CALIFORNIA COASTAL COMMISSION
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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-06-153

Applicant: City of San Diego Agent: Danny Schrotberger

Description: Repair of existing storm drain system consisting of installation of a new curbing and inlet structure and piping to the beach; filling of two sea caves; and, construction of a new approximately 30-ft. high, 28-foot long tied-back seawall on the coastal bluff face.

Site: 5998 Camino de la Costa (southern terminus of Camino de la Costa), La Jolla, San Diego, San Diego County.

Substantive File Documents: Geotechnical Basis of Design Storm Drain Replacement 5998 Camino de la Costa by TerraCosta Consulting Group, Inc. dated 4/7/03.

STAFF NOTES:

Summary of Staff's Preliminary Recommendation:

Staff is recommending approval of the subject development, with conditions, as the applicant has demonstrated that one of two sea caves adjacent to the site is so close to the exterior wall of the buried sewer pump station that there is an imminent threat that it could breach the highly erosive soil backfill surrounding the pump station, ultimately undermining the street-end and the southwesterly corner of the sewer pump station. This undermining will cause settlement of the pump station and associated improvements resulting in damage to the pump station and possibly a sewer spill resulting in contamination and environmental damage to the adjacent tide pools. Also, further erosion will enlarge the westerly sea cave resulting in loss of a sidewalk and public parking at the street-end above. The easterly sea cave is also a concern as it could affect the public beach access stairway that this site offers. Both the Commission's staff engineer and geologist have reviewed the applicant's geotechnical assessment and concur with its conclusions.

Because the proposed project is a public project which results in a public recreational benefit (i.e., protection of public parking spaces at street-end of public right-of-way for public access, protection of below-ground sewer pump station, etc.), the application of a mitigation fee is not necessary. The proposed work has been found to be necessary to protect the public storm drain and public improvements and is the minimum necessary to address the identified concerns.

The proposed development has been conditioned to mitigate its impact on coastal resources such as scenic quality and public access. A special condition has been attached which requires the applicant to remove all debris deposited on the bluff, beach or water as a result of construction of the seawall and to maintain the seawall in its approved state. Other conditions involve monitoring of the seawall, future maintenance/debris removal, no future seaward extension of seawall, public rights and approval from other agencies.

Standard of Review: Chapter 3 policies of the Coastal Act.

I. PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

MOTION: ***I move that the Commission approve Coastal Development Permit No. 6-06-153 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. Final Plans. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit final plans for the proposed reconstruction of an existing shoreline protection device that are in substantial conformance with the plans submitted with this application by TerraCosta Consulting Group, dated 11/17/05 Said plans shall also include the following:

a. The seawall construction shall be constructed with concrete that has been colored to minimize the project's contrast with and be compatible in color to the adjacent natural bluffs and sandstone shelves. The proposed color shall be verified through submittal of a color board. The proposed structure shall also be designed to incorporate surface treatments (e.g., sculpted shotcrete) that resemble the surface texture of the adjacent natural bluffs.

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

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

a. An annual evaluation of the condition and performance of the seawall addressing whether any significant weathering or damage has occurred that would adversely impact the future performance of the structure. This evaluation shall include an assessment of the color and texture of the seawall comparing the appearance of the structures to the surrounding native bluffs.

b. Annual measurements of any differential retreat between the natural bluff face and the seawall face, at both ends of the seawall and at 20-foot intervals (maximum) along the top of the seawall face/bluff face intersection. The program shall describe the method by which such measurements shall be taken.

c. Provisions for submittal of a report to the Executive Director of the Coastal Commission by May 1 of each year (beginning the first year after construction of the project is completed) for a period of three years and then, each third year following the last the annual report, for the life of the approved seawall. However, reports shall be submitted in the Spring immediately following either:

1. An “El Niño” storm event – comparable to or greater than a 20-year storm.

2. A tectonic event magnitude 5.5 or greater affecting San Diego County.

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

d. Each report shall be prepared by a licensed geologist or geotechnical engineer. The report shall contain the measurements and evaluation required in sections a, and b above. The report shall also summarize all measurements and analyze trends such as erosion of the bluffs or changes in sea level and the stability of the overall bluff face, and the impact of the seawall on the bluffs to either side of the wall. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the project.

e. An agreement that the permittee shall apply for a coastal development permit within 90 days of submission of the report required in subsection c. above for any necessary maintenance, repair, changes or modifications to the project recommended by the report that require a coastal development permit.

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

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

a. No overnight storage of equipment or materials shall occur on the sandy beach or within the Camino de la Costa public parking spaces. During the construction stages of the project, the permittee shall not store any construction materials or waste where they will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time, except for the minimum necessary to construct the seawall. Construction equipment shall not be washed on the beach or in the Camino de la Costa public parking lot.

b. Access corridors shall be located in a manner that has the least impact on public access to and along the shoreline.

c. No work shall occur on the beach on weekends or holidays between Memorial Day weekend and Labor Day of any year.

d. The applicant shall submit evidence that the approved plans/notes have been incorporated into construction bid documents. The staging site shall be restored to its pre-construction condition immediately following completion of the development.

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

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

Within 60 days following completion of the project, the permittee shall submit as-built plans of the approved seawall which include measurements of the distance between the structure and the street-end/public improvements and the bluff edge (as defined by Title 14, Division 5.5, Section 13577 of the California Code of Regulations) taken at 3 or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, or other method to allow annual measurements to be taken at the same bluff location and to allow accurate measurement of bluff retreat.

In addition, **within 60 days following completion of the project**, the permittee shall submit certification by a registered civil engineer, acceptable to the Executive Director, verifying the seawall has been constructed in conformance with the approved plans for the project.

5. Future Maintenance/Debris Removal. Within 15 days of completion of construction of the seawall the permittee shall remove all debris deposited on the bluff, beach or in the water as a result of construction of seawall. The permittee shall also be responsible for the removal of debris resulting from failure or damage of the seawall in the future. In addition, the permittee shall maintain the permitted seawall in its approved state. Maintenance of the seawall shall include maintaining the color, texture and integrity of any portions of the device that become exposed in the future. Any change in the design of the project or future additions/reinforcement of the seawall beyond exempt maintenance as defined in Section 13252 of the California Code of Regulations to restore the structure to its original condition as approved herein, will require a coastal

development permit. **However, in all cases, if after inspection, it is apparent that repair and maintenance is necessary, including maintenance of the color of the structure to ensure a continued match with the surrounding native bluffs, the permittee shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is necessary, and, if necessary, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance.**

6. **No Future Seaward Extension of Shoreline Protective Device.**

A. By acceptance of this Permit, the applicant agrees, on behalf of itself and all successors and assigns, that no future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to Coastal Development Permit No. 6-06-153, as described and depicted on an Exhibit attached to the Notice of Intent to Issue Permit (NOI) that the Executive Director issues for this permit, shall be undertaken if such activity extends the footprint seaward of the subject shoreline protective device. By acceptance of this Permit, the applicant waives, on behalf of itself and all successors and assigns, any rights to such activity that may exist under Public Resources Code Section 30235.

B. Prior to the issuance by the Executive Director of the **NOI FOR THIS PERMIT**, the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an Exhibit to the NOI, a formal legal description and graphic depiction of the shoreline protective device approved by this permit, as generally described above and shown on Exhibit Nos. 5 & 7 attached to this staff report, showing the footprint of the device and the elevation of the device referenced to NGVD (National Geodetic Vertical Datum).

7. Other Permits. **PRIOR TO THE COMMENCEMENT OF CONSTRUCTION**, the applicant shall provide to the Executive Director copies of all other required federal, state or local permits for the development. The applicant shall inform the Executive Director of any changes to the development required by any of these other permits. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

8. Assumption of Risk, Waiver of Liability and Indemnity Agreement

By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from waves, storm waves, flooding and erosion; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to

indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

9. Construction Materials. Disturbance to sand and intertidal areas shall be minimized. Beach sand excavated shall be redeposited on the beach. Local sand, cobbles or shoreline rocks shall not be used for backfill or construction material. The permittee shall remove from the beach and revetment area any and all debris that results from the construction.

