CALIFORNIA COASTAL COMMISSION
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

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Filed:	5/8/02
49th Day:	6/26/02
180th Day:	11/14/02
Staff:	MV-LB
Staff Report:	7/18/02
Hearing Date:	8/6-9/02
Commission Action:	

STAFF REPORT: PERMIT AMENDMENT

AMENDMENT APPLICATION No.: **5-01-376-A1**

APPLICANT: **Bahia Corinthian Yacht Club**

AGENT: **Greg Asher, Cash & Associates**

PROJECT LOCATION: 1601 Bayside Drive, Corona del Mar (Newport Beach) Orange County

DESCRIPTION OF PROJECT PREVIOUSLY APPROVED: Demolition of existing boat hoist, gangway and floating dock and construction of a new boat hoist, concrete platform, gangway and floating dock. The proposed project includes construction of a 40' by 16'6" reinforced concrete platform with two 8,000 pound boat hoists. The platform will extend beyond the face of the existing bulkhead by 6'6" and will be supported by three 12" diameter steel piles seaward of the bulkhead. The proposed gangway and dock will include a 12' by 30' gangway/launch ramp (replacing the 4' by 20' pedestrian gangway ramp). The proposed floating dock will be 606 square feet.

DESCRIPTION OF AMENDMENT: Increase the number of 12" diameter steel piles from three to six, to support the previously approved boat hoist platform. Three chance anchors will be installed during construction only.

LOCAL APPROVALS RECEIVED: City of Newport Beach Harbor Resources Division Approval in Concept Harbor Permit No. 102-1601.

SUBSTANTIVE FILE DOCUMENTS: Coastal development permit 5-01-376 (Bahia Corinthian Yacht Club); City of Newport Beach certified Land Use Plan.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed amendment with two new special conditions which are necessary to assure that marine resources and water quality are protected. The first new special condition (No. 2) requires that a pre-construction survey for *Caulerpa taxifolia* be done and if its presence is discovered, the applicant shall not proceed with the project until 1) the applicant provides evidence to the Executive Director that all *Caulerpa taxifolia* within the project and buffer areas have been eliminated or 2) the applicant has revised the project to avoid any contact with *Caulerpa taxifolia*.

I. STAFF RECOMMENDATION:

Staff recommends that the Commission make the following motion and adopt the following resolution to **APPROVE** the permit amendment application. The motion passes only by affirmative vote of a majority of the Commissioners present.

MOTION

I move that the Commission approve the proposed amendment to Coastal Development permit 5-01-376 pursuant to the staff recommendation.

RESOLUTION OF APPROVAL WITH CONDITIONS

The Commission hereby approves the coastal development permit amendment on the ground that the development as amended and subject to conditions, will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit amendment 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 amended development on the environment, or 2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

II. SPECIAL CONDITIONS

1. Prior Conditions

Unless specifically altered by this amendment, all regular and special conditions attached to Coastal Development Permit 5-01-376 remain in effect. All regular conditions and Special Conditions previously imposed under CDP 5-01-376 apply equally to the amendment.

2. Pre-construction *Caulerpa Taxifolia* 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 applicants 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. 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.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description

1. Amendment Description

The applicant proposes to increase the number of 12" diameter steel piles from three to six, to support the previously approved boat hoist platform. Three chance anchors will be installed during construction only.

2. Description of Project Previously Approved

Demolition of an existing boat hoist, gangway and floating dock and construction of a new boat hoist, concrete platform, gangway and floating dock. The approved project includes construction of a 40' by 16'6" reinforced concrete platform with two 8,000 pound boat hoists. The platform will extend beyond the face of the existing bulkhead by 6'6" and will be supported by three 12" diameter steel piles seaward of the bulkhead. The approved gangway and dock will include a 12' by 30' gangway/launch ramp (replacing the 4' by 20' pedestrian gangway ramp). The floating dock will be 606 square feet. Approval of the project was based on conditions which require the applicant to maintain water quality by

Newport Harbor (Lower Newport Bay) is included on the Federal Clean Water Act 303(d) list of "impaired" water bodies. The designation as "impaired" means the quality of the water body cannot support the beneficial uses for which the water body has been designated – in this case secondary contact recreation and aquatic uses. The listing is made by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB), and the State Water Resources Control Board (SWRCB), and confirmed by the U.S. Environmental Protection Agency. Further, the RWQCB has targeted the Newport Bay watershed, which includes Newport Harbor, for increased scrutiny as a higher priority watershed under its Watershed Management Initiative. Consequently, projects which could have an adverse impact on water quality should be examined to assure that potential impacts are minimized.

a) Previously Imposed Special Conditions Remain in Effect

The project as amended would involve construction in and over the coastal waters of Newport Harbor. This type of work in this location can create adverse impacts on water quality and the marine environment. The project as previously approved was conditioned to adhere to construction responsibilities and debris removal requirements to assure that any adverse impacts to water quality and marine resources are minimized to the greatest extent feasible during construction.

