CALIFORNIA COASTAL COMMISSION

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STAFF REPORT: MATERIAL AMENDMENT

APPLICATION NUMBER: 5-02-361-A

APPLICANT: City of Long Beach, Marine Bureau

PROJECT LOCATION: Downtown Shoreline Marina

DESCRIPTION OF PROJECT PREVIOUSLY APPROVED: Construction of a 1,825 boat marina, with fuel dock, two sewage pump-out stations, boat owner comfort stations, public restrooms, 2,000 square marine administration building, bicycle path, and 1,415 parking spaces.

DESCRIPTION OF PROPOSED AMENDMENT: Replacement of wooden docks, fingers and plastic-encased foam floats with new wooden docks, fingers, and plastic floats, over a three year period, within a public 1,804 boat slip marina. The slips will be converted from double loaded to single loaded slips, and "pitchfork" fingers will be added to ten dock ends, requiring 46 new concrete piles; and two new pump out stations will be added to the existing locations. There will be a loss of 74 slips.

APPROVALS RECEIVED: City of Long Beach Approval in Concept; U.S. army Corps of Engineers Letter of Permission, November 18, 2002

SUMMARY OF STAFF RECOMMENDATION:

The staff recommends that the Commission determine that the proposed development with the proposed amendment, subject to the proposed special conditions is consistent with the access and resource protection policies of the Coastal Act. Staff recommends APPROVAL of the proposed development with the following special conditions including: 1) construction responsibilities and best management practices; 2) U.S. Army Corps of Engineers final approval; 3) future development; 4) water quality requirements for the operation and construction of the marina; 5) operation and maintenance of over-water sewer lines; 6) pre-construction survey for *Caulerpa taxifolia*; 7) pre-construction survey for Eelgrass; 8) assumption of risk; and 9) dock/float monitoring.

Procedural Note: The Commission's regulations provide for referral of permit amendment requests to the Commission if:

1) The Executive Director determines that the proposed amendment is a material change,
2) Objection is made to the Executive Director's determination of immateriality,

In this case, the Executive Director has determined that the proposed amendment is a material change to the project as originally described. If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material. 14 Cal. Admin. Code 13166.

I. STAFF RECOMMENDATION:

Staff recommends that the Commission make the following motion and adopt the following resolution:

MOTION: ***I move that the Commission approve Coastal Development Permit #5-02-361-A1 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 amendment for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the provisions of Chapter 3 of the California Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/ or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternative that would substantially lessen any significant adverse impacts of the development on the environment.

II. 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 this permit is reported to the Commission. 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 term or 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.

III. SPECIAL CONDITIONS

Note: Unless specifically altered by this amendment, all conditions imposed on the previously approved permit shall remain in effect.

1. CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL

The permittee shall comply with the following construction-related requirements:

(a) No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to inundation or dispersion in the waters of the marina;
(b) Any and all debris resulting from construction activities shall be removed from the site within 10 days of completion of construction;
(c) No machinery or construction materials not essential for project improvements shall be allowed at any time in the intertidal zone;
(d) If turbid conditions are generated during construction, a silt curtain shall be utilized to control turbidity;
(e) Floating booms shall be used to contain debris discharged into coastal waters and any debris discharged shall be removed as soon as possible but no later than the end of each day;

(f) Non-buoyant debris discharged into coastal waters shall be recovered by divers as soon as possible after loss; and

(g) Reasonable and prudent measures shall be taken to prevent all discharge of fuel or oily waste from heavy machinery, pile drivers or construction equipment or power tools into the waters of the Marina del Rey. The applicant and the applicant's contractors shall have adequate equipment available to contain any such spill immediately.

2. U.S. ARMY CORPS OF ENGINEERS APPROVAL

PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall provide to the Executive Director a copy of the final permit issued by U.S. Army Corps of Engineers, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers. 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 required.

3. FUTURE DEVELOPMENT

This Coastal Development Permit 5-02-361-A1 is only for the development expressly described and conditioned herein. The permittee shall undertake development in accordance with the approved coastal development permit. Any proposed changes to the development, including any change to the sequence of construction, shall be reported to the Executive Director. No changes to the approved development shall occur without a Commission amendment to this coastal development permit or a new coastal development permit unless the Executive Director determines that no amendment or new permit is required.

4. WATER QUALITY MANAGEMENT PLAN

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, a detailed Water Quality/Best Management Practices (BMPs) Program for controlling adverse impacts to water quality related to long-term water-borne berthing of vessels in the marina. The plan shall be prepared by a qualified professional with expertise in the control of water quality impacts related to marinas.

1. The plan shall demonstrate that long-term water-borne berthing of vessels in the marina shall be managed in a manner which protects water quality and that persons using the marina are made aware of the rules related to boat maintenance and use. To the extent to which physical features or objects (trash containers, recycling bins) are required in the plan, an

attached site plan shall show the location where these features or objects will be installed.

2. The plan shall include, at a minimum, the following components or measures:

   (a) Boat Cleaning Management Measures:

      1. The marina shall prohibit in-water boat hull washing which does not occur by hand;
      2. The marina shall prohibit in-the-water hull scraping or any process that occurs under water which results in the removal of paint from boat hulls;
      3. The marina shall ensure that marina tenants, when washing boats, utilize detergents and cleaning components that are phosphate-free and bio-degradable. Amounts used shall be minimized; and
      4. The marina shall prohibit the use of detergents containing ammonia, sodium hypochlorite, chlorinated solvents, petroleum distillates or lye.

   (b) Implementation of a solid waste reduction and recycling program including the following Solid Waste Management Measures:

      1. Containers for recyclables shall be provided and sited so that they are convenient for boaters (i.e. close to the dock); and
      2. All trash and separate containers for recyclables, oil wastes, fish wastes, etc. shall be clearly marked, have the capacity to handle all waste streams, and be sited so that they are convenient for boaters (i.e. close to the dock).
      3. All solid waste, including sewage, shall be properly disposed of only at appropriately designated facilities.

   (c) Implementation of a liquid material control program which provides and maintains appropriate storage, transfer, containment and disposal facilities for liquid materials commonly used in boat maintenance including the following Liquid Waste Management Measures:

      1. The marina shall provide a secure location to store hazardous wastes, including petroleum products, old gasoline or gasoline with water, absorbent materials, and oily rags;
      2. Containers for anti-freeze, lead acid batteries, used oil and used oil filters which will be collected separately for recycling shall be provided by the marina;

3. Signage shall be placed on all regular trash containers to indicate that hazardous wastes may not be disposed of in the container. The containers shall notify boaters as to how to dispose of hazardous wastes and where to recycle certain recyclable wastes; and

(d) Petroleum Control Management Measures:

1. The marina shall make available to baoters a service that reduces oily discharges from in-board engines. The marina's environmental policies shall encourage boaters to regularly inspect and maintain engines, lines and hoses in order to prevent oil and fuel spills. These policies shall encourage boaters to use preventive engine maintenance, oil absorbents, bilge pump-out services, or steam cleaning services as much as possible to clean oily bilge areas. The use of soaps that can be discharged by bilge pumps shall be discouraged.

(e) Public Education Measures:

In addition to these specific components outlined in Special Condition 6.2.(a) through (d) above, the BMP program shall also include enforcement which may include eviction from the marina. The marina shall provide information about all of the measures in the BMP program through a combination of signage, tenant bill inserts and distribution of the BMP program to new tenants and each year to repeat tenants. The program shall be posted at the dockmaster's office/Administration building and at all dock entrances, and be included and attached to all slip lease agreements.