10. Project Modifications. Only that work specifically described in this permit is authorized. Any additional work requires separate authorization from the Executive Director. **If, during construction, site conditions warrant changes to the project (i.e. increased revetment relocation), the San Diego District office of the Coastal Commission shall be contacted immediately prior to any changes to the project in the field.**

11. Best Management Practices. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall submit for review and written approval of the Executive Director, a Best Management Plan that effectively assures no shotcrete or other construction byproduct will be allowed onto the sandy beach and/or allowed to enter into coastal waters. The Plan shall apply to both concrete pouring/pumping activities as well as shotcrete/concrete application activities. During shotcrete/concrete application specifically, the Plan shall at a minimum provide for all shotcrete/concrete to be contained through the use of tarps or similar barriers that completely enclose the application area and that prevent shotcrete/concrete contact with beach sands and/or coastal waters. All shotcrete and other construction byproduct shall be properly collected and disposed of off-site.

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

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. Proposed are repairs to a coastal bluff that is undergoing erosion which has undermined the adjacent street right-of-way and is threatening an underground sewer pump station and public parking spaces on the street. The proposed repairs to the storm drain system consist of installation of a new curbing

and inlet structure and piping to the beach; filling of two sea caves; and, construction of a new tied-back seawall. The seawall will be approximately 28 feet long and 30 feet high.

The project site is located just north and west of the southern terminus of Camino de la Costa on the bluff and beach in the community of La Jolla in the City of San Diego. A public accessway exists at the terminus of Camino de la Costa consisting of a concrete stairway which leads down to the shoreline and a small sandy pocket beach which exists at low tide conditions just seaward of the project site. Currently there are five parking spaces at the street end that are subject to threat. At the street end, near the top of the public stairway, there is also an improved public vista point along with other public improvements. Recently, due to the undermining of the street-end that has occurred, the City has removed two concrete picnic tables and a trash can that used to be located at the blufftop public vista point. This area of La Jolla consists of low coastal bluffs that vary in height, and rocky headlands, including a few pocket beaches interspersed along the shoreline. The project site is within the Commission's area of original jurisdiction; therefore, the standard of review is Chapter 3 of the Coastal Act with the City's certified LCP used as guidance.

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

> Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.

In addition, Section 30253 of the Coastal Act states, in part:

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

Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" solutions alter natural shoreline processes. Thus, such devices are required to be approved only when necessary to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on shoreline sand supply.

The proposed project involves the repair of the storm drain system through installation of new curbing and inlet structures and piping to the beach. Also proposed is the filling of two sea caves and construction of an approximately 28 ft. long, 30 ft. high tied-back seawall on a coastal bluff on City property. The applicant has submitted a geotechnical report documenting the geologic formation and recent history of the bluffs in the project area and the need for the proposed work. The proposed work is located seaward of an existing sewer pump station (#2) which was constructed in the early 1990's subject to a City of San Diego coastal development permit. The buried pump station measures about 28 ft. by 24 ft. with its top deck elevation at street elevation of approx. 30 ft. MSL. Immediately south of the pump station and street-end is a sidewalk and small blufftop public park. A concrete stairway leads down to the base of the bluffs where a pocket beach exists. Public parking at the site consists of five street-end parking spaces. Elevations in the area range from about 30 feet at the top of the bluff to 5 feet at the base of the bluff.

As described in the geotechnical report for the project, a storm drain exists at the street corner. A heavily-corroded 18-inch corrugated metal pipe discharges at the bluff face in this location. Loss of soil backfill around the pipe is occurring and has resulted in the undermining of upwards of two feet of the southerly edge of the public sidewalk overlying the pipe. In addition, two sea caves are located at the base of the bluff. The westerly sea cave extends approximately 18 feet back from the face of the bluff under the storm drain and the street-end and ends about 5 feet from the existing subterranean pump station. The easterly sea cave extends about 16 feet back from the face of the bluff under the small street-end park located immediately south of the Camino de la Costa street-end and pump station. A closer inspection of the sea caves indicates that they were formed along minor faults within the cliff-forming bedrock.

As further noted in the geology report, the main erosion problems are at the base of the sea cliff in this area as a result of direct impact of waves and/or wave run-up in the areas where joints and fractures are present in the Point Loma Formation. A northeasterly-trending fault zone and an associated northwesterly-trending joint system at the site have resulted in accelerated erosion of the sea cliff along joints, ultimately resulting in the formation of the two sea caves.

The annual rate of marine erosion in this area has been accelerating as determined by viewing as-built drawing for the pump station from 1993 and a 2003 topographic survey conducted by the City. The comparison revealed up to six feet of bluff loss at the site; specifically along the fracture lineaments in the face of the bluff. This relatively large localized bluff loss in the past ten years resulted from the rapid growth of the two sea caves and was likely influenced by the 1997-98 El Nino storm season, which caused significant coastal erosion along San Diego's coastline.

According to the applicant's geotechnical reports, ongoing erosion will in the near future breach the pump station backfill, collapsing a portion of the street, possibly damaging the pump station and damaging other bluff-top improvements. It was further noted that of equal concern is the mechanism of upper-bluff retreat, which poses a life-safety issue.

When destabilized, old fill soils and Bay Point formational soils tend to collapse in a rapid progression, taking bluff-top improvements with the failure. The current public use of this upper bluff area warrants remedial measures to improve upper bluff stability, as well as mitigation of the lower bluff marine erosion.

Thus, given the expansion of the sea caves and the recent bluff erosion, imminent threat to the coastal bluff and public improvements has been documented by the applicant. The applicant is requesting the proposed work to protect the public storm drain improvements and street end from collapsing. However, there are a variety of ways in which the threat from erosion could be addressed. Under the policies of the Coastal Act, the project must eliminate or mitigate adverse effects on shoreline sand supply and minimize adverse effects on public access, recreation, and the visual quality of the shoreline.

Alternatives

The applicant has submitted an analysis by a geotechnical engineer which reviews several alternatives to the proposed development which include the following:

1. Do nothing
2. Fill sea caves with concrete fill and replace storm drain pipe
3. Fill sea caves with concrete fill, move storm drain approximately ten feet landward, reconstruct pipe and construct 1:1 georgic-reinforced slope in upper bluff
4. Fill sea caves with concrete fill, move storm drain inlet landward approximately 15 feet; reconstruct pipe, and construct 1.5:1 (horizontal to vertical) geogrid-reinforced slope in upper bluff
5. Fill sea caves with concrete fill, reconstruct a deepened storm drain inlet in current location, reconstruct pipe, construct reinforced concrete tied-back wall with architectural finish to resemble adjacent formational materials.

The first alternative would result in the continuing enlargement of the westerly sea cave, which is about five feet from the exterior wall of the buried sewer pump station and within two to three feet of breaching the highly erosive soil backfill surrounding the pump station, ultimately undermining the street end and the southwesterly corner of the sewer pump station. Eventually, this undermining will cause settlement of the pump station and associated improvements resulting in damage to the pump station and possibly a sewer spill, resulting in contamination and environmental damage to the adjacent tide pools. Also, further erosion will enlarge the westerly sea cave resulting in loss of a sidewalk and public parking at the street-end. The easterly sea cave is also a concern as it could affect the public beach access stairway that this site offers. Thus, this alternative was dismissed by the applicant.

The second alternative would allow the street-end to remain in its present location, but changes and additional setbacks would be necessary to ensure safe use of the existing sidewalk. Parking on the street end would be lost. The third option would cause a loss of two of the four public parking spaces at the street-end above and would require

maintenance of the upper bluff until landscaping becomes reestablished to stabilize the regraded upper slope. Therefore, both these alternatives were dismissed by the applicant.

The fourth option would also require elimination of two of the four parking spaces, additional maintenance and landscaping similar to the third alternative described above and was therefore also dismissed by the applicant.

The applicant has indicated that the last alternative noted above is one that was chosen because it was the most desirable option as it provides the most stability to the coastal bluff, halts both marine and subaerial erosion, and allows for the blufftop public improvements to remain intact. This option also provides the most protection to the sewer pump station and ancillary structures. The Commission's staff Coastal Engineer has reviewed the applicant's alternatives and concurs that the proposed alternative is the best option. Based on the information provided by the applicant's consultant, the Commission finds that this alternative to fill the sea caves with concrete fill and reconstruct a deepened storm drain inlet in its current location, reconstruct a drainage pipe, construct a reinforced concrete tied-back seawall with architectural finish to resemble adjacent formational materials is the minimum necessary to address the identified problem and, thus, represents the least environmentally-damaging alternative.