The previously approved project together with the proposed amendment will allow boaters to place and retrieve boats stored on land in the water. Some maintenance activities, if not properly regulated, could cause adverse impacts to the marine environment. Certain maintenance activities like cleaning and scraping of boats, improper discharges of contaminated bilge water and sewage waste, and the use of caustic detergents and solvents, among other things, are major contributors to the degradation of water quality within boating facilities. As mentioned above, Lower Newport Bay provides a home for marine habitat and also provides opportunity for recreational activities. The Bay eventually drains into the Pacific Ocean through tidal flushing. For these reasons the Commission, in approving the underlying permit, imposed special conditions requiring the applicant to adhere to a Best Management Practices program, provide enclosed trash receptacles, and maintain the filter/settling tank system.

The amendment description states: "the water quality measures approved by the Coastal Commission Permit dated February 6, 2002 remain in effect." The proposed amendment will not alter the requirements of the previously imposed special conditions addressing construction and on-going maintenance. As previously conditioned and as re-confirmed under this amendment request, to require appropriate construction methods, to conform to an approved Best Management Practices program, provide trash receptacles, and to maintain the filter/settling tank system, which together will minimize adverse impact to water quality and marine resources, the Commission finds the amended development consistent with Sections 30230, 30231 and 30232 of the Coastal Act.

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.

If C. taxifolia is present, any project that disturbs the bottom could cause its spread by dispersing viable tissue fragments. In order to assure that the proposed project does not cause the dispersal of C. taxifolia, the Commission imposes a special condition requiring the applicant, prior to commencement of development, to survey the project area for the presence of C. taxifolia. If C. taxifolia is present in the project area, no work may commence and the applicants shall seek an amendment or a new permit to address impacts related to the presence of the C. taxifolia, unless the Executive Director determines that no amendment or new permit is required.

c) Eelgrass

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 Approval in Concept from the City of Newport Beach Harbor Resources Division dated April 2, 2002, states that no eelgrass is located in the project area (Exhibit A). 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 City's review of the project site. Even though the City's eelgrass inspection indicates that eelgrass is not present and so will not be impacted by the proposed project, eelgrass may have established within the project vicinity between the time of the City's inspection 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

to the three previously approved piles, to support boat hoist platform. The piles required by the proposed project constitute fill of coastal waters.

a) Allowable Use

Section 30233(a)(4) of the Coastal Act allows fill of coastal waters, such as Newport Harbor, for recreational boating purposes. The project as amended to add three additional piles to support the approved boat hoist constitutes a recreational boating facility. Thus, the project is an allowable use under Section 30233(a)(4).

b) Least Environmentally Damaging Alternative

The proposed project will result in the replacement of an existing boating facility, a boat hoist. In conjunction with the proposed amendment, three additional 12" diameter steel piles are proposed to be placed seaward of the bulkhead, as necessary to support the boat hoist platform. The applicant considered a number of alternatives to the proposed project including the following. One alternative considered included extending the bulkhead 6' 6" seaward to support the platform. This would result in more fill (total fill would be 266.5 square feet) than the project as proposed and is therefore not considered the least environmentally damaging alternative. Another alternative considered involved the use of 23.5 foot long hoist booms, however existing development would not allow for booms this size and so this is not considered a feasible alternative. An additional alternative considered included a 15 foot wide launch ramp utilizing trailers and towing vehicles. The ramp would extend 50 feet beyond the existing bulkhead and so would also result in more fill than is currently proposed (total fill would be 750 square feet). Also considered as an alternative was the use of three 24" diameter piles, but this alternative would also require a greater amount of fill (total of 9.42 square feet) than what is proposed.

The project originally proposed and previously approved, included only three 12" diameter piles. The existing platform is supported by three piles and the project engineers believed that three would be adequate to support the new platform as well. However, when detailed calculations were performed it was determined that the boat hoist platform would need an additional three 12" diameter piles to be adequately supported. The Commission's coastal engineer has reviewed the proposed amendment and has concurred with the project consultant's conclusion that the three additional piles are necessary to provide adequate support. Even with the three additional piles, this project alternative still results in the least amount of fill, 5.32 square feet.

