

APPENDIX A

**1994 SHORELINE AND COASTAL BLUFF
PROTECTION ORDINANCE**

Attachment 1

Shoreline and Coastal Bluff Protection

Chapter 17.62

Chapter 17.62

SHORELINE AND COASTAL BLUFF
PROTECTION

Sections:

- 17.62.010 Findings and declarations.
- 17.62.020 Policy.
- 17.62.030 Coastal Act requirements.
- 17.62.040 Definition of words and phrases.
- 17.62.050 Prohibition – Permit requirements.
- 17.62.060 Permit – Application.
- 17.62.070 Application fee.
- 17.62.080 Issuance and denial.
- 17.62.090 City council decisions.
- 17.62.100 Permits to plug or fill seacaves.
- 17.62.110 Temporary emergency permits.
- 17.62.120 Planning director decisions – Time limits – Appeal.
- 17.62.130 Costs.
- 17.62.140 Maintenance and repair of defense structures.
- 17.62.150 Use of city beach and other public property during construction.
- 17.62.160 Landscaping, irrigation, and drainage.
- 17.62.170 Violations.
- 17.62.180 Severability – Supplemental provisions.

17.62.010 Findings and declarations.

The city council of the city of Solana Beach hereby makes the following legislative findings and declarations:

A. The beach and tidelands of the city are an important public resource. Preservation of an aesthetically pleasing shoreline area is important to protect the beach as a public resource and preserve its appeal as a recreational facility and tourist attraction. The purpose of this chapter is to create a regulatory framework which balances the protection of vested private property rights and important public interests in shoreline resources which can be harmed by the construction of coastal bluff protection measures.

B. The shoreline of Solana Beach is characterized by a narrow strip of sandy beach at the foot of coastal bluffs. At the tops of these bluffs private residences and other structures have been built. Because of the narrowness of the beach and lack of a sand buffer, the bluffs are subjected to erosion from wave action, particularly during the winter

months. Erosion has also resulted from irrigation practices, storm water drainage, construction activity, and climbing activities. Unless properly regulated, seawalls, revetments, bluff retaining walls, erosion control devices, rip rap, cave filling or plugging, and other similar shoreline and coastal bluff protection measures individually and cumulatively may adversely impact the shoreline. When permitted, such devices should be designed, constructed and maintained in a manner that has the least impact on the shoreline and public use of the beach while providing adequate protection to the bluff top structures and uses.

C. The California Coastal Act contains provisions which allow the construction of seawalls, revetments, bluff retaining walls and other similar shoreline and coastal bluff protection measures when necessary to protect existing structures and when consequential damage to the shoreline can be minimized. [Public Resources Code Section 30235.] The scenic and visual qualities of coastal areas are considered a resource of public importance, therefore, the Coastal Act also contains policies which require that new development be located and designed to minimize the alteration of natural land forms and to be visually compatible with the character of surrounding areas. [Public Resources Code Section 30251.] Under the Coastal Act state and local governmental agencies and entities with power and authority to implement the Coastal Act are charged with the responsibility to resolve conflicts between policies of the Act in a manner which on balance is most protective of significant coastal resources. [Public Resources Sections 30007.5, 30200.] This chapter is intended to enact local coastal policies consistent with the provisions of the Act. In adopting this chapter the city council, in a manner consistent with the policies and goals of the Coastal Act, has attempted to balance the rights and privileges of private property owners to preserve, protect, develop and use property with the rights of the public to assure protection of important public resources and the need to assure that development designed to preserve or enhance one property does not adversely affect another property.

D. The San Diego Association of Governments (SANDAG) has adopted a shoreline preservation strategy that establishes certain objectives and strategies for the preservation of coastal resources in the county of San Diego. The city council has

considered the shoreline preservation strategy, adopted July 23, 1993, in the development of this chapter. In particular the city council finds that this chapter does the following things as recommended by the shoreline preservation strategy: minimizes construction on beaches and in front of seacliffs; protects property from storm waves, flooding and seacliff erosion by permitting, subject to regulation, certain types of shoreline defense structures; requires persons desiring to install shoreline defense structures to mitigate adverse impacts resulting from the construction including, without limitation, impacts on the environment, aesthetic impacts and impacts on the public's use of the beach and other property subject to a public trust. Additionally, the city council finds that this chapter and other city ordinances and regulations address other shoreline preservation strategies by establishing setbacks from seacliffs and imposing blufftop erosion management measures such as irrigation controls, restrictions on grading of blufftops and seacliff faces and restrictions on drainage over blufftops and seacliff faces. The city council finds that these city ordinances and regulations constitute part of the city's contribution to a cooperative, cost-effective regionwide shoreline management strategy; and that the city intends to continue working together with other local, state and federal governments and agencies to develop this strategy and to seek financial support for it.

E. Preservation and enhancement of the beach is an important city goal. During the preparation of the local coastal plan required pursuant to the California Coastal Act the city will develop and adopt policies, goals and implementation measures to preserve and enhance beach sand levels. The city will also support regional efforts to manage beach sand.

F. Regulating the use of seawalls, revetments, bluff retaining walls and other similar structures is consistent with the Solana Beach general plan. Safety element Policy 4.b discourages the use of seawalls.

G. This chapter is not intended, and shall not be construed, to authorize the granting or denial of a permit in a manner which will take or damage private property for public use without payment of just compensation. (Ord. 195 § 1, 1994)

17.62.020 Policy.

A. The safety element of the city's general plan

provides that the city shall discourage the use of seawalls. [Goal 3.2, Objective 4.0, Policy 4.b.] The open space and conservation element of the city's general plan provides that the city shall require new developments to be subjected to visual impact analyses where potential impacts upon sensitive locations are identified, and further shall require that new structures and improvements be integrated with the surrounding environment to the greatest possible extent. [Goal 3.2, Objective 3.0, Policy 3.a., and 3.b.] Therefore, it is the policy of the city council of the city of Solana Beach to strictly regulate the construction of new seawalls, revetments, bluff retaining walls, gunite covering, metal or wood armoring and other similar shoreline defense structures. Such protection measures generally will not be allowed when other feasible shoreline or coastal bluff protection measures are available. Permits for the construction of seawalls, revetments, bluff retaining walls, gunite coverings, metal or wood armoring and other similar structures will be issued only when necessary to accomplish one of the following purposes:

1. To protect existing legally built structures on property when the structure or structures are threatened with imminent danger or destruction from bluff failure due to erosion and other methods of protecting the structure or structures are not feasible, and the benefit of protecting the structure as opposed to removing it outweighs the adverse impact resulting from the construction of the protective device; or

2. To preserve economically viable use of property, when it is demonstrated that without the proposed protection measure the property could not be used for any economically viable purpose and other methods of protecting or economic usefulness of the property are not feasible; or

3. To abate a public nuisance when other methods of abatement including, but not limited to, removal of a structure or improvement would result in a severe economic hardship to the owner of private property or the loss of a significant public benefit.

B. Shoreline protection measures such as seacave plugging and filling are preferred over the construction of seawalls, bluff retaining walls, gunite covering and similar permanent armoring. Permits for seacave plugging and filling will be expeditiously processed and will generally be permitted or conditionally permitted to be constructed

in accordance with the design criteria of this chapter. Plugging and filling of caves is acceptable as a reasonable measure to prevent erosion and minimize effects that could result in a future need to construct a more intrusive protection device.

C. Rip rap, sand bags, armoring, revetments and other temporary bluff protection measures shall be permitted only on a temporary basis to respond to an emergency.

D. It is the further policy of the city that applications for permits under this chapter be processed expeditiously to the extent such processing is consistent with the protection of the public interest and the preservation of private property. (Ord. 195 § 1, 1994)

17.62.030 Coastal Act requirements.

Nothing in this chapter shall be construed to modify, repeal, or supersede any other law or regulation pertaining to work or development on a coastal bluff. Nothing in this chapter shall be construed to permit or prevent any activity, development or work requiring the issuance of a coastal development permit but which is not subject to regulation pursuant to this chapter. The requirements of this chapter shall be met before issuance of a coastal development permit pursuant to the California Coastal Act. (Ord. 195 § 1, 1994)

17.62.040 Definition of words and phrases.

The following words and phrases when used in this chapter shall for the purpose of this chapter have the meanings respectively ascribed to them in this section, unless from the context in which the word or phrase is used a different meaning is evident.

A. "Armoring" means the creation of any artificial device that affords a coastal dependent structure protection from erosion due to wave action, rain or wind.

B. "Bluff retaining wall" means a wall placed at the bottom of a coastal bluff that is designed to provide subjacent or lateral support to the property above it.

C. "Coastal dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

D. "Emergency" means a sudden, unexpected occurrence requiring a quick response to prevent or

mitigate imminent loss or damage to life, health, property or essential public services.

E. "Feasible" means capable of being accomplished in a successful manner, taking into account economic, environmental, social and technological factors.

F. "Guniting" means a mixture of cement, sand, and water, usually sprayed over a metal mold.

G. "Imminent" means an occurrence that is reasonably foreseeable within 12 months from the time the determination of imminence is made.

H. "Natural surface and texture" means a surface which resembles as closely as possible the existing color, texture and contour of the adjacent coastal bluffs.

I. "Protective device" means any type of device, measure, or structure not mentioned herein constructed in or on a coastal cliff or bluff which is intended to preserve and protect the coastal cliff or bluff from the effects of erosion.

J. "Revetment" means a stone or concrete barricade engineered to sustain an embankment by dissipating wave action.

K. "Rip rap" means a barricade of randomly placed stone, concrete, block, sandbags or other similar materials designed to protect against wave action erosion.

L. "Seacave" includes caves, joints, faults, ruptures or cracks in a bluff surface.

M. "Seacave fill or plug" or any variation of this term means any concrete, slurry, grout or any other material formed to fit and used to fill the mouth of a seacave, or use to fill the entire sea cave to stop the effects of wave action erosion from expanding the sea cave or to stabilize the bluff above the seacave.

N. "Seawall" means any wall or embankment placed contiguous with the base of the bluffs and engineered to protect a bluff or to act as a breakwater. Seawall includes revetments, bluff retaining walls and other similar shoreline protection measures.

O. "Shoreline defense structure" means any seawall, revetment, bluff retaining wall, armoring, revetment, seacave fill or plug, rip rap, protective device or other permanent or semipermanent application intended to preserve and protect the shoreline, coastal bluffs, and/or existing structures from the effects of wave action erosion and other natural forces.

P. "Significant structure" includes, without limitation, legally existing principal structures, community clubhouses, public coastal access structures, and swimming pools that are structurally integrated with another significant structure, and excludes, without limitation, gazebos, patio decks, fences, landscaping features, and playhouses. (Ord. 195 § 1, 1994)

17.62.050 Prohibition – Permit requirements.

A. No shoreline defense structure shall be constructed or reconstructed unless a permit is first approved or conditionally approved pursuant to this chapter and Chapter 17.68 SBMC, except that special use permits for the filling or plugging of a seacave may be issued pursuant to the procedures set forth in SBMC 17.62.100 and temporary emergency permits may be granted for certain shoreline and coastal bluff protection measures pursuant to SBMC 17.62.110. Repairs to existing shoreline defense structures may be authorized pursuant to SBMC 17.62.130.

B. Except for permits issued pursuant to SBMC 17.62.100 for filling or plugging a seacave and temporary emergency permits issued pursuant to SBMC 17.62.110, a special use permit shall be issued only after a public hearing, notice of which shall be given pursuant to SBMC 17.72.030.

C. Except when prohibited by state or federal law, the requirements of this chapter shall apply to shoreline defense structures or other coastal bluff protection measures or other permanent or temporary structures placed on public property by the city of Solana Beach, the county of San Diego, the state of California, the United States of America or any agency thereof. In the event of an emergency, temporary structures or devices to preserve or protect public property or public improvements or to serve a public purpose may be placed or installed without the necessity for compliance with the permit requirements of this chapter. Temporary emergency structures or devices shall comply with the construction and maintenance requirements of this chapter.

D. This chapter shall not apply to the construction or maintenance of shoreline defense structures lawfully permitted or constructed before the effective date of the ordinance adopting this chapter, or lawfully constructed after the effective date of the ordinance adopting this chapter; provided, that the construction or maintenance is done in full compli-

ance with all permit conditions or other requirements applicable to the structure; and further provided, that any reconstruction, or maintenance or resurfacing work which alters the physical appearance of the pre-existing structure shall be done in full compliance with the provisions of this chapter. Nothing in this paragraph shall be construed to alter or amend any provision of a previously issued permit.

E. The permit required by this chapter is additional to all other permits for construction or grading required by SBMC Title 15.

F. The permit required by this chapter shall be in lieu of any permit required by SBMC 17.68.040(B); provided, however, that any development, structure or work on a coastal blufftop or seacliff which is not included within the scope of this chapter shall not, by reason of that noninclusion, be deemed to be exempt from the requirements of SBMC 17.68.040.

G. The permit required by the chapter is additional to any permit required pursuant to the California Coastal Act. (Ord. 195 § 1, 1994)

17.62.060 Permit – Application.

A. Application. In addition to the information required by Chapter 17.72 SBMC, the application for a special use permit issued pursuant to this chapter shall include the following information:

1. A detailed description of the bluff geology in the area where the structure is to be placed, prepared by a qualified licensed professional geologist, engineer or other licensed professional authorized by the state to perform professional engineering and experienced in coastal processes.

2. A detailed description of the alternatives to the proposed structure, prepared by a qualified licensed professional engineer or other licensed professional authorized by the state to perform professional engineering and experienced in coastal processes.

3. A detailed description of the proposed construction methods, prepared by a qualified licensed professional engineer or other licensed professional authorized by the state to perform professional engineering and experienced in coastal processes.

4. A report estimating the life of the existing structure in the absence of a seawall or other shoreline defense structure, or a description of the nuisance to be abated. In addition, the report must

demonstrate that the construction of the proposed shoreline defense structure will be effective in preserving the integrity of significant structures on the site or preserving an economically viable use of the property. The report must be prepared by a qualified licensed professional geologist, engineer or other licensed professional authorized by the state to perform professional engineering and experienced in coastal processes.

a. Special Provision Relating to Applications for Plugging and Filling. In lieu of the information required by subsection (A)(4), an applicant for a seacave plug or fill may submit a report showing the necessity for plugging or filling. The report must also demonstrate the effectiveness of plugging or filling. The report must be prepared by a qualified licensed professional geologist, engineer or other licensed professional authorized by the state to perform professional engineering and experienced in coastal processes.

B. Approval of Form and Completeness of Application Information.

1. The application information shall be presented in a form acceptable to the city engineer and planning director. The city engineer and planning director shall have 30 days following submission of the information to approve or disapprove the form and completeness of the information presented.

2. In order to expeditiously process permits, at the applicant's discretion with the consent of the city engineer and planning director, the application information may be provided by way of an environmental impact report, initial study, expanded initial study, or other appropriate environmental review document.

C. Application Deemed Acceptable for Processing – Circumstances. If the city engineer and planning director do not respond within the 30-day period the information shall be deemed acceptable for processing.

D. Planning Director Authorized to Establish a List of Qualified Professionals. The planning director may establish a list of qualified professionals meeting the requirements of this section and may establish procedures for establishing such a list. (Ord. 195 § 1, 1994)

17.62.070 Application fee.

A. Basic Application Fee. Each application for a special use permit for a shoreline defense structure shall be accompanied by an application fee

established by resolution of the city council. No application shall be accepted or shall be deemed accepted until the application fee has been paid. The application fee may be different for the various types of shoreline and coastal bluff protection measures.

B. Deposit for Additional Costs. In addition, the applicant shall be responsible to pay all costs incurred by the city for professional services determined by the planning director or city engineer to be needed to assist in the review or processing of the application, or for extraordinary costs. When the planning director determines that the processing of an application will result in need for professional services, or result in extraordinary costs not included in the basic application fee, the planning director shall provide the applicant with a statement of expected costs. The applicant shall promptly place on deposit, subject to refund or additional collection, funds in the amount of the expected costs. The planning director shall not process an application until appropriate deposits have been made. At the conclusion of the application process, the planning director shall promptly prepare a refund of unexpended deposits. (Ord. 195 § 1, 1994)

17.62.080 Issuance and denial.

A. Permits for Seawalls, Revetments and Bluff Retaining Walls. A special use permit for a seawall, bluff retaining wall, armoring or revetment may be issued only if the city council finds all of the following:

1. a. An existing significant structure is threatened with imminent danger or destruction because of bluff erosion which occurs naturally, or which results or arises from circumstances which are not within the control of the property owner, and it is reasonably foreseeable that without the shoreline defense structure the threatened structure on the site will suffer structural damage; or

b. The shoreline defense structure is necessary to abate a public nuisance existing on the property that cannot be reasonably abated in another manner; or

c. Unless the shoreline defense structure is permitted the property will be unable to be used for any economically viable use permitted by the city's general plan and applicable zoning.

For the purposes of subparagraph (1)(a), structural damage means a noticeable or measurable amount of structural damage directly related to

the bluff condition to be mitigated but does not include construction defects or damage to a structure caused by weather or earthquake. For the purposes of subparagraph (1)(b), removal of a structure, other than a significant structure, shall be considered a reasonable method for abatement of a public nuisance.

2. No other reasonably feasible method of stabilizing the coastal bluff will protect the existing structure, abate the nuisance or preserve the economically viable use of the property.

3. The property owner has taken reasonable steps to protect the property and significant structures by other means.

4. The owner or prior owners did not create the necessity for the shoreline defense structure by unreasonably failing to implement generally accepted erosion and drainage control measures or by otherwise unreasonably acting or failing to act with respect to the property. The provisions of this subsection (A)(4) shall not apply to a bona fide purchaser who acquired the property without knowledge of the condition resulting in the necessity for construction of the shoreline protection device.

5. The location, size, design and operation characteristics of the proposed shoreline defense structure will not adversely affect adjacent public or private property, natural resources, or public use of the beach.

6. The proposed shoreline defense structure will be:

a. The minimum measure necessary to provide a reasonable level of protection; and

b. Constructed and maintained to incorporate an earth-like appearance which will resemble as closely as possible the natural color and texture of the adjacent bluffs; and

c. Constructed and maintained to reasonably conform to the natural form of the bluff; and

d. Placed at the most feasible landward location; and

e. Appropriately landscaped and maintained to blend in with the existing environment.

7. The shoreline defense structure will be located entirely on private property or, if the structure will be located partially or entirely on public property or property subject to a public trust all required permits for construction or real property interests have been obtained, or will be obtained, from the appropriate public agency or agencies with jurisdiction and/or ownership.

8. The construction of the structure and reconstruction of the bluff face, if any, will not result in a usable area at the top of the bluff larger than existed on January 3, 1991 or extend the bluff-top edge seaward more than 10 feet from the bluff-top edge as it existed on January 3, 1991 as shown on the orthophoto map of the city dated January 3, 1991 and on file in the planning department.

9. The project as approved or conditionally approved will not adversely affect the public health, safety or welfare and will not unreasonably affect the public use of the beach. Encroachments into the public beach shall be mitigated to the satisfaction of the city council.

B. Other Types of Work. A special use permit for any other erosion control measure, bluff repair or work on the coastal bluff not otherwise addressed in subsection A of this section, or in SBMC 17.62.100, shall be denied unless the city council finds that the measure is:

1. A necessary preventative measure to stop or control erosion of the bluff; and

2. The measure will not adversely affect the bluff. (Ord. 195 § 1, 1994)

17.62.090 City council decisions.

The city council shall render any decision it makes under SBMC 17.62.080 or 17.62.100 by resolution. (Ord. 195 § 1, 1994)

17.62.100 Permits to plug or fill seacaves.

A special use permit for the plugging or filling of a seacave may be issued only if the planning director or city council on appeal finds:

A. Plugging or filling a seacave is:

1. A necessary preventative measure to stop erosion from enlarging the cave, crack, fissure, joint, or fault which if enlarged would eventually threaten the stability of the bluff; or

2. Necessary to protect structures on top of the bluff threatened by the collapse of a cave large enough to impair bluff stability; or

3. Necessary to eliminate an actual public nuisance including, without limitation, an attractive nuisance.

B. The plug is designed with a "leaner" cement mix on the external facade and a "stronger/greater" mix internally to facilitate plug erosion to match the rate of natural erosion of the adjacent coastal bluff. The external facade will resemble as closely as possible the natural color and texture of the adjacent

bluffs and be of sufficient depth to replicate the retreat of the adjacent bluff due to weathering anticipated to be experienced over the next 75 years.

C. The project as approved or conditionally approved will not adversely affect adjacent public or private property and will not unreasonably affect the public use of the beach. (Ord. 195 § 1, 1994)

17.62.110 Temporary emergency permits.

A. In the event of an emergency, the following remedial, protective or preventive shoreline and coastal bluff protection measures may be allowed only on a temporary basis subject to issuance of a temporary emergency special use permit:

1. Rip rap as defined by this chapter.
2. Sand bags or other sand filled devices.
3. Temporary wood or metal shoring.

B. A temporary emergency special use permit shall be approved or conditionally approved only if the planning director finds the following:

1. That an emergency exists as defined by this chapter.

2. That without an emergency shoreline defense structure or other coastal bluff protection measure, substantial damage to or loss of life or property is imminently probable.

3. The shoreline defense structure will be located entirely on private property or, if the structure will be located partially or entirely on public property or property subject to a public trust all required permits for construction or real property interests have been obtained, or will be obtained, from the appropriate public agency or agencies with jurisdiction and/or ownership.

4. The project as approved or conditionally approved will not adversely affect the public health, safety or welfare and will not unreasonably affect public use of the beach.

C. Any temporary emergency structure, device or other measure shall be removed 180 days after its construction or installation. The time period for removal of a temporary emergency structure may be extended by the planning director, if the planning director finds that the property owner has applied for and is diligently pursuing a special use permit for a permanent protection structure or device, or has obtained such a permit and is diligently pursuing the construction or installation of the permitted permanent structure or device. An application for a time extension, along with a statement of justification, shall be submitted to the

planning director not less than 30 days before the expiration date.

D. Prior to commencement of construction under a temporary emergency special use permit, or within 15 days thereof if allowed by the planning director, the permittee shall provide a security in the form of a faithful performance bond, letter of credit or other security instrument approved by the planning director and city attorney, in an amount determined by the city engineer, to secure removal of the temporary structure as required by this section. (Ord. 195 § 1, 1994)

17.62.120 Planning director decisions – Time limits – Appeal.

A. The planning director shall render a decision pursuant to SBMC 17.62.100 or 17.62.110 in writing. The decision shall be posted on a public bulletin board at City Hall and shall be mailed to the applicant and to the owners or occupants of all property located within 300 feet of the site of the proposed work.

B. A decision on an application for a special use permit under SBMC 17.62.100 shall be rendered within 30 days from the date when the application is determined or deemed to be complete. A decision on an application for a temporary emergency permit under SBMC 17.62.110 shall be rendered within 10 business days from the date of submission of the application.

C. Any interested party, including any member of the city council, may appeal the decision of the planning director to the city council by filing a written appeal with the city clerk within five business days following the date of posting the decision. Except when the appeal is brought by a member of the city council, or by the California Coastal Commission or State Lands Commission or other public agency, the appeal shall be accompanied by a fee in an amount established by city council resolution. The city council shall hear and decide the appeal after a public hearing held at the first regularly scheduled city council meeting which is at least 15 calendar days following the filing date of the appeal. (Ord. 195 § 1, 1994)

17.62.130 Costs.

The costs of installation, maintenance, replacement, removal and relocation of any shoreline defense structure shall be at the sole expense of the permittee or any subsequent owner. Upon removal

of any shoreline device, the permittee or owner shall, at his or her sole expense, cause the surrounding area to be repaired and restored to a condition resembling as closely as possible the natural bluff terrain existing at that time. (Ord. 195 § 1, 1994)

17.62.140 Maintenance and repair of defense structures.

A. The owner or any subsequent owner of the property on which a shoreline defense structure is located shall have the continuing obligation to do all of the following:

1. Maintain the structure and the recontoured bluff in good repair;
2. To remove debris that is deposited on the beach or in the water during construction of the structure or as a result of its erosion or failure afterward;
3. To immediately remove graffiti or other markings or any other unsightly vandalism should it appear on the project face of the structure;
4. To abide by all terms and conditions of the permit.

B. If the owner or subsequent owner of the property fails to perform the requirements of any subparagraph of subsection A, the city can, after 30 days prior written notice to the owner, perform any work and impose the cost of such work as a lien on the property.