Sand Supply/In Lieu Mitigation Fee

Although construction of a seawall is required to protect the existing public blufftop improvements which are in danger from erosion, Section 30235 of the Coastal Act requires that the shoreline protection be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Typically the Commission has required the applicant to pay a mitigation fee for seawall projects on the beach for a number of reasons. Primarily this is because seawalls occupy an area on the beach, such structures can "fix the back of the beach" and they tend to eliminate the contribution of sand to the beach from the bluff they protect. There are a number of adverse impacts to public resources associated with the construction of shoreline protection. The natural shoreline processes referenced in Section 30235, such as the formation and retention of sandy beaches, can be significantly altered by construction of a seawall, since bluff retreat is one of several ways that beach area and beach quality sand is added to the shoreline. This retreat is a natural process resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse, saturation of the bluff soil from ground water causing the bluff to slough off and natural bluff deterioration. Typically, when a seawall is constructed on the beach at the toe of the bluff, it directly impedes these natural processes.

Some of the effects of a shoreline protective structure on the beach such as scour, end effects and modification to the beach profile are temporary or difficult to distinguish from all the other actions which modify the shoreline. Seawalls also have non-quantifiable effects to the character of the shoreline and visual quality. However, some of the effects which a structure may have on natural shoreline processes can be quantified. Three of the effects from a shoreline protective device which can be quantified are: 1) loss of the

beach area on which the structure is located; 2) the long-term loss of beach which will result when the back beach location is fixed on an eroding shoreline; and 3) the amount of material which would have been supplied to the beach if the back beach or bluff were to erode naturally.

Loss of beach material and loss of beach area are two separate concerns. A beach is created by the result of both sandy material and a physical area between the water and the back beach. Thus, beach area is not simply a factor of the quantity of sandy beach material. In La Jolla, the coastal bluffs are composed of a hard bedrock material that does not contribute much to the beach as they have very minimal sand content. Although the sand material is important to the overall beach experience, even without the sand, the bedrock layer provides an area for coastal access between the coastal bluff and the ocean.

In this particular case, the proposed project is a public project. The Commission has not typically applied a sand mitigation fee for public projects because they provide a public recreational benefit of some kind. By filling of the sea caves and protecting the street-end above from eventual collapse, five parking spaces will be protected for public use/access to the beach. There is also a public vista point at the street end which is identified in the certified La Jolla LCP Land Use Plan. The proposed tied-back seawall and storm drain reconstruction best preserves the status quo for storm drain bluff position and parking. The City has proposed to re-stripe the street end to add one additional parking space (for a total of six spaces). The seawall that is being proposed is above a small pocket beach and the area that is being encroached upon is to provide for the public access and viewing areas and parking that is, in fact, mitigation for the beach loss through the continuation of the public parking that will be protected. Therefore, in summary, because the project is a public project, is also providing a public recreational benefit and includes the addition of one public parking space, no further mitigation is required. The Commission's coastal engineer has also reviewed the proposed project and concurs with these findings.

Special Condition #1 requires the applicant to submit final plans for the project. As project plans can change slightly from the time the project goes to bid, this will ensure that any slightly modified design is generally consistent with the approved plans.

If the proposed seawall were damaged in the future (e.g. as a result of wave action, storms, etc.) it could threaten the stability of the site, which could lead to the need for more bluff alteration. In addition, damage to the seawall could adversely affect the beach by resulting in debris on the beach and/or creating a hazard to the public using the beach. In addition, excessive wear of the seawall could result in the loss of or damage to the color or texture of the seawall resulting in adverse visual impacts (discussed in more detail in a subsequent section of this report). Therefore, in order to find the proposed seawall consistent with the Coastal Act, the Commission finds that the condition of the seawall in its approved state must be maintained for the life of the seawall. Further, in order to ensure that the permittee and the Commission know when repairs or maintenance are required, the permittee must monitor the condition of the seawall annually, for three years and at three-year intervals after that, unless a major storm event occurs. The monitoring will ensure that the permittee and the Commission are aware of any damage

to or weathering of the seawall and can determine whether repairs or other actions are necessary to maintain the seawall in its approved state. Therefore, Special Condition #2 requires the applicant to submit a monitoring report which evaluates the condition and performance of the seawall and overall site stability, and submit an annual report with recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. In addition, the condition requires the applicant to perform the necessary repairs through the coastal development permit process.

To assure the proposed seawall has been constructed properly, Special Condition #4 has been proposed. This condition requires that, within 60 days of completion of the project, as built-plans and certification by a registered civil engineer be submitted to verify that the proposed seawall has been constructed in accordance with the approved plans.

Special Condition #5 notifies the City that it is responsible for maintenance of the herein approved seawall to include removal of debris deposited on the beach during and after construction of the seawall. The condition also indicates that, should it be determined that maintenance of the proposed structure is required in the future, including maintenance of the color and texture, the applicant shall contact the Commission to determine if permits are required.

On a related point, the Commission has experience with repair and maintenance activities for existing shore protection and has often had to consider repair and maintenance options that result in an expansion of the footprint of the existing shore protection and in the further seaward encroachment. To insure that reliance upon the existing seawall will not encourage or necessitate further seaward encroachment as repair and maintenance activities are being proposed for these existing wall, Special Condition #6 requires that the applicant waive any rights to future repair or maintenance, enhancement, reinforcement, or any other activity affecting the existing shoreline protective device, if such activity extends the footprint seaward of the subject shoreline protective device.

Special Conditions #7 requires the applicant to submit a copy of any required permits from other federal, state and local agencies to ensure that no additional requirements are placed on the applicant that could require an amendment to this permit.

Also, although the Commission finds that the proposed work has been designed to minimize the risks associated with its implementation, the Commission also recognizes the inherent risk of shoreline development. The seawall will continue to be subject to wave action. Thus, there is a risk of damage to the seawall as a result of wave action. Given that, the applicant has chosen to perform these improvements despite these risks, the applicant must assume the risks. Accordingly, Special Condition #8 requires the applicant to acknowledge the risks and indemnify the Commission against claims for damages that may be brought by third parties against the Commission as a result of its approval of this permit. Only as conditioned can the proposed project be found consistent with Sections 30235 and 30253 of the Coastal Act.

In summary, the applicant has documented that the existing blufftop public improvements (public right-of-way, sidewalk, parking spaces, etc.) and below-ground public structures (i.e., sewer pump station) are in danger from erosion and subsequent bluff collapse. As conditioned, there are no other less damaging alternatives available to reduce the risk from bluff erosion. Thus, the Commission is required to approve the proposed protection for the public structures. Therefore, as conditioned, the Commission finds that the proposed seawall is consistent with Sections 30235 and 30253 of the Coastal Act.

3. Visual Resources/Alteration of Landforms/Scenic Quality. Section 30251 of the Coastal Act states the following:

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

It should also be noted that the coastal bluffs along the shoreline in this area are significant landforms worthy of preservation under Section 30251. The subject proposal, represents repairs to a storm drain system, the filling of two sea caves and the construction of a tied-back seawall. The applicant has proposed to use colored shotcrete and surface treatments such that the proposed seawall will closely resemble the surrounding natural area. Special Condition #1 requires submittal of final plans that demonstrate that the concrete has been colored to match the surrounding adjacent natural bluffs and sandstone shelves and that the sculpted shotcrete be used to resemble the texture of the adjacent natural bluffs.

As noted earlier, a public stairway exists at the terminus of Camino de la Costa. In addition, there is an unimproved foot trail at the Cortez Place street end about one block south of the project site which is utilized by the public to gain access to the shoreline. At lower tidal conditions, members of the public stroll out onto the headlands and can look back at the coastal bluffs in this area. By requiring that existing seawalls be colored and texturized to match the natural sandstone bluffs, the visual impact from the placement of the tied-back seawall and shotcrete will be mitigated, consistent with Section 30251 of the Act.

In addition, the storm drain pipe that is being replaced is located at an elevation of approximately + 22 ft. MSL, approximately 16 feet high on the coastal bluff (ref. Exhibit No. 5). The City has indicated that the storm drain pipe cannot be relocated due to existing grades and improvements making its realignment elsewhere impractical. The City has further noted that the storm drain pipe cannot be relocated so that it discharges at beach elevation because the existing system has been in operation for about 50 years and it would be very costly to re-construct if the pipe were to exit at the bottom of the proposed seawall. In addition, the exit velocity would be greater and would cause more

sand displacement and possibly result in scouring of the bedrock. Finally, because the project will replace the existing inlet and deteriorated short outfall pipe, there are no plans to install a low flow diversion upstream of this inlet. In the future, this may be considered when the City looks at overall plans for installation of low flow diversion projects in this community.