As originally proposed, the piles were to be coated with coal tar to prevent corrosion. When Commission staff questioned coal tar's effect on water quality, the applicant revised the project description to delete the coal tar coating and proposed instead using a product called Amerlock 400. This product has been reviewed by staff of the Commission's water quality unit and by staff of the California Department of Fish and Game, both of which found the coating acceptable from a water quality standpoint.

D. California Environmental Quality Act

Section 13096 of the Commission's 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.

The proposed development has been conditioned to assure that the project will not have a significant adverse impact on coastal resources, specifically marine resources. The proposed amendment, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act. There are no feasible alternatives or mitigation measures available which will lessen any significant adverse impact the activity would have on the environment. Therefore, the Commission finds that the proposed project is consistent with CEQA and the policies of the Coastal Act.

STEEL PIPE PILE NOTES

1. PILES SHALL BE 12 INCH NOMINAL DIAMETER SCHEDULE 80 STEEL PIPE, 24 FEET LONG, CONFORMING TO ASTM A53 GRADE B. TWELVE PILES ARE REQUIRED. LOCATION OF PILES ARE SHOWN ON HOIST PLATFORM PLAN ON THIS DRAWING.
2. ~~PILES SHALL BE COATED WITH COAL TAR EPOXY~~ BY KOPPERS, AMERON, OR AN APPROVED EQUAL. COATING SHALL BE APPLIED, ACCORDING TO THE MANUFACTURER'S RECOMMENDATION, IN TWO COATS, EACH COAT 8 MILS THICK, FOR A TOTAL OF 16 MILS MINIMUM. COATING SHALL BE APPLIED TO THE PILES IN THE AREAS SHOWN ON SECTION 2 ON THIS DRAWING. FOR THE TOP 2'-0" OF THE PILES, COAT THE INSIDE AND OUTSIDE OF THE PILES AFTER THE REINFORCING BARS HAVE BEEN WELDED TO THE PIPE PER THE DETAILS ON DRAWING S-3
3. THE RECOMMENDED DRIVING PROCEDURE IS TO USE A DELMAG D-15 DIESEL HAMMER AND REACH A BLOW COUNT OF 12 BLOWS MINIMUM PER FOOT. A WAVE EQUATION ANALYSIS SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER AFTER THE HAMMER-PILE SYSTEM HAS BEEN SELECTED BY THE CONTRACTOR. BLOW COUNT CAN BE DEVELOPED ON THE BASIS OF THAT WAVE EQUATION ANALYSIS.
4. THE PILES SHALL BE DRIVEN TO THE ELEVATIONS SHOWN ON THE DRAWINGS. IF IT IS NOT POSSIBLE TO REACH THOSE ELEVATIONS, CONTRACTOR SHALL STOP DRIVING AND REPORT TO THE ENGINEER THE BLOW COUNT AND TIP ELEVATION REACHED.

