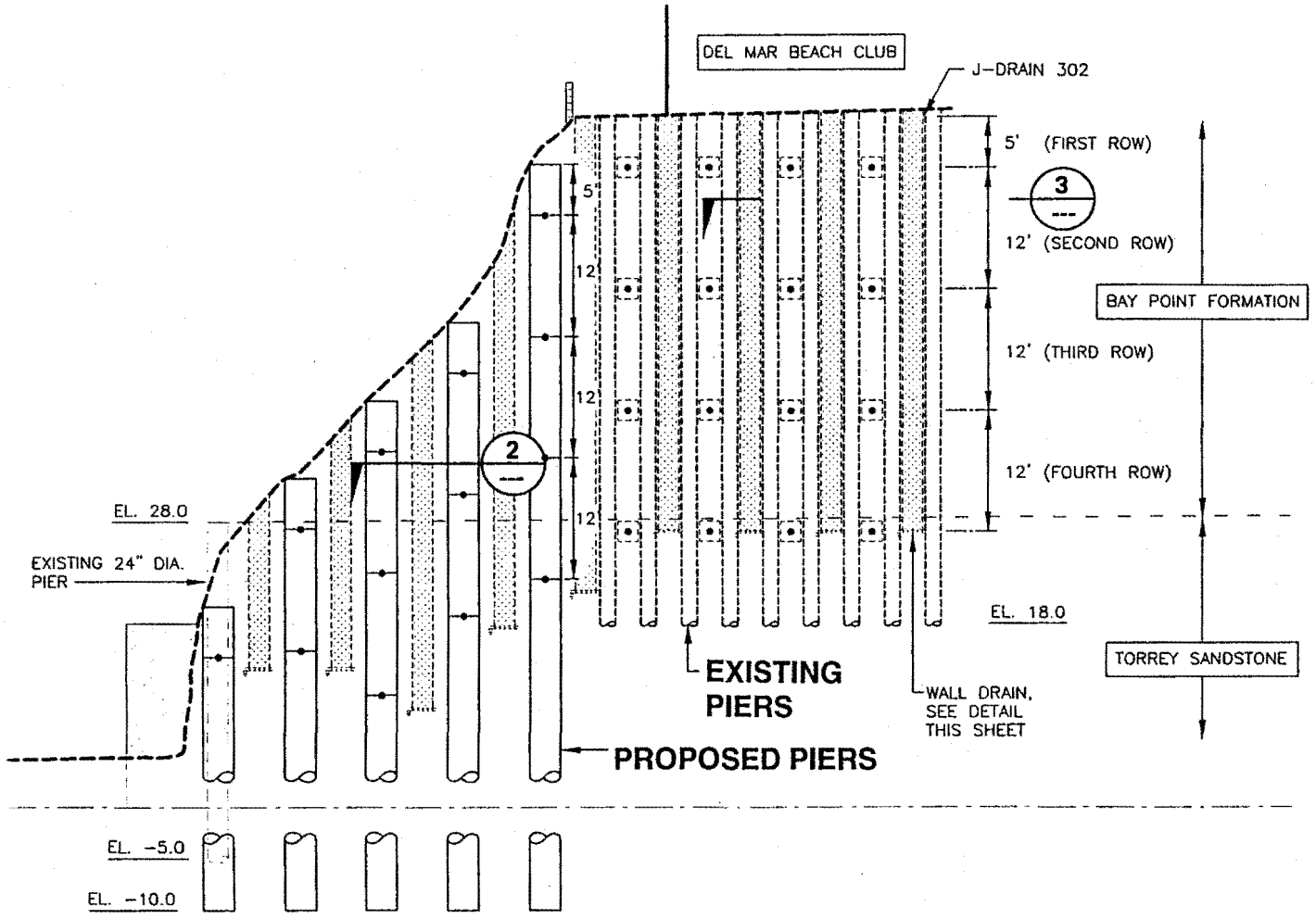


EXHIBIT NO. 2
APPLICATION NO.
6-00-009
Site Plan

California Coastal Commission

PLAN VIEW 3
NO SCALE



PIER PROFILE & LAYOUT 1

SCALE: 1"=10' (HORIZ.:VERT.)