C. The planning director may authorize minor work to repair any legally existing shoreline defense structure or the bluff area immediately adjoining the structure; provided, that:

1. The repair work does not extend the height of the structure by more than one foot or the width of the structure by more than three feet;
2. The repair work does not substantially alter the appearance of the structure;
3. A building permit is obtained before any structural work requiring such a permit is commenced;
4. The structure's surface will be modified to incorporate an earth-like appearance which will resemble as closely as possible the natural color and texture of the adjacent bluffs. (Ord. 195 § 1, 1994)

17.62.150 Use of city beach and other public property during construction.

The permittee may use the beach or other city property for access for permitted construction,

repair or maintenance of a permanent or temporary shoreline defense structure. Such use shall be subject to the provisions of this code relating to use of or encroachments on city property, applicable conditions of approval of the special use permit, and adopted regulations or policies relating to beach use and activities. The permittee shall defend, indemnify and hold harmless the state of California and the city and each of their respective agencies, officers and employees from any and all liability resulting from the use of the public beach or other city property under this section, and in this regard the provisions of SBMC 11.20.030 shall apply. The permittee shall pay to the city all applicable fees and deposits for use of the beach or other city property prior to commencement of construction or maintenance and all city staff or contract service to monitor and/or regulate construction activities. (Ord. 195 § 1, 1994)

17.62.160 Landscaping, irrigation, and drainage.

A. Landscaping of lots located between the coastal bluff and the first public street shall conform to landscaping standards prepared by the planning director and approved by city council resolution. The landscaping standards shall encourage the use of native vegetation that thrives on seasonal rain and natural coastal moisture, and requires minimum watering. Lawns and similar ground cover may also be permitted subject to strict watering requirements. The landscaping standards shall discourage work on the bluff face. In developing the landscaping standards, the city shall provide a process where owners can maintain existing mature landscaping using watering techniques approved by a licensed landscape architect and determined by the city engineer to not create risk to bluff stability.

B. Automatic irrigation systems shall be prohibited within 100 feet of the coastal bluff unless the systems incorporate automatic shut-off valves and moisture sensors. Retrofitting with drip, mist and other very low flow irrigation devices of irrigation systems on the bluff or within 25 feet of the bluff top edge may be reasonable steps a property owner may take to minimize potential adverse impacts to the bluff.

C. Lots located between the coastal bluff and the first public street shall have drainage systems that convey surface drainage away from the bluff

17.62.170

edge. Drainage over the bluff edge or through the bluff shall be prohibited unless the water is contained within a pipe drainage system approved by the city engineer. Installation of a drainage system that conveys surface and subsurface water away from the coastal bluff and to the public street or to an approved pipe drainage system is a reasonable step a property owner may take to minimize bluff erosion. (Ord. 195 § 1, 1994)

17.62.170 Violations.

A. Any violation of this chapter is a misdemeanor punishable pursuant to the provisions of Chapter 1.16 SBMC.

B. Any shoreline defense structure, or part thereof, constructed or maintained in violation of this chapter is a public nuisance.

C. Any person who constructs, repairs or maintains, or directs the construction, repair or maintenance, of a shoreline defense structure, or part thereof, in violation of this chapter is subject to a civil penalty in the amount of \$1,000 per day for each day that the violation exists.

D. In addition to the provisions of this section, the provisions of Chapter 1.16 SBMC shall apply to violations of this chapter. (Ord. 195 § 1, 1994)

17.62.180 Severability – Supplemental provisions.

If any provision of this chapter as herein enacted or hereafter amended, or the application thereof to any person or circumstances, is held invalid, such invalidity shall not affect the other provisions or applications of this chapter (or any section or portion of section hereof) which can be given effect without the invalid provision or application, and to this end the provisions of this chapter are, and are intended to be, severable.

The provisions of this chapter are intended to augment and be in addition to other provisions of the Solana Beach Municipal Code. Whenever the provisions of this chapter impose a greater restriction upon persons, premises, or practices than are imposed by other provisions of the Solana Beach Municipal Code or the California Coastal Act, the provisions of this chapter shall control.

If any sentence, clause or phrase of this chapter is, for any reason, held to be unconstitutional or otherwise invalid, the decision shall not affect the remaining provisions of this chapter. The city council hereby declares that it would have passed

the ordinance codified in this chapter, and each sentence, clause, and phrase thereof irrespective of the fact that any one or more sentences, clauses or phrases be declared unconstitutional or otherwise invalid. (Ord. 195 § 1, 1994)

APPENDIX B

NOTICE OF PREPARATION



CITY OF SOLANA BEACH

635 SOUTH HIGHWAY 101 • SOLANA BEACH, CA 92075-2215 • (858) 720-2400 • FAX (858) 792-6513

NOTICE OF PREPARATION

TO: NOP Distribution List

FROM: City of Solana Beach
Community Development Department
635 S. Highway 101
Solana Beach, CA 92075-2215
(858) 720-2400

Subject: Notice of Preparation of a Draft Environmental Impact Report

The City of Solana Beach will be the Lead Agency and will prepare an environmental impact report (EIR) for the project identified below. A public scoping meeting was held regarding this project on April 10, 2001. Comments submitted at that time will be considered in preparation of the EIR. Additional comments as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project will continue to be accepted for 30 days from the date of this notice.

Due to the time constraints mandated by State law, your response must be sent at the earliest possible date but **not later than 30 days** after receipt of this notice. Your agency will need to refer to the EIR prepared by our agency when considering your permit or other approval for this project.

The project description, location, and the potential environmental effects are described on the back of this notice. Attached is a map of the project location. An Initial Study was not prepared because the lead agency determined that an EIR will be prepared for the project. A list of agencies to whom this notice is also sent is on the reverse side of the attached map.

Please send your responses to **Stephen A. Apple, Community Development Director**, at the address shown above. We will need the name for a contact person in your agency.

Project Title: Solana Beach Shoreline and Coastal Bluff Protection Ordinance
Environmental Impact Report

Date: May 21, 2001

Signature: 

Title: Community Development Director

Telephone: (858) 720-2400



APPENDIX C.1

**COMMENTS ON NOTICE OF PREPARATION
AND SCOPING MEETING**

Ronald W. Lucker D.D.S.
517 Pacific Ave.
Solana Beach, CA 92075

RECEIVED
APR 08 2001
PLANNING DEPT.
CITY OF SOLANA BEACH

April 7, 2001

Input to the Environmental Impact Report preparation for the City of Solana Beach Shoreline and Coastal Bluff Protection Ordinance.

The natural retreat philosophy allowing the ocean to take over the shore is never a practical solution because a line is always drawn somewhere. Eventually the ocean reaches structures that everyone wants protected. At that time a lot more effort and cost are involved in constructing barriers which are more massive and unnatural looking.

Prevention is much more practical. The first preventative measure should be beach replenishment to prevent further beach and bluff erosion. However, where the sand has already been lost and the ocean has reached the base of the bluff, this base must be reinforced to prevent it from being undercut leading to collapse of the remaining base which increases the angle of the bluff above making it unstable.

The inability to do this simple act of filling in this undercut base with minimal reinforcement has led to many areas of total bluff failure necessitating larger and larger walls. This has often happened because permits are usually only given when bluff top homes are in danger of falling into a collapsed bluff. At this point building a wall is a constitutional right.

This approach is not prevention it is irrational behavior. Nobody wants a big wall in front of their bluff top home unless it is the only way to save their home. They would much rather have a small reinforcement at the base. The people who oppose walls should prefer this approach also.

Preventive measures are smaller, more natural looking, less expensive and very effective.

Sincerely,

Ronald W. Lucker D.D.S.
Ronald W. Lucker D.D.S.

Jim Jaffee
738 Seabright Lane
Solana Beach, CA 92075

April 9, 2001

Steve Apple
Community Development Director
(Hand Carried)

RECEIVED

APR 09 2001

PLANNING DEPT.
CITY OF SOLANA BEACH

Mr. Apple,

Below find comments with respect to the Solana Beach Shoreline and Coastal Bluff Protection Ordinance Environmental Impact Report submitted on behalf of CalBeach Advocates. Attached you will also find a detailed analysis of inconsistencies in sand mitigation measures used in past project.

Requirements of the EIR (see Title 14: California Code of Regulations, Chapter 3 Guidelines for Implementation of CEQA):

- 1) **Project Description (Section 15124):** The EIR author must detail the project, any applicable regulations governing the project and any permits required to implement the project. In the case of Solana Beach it is imperative that this EIR consider this project as a cumulative project including all present structures on the beach and the anticipation that the ordinance under review could be used to completely armor the entire beach. State Lands, Coastal Commission and the Army Corps of Engineers requirements must be considered along with those of Solana Beach at a minimum. Additionally since a principal mitigation method utilized for these projects is sand replenishment, Fish and Wildlife Agencies and fishing interests must be included.
- 2) **Environmental Setting (Section 15125):** The pre-project physical environmental setting must be detailed as a basis for impacts to be compared with. This EIR must consider the physical setting as the one that existed before the construction of structures commenced. Impacts of the structures in place and anticipated future structures will then be considered versus this setting. Further, since part of the ordinance under review considers that the property owner is responsible for not contributing to the need for these shoreline defense structures, this must also be considered as the setting to which impacts are compared. Lastly, the historic erosional coastline where the development has occurred must be considered as part of the setting. This area of coastline was erosional long before any interaction by man in the area. Special emphasis should be given to the rare resources in this area including, beach access, visual experience and architecture of eroding bluffs.
- 3) **Consideration and Discussion of Environmental Impacts (Section 15126):** The EIR must address any significant effect of the project itself or any unavoidable effect if the project is implemented. These effects must be based on past and future anticipated coastal defense structures.

Section 15126.2 *Consideration and Discussion of Significant Environmental Impacts* requires that impacts occurring after notice of preparation of preparation must be considered, however, in this EIR, effects that occurred due to cumulative projects must be considered due to the nature of the EIR. The EIR must address impacts resulting from past projects (see Staff report to Solana Beach Council 1/2/01).

Sub-section (C) addresses irreversible impacts. Since many of these projects include rebar, tiebacks and concrete and are constructed in area of difficult access, many of the impacts are not reversible. The impacts of these aspects of the project must be considered.

The following list outlines several impacts and/ or mitigation measures (Section 15126.4) that must be considered in the EIR:

- 1) Mitigation of the present and past projects to shoreline sand supply has been insufficient.
- 2) No plan constituting a failure analysis of these structures has been provided. The beach already contains relics of recently failed structures including rebar and concrete. No detailed plans for removal and

maintenance of these structures has been submitted. Costs for maintenance or removal and mitigation of the effects of structure failure should be bonded or insured by the installer. In investigating the alternatives that include armoring, an EIR must include a contingency plan for structure failures and maintenance.

3) These seawalls create the need for more sand replenishment projects in order to maintain access to the public beach. No economic analysis has been provided for the impact to the taxpayers of these increased sand replenishment projects.

4) Public access issues need to be considered in the EIR. No consideration has been made in mitigation of these projects on coastal access.

5) Structures that were built at setbacks of less than 40 feet may have been in violation of the ordinance under review. Section 17.62.080 details that property owners must not contribute to the need for a shoreline defense structure. This is also detailed in Section 30253 of the Coastal Act. Many of the properties that have gained permits for structures were encumbered with deed restrictions that stated if they developed at these sites within the 40ft setback, they would not be entitled to a structure. The public has not been mitigated for the failure on the part of the property owner to develop in a reasonable manner so as to not necessitate the need for a defense structure.

Below are some general comments regarding the impacts of seawalls that needed to be considered in the EIR.

1] Visual/aesthetic - Preserving the views and geology of the bluffs in Solana Beach is in the best interests of the citizens, beach visitors and the State of California. Visual/aesthetic also economically impacts the region through local and non-local tourist income.

2] Public access impacts - The existence, construction and maintenance of seawalls will have substantial adverse impacts on coastal access. This decreased access must be mitigated by sand nourishment or retreat. Sand nourishment costs in 1999 dollars are \$7-15 per cubic yard. Solana Beach would require about 1 million cubic yards to effectively nourish its beaches with an annual re-nourishment of 300,000 cubic yards per year. The cost of this is initially \$7-15 million with a present value annualized budget of \$2.1-\$4.5 million. Details of the insufficient sand mitigation are considered in an attached document.

3] In many cases, construction of seawalls on public property (beach) and permitted to do so by State Lands Commission. Has the state been substantially mitigated for the loss of its property? Most of the land for these seawalls have been leased free of charge to the applicants.

4] Economic issues (local, state or federal subsidies or construction to protect private property, or insurance coverage). Recent estimates are the cost in 1998 dollars of armoring is \$2500 to \$16,000 per meter. This cost does not include subsequent maintenance or upper bluff armoring if so required.

5] Loss of sand supplied by eroding bluffs which will be armored. This can be calculated by utilizing the "Report on In-Lieu Fee Beach Sand Mitigation Program: San Diego County" available from the California Coastal Commission at <http://www.coastal.ca.gov/pgd/sand1.html>. This methodology has been inadequately applied to the loss of sand by the placement of these walls. Further, the application of this mitigation method does not properly account for the formation of tidal terraces as a result of the natural erosion process. The period of time used in this mitigation calculation can also be questioned - 20 years is not consistent with the impact. Impact time could be considered the lifetime of the structure + a recovery time period for the environment. Further, if this sand is never placed on the beach or in the nearby updrift littoral area. This mitigation cannot be considered as viable. The feasibility of using sand replenishment as a mitigation measure in the area must be considered in the EIR.

6] Placement losses: The placement of seawalls on the beach immediately takes public beach. Is this loss of beach substantially mitigated. We contend that it is not. These walls are placed over Torrey sandstone

formations which can not be completely mitigated via the placement of sand on the beach. Another means needs to be addressed.

7] Passive erosion: or progressive loss of beach in front of a protective structure as adjacent coast continues to recede and sea level continues to rise. Sand mitigation as has been applied is not sufficient to address this loss of beach.

8] In Solana Beach, seawalls are used for two principal purposes: 1) the seawall is a retaining wall to support an unstable slope 2) the seawall is installed to prevent wave driven erosion of the unstable slope. In the first case, if a wide beach is present (ie lots of sand), the slope is still unstable (due to excess pore pressure from changes in the watertable, etc.) and probably still poses a threat to public safety (either the slope can be made stable by cutting a slope or supported by a wall).

8] Active erosion: Placement of a seawall in an area of active erosion will have adverse impacts on local sand supply and beach access. San Diego is an actively eroding coastline. Solana Beach in particular has shown the formation of sea caves and other signs of active erosion even prior to human intervention such as harbors, jetties and dams:

- 4) Section 15126.4 further requires in sub-section (B) that mitigation measures must not be deferred until some future time. All sand mitigation and loss of tidal terrace beaches and impacts of construction on coastal access must be considered in the EIR and substantially quantified.
- 5) Section 15126.4 further requires in sub-section (D) that mitigation measures must not cause any unintended impacts. Several of the proposed mitigation measures do cause unintended impacts.
 - a. Sand mitigation may impact reefs. Some of the areas where seawalls have been constructed have not been permitted to have sand placed due to impacts on fisheries and nearshore ecosystems (See EIR for SANDAG Sand Replenishment Project). No allowance is made in the sand mitigation fees to offset this impact to the reefs.
 - b. Sculpting of the surface and continued maintenance of the surface has impacts on coastal access due to the continued construction. Also, the rebuilding of this service will make the erosion rate inconsistent with the historical erosion rate.
- 6) Section 15126.4 further requires in sub-section (D) that mitigation measures must be fully enforceable.
 - a. The structures defense structures have no permit life but the sand mitigation has in many cases been limited to 20 years.
 - b. No bonds have been required for removal of a failing structure. These must be included in the analysis.
- 7) Section 15126.4 further requires in sub-section (D) that mitigation measures must be roughly equivalent (see attached report for detailed analysis).
 - a. The only mitigation for these projects has been in the form of sand mitigation fees. This does not substantially compensate the loss of new beaches formed from either Torrey Sandstone Formation or the Del Mar Formation. This type of beach is much more resistant to erosion than sand and would provide better public access over the long term if erosion was allowed to continue.
 - b. Sand mitigation is not being done at a rate consistent with the historical rate of erosion or with the rate of erosion that has necessitated the project.
 - c. Sand mitigation fees do not account for episodic erosion.
 - d. Sand mitigation fees do not account for bluffs that will on average attain the angle of repose. Many of the bluffs in this area are beyond this angle.
 - e. Sand mitigation fees have a time limit of 20 years in general while there is no commensurate life associated with the structure even though the impacts of the structure may continue beyond 20 years.
 - f. Erosion rates and littoral drift in front of a seawall beach may be different than those of the existing beaches. This must be accounted for in the EIR mitigation equivalency test.
- 8) Section 15126.6 requires the discussion of alternatives in the EIR. These alternatives must be reasonable and feasible. Planned retreat should be considered as a viable project alternative to armoring. Planned retreat would be the purchase of the land on the bluffs as it is forecast to be in danger from erosion. This alternative is consistent with 15126.6 in that it would substantially reduce the impacts of the shoreline defense structures and their long-term maintenance and mitigation via sand replenishment.

- 9) Section 15130 requires the EIR address cumulative impacts. The purpose of this EIR is to investigate the cumulative impacts of all of the emergency applications approved under Chapter 17.62 of the municipal code. Specifically, in Section (d) and (e)

(d) Previously approved land use documents such as general plans, specific plans, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f)(e), in a certified EIR for that plan.

(e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in Section 15183(j).

Since no programmatic or certified EIR has been completed with respect to this ordinance, this EIR must address the cumulative impacts of all past, present and future projects. This is especially relevant, in light of the 14 projects approved under the ordinance. All of these projects and their impacts must be considered in the EIR.

- 10) It is also the intent of Section 15130 to include all reasonably anticipated projects. It is also imperative that during the initial phase of the EIR, a survey of the coastline be completed which identifies any future projects to be included. The "Solana Beach Shoreline 90' b Reconnaissance Report", from the Army Corps of Engineers, September 2000 indicates that complete armoring of the bluff is necessary if the goal is to stabilize the bluff and the shoreline. Thus it should be anticipated that the entire coastline of Solana Beach will be walled and must be considered as a cumulative impact of the project or the ordinance and its usage.
- 11) Section 15131 requires proper economic analysis be used in the EIR impact analysis. Considerations should include at a minimum:
- a. Several of the properties on the bluff top in Solana Beach (and possibly in Encinitas) have deed restrictions imposed by the California Coastal Commission. These deed restrictions require the removal of structures or portions of structures if the structure is threatened by erosion as the preferred alternative to shoreline armoring as in Coastal Development Permit 6-96-21 for example. Other deed restrictions are more absolute and state that the structure must be removed completely if threatened by erosion. In performing the economic analysis for structure removal, the public should incur none of the cost of the property value when compared to an alternative that requires armoring. The value of structure associated with these deed restrictions must be subtracted from the present and future value of the entire structure in performing this analysis. Note that the origin of this deed restriction is related to Section 30253 of the Coastal Act. I respectfully request that the study compile all of the deed restrictions in Solana Beach and incorporate their value in the economic analysis.
 - b. Any structure that impedes the flow of sand via erosion or prevents passive erosion is required to submit a fee to the SANDAG Sand Mitigation Fund. The mitigation fee must be calculated on actual and predicted erosion rates to account for beach area lost via passive erosion and the material available from bluff erosion. This amount must be subtracted from the present and future value of the structure to be protected. I respectfully request that actual erosion rates and accounting of passive erosion be used in the analysis.
 - c. Many of the seawalls in Solana Beach and Encinitas are constructed on State Land. Public Resource Code Section 6321 gives the State Lands Commission authority on the seawall's land, namely the public's land. They have the right to charge lease fees for this use of the public's property. While present practice has been not to charge for the use of this land, this practice is under scrutiny and must be properly accounted for in the economic analysis. Whatever value State Land might impose on a seawall lease in the future must be subtracted from the present and future value of the property. I respectfully request that the State Land's Commission certify any values associated with leases for seawalls either intrinsic or extrinsic.
- 12) Section 15132 specifies the contents of the Final EIR. An over-riding consideration may be used to offset the impacts of a project. In the context of the present EIR, two of these impacts are loss of private property

and public safety. It should be noted that none of the sea cave fills are generally not structural and provide little guarantee of long term bluff stability, especially the upper bluff. It is requested that each project past, present and future should be evaluated on its improvement of bluff stability and ability to protect the upper bluff and hence the residences. This stabilization analysis should also ascertain the improvement in the safety of the beach going public. An unbiased geologist and an unbiased engineer must complete this analysis since past analysis by property owners have produced inconsistent results. The author would be happy to share these examples with the EIR consultant if needed for justification of the independent analysis

It should also be noted that Safety element Policy 4.b of the Solana Beach General Plan discourages the use of seawalls. This should be reviewed in this EIR as well.

Removal of the threatened structure is a reasonable method to abate a public nuisance per Section 17.62.080 of the ordinance under review.

- 13) Section 17.62.100 requires that structures be built to retreat at the same rate as the bluff for 75 years. This condition is not met by the current projects. The applicants in several seawall applications are claiming to use erodible concrete. This brief summary attempts to summarize the data available to the author with respect to the design of these walls and their performance. The author reviewed CCC staff reports as well as City Council Staff Reports for obtaining all data. The author has not seen any of the monitoring reports, but would be interested in obtaining those.

In the table below, find a sample of seawalls permitted in Solana Beach containing an erodible mixture of concrete. There may be other permits, but the author does not possess the Staff Reports for these.

| CDP | Type | Material | Monitoring | Notes |
|----------|---------|--|-----------------|--|
| 6-99-103 | Notch | Erodible | Yes | Fill extending 6" beyond natural bluff to be removed. Do not have actual plans so there may be rebar in the structure. |
| 6-98-9G | Notch | Erodible 1.5-2' with rebar and rip-rap | Yes | Emergency Permit |
| 6-98-13G | Notch | Erodible 1.5-2' with rebar and rip-rap | Yes | Emergency Permit |
| 6-98-21G | Notch | Erodible 1.5-2' with rebar and rip-rap | Yes | Emergency Permit |
| 6-99-100 | Seawall | 1' Erodible with rebar/tiebacks | Yes | 352' Seawall with Upper Bluff Stabilization |
| 6-00-35 | Notch | Erodible | Denial Proposed | No detailed plans showing structural calculations |
| 6-00-36 | Notch | 1' Erodible with rebar/tiebacks | Unknown | Emergency Permit, No structural calculations performed per Skelly report 1/13/00. |
| 6-00-138 | Seawall | 1' Erodible with rebar/tiebacks | Unknown | Emergency Permit Same as others but described as seawall. Also, contains grouting of upper bluff |

Note that in the table, most of the seawalls and notch fills are constructed with rebar. Several others are constructed with tiebacks. There is one seawall that has the potential to have only erodible concrete. It is illogical to think that the walls constructed with rebar or tiebacks will erode at the same rate as the bluff. This is due to several factors listed below:

- 1) Rebar will be left on the beach after the mix erodes. This assumes it actually does erode.
- 2) Tiebacks will prevent block falls associated with faults. The main mechanism of erosion in Solana Beach is for marine notching to occur followed by a block fall.
- 3) Since no structural or engineering calculations are performed, it is unknown what the actual rate of erosion will be. (See 6-00-36)

Based on the data available to the author, there is insufficient data to determine the erosion rate associated with the proposals of erodible concrete mix. This method should therefore be excluded as a mitigation measure. It is recommended to expand this list and obtain monitoring reports on structures with monitoring requirements and include those in the EIR.

- 14) Section 17.62.100 3.C of the ordinance requires that projects will not adversely affect the use of the beach. In the cumulative impact analysis and proposed mitigation measures, it is imperative that this be addressed.
- 15) Section 17.62.140 of the ordinance requires that projects will maintain and repair structures. Several of the seawalls in Solana Beach are in disrepair and in violation of this requirement. The feasibility of meeting this requirement should be addressed in the EIR.

Sincerely

A handwritten signature in black ink that reads "James D. Jaffee". The signature is written in a cursive, flowing style.

Jim Jaffee

Member of the Board of Directors

CalBeach Advocates

Jim Jaffee
738 Seabright Lane
Solana Beach, CA 92075

April 10, 2001

Re: Sand Mitigation Fee Policy Implementation Concerns

Section 30235 requires that impacts to local shoreline sand supply be mitigated when constructing shoreline protection devices. Permittees for shoreline protection have attempted to comply with Section 30235 of the Coastal Act by payment of in-lieu fee to SANDAG for the purposes of mitigation rather than placing sand on the beaches. The methodology utilized in the calculation of these fees can be found in "Procedural Guidance Document: Review of Permit Applications for Shoreline Protection Devices" and "Report on In-Lieu Fee Beach Sand Mitigation Program: San Diego County". Recent application of these fees to specific projects has raised significant issues with respect to the policy as outlined in the aforementioned documents. This report attempts to summarize some of these concerns and makes some specific recommendations to correct the inadequacies.