5. OPERATION, MAINTENANCE, AND REPAIR OF OVER-WATER SEWER LINES

The applicant shall submit, for the review and approval of the Executive Director, an operation and maintenance plan for over-water sewer lines. The over-water sewer lines include all pipes from sewage pump-out facilities, the on-dock boating facilities, and any other pipe which leads to a sanitary sewer. The over-water sewer lines shall be visually inspected at least once per month and dye- or pressure-tested at least once every six months. All leaks shall be repaired immediately upon discovery. If the applicant determines that a more stringent procedure is necessary to ensure protection of coastal water quality, then the applicant shall update the operation and maintenance plan.

The permittee shall undertake development and ongoing maintenance and operation in accordance with the approved final plan and other requirements. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission

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

6. CAULERPA TAXIFOLIA PRE-CONSTRUCTION SURVEY

A. Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit (the "project"), the applicant shall undertake a survey of the project area and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate.

B. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.

C. Within five (5) business days of completion of the survey, the applicant shall submit the survey:

1. for the review and approval of the Executive Director; and

2. to the Surveillance Subcommittee to the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Game (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043).

D. If *Caulerpa taxifolia* is found within the project or buffer areas, the applicant shall not proceed with the project until 1) the applicant provides evidence to the Executive Director that all *C. taxifolia* discovered within the project and/or buffer area has been eliminated in a manner that complies with all applicable governmental approval requirements, including but not limited to those of the California Coastal Act, or 2) the applicant has revised the project to avoid any contact with *C. taxifolia*. No revisions to the project shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. PRE-CONSTRUCTION EELGRASS SURVEY

A. Pre Construction Eelgrass Survey. A valid pre-construction eelgrass (Zostera marina) survey shall be completed during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition)

adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game. The applicants shall submit the eelgrass survey for the review and approval of the Executive Director within five (5) business days of completion of each eelgrass survey and in any event no later than fifteen (15) business days prior to commencement of any development. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit.

B. Post Construction Eelgrass Survey. If any eelgrass is identified in the project area by the survey required in subsection A of this condition above, within one month after the conclusion of construction, the applicants shall survey the project site to determine if any eelgrass was adversely impacted. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game. The applicants shall submit the post-construction eelgrass survey for the review and approval of the Executive Director within thirty (30) days after completion of the survey. If any eelgrass has been impacted, the applicants shall replace the impacted eelgrass at a minimum 1.2:1 ratio on-site, or at another location, in accordance with the Southern California Eelgrass Mitigation Policy. All impacts to eelgrass habitat shall be mitigated at a minimum ratio of 1.2:1 (mitigation:impact). The exceptions to the required 1.2:1 mitigation ratio found within SCEMP shall not apply. Any off-site mitigation shall require an amendment to this permit or a new coastal development permit unless the Executive Director determines that no amendment or new permit is required.

8. ASSUMPTION OF RISK, WAIVER OF LIABILITY, AND INDEMNITY AGREEMENT APPLICABLE TO APPLICANT

A. By acceptance of this permit, the applicant City of Long Beach 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; (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; and (v) to include a provision in any subsequent lease of such property requiring the lessee to submit a written

agreement to the Commission, for the review and approval of the Executive Director, incorporating all of the terms of subsection A of the prior condition.

B. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition.

9. DOCK/PLASTIC FLOAT MONITORING

A. Inspection and Maintenance Program. The permittee shall exercise due diligence in periodically inspecting pilings installed under this permit, and shall immediately remove or undertake any repairs necessary to maintain the structural integrity of the plastic floats. ON A FIVE YEAR BASIS, following the date that the first dock with float is installed, the permittee shall conduct a dock inspection to ensure the integrity of the floats, and that all corrective actions have or will be immediately undertaken to maintain the integrity of the floats. The inspections shall be undertaken by boat, during periods of extreme low tides. All periodic reports shall be submitted to the Executive Director for review and approval. Alternatively, the permittee may submit a different timeline for the dock/float inspection program that ensures that the floats and/or structural integrity of the docks are properly maintained; the alternative timeline shall be reviewed and approved by the Executive Director PRIOR TO THE INSTALLATION OF DOCKS.

B. New Information. If federal or state regulatory agencies, through new or better scientific information, determine that environmentally less damaging materials or methods are available for float replacement, and are feasible to implement, the permittee shall, after consultation with the Executive Director, revise procedures or use alternative materials consistent with the new information. The substitution of non-plastic float materials may be authorized by the Executive Director.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description and Location

The applicant proposes to replace the entire 1,804 deteriorating dock, and converting the marina from double loaded slips (one finger per boat) to single loaded slips (two fingers per boat) in the Downtown Marina, in the City of Long Beach. The project will include upgraded utilities from the shoreline connections outward and include the addition of two pump-out stations at the two existing pump out locations (Dock A and P) for a total of six stations. The purpose of the project is to replace old and deteriorating docks to ensure that the anchorage is maintained in a safe and operable condition.

According to the applicant the marina is going from double to single loaded slips to meet current boater market demand with the benefit of dry access to both sides of a boat, ease of boat maintenance, boater safety, and fire prevention.

All existing dock floats and ramps, within the anchorage will be removed and new floats and ramps will be constructed in basically the same configuration. The project will result in a loss of slips due to the conversion from double to single loaded slips, American Disability Act (ADA) access requirements, and current California Department of Boating and Waterways slip width criteria. To mitigate the loss of slips the project will include "pitchfork" fingers (34 additional slips) at the ends of 10 docks. These new fingers will limit the net loss of slips to 74 slips. According to the applicant the reduction of slips will maintain the same ratios as the existing number of slips of a given length. The existing and proposed slip size configuration is shown in the following table:

Slip Length(ft.)	*30*	*35*	*40*	*45*	*50*	*60*	*Total*
Existing	634	492	459	133	66	20	1804
Proposed	576	462	428	139	86	37	1728
Change	-58	-30	-31	+6	+20	+17	-72

The existing docks and fingers have a surface area of 270,608 square feet. The refurbished docks and fingers will have a surface area of 377,245 square feet for a net increase of 169,637 square feet over the 85-acre marina. Approximately, 12,500 floats will be needed for the refurbished docks. The pitchfork fingers will require 46 new piles.

The proposed construction will be done in phases over a three-year period. According to the applicant only portions of the slip anchorages will be out of service at any one time. Boats using the existing facility will have the opportunity to move to the other available slips within the marina.

In 1979, the Commission approved the Downtown Marina project with 1,825 boat slips (Coastal Development Permit No. P-79-5249). As built, the Downtown Marina, known today as the Downtown Shoreline Marina, has 1,700 slips and the adjacent Shoreline Aquatic Park Harbor, also now commonly referred to as the Rainbow Harbor Marina, has 104 slips. Therefore, the combined marina complex has a total of 1,804 slips. The nearby Rainbow Harbor has the remaining 21 of the originally approved 1,825 slips.

B. Public Access and Recreation

Section 30210 of the Coastal Act states:

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

Section 30213 of the Coastal Act states:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Section 30224 of the Coastal Act states:

Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

Section 30234 of the Coastal Act states:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Section 30252 of the Coastal Act states in part:

The location and amount of new development should maintain and enhance public access to the coast by. . . (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation...

The proposed project is located between the nearest public road and the sea as well as within coastal waters. The project is the replacement of docks and fingers within a public boating marina.

The proposed project includes change in slip size distribution and the addition of "pitchfork" slips at the end of ten docks. The "pitchfork" slips will add 34 slips, however, there will be a net loss of 74 slips. The reduction in slips is due to the conversion from double to single loaded slips, American Disability Act (ADA) access requirements and current California Department of Boating and Waterways slip width criteria. The reduction in slips will maintain the current slip size distribution ratios and continue to maintain the majority of the slips in the 30 to 45 foot range (see table in previous section).
The applicant states that construction of the new floating dock fingers will be done off-site. The dock fingers will be floated into position and attached to the existing docks. During the assembly of the fingers to the docks boating use of the slips will not be disrupted. Boats will be moved to vacant slips and then returned once work is completed. Thus, boater access to this recreational facility will be preserved consistent with the access policies of the Coastal Act.