WALL DRAINAGE NOTES

PROVISIONS FOR WALL DRAINAGE WILL CONSIST OF 2-FOOT WIDE GEOCOMPOSITE DRAINBOARDS, CENTERED BETWEEN ADJACENT ANCHORS. J-DRAIN 302 SHALL BE USED FOR ALL VERTICAL CHIMNEY DRAINS. CHIMNEY DRAINS WILL THEN BE MANIFOLDED AND EXTENDED THROUGH THE BASE OF EACH SECTION OF STRUCTURAL SHOTCRETE INFILL. AS NEW INFILLS ARE PLACED, CHIMNEY DRAIN EXTENSIONS SHALL BE ATTACHED TO THE OVERLYING IN-PLACE CHIMNEY DRAIN, WITH A NEW MANIFOLDED OUTLET INSTALLED AT THE BOTTOM OF THE NEW INFILL SECTION.

NOTES FOR PROPOSED PIER TIEBACK WALL

THE INITIAL APPEARANCE OF THE PROPOSED DRILLED-PIER WALL WILL BE MINIMAL, AS THE PIERS WILL BE ENTIRELY BURIED. THERE WILL BE NO INITIAL VISUAL EXPOSURE IN THE SEA CLIFF. AS EROSION CONTINUES, THE UPPER PARTS OF THE PIERS WILL BECOME EXPOSED. AS THEY ARE EXPOSED, A STRUCTURAL INFILL WILL BE APPLIED BETWEEN THE PIERS AND OVER THE ENTIRE SURFACE TO PROVIDE AN APPEARANCE CLOSELY MATCHING THAT OF THE EXISTING NATURAL BLUFF. THE PIERS WILL ALSO BE TIED BACK BY SOIL ANCHORS AS EROSION CONTINUES AND MORE OF THE PIERS BECOME EXPOSED. THE DRILLED-PIER WALL WILL BE DESIGNED TO BE A FREE-STANDING WALL SO THAT LONG-TERM DEEPENING OF THE COVE WILL NOT DESTABILIZE THE DMBC PROPERTY.