A list of the major policy implementation concerns follows:

- 1) Fees are only being calculated over a limited period. There is no corresponding time limit on the project itself. This period is usually assumed to be 20 years.
- 2) Site-specific retreat rates are not being used in calculation of the fees.
- 3) The methodology does not account for the episodic nature of erosion in Northern San Diego County.
- 4) The methodology does not account for tidal terraced beaches as in Northern San Diego County.
- 5) The methodology does not account for bluffs stabilized at their angle of repose. Many of the bluffs in this region were developed on a slope beyond the angle of repose. Under natural conditions these bluffs would have an average slope equivalent to the angle of repose. This return to the angle of repose is not considered in the mitigation fee calculations.

Policy Concern 1: Duration of Mitigation Fees

Sand mitigation fees are calculated over a specific time period. No commensurate limit on the permit for the structure exists. Further, applicants have reported that the life of these structures can be as long as 75 years (see for example page 8 Letter to Mr. Steve Apple from Group Delta dated 12/8/2000 with reference to the Corn Seawall Application in Solana Beach). The same applicant used a 20 year "useful life of the project" time period to calculate the sand mitigation fees.

Recommended Action for Policy Concern 1

- 1) Permittees must be required to pay sand mitigation fees for as long as the approved permit life of the structure.
- 2) Permittees must be required to submit a detailed failure analysis of the structure that should be contained in the staff report as part of the sand mitigation fee application. Coastal Commission Engineers and Geologists must certify this analysis. This will be used to determine the useful life of the structure.

Policy Concern 2: Site-specific retreat rates are not being used in calculation of the fees

Permittees have used a retreat rate of 0.2ft/yr in applying the calculating the required mitigation. This is not consistent with the actual erosion rate in this area as reported in CDP 6-00-009 for example. The erosion rate is reported as 0.8ft/yr on the site adjacent to the project. Other rates of erosion are reported in the applicants permit request to the City of Solana Beach as 0.4-0.5ft/yr (Report from Group Delta for Project 1991, Page14 submitted to the City of Solana Beach and in the Staff Report for CDP 6-00-36 Page 12). As noted in the "Report on In-Lieu Fee Beach Sand Mitigation Program: San Diego County",

R = The retreat rate which must be based on historic erosion, erosion trends, aerial photographs, land surveys, or other accepted techniques and documented by the applicant. The retreat rate should be the same as the predicted retreat rate used to estimate the need for shoreline armoring.

However, the permits for CDP 6-00-009, CDP 6-00-36, CDP 6-00-138 and numerous others in the 1.4 mile section of Solana Beach coastline are all utilizing a retreat rate of 0.2ft/yr in calculation of the in-lieu fee.

Recommended Action for Concern 2

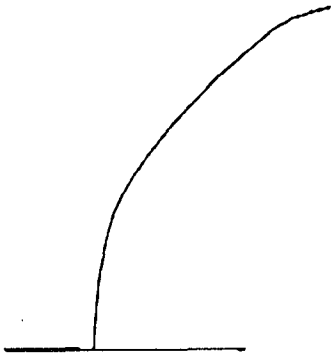
- 1) The permittees must use the actual rate of erosion in providing mitigation to the public for its loss of beach material and beach.
- 2) Staff should issue a report detailing other inconsistencies in the calculation of retreat rate in the application of these fees in addition to those reported by the author.

Policy Concern 3: The methodology does not account for the episodic nature of erosion in Northern San Diego County

Figure 1 shows the basic mechanism of bluff erosion in North County San Diego. The process begins with a stable bluff that is eroded by waves creating a notch. The notch collapses at some point causing a block fall of the upper bluff. Little or no upper bluff retreat will occur until the long process of notching occurs. Suddenly, a large amount of erosion occurs via a block fall followed by sloughing or some combination of these two processes.

When structures are approved to prevent notch or cave collapse, the structure will prevent the episodic erosion and contribution of large amounts of material to the beach. The current methodology fails to mitigate for this loss.

Stable Bluff



Wave cut notch leaves
subject to block fall

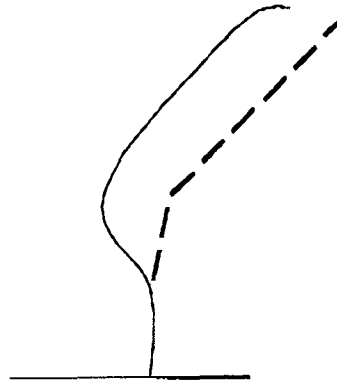


Figure 1 Bluff Erosion

Another way to look at this erosion is to examine the rate of erosion over time. Figure 2 shows such a model. Note that no erosion is observed for a long time and then a large amount of erosion is observed. The predicted or average erosion rate is observed by measuring the long-term rate of change.

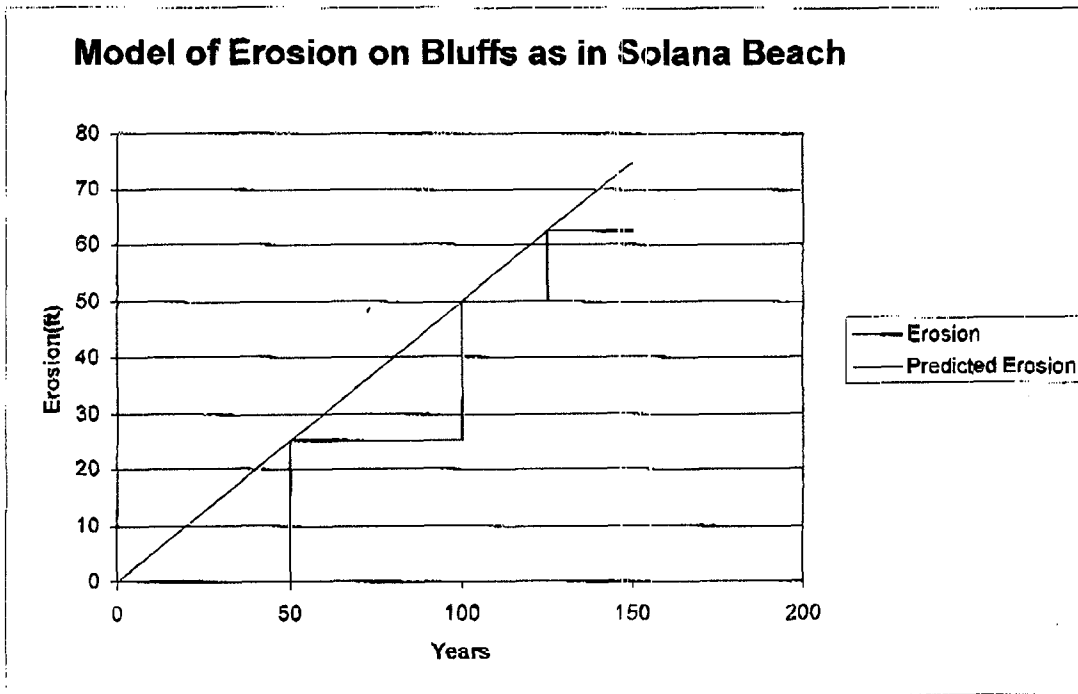


Figure 2 Model of Bluff Erosion Rate

A good example of how the sand loss mitigation fee calculation does not correctly account for episodic erosion is the Corn/Scism Project (CDP 6-00-36). In a 12/18/2000 letter to the City of Solana Beach (included in the City Staff Report for the Corn seawall application) from Group Delta, it was reported that no blufftop retreat had occurred over a 45-year period at the site. How can this be explained in an area where an erosion rate of 0.4-0.5ft/yr is reported? This result is not unexpected due to the nature of erosion on cliffs and is a perfect exemplification of the misunderstanding of the situation.

At the end of one of the relatively stable 45-year periods, the lower bluff has become unstable to the point that the development is threatened. A permit was granted and a Sand Mitigation Fee Worksheet was submitted to the Coastal Commission (Exhibit 6 of the Staff Report for CDP 6-00-36). In this worksheet, V_b is calculated. From the "Report on In-Lieu Fee Beach Sand Mitigation Program: San Diego County",

Volume of sand denied the beach by the protective device (V_b) is equal to the percentage of sand in the bluff material (S) times the total width of the protected property (W) times the area between the solid and dotted lines in Figure 4-4 directly landward of the device [$R \times h_s$], plus the area between the solid and dotted area above the device [$1/2h_u \times (R + (R_{cu} - R_{cs}))$]. Since the dimensions and retreat rates are usually given in feet and volume of sand is usually given in cubic yards, the total volume of sand must be divided by 27 to provide this volume in cubic yards, rather than cubic feet. This can be expressed by the following equation:

$$V_b = (S \times W \times L) \times [(R \times h_s) + (1/2h_u \times (R + (R_{cu} - R_{cs})))]/27$$

Note that R_{cu} is the retreat rate without the seawall while R_{cs} is the retreat rate with the seawall. In the worksheet, however V_b is calculated as follows:

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

Where,
 R = 0.2ft/yr
 L=20 years
 W=74 feet
 S = 0.75
 H=82.5 feet
 And Vb=678 yds³.

No attempt is made to account for our missing 45 years of sand. This should have been accounted for by using Rcu.

Below is an example of how this 45 years of sand the beach is deprived of should be accounted for.

$$Vb = (S \times W \times h) \times (R \times L + Rcu \times Le) / 27$$

or more simply, if R and Rcu are equivalent:

$$Vb = (S \times W \times h \times R) \times (L + Le) / 27$$

In this equation, a new term is introduced, Le. Le denotes the time that potential episodic failing bluff material has been impounded. The appendix shows a proof of the derivation of this new equation for Vb.

Using all of the same assumptions as above and assuming Le=45 years and Rcu =0.2 ft/yr we find that:

$$V_b = 2204.6 \text{ yd}^3$$

As opposed to the 678 yds³ submitted in the worksheet.

If we also account for the proper erosion rate as recommended in the resolution for Policy Concern 2, R=0.5ft/yr as opposed to 0.2ft/yr:

$$V_b = 5511 \text{ yd}^3$$

This is greater than 8 times the value presently used in mitigation assessment.

Recommended Action for Concern 3

- 1) Obtain site-specific information regarding long-term erosion rates and episodic erosion conditions.
- 2) Add the factor Le to the calculation of Vb to account for the time between episodic events.

Policy Concern 4: The methodology does not account for tidal terraced beaches as in Northern San Diego County

From the "Report on In-Lieu Fee Beach Sand Mitigation Program: San Diego County",

The volume of sand to rebuild the area of beach lost due to encroachment (V_e) is equal to the encroachment area (A_e) times the area to volume conversion (v). This can be expressed by the following equation:

$$V_e = A_e \times v$$

The value of beach lost due to passive erosion, v, is assigned a value of 0.9 yd³/ft of beach taken. The beaches formed in this area via the formation of seacaves are a combination of a sandy beach and a low-tide terrace, A low-tide terrace consists of resistant rock that also makes up the reefs and rocks

prevalent in this area. Historically, the low-tide terrace has been covered by a thin veneer of sand. This terrace is a much stronger shoreline than a sandy beach. When there is no sand veneer, the tidal terrace provides the sole means of public access at low tide. When the formation of new tidal terrace is blocked by a seawall, this low tide access becomes less and less available because the tidal terrace continues to erode. Additionally sea-level rise covers more and more of the terrace at low tide. The long term result is no lateral public access when there is no sand veneer, even at low tides. The sand loss mitigation fee calculation methodology does not account for the increasing amounts of sand on the beach needed to provide lateral public access under these conditions. This is a fundamental flaw in the calculation of mitigation. It would take much more sand than $0.9 \text{ yd}^3/\text{ft}$ to provide a beach as resistant to erosion as a rocky tidal terrace formed by seacave formation and collapse. Seawalls clearly prevent the formation and collapse of seacaves that would lead to increased low-tide terrace areas. Staff and the applicants must determine the actual value of the formation of a tidal terrace in order to properly mitigate the loss of this resource by constructing seawalls.

This value also needs to be considered in the long-term erosion rate calculation for V_b since the placement of the seawall will prevent the formation of any new tidal terrace. The terrace in front of the seawall will be eroded further.

Recommended Action for Concern 4

- 1) Quantify the value of a Torrey Sandstone based tidal-terraced beach.
- 2) Add this value to the encroachment value V_e .

Policy Concern 5: Improper Accounting for Recession to the Angle of Repose

Much of the bluff face in North San Diego County is at a slope beyond the angle of repose and consists of poorly consolidated material or unconsolidated exposed clean sands layers. Over the long term these over-steep bluffs will recede to the angle of repose or until a consolidated layer is reached. Figure 3 shows a bluff at an initial over steep angle, θ_A . This angle necessitated the need for the protective device. If natural erosion were allowed to occur, the bluff would eventually achieve the angle of repose, θ . This material between the two angles would be provided to the beach and is not accounted for in the sand mitigation fee calculations.

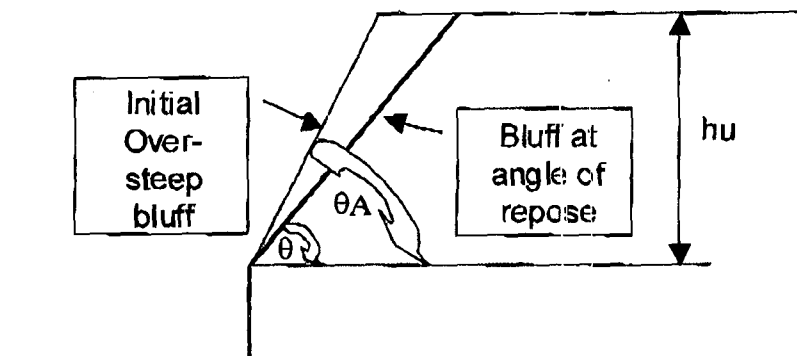


Figure 3 Bluff recession to angle of repose

In the appendix it is shown that the area of this material is:

$$A_r = \frac{h_u^2}{2} * [\cot \theta - \cot \theta_A]$$

The volume of material, V_r , deprived from the beach by not allowing the bluff to recede to the angle of repose is found to be:

$$V_r = S * W * A_r$$

Figure 4 shows the volume of sand denied the beach per 100 feet of bluff at an angle steeper than the angle of repose widely assumed to be 34 degrees in Solana Beach.

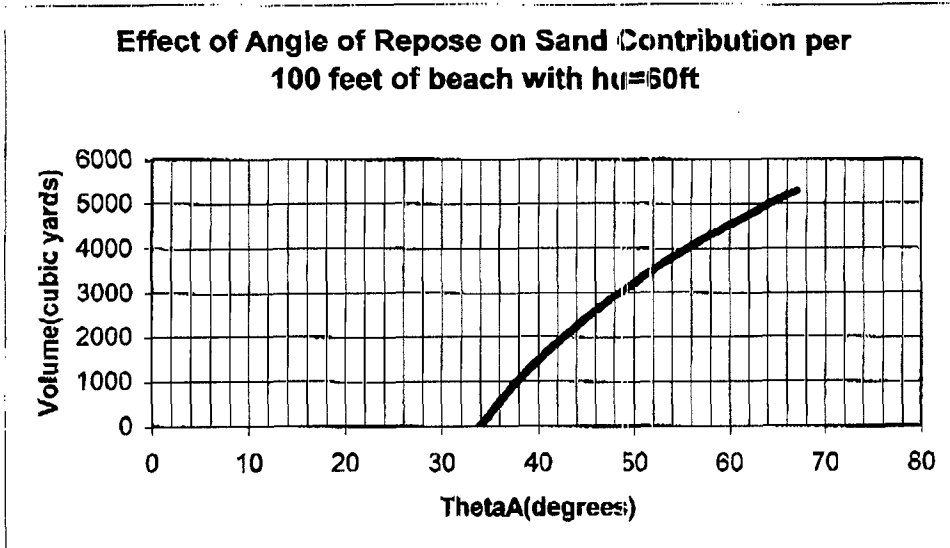


Figure 4 Volume of sand denied beach by not allowing bluff to achieve angle of repose

The length of retreat due to this effect can be shown to be:

$$L_x = h_u * [\cot \theta - \cot \theta_A]$$

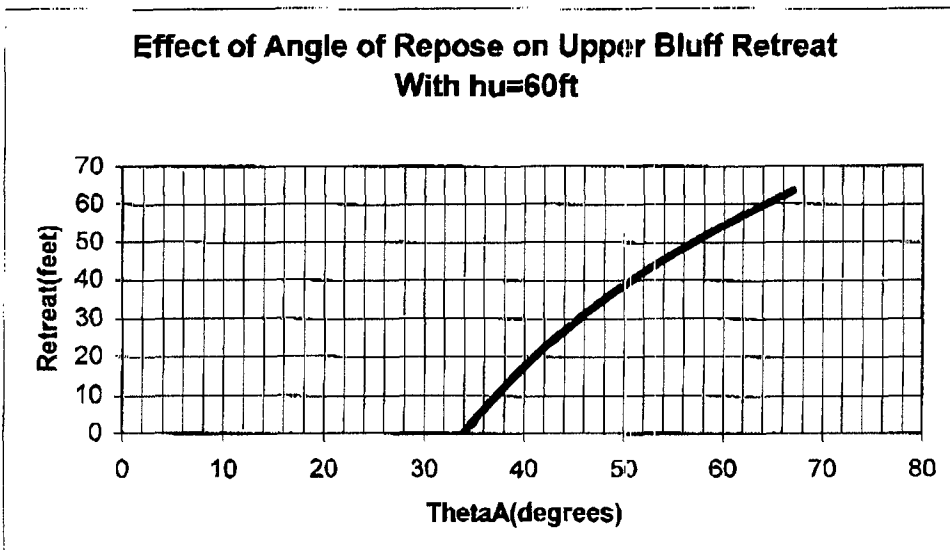


Figure 5 Retreat due to angle of repose stabilization

Figure 5 shows the length of retreat due to stabilization to the angle of repose.

Recommended Action for Concern 5

- 1) Account for the stabilization to the angle of repose by using the equation for Vr.

Summary and Discussion

Table 1 shows a comparison of the cumulative impacts of Policy Concerns 2-4 applied to the Solana Beach Coastline.

| | | |
|--|---------|-------------|
| Old method of accounting for episodic event | 0 | Cubic yards |
| New method of accounting for episodic event | 385,000 | Cubic yards |
| Sand Per Year over entire coastline at 0.2ft/yr rate of erosion | 3080 | Cubic Yards |
| Sand Per Year over entire coastline at 0.5ft/yr rate of erosion | 7700 | Cubic Yards |
| Sand Per Year over entire coastline at 0.8ft/yr rate of erosion | 12,320 | Cubic Yards |
| Sand over 20 years at 0.2ft/yr rate of erosion | 61,600 | Cubic Yards |
| Sand over 20 years at 0.5ft/yr rate of erosion | 154,000 | Cubic Yards |
| Sand over 20 years at 0.8ft/yr rate of erosion | 246,400 | Cubic Yards |
| Beach width denied the beach by a seawall including episodic and long term erosion over 20 years | 35 | ft |

Table 1 Summary of Improper Mitigation over the length of Solana Beach (1.4 miles) for a 75 ft high bluff and assumption of 75% beach building material in eroded bluff.

Policy Concern 2 deals with not utilizing site-specific erosion rates in sand mitigation fee calculations. The present method uses 0.2 feet per year as an erosion rate. Using rates of 0.5 or 0.8 feet per year give significantly higher sand mitigation requirements as shown in Table 1.

In accounting for the episodic event (Policy Concern 3), it is assumed that the episodic event is 25 feet over the entire coastline. This assumption is based on the 1400 feet out of 1.4 miles of coastline armored in the last three years under emergency permits. These permits would only have been granted if structures were in imminent danger from erosion. Assuming the average setback is 25 feet, gives an erosion event of 385,000 cubic yards over the 1.4 miles of coastline. The present method of mitigation does not account for this event.

Policy Concern 4 is addressed in Table 1, by showing that 35 feet of tidal terraced beach is not allowed to form due to the placement of a seawall. This 35 feet is found by taking the 25 feet attributed to the episodic event and adding it to 0.5 feet per year over 20 years.

Policy Concern 1 requires a permit lifetime being imposed on any shoreline protective device.

Policy Concern 5 discusses the lack of mitigation for bluffs beyond the angle of repose. This long term stabilization is not accounted for in the present methodology.

It is the intent of the author to exemplify policy implementation concerns and provide a framework for an improvement of the process. I am available for future revisions of these recommendations as more relevant data becomes available.

Sincerely,

Jim Jaffee

Appendix: Proof of Calculation methodologies

This appendix will show the validity of the calculations used.

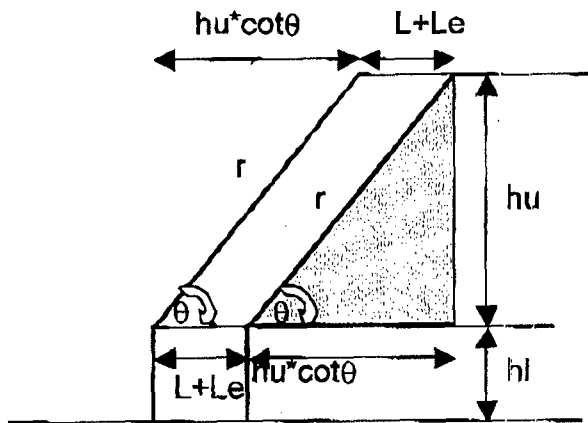


Figure 6 Bluff area lost due to long term and episodic retreat

We first assume that all bluffs will achieve the angle of repose, θ , and all erosion is a recession back to the angle of repose. The upper bluff face is the hypotenuse of a right triangle given by:

$$r = \frac{h_u}{\sin \theta}$$

The base of the right triangle with hypotenuse, r , and angle of repose, θ , is given by:

$$b = h_u * \cot \theta$$

Note that \cot denotes the cotangent or $1/\tan$ of an angle.

The area of the right triangle is:

$$A_t = \frac{h_u^2 * \cot \theta}{2}$$

The area of upper bluff material lost from erosion is found from the area of the rectangle of the upper bluff minus the area of the two right triangles:

$$A_u = (h_u * \cot \theta + L) * h_u - \frac{2 * h_u^2 * \cot \theta}{2} = h_u * L$$

The total area lost from beach supply is:

$$A = h_l * (L + L_E) + h_u * (L + L_E) = h * (L + L_E)$$

This result can be used to get the newly presented equation for Vb.

Next we will investigate the new equation for recession back to the angle of repose.

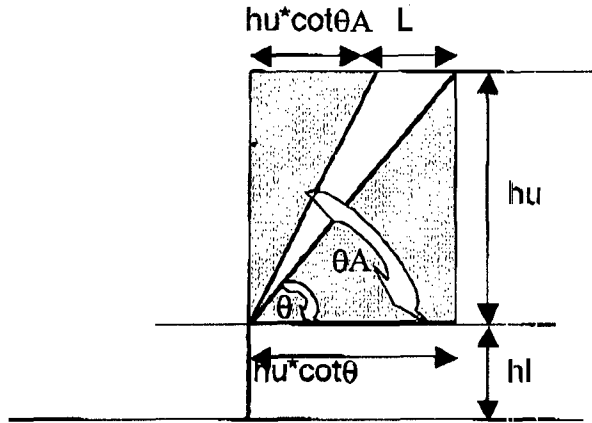


Figure 7 Sand loss via recession to the angle of repose

The bluff is assumed to be at an initial angle of θ_A , at the time of the project construction. The bluff will eventually recede to the angle of repose, θ , as shown in Figure 7. The area lost due to this erosion process is:

$$A_r = \frac{h_u^2}{2} * [\cot \theta - \cot \theta_A]$$

Also note that the stable position of the bluff top is:

$$L_x = h_u * [\cot \theta - \cot \theta_A]$$

CalBeach Advocates
PO Box 1065
Solana Beach, CA 92075

April 10, 2001

Steven Apple, Community Development Director
City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075

Re: EIR Scoping Comments

Dear Steve:

Thank you for the opportunity to submit written comments regarding the scope of the subject EIR. These comments are in addition to those previously submitted, both with respect to the EIR and specific projects, by CalBeach Advocates or myself personally, and which are already part of the record. These include the comments submitted on the record for the Corn/Scism Case No. 17-00-25 together with the exhibits attached to those comments, as well as the comments submitted with respect to this EIR project. As you know, I am out of town and unable to attend the scoping meeting in person, although other CalBeach Advocates representatives will be in attendance.

The CEQA Guidelines (Sections 15120 to 15132) set forth in some detail what must be discussed in an EIR under CEQA. One of the most fundamental element is an adequate Project Description.

Project Description (Section 15124). The project description must contain a statement of the objectives sought by the proposed project and should include the underlying purpose.