It should also be noted that an alternative that was not mentioned earlier but that Commission staff asked the applicant to consider is whether or not the sewer pump station could be relocated. The City replied that it needs to be located in the lowest area possible to ensure gravity flow from all sources. The present location fits this criteria. If the location were changed, multiple pump stations would be necessary and at a great additional cost as a typical pump station costs about $4-5 million. The life expectancy of the sewer pump station is about 50 years. The anticipated life of the bluff at the project site is about 50 years or more, with some maintenance required as erosion takes place in time at the edges of the proposed seawall. Therefore, as conditioned, the project should not result in any adverse visual impacts or alteration of landforms. As conditioned, the project is consistent with Section 30251 of the Act.

4. Public Access. The following sections of the Coastal Act are applicable and state:

Section 30211

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

[…]

(2) Adequate access exists nearby, or, ….

Also, Section 30604(c) requires that a specific access finding be made for any project located between the first coastal roadway and the sea. The project site is located between the ocean and the first coastal roadway (Camino de la Costa). At very low tide, it is possible to walk along the rocky headlands which are seaward of the vista point at the terminus of Camino de la Costa. At high tide conditions, lateral access is not possible as the water line reaches the toe of the coastal bluffs and other shoreline protection in the area. The City's certified La Jolla LCP Land Use Plan depicts this area as having limited or intermittent lateral access. The LCP further identifies that several unimproved dirt paths lead down from the improved vista point on Camino de la Costa (immediately east of and adjacent to the subject site) to a gentle sandstone outcropping to tidepool areas. This is regarded as the easiest natural access to the shoreline in this area.

The Commission will likely review more projects such as this to protect public improvements or to repair or replace existing older seawalls. Many of these walls may presently encroach onto the public sandy beach. In the review of repairs to, or replacement of, older seawalls such as this, the seawall should incorporate the optimal design in terms of proper siting on the beach and should not encroach onto public sandy beaches or state tidelands. The proposed filling of two sea caves and construction of a tied-back seawall will not interfere with public access along this shoreline.

As stated elsewhere in these findings, Section 30235 of the Act allows for the use of such a device where it is required to protect existing development and where it has been designed to mitigate adverse impacts upon shoreline sand supply. In order to mitigate the known adverse impacts, the Commission has in the past required an offer of dedication of lateral public access in order to balance the burden placed on the public with a public benefit. In this particular case, the beach and bluff are in public ownership and will remain as such. In addition, the City is proposing to add one more parking space at the street end. Therefore, a dedication of lateral public access is not necessary as a mitigation option.

The development proposed in this application involves the filling of two sea caves and construction of a tied-back seawall to halt bluff erosion that is threatening the underground sewer pump station, the street end and public parking spaces above it. As noted earlier, the proposed tied-back seawall will adhere closely to the contour of the natural bluff. However, because much of the beach is accessible in this area only at lower tides, the protection of a few feet of beach along the toe of the bluff is still important. This stretch of beach has historically been used by the public for access and recreation purposes. Special Condition #6 puts the applicant on notice that in the future, should repairs be needed to the seawall, only repairs that do not result in further beach encroachment are permitted.

As debris dislodged from the tied-back seawall has the potential to affect public access, Special Condition #5 has also been proposed. This condition notifies the applicant that they are responsible for maintenance and repair of the seawall and that should any work be necessary, they should contact the Commission office to determine permit requirements. In addition, the condition requires the applicant to be responsible for removal of debris deposited on the beach during and after any maintenance work at the project site.

The proposed filling of two sea caves on City property and construction of a tied-back seawall at this location will result in only minimal further seaward encroachment onto the beach. In order to avoid any impacts to public access, Special Condition #3 has been attached which requires the applicant to conduct work outside of weekends and holidays during the summer beach season, and minimize the public area needed for staging an access corridors. As conditioned, the Commission finds that the proposed work at this site will not result in any adverse impacts to public access and is consistent with the cited policies of the Coastal Act. Furthermore, as required in Section 30604(c) for

development between the first public road and the sea, the project is found consistent with all other public access and recreation policies of the Act.

5. Protection of Ocean Waters/BMP's. Section 30230, 30231 and 30232 of the Coastal Act requires that new development be designed so that ocean waters and the marine environment be protected from polluted runoff and accidental spill of hazardous substances:

Section 30230

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

The construction of the proposed seawall will occur on the public beach within a few feet of ocean waters. Construction activities will only occur at low tides when access along the beach is available. However, at high tides ocean waters will extend up to the face of the seawall such that the seawall at times will be subject to wave action. The method of construction of the seawall involves the multiple application of shotcrete that is sprayed over the face of the seawall structure. This shotcrete material will eventually be sculpted and colored to closely match the appearance of the natural bluffs. When shotcrete is used, sometimes the material (concrete) rebounds off the structure onto the beach as it is being applied. Because the material is wet, it cannot be picked up until it hardens. The Commission has recently become aware that in previously constructed seawalls along the

Solana Beach shoreline, this shotcrete "rebound" has not be removed before the ocean waters rise and mix with the wet shotcrete material. Along other sections of the coast, shotcrete is applied without the associated rebound problems. Contractors place tarps on the beach to collect material that drops from the wall. They also use backdrops or drapes along the face of the bluff to contain splatter and rebound and prevent scatter of shotcrete material all around the beach. These and other techniques are possible ways to control shotcrete debris and prevent discharge into the marine environment.

Special Condition #4 is attached which requires that during the construction of the project, "the permittee shall not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion". This is a standard condition on all seawall projects approved by the Commission. However, based on information supplied in other similar projects reviewed by the Commission, this special condition has not effectively served to prohibit the contamination of ocean waters by rebounded shotcrete. To assure that the subject development will not result in the pollution of the ocean waters, Special Condition #13 has also been attached. Special Condition #13 requires the applicant to submit a Polluted Runoff Control Plan that incorporates structural and nonstructural Best Management Practices (BMPs), for Executive Director approval, for the construction of the proposed seawall. Construction methods must be devised to assure this rebound shotcrete material does not mix with or pollute ocean waters. With appropriate BMPs, the potential for this polluted material from the site making its way into the ocean will be eliminated. Therefore, as conditioned, the Commission finds the proposed development consistent with the marine and water quality protection policies of the Coastal Act.

6. Local Coastal Planning. The City has certified LCP, but the proposed project is within Commission's area of original jurisdiction. The subject site is zoned RS-1-7/Public Right-of-Way in the certified City of San Diego LCP. The certified La Jolla LCP land Use Plan contains policies which call for the proper siting of shoreline protective devices and their visual compatibility with the surrounding area. The proposed work, as conditioned, is consistent with all applicable Chapter 3 policies of the Coastal Act. Therefore, as conditioned, will not prejudice the ability of the City of San Diego to continue to implement its certified LCP for the La Jolla area of the City of San Diego.

7. Consistency with the California Environmental Quality Act (CEQA).
Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposal to construct a tied-back seawall has been conditioned in order to be found consistent with the shoreline hazard, public access and visual resource policies of the Coastal Act. Mitigation measures, including conditions addressing construction techniques consistent with the geotechnical report, the color of construction materials,

timing of construction and future maintenance/debris removal and public rights will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and inconsistent with the requirements of the Coastal Act to conform to CEQA.

STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

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

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

(G:\San Diego\Reports\2006\6-06-153 City of San Diego stfrpt.doc)