EEL GRASS INSPECTION
☒ NO EEL GRASS WITHIN 15' OF PROJECT
☐ EEL GRASS IN THE PROJECT AREA

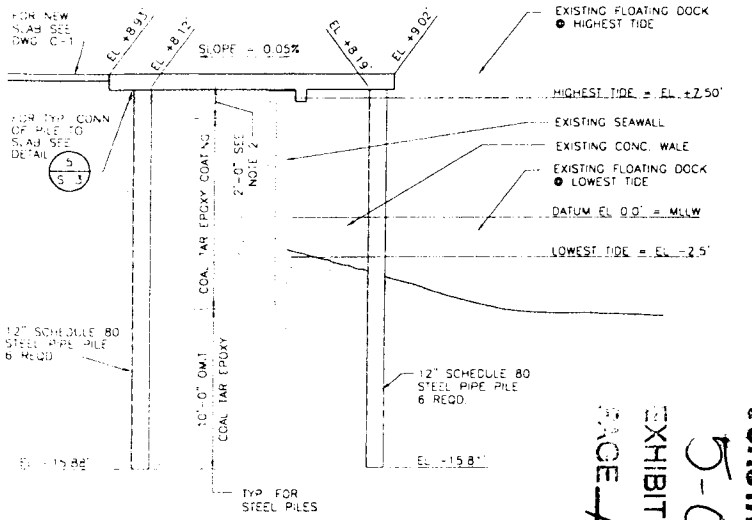
Tony Mele
SIGNATURE

102-1661 PERMIT #

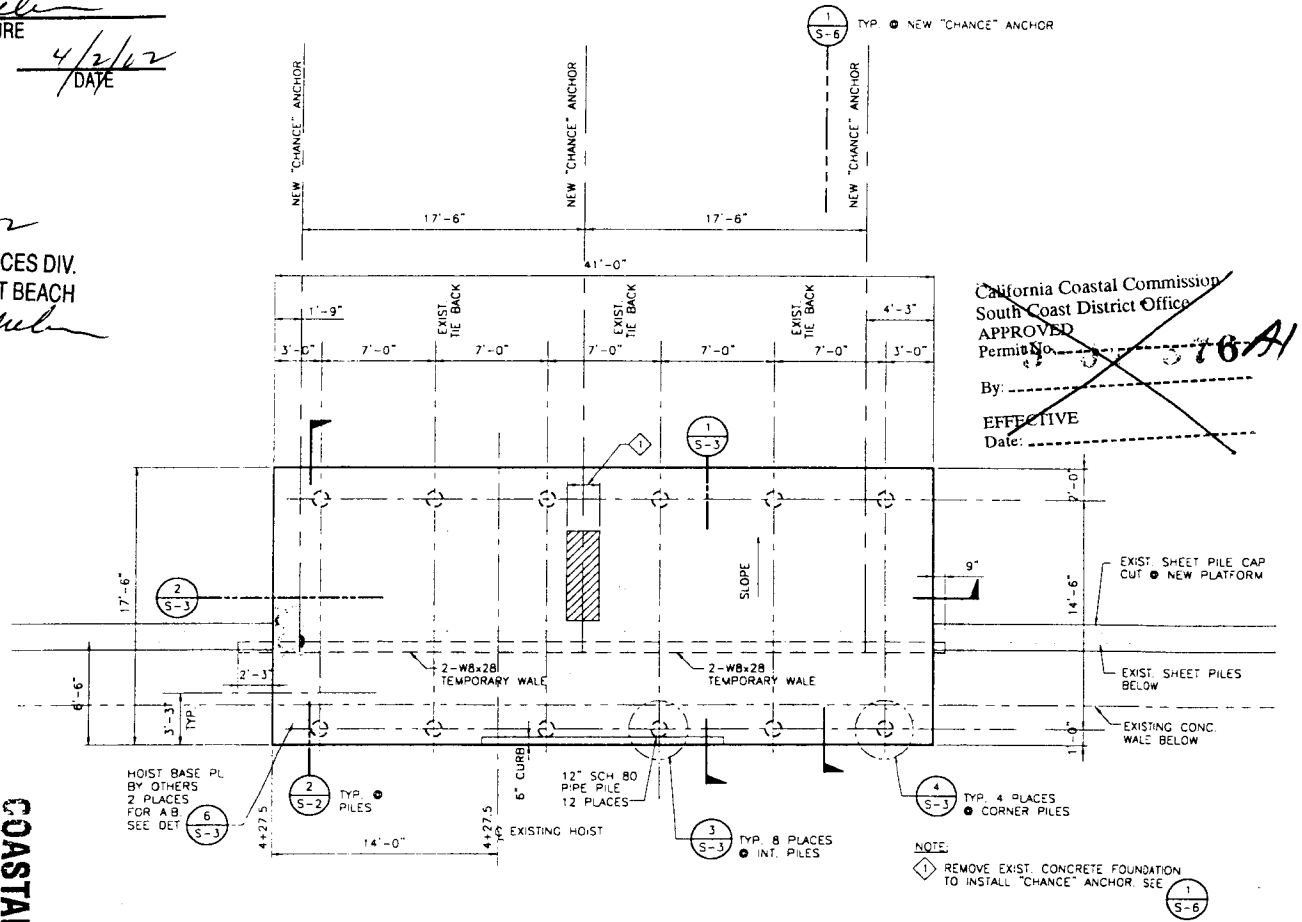
4/2/02 DATE

4/2/02
HARBOR RESOURCES DIV.
CITY OF NEWPORT BEACH
Tony Mele

California Coastal Commission
South Coast District Office
APPROVED
Permit No. 5-01-376-A1
By:
EFFECTIVE
Date:



SECTION
SCALE: 1/4" = 1'-0"