FIGURE 5

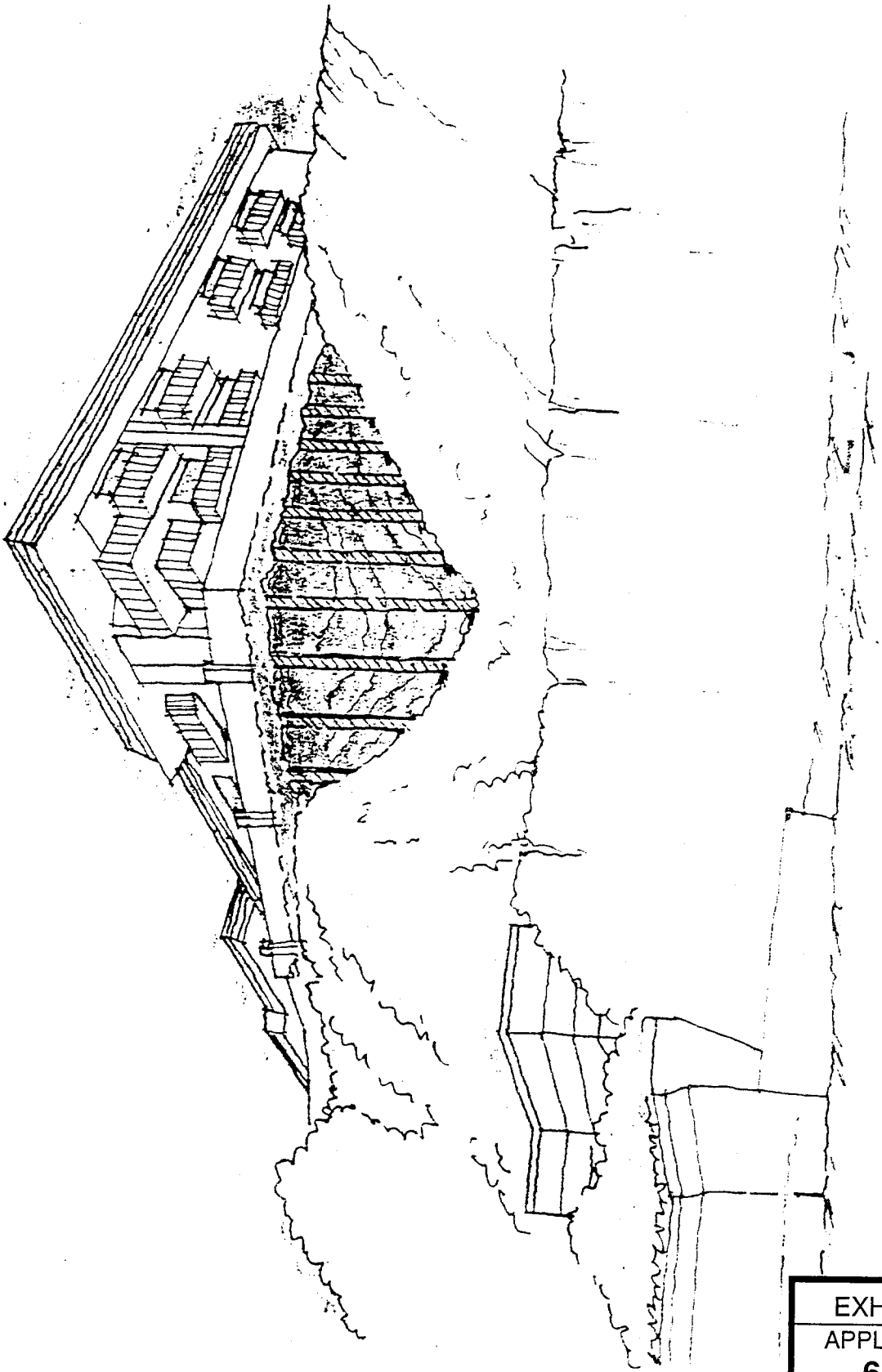


EXHIBIT NO. 4
APPLICATION NO.
6-00-009
Applicant's Depiction of Visual Effect Resulting From Not Approving Project

Del Mar Beach Club
Project No. 1783

February 27, 2001

CALCULATION OF MITIGATION FEE
FOR IMPACTS TO SAND SUPPLY
PROPOSED DRILLED PIER WALL
DEL MAR BEACH CLUB
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 existing seawall; based on the seawall design and beach and nearshore profiles (cubic yards)

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

where,

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

L = design life of existing seawall 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 width of existing seawall, including footing, measured from back of footing (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 = 30.0 years

W = 158 feet

S = 0.75

h = 66 feet

v = 0.9 yard^3 per foot of width and foot or retreat

E = 7.5 feet

Utilizing equation (3):

$$V_h = \frac{0.2 \times 30 \times 158 \times 66 \times 0.75}{27}$$

$$V_h = 1738\ yard^3$$

Utilizing equation (4):

$$V_w = 0.2 \times 30 \times 0.9 \times 158$$

$$V_w = 854\ yard^3$$

853 yard^3

Utilizing equation (5):

$$V_e = 7.5 \times 158 \times 0.9$$

$$V_e = 1067\ yard^3$$

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Utilizing equation (2):

$$V_t = 1738 + 853 + 1067$$

$$V_t = 3658\ yard^3$$

Utilizing equation (1):

$$M = 3658 \times \$13.00/yd$$

$$M = \$47,554.00$$

Sand Mitigation Fee Parameters

W	=	158 ft
E	=	7.5 ft
v	=	0.9
R	=	0.2 ft/yr
L	=	30 yr
S	=	75%
h	=	66 ft
R_{cu}	=	0.2
R_{cs}	=	0
C	=	$13/cy