In the present case, the project description must be broader than simply taking the existing City seawall ordinance at face value, as the project, and analyzing the potential impacts of shoreline protection structures approved under the ordinance. Since the City never prepared an EIR for the ordinance prior to its approval, limiting the project description to the existing ordinance would be an improper "ex post facto rationalization" of the prior ordinance approval.

The project description should instead focus on the basic policy question which the City must address. In that regard, it is clear that the City's shoreline, like that of most of the rest of California, is eroding landward. The result in Solana Beach is coastal bluff collapse. Privately owned structures built too close to the edge of the bluff thereby become subject to damage. The bluff top property owners want to armor the bluffs to stop the erosion and protect their property. These structures, however, are often proposed to be placed on public property and will have negative impacts on the natural bluffs and beaches. The basic policy question is the extent to which the public interests should be subordinated to the interests of the private property owners. As currently written and implemented, the City's seawall ordinance has elevated the interests of

the private property owners over the public interests. Instead of treating the ordinance as it currently exists and is being implemented as "the project," the EIR should consider the current ordinance as just one alternative to the basic policy question, rather than a "fait accompli," so that the City's consideration of the basic policy question is informed and objective rather than an "after the fact rationalization" of a decision made in 1994 without an EIR.

The project description should also describe the intended uses of the EIR, including a list of the agencies that are expected to use the EIR in their decision-making and it should list the permits required. These agencies include the City (both with respect to the basic policy question and any further permits the City might issue under the seawall ordinance), the State Lands Commission (with respect to leases or other permits for the construction of private shoreline protection devices on the public beach or other public lands), the Coastal Commission, the Army Corps of Engineers, and perhaps others.

If a public agency must make more than one decision on a project, the project description should also include all its decisions subject to CEQA. Since a substantial portion of the coastal bluffs in Solana Beach is owned by the City, and since the City typically transfers title to the City land to the private bluff-top property owners in connection with approval of shoreline protection devices, the project description should include the City's transfer of public ownership of the City-owned portions of the coastal bluffs as one of the discretionary decisions which the City makes under CEQA.

The Environmental Setting (Section 15125). The EIR must include a description of the physical environmental conditions from both a local and regional perspective. This will normally constitute the baseline physical conditions by which the City, as lead agency, determines whether an impact is significant.

Normally the environmental setting would be described as of the date the notice of preparation is published or as of the time the analysis is commenced, per the Guidelines. However, in the present case, because the ordinance was approved in 1994 without an EIR and there have been approximately 14 projects approved since then without an EIR, the environmental setting should be described as of 1994. Otherwise, the EIR will fall into the same "after the fact rationalization" trap it would if the project description were limited to the current ordinance and its implementation. It would be contrary to CEQA to assume the current environmental conditions, degraded by 14 projects approved without an EIR, as the baseline physical conditions by which the City determines whether the impacts of further potential projects are significant.

The regional setting should include the coastal littoral cell in which Solana Beach is located, since the issues of shoreline retreat and shoreline sand supply to and along the coastline, and the impacts of local agency response to these issues, exist throughout this regional setting.

Significant Environmental Impacts (Section 15126.2). The focus of this element of the EIR must be on changes in existing physical conditions resulting from the project. The analysis must include indirect and cumulative as well as direct changes, both short and long term. The EIR must include relevant specifics of the area, the resources involved, physical changes.

alterations of ecological systems, changes induced in human use of land, health and safety problems caused by the physical changes, and impacts on scenic quality, among other impacts.

The construction and maintenance of shoreline protection devices can have serious adverse environmental impacts. In terms of shoreline processes:

"Construction of seawalls and/or other forms of shoreline 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 devices on the contrasting natural bluffs." (Coastal Commission Staff Report, Application No. 6-00-35).

"All unprotected sea cliffs from Oceanside to La Jolla are subject to wave-caused retreat at varying rates. This retreat is a serious problem. Valuable public and private property is lost when the crest of a sea cliff erodes. Yet when the underlying cause, wave-cutting at the base, is treated by armoring without corresponding measures being taken to prevent shoreline retreat, the beach is likely to disappear altogether while the backbeach line remains intact." (Shoreline Erosion Assessment and Atlas of the San Diego Region, Volume I, p. 45, edited by Reinhard E. Flick, Ph.D. 1994).

"Simply placing a protective structure on the beach, depending upon its size and shape, will cover a given amount of beach . . . "A second seawall impact has been termed passive erosion. Wherever a hard structure is built along a shoreline undergoing long-term net erosion, the shoreline will eventually migrate landward beyond the structure. The effect of this migration will be the gradual loss of beach in front of the seawall or revetment as the water deepens and the shoreface moves landward. . . While private structures may be temporarily saved, the public beach is lost. This process of passive erosion appears to be a generally agreed upon result of fixing the position of the shoreline on an otherwise eroding stretch of coast, and is independent of the type of seawall constructed." (The Protection Of California's Coast: Past, Present and Future, Gary B. Griggs, Institute of Marine Sciences and Department of Earth Sciences, University of California, Santa Cruz).

Seawalls also have well-documented "endwall" effects, whereby erosion of adjacent unprotected coastal bluffs is accelerated. In this way, the construction of one seawall speeds the construction of additional shoreline protection structures to protect the adjacent bluffs and hasten the inevitable armoring of the entire shoreline.

An additional impact is increased erosion of the tidal terraces formed by natural bluff retreat. The tidal terraces, carved out of the more resistant lower bluffs of Solana Beach, are the only available lateral beach accessways when there is no overlaying sandy beach. If bluff retreat is halted by shoreline protection structures, new tidal terrace area will not be formed and the

existing tidal terrace area will continue to erode deeper and deeper until it no longer serves as even a low tide lateral public accessway. The rate of erosion of the tidal terrace will probably also increase because of wave scour caused by the seawall which has fixed the backbeach line.

These shoreline process impacts have the obvious potential of entirely eliminating public access and enjoyment of the most important public resource this City offers - - its recreational beach.

Relatedly, without a sandy beach the nearshore environment of Solana Beach will change drastically and have adverse biological impacts. Sand crabs, a major food source for such nearshore species as corbina, perch, and croaker, must have sandy beaches. Grunion must have sand to reproduce. The scope of the EIR must therefore include a biological component.

The impacts of shoreline protection structures on the scenic quality of the Solana Beach shoreline are also significant. The shoreline will continue to erode, including both the lower and upper bluffs, unless stopped by bluff armoring. If the policy of the City is to protect private property from erosion, all of the bluffs must eventually be protected by armoring. The naturally sculpted coastal bluffs of Solana Beach will thereby be replaced with concrete structures of varying types and appearances.

Construction of coastal bluff armoring also prevents contribution of sandy material that would otherwise be added to the beach through natural erosion.

Personal safety is also compromised by the construction and maintenance of seawalls. A number of construction workers have already been seriously injured in Encinitas by accidents occurring during the construction and repair of shoreline protection structures. Also, seawalls narrow sandy beaches and lateral public access, thereby forcing members of the public closer to the bluffs than would otherwise be the case. Seawalls also give the public on the beach a false sense of security. Lower bluff armoring does not assure upper bluff stability, and, as witnessed recently in Ocean Beach, shoreline protection structures themselves can fail catastrophically and endanger life.

These significant environmental impacts cannot be avoided through mitigation measures. Disneyland concrete does not substitute for naturally sculpted landforms. The short term sand loss mitigation fees currently collected do not compensate for the long term permanent loss of the sandy public beach. The CEQA Guidelines require that, if significant environmental impacts cannot be alleviated without implementation of alternatives, their implication and the reasons why the project is proposed notwithstanding the significant effects must be explained. Thus, to continue a policy decision to sacrifice the public's sandy beach and sculpted coastal bluffs to protect privately owned structures built too close to the bluff edge, the City must explain its reasons for doing so in the EIR.

The CEQA Guidelines also require the EIR to identify the project's significant irretrievable commitment of resources. In this case, continuation of the current City policy would irretrievably commit its natural coastline to eventual elimination. Continuation of the policy would also irretrievably commit future generations to continued shoreline protection

structures. If the policy is to protect private property, property owners will expect approval to protect existing as well as future structures, and the City will be hard pressed to change its policy in the future.

Mitigation Measures (Section 15126.4). The EIR must discuss, for each significant environmental impact, the mitigation measures proposed by project proponents as well as others proposed by other agencies or persons which could reasonably be expected to reduce the adverse impacts. The formulation of mitigation measures cannot be deferred to some future time. The mitigation measures must be fully enforceable by law.

Various conditions have been imposed on projects in the past as supposed "mitigation measures." These include proper maintenance of shoreline protection structures. The EIR should address the efficacy of these conditions in light of the numerous structures currently on the public beach which have not been properly maintained. The EIR should identify whether the mitigation measures are inadequate or legally unenforceable, or whether the City has simply lacked the will to take legally enforceable actions to enforce the conditions. If the mitigation measures are inadequate, or if the City does not have the will or the legal ability to enforce the conditions as mitigation measures, they do not mitigate the significant impacts. If the City does not have the will to enforce the conditions, the EIR should discuss other options such as providing fines and express private rights of enforcement by interested private parties.

Mitigation measures must also meet constitutional requirements. In this connection, property owners have often claimed they have a constitutional property right to protect their land and structures against coastal bluff erosion. The City's current ordinance assumes there may be such a right. In order to assess potential mitigation measures and alternatives that would limit the time period for shoreline protection structures, or prohibit them altogether, the EIR should analyze whether a "taking" of private property would occur as a result. While social and economic impacts generally need not be addressed in an EIR, where there is a physical impact to the environment, as there is here, evaluation of the significance of that impact must take into account relevant social and economic factors. The Guidelines also require an explanation of the reasons underlying the determination in an EIR that a mitigation measure cannot be legally imposed. Relevant issues would include:

1. Does a private property owner have a constitutionally protected property right to use public property (such as the public beach or coastal bluffs) to protect private property from coastal erosion?
2. Does a private property owner have a constitutionally protected property right to protect private property from coastal erosion if to do so would adversely impact public property and in particular the public beach?

Alternatives (Section 15126.6). As indicated above, the EIR should describe the project as a basic policy question. CEQA requires discussion of a range of reasonable alternatives for the project that would feasibly attain most of the basic objectives, even if more costly, and evaluate their comparative merits. The discussion must include the "no project" alternative, and if it is the environmentally superior alternative, the EIR must identify the environmentally

superior alternative from among the others.

In the present case, the "no project" alternative should be analyzed as the cessation of coastal bluff armoring and should be acknowledged as the environmentally superior alternative. While this alternative does not necessarily preclude sand replenishment projects which would slow down the current rate of erosion, eventually the coastal bluffs would erode and the bluff top private property would not be protected.

The current seawall ordinance, and its continued implementation to protect private property at the expense of the public beach, is at the other end of the spectrum of alternatives.

An alternative that would strike a balance between public and private rights is the "planned retreat" alternative which should be discussed in detail in the EIR. A description of the general outlines of a "planned retreat" alternative has been previously submitted to the City and is included in these comments as follows:

Background:

The long term goal is restoration and maintenance of the natural sandy beach, nearshore environment, and sandstone bluffs. This acknowledges the inevitability of bluff erosion in a geologic era marked by naturally caused shoreline retreat and rising sea level. Natural bluff retreat due to erosion is environmentally beneficial because it contributes sand to the beach, results in maintaining beach width, and sculpts the bluffs into visually attractive natural landforms. Natural bluff retreat is economically beneficial because, among other reasons, it enhances the recreational value of the coastline and reduces dependence on costly shoreline protection measures.

The Planned Retreat Approach:

The basic approach is to develop and implement policies and programs to ensure that present and future coastal development is consistent with the long term restoration and maintenance of the natural conditions, including restoration of natural sand flow to and along the coast, and the reasonable economic expectations of private property owners.

Implementation:

Sand replenishment projects. These will widen the sandy beaches and slow down current high rates of erosion and thereby reduce the need for additional shoreline protective devices. They will also restore sandy beach recreational opportunities.

Bluff top development regulatory policies. Adequate setbacks are required to ensure that new approved development will not require shoreline protection within the useful economic life of the structure. History shows that structures have been built too close to the bluff edge. Therefore, an effective Planned Retreat alternative would establish setback lines including a "no new development" line which would be set no further seaward than the estimated bluff retreat line in 50 years, plus a margin of error. A second "planned retreat" setback line should be

set no further seaward than the estimated bluff retreat in 100 years, plus a margin of error. Revise the setback lines periodically. No new development (defined as any development which increases the useful economic life of the existing structure) should be allowed seaward of the "no new development" setback line. Independent expert reports should be required to establish that a greater setback is not required for new development landward of the "no new development" setback. All new development should be conditioned on an enforceable waiver of any right to build shoreline protection structures. Impose other conditions as required to ensure that new development does not increase rate of bluff erosion, including drainage and landscaping conditions.

Shoreline protection projects. Key aspects would include:

- * Permit only to the extent necessary to protect existing structures.
- * Permit only if there are no other feasible alternatives, such as underpinning the structure, relocating the threatened portion, or removal of the threatened portion even if the alternatives are more expensive.
- * Limit life of shoreline protection structure to remaining useful economic life of the existing structure to be protected.
- * Impose conditions to require construction method which makes removal at end of permit life feasible.
- * Require bond or other security to ensure removal at end of permit life.
- * Impose adequate sand loss mitigation fees or other mitigation to compensate for the harm caused during the full permit life of the structure.

Staged public acquisition of property. Key aspects would include:

- * Acquire the properties seaward of the planned retreat line through purchase or eminent domain. As the planned retreat line moves landward, acquire additional properties.
- * Acquire the future ownership right to the properties on a discounted present value basis. The future ownership right would be 50 years off for properties located between the planned retreat and no new development setback lines. The future ownership right would be the remaining useful economic life of the existing structure for properties located seaward of the no new development line, but no more than 50 years.

Cumulative Impacts (Section 15130). The EIR must, of course, analyze and discuss the significance of combining the impacts from individual projects. The impacts of past, present, and probable future related projects must be considered. The EIR must discuss the option of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis, if that is the only feasible mitigation for cumulative impacts.

In the present case, the EIR must identify and discuss the numerous existing coastal armoring projects approved by the County of San Diego before City incorporation and by the City itself, any projects pending currently, and the probable future projects. The City's current ordinance and its implementation guarantees that the probable future projects will result in the armoring of the entire Solana Beach shoreline. The eventual cumulative impacts of the City's current ordinance and its implementation include the destruction of the City's beach and coastal bluffs from coastal bluff armoring as a result. The only feasible way to mitigate or avoid this destruction is through a change of policy.

Thank you again for the opportunity to submit these comments. Of course, the above is not an exhaustive discussion of the issues we believe must be discussed in the EIR, and we look forward to the further opportunity to comment.

Respectfully submitted,
CalBeach Advocates

By W. Scott Williams

COMMENTS FOR EIR HEARING 4-10-01

By Ann Baker

It is impossible for me to understand why anyone would think that “natural retreat” of the bluffs in Solana Beach could be the best plan for our bluffs and beaches. We are not talking about new development being on these bluffs, but about a well-established residential area that started over 70 years ago.

If ‘natural retreat’ should become the action of choice, I have not heard one person say at what point the erosion should be stopped? The City of Solana Beach is completely developed from the beach to East of the Freeway. Would those that recommend ‘natural retreat’ tell us where they think the erosion should be stopped?

When the first row of condos and houses and the bluffs on which they stand erode away there will be no more Fletcher Cove or Tide Park. As it is now, you have seen Fletcher Cove get smaller and smaller each year. Without protection the erosion has speeded up 20 fold in the last 20 years. It will reach Pacific and Sierra Streets much sooner that you think, because there is no sand to protect these bluffs as there was until we were robbed of sand from the North in just the last 50 years. It took many years for its effects to reach us, but now it is here and it is not going to go away.

Remember that our bluffs can not be compared to the Gulf Coast or beaches in New Jersey where they are often ravaged by hurricane forces. Nor is there any similarity even to the beaches in Del Mar, where they will have to worry about the ocean rising with global warming.

These are 85 foot bluffs that are natural seawalls. With proper protection they can function as they have for hundreds of years. They can continue to protect Solana Beach. But if we decide to let them crumble into the Sea we will loose what little beach we have left. It will be like the person that never takes care of his teeth, and

lets his cavities grow. Without fillings the teeth waste away until there is not anything left.

These seawalls can be saved. If not now then tell me at what point would you try to save them as the ocean continues to eat away at the base of the bluffs?

It only makes sense that we need to strengthen them and not with erodible cement. Those that say the walls cause erosion need only remember the bluffs are seawalls. Does anyone really think that the ocean waves can tell if they are hitting a natural hard sandstone that will wear away in a few years or a natural seawall that man has reinforced with cement and one that will not wear away for 10, 20 or 30 years or indefinitely with proper maintenance?

For optimum protection every soils engineer that I have spoken with tells me that one of the most effective means of protection is riprap. So I would recommend that a single row of riprap be placed all along the front of the bluffs to break up the force of the waves and thus make the waves much less destructive. There would be no loss of 'beach access' because due to safety issues the lifeguards do not want people within 40 feet of those bluffs.

Lets save the beach in Solana 'Beach'. The one Fletcher carved out of the bluffs so many years ago, so that the people in Solana could enjoy the beach.

The Best Solution for Solana Beach & Encinitas is as stated on the Army Corps of Engineers Web Page www.army.shoreprotection

"PLANNING CONSIDERATIONS: It often makes good economic sense to cooperate in building a single device to retard or arrest erosion, such as a FILLED or perched beach, breakwater, bulkhead, or revetment.....It has the added advantage of protecting against flank erosion. In some cases, it may be wise for entire communities to cooperate in erosion control.

'BEACH FILL: When there is a net loss of sand on a beach there is increased danger of damage as the water line advances inland. Adding fill to a beach is often both economical & effective. It increases the width of the backshore moving the high water line farther offshore. Cost depends on rate of loss from the beach. In some cases sand loss can be substantially reduced or eliminated by the use of breakwaters or groins.

'REVETMENTS: These are structures placed on banks or bluffs in such a way as to absorb the energy of incoming waves. They are usually built to preserve the existing uses of the shoreline and to protect the slope. Like seawalls they protect the land behind them. They may be watertight, covering the slope completely, or porous, to allow water to filter through after the wave energy has been dissipated. Most revetments do not significantly interfere with transport of littoral drift. They do not redirect wave energy to vulnerable unprotected areas. Accelerated erosion there after the revetment is built can be controlled with a beach-building or beach-protecting structure such as a groin or a breakwater.

'COMBINATION METHODS: Careful evaluation is always required to identify the most appropriate combinations of erosion control measures for a given site."

Then quoting from Charles Damm's report Copyright 1997 Damm on www.asu.edu/caed/proceedings97/damm "COASTAL PLANNING IN THE SAN DIEGO REGION. The Coastal Commission was born of controversy in 1972 and, to this day, it is an agency that remains embroiled in controversy.

'MISSED OPPORTUNITIES: Much has been accomplished but there is still the lack of a comprehensive plan to deal with the shoreline erosion issue before it reached the current crisis stage (this was 1997 no less).

"GOALS FOR THE FUTURE: 1. Work to develop innovative ways to better provide safe and adequate public access while minimizing conflicts which can occur between beach users and private property owners. 2. Continue the work with SANDAG & coastal cities on providing comprehensive beach nourishment program that includes financing strategies. 3. Work to balance the need to protect existing development in danger from erosion with the need to protect public beaches and scenic bluffs."

The above is a summary of things we all know about Solana Beach & Encinitas. I would like to press the following points:

1. **In Solana Beach seawalls do not cause the erosion.** All the experts agree that the majority of the erosion is from lack of sand from the north thanks to the Oceanside Harbor and damned rivers to the north. (I found it ironic at the CCC hearing last Oct. 15 when citizens of Oceanside were testifying for the benefits of paving over 8 acres of sand for parking for the Manchester Project they were saying "We have so much sand north of the harbor we won't miss the 8 acres being paved over.")

The sandiest beach currently in Solana Beach is in front of a long-standing seawall in front of the Del Mar Beach & Tennis Club just north of Dog Beach.

At most times of the year in Del Mar they have deep beautiful beaches even where there are seawalls on the beaches to protect the homes.

Yet, where there are no seawalls between Fletcher Cove going north beyond 231 Pacific, we have had almost no sand the last few years and there is rock bottom exposed much of the time. When we bought our home in 1966 the sand was 12 to 15 feet deep at the base of the bluff – now it is no more than 6 inches at the best of times. Each storm takes more sand out to sea and to the south. There is none coming from the north to replace it.

2. It is not true that in Solana Beach revetments would take away beach access or will cause more erosion. Now that the bluffs have been allowed to deteriorate to where they have become deadly, the public is warned to stay 30 feet away for their safety. So public access is a mute point. Another plus is that marine life can live in revetments such as riprap. If we should ever get 10 to 12 feet of sand back on the beaches the riprap will be covered. Then it won't show but will have done its job protecting the bluffs.

When 5 homeowners on Pacific Avenue were allowed to place riprap at the bottom of their bluff in March 1998 during the El Nino storms - all vibrations stopped for the three months the riprap was in place. **THE DAY WE WERE FORCED TO REMOVE THE RIPRAP THE VIBRATIONS BEGAN IMMEDIATELY AND CONTINUE OFF AND ON TO THIS DAY. ONE HAS TO KNOW THAT THE CONSTANT POUNDING IS WEAKENING THE BLUFFS. RIPRAP BREAKS UP THE FORCE OF THOSE WAVES. (IN 1966 BEFORE THE LOSS OF SAND REACHED US THE WAVES RARELY TOUCHED THE BLUFFS.)**

3. Cities all over the world protect themselves with seawalls. They do need to be maintained and monitored. Materials and technology are improving all the time.

4. San Diego Beach Erosion has been studied to death. The Army Corps of Engineers has done extensive studies. (See the beginning quotations above from their web page.) The Solana Beach Coastal Preservation Association (a private group of 30 homeowners) spent \$ 90,000 doing an extensive study on beach erosion at the request of the Coastal Commission in 1998 before we were allowed to even consider any protective devices. The City of Encinitas has spent thousands of dollars as has the City of Solana Beach. It goes on and on. A good many of the experts agree that the combination of seawalls, revetments and sand being deposited on the beach on a regular basis would be a solution to the problem at this late date. Remember seawalls can be very natural looking so that you can't tell the seawall from the natural sandstone. However if we let the waves continue to erode the base of the bluffs until there is a shearing off of the bluffs above they then start eroding from the top and undermining the homes. At that point it takes an almost prohibitive \$1 million dollar structure to save the home & lives.

The Coastal Commission is finally allowing seven consecutive homes in Solana Beach to fill the undercuts made the past two years by the ocean to help prevent the bluffs from shearing off. This will be a small test of our theory for the best action to be taken. The project will be continuously monitored and maintained at homeowners' expense. The infills are a big step forward, but I am sure many experts would agree that the best case scenario would be to have riprap in front of the fills. But the powers that be will not allow this. Regardless of how beneficial it is riprap is considered a dirty word.

The rest of those 30 Solana Beach homeowners plus many others want to be part of a comprehensive effort to protect the bluffs. So far it has all been at the expense of the property owners but the public needs to foot its share of the financial responsibility. Everyone will benefit. In 1998 Rep. Duke Cunningham said he served on the Army Corps of Engineers Committee and could get results - we are still waiting for the money to be spent. Delay - delay & delay.

As stated in the above reports we must have a combined comprehensive effort. We can save our bluffs and public and private property. LIVES DO NOT NEED TO BE LOST. Doing nothing helps no one. Doing new studies each year accomplishes very little if anything and the delay is putting more lives at risk and allowing more and more erosion to take place, when it could be stopped with constructive action now. Preservation means saving and maintaining, NOT just letting it erode.

Final Comment: One Gentleman in last week's Coast Dispatch recommended condemning all homes on the bluffs, removing said homes, and then tapering the bluffs back at a 30 degree angle. I am not sure if he thought homeowners should be reimbursed for their property, but aside from that the property taxes on the 54 bluff-top homes in Solana Beach each bring in up to \$2000 per month in taxes times 54 = \$1,200,000 per year. Those are tax dollars that could never be replaced. (ALSO THAT AMOUNT OF SAND WOULD LAST ABOUT 3 TO 6 MONTHS ON OUR BEACHES AS THEY ARE TODAY.)

By Ann Baker, 219 Pacific Ave., Solana Beach 858-481-1011 2/8/2000

Dear Editor of Coast News, 3-9-00

This is response to Jim Jaffee's letter regarding seawalls in Solana Beach and some out of context remarks quoted by me regarding the use of rip-rap. Mr. Jaffee emphasizes 'sand loss from normal winter conditions', but makes no comment about the fact that the greatest factor in the erosion is the fact that our beaches have been robbed of 50 years of sand that should be coming from the North. Experts say the Oceanside jetty has more than tripled the rate of normal erosion!