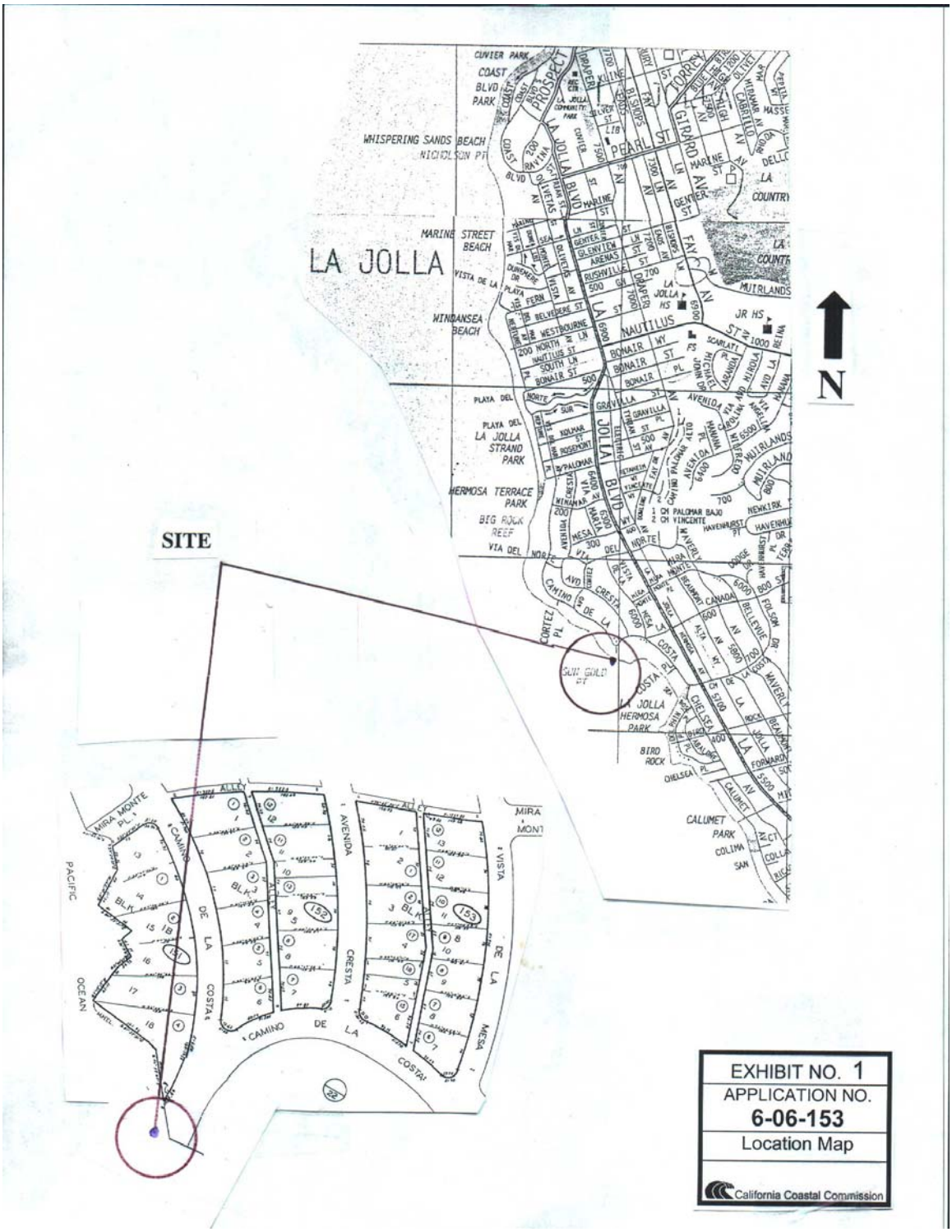


EXHIBIT NO. 1
APPLICATION NO.
6-06-153
Location Map
California Coastal Commission

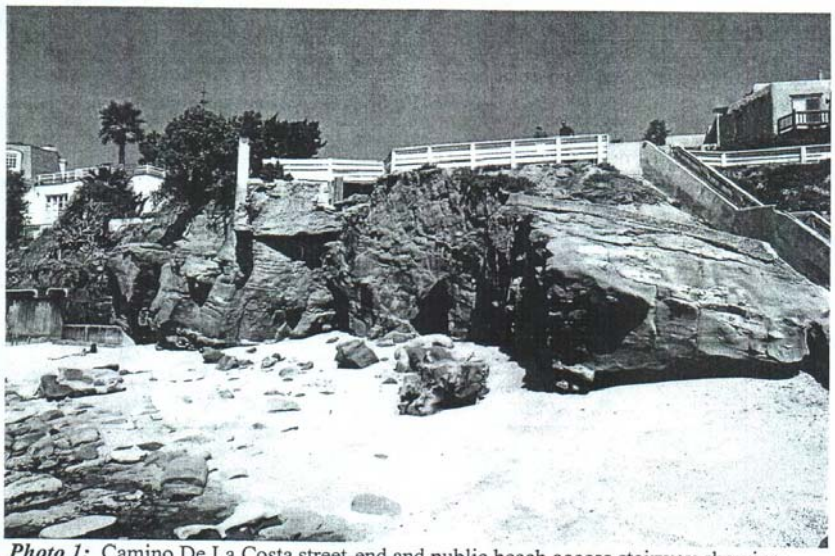


Photo 1: Camino De La Costa street-end and public beach access stairway showing undermined bluff-top public street-end improvements.

Photo 2: Sea caves undermining street-end and public park improvements.

TerraCosta Consulting Group	TerraCosta Consulting Group, Inc. 4455 Murphy Canyon Road, Suite 100 San Diego, California 92123 (858) 573-6900	Project No.: 2160
	Storm Drain Replacement – 5998 Camino De La Costa	

EXHIBIT NO. 2
APPLICATION NO.
6-06-153
Site Photos from Geotechnical Report
California Coastal Commission

Photo 3: Close-up of failing street-end storm drain.

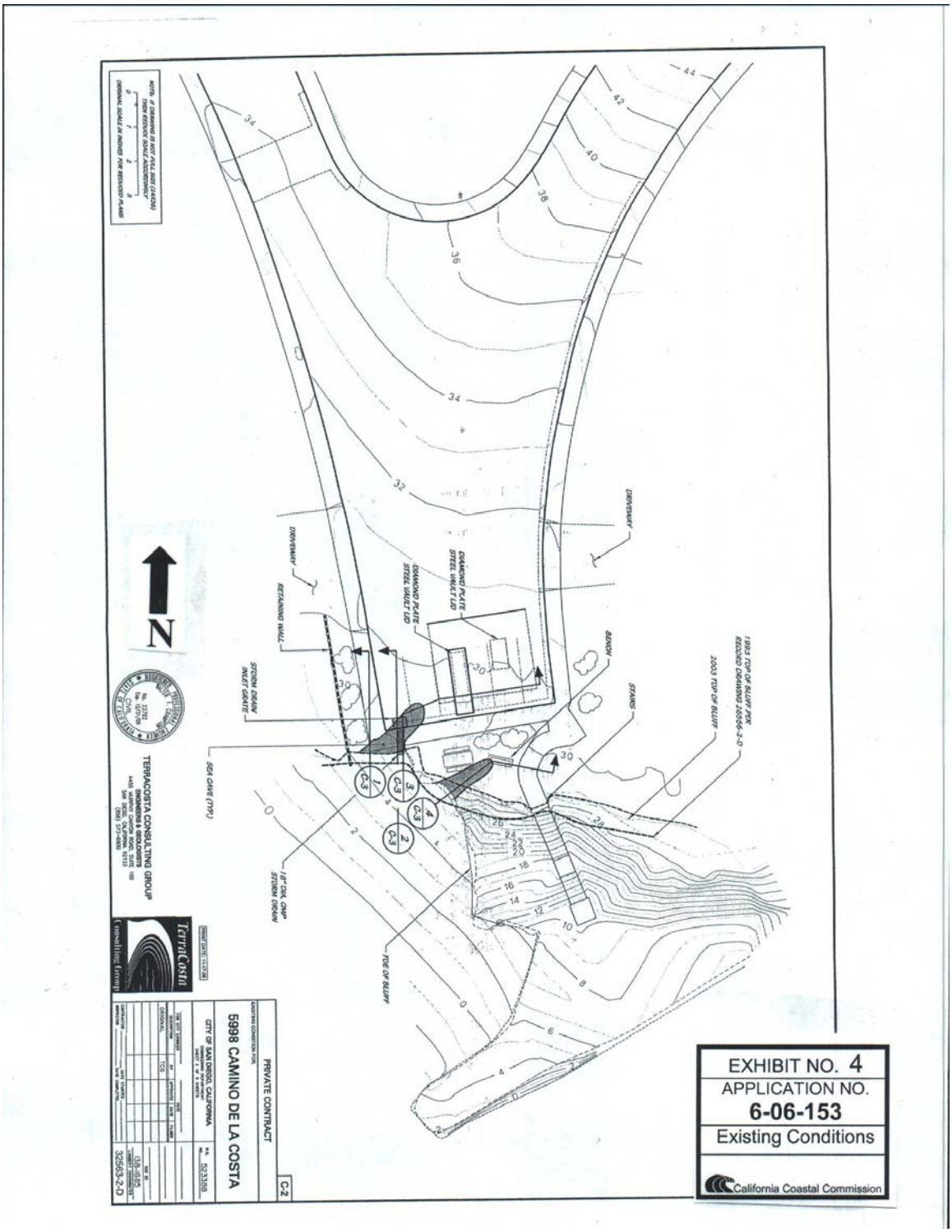
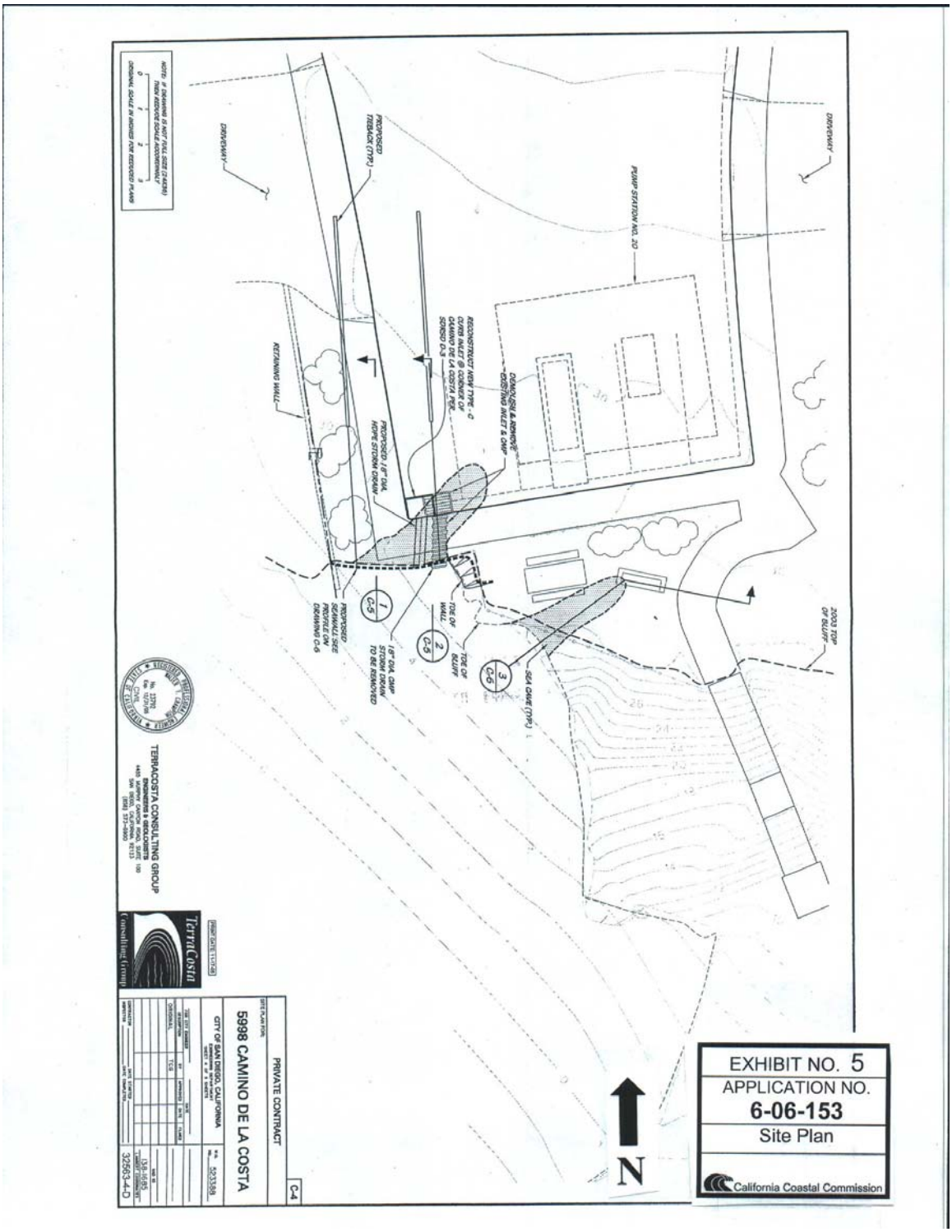