The replacement of the boat docks and slips will enhance the anchorage and improve recreational boating in the marina as a whole. The proposed project will maintain the current mix of recreational boat slip lengths and continue to provide recreational opportunities for the public. The project will provide the same public access to the docks and boat slips as in the past. Furthermore, the upgrading of the docks will encourage recreational boating use of the marina. As proposed, the project will be consistent with Sections 30213, 30224, and 30234 of the Coastal Act.

C. Marine Resources

Section 30230 of the Coastal Act states:

> *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 of the Coastal Act states:

> *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 30240(b) of the Coastal Act states:

> *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

The Commission has reviewed numerous reports concerning the impacts of chemical pollution and siltation on marine organisms and on coastal recreation. In addition, given the location of the proposed work within a marina supporting both sensitive species and recreational activities, there are concerns about how the work may be performed. In response to these concerns the Commission has begun to impose conditions on development to prevent siltation, spills and pollution as a result of development.

1. Water Quality and Construction Impacts

The proposed project is the demolition of an existing marina and construction of a new marina located in coastal waters. Due to the proposed project's location on the water, the proposed work may have adverse impacts upon water quality and the marine environment.

The proposed project was submitted to the U.S. Army Corps of Engineers for their review and approval. In the Corps review, the Corps determined that water quality would not be affected by the proposed project if the applicant implements proposed best management practices to minimize the dispersal of silt, debris, and chemicals. The best management practices include the use of turbidity screens/siltation curtains to isolate work area during pile removal and installation, floating booms to contain debris or spills, recovery of any non-buoyant debris by divers as soon as possible after loss. The Commission finds that since construction of the proposed project requires the use of best management practices to minimize impacts upon water quality, the Commission imposes Special Condition No.'s 1 and 4 requiring the applicant to utilize best management practices including those described above. The applicant currently provides a water quality program for daily boating operations to protect water quality within the marina. The marina provides trash receptacles throughout the marina at dock entrances and provides large shore-side waste disposal dumpsters for boater use. In addition, the marina provides trained professionals that are on call 24-hour per day, 7 days per week to deal with spills. The proposed conditions will help supplement the applicant's water quality program and ensure that the applicant's program is consistent with the Commission's water quality requirements for marina development.

In addition, the improper storage of construction equipment and materials during construction can contribute to water quality impacts; therefore, the Commission finds it necessary to identify the following other construction related restrictions: all construction materials and equipment shall be stored landward of the bulkhead, on impervious surfaces only; all construction materials or waste shall be stored in a manner which prevents their movement via runoff, or any other means, into coastal waters; and that any and all construction equipment, materials and debris are removed from upland areas at the

conclusion of construction. In addition, demolition of existing structures will generate debris that will need to be disposed of off-site. The applicant has identified a disposal site outside of the coastal zone. However, the Commission finds it necessary to identify the permittee's responsibilities regarding construction and the utilization of best management practices and has conditioned the project accordingly.

a. Plastic Floats

Commission staff is concerned about the use of plastic in the marine environment due to the possible deterioration of the plastic floats and subsequent increase in marine debris. In a leach test of recycled plastic composite containing polyethylene, polypropylene, polystyrene, polyvinyl chloride, and other plastics, only minor amounts of copper, iron, and zinc leached from the plastic. None of the contaminants had a concentration significant enough to have any adverse effects on the marine environment. However, the Commission staff is concerned about the potential to add plastic debris to the marine environment due to cracking, peeling, and sloughing. Since plastic is an inorganic material, it does not biodegrade, but rather continually breakdown into ever-smaller pieces which can adversely effect the marine environment.

The presence of plastics in the coastal and ocean environment is both widespread and harmful to human and marine life. An article, written by Jose G.B. Derraik, entitled "The Pollution of the Marine Environment by Plastic Debris: A Review," reviews much of the literature published on the topic of deleterious effects of plastic debris on the marine environment. The article states:

> *The literature on marine debris leaves no doubt that plastics make-up most of the marine litter worldwide.*[1]

In support of this statement, the article includes a table that presents figures on the proportion of plastics among marine debris around the world. In most of the locations listed on the table, plastics represented more than 50 percent of the total marine debris found.[2] In other studies, the percentage is even higher.

Existing studies clearly demonstrate that plastic debris creates problems for marine life. Plastic marine debris affects at least 267 species worldwide, including 86% of all sea turtle species, 44% of all sea bird species, and 43% of marine mammal species.[3] For example, plastics cause significant adverse impacts in seabirds, when birds mistakenly ingest the plastic debris. A study performed in 1988, concluded that seabirds consuming large amounts of plastics reduced their food consumption, which limited their ability to lay down fat deposits and in turn reduced fitness. In addition, ingesting plastics can block

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[1] Derraik, Jose. "The Pollution of the Marine Environment by Plastic Debris; A Review", Marine Pollution Bulletin, 44: 842-852, 2002.
[2] Ibid.
[3] Laist, D. W. "Impacts of Marine Debris: Entanglement of Marine Life in Marine Debris Including a Comprehensive List of Species with Entanglement and Ingestion Records", Coe, J.M., Rogers, D.B. (Eds.)

gastric enzyme secretion, diminish feeding stimulus, lower steroid hormone levels, delay ovulation, and cause reproductive failures.[4]

Plastic debris that has settled on the seabed floor also harms the biological productivity of coastal waters. In Derriak's article, he states:

> *The accumulations of such [plastic] debris can inhibit gas exchange between the overlying waters and the pore waters of the sediments, and the resulting hypoxia or anoxia in the benthos can interfere with the normal ecosystem functioning, and alter the make-up of life on the sea floor. Moreover, as for pelagic organisms, benthic biota is likewise subjected to entanglement and ingestion hazards.*[5]

There are no examples that staff can identify that document the deterioration rate of plastic floats. The standard manufacturer's warranty for plastic floats, ranges from 10 to 12 years. The warranties are against cracking, peeling, sloughing and deterioration from ultraviolet rays. Marina operators indicate that plastic floats will last as long as 20 years before they need to be replaced. To extend the life of the floats, plastic that is used in the manufacturing of dock floats contains stabilizers that are intended to protect it from degradation that may result from UV exposure. Furthermore, the plastic floats are located underneath the docks which further reduces exposure to ultraviolet (UV) radiation.

Notwithstanding the protection provided by the stabilizers and dock shading, the potential does exist that the plastic would degrade over time. If the plastic were to become brittle, they may splinter or chip upon impact and would introduce plastic debris into the coastal waters, and thus would adversely affect water quality resources. However, unlike pilings and fenders that may use plastic for protection, and are constantly subject to abrasive forces from boats and ships, the potential for impact and damage to the dock floats is nominal. Due to the location of the floats underneath the docks the floats are protected by the docks from boater impact. Furthermore, according to various marina operators, although boating accidents with docks do occur, damage to floats is rare since floats are buffered from boat contact by the docks and floats move with any movement of the docks.

An alternative to plastic floats is cement floats. Cement floats consist of a plastic core encased in a cement shell. The plastic filled core is generally polystyrene, which is also used in plastic floats. According to dock operators, cement floats, because of their rigidity, tend to crack more easily than plastic floats, which can allow the plastic core material to escape into the marine environment. With plastic floats the shell is more resilient and does not crack as readily as cement. Furthermore, the polystyrene core is

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[4] Derraik, Jose. "The Pollution of the Marine Environment by Plastic Debris; A Review", Marine Pollution Bulletin, 44: 842-852, 2002.
[5] Ibid.

thermally bonded to the shell, whereas with cement it is not. Therefore, in the event the plastic shell cracks, the core material is less likely to escape into the environment.