My letter did not say that 'rip-rap would be covered by returning sand'. I said the 6 foot high bit of rip-rap that stopped our bluff from vibrating during El Nino storms in 1998 would be covered with sand if the replenishment program was ever put into place successfully. (My words had been edited.) Although I am 100% for it, I personally doubt that significant replenishment will ever take place with the bureaucracy today.

Mr. Jaffee says the rip-rap takes away beach access. I was speaking of rip rap that went out no further than 5 feet in front of the bluff. He does not mention the risk to the public that comes within 30 feet of those bluffs (the danger has been posted by the local lifeguards). There is no 'safe' beach access within those 30 feet. Mr. Jaffee doesn't want to hear about that. "Public Beware" is his philosophy.

Mr. Jaffee wants the public to think the homeowners are causing the erosion somehow. He refers to the "flawed law" that permits people to protect their property (again from the ravages of poor public policy that started years ago by robbing us of our sand.) Do most people really feel that it is wrong to be able to protect your property where a home was built almost eighty years..... long before 90% of the current population arrived in San Diego County & before the major part of all the development took place in San Diego county (and before the jetty). Mr. Jaffee on past occasions has expressed his opposition to these same homeowners making improvements on their said properties. This is another right he thinks we should not have.

The rip-rap along Hwy 101 in Cardiff is a completely different situation than the bluffs. However, where would Hwy 101 be now without that rip-rap? Would there even be Hwy 101 in Cardiff? I doubt it! Ask the restaurants along that corridor how they would feel without that protection. It is very easy for those that don't own the property involved saying, "Tough luck, let it go back into the ocean".

Mr. Jaffee refers to the scouring around the ends of a seawall. That can be true if it is not done right. Anytime you stop erosion in one spot but not in another, obviously the erosion continues where there is no protection, so it appears that it is speeding up. That is the beauty of the Solana Beach Bluffs...we can go from one end point to another where there can be no scouring, because it can all be protected. Dr. Ron Flick of the Scripps Institute of Oceanography says a wave does not know whether it is hitting a seawall or sandstone bluffs.

At a meeting of the California Surfriders Foundation that a few of the neighbors were invited to attend last year, we asked the executive officers in attendance, "at what point did they think we should stop the erosion?". One responded, "It can erode all the way to the Mojave Desert as far as I am concerned." That is the mentality that we are often faced with. Some think preservation is letting nature take its course at the expense of the public's safety & regardless of loss of property. 'Let the public on the beaches beware'.

Ann Baker, 219 Pacific, Solana Beach 858-481-1011 (March 10, 2000)

From: Ann Baker (P-23)
219 Pacific Avenue
Solana Beach, CA 92075

⁶
November 20, 2000

Honorable Council Members of Solana Beach
Attn: Steve Apple & Bob Semple

Re: Corn/Scism Bluff Project # 17-00-25
Re: Requests for an EIR & a Moratorium on Bluff Projects

Per sey, I am not against an EIR, although I think it is an unnecessary expense for the tax-payers of Solana Beach and one that is not required because the 1972 Coastal Act gives property owners the right to protect their properties and as all other options have been studied and found to be unfeasible. The Surfriders and their friends continue to seek every way possible to take away the rights of the homeowners supposedly because of their (the Surfriders & Friends) following concerns:

1. They have an unfounded fear that “these projects interfere with my right to access and enjoy the public beach.” **The sooner these projects are allowed to proceed, the less the damage is and thus the less time required on the part of the contractors on the beach.**
2. **Public Access Impacts.** - They value the public’s ownership of public beach and access as their inherent right. **There are no public access impacts. The public is warned to stay 45 feet from the bluffs for safety. The woman killed in Encinitas early this year was sitting 45 feet from the bluff when it collapsed on her. If infills are allowed early in the process (before the bluff collapses) they are completely under the drip-line & do not take away any beach.**
3. **Visual/aesthetic Impact:** **As the pictures will show, we have used the latest in technology, the most competent of engineers and contractors who have designed & built very attractive infills. The average person can not tell that undercuts have been filled with concrete. So the work should no longer impact anyone’s aesthetic view.**
4. **Economic Issues:** (Concern about local, state or federal subsidies or construction to protect private property or insurance coverage: **Neither insurance nor public monies has ever been a consideration. Every dime spent has been at the expense of the homeowners. However, I understand that the Army Corps of Engineers is looking into the feasibility of righting a wrong done to the North County beaches by many of their projects that deprive our beaches of sand, including the Oceanside harbor they built 50 years ago. As to insurance I do not personally know of any homeowner that has insurance that covers his home should it fall into the ocean. I do not think any is available. However, until the last few years I never dreamed it was anything with which to be concerned.**
5. **Loss of Sand Supplied by Eroding Bluffs Which Become Armored:** **Each homeowner is now paying a \$ 13,000 Sand Mitigation (I call it Extortion) Fee. Steve Aceti told me there was a report a few years ago by Gary Griggs of UC Santa Cruz which found that seawalls do not cause erosion. Mr. Aceti is Exec. Director of the Environmental Group ‘The California Coastal Coalition, a well respected non-profit advocacy organization comprised primarily of coastal cities and counties dedicated to beach restoration, wetlands recovery and improved ocean water quality. Also the US Army Corps of Engineers stated in the Encinitas Reconnaissance Report (1996) that the bluffs in North County did not historically contribute much sediment to the beaches.**
6. **Active & Passive Erosion:** **The activists claim that a seawall will have adverse impacts on local sand supply & beach access. They claim that “Solana Beach has shown the formation of sea caves and other signs of erosion even prior to human intervention such as harbors, jetties and dams”: Any erosion before that time was minimal. The sandiest beach in all of Solana Beach is in front of the 18-year-old seawall in front of the Del Mar Beach & Tennis Club. Since their seawall was built they have experienced no problems. Whereas at 141 to 231 Pacific the erosion was way down to bed rock, plus there were enormous caves that grew to 670 cubic yards in the last two years when we were allowed to do nothing. The undercuts became 8 feet deep and 6 to 8 feet high in just the two years that it took to go through the process to complete the work. (Delays were caused when some activists presented a lot of misinformation that then had to be investigated by the California Coastal Commission before our permits could be granted – this caused over 8 months in delays.)**
7. **Bluff Armoring Kills Public Beaches.** They quote Dr. Reinhard E. Flick’s “Shoreline Erosion Assessment & Atlas of the San Diego Region, Vol. 1 (1994): **On 11-20-00 I spoke with Mr. Flick and he is willing to speak to this issue and how this quote is taken out of context. He does not believe the infills and seawalls in Solana Beach will cause more erosion and thinks that we should have the right to protect our property.**

You will also notice that studies often referred to that say erosion is inevitable and that seawalls do not work have not been studies that relate to our bluffs. **Many are irrelevant studies from the East Coast and the Gulf States with flat areas &/or sand dunes and where hurricane conditions exist to wash away the sand. (Yet on the East Coast they keep trucking in or dredging up the sand.)**

8. **Edge Effect Erosion:** This same group of citizens (Surfriders and friends) at the CCC hearing last month managed to encourage the CCC to deny the homeowner at 197 Pacific his request to fill in his undercut (because it was 'not enough of an emergency'). Now he has the only property that has no protection between two homeowners in a row of 9. This makes no sense at all because it will be allowed to be eaten away until his home is in much greater danger of falling in the ocean. Those on either side are attractive natural looking bluffs with natural looking infills, but 197 Pacific is being forced to suffer the edge effect. There need be no edge effect in Solana Beach with proper care and monitoring as mandated. The activists can't have it both ways – They want no edge effect, but they work to see that we aren't allowed to prevent it.
9. **Moratorium:** It would be unconscionable & criminal to force homeowners to sustain more damage, thus larger seawalls down the road and then of course a much greater expense on the part of the homeowner. The price of the infills ranged from \$ 50,000 to \$ 100,000/homeowner. If made to wait until a bluff slips away the cost goes up to \$ 1 million.
10. **Homeowners:** As per Surfriders, "we recognize the difficult position some of our neighbors are presently in, but our rights to the public beach must be protected." If they are so concerned about public access, sooner rather than later is the best policy when no public beach will be taken up, (witness the latest infills at 201 to 231 Pacific) and the bluffs will be much safer for all. The longer you make us wait the larger the protective device to which we are entitled as per the 1972 Coast Act.
11. **Homeowners are supposedly all wealthy and all selfish:** Some of us bought our property over 34 years ago when we had very little money. At what point did we become selfish? At what point are we supposed to lose our rights? Some retirees are being forced to sell as they can not afford the repairs as the costs go up with the delays & thus the added erosion. It is so unnecessary. There will always be people out there willing to buy and then spend the money to protect a home on the bluffs.
12. **Revise local codes to reduce front yard setbacks and move homes away from the bluffs** is being recommended by some of the activists: We have done this study at the request of the CCC and it is not feasible. Another ridiculous study.
13. **Some are recommending that the City Purchase All the Bluff Properties and Remove the Homes:** We are talking over \$ 100 million for just the homes on Pacific and who knows how much for all the Condos on Sierra. Is the City really ready for this kind of expense and the loss of \$ 1 to \$ 2 million in property taxes each year, plus the cost of tearing down the homes? You will have to decide whether to protect the street at the city's expense. At least now the homeowners are footing the bill.

Another quote from Steve Aceti: "You could remove all the homes from the coast and you still wouldn't have nice sandy beaches.The face-off between proponents of planned retreat and homeowners incites an expensive war of the experts in a never-ending debate over the merits of shore protection devices. There are no winners in this fight and the current debate avoids the real issue: how to rebuild the shoreline so that seawalls, revetments and the like are unnecessary?"

14. **Interesting Fact:** Three of the people that are most active & speak up the most at hearings with the CCC and the City against our being able to protect our bluffs just happen to live on the East Side of Pacific Ave. & Circle Dr.. Thus if the taxpayers decide to buy and remove the homes on the west side guess where these activists will be living?

Our beach sand came from inland erosion, not coastal erosion. Coastal rivers, now dammed up, used to bring sand to the shoreline. Ocean currents distributed it. Storms sometimes took it away. The rivers brought it back in time. "If man in his folly can cause so much destruction, he can also in his wisdom, so ably construct, ennoble and re-create".

Steve Aceti of Cal Coast said on 11-14-00, "Each wall has undergone so much scrutiny already, as will future walls, that I don't know why a generic EIR is necessary (for Solana Beach). Also, there is so little published information about the effect of seawalls that this is tricky ground for a small city to embark on cost-wise."

Let common sense prevail. In what possible way can those infills have any adverse effects? (Per Dr. Flick, "A wave does not know if it is hitting a natural sandstone seawall or one re-enforced with cement". The infills keep the problem from getting worse. The longer you wait without any degree of protection the worse the problem gets. If you feel it is important to waste money on another study, then so be it. But please evaluate our latest completed projects and DO NOT put a moratorium on those that need work done now, when next year may well be too late for them in

terms of the expense involved. We too are citizens with the right to protect our property as much as those that are concerned with losing one inch of access next to a bluff that might tumble upon them and kill them or their children if they get within 45 feet of said bluff. They should be careful in what they ask for.

Below are some excerpts from an article written by Steve Aceti of Cal Coast. Mr. Aceti has put in as many hours as anyone I know in interest of the environment. As much as he too would rather that the homes were never built on the bluffs (the same for Mr. Ron Flick), they both recognize that the homes are there as well as is a great deal of infrastructure. Unless the taxpayers of Solana Beach want to buy us out we have every right to protect our property.

Some quotes from a Article of Steve Aceti's on July 5, 2000:

Recently, FEMA issued report a dire report on coastal erosion, predicting that more than 66,000 structures along California's shoreline would be destroyed over the next 60 years. While it is true that some private homes and structures are "too close to the edge," it is also a fact that there is a significant amount of public infrastructure in jeopardy along the coast, including major highways, sewage treatment facilities and beach access parking lots. With the prediction that homes and other buildings are likely to be destroyed because of coastal erosion, it would have been constructive to include an evaluation of how to restore sand to the beaches which used to be nature's way of protecting the coast.

The FEMA report was commissioned for one reason and one reason only – to justify charging property owners more money for insurance along the coast. In its fatalistic assessment, FEMA doesn't factor in the impact that sand replenishment and other efforts could have to stem the catastrophic losses it is predicting. Has FEMA forgotten that its brother and sister agencies, such as the U.S. Army Corps of Engineers, are working feverishly to rebuild beaches and restore natural sediment flows? From a look at FEMA's suggested options for "dealing with the threat," it would appear that the answer to that question is "yes."

The federal government has built dams, harbors, highways and flood control projects - all of which cause or accelerate erosion along the shoreline - and then it invests a significant amount of time and money figuring out how to impose a surcharge on coastal dwellers (a large percentage of the nation's population) for the damage which results from its bad coastal management practices. It's good that FEMA has taken a look at coastal erosion and its impact on development, but the findings should be used as justification for the federal government to step up its efforts to restore seriously eroded beaches. To fatalistically accept the fact that we are losing a critical resource and not do anything about it except to pass along the costs to property owners is not fair or prudent.

Steven Aceti, J.D., Executive Director, California Coastal Coalition
1133 Second Street Suite G, Encinitas, CA 92024
(760) 944-3564 (760) 944-7852 fax www.calcoast.org steveaceti@att.net

FROM: Lenora and Martha Staben 4/5/01
301 Pacific Avenue, Solana Beach, CA 92075

Public Scoping Meeting for the Solana Beach Shoreline and Coastal Bluff Protection Ordinance.

I would like to offer the following
views relative to the EIR:

1.) The seawalls constructed in Solana Beach show no evidence of reducing or in anyway minimizing the beach. The condo seawalls have been in place over 20 years and the beaches there are the best and widest along our shore. I believe this represents pure empirical proof that seawalls do not harm the beach.

2.) There is no evidence that wave action knows the difference between cement and sandstone. Further, cement lasts for a long period, while sandstone crumbles and causes upper bluff failures.

3.) There is evidence that bluff failures kill people. Properly built seawalls and other bluff protection devices can provide protection for people on the beaches and property above the beach.

4.) We have over 200 years of evidence from our history and tradition in the United States respecting private property rights. Refuting this by a long range policy resulting in "natural retreat" clearly should not be permitted.

5.) Setbacks from the bluff edge established by the Coastal Commission at a minimum of 25 feet have been respected by all remodeled homes. There is no evidence that any such construction has caused damage to the bluffs.

6.) The recently constructed seawalls have followed the sandstone verticle face to its pre-existing height, and no higher. They have been sculptured and color coated to resemble the sandstone face. This is ample evidence that responsible homeowners have made every effort at their own expense to mitigate any environmental affront.

When THE EVIDENCE relative to an EIR study is evaluated it is clear that Chapter 17.62 of the Sand Beach Municipal Code is a fair and rational governing body of rules and regulations.
Douglas Stroben

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax



RECEIVED

JUN 11 2001

PLANNING DEPT.
CITY OF SOLANA BEACH

June 7, 2001

Steven Apple
City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075

RE: SCH# 2002051137 – Solana Beach Shoreline and Coastal Bluff Protection Ordinance EIR

Dear Mr. Apple:

The Native American Heritage Commission has reviewed the above mentioned NOP. To adequately assess the project-related impact on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a records search. The record search will determine:
 - Whether a part or all of the project area has been previously surveyed for cultural resources.
 - Whether any known cultural resources have already been recorded on or adjacent to the project area.
 - Whether the probability is low, moderate, or high that cultural resources are located within the project area.
 - Whether a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The report containing site significance and mitigation measures should be submitted immediately to the planning department.
 - The site forms and final written report should be submitted within 3 months after work has been completed to the Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check.
 - A list of appropriate Native American Contacts for consultation concerning the project site and assist in the mitigation measures.
- ✓ Provisions for accidental discovery of archeological resources:
 - Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should include provisions for accidentally discovered archeological resources during construction per California Environmental Quality Act (CEQA) §15064.5 (f).
- ✓ Provisions for discovery of Native American human remains
 - Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery and should be included in all environmental documents.

If you have any questions, please contact me at (916) 653-4040.

Sincerely,

Rob Wood
Associate Governmental Program Analyst

CC: State Clearinghouse



CITY OF SOLANA BEACH

635 SOUTH HIGHWAY 101, SOLANA BEACH, CALIFORNIA 92075-2215 (858) 720-2400

FAX TRANSMITTAL FORM

**CITY CLERK, COMMUNITY SERVICES
ENGINEERING AND PLANNING OFFICES**

DATE SENT: 6/11/01
TO: Eloise Emery FAXED
AGENCY: _____ JUN 11 2001
FAX # 458-0943
FROM: Steve Apple
FAX NO. (858) 755-1782
MESSAGE: Eloise

Get one! Not very
applicable; however...
[Signature]

NUMBER OF PAGES TRANSMITTED (including this page): Two

The information contained in this transmission is privileged, confidential and intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any reading, dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone and return the original communication to us at the address printed above via the U.S. mail. We will reimburse you for the cost of mailing. Thank you.

IF YOU DO NOT RECEIVE ALL PAGES
PLEASE CALL (858) 720-2400

California Regional Water Quality Control Board

San Diego Region

Internet Address: <http://www.swrcb.ca.gov/~rwqcb9/>
9771 Clairemont Mesa Boulevard, Suite A, San Diego, California 92124-1324
Phone (858) 467-2952 • FAX (858) 571-6972

May 22, 2001

City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075

ATTN: Steven Apple

RECEIVED
JUN 07 2001
PLANNING DEPT.
CITY OF SOLANA BEACH

Subject: **Solana Beach Shoreline and Coastal Bluff Protection Ordinance EIR**

Dear Mr. Apple,

We have received the subject documents and offer the following comments. We are also providing some additional information regarding the possible regulatory requirements for the subject project since this information has not been selected to be project-specific. Some of the information might not apply to this project.

We would like to see the following questions/concerns addressed in your Environmental Impact Report regarding the subject project:

- a) Would the proposed project create a potentially significant adverse environmental impact to drainage patterns or the rate, or quantity of surface water and runoff?
- b) Would the proposed project result in discharges into surface waters during or following construction, or in any way lead to a significant alteration of surface water quality including, but not limited to temperature, dissolved oxygen, turbidity or other typical urban storm water pollutants (e.g., metals, pathogens, synthetics, organics, sediment, nutrients, oxygen demanding substances.)?
- c) Would the proposed project have a potentially significant adverse impact to groundwater flow through the alteration of pressure head (water table level) within the aquifer or through the interception of groundwater flow via cuts or excavation?
- d) Would the proposed project result in the loss or degradation of any beneficial uses that have been designated for the water bodies that will be directly or indirectly affected by the project?
- e) What mitigation measures are being proposed to eliminate or compensate for the adverse effects identified in (a) through (d) above?

California Environmental Protection Agency

Recycled Paper



Permits

There are six potential permits or approvals that might be needed from the Regional Quality Control Board during the life of a project. Additional information on these permits is provided to assist you in determining the permits that may be required for the proposed project; as well as to encourage project design modifications that may assist in obtaining all needed permits from the RWQCB or SWRCB.

During the construction and development phases of a project, the project could be subject to any one or more of four types of RWQCB permits or approvals. These include; (1) the Statewide National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit, (2) the Clean Water Act 401 water quality Certification, (3) General Dewatering Permit, and (4) Dredging Permit. Upon completion of construction, and throughout the project's operational life, the project may be also subject to one or both of the following two types of RWQCB permits: (1) NPDES permit for any point source discharge of wastes to surface waters; and (2) State Waste Discharge Requirements (WDRs) for any waste discharge to land. Examples of discharges to land requiring WDRs include landfills, reclaimed water discharges from sewage treatment plants for irrigation purposes, sand and gravel operations, and animal confinement facilities.

Water quality degradation is regulated by the Federal National Pollutant Discharge Elimination System (NPDES) Program, established by the Clean Water Act, which controls and reduces pollutants to water bodies from point and non-point discharges. In California, the program is administered by the California Regional Water Quality Control Boards. The Regional Board issues NPDES permits for discharges to water bodies in the San Diego area, including Municipal (area- or county-wide) Storm Water Discharge Permits.

Construction SWPPP

Projects disturbing more than five acres of land during construction must be covered under the State NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. This can be accomplished by filing a Notice of Intent (NOI). The project sponsor must propose and implement control measures that are consistent with this State Construction Storm Water General Permit, and with recommendations and policies of the local agency and the RWQCB.

Industrial SWPPP

Projects that include facilities with discharges of Storm Water Associated with Industrial Activity must be covered under the State NPDES General Permit for Discharges of Storm Water Associated with Industrial Activity. This may be accomplished by filing a Notice of Intent. The project sponsor must propose control measures that are consistent with this, and with recommendations and policies of the local agency and the RWQCB. In a few cases, the project sponsor may apply for (or the RWQCB may require) issuance of an individual (industry- or facility-specific) permit.

Municipal SWPPP

The RWQCB's San Diego Urban Runoff Municipal Permit requires San Diego area municipalities to develop and implement Storm Water Management Plans (SWMPs) The SWMPs must include a program for implementing new development and construction site storm water quality controls. The objective of this component is to ensure that appropriate measures to control pollutants from new development are: considered during the planning phase, before construction begins; implemented during the construction phase; and maintained after construction, throughout the life of the project.

Water Quality Certification

The RWQCB must certify that any permit issued by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act (covering, dredging, or filling of wetlands) complies with state water quality standards. Section 401 Water Quality Certification, or waiver, is necessary for all 404 Nationwide Permits, reporting and non-reporting, as well as individual permits.

Wetlands enhance water quality through such natural functions as flood and erosion control, stream bank stabilization, and filtration and purification of contaminants. Wetlands also provide critical habitats for hundreds of species of fish, birds, and other wildlife; offer open space; and provide many recreational opportunities. Adverse Water quality impacts can occur in wetlands from construction of structures in waterways, dredging, filling, and, otherwise altering the drainage to wetlands.

All projects must be evaluated for the presence of jurisdictional wetlands. Destruction or impact to wetlands should be avoided. Water quality certification may be denied based on significant adverse impacts to "Waters of the State." The goals of the California Wetlands Conservation Policy, include ensuring "no overall net loss and achieving a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values." In the event wetland loss is unavoidable, mitigation will be preferably in-kind and on-site, with no net destruction of habitat value. Mitigation will preferably be completed prior to, or at least simultaneous to, the filling or other loss of existing wetlands.

Successful mitigation projects are complex tasks and difficult to achieve. This issue will be strongly considered during agency review of any proposed wetland fill. Wetland features or ponds created as mitigation for the loss of existing "jurisdictional wetlands" or "waters of the United States" cannot be used as storm water treatment controls.

CEQA requires monitoring of all mitigation efforts as a condition of project approval. Although monitoring programs are not required to be included in environmental documents, it is helpful to know what sort of mitigation monitoring the applicant intends to implement, and who will be accountable for seeing that any proposed mitigation's are successfully executed.

Project/ Site Planning

Evidence of filing for a NOI and development of a SWPPP should be a condition of development plan approval by all municipalities. Implementation of the SWPPP should be enforced during

construction via appropriate options such as citations, stop work orders, or withholding occupancy permits. Impacts identified should be avoided and minimized by developing and implementing the following.

The project should minimize impacts from project development by incorporating appropriate site planning concepts. This should be accomplished by designing and proposing site planning options as early in the project planning phases as possible. Appropriate site planning concepts to include, but are not limited to the following:

- Phase construction to limit areas and periods of impact.
- Minimize directly connected impervious areas.
- Preserve natural topography, existing drainage courses and existing vegetation.
- Locate construction and structures as far as possible from streams, wetlands, drainage areas, etc.
- Reduce paved area through cluster development, narrower streets, use of porous pavement and/or retaining natural surfaces.
- Minimize the use of gutters and curbs that concentrate and direct runoff to impermeable surfaces.
- Use existing vegetation and create new vegetated areas to promote infiltration.
- Design and lay out communities to reduce reliance on cars.
- Include, green areas for people to, walk their pets, thereby reducing build-up of bacteria, worms, viruses, nutrients, etc. in impermeable areas, or institute ordinances requiring owners to collect pets' excrement.
- Incorporate low-maintenance landscaping.
- Design and lay out streets and storm drain systems to facilitate easy maintenance and cleaning.
- Consider the need for runoff collection and treatment systems.
- Label storm drains to discourage dumping of pollutants into them.