EXHIBIT NO. 4
APPLICATION NO.
6-06-153
Existing Conditions
California Coastal Commission
PRIVATE CONTRACT
5998 CAMINO DE LA COSTA
CITY OF SAN DIEGO, CALIFORNIA
C-2
TERRACOSTA CONSULTING GROUP
DRIVEWAY
RETAINING WALL
STORM DRAIN INLET GRATE
SEA CAVE (TYP.)
DIAMOND PLATE STEEL VAULT LID
BENCH
STAIRS
2003 TOP OF BLUFF
1933 TOP OF BLUFF PER RECORD DRAWING 26566-2-D
18" CMP STORM DRAIN
TOE OF BLUFF
32563-2-D


PRIVATE CONTRACT
5998 CAMINO DE LA COSTA
CITY OF SAN DIEGO, CALIFORNIA
TERRACOSTA CONSULTING GROUP
PUMP STATION NO. 20
DRIVEWAY
PROPOSED TIEBACK (TYP.)
KEYSTONE WALL
PROPOSED 18" DIA. HDPE STORM DRAIN
REMOVE & REPLACE EXISTING INLET & GRATE
TOE OF WALL
TOE OF BLUFF
SEA CAVE (TYP.)
2003 TOP OF BLUFF
N
EXHIBIT NO. 5
APPLICATION NO.
6-06-153
Site Plan
California Coastal Commission