However, because of the potential of plastic from the shell, or core, entering into the marine environment due to damage or degradation, the floats must be monitored to ensure that the floats are maintained in an environmentally save operating condition and replaced when damage or degradation has occurred. To minimize the potential of plastic from the floats from entering the water due to damage or deterioration of the floats, Special Condition No. 9 requires that all floats must be carefully monitored at least every five years. If monitoring confirms that the use of plastic floats is damaging marine resources, the use of such materials should be stopped, as more environmentally friendly products are developed.

b. Pump-out Stations

The proposed project includes the installation of two additional pump-out stations (for a total of three stations per location) at the two current pump-out locations/facilities for use by all recreational boats within this marina. The stations will be located at the end of the dock and connected to the existing sewer line that is located under the dock and connected to the City's main sewer line. The installation of a third pump-out station at the two separate locations within this marina will provide boats a more convenient pump-out facilities and encourage boaters to use the facilities which will help reduce illegal discharges into coastal waters. Sewer lines exposed to the marine environment, however, have the potential to break or corrode more quickly than those more sheltered from the salty air and sunlight. Because the sewer line will be directly above the water, it could leak raw sewage directly into the water, if there are any ruptures in the pipes. Therefore, stringent monitoring and maintenance procedures are necessary. Visually inspecting the entire length of the lines on a monthly basis and using dye or pressure tests will provide the basic inspection necessary to ensure there is no leakage into coastal waters. The more strict dye or pressure tests will allow inspectors to see less visible leaks in the sewer lines; and because these tests are more expensive and labor-intensive, conducting these tests biannually is sufficient.

Therefore, only as conditioned does the Commission find that the proposed project conforms with Sections 30230 and 30231 of the Coastal Act.

2. Sensitive Species Impacts

Recently, a non-native and invasive aquatic plant species, *Caulerpa taxifolia* (herein C. taxifolia), has been discovered in parts of Alamitos Bay (CDP No. 5-00-148), in the Long Beach area. C. taxifolia is a tropical green marine alga that is popular in the aquarium trade because of its attractive appearance and hardy nature. In 1984, this seaweed was introduced into the northern Mediterranean. From an initial infestation of about 1 square yard it grew to cover about 2 acres by 1989, and by 1997, blanketed about 10,000 acres along the coasts of France and Italy. Genetic studies demonstrated that those

populations were from the same clone, possibly originating from a single introduction. This seaweed spreads asexually from fragments and creates a dense monoculture displacing native plant and animal species. In the Mediterranean, it grows on sand, mud and rock surfaces from the very shallow subtidal to about 250 ft depth. Because of toxins in its tissues, C. taxifolia is not eaten by herbivores in areas where it has invaded. The infestation in the Mediterranean has had serious negative economic and social consequences because of impacts to tourism, recreational diving, and commercial fishing.

Because of the grave risk to native habitats, in 1999, C. taxifolia was designated a prohibited species in the United States under the Federal Noxious Weed Act. In addition, in September 2001 the Governor signed into law AB 1334 which made it illegal in California for any person to sell, possess, import, transport, transfer, release alive in the state, or give away without consideration various Caulerpa species including C. taxifolia.

In June 2000, C. taxifolia was discovered in Aqua Hedionda Lagoon in San Diego County, and in August of that year an infestation was discovered in Huntington Harbor in Orange County. Genetic studies show that this is the same clone as that released in the Mediterranean. Other infestations are likely. Although a tropical species, C. taxifolia has been shown to tolerate water temperatures down to at least 50°F. Although warmer southern California habitats are most vulnerable, until better information if available, it must be assumed that the whole California coast is at risk. All shallow marine habitats could be impacted.

In response to the threat that C. taxifolia poses to California's marine environment, the Southern California Caulerpa Action Team, SCCAT, was established to respond quickly and effectively to the discovery of C. taxifolia infestations in Southern California. The group consists of representatives from several state, federal, local and private entities. The goal of SCCAT is to completely eradicate all C. taxifolia infestations.

Currently, C. taxifolia has not been found in the Long Beach Marina. However, to ensure that C. taxifolia is not present in the area special condition No. 6 is necessary requiring a survey no earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit.

3. Eel Grass

Eelgrass (Zostera marina) is an aquatic plant consisting of tough cellulose leaves which grows in dense beds in shallow, subtidal or intertidal unconsolidated sediments. Eelgrass is considered worthy of protection because it functions as important habitat and foraging area for a variety of fish and other wildlife, according to the Southern California Eelgrass Mitigation Policy (SCEMP) adopted by the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). For instance, eelgrass beds provide areas for fish egg laying, juvenile fish rearing, and waterfowl foraging. Sensitive species, such as the California

least tern, a federally listed endangered species, utilize eelgrass beds as foraging grounds.

The eelgrass survey was conducted by the City on September 13, 2002. The survey states that a single 3-foot by 3-foot patch of eelgrass was located between fingers A1 and B1, approximately 20 feet out from the rocks. Due to the ephemeral nature of eelgrass, however, an eelgrass certification is only valid for 120 days. More than 90 days have elapsed since the project site was surveyed. Even though the eelgrass inspection indicates that eelgrass is present in only one location, in an area that will not have marine bottom disturbance or increased shadowing, and therefore will not be impacted by the proposed project, eelgrass may have established within other areas of the project vicinity between the time the survey was conducted and commencement of construction. If eelgrass is present in the project area, adverse impacts from the proposed project could result. Therefore, measures to avoid or minimize such potential impacts must be in place in order for the project to be found consistent with Section 30230 of the Coastal Act. Therefore, the Commission imposes Special Condition No. 7 which requires that a current pre-construction eelgrass survey be conducted within the boundaries of the proposed project be undertaken during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed within 120 days prior to the beginning of construction and shall be valid until the next period of active growth. The pre-construction survey will identify any eelgrass beds which could be impacted and which must be avoided. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit. An amendment or new permit is required in order to address any eelgrass impacts. In addition, if there are any impacts upon eelgrass, the applicant will be required to prepare appropriate surveys and mitigation plans in consultation with the California Department of Fish & Game and in conformance with the *Southern California Eelgrass Mitigation Policy* (Exhibit No. 6).

The Commission previously imposed similar conditions for pre-construction eelgrass surveys on Coastal Development Permits: 5-97-230 and 5-97-230-A1 (City of Newport Beach), 5-97-231 (County of Orange), 5-97-071 (County of Orange), 5-99-244 (County of Orange-Goldrich-Kest-Grau), 5-98-179 (Kompaniez), 5-98-201 (Anderson), 5-98-443 (Whyte), 5-98-444 (Barrad), 5-99-005 (Dea), 5-99-006 (Fernbach & Holland), 5-99-007 (Aranda et al.), 5-99-008 (Yacoel et. al.), 5-99-030 (Johnson), 5-99-031 (Lady Jr., et. al.), 5-99-032 (Appel et. al.), 5-99-108 (Pineda), 5-98-471 (Maginot), 5-99-472 (Bjork), 5-99-473 (Gelbard), 5-00-389 (Ashby et. al.), 5-00-390 (Burggraf et. al.), 5-00-401 (Baghdassarian et. al.), 5-00-402 (Buettner et. al.) and 5-01-358 (Rayhanabad).