Construction- Phase Management

Erosion Prevention

The project should minimize erosion and control sediment during and after construction. This should be done by developing and implementing an erosion control plan, or equivalent plan. This plan should be included in the SWPPP. The plan should specify all control measures that will be used or which are anticipated to be used, including, but not limited to, the following:

- Limit access routes and stabilize access points.
- Stabilize denuded areas as soon as possible with seeding, mulching, or other effective methods.
- Protect adjacent properties with vegetative buffer strips, sediment barriers, or other effective methods.
- Delineate clearing limits, easements, setbacks, sensitive areas, vegetation and drainage courses by marking them in the field.
- Stabilize and prevent erosion from temporary conveyance channels and outlets.
- Use sediment controls and filtration to remove sediment from water generated by dewatering or collected on-site during construction. For large sites, stormwater settling basins will often be necessary.
- Schedule grading for the dry season (May-Sept.)

Chemical and Waste Management

The project should minimize impacts from chemicals and wastes used or generated during construction. This should be done by developing and implementing a plan or set of control measures. The plan or control measures should be included in the Storm Water Pollution Prevention Plan. The plan should specify all control measures that will be used or which are anticipated to be used, including, but not limited to, the following:

- Designate specific areas of the site, away from streams or storm drain inlets, for storage, preparation, and disposal of building materials, chemical products, and wastes.
- Store stockpiled materials and wastes under a roof or plastic sheeting.
- Store containers of paint, chemicals, solvents, and other hazardous materials stored in containers under cover during rainy periods.
- Berm around storage areas to prevent contact with runoff.
- Cover open Dumpsters securely with plastic sheeting, a tarp, or other cover during rainy periods.
- Designate specific areas of the site, away from streams or storm drain inlets, for auto and equipment parking and for routine vehicle and equipment maintenance.
- Routinely maintain all vehicles and heavy equipment to avoid leaks.



Winston H. Hickox
Secretary for
Environmental
Protection



Gray Davis
Governor

- Perform major maintenance, repair, and vehicle and equipment washing off-site, or in designated and controlled areas on-site.
- Collect used motor oil, radiator coolant or other fluids with drip pans or drop cloths. Store and label spent fluids carefully prior to recycling or proper disposal.
- Sweep up spilled dry materials (cement, mortar, fertilizers, etc.) immediately—do not use water to wash them away.
- Clean up liquid spills on paved or impermeable surfaces using “dry” cleanup methods (e.g., absorbent materials, cat litter, rags) and dispose of cleanup materials properly.
- Clean up spills on dirt areas by digging up and properly disposing of the soil.
- Keep paint removal wastes, fresh concrete, cement mortars, cleared vegetation, and demolition wastes out of gutters, streams, and storm drains by using proper containment and disposal.

We appreciate the opportunity to comment on the subject environmental document and look forward to your response. If you have any questions regarding our concerns or questions, please do not hesitate to contact me at (858) 467-2705 or at lemop@rb9.swrcb.ca.gov.

Sincerely,


Paul Lemons

DEPARTMENT OF FISH AND GAME

MARINE REGION
20 LOWER RAGSDALE DRIVE, SUITE 100
MONTEREY, CA 93940
(831) 649-2870



June 19, 2001

Stephen A. Apple
Community Development Director
City of Solana Beach
635 S. Highway 101
Solana Beach, CA 92075-2215

RECEIVED

JUN 21 2001

PLANNING DEPT.
CITY OF SOLANA BEACH

Dear Mr. Apple :

The Department of Fish and Game (Department) has reviewed your Notice of Preparation (NOP) for the Solana Beach Shoreline and Coastal Bluff Protection Ordinance Draft Environmental Impact Report (DEIR), SCH No. 2001051137.

The Department is a Trustee Agency in terms of the California Environmental Quality Act. Our primary objective for reviewing environmental documents is to be able to provide the project sponsor with recommendations for avoiding or minimizing negative impacts to fish and wildlife, their use and users. In attempting to meet this objective, our attention is usually focused upon potential habitat damage or loss, acute or chronic effects to fish and wildlife from changes in habitat quality, and possible use conflicts.

In our review of your DEIR, we will need to be able to identify and evaluate all activities in both the construction and operational phases of the project which may impact fish and wildlife populations or their habitats, energy supplies, and reproductive requirements. We will also need to be aware of how and where the project would modify opportunities for use and enjoyment of those living resources by the people of the State.

Existing fish and wildlife populations, habitat uses and types, and human uses such as fishing, clamming, or nature study in and adjacent to the project area should be identified and described. The DEIR should contain complete descriptions and maps of these habitats, including acreage. The presence of any vegetated intertidal or subtidal areas at the project site is always of particular concern to the Department. Any potential impacts which relate to these resource values should also be thoroughly described, and discussed in conjunction with compensation for unavoidable, project-induced losses. It is the Department's position that a project should cause no net loss of wetland (e.g., intertidal mudflat) acreage or wetland habitat value. Compensation for direct impacts to fish and wildlife habitat should be proposed in the form of habitat replacement, restoration, and improvement.

We are also concerned with any potential for excessive turbidity, or siltation. Shoreline erosion conditions before, during, and after construction, and the fate of eroded materials should be studied and discussed. Your report should address any erosion which might be caused by deflected wave or water current energy or other forces influenced by structures proposed to be placed in the water or against the shoreline. We need to be able to consider any influences on water currents, flushing, sedimentation, and normal sediment transport.

For proposed seawalls, bulkheads, or rip-rap, construction materials should be identified and impacts discussed. Where rip-rap or rubble is to be used, materials should be considered for use which are of suitable diameter to approximate natural rock habitat.

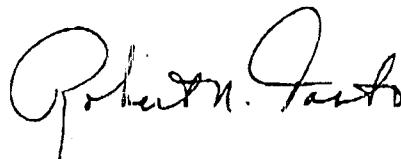
Potential water quality problems which should be addressed include sewage, litter, petroleum products, cleaning agents and wash down waters, fertilizers, heavy metals, pesticides and other toxic or oxidizable materials which may enter the water either during the construction phase or after project completion.

Where dredging and dredge material disposal are concerned, the DEIR should demonstrate whether this is maintenance or new work dredging, describe the areal extent and types of habitat impacted, identify the volume of materials and proposed location of disposal, and discuss the quality of sediments to be removed.

Special consideration must be given in the DEIR to adverse impacts which may occur to rare, threatened, or endangered species, and bird species of special concern. Information regarding these species, and potential impacts, can be procured from the appropriate federal (U.S. Fish and Wildlife Service and National Marine Fisheries Service) and State (Department) resource agencies.

We thank you for the opportunity to express our concerns and look forward to reviewing your DEIR. As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To arrange for a discussion, please contact Ms. Marilyn Fluharty, Environmental Specialist, California Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, telephone (858) 467-4231.

Sincerely,

A handwritten signature in cursive script that reads "Robert N. Tasto".

Robert N. Tasto, Supervisor
Project Review and Water Quality Program
Marine Region

cc: Mr. Scott Morgan (Original sent to Lead Agency)
State Clearinghouse
Sacramento, California

Ms. Marilyn Fluharty
Department of Fish and Game
San Diego, California

CONDO ORGANIZATION OF S. SIERRA AVENUE (COOSSA)

Jack McGoldrick, COOSSA Chairman
555 S. Sierra Avenue
SeaScape Sur
Solana Beach, CA 92075

RECEIVED

JUN 20 2001

**PLANNING DEPT.
CITY OF SOLANA BEACH**

June 18, 2001

Director of Community Development
City of Solana Beach
635 S. Highway 101
Solana Beach, CA 92075-2215
ATTN: Steve Apple

**Re: Draft Environmental Impact Report (EIR) on Coastal Bluff
Protection**

Dear Mr. Apple,

Our organization represents approximately 900 homes here on the ocean bluff in Solana Beach so we are extremely concerned that the Environmental Impact Report reflect a safe protective policy on coastal shoreline erosion, rather than abandon destructive guidelines some organizations advocate.

We think it is important to see how we got to the severe problem on local erosion that we have today with facts not hypothesis. For the last century, the pattern has been winter storms remove six to eight feet of sand from our local beaches and the spring and summer waves wash it back up on the beach. Why this is not happening now no one seems to know, but what we do know is that sand is sitting off the coast on a sand bar waiting for someone to pump it back on the beach. This replenishment area is where the EIR should place the emphasis since it solves all the erosion problems. Not only does it provide a wide beach for the public enjoyment, but it moves the ocean's destructive force away from the fragile bluffs. This then negates, in most cases, the requirement for structural bluff support. Another area, together with sand replenishment, that should be supported by the EIR is sand retention. There are studies that have been done here in California and elsewhere that define how headlands, jetties, reefs and similar devices can be used successfully to retain sand and not disturb the environment.

There are organizations in the state that claim the main reason they object to the construction of seawalls and filling of sea caves is that they escalate the erosion of the beach. They state that there are studies that document this

destruction. The truth is that they were not studies, but suppositions that some scientists espoused, which later turned out not to be true. Professor Gary Griggs did the only real study that I am aware of at the University of California in Santa Cruz. His study showed that there was no appreciable difference in sand (beach) loss if the bluffs were sandstone or concrete. The waves could not tell the difference. There are many other factors that influence wave action and beach erosion, but the material makeup of the bluff is not one of them. There are numerous examples along the California coast, and here in Solana Beach, where the widest beach is in front of the largest seawall built over twenty years ago. The facts are that fixed shoreline structures **DO NOT** contribute to active or passive erosion. There are nationally recognized scientists from the Scripps Institute of Oceanography here in San Diego that also support this position on beach erosion.

Letting the bluffs erode under private property and homes that the state allowed to be built, would be a potentially dangerous and most certainly an illegal policy. Beaches would be closed for years, and some never reopened, because of real public safety factors. Advanced nations around the world and the Federal Government of the United States have policies that protect property from the forces of nature. Some countries, such as Holland, have structures built along their entire coast to protect their very existence. The Army Corps of Engineers has build and maintains two thousand miles of levee along the Mississippi River to protect private and public property. The State of California has responsibility to maintain the levee for the Sacramento Delta to protect precious private and public land. Is this wrong, should government back away from its responsibility and let nature take its course? The Federal Government does not think so - Congress has recently appropriated money to allow the Army Corps of Engineers to study beach erosion here in California and to make recommendations to restore the beach and save private and public property. The EIR should reflect this same reasoning.

Certainly, the EIR of the City of Solana Beach should support this effort and not allow any precious coastal land to be lost unnecessarily. "Support the Bluff" should be the city motto in this area - not "Let's watch the bluff disappear" as some people advocate, and let the hope and dreams of its residents vanish with it. No government directive should ever support this type of destruction. Cost for support of the bluff is paid for by private property owners, cost for its destruction can only be measured by sorrow, despair and lack of trust in the government that let it happen. Most of the bluff property along the coast is owned by private property that extends to the mean high tide line. Private citizens should have the right to

protect their property and at the same time make it possible to have a safe beach for public use. If the bluffs collapse and people are killed because no reasonable means were employed to correct a dangerous situation, who is going to assume responsibility? The private citizen homeowner that tried to prevent it, or the government that let it happen? No individual perception of aesthetic appearance should be considered when safety of life is concerned. Certainly, no rational thinking people would think this type of protection could be wrong.

We cannot go back and blow up the dams, return all rivers and streams to their natural path, remove all development including roads and freeways that block the normal path of sand to our beaches. But we can protect our bluffs and make the beach below a safe recreational area at no cost to the tax payers. We can easily help nature by putting sand on our beaches, and keep the rising tide from claiming more of our precious land. The oceans already have claimed over 70% of our earth surface. The EIR should define and protect what we have left, and not give in to extremists who have their own warped idea that we protect the environment by letting nature destroy what man has the God given ability to save.

The paradox that we see in the argument against bluff support structures is that the organizations that support letting the bluff collapse, actually say they want to preserve these same elements for future generations. How can we protect and preserve something and at the same time support its destruction? The EIR should emphasize preservation of all natural resources and certainly not their demise.

A large proportion of our residents are retired people living on fixed income with a major portion of their resources tied up in their bluff top homes. They are placing their future in the City's policy that should allow them the same right of all citizens to protect their investment in the future.

Hopefully cooler heads with rational minds will determine the EIR directives to protect all coastal resources including private property. Some people seem to forget that private property is a very important part of our human environment.

Sincerely,


J. D. MCGOLDRICK
Chairman



RECEIVED

JUN 21 2001

PLANNING DEPT.
CITY OF SOLANA BEACH

6/21/2001

Stephan A. Apple, Community Development Director
City of Solana Beach
635 S. Highway 101
Solana Beach, CA 92075

Re: Solana Beach Shoreline & Coastal Bluff Ordinance
Environmental Impact Report

Dear Mr. Apple;

We are in support of Solana Beach continuing to issue special permits for "hardscape" protective devices on the coastal bluffs to protect the public interest and preserve private property.

Lack of sand on the beaches is the underlying cause of accelerated bluff erosion, but the converse is not true, that protection of the bluffs creates a lack of sand. With a healthy beach, the contribution of sand resulting from bluff erosion is negligible compared to the primary sources of replenishment, e.g. river and lagoon sand moving down to the sea. While building and developing the bluff tops may have been a questionable environmental decision, it has been the mining of sand and the blockage of sand's water borne access to the sea that have decimated the natural sources of beach nourishment. The reduced size of our beaches has, in turn, exacerbated the erosion of the bluffs.

The answer is not to allow our bluffs to erode and crumble with great risk and danger to beach users and bluff dwellers alike. Nobody wants a shoreline with the ocean slapping up directly against a line of sea walls, but these walls are necessary under present conditions to protect the life and property of Solana Beach residents and visitors. We must protect our bluffs, and concurrently strive to restore our beaches through sand replenishment and retention programs. It is essential to our community's future, and the future health of our beaches, that we work towards a long term and permanent sand replenishment and retention plan, and have it implemented as rapidly as possible.

It would also help greatly if all the advocates within the beach communities were working towards the common goal of a proactive sand nourishment program rather than wasting time quibbling about the environmental impact of what is admittedly a topical remedy for lack of just such a program.

Sincerely,

A handwritten signature in black ink, appearing to read 'Wm. D. Glockner', written over a horizontal line.

Wm. D. Glockner
Director at Large
Del Mar Beach Club

RECEIVED
6/21/01 JUN 21 2001

To Stephen A. Apple, Community Development Director
Solana Beach, CA

PLANNING DEPT.
CITY OF SOLANA BEACH

I am writing this letter hoping that my views will be given due consideration in the preparation of the Environmental Impact Report ("EIR") for the Solana Beach Shoreline and Coastal Bluff Protection Ordinance.

I was active in the City of Solana Beach in the late 80's and early 90's in the development of the Zoning and Beach and Bluff Ordinances. In 1998 I was appointed by the City Council to the General Plan Advisory Committee on the Beach and Bluff Element of the General Plan. Also, I served for two of the initial years on the Budget and Finance Committee. As a result of these civic responsibilities I feel that I am well informed as to the issues involved in the EIR and would like to state certain of my conclusions as follows:

1. There is no evidence that the single family homes north of Fletcher Cove have in any way contributed to bluff failure. The sites and foundations for these homes were laid out over 75 years ago. Remodeling has not, under Coastal Commission review, encroached on the edge of the top of the bluffs. There is no "Hazard Avoidance" issue as there are no undeveloped lots on Pacific Avenue/Circle Drive.
2. Bluff failures and natural erosion has contributed only a minuscule of sand to the beach over the years. What does fall down is almost immediately washed away.
3. Recently constructed seawalls and other protection devices (i.e., sea cave plugs, notch fills) are designed to have color and sculpture features to blend in with the bluff face. The vertical face is generally around 25-40 feet high from the beach. Seawalls cover this sandstone face with cement with no increase in height, resulting in nothing more "massive" than the pre-existing condition.
4. Beach access is not reduced by the construction of seawalls et al. When construction work is being done, it is in the off season. Walking on the beach north of Fletcher Cove is always limited by the loss of sand, particularly in the Fall and Winter. The 2½ foot depth of a seawall hardly limits access.
5. There has never been any compelling, convincing science supporting the view that seawalls et al reduce sand on the beach. There are differing views, of course, but why establish harsh rules and regulations regarding seawalls et al when there is no real evidence that they have a harmful effect on the beach and bluffs. The seawalls south of Fletcher Cove were constructed two decades ago. They represent empirical evidence that these structures cause no harm to the beach or bluffs.
6. Numerous experts have claimed that "rip rap" is the most effective means of protecting the base of the bluffs from severe wave action. The Coastal Commission and certain representatives of the Surfriders Association seem to be

the only vigorous opposition to "rip rap". Yes, it would reduce the depth of the beach. Yet the only time one can walk on the beach north of Fletcher Cove is at low tide and "rip rap" would not limit access. Also, it would provide a safety factor by keeping walkers away from the bluff, a highly desirable goal.

7. Relocation has been suggested as a line of defense prior to consideration of protective devices. This is not only extremely costly and probably not feasible north of Fletcher Cove, but represents a "taking of property", certainly a flagrant disregard of the Constitution.

In preparing the EIR you should read the final report, submitted in mid-1999, of the Citizens Committee who wrote the General Plan Beach and Bluff Element. This comprehensive review represented a year's work by a diverse group of citizens. All views of the environment, property rights, appearance, cost, legal issues and policy were balanced in arriving at the final report. Finally, the City's Municipal Code 17.62 deals properly with what I believe the policy regarding the beach and bluffs should be.

I do not see how anyone can claim that beach and bluff protection devices create any harmful or undesirable environmental impact.



Donald R. Stroben
301 Pacific Avenue
Solana Beach, CA 92075

APPENDIX C.2

SUMMARY OF SCOPING COMMENTS

APPENDIX C.2
SUMMARY OF SCOPING COMMENTS
City of Solana Beach Shoreline and Coastal Bluff Management Strategies EIR
April 10, 2001

| Code | Name | EIR Requirements | Biological Resources | Geology and Soils | Land Use | Aesthetics | Public Access and Recreation | Structures and Utilities | Economics | Public Safety | Sand Replenishment | Other | For | Against | Comments |
|--------------------|---|------------------|----------------------|-------------------|----------|------------|------------------------------|--------------------------|-----------|---------------|--------------------|-------|-----|---------|--|
| A1 | Calif. Regional Water Quality Control Bd. | X | | | | | | | | | | X | | | Would the project create an adverse environmental impact to drainage patterns or the rate, or quantity of surface water and runoff? |
| A1 | Calif. Regional Water Quality Control Bd. | X | | | | | | | | | | X | | | Would the project result in discharges into surface waters during or following construction, or lead to alteration of surface water quality (e.g., temp., dissolved oxygen, turbidity, or other urban storm water pollutants) ? |
| A1 | Calif. Regional Water Quality Control Bd. | X | | | | | | | | | | X | | | Would the project have an adverse impact to groundwater flow? |
| A1 | Calif. Regional Water Quality Control Bd. | X | | | | | | | | | | X | | | Would the project result in loss or degradation of any beneficial uses that have been designated for the water bodies that will be affected? |
| A1 | Calif. Regional Water Quality Control Bd. | X | | | | | | | | | | X | | | What mitigation measures are being proposed to eliminate or compensate for the adverse effects identified in the above 4 questions? |
| A1 | Calif. Regional Water Quality Control Bd. | | | | | | | | | | | X | | | There are six potential permits or approvals that might be needed from the RQCB during the life of a project |
| A1 | Calif. Regional Water Quality Control Bd. | | | | | | | | | | | X | | | Site planning concepts which may apply include: phase construction to limit areas and periods of impact; preserve natural topography, existing drainage courses and existing vegetation |
| A1 | Calif. Regional Water Quality Control Bd. | | | X | | | | | | | | | | | The project should minimize erosion and control sediment during and after construction (erosion control plan) |
| A1 | Calif. Regional Water Quality Control Bd. | | | | | | | | | | | X | | | Project should minimize wastes used or generated during construction |
| A1 | Calif. Regional Water Quality Control Bd. | | | | | | | | | | | X | | | Routinely maintain all vehicles and heavy equipment to avoid leaks |
| A2 | Department of Fish and Game | X | X | | | X | | | | | | | | | EIR should contain descriptions and maps of fish and wildlife populations, habitat uses/types, human uses (e.g., fishing, clamming, nature study) in and adjacent to the project area. |
| A2 | Department of Fish and Game | X | X | | | | | | | | | | | | Project should cause no loss of wetland (e.g., intertidal mudflat) acreage or wetland habitat value. |
| A2 | Department of Fish and Game | X | X | | | | | | | | | | | | Direct impacts to fish and wildlife habitat should be compensated with replacement, restoration, and improvement. |
| A2 | Department of Fish and Game | X | | | | | | | | | | X | | | Concerns with excessive turbidity, or siltation. Shoreline erosion conditions before, during and after construction should be studied. Erosion caused by deflected wave energy, influenced by implemented structures should be studied. Impacts to water cur |
| A2 | Department of Fish and Game | X | | | | | | | | | | X | | | Construction materials for proposed seawalls, bulkheads, rip-rap should be identified and impacts discussed. Materials for rip-rap or rubble should have a suitable diameter to approximate natural rock habitat. |
| A2 | Department of Fish and Game | X | | | | | | | | | | X | | | Water quality issues to be addressed include sewage, litter, petroleum products, cleaning agents and wash down waters, fertilizers, heavy metals, pesticides, and other toxic or oxidizable materials which could enter the water during or after construction |
| A2 | Department of Fish and Game | X | | | | | | | | | | X | | | Dredging and dredge material disposal are a concern. EIR should describe whether it is maintenance or new work dredging, a real extent and types of habitat impacted, volume of materials and proposed location of disposal, and quality of sediments to be rem |
| A2 | Department of Fish and Game | X | X | | | | | | | | | | | | EIR should consider potential adverse impacts to rare, threatened, or endangered species, and bird species of special concern. |
| A3 | Native American Heritage Commission | | | | | | | | | | | X | | | The commission recommends specific actions be required when any archaeological resources are encountered during construction of a project. Before project approval, specific actions such as a records search, archaeological inventory survey, etc., should be conducted in the project site. |
| Subtotal this page | | 13 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | |

APPENDIX C.2
SUMMARY OF SCOPING COMMENTS
City of Solana Beach Shoreline and Coastal Bluff Management Strategies EIR
April 10, 2001

| Code | Name | EIR Requirements | Biological Resources | Geology and Soils | Land Use | Aesthetics | Public Access and Recreation | Structures and Utilities | Economics | Public Safety | Sand Replenishment | Other | For | Against | Comments |
|------|---------------------------|------------------|----------------------|-------------------|----------|------------|------------------------------|--------------------------|-----------|---------------|--------------------|-------|-----|---------|--|
| P1 | Ronald W. Lucker | | | | | X | | | | | X | | X | | Prevention through sand replenishment should be used first, however, small reinforcement structures at the base of the bluff should be allowed in areas where the bluff is already lost. Such reinforcements should be allowed before the need of a large, unnae |
| P2 | Donald and Martha Stroben | | | | | | | | | | | X | X | | Seawalls don't reduce the beach; natural retreat disregards private property rights; homeowners have made efforts to mitigate environmental affront |
| P2 | Donald Stroben | | | | | | | | | | | X | X | | No evidence that single family homes have contributed to bluff failure. |
| P2 | Donald Stroben | | | X | | | | | | | | | | | Bluff erosion does not contribute a significant amount of sand to the beach. |
| P2 | Donald Stroben | | | | | X | | | | | | | | | Seawalls are visually compatible with the bluffs. |
| P2 | Donald Stroben | | | | | | X | | | | | | | | Beach access is not reduced; construction is done in the off season. |
| P2 | Donald Stroben | | | | | | | | | | | X | | | Rip rap has been claimed as the most effective means of bluff protection by experts. |
| P2 | Donald Stroben | | | | | | | X | | | | X | | | Relocation is very costly and represents "taking of property". |
| P2 | Donald Stroben | | | | | | | | | | | X | | | During preparation of the EIR, the final report of the Citizens Committee who wrote the General Plan Beach and Bluff Element, should be consulted. |
| P2 | Donald Stroben | | | X | | | | | | | | X | | | There isn't convincing science supporting the view that seawalls reduce sand on the beach. |
| P3 | Ann Baker | | | X | | | | | | | | X | X | | More sand exists on beaches with seawalls, than on those beaches without them. "Experts" have claimed that seawalls don't contribute to erosion. |
| P3 | Ann Baker | | | X | | | | | | | | X | | | In Solana beach seawalls do not cause erosion; the Oceanside jetty in the north caused major beach loss |
| P3 | Ann Baker | | | | | | | | | | | X | | | Annual studies on beach erosion do not accomplish anything. Action should be taken now. |
| P3 | Ann Baker | | | | | | | X | | | | | | | Condemning all homes on the bluffs would result high amounts of tax dollars spent on property tax |
| P3 | Ann Baker | | | | | | X | | | | | | | | Public access is not impacted by seawalls |
| P3 | Ann Baker | | | | | | X | | | | | | | | Home owners spend their own money for property protection, not the government |
| P3 | Ann Baker | | | | | | | | | | | X | | | Studies showing adverse impacts from seawalls, are often irrelevant (from the East Coast) |
| P3 | Ann Baker | | | | | | | X | | | | X | | | The government has helped cause coastal erosion by building dams, harbors, etc. Public infrastructure is along the coast is also in jeopardy. It isn't fair that the gov't now wants to pass on the financial burden to property owners for bluff protection. |
| P4 | Wm. D. Glockner | | | | | | | | | | | X | X | | Lack of sand on beaches is the cause of accelerated bluff erosion. A sea wall is a good and necessary solution for present conditions. |
| P4 | Wm. D. Glockner | | | | | | | | | | X | | | | Beach communities should work towards a common goal of a proactive sand nourishment program. |
| P5 | J.D. McGoldrick (COOSSA) | | | | | | | | | | | X | X | | Seawalls don't contribute to active or passive erosion. The EIR should reflect the findings of the Army Corps of Engineers "beach erosion study" in California. |
| P5 | J.D. McGoldrick | | | | | | | | | | | X | | | We can't reverse existing circumstances (e.g., , dams, re-routed rivers, etc.) which prohibit sand from reaching beaches, but we can build sea walls to "save" the beaches. |
| P5 | J.D. McGoldrick | | | | | | | | | | | X | | | A large portion of the residents are retired people on fixed incomes with a major portion of their resources established in their bluff top homes. Bluffs are private property and owners have the right to protect it. |
| P6 | Peter Belpert | | | | | | | | | | X | | | | Federal gov't should be involved. Tides should be looked at in assessing the problem. Bluff repairs don't seem to be fixing the problem of erosion. |
| P7 | Alvin B. Asher | | | | | | | | X | | | X | X | | Private property owners are members of public as well. Property owners also pay for seawalls and their maintenance. |
| P8 | Alvin B. Asher | | | | | | | | | X | | | | | Seawalls protect the public |
| P9 | Roy Warden | | | | | | | | | | | | | X | Concerned with visual impacts of beach/ bluff from armory |
| | Subtotal this page | 0 | 0 | 4 | 0 | 2 | 3 | 0 | 4 | 1 | 3 | 16 | 7 | 1 | |