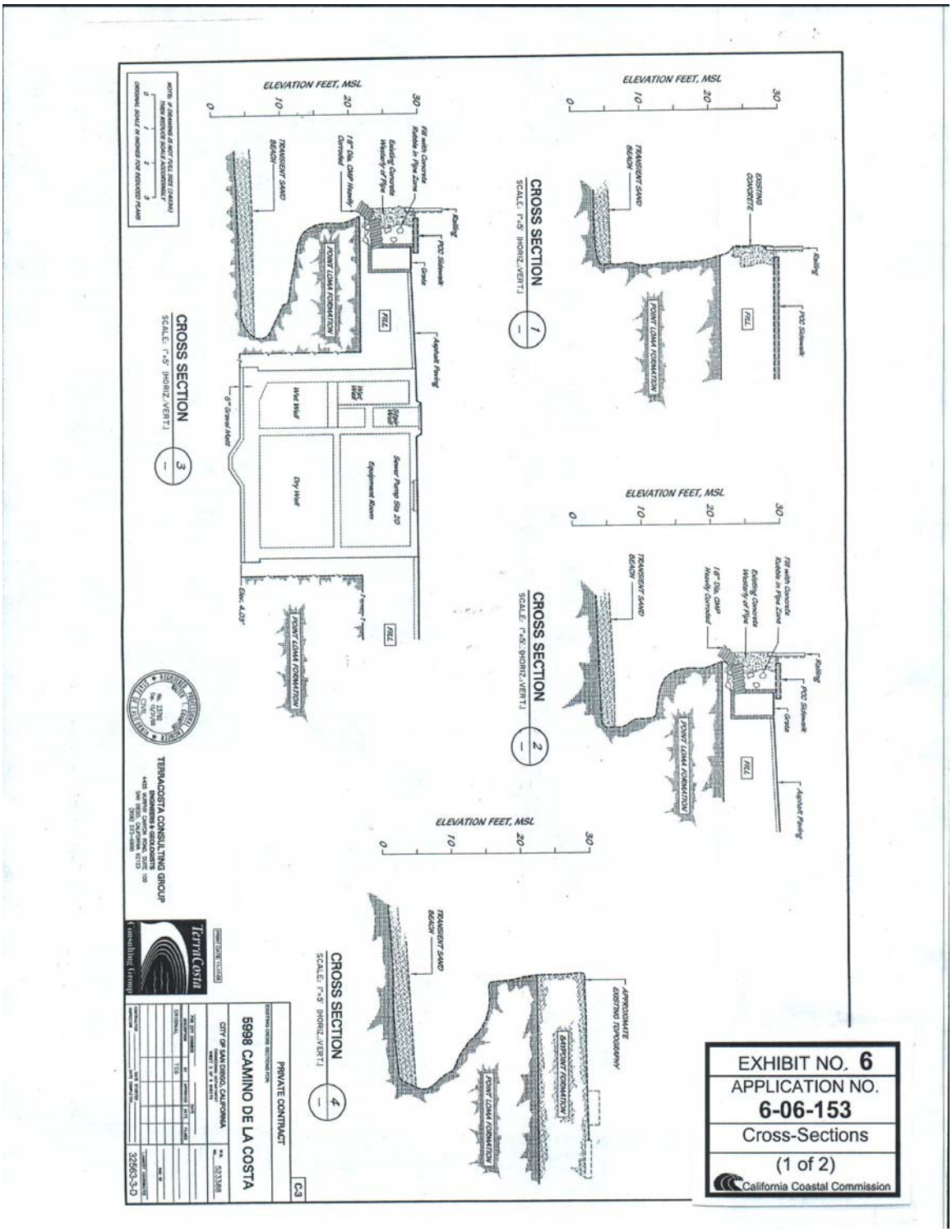
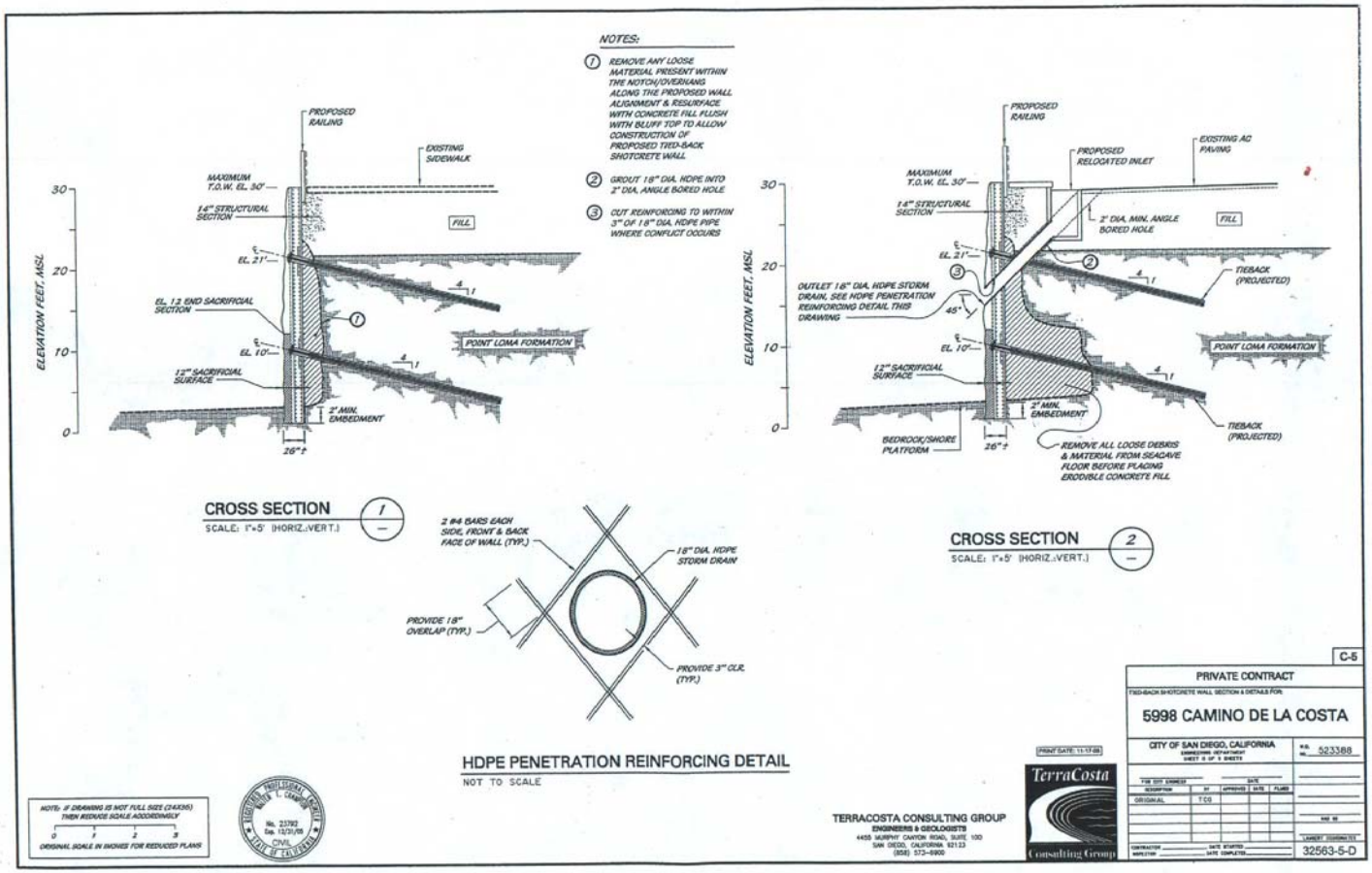


EXHIBIT NO. 6
APPLICATION NO.
6-06-153
Cross-Sections
(1 of 2)
California Coastal Commission


NOTES:
1 REMOVE ANY LOOSE MATERIAL PRESENT WITHIN THE NOTCH/OVERHANG ALONG THE PROPOSED WALL ALIGNMENT & RESURFACE WITH CONCRETE FILL FLUSH WITH BLUFF TOP TO ALLOW CONSTRUCTION OF PROPOSED TIED-BACK SHOTCRETE WALL
2 GROUT 18" DIA. HDPE INTO 2" DIA. ANGLE BORED HOLE
3 CUT REINFORCING TO WITHIN 3" OF 18" DIA. HDPE PIPE WHERE CONFLICT OCCURS
PROPOSED RAILING
EXISTING SIDEWALK
MAXIMUM T.O.W. EL. 30'
14" STRUCTURAL SECTION
FILL
EL. 21'
EL. 12 END SACRIFICIAL SECTION
EL. 10'
12" SACRIFICIAL SURFACE
2" MIN. EMBEDMENT
26"±
POINT LOMA FORMATION
ELEVATION FEET, MSL
30
20
10
0
CROSS SECTION 1
SCALE: 1"=5' (HORIZ.=VERT.)
PROPOSED RELOCATED INLET
EXISTING AC PAVING
2" DIA. MIN. ANGLE BORED HOLE
TIEBACK (PROJECTED)
OUTLET 18" DIA. HDPE STORM DRAIN, SEE HDPE PENETRATION REINFORCING DETAIL THIS DRAWING
45°
BEDROCK/SHORE PLATFORM
REMOVE ALL LOOSE DEBRIS & MATERIAL FROM SEACAVE FLOOR BEFORE PLACING ERODIBLE CONCRETE FILL
CROSS SECTION 2
SCALE: 1"=5' (HORIZ.=VERT.)
2 #4 BARS EACH SIDE, FRONT & BACK FACE OF WALL (TYP.)
18" DIA. HDPE STORM DRAIN
PROVIDE 18" OVERLAP (TYP.)
PROVIDE 3" CLR. (TYP.)
HDPE PENETRATION REINFORCING DETAIL
NOT TO SCALE
C-5
PRIVATE CONTRACT
TIED-BACK SHOTCRETE WALL SECTION & DETAILS FOR:
5998 CAMINO DE LA COSTA
CITY OF SAN DIEGO, CALIFORNIA
W.O. No. 523388
TERRACOSTA CONSULTING GROUP
ENGINEERS & GEOLOGISTS
4455 MURPHY CANYON ROAD, SUITE 100
SAN DIEGO, CALIFORNIA 92123
(858) 573-6900
TerraCosta Consulting Group
32563-5-D