4. FILL OF COASTAL WATERS AND LOSS OF MARINE HABITAT

The proposed project will involve the addition of 46 concrete guide pilings in open coastal waters. These dock float guide piles constitute fill of open coastal waters. More specifically, the existing 46 pilings constitute approximately 49 square feet of fill of open coastal waters with pilings. Under Section 30233 of the Coastal Act, fill of open coastal waters is only allowed when several criteria are met, including (a) the project must fall within one of the use categories specified; (b) the proposed project must be the least environmentally damaging alternative; and (c) feasible mitigation measures to minimize adverse environmental effects must be provided. Section 30233 of the Coastal Act states, in part:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*

The proposed project meets the first criteria because it is for a public boating facility. Fill of open coastal waters for the construction of a public boating facility is an allowable use under Section 30233(a)(4) of the Coastal Act.

Next, the proposed project is the replacement of a boating marina in a different configuration. Alternatives to the proposed project include no project, no change to the existing configuration, or a change to the proposed configuration.

Under the no project alternative, the applicant could only pursue simple maintenance repair activity. However, simple maintenance repair could not feasibly repair the docks, nor bring them up to present engineering and safety standards, or ADA requirements. Simple maintenance would only prevent further deterioration of the docks. In addition, marine habitat would not significantly benefit from the no project alternative since this alternative would necessitate that the structure remain in place. Continued, safe use of the facility for marine recreational purposes would be precluded without replacement of the dock system.

The second alternative, replacement of the project in the same configuration would eliminate the need for additional pilings. However, current engineering and safety standards, ADA requirements and Department of Boating and Waterways criteria, would result in the loss of a significant number of slips. To minimize this loss, the existing docks need to be extended with the use of additional pilings.

Under the proposed alternative, the dock and guide piling layout is changing from the existing layout. However, the number of proposed pilings is the minimum necessary to

adhere to present engineering standards. The guide pilings provide a vertical substrate for mollusks and other marine organisms. The proposed project will increase the quantity of vertical substrate upon which mollusks and other marine organisms may settle. Therefore, no long-term impact will occur to this habitat. Therefore, the proposed project is the least environmentally damaging, feasible alternative, and includes feasible mitigation measures, such as the use of silt curtains during pile driving to limit turbidity and to minimize adverse environmental effects.

The proposed project will result in the fill of open coastal waters for a boating facility, which is an allowable use under Section 30233 of the Coastal Act. In addition, the proposed project is the least environmentally damaging alternative, and does provide feasible mitigation measures. Therefore, the Commission finds the proposed project is consistent with Section 30233 of the Coastal Act.

D. Hazards

Section 30253 of the Coastal Act provides in part:

New Development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazards...

The proposed dock system will be designed in accordance with the City's building code for docks to ensure structural integrity. However, because of its location, the docks are potentially subject to the effects of tsunamis and seiches. Therefore, the Commission finds that the applicant must assume the risks associated with the proposed development in an area where an extraordinary potential for damage from wave and tidal action exists as an inherent risk to life and property, and the waive the Commission's liability for damage that may occur as result of such hazards. This is necessary because the design is a result of a study for which the applicant and its engineer are responsible. Wave hazards cannot be predicted with certainty, so the applicant must be put on notice that the Coastal Commission is not liable for damages resulting from wave and tidal action. The Commission, therefore, finds that the proposed project, as conditioned, is consistent with Section 30253 of the Coastal Act.

E. Local Coastal Program

The City of Long Beach Local Coastal Program (LCP) was certified by the Commission on July 22, 1980. The proposed project complies with the policies of the certified LCP. However, the proposed project is located seaward of the mean high tide line and in the Commission's area of original jurisdiction. Because the proposed project is located in the Commission's area of original jurisdiction, the LCP is advisory in nature and only provides guidance. The standard of review for this project is the Coastal Act. As

conditioned, the proposed project is consistent with the policies of Chapter 3 of the Coastal Act.

F. California Environmental Quality Act

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, 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.

Potential impacts are to boater access, marine resources, and water quality. As conditioned, all potential adverse impacts have been adequately mitigated. As conditioned, there are no feasible alternatives or mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the proposed project is found consistent with CEQA and the policies of the Coastal Act.