APPENDIX C.2
SUMMARY OF SCOPING COMMENTS
City of Solana Beach Shoreline and Coastal Bluff Management Strategies EIR
April 10, 2001

| Code | Name | EIR Requirements | Biological Resources | Geology and Soils | Land Use | Aesthetics | Public Access and Recreation | Structures and Utilities | Economics | Public Safety | Sand Replenishment | Other | For | Against | Comments |
|--------------------|--|------------------|----------------------|-------------------|----------|------------|------------------------------|--------------------------|-----------|---------------|--------------------|-------|-----|---------|--|
| P10 | Bill Gabriel | | | | | | | | | | | X | X | | Problem solving should be a joint effort of community, city, county, state. Process should be more cooperative and sped up. |
| P11 | Priscilla Baker | | | | | | | | | | | X | | | All possibilities need to be exhausted. Immediate action is needed. |
| P12 | Emmett Doherty | | | | | | | | | | | X | X | | Because houses were originally built according to the code, with permits, property owner's should have the right to protect bluffs |
| P13 | Paul Santina | | | | | | | | | | | X | X | | We need a common goal. Should look at options such as rebuilding the entire beach, utilizing man-made structures such as jetties and levies, going beyond current suggestions. |
| P14 | Ira Oppen | | | | | | | | | X | | | | X | Bluff stability isn't reinforced for the long run with the use of sea cave fills. Safety is major concern. Safety Element should be consulted as it discourages the use of seawalls. |
| P15 | Margaret Schlesinger | | | | | | | | | | | X | | X | Geologists who approved of coastal development with geological studies, even before the ordinance was adopted, should be required to pay for current studies (EIR), as repercussions for poor judgement. |
| P16 | Kevin Wohlmet | | | X | | | | | | | | X | | | Concrete doesn't retreat. Erosion is accelerated around edges of armory. Drainage behind seawalls destroys them as well. EIR should be very detailed in assessing all these issues. |
| P17 | Jim Jaffee (CalBeach Advocates Board of Directors) | X | | | | | | | | | | | | X | Project Description details; should be considered a cumulative project |
| P17 | Jim Jaffee | X | | | | | X | | | | | | | | Environmental Setting; assess pre-construction, existing and future setting (structures) |
| P17 | Jim Jaffee | X | X | X | X | X | | | | | | | | | Consideration and discussion of environmental impacts |
| P17 | Jim Jaffee | X | X | | | | | | | | | | | | Mitigation of the present and past projects to shoreline and sand supply |
| P17 | Jim Jaffee | X | | | | | X | | | | | | | | EIR should include plans for removal and maintenance of structures |
| P17 | Jim Jaffee | X | | | | | | X | | X | | | | | EIR should include an economic analysis showing impacts to tax payers (for sand replenishment) |
| P17 | Jim Jaffee | X | | | | | X | | | | | | | | EIR should address public access issues |
| P17 | Jim Jaffee | X | | | | | X | | | | | | | | EIR should address mitigation measures relating to ordinance violations and property owner responsibilities |
| P17 | Jim Jaffee | X | | | | X | | | | | | | | | EIR should address visual/aesthetic issues; preserving geology and views of bluff |
| P17 | Jim Jaffee | | | | | | | | | | | X | | | Has state been substantially mitigated for the loss of its property? |
| P17 | Jim Jaffee | | | | | | | X | | | | | | | Costs for upper bluff armoring not covered |
| P17 | Jim Jaffee | X | | | | | | | | | X | | | | EIR should consider using sand replenishment as mitigation measure |
| P17 | Jim Jaffee | | | | | | | | | | X | | | | Sand replenishment is not enough for beach loss |
| P17 | Jim Jaffee | | | | | | | | | X | | | | | Unstable slopes (safety) |
| P17 | Jim Jaffee | X | | X | | | | | | | | | | | EIR must consider all sand mitigation and loss of tidal terrace beaches |
| P17 | Jim Jaffee | | X | | | | | | | | | X | | | Several proposed mitigation measures cause unintended impacts (reefs, fisheries, etc.) and they must be fully enforceable |
| P17 | Jim Jaffee | X | | | | | | | | | | | | | EIR should discuss alternatives (planned retreat included) |
| P17 | Jim Jaffee | X | | | | | | | | | | | | | EIR should address cumulative impacts of past, present, and future projects |
| P17 | Jim Jaffee | | | | | | | X | | | | | | | Economic analysis should be used in EIR impact analysis |
| P17 | Jim Jaffee | X | | | | | | | | X | | X | | | EIR should include analysis on bluff stability, addressing loss of private property and public safety |
| P17 | Jim Jaffee | | | | | | | | | X | | | | | Safety Element of City of Solana Beach should be consulted |
| P17 | Jim Jaffee | | | X | | | | | | | | | | | Erosion rates of seawalls not congruent with bluff erosion |
| P17 | Jim Jaffee | | | | | | | X | | | | | | | Regarding Sand Mitigation Fee Policy (SMFP) Implementation: Fees are only calculated over a limited period |
| Subtotal this page | | 14 | 1 | 5 | 1 | 2 | 2 | 3 | 4 | 4 | 3 | 9 | 3 | 3 | |

APPENDIX C.2
SUMMARY OF SCOPING COMMENTS
City of Solana Beach Shoreline and Coastal Bluff Management Strategies EIR
April 10, 2001

| Code | Name | EIR Requirements | Biological Resources | Geology and Soils | Land Use | Aesthetics | Public Access and Recreation | Structures and Utilities | Economics | Public Safety | Sand Replenishment | Other | For | Against | Comments |
|---------------------------|---|------------------|----------------------|-------------------|----------|------------|------------------------------|--------------------------|-----------|---------------|--------------------|-------|-----|---------|---|
| P17 | Jim Jaffee | | | | | | | | X | | | | | | SMFP: Site-specific retreat rates are not being used in calculation of fees |
| P17 | Jim Jaffee | | | X | | | | | | | | | | | SMFP: Methodology does not account for episodic nature of erosion |
| P17 | Jim Jaffee | | | X | | | | | | | | | | | SMFP: Methodology does not account for tidal terraced beaches |
| P17 | Jim Jaffee | | | X | | | | | | | | | | | SMFP: Methodology does not account for bluffs stabilized at their angle of repose |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | X | | X | The project description should not be limited to the existing ordinance , but should focus on the policy question: To what extent should the public interests be subordinated to the interests of private property owners? Project description should describe |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | Project Description should include the transfer of the City's public ownership of the bluff to private property owners, as one of the discretionary decisions made under CEQA. And should include all decisions subject to CEQA if a public agency must make mo |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | The ordinance should be treated as an alternative, but not the focus of the EIR |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | EIR must include description of physical environmental conditions from local and regional perspective |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | Environmental Setting (baseline conditions) should be described as it was in 1994, before 14 post-ordinance projects were approved. |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | The regional setting should include the coastal littoral cell in which Solana Beach is located to address issues of shoreline retreat and sand supply along the coast. |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | Significant Impact Section should focus on changes in existing physical conditions; directly, indirectly, cumulatively, and in the short and long term. |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | | X | | | Concerned with construction and maintenance of shoreline protection devices having serious adverse environmental impacts. |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | X | | | | | | | | | | | Seawalls accelerate erosion to adjacent areas, thereby increasing the need for additional protective structures |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | X | | | | | | | | Seawalls prevent tidal terraces from being formed, decreasing public access. |
| P18 | W. Scott Williams (Cal Beach Advocates) | | X | | | | | | | | | | | | Reduction of beach has adverse impacts to wildlife |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | X | | | | | | | | | Protective structures adversely impact scenic quality of beach |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | X | | | | | | Seawalls jeopardize public safety, including construction and maintenance workers (of walls). Lower bluff armoring doesn't prevent upper bluff erosion and is a false sense of security to public. |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | X | | | | Mitigation measures cannot prevent significant impacts of seawalls |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | X | | | Continuation of current City policy would irretrievably commit its natural coastline to eventual elimination (EIR should identify this) |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | X | | | Mitigation measures should include those proposed by project proponents. EIR should identify whether mitigation measures are inadequate or legally unenforceable. |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | | X | | | EIR would address whether "taking" of private property should occur as a result of mitigation measures or alternative that would indirectly take away one's right to protect their bluff with protective structures. |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | | X | | | Does a private property owner have a constitutionally protected property right to use public property to protect private property from coastal erosion? |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | | X | | | Does a private property owner have a constitutionally protected property right to protect private property from coastal erosion if to do so would adversely impact public property and in particular the public beach? |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | EIR must identify the environmentally superior alternative from among the others in the stated Alternatives |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | The "no project" alternative should be analyzed at the cessation of coastal bluff armoring |
| Subtotal this page | | 11 | 1 | 4 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 8 | 0 | 1 | |

A = Agency Comment
P = Public Comment

**APPENDIX C.2
SUMMARY OF SCOPING COMMENTS
City of Solana Beach Shoreline and Coastal Bluff Management Strategies EIR
April 10, 2001**

| Code | Name | EIR Requirements | Biological Resources | Geology and Soils | Land Use | Aesthetics | Public Access and Recreation | Structures and Utilities | Economics | Public Safety | Sand Replenishment | Other | For | Against | Comments |
|---------------------------|---|------------------|----------------------|-------------------|----------|------------|------------------------------|--------------------------|-----------|---------------|--------------------|-------|-----|---------|---|
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | An alternative which is in balance of public and private rights is the "planned retreat" alternative, and should be in the EIR |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | X | | X | | | | | | Natural bluff retreat is environmentally beneficial; it contributes sand to the beach, maintains beach width, and sculpts the bluff into visually attractive natural landforms. It is economically beneficial; it enhances the recreational value of the coast! |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | X | X | | | Planned retreat approach would include sand replenishment projects and bluff top development regulatory policies (setbacks) |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | EIR must discuss cumulative impacts, including impacts of ordinances or regulations, versus projects on case by case basis |
| P18 | W. Scott Williams (Cal Beach Advocates) | X | | | | | | | | | | | | | EIR must identify and discuss existing coastal armoring projects approved by the County of San Diego before City incorporation of projects |
| P18 | W. Scott Williams (Cal Beach Advocates) | | | | | | | | | | | X | | | The City's current ordinance guarantees that probable future projects will result in the armoring of the entire Solana Beach shoreline. Cumulative impacts of ordinance include the destruction of the City's beach and coastal bluffs as a result of armory. |
| Subtotal this page | | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | |
| Grand total | | 41 | 6 | 14 | 1 | 6 | 7 | 3 | 10 | 6 | 7 | 49 | 10 | 5 | |

APPENDIX D

FUNDING SOLANA BEACH SHORELINE AND COASTAL BLUFF PROTECTION MANAGEMENT STRATEGIES REPORT



Economics Research Associates

**FUNDING SOLANA BEACH SHORELINE
AND COASTAL BLUFF MANAGEMENT
STRATEGIES**

Prepared for

THE CITY OF SOLANA BEACH

Submitted by

Economics Research Associates

May 1, 2002

ERA Project No. 14485



GENERAL LIMITING CONDITIONS

This study is based on estimates, general knowledge of the industry and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives or any other data source used in preparing or presenting this study. Research was conducted from February, 2002 through March, 2002, and Economics Research Associates has not undertaken any update of its research effort since such date. No warranty or representation is made by Economics Research Associates that any of the projected values or results contained in this study will actually be achieved. This report is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the client without first obtaining the prior written consent of Economics Research Associates. This study may not be used for purposes other than that for which it is prepared. This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions, and considerations.



Economics Research Associates

MEMORANDUM

TO: Steve Apple, Planning Director
City of Solana Beach

FROM: Bill Anderson
Vice President
Economics Research Associates

DATE: May 1, 2002

RE: *Funding Solana Beach Shoreline and Coastal Bluff Management Strategies*

INTRODUCTION

This memorandum presents preliminary cost estimates for implementing the Beach Sand Replenishment Program Alternative and Planned Coastal Retreat Alternative, and discusses potential funding sources.

Beach Sand Replenishment Program Alternative

This strategy involves replenishing the Solana Beach sand supply with approximately 140,000 cubic yards of sand per year. Sand would be dredged from offshore deposits and pumped onshore or imported from inland sources via truck. This strategy may also employ sand retention structures including jetties, groins, artificial headlands, and reefs to keep sand resources in place.

Planned Coastal Retreat Policy Alternative

Under this policy, the seacliffs would be allowed to naturally erode, allowing the landward boundary of the beach to occur naturally. To protect property and personal

safety, two setback lines would be established to limit new development beyond the point of estimated bluff retreat. Under this strategy, the City would be obliged to acquire properties west of the planned retreat lines through purchase or eminent domain. It is assumed that the City would have to acquire 50 single family homes and 69 condominium units that may be affected by natural erosion.

IMPLEMENTATION COSTS

Sand Replenishment Program Alternative

This alternative includes one scenario in which structures are built to help keep the sand in place, minimizing the annual replenishment costs. The estimated cost of this alternative ranges from \$57.9 million to \$109.7 million (in year 2002 dollars) over 100 years, depending on the type of structures built, as presented in **Table 1**.

The second scenario does not build structures, thereby avoiding the capital expense, but incurs higher costs to replenish the sand. As shown in **Table 2**, the estimated cost of this scenario is approximately \$144.0 million, assuming \$7.2 million to replenish sand initially and every five years (in year 2002 dollars).

The actual current year costs of each scenario will be higher, depending on inflation.

Planned Coastal Retreat Policy Alternative

The coastal retreat policy alternative involves 1) Purchasing homes within the 50- and 100- year retreat zones, 2) relocating residents, and 3) relocating existing utilities, as described below.

Cost to Purchase Homes

To calculate the cost of acquiring single family homes and condominiums that would be adversely affected by the retreat zone, ERA obtained the parcel numbers of the properties

to be acquired. Recent sales transactions among these parcels were identified and the average price per square foot was determined (in year 2002 dollars), as shown in **Table 3**. The estimated average cost per square foot for oceanview single-family homes is \$694 and the estimated average cost per square foot for oceanview condominiums is \$635. These estimates are for planning purposes and are not appraisals.

It is estimated that the sales price of single-family homes in the reireat zone which were sold from 1997 to 2001 (there were no sales reported so far in 2002) appreciated at an average rate of 4.3 percent per year in real terms, above the inflation rate. Condominium prices per square foot may have increased by as much as 7.2 percent from 1997 to 2002. Most of this time was a period of significant economic expansion and should not be used for long-term projections. It is more appropriate to review long-term growth rates over a period that at least includes one economic recession and one expansion, such as the 1990 to 2000 period. Based on data reported by the San Diego Regional Chamber of Commerce, which ERA adjusted to account for inflation, real home values in Del Mar increased by an annual compounded growth rate of 2.1 percent while home values in Encinitas grew by a 0.5 percent annual rate from 1990 to 2000. Countywide, home values did not exceed inflation, or grow in real terms, from 1990 to 2000. Published data was not available for Solana Beach specifically for this period. Prices have risen sharply, well above inflation, during 2001 and 2002.

While there has been a significant increase in countywide home values during the last few years, the increase is compensating for the significant decline in values that occurred in the early and mid-1990s during the region's recession. The higher than average increase that occurred in Del Mar and Encinitas reflects the desirability of coastal properties. Also, the disproportionate increase in income among upper-income households may have bid up the price of high-end properties faster than average. Given the limited resource of coastal properties, the projected growth in the region, and likely increases in wealth among upper-income households, the coastal properties in Solana Beach should expect continued price appreciation.



It is assumed that beginning in 2014, the City will acquire approximately 5 single-family homes every ten years and several blocks of condominiums every twenty years over the 100-year project life. **Table 4** shows the estimated cost (in year 2002 dollars) to acquire homes in today's values and considering real appreciation. ERA used a 2.0 percent real (inflation-adjusted) rate of annual appreciation. While a higher-rate would not be unreasonable, the long-term uncertainty about each property's land and foundation stability would mitigate appreciation.

The cost of acquiring the 50 single-family homes was an estimated \$57.4 million without appreciation and \$207.7 million with 2.0 percent real annual appreciation. The cost of acquiring the condominiums was an estimated \$72.6 million without appreciation and \$143.6 million with real appreciation. The estimated total acquisition cost was \$130.0 million without real appreciation and \$351.4 with real appreciation (in year 2002 dollars).

Cost to Relocate Residents

Table 5 presents the estimated cost to relocate residents living within the 100-year retreat zone. Using an estimated cost of \$100,000 to relocate families living in single family homes and \$50,000 to relocate families living in condominiums, the total cost would be \$8.5 million (in year 2002 dollars).

Relocation costs could include the following:

- rent for similar quality housing during the transition time between homes;
- moving and storage costs;
- increase in value of homes during the transition period;
- the capitalized value of additional property taxes and homeowner fees;
- fees and closing costs for a new mortgage;
- loan termination fees on existing mortgages;



- income tax impact from capital gains; and
- other costs.

Some relocation costs may be avoided if condemnation is not required.

Cost to Relocate Utilities

Existing utilities that would need to be relocated include the stairways at Tide Park, Fletcher Cove, Seascape Surf and Del Mar. Shoreline protection devices such as seawalls, riprap, seacave infills/plugs, and gunnite covering would need to be destroyed. **Table 6** presents the estimated cost of relocating and demolishing these structures to be \$4 million (in year 2002 dollars).

Total Cost

As **Table 7** shows, the estimated total cost to acquire the 119 homes in the 50- and 100-year retreat zones and relocate their occupants is approximately \$142.5 million without appreciation, and \$363.8 million with real appreciation, (in year 2002 dollars).

The actual current year dollar amounts will be higher, depending on inflation. Also, prices could be higher if properties are acquired through condemnation. Finally, prices based on estimated appreciation could be higher or lower, depending on the actual appreciation rate.

POTENTIAL FUNDING SOURCES

The issue of beach retreat is well known at the local, state and national level; thus, there are several funding programs designed to help localities faced with beach retreat.



Federal Government Sources

The U.S. Army Corps of Engineers (USACE) is the Federal Agency charged with helping localities protect their coastlines from storm damage and harmful erosion. USACE utilizes both structures and sand replenishment to protect beaches. To receive Federal funding, the local government must approach its local congressional representative and request an erosion study or project. The congressional representative can present the study or project for approval in two ways:

- As a bill (or part of a bill) passed by both Houses, or
- As a signed resolution from a Senate subcommittee (the Senate Subcommittee on Water and Power, for example)

Once authorized by Congress, the project must receive an appropriation in the Annual Water and Energy Bill or the Water Resources Development Act (passed every two years). The amount available varies widely and depends upon project needs and budget availability.

Federal policy is that lands involved in Federally sponsored projects are to be provided by the local project partner. As a last resort, the Federal government can acquire property through condemnation. Owners of condemned property would be compensated for the market value of their property. This process has never been used in California.

State Government Sources

The California Public Beach Restoration Act (Assembly Bill No. 64), passed in October 1999, establishes a funding program for restoration, enhancement and nourishment of public beaches. Fundable activities include planning and design activities as well as feasibility and environmental studies, with the following funding limits:

- Planning, design and permitting must not exceed 15 percent of total project cost;



- The cost of studies to characterize, inventory or assess project areas must not exceed 5 percent of total project cost;
- 100 percent of nonfederal project construction cost for restoration, nourishment, or enhancement of coastal state parks and state beaches with placement of sand on the beach or nearshore; 85 percent for nonstate beaches (with a 15 percent match from local sponsors).

The Department of Boating and Waterways administers the program. The program received an initial appropriation of \$10 million in FY 2000-01, and the proposed FY 2002-03 budget is \$6.5 million. The Act dictates that 60 percent of funds are to be used in projects along the central and southern coast and 40 percent are to be used for projects in the north. This program does not fund the acquisition of project-related properties.

Potential Local Sources

Beach Sand Mitigation Fee

The City of Solana Beach may be able to charge a Beach Sand Mitigation Fee authorized by the California Coastal Commission. The Beach Sand Mitigation fee can be assessed on all developments in the coastal zone that may result in increased beach loss (such as the construction of seawalls). This program was established to quantify the cost incurred by such projects. The amount of the fee is determined by complex formula that reflects the scientific principles of erosion. The San Diego Association of Governments has an agreement with the Coastal Commission to collect the fees and implement fund-related projects. In the past, fees for individual projects have ranged from approximately \$2,000 to \$8,000. Funds collected are used for beach protection and sand replenishment projects region-wide. This program is only available in San Diego County and has only been used in Encinitas (in cases where the bluffs are in public ownership).

General Obligation Bonds

The City may issue general obligation bonds that are supported by ad valorem property tax overrides. A two-thirds voter approval is required to approve the indebtedness and overrides. General Obligation bond proceeds can only be used to finance the acquisition and construction of real property. Thus, the proceeds may be used to fund the capital costs associated with the Sand Replenishment Program Alternative, or the property acquisition costs associated with the Planned Coastal Retreat Alternative. The General Obligation Bond is one of the most secure and lowest cost forms of public financing. A 10 cent override per \$100 in assessed valuation would yield approximately \$1.85 million per year for debt service, which would yield approximately \$26.9 million in capitalized proceeds assuming 30-year amortization at 6.0 percent interest.

Sales Taxes

The State Legislature may increase statewide sales and use taxes, and counties may increase local sales taxes for special purposes up to an aggregate total of 1 percent. Only a few cities in the state have obtained special state legislation to levy supplemental sales taxes. If the sales tax is used for a special purpose, a two-thirds voter approval is required. If the tax is for a general purpose, a simple-majority vote is required. The City of Solana Beach raised \$2.11 million in sales tax revenue in FY 2000-01 with a 7.75 percent tax rate, of which the City receives 1 percentage point. A 25 basis point increase would generate \$528,000 additional revenue per year, equivalent to a capitalized value of approximately \$7.3 million assuming 30-years at 6.5 percent.

Transient Occupancy Taxes

This tax is charged to hotel guests as a percentage of room rates. Currently, the City of Solana Beach charges a 10 percent hotel occupancy tax rate to yield \$545,000 per year in FY 2000-01. Increasing this rate by 200 basis points to 12 percent, which would still be within the range of TOT rates that cities charge in California, would generate



approximately \$0.1 million per year, equivalent to a capitalized value of approximately \$1.52 million assuming 30-years at 6.5 percent.

Utility Users Tax

Many cities levy a utility users tax, which is assessed on all utility users within the jurisdiction. The City of Solana Beach currently does not levy such a tax. A majority of voters would have to approve this tax for general purposes, and two-thirds would have to approve the tax for a specific purpose.