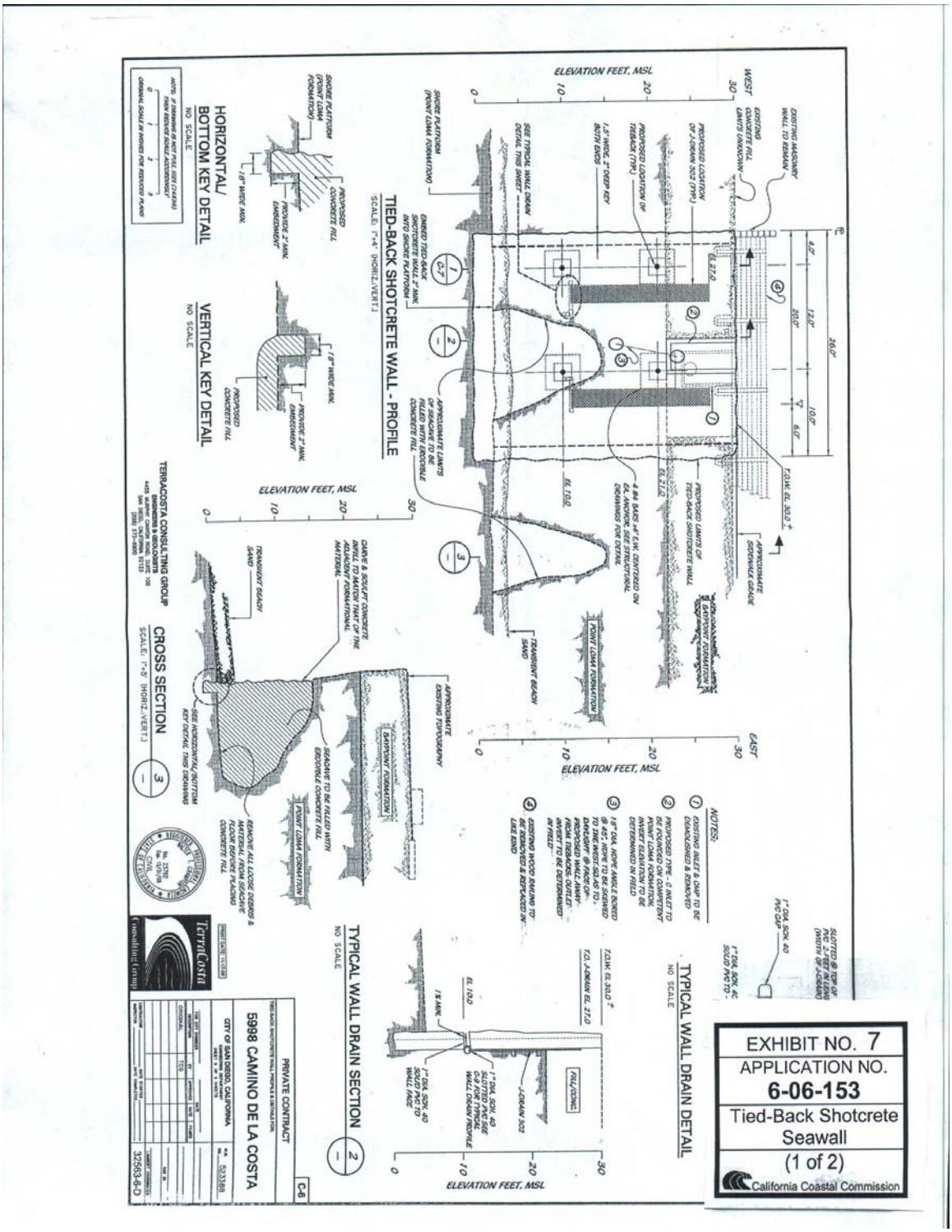
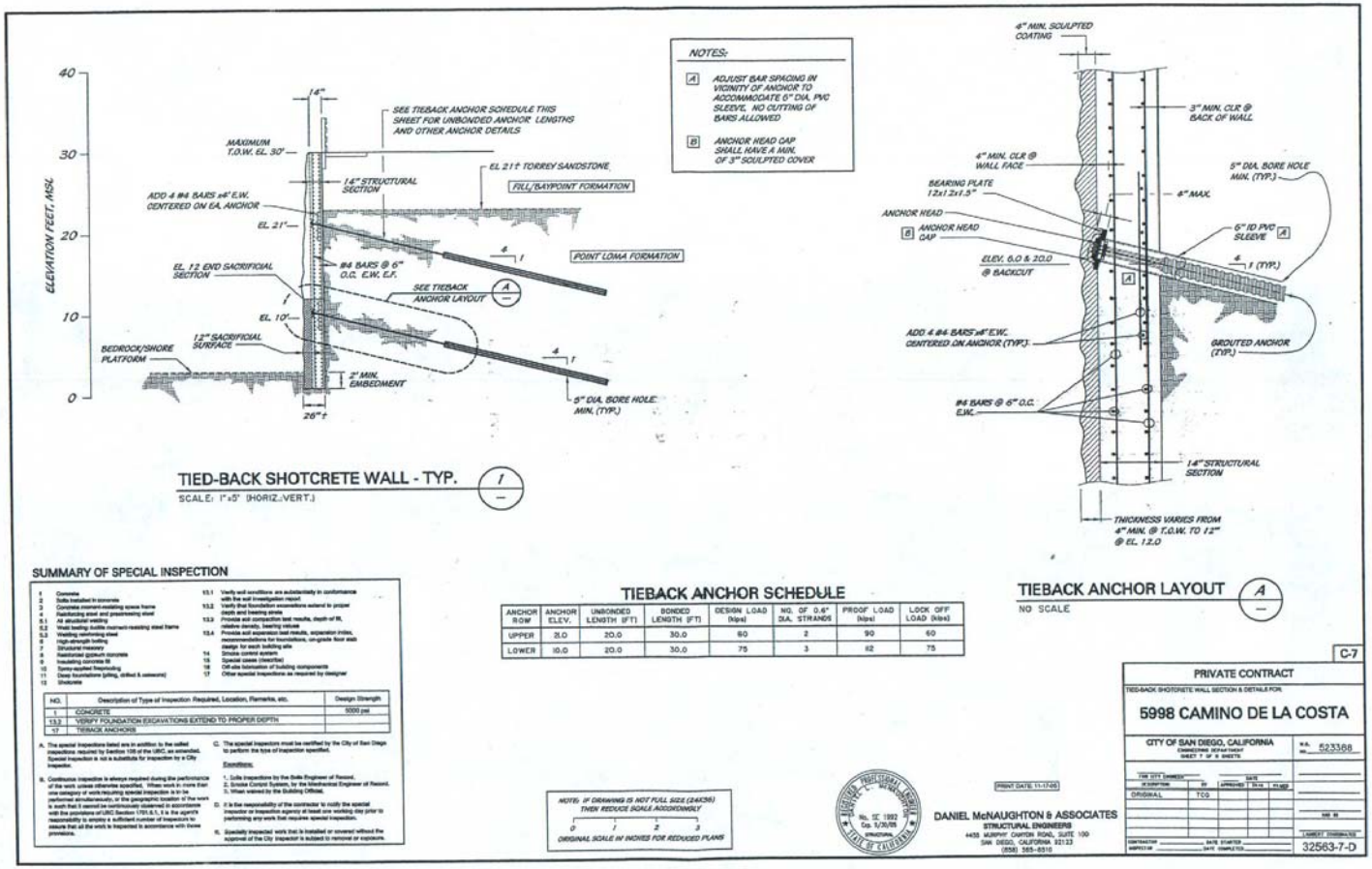


EXHIBIT NO. 7
APPLICATION NO.
6-06-153
Tied-Back Shotcrete Seawall
(1 of 2)
California Coastal Commission



TIED-BACK SHOTCRETE WALL - TYP. 1

SCALE: 1"=5" (HORIZ.:VERT.)

TIEBACK ANCHOR LAYOUT A

NO SCALE

SUMMARY OF SPECIAL INSPECTION

NO.	Description of Type of Inspection Required, Location, Remarks, etc.	Design Strength
1	CONCRETE	5000 psi
13.2	VERIFY FOUNDATION EXCAVATIONS EXTEND TO PROPER DEPTH	
17	TIEBACK ANCHORS	

A. The special inspections listed are in addition to the called inspections required by Section 108 of the UBC, as amended. Special inspection is not a substitute for inspection by a City Inspector.

B. Continuous inspection is always required during the performance of the work unless otherwise specified. Where work in more than one category of work requiring special inspection is to be performed simultaneously, or the geographic location of the work is such that it cannot be continuously observed in accordance with the provisions of UBC Section 1701.5.1, it is the agent's responsibility to employ a sufficient number of inspectors to ensure that all the work is inspected in accordance with these provisions.

C. The special inspectors must be certified by the City of San Diego to perform the type of inspection specified.

Exceptions:

1. Soils inspections by the Soils Engineer of Record.
2. Smoke Control System, by the Mechanical Engineer of Record.
3. When waived by the Building Official.

D. It is the responsibility of the contractor to notify the special inspector or inspection agency at least one working day prior to performing any work that requires special inspection.

E. Specially inspected work that is installed or covered without the approval of the City Inspector is subject to removal or exposure.

TIEBACK ANCHOR SCHEDULE

ANCHOR ROW	ANCHOR ELEV.	UNBONDED LENGTH (FT)	BONDED LENGTH (FT)	DESIGN LOAD (kips)	NO. OF 0.6" DIA. STRANDS	PROOF LOAD (kips)	LOCK OFF LOAD (kips)
UPPER	21.0	20.0	30.0	60	2	90	60
LOWER	10.0	20.0	30.0	75	3	112	75

NOTE: IF DRAWING IS NOT FULL SIZE (24X36) THEN REDUCE SCALE ACCORDINGLY

0 1 2 3

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

PRINT DATE: 11-17-06

DANIEL McNAUGHTON & ASSOCIATES
STRUCTURAL ENGINEERS
4455 MURPHY CANYON ROAD, SUITE 100
SAN DIEGO, CALIFORNIA 92123
(858) 565-6510

C-7

PRIVATE CONTRACT

TIED-BACK SHOTCRETE WALL SECTION & DETAILS FOR:

5998 CAMINO DE LA COSTA

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 7 OF 9 SHEETS

W.A. 523368
no.

DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	TCG		

32563-7-D