EXHIBIT NO. 1

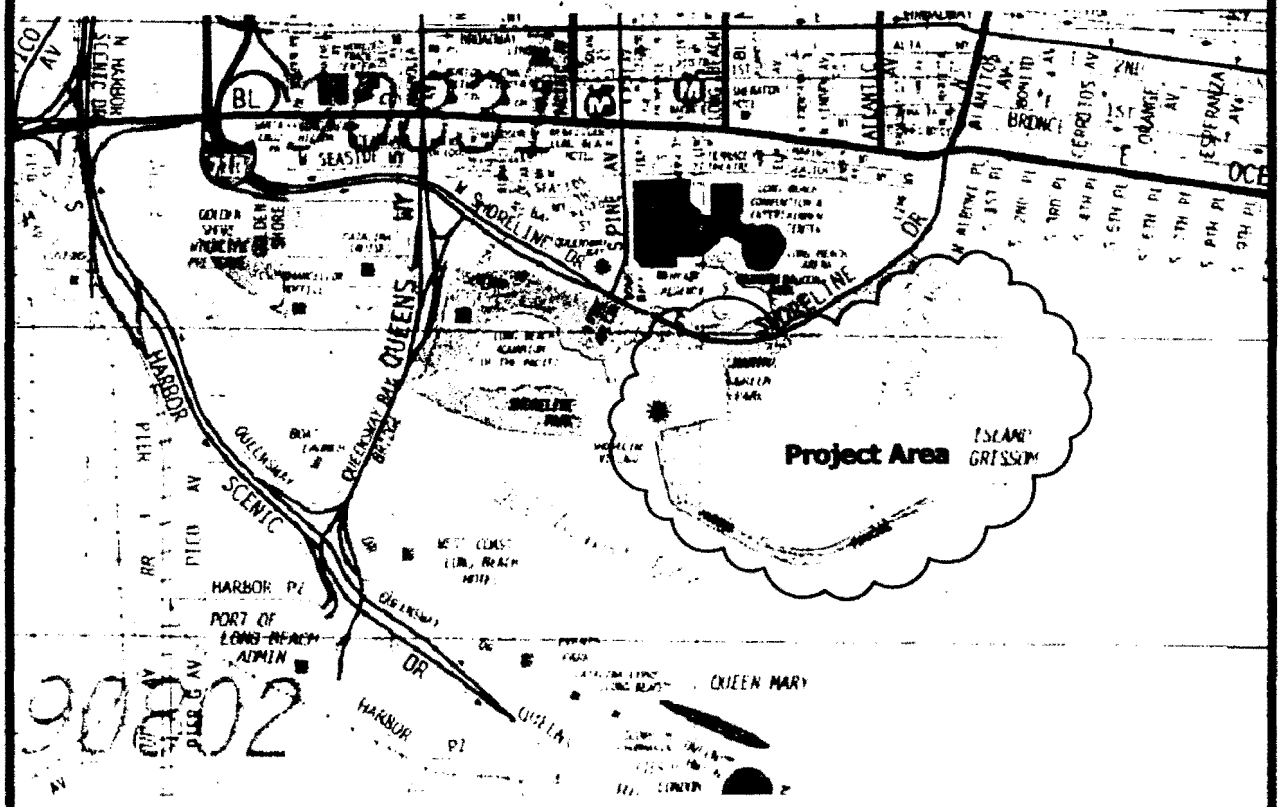
Application Number

5-02-361-A1

Vicinity Map

California Coastal Commission

RECEIVED
South Coast Region
JAN 6 2003
CALIFORNIA
COASTAL COMMISSION

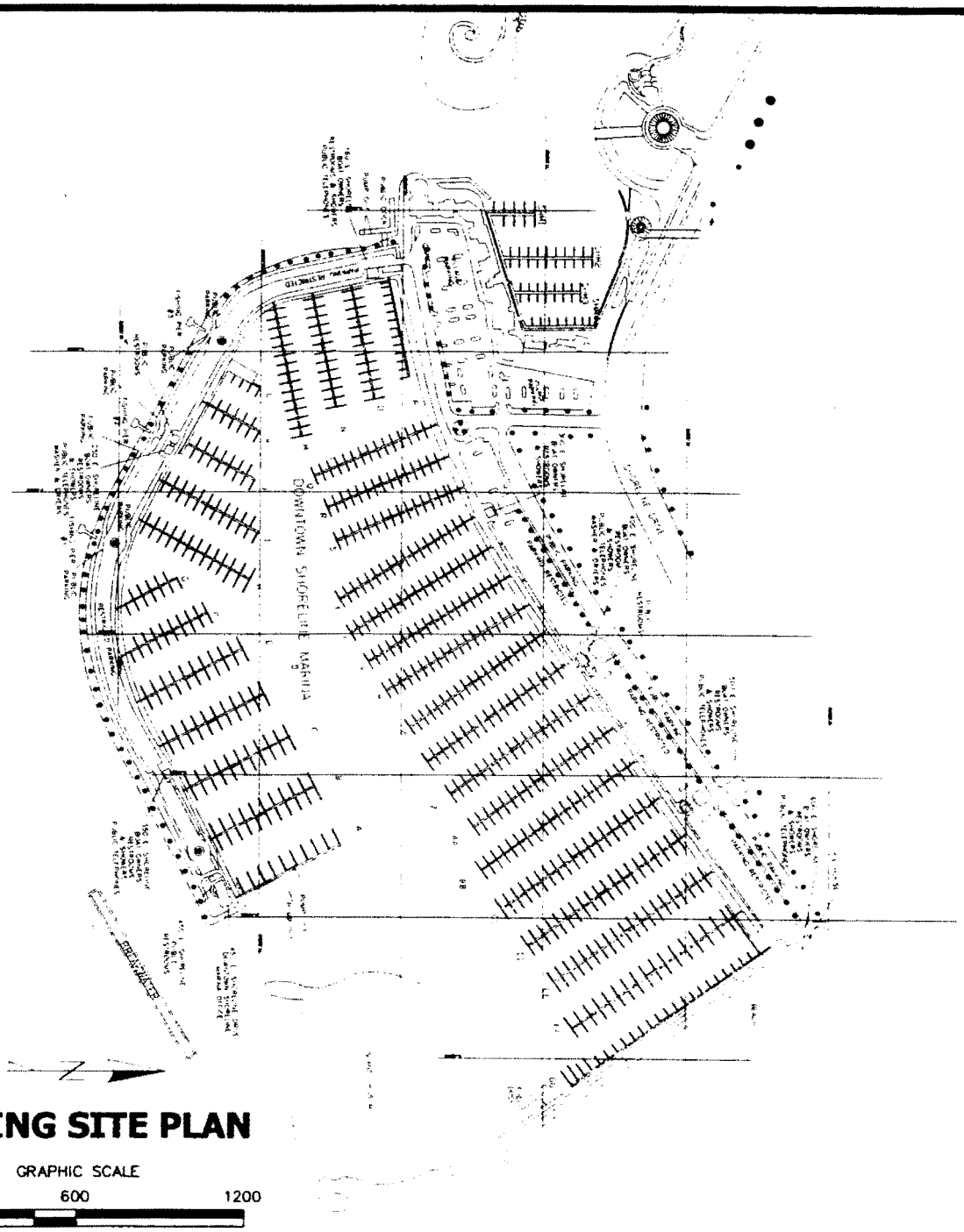


VICINITY MAP
Not To Scale

N

PURPOSE: Rehabilitation of the Downtown Shoreline Marinas.	**DOWNTOWN SHORELINE MARINA** SCALE AS NOTED City of Long Beach Long Beach , CA 90802	Reference: **PROPOSED:** Rehabilitation of the Downtown Shoreline Marinas. AT: Los Angeles County, CA **APPLICATION BY:** City of Long Beach, Marine Bureau **SHEET 1 OF 17; DATE: Sept,2002**

EXHIBIT NO. 2
APPLICATION NO.
5-02-361-A1
Project Area



EXISTING SITE PLAN

GRAPHIC SCALE

0 600 1200

1"=600'

PURPOSE:
Rehabilitation of the Downtown Shoreline Marinas.

DOWNTOWN SHORELINE MARINA

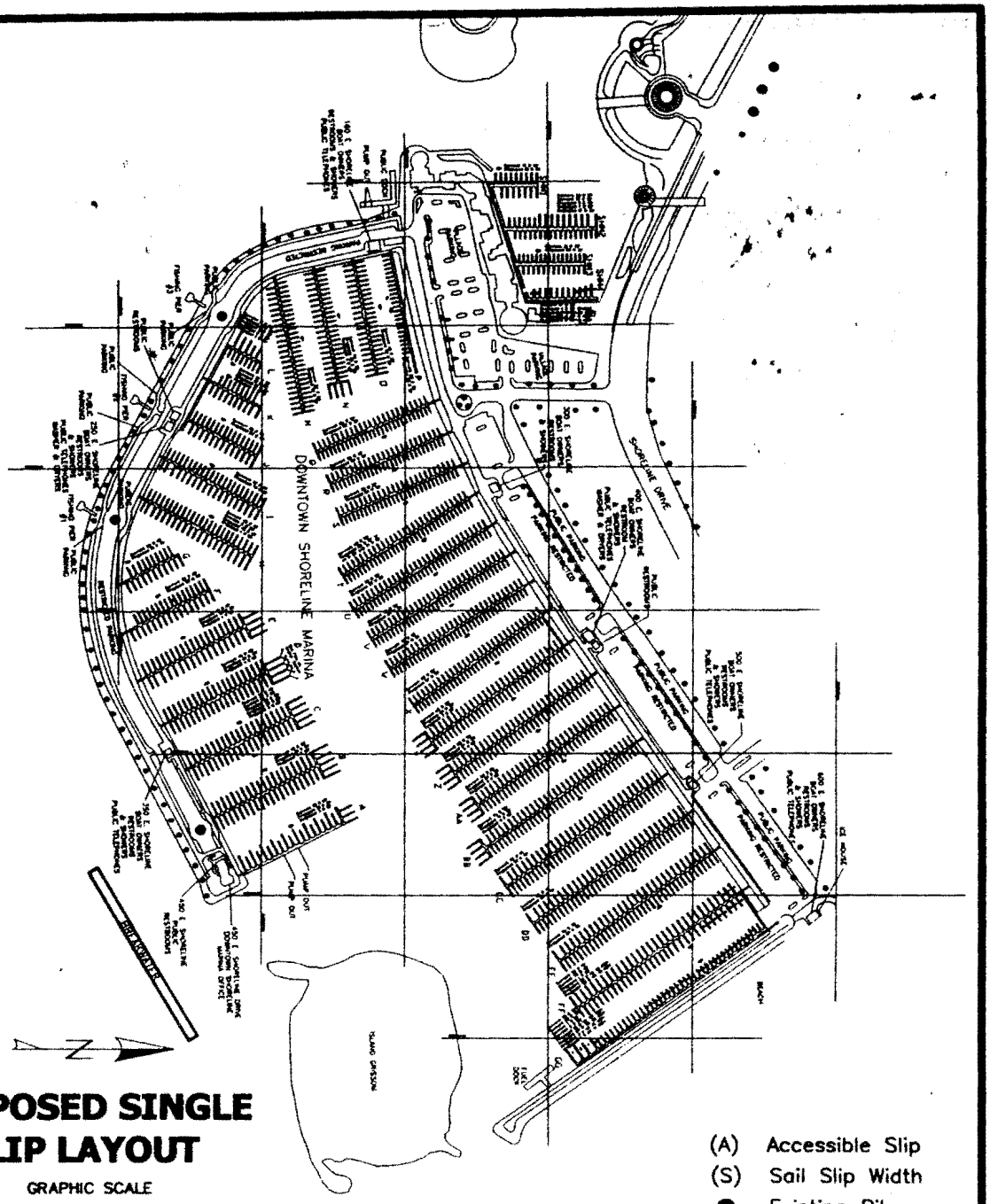
SCALE 1"=600'