Real Property Transfer Tax

The County levies a real property transfer tax of \$1.10 per \$1,000 of assessed valuation when a property is sold and transferred. The City levies a \$0.55 transfer tax per \$1,000 of assessed valuation that is credited against the County's levy. Solana Beach generated \$100,000 in real property transfer tax revenue in FY 2000-01. Some cities in California levy a "non-conforming" tax, at a rate above \$0.55. A \$3.00 rate per \$1,000 in Solana Beach, for example, would yield approximately \$0.45 million per year, equivalent to a capitalized value of approximately \$6.2 million assuming 30-years at 6.5 percent. This tax would require a majority vote approval if raised for general use, and two-thirds if designated for a specific use.

Franchise Fees

The City of Solana Beach collects approximately \$290,000 from franchise fees levied on various utilities. State statute limits payments from gas and electric franchises to General Law cities to 2 percent of the franchisee's gross annual receipts associated with the franchises. Increases in this fee are negotiated.



Storm Drain Fees

Some cities have levied fees for storm drains to finance capital improvements and operating costs to manage drainage. For example, San Diego currently collects a fee of 95 cents per single family residence and a fee based on water use for multi-family, commercial, and industrial properties. Currently, the City of Solana Beach does not levy a storm drain fee.

Community Facilities District (Mello-Roos)

Cities can form a Community Facilities District to levy a special, non-ad valorem parcel tax, pursuant to the Mello-Roos Community Facilities Act of 1982. Parcel taxes can be based on custom formulas that are more flexible and do not require a benefit nexus as required for benefit assessment districts. The parcel tax requires two-thirds voter approval. Under Mello-Roos, property owners can approve a parcel tax if there are less than 12 registered voters, with the votes weighted according to acreage. The tax may finance the acquisition, construction or improvement of any real or tangible property with a useful life of five years or more. Bonds may be issued, supported by the annual tax revenues. While a Community Facilities District can be formed for an area that is smaller than the jurisdiction, the magnitude of the costs for Beach Sand Replenishment Program or the Planned Coastal Retreat alternative would probably require a large district. It would be less costly to finance capital costs using a citywide General Obligation (G.O.) Bond. Unlike a G.O. Bond, however, Mello-Roos revenues can be used to fund ongoing operating and maintenance costs.

Benefit Assessments

Benefit assessment districts and the issuance of bonds are authorized under the 1911 and 1913 Improvement Acts, the Landscape and Lighting District Act, and the 1915 Bond Act. The assessment is levied on properties to fund public improvements and maintenance that add a special benefit to the properties within the district. Under Proposition 218, assessment districts now require a simple majority approval of property

owners and a higher standard of benefit nexus which limits improvements to those that provide benefits specifically to the properties within the district, as opposed to a general benefit.

Infrastructure Financing Districts

An Infrastructure Financing District (IFD) uses property tax increment within the district to fund improvements, similar to Redevelopment Project Areas. Unlike Redevelopment Project Areas, IFDs are designed for areas with land that is substantially undeveloped, with significant tax increment potential. The capital projects funded can benefit areas larger than the district itself. The district is formed by a simple majority vote of registered voters within the district if there are at least twelve registered voters within the district. A two-thirds vote is required to issue bonds. Given the IFD's financing based on tax increment, an IFD in a mostly built-out city such as Solana Beach would have to come from private redevelopment, infill development, and general property appreciation. Also, under the Planned Coastal Retreat alternative, if the district includes the properties that are to be acquired, the tax increment could be diminished.

APPLICABILITY

The applicability of each potential source of funding varies for each alternative, and depends on whether the City attempts to borrow funds to finance costs upfront or in series, or fund costs on a pay-as-you-go basis. Funds from debt financing generally must be spent within three years of the issuance of debt, while funds that do not require the issuance of debt can be spent as collected.

Beach Sand Replenishment Alternative

This alternative appears to have greater potential to use existing State and Federal funding programs for the capital improvement components and, to a lesser extent, ongoing sand replenishment. However, given the limited amount of funds that have been allocated to State and Federal programs, compared to statewide and national demands,

State and Federal funding for specific Solana Beach programs are not certain, and their sustainability is not secure, particularly for ongoing annual replenishment expenses.

Therefore, the funding strategy may have to rely on regional or local funding sources as well. Beach Sand Mitigation Fee monies are a potential source, but are not significant. While other local mechanisms are possible, if approved by the voters, the amount raised under most mechanisms still falls well below the cost. Local sources will have to augment regional, State, or Federal sources. While a General Obligation Bond may raise sufficient revenue to cover a significant share of capital improvement costs, the funds raised probably cannot fund ongoing maintenance costs such as sand replenishment. A Community Facilities District, however, could be structured to help cover these annual costs. A Benefit Assessment District may also be considered to fund ongoing sand replenishment costs, based on the notion that a usable sandy beach adds value and conveys benefit to coastal properties.

The City may use multiple sources to take advantage of their individual attributes, such as General Obligation Bonds for capital expenses and a CFD or Assessment District for ongoing operating costs.

Planned Coastal Retreat Alternative

This alternative costs significantly more due to the acquisition of valuable private coastal property. If properties are obtained over time, and appreciate in value significantly, the costs would be substantially greater in real terms. In the very long-term, however, the instability of the land would mitigate price appreciation and could even depreciate values as properties approach unstable conditions. The potential extra cost of acquiring properties with appreciated values must be weighed against the interest rate costs associated with debt financing to acquire properties earlier.

This alternative will probably require more local and regional sources. The State and Federal funding programs, as currently designed, are typically used for capital improvements and beach restoration, rather than property acquisitions. Federal monies

may not be as readily available for this alternative, and State programs cannot be used for property acquisition.

Unfortunately, most local funding sources are inadequate, due to the magnitude of the costs to acquire and relocate coastal residential properties, unless voters approve an extraordinary increase in property or parcel taxes. Even then, the real increase in coastal residential home values due to appreciation in excess of inflation could outpace funding expectations.

Given the uncertainties regarding long-term coastal property values, and the consequent cost to implement this alternative, it may be less costly in the long-run to purchase the properties (either the land or the total property) and lease them back to the occupants, with terms tied to planned erosion. The property owners would receive compensation and could still enjoy use of the property for a long period, perhaps as long as 50-100 years depending on when the properties are purchased. The revenue received from lease payments could help pay for a portion of the purchase costs. Also, some of the sales could be on a voluntary basis, in which case relocation costs could be avoided or deferred since occupants would not have to move.

Table 1
Cost of Sand Replenishment Strategy
(in Millions of Year 2002 Dollars)

| Scenario A: Replenishment with Various Retention Structure Options | | Cost for First 50-Years | Cost for Second 50-Years | 100-Year Total |
|---|--|--------------------------------|---------------------------------|-----------------------|
| <u>Beach Replenishment¹</u> | | | | |
| | Initial Replenishment | \$7.2 | 0 | \$7.2 |
| | Subsequent Replenishment | \$14.4 | \$18.0 | \$32.4 |
| | <i>Subtotal</i> | <i>\$21.6</i> | <i>\$18.0</i> | <i>\$39.6</i> |
| <u>Retention Structure Options:</u> | | | | |
| -Groin Field (6 Groins) ² | Initial Construction | \$11.4 | \$0.0 | \$11.4 |
| | Maintenance | \$2.3 | \$4.6 | \$6.9 |
| | <i>Subtotal</i> | <i>\$13.7</i> | <i>\$4.6</i> | <i>\$18.3</i> |
| -Breakwater ³ | Initial Construction | \$13.4 | \$0.0 | \$13.4 |
| | Maintenance | \$2.7 | \$5.4 | \$8.1 |
| | <i>Subtotal</i> | <i>\$16.1</i> | <i>\$5.4</i> | <i>\$21.5</i> |
| -Reef Complex (6 Reefs) ⁴ | Initial Construction | \$43.8 | \$0.0 | \$43.8 |
| | Maintenance | \$8.8 | \$17.5 | \$26.3 |
| | <i>Subtotal</i> | <i>\$52.6</i> | <i>\$17.5</i> | <i>\$70.1</i> |
| | Beach Replenishment plus Groin Field | \$35.3 | \$22.6 | \$57.9 |
| | Beach Replenishment plus Breakwater | \$37.7 | \$23.4 | \$61.1 |
| | Beach Replenishment with Reef Complex | \$74.2 | \$35.5 | \$109.7 |

Notes:

¹Assumes an initial construction cost of \$8 per cubic yard for sand including 15% contingency, 8% engineering, design and permitting, and 10% construction engineering management. Assumes a beach width of 200 feet and length of 1.5 miles (northern 0.2 miles of beach not included for environmental concerns). Subsequent replenishment with properly designed structures assumed at 50% initial replenishment cost every 10 years. Costs and frequency are based on SANDAG's Regional Beach Sand Retention Strategy Report,

²Assumes six groins at 930 feet in length and spaced 1,500 feet apart. Costs were based on present \$ values as estimated in SANDAG's Regional Beach Sand Retention Strategy Report, October, 2001.

³Assumes each breakwater will measure 1,000 feet in length and retain 3,000 feet of beach area (alongshore dimension). Two breakwaters would be required to protect the Solana Beach shoreline (except for the northern 1000 feet due to environmental concerns). Costs were based on present values as estimated in SANDAG's Regional Beach Sand Retention Strategy Report, October, 2001.

⁴Assumes 6 reefs, each measuring 900' in length along the Solana Beach shoreline (except for the northern 1000' due to environmental concerns). Costs were based on present values as estimated in SANDAG's Regional Beach Sand Replenishment Strategy Report, October, 2001.

General: Maintenance costs for retention structures are in 2002 dollars estimated at 20% of the initial construction cost over a 25-yr period incurred at year 25, 50, & 75. Construction costs include 15% contingency, 8% engineering, design, & permitting, and 10% construction engineering and management.

Source: AMEC

Table 2
Cost of Sand Replenishment Strategy
(in Millions of Year 2002 Dollars)

| Scenario B: Replenishment Only | Cost for First 50-Years | Cost for Second 50- Years | 100-Year Total |
|---|------------------------------------|--------------------------------------|-----------------------|
| Cost of Initial Replenishment ¹ | \$7.2 | 0 | \$7.2 |
| Cost of Subsequent Replenishment ² | \$64.8 | \$72.0 | \$136.8 |
| TOTAL | \$72.0 | \$72.0 | \$144.0 |

¹ Assumes an initial construction cost of \$8 per cubic yard for sand including 15% contingency, 8% engineering, design & management. Assumes a beach width of 200 feet and length of 1.5 miles (northern 0.2 miles of beach not included for environmental concerns). Subsequent replenishment assumed at 100% of initial replenishment cost every 5 years. Costs and frequency of replenishment are based on SANDAG's Regional Beach Sand Retention Strategy Report, October, 2001.

²Subsequent replenishments occur every 5 years

Source: AMEC

Table 3
Comparable Home Sales in the Solana Beach Coastal Zone

Single Family Homes

| Square Feet | Bed/ Bath | Lot Size | Price Sold | Inflation Adjusted Sale Amount (\$2002) | Real Appreciation Factor | Estimated 2002 Price Per Square Foot | Year Built | Date of Sale |
|--------------------|----------------------|-----------------|-------------------|--|-------------------------------------|---|-------------------|---------------------|
| 3,158 | 4/3.5 | 4,400 | \$715,000 | \$861,341 | 123% | \$336.02 | 1998 | 1/2/97 |
| 1,431 | 3/2.0 | | \$616,500 | \$742,681 | 123% | \$639.39 | 1955 | 2/21/97 |
| 652 | 1/1.0 | 3,100 | \$470,000 | \$566,196 | 123% | \$1,069.85 | 1955 | 5/30/97 |
| 1,431 | 3/2.0 | | \$810,000 | \$975,785 | 123% | \$840.07 | 1955 | 10/6/97 |
| 848 | 2/1.0 | 3,900 | \$600,000 | \$722,804 | 123% | \$1,050.09 | 1955 | 11/4/97 |
| 3,004 | 4/3.0 | 5,100 | \$1,300,000 | \$1,535,368 | 105% | \$534.29 | 1990 | 5/13/98 |
| 1,643 | 2/2.0 | 8,000 | \$917,500 | \$1,083,615 | 105% | \$689.45 | 1950 | 5/29/98 |
| 2,010 | 3/2.0 | 5,900 | \$1,200,000 | \$1,417,263 | 105% | \$737.08 | 1953 | 9/4/98 |
| 3,158 | 4/3.5 | 4,400 | \$2,400,000 | \$2,749,297 | 74% | \$647.03 | 1998 | 3/19/99 |
| 1,449 | 3/3.0 | 6,100 | \$1,100,000 | \$1,260,095 | 74% | \$646.32 | 1951 | 8/20/99 |
| 1,431 | 3/2.0 | | \$995,000 | \$1,139,813 | 74% | \$591.98 | 1955 | 12/22/99 |
| 1,152 | 2/2.0 | 5,700 | \$907,500 | \$984,449 | 95% | \$813.97 | 1949 | 4/14/00 |
| 1,610 | 2/3.0 | | \$930,000 | \$1,008,857 | 95% | \$596.86 | 1955 | 6/26/00 |
| 3,018 | 4/3.5 | 4,400 | \$900,000 | \$976,313 | 95% | \$308.13 | 1985 | 7/20/00 |
| 1,818 | 3/2.0 | 10,800 | \$1,900,000 | \$2,061,105 | 95% | \$1,079.88 | 1958 | 11/13/00 |
| 2,014 | 2/2.0 | 3,000 | \$995,000 | \$1,079,368 | 95% | \$510.48 | 1972 | 11/28/00 |
| 1,437 | 3/1.0 | 3,800 | \$1,145,000 | \$1,242,087 | 95% | \$823.31 | 1975 | 11/28/00 |
| 1,928 | 3/2.5 | 7,100 | \$1,000,000 | \$1,034,969 | 118% | \$633.81 | 1967 | 8/10/01 |
| 1,818 | 3/2.0 | 10,800 | \$1,152,273 | \$1,152,273 | 100% | \$633.81 | 1958 | 1/30/02 |
| | | | | | | Average Price Per S.F.: | \$693.78 | |
| | | | | | | Real CAGR¹ 1997-2002: | 4.3% | |

Table 3 (Continued)
Comparable Home Sales in the Solana Beach Coastal Zone

Condominiums/Townhouses

| Square Feet | Bed/ Bath | Lot Size | Price Sold | Inflation Adjusted Sale | Real Appreciation | Estimated 2002 Price Per Square Foot | Year Built | Date of Sale |
|---|--------------|----------|------------|-------------------------|-------------------|---|------------|--------------|
| | | | | Amount (\$2002) | Factor | | | |
| 1,375 | 3/2.5 | 4.72A | \$550,000 | \$662,570 | 132% | \$637.20 | 1974 | 3/19/97 |
| 1,204 | 2/2.0 | 3.53A | \$500,000 | \$602,337 | 132% | \$661.55 | 1973 | 4/18/97 |
| 1,375 | 3/2.5 | 4.72A | \$500,000 | \$602,337 | 132% | \$579.28 | 1974 | 9/2/97 |
| 1,210 | 2/2.0 | 3.88A | \$475,000 | \$572,220 | 132% | \$625.36 | 1972 | 9/12/97 |
| 1,375 | 3/2.5 | 4.72A | \$585,000 | \$704,734 | 132% | \$677.75 | 1974 | 11/5/97 |
| 1,766 | 2/2.0 | 3.00A | \$775,000 | \$915,315 | 124% | \$642.55 | 1977 | 1/7/98 |
| 1,564 | 2/2.5 | 3.53A | \$935,000 | \$1,104,284 | 124% | \$875.32 | 1973 | 3/30/98 |
| 838 | 1/1.0 | 3.00A | \$317,000 | \$374,394 | 124% | \$553.87 | 1977 | 5/22/98 |
| 2,084 | 3/2.0 | 5.19A | \$800,000 | \$944,842 | 124% | \$562.07 | 1978 | 7/7/98 |
| 1,519 | 3/2.5 | 4.72A | \$608,000 | \$718,080 | 124% | \$586.06 | 1974 | 7/24/98 |
| 1,028 | 1/2.0 | 3.88A | \$380,000 | \$448,800 | 124% | \$541.23 | 1972 | 9/1/98 |
| 838 | 1/1.0 | 3.00A | \$370,000 | \$436,989 | 124% | \$646.48 | 1977 | 11/13/98 |
| 1,204 | 2/2.0 | 3.53A | \$485,000 | \$555,587 | 132% | \$608.39 | 1973 | 1/5/99 |
| 838 | 1/1.0 | 3.00A | \$330,000 | \$378,028 | 132% | \$594.75 | 1977 | 3/4/99 |
| 838 | 1/1.0 | 3.00A | \$345,000 | \$395,211 | 132% | \$621.78 | 1977 | 4/15/99 |
| 1,420 | 3/2.5 | 4.72A | \$657,000 | \$752,620 | 132% | \$698.78 | 1974 | 4/19/99 |
| 1,519 | 3/2.5 | 4.72A | \$580,000 | \$664,413 | 132% | \$576.68 | 1974 | 6/7/99 |
| 1,420 | 3/2.5 | 4.72A | \$617,500 | \$707,371 | 132% | \$656.77 | 1974 | 7/14/99 |
| 1,375 | 3/2.5 | 4.72A | \$562,500 | \$644,367 | 132% | \$617.85 | 1974 | 7/16/99 |
| 1,190 | 2/2.0 | 3.88A | \$510,000 | \$584,226 | 132% | \$647.27 | 1972 | 9/22/99 |
| 1,519 | 3/2.5 | 4.72A | \$680,000 | \$778,968 | 132% | \$676.11 | 1974 | 11/30/99 |
| 802 | 1/1.0 | 3.00A | \$415,000 | \$450,189 | 119% | \$668.77 | 1977 | 1/5/00 |
| 1,204 | 2/2.0 | 3.53A | \$675,000 | \$732,235 | 119% | \$724.57 | 1973 | 1/31/00 |
| 1,653 | 3/2.0 | 3.88A | \$792,500 | \$859,698 | 119% | \$619.62 | 1972 | 2/14/00 |
| 1,210 | 2/2.0 | 3.88A | \$548,000 | \$594,466 | 119% | \$585.33 | 1972 | 3/6/00 |
| 1,318 | 3/2.0 | 4.72A | \$585,000 | \$634,603 | 119% | \$573.64 | 1974 | 3/28/00 |
| 1,375 | 3/2.5 | 4.72A | \$645,000 | \$699,691 | 119% | \$606.26 | 1974 | 4/6/00 |
| 1,113 | 2/2.0 | 3.88A | \$575,000 | \$623,755 | 119% | \$667.69 | 1972 | 4/11/00 |
| 1,204 | 2/2.0 | 3.53A | \$520,000 | \$564,092 | 119% | \$558.19 | 1973 | 5/8/00 |
| 838 | 1/1.0 | 3.00A | \$390,000 | \$423,069 | 119% | \$601.48 | 1977 | 5/31/00 |
| 1,190 | 2/2.0 | 3.88A | \$623,000 | \$675,825 | 119% | \$676.62 | 1972 | 10/6/00 |
| 838 | 1/1.0 | 3.00A | \$425,000 | \$461,037 | 119% | \$655.46 | 1977 | 10/10/00 |
| 1,375 | 3/2.5 | 4.72A | \$627,000 | \$680,165 | 119% | \$589.34 | 1974 | 10/24/00 |
| 1,400 | 2/1.5 | 2.96A | \$815,000 | \$884,106 | 119% | \$752.37 | 1987 | 11/17/00 |
| 838 | 1/1.0 | 3.00A | \$430,000 | \$445,037 | 100% | \$531.07 | 1977 | 3/13/01 |
| 1,375 | 3/2.5 | 4.72A | \$785,000 | \$812,450 | 100% | \$590.87 | 1974 | 11/26/01 |
| 1,113 | 2/2.0 | 3.88A | \$695,000 | \$719,303 | 100% | \$646.27 | 1972 | 12/21/01 |
| 838 | 1/1.0 | 3.00A | \$648,182 | \$670,848 | 100% | \$800.53 | 1977 | 12/27/01 |
| Average Price Per S.F.: | | | | | | \$635.14 | | |
| Real CAGR¹ 1997-2001: | | | | | | 7.2% | | |

¹Compound Annual Growth Rate

Source : DataQuick and Economics Research Associates

Table 4
Cost to Acquire Homes and Condominiums in 100-Year Retreat Zone
(Year 2002 Dollars)

| | | |
|---------------------------------|-------|-------|
| Assumed Real Appreciation Rate: | 0% | 2.0% |
| Average Square Feet: | | |
| <i>Single Family</i> | 1,656 | 1,656 |
| <i>Condominium</i> | 1,242 | 1,242 |

| Single Family Homes | | <i>Without appreciation:</i> | | <i>With real appreciation:</i> | |
|----------------------------|------------------------|------------------------------|-------------------|--------------------------------|-------------------|
| Year | # Single Family | Cost Per S.F. | Total Cost | Cost Per S.F. | Total Cost |
| 2002 | 0 | \$694 | \$0 | \$694 | \$0 |
| 2004 | 0 | \$694 | \$0 | \$722 | \$0 |
| 2014 | 5 | \$694 | \$5,744,502 | \$880 | \$7,285,418 |
| 2024 | 5 | \$694 | \$5,744,502 | \$1,073 | \$8,880,883 |
| 2034 | 5 | \$694 | \$5,744,502 | \$1,307 | \$10,825,747 |
| 2044 | 5 | \$694 | \$5,744,502 | \$1,594 | \$13,196,526 |
| 2054 | 5 | \$694 | \$5,744,502 | \$1,943 | \$16,086,491 |
| 2064 | 5 | \$694 | \$5,744,502 | \$2,368 | \$19,609,343 |
| 2074 | 5 | \$694 | \$5,744,502 | \$2,887 | \$23,903,680 |
| 2084 | 5 | \$694 | \$5,744,502 | \$3,519 | \$29,138,452 |
| 2094 | 5 | \$694 | \$5,744,502 | \$4,290 | \$35,519,610 |
| 2104 | 5 | \$694 | \$5,744,502 | \$5,229 | \$43,298,207 |
| | 50 | Total | \$57,445,021 | Total | \$207,744,357 |
| Condominiums | | | | | |
| Year | Townhouses | Cost Per S.F. | Total Cost | Cost Per S.F. | Total Cost |
| 2002 | 0 | \$635 | \$0 | \$635 | \$0 |
| 2004 | 14 | \$635 | \$14,725,006 | \$661 | \$11,486,758 |
| 2024 | 14 | \$635 | \$14,725,006 | \$982 | \$17,068,718 |
| 2044 | 14 | \$635 | \$14,725,006 | \$1,459 | \$25,363,216 |
| 2064 | 14 | \$635 | \$14,725,006 | \$2,168 | \$37,688,405 |
| 2084 | 13 | \$635 | \$13,673,220 | \$3,222 | \$52,002,774 |
| 2104 | 0 | \$635 | \$0 | \$4,787 | \$0 |
| | 69 | Total | \$72,573,246 | Total | \$143,609,871 |

Source: San Diego Regional Chamber of Commerce and Economics Research Associates

Table 5
Cost to Relocate Residents in 100-Year Retreat Zone
(Year 2002 Dollars)

| | Estimated Relocation Cost Per Home | # of Homes | Total |
|-----------------------------|---|-------------------|--------------------|
| Cost Per Single Family Home | \$100,000 | 50 | \$5,000,000 |
| Cost Per Condominium | \$50,000 | 69 | \$3,450,000 |
| | | | \$8,450,000 |

Source: Economics Research Associates

Table 6
Cost to Relocate Utilities in 100-Year Retreat Zone
(Year 2002 Dollars)

| Cost to Relocate Utilities | Cost |
|---|-------------|
| Replace Stairways at Tide Park, Fletcher Cove, Seascape Surf, and Del Mar Shores Terrace | \$3,000,000 |
| Demolish existing shoreline protection devices (seawalls, riprap, seacave in-fills/plugs, revetments and gunite covering) | \$1,000,000 |
| Total | \$4,000,000 |

Source: City of Solana Beach and Economics Research Associates

Table 7
Total Estimated Cost of Planned Retreat Alternative
(Year 2002 Dollars)

| | <i>Without Real Appreciation:</i> | <i>With 2% Annual Real Appreciation:</i> |
|---|-----------------------------------|--|
| Cost to Acquire Homes | | |
| Single Family | \$57,445,021 | \$207,744,357 |
| Condominiums | \$72,573,246 | \$143,609,871 |
| Cost to Relocate Residents | | |
| Single Family | \$5,000,000 | \$5,000,000 |
| Condominiums | \$3,450,000 | \$3,450,000 |
| Cost to Relocate Utilities | \$4,000,000 | \$4,000,000 |
| Total Estimated Project Cost | \$142,468,266 | \$363,804,228 |

Source: Economics Research Associates