HOIST PLATFORM PLAN
SCALE: 1/4" = 1'-0"
1/S-2

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NO	DATE	DESCRIPTION	BY
A	03/28/02	SUBMIT TO CLIENT	RHM

REVISIONS

CASH & ASSOCIATES
ENGINEERING AND ARCHITECTURE
(714) 895-2072

ENGINEER	ARC
DESIGNER	OLO
CAD OPERATOR	OLO
CHECKER	ARC
PROJECT MANAGER	RHM

BAHIA CORINTHIAN YACHT CLUB
1601 BAYSIDE DRIVE, NEWPORT BEACH, CA. 92625

BOAT HOIST
HOIST PLATFORM PLAN

REDUCED SET - NOT TO SCALE

SCALE	AS NOTED
PROJECT NUMBER	5751.00
DRAWING NUMBER	S-2

California Regional Water Quality Control Board
Santa Ana Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb8
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (909) 782-4130 - FAX (909) 781-6288

Gray Davis
Governor

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov/rwqcb8.

December 5, 2001

Mr. Randy H. Mason, P.E.
President
Cash & Associates
5772 Bolsa Avenue, Suite 100
Huntington Beach, CA 92649

ORDER FOR A TECHNICALLY CONDITIONED 401 WATER QUALITY STANDARDS CERTIFICATION FOR THE PROPOSED BAHIA CORINTHIAN YACHT CLUB CONCRETE HOIST PLATFORM, GANGWAY, AND FLOATING DOCK, CITY OF CORONA DEL MAR, ORANGE COUNTY (NO ACOE REFERNCE NUMBER)

Dear Mr. Mason:

On September 24, 2001, we received a transmittal request for 401 water quality certification dated September 19, 2001 for the above referenced project. We received all requested materials for a complete application as of September 24, 2001.

This letter responds to your request for certification, pursuant to Clean Water Act Section 401 that the proposed project described below will comply with State water quality standards outlined in the Basin Plan (1995):

Project Description
The proposed project, located at the Bahia Corinthian Yacht Club, 1601 Bayside Drive, in the City of Corona Del Mar, consists of two components: (1) installation of a concrete hoist platform; and (2) replacement of a pedestrian gangway/launch ramp with installation of additional floating dock. The installation of the concrete hoist platform will involve demolishing an existing small boat launch platform and replacing it with a 40-feet by 16-feet and 6-inches reinforced concrete platform with two hoists. The platform will extend beyond the existing face of the bulkhead by 6-feet and 6-inches and will be supported by three 12-inch steel piles driven into the Bay mud. A new 12-feet by 30-feet pedestrian gangway/launch ramp will be installed to replace the existing 4-feet by 20-feet pedestrian gangway ramp. In addition, 606 square feet of floating dock will be added.

- Receiving water: Newport Bay, Orange County
- Fill/excavation area: Ocean: .00005 acre (three 1'0" diameter piles)
- Dredge volume: N/A
- Federal permit: U. S. Army Corps of Engineers (USACOE) Section 10, Letter of Permission (Rivers and Harbors Act)
- Fill/excavation and dredge mitigation: None
- Water quality impacts mitigation: No discharge of waste will enter Newport Bay

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APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

(33 CFR 325)

OMB APPROVAL NO. 0710-003

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, includir suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10, 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine Uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of the information requested is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) an be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE OF APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)
Bahia Corinthian Yacht Club	**Randy H. Mason - President**
6. APPLICANT'S ADDRESS	9. AGENT'S ADDRESS
1601 Bayside Drive **Corona Del Mar, CA 92625**	**Cash & Associates** **5772 Bolsa Ave., Suite 100** **Huntington Beach, CA 92649**
7. APPLICANT'S PHONE NOS. WITH AREA CODE	10. AGENT'S PHONE NOS. WITH AREA CODE
a. Residence	a. Residence
b. Business **(949) 644-9530**	b. Business **(714) 895-2072**

RECEIVED
SEP 20 2001
CALIFORNIA
COASTAL COMMISSION

11. STATEMENT OF AUTHORIZATION

I hereby authorize, CASH & ASSOCIATES to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE — DATE: 9/18/01

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

REPLACEMENT OF BOAT HOIST AND LAUNCH RAMP

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Newport Bay	**1601 Bayside Drive** **Corona Del Mar, CA 92625**
15. LOCATION OF PROJECT	
Orange (COUNTY) — CA (STATE)	

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16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

17. DIRECTIONS TO THE SITE: East of Newport Beach and one mile south of Pacific Coast Highway on Bayside Drive.

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

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 measured 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 Supplemental 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 (%).