City of Long Beach

Long Beach , CA 90802

Reference:
PROPOSED: Rehabilitation of the Downtown Shoreline Marinas.
AT: Los Angeles County, CA
APPLICATION BY:
City of Long Beach, Marine Bureau
SHEET 2 OF 17; DATE: Sept 2002

EXHIBIT NO. 3
APPLICATION NO. 5-02-361-A1
Existing Site Plan
California Coastal Commission



PROPOSED SINGLE SLIP LAYOUT

GRAPHIC SCALE

0 600 1200

1"=600'

(A) Accessible Slip
(S) Sail Slip Width
● Existing Pile
▲ New Pile

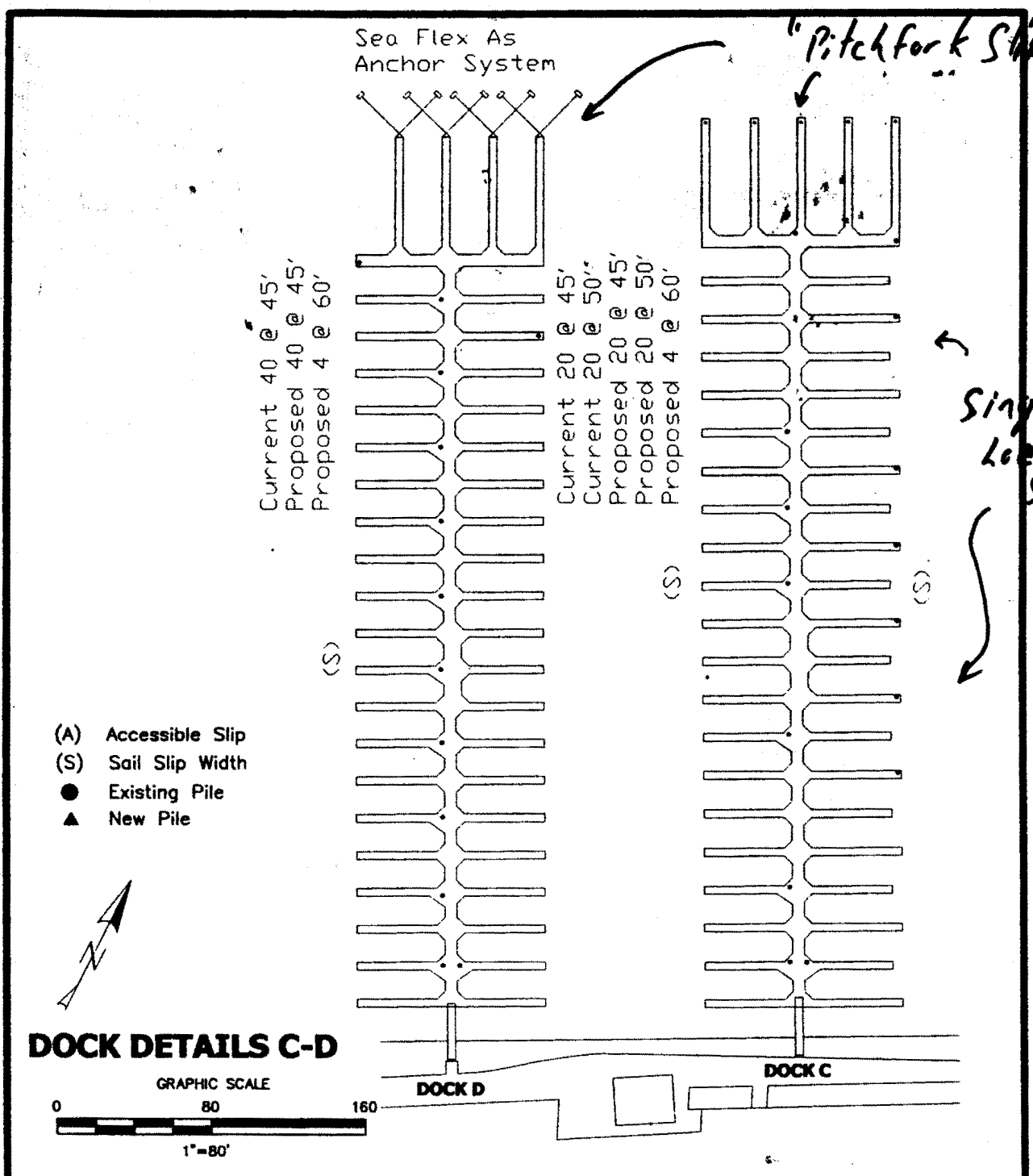
PURPOSE:
Rehabilitation of the Downtown Shoreline Marinas.

DOWNTOWN SHORELINE MARINA

SCALE 1"=600'
City of Long Beach
Long Beach , CA 90802

Reference:
PROPOSED: Rehabilitation of the Downtown Shoreline Marinas.
AT: Los Angeles County, CA
APPLICATION BY:
City of Long Beach, Marine Bureau
SHEET 3 OF 17; DATE: Sept,2002

EXHIBIT NO. 4
APPLICATION NO. 5-02-361-A1
Proposed Site Plan



DOCK DETAILS C-D

GRAPHIC SCALE
0 80 160
1"=80'

PURPOSE:
Rehabilitation of the Downtown Shoreline Marinas.

DOWNTOWN SHORELINE MARINA
SCALE 1"=80'
City of Long Beach
Long Beach , CA 90802

Reference:
PROPOSED: Rehabilitation of the Downtown Shoreline Marinas.
AT: Los Angeles County, CA
APPLICATION BY:
City of Long Beach, Marine Bureau
SHEET 5 OF 17; DATE: Sept.2002

EXHIBIT NO.
APPLICATION NO.
5-02-361-A1
Typical Dock Layout
California Coastal Commission

SOUTHERN CALIFORNIA EELGRASS MITIGATION POLICY

(Adopted July 31, 1991)

Eelgrass (Zostera marina) vegetated areas function as important habitat for a variety of fish and other wildlife. In order to standardize and maintain a consistent policy regarding mitigating adverse impacts to eelgrass resources, the following policy has been developed by the Federal and State resource agencies (National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game). This policy should be cited as the Southern California Eelgrass Mitigation Policy (revision 8).

For clarity, the following definitions apply. "Project" refers to work performed on-site to accomplish the applicant's purpose. "Mitigation" refers to work performed to compensate for any adverse impacts caused by the "project". "Resource agencies" refers to National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game.

1. **Mitigation Need.** Eelgrass transplants shall be considered only after the normal provisions and policies regarding avoidance and minimization, as addressed in the Section 404 Mitigation Memorandum of Agreement between the Corps of Engineers and Environmental Protection Agency, have been pursued to the fullest extent possible prior to the development of any mitigation program.

2. **Mitigation Map.** The project applicant shall map thoroughly the area, distribution, density and relationship to depth contours of any eelgrass beds likely to be impacted by project construction. This includes areas immediately adjacent to the project site which have the potential to be indirectly or inadvertently impacted as well as areas having the proper depth and substrate requirements for eelgrass but which currently lack vegetation.

Protocol for mapping shall consist of the following format:

1) Coordinates

   Horizontal datum - Universal Transverse Mercator (UTM), NAD 83, Zone 11

   Vertical datum - Mean Lower Low Water (MLLW), depth in feet.

2) Units

   Transects and grids in meters.

   Area measurements in square meters/hectares.

All mapping efforts must be completed during the active growth phase for the vegetation (typically March through October) and shall be valid for a period of 120 days with the exception of surveys completed in August - October.

A survey completed in August - October shall be valid until the resumption of active growth (i.e., March 1). After project construction, a post-project survey shall be completed within 30 days. The actual area of impact shall be determined from this survey.

3. **Mitigation Site.** The location of eelgrass transplant mitigation shall be in areas similar to those where the initial impact occurs. Factors such as, distance from project, depth, sediment type, distance from ocean connection, water quality, and currents are among those that should be considered in evaluating potential sites.

4. **Mitigation Size.** In the case of transplant mitigation activities that occur concurrent to the project that results in damage to the existing eelgrass resource, a ratio of 1.2 to 1 shall apply. That is, for each square meter adversely impacted, 1.2 square meters of new suitable habitat, vegetated with eelgrass, must be created. The rationale for this ratio is based on, 1) the time (i.e., generally three years) necessary for a mitigation site to reach full fishery utilization and 2) the need to offset any productivity losses during this recovery period within five years. An exception to the 1.2 to 1 requirement shall be allowed when the impact is temporary and the total area of impact is less than 100 square meters. Mitigation on a one-for-one basis shall be acceptable for projects that meet these requirements (see section 11 for projects impacting less than 10 square meters).

Transplant mitigation completed three years in advance of the impact (i.e., mitigation banks) will not incur the additional 20% requirement and, therefore, can be constructed on a one-for-one basis. However, all other annual monitoring requirements (see sections 8-9) remain the same irrespective of when the transplant is completed.

Project applicants should consider increasing the size of the required mitigation area by 20-30% to provide greater assurance that the success criteria, as specified in Section 9, will be met. In addition, alternative contingent mitigation must be specified, and included in any required permits, to address situation where performance standards (see section 9) are not met.

5. **Mitigation Technique.** Techniques for the construction and planting of the eelgrass mitigation site shall be consistent with the best available technology at the time of the project. Donor material shall be taken from the area of direct impact whenever possible, but also should include a minimum of two additional distinct sites to better ensure genetic diversity of the donor plants. No more than 10% of an existing bed shall be harvested for transplanting purposes. Plants harvested shall be taken in a manner to thin an existing bed without leaving any noticeable bare areas. Written permission to harvest donor plants must be obtained from the California Department of Fish and Game.

Plantings should consist of bare-root bundles consisting of 8-12 individual turions. Specific spacing of transplant units shall be at the discretion of the project applicant. However, it is understood that whatever techniques are employed, they must comply with the stated requirements and criteria.

6. **Mitigation Timing.** For off-site mitigation, transplanting should be started prior to or concurrent with the initiation of in-water construction resulting in the impact to the eelgrass bed. Any off-site mitigation project which fails to initiate transplanting work within 135 days following the initiation of the in-water construction resulting in impact to the eelgrass bed will be subject to additional mitigation requirements as specified in section 7. For on-site mitigation, transplanting should be postponed when construction work is likely to impact the mitigation. However, transplanting of on-site mitigation should be started no later than 135 days after initiation of in-water construction activities. A construction schedule which includes specific starting and ending dates for all work including mitigation activities shall be provided to the resource agencies for approval at least 30 days prior to initiating in-water construction.

7. **Mitigation Delay.** If, according to the construction schedule or because of any delays, mitigation cannot be started within 135 days of initiating in-water construction, the eelgrass replacement mitigation obligation shall increase at a rate of seven percent for each month of delay. This increase is necessary to ensure that all productivity losses incurred during this period are sufficiently offset within five years.

8. **Mitigation Monitoring.** Monitoring the success of eelgrass mitigation shall be required for a period of five years for most projects. Monitoring activities shall determine the area of eelgrass and density of plants at the transplant site and shall be conducted at 3, 6, 12, 24, 36, 48, and 60 months after completion of the transplant. All monitoring work must be conducted during the active vegetative growth period and shall avoid the winter months of November through February. Sufficient flexibility in the scheduling of the 3 and 6 month surveys shall be allowed in order to ensure the work is completed during this active growth period. Additional monitoring beyond the 60 month period may be required in those instances where stability of the proposed transplant site is questionable or where other factors may influence the long-term success of transplant.

The monitoring of an adjacent or other acceptable control area (subject to the approval of the resource agencies) to account for any natural changes or fluctuations in bed width or density must be included as an element of the overall program.

A monitoring schedule that indicates when each of the required monitoring events will be completed shall be provided to the resource agencies prior to or concurrent with the initiation of the mitigation.

Monitoring reports shall be provided to the resource agencies within 30 days after the completion of each required monitoring period.

9. **Mitigation Success.** Criteria for determination of transplant success shall be based upon a comparison of vegetation coverage (area) and density (turions per square meter) between the project and mitigation sites. Extent of vegetated cover is defined as that area where eelgrass is present and where gaps in coverage are less than one meter between individual turion clusters. Density of shoots is defined by the number of turions per area present in representative samples

within the control or transplant bed. Specific criteria are as follows:

a. a minimum of 70 percent area of eelgrass bed and 30 percent density after the first year.

b. a minimum of 85 percent area of eelgrass bed and 70 percent density after the second year.

c. a sustained 100 percent area of eelgrass bed and at least 85 percent density for the third, fourth and fifth years.

Should the required eelgrass transplant fail to meet the established criteria, then a Supplementary Transplant Area (STA) shall be constructed, if necessary, and planted. The size of this STA shall be determined by the following formula:

$$STA = MTA \times (|A_t + D_t| - |A_c + D_c|)$$

MTA = mitigation transplant area.
A_t = transplant deficiency or excess in area of coverage criterion (%).
D_t = transplant deficiency in density criterion (%).
A_c = natural decline in area of control (%).
D_c = natural decline in density of control (%).

Four conditions apply:
1) For years 2-5, an excess of only up to 30% in area of coverage over the stated criterion with a density of at least 60% as compared to the project area may be used to offset any deficiencies in the density criterion.
2) Only excesses in area criterion equal to or less than the deficiencies in density shall be entered into the STA formula.
3) Densities which exceed any of the stated criteria shall not be used to offset any deficiencies in area of coverage.
4) Any required STA must be initiated within 120 days following the monitoring event that identifies a deficiency in meeting the success criteria. Any delays beyond 120 days in the implementation of the STA shall be subject to the penalties as described in Section 7.

10. **Mitigation Bank.** Any mitigation transplant success that, after five years, exceeds the mitigation requirements, as defined in section 9, may be considered as credit in a "mitigation bank". Establishment of any "mitigation bank" and use of any credits accrued from such a bank must be with the approval of the resource agencies and be consistent with the provisions stated in this policy. Monitoring of any approved mitigation bank shall be conducted on an annual basis until all credits are exhausted.

11. **Exclusions.**

1) Placement of a single pipeline, cable, or other similar utility line across an existing eelgrass bed with an impact corridor of no more than ½ meter wide may be excluded from the provisions of this policy with concurrence of the resource agencies. After project construction, a post-project survey shall be completed within 30 days and the results shall be sent to the resource agencies. The actual area of impact shall be determined from this survey. An additional survey shall be completed after 12 months to insure that the project or impacts attributable to the project have not exceeded the allowed ½ meter corridor width. Should the post-project or 12 month survey demonstrate a loss of eelgrass greater than the ½ meter wide corridor, then mitigation pursuant to sections 1-11 of this policy shall be required.

2) Projects impacting less than 10 square meters. For these projects, an exemption may be requested by a project applicant from the mitigation requirements as stated in this policy, provided suitable out-of-kind mitigation is proposed. A case-by-case evaluation and determination regarding the applicability of the requested exemption shall be made by the resource agencies.

(last revised 2/2/99)