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

W 10a

ADDENDUM

TO: Commissioners and Interested Persons

FROM: South Coast District Staff

SUBJECT: Application No. 5-09-209 (Orange County Public Works), Item No. W 10a, Scheduled for hearing on Wednesday March 9, 2011 in Santa Cruz.

A. Special Condition No. 1 Public Access Trail Management Plan

The following changes (additions shown in ***bold, italic, underline***; deletions shown in ~~strike out~~) to Special Condition No. 1 Public Access Trail Management Plan, are recommended by staff:

1. Public Access Trail Management Plan

Prior to issuance of the Coastal Development Permit, the applicant shall submit, for the review and approval of the Executive Director, a trail management plan that includes, but is not limited to, revised plans for the proposed gates, ***public use of the "Oil Road" and "Tidegates" Bridges,*** and a public access signage plan.

A. The revised gate plans shall reflect changes to ***the*** proposed gates on the south levee***: one*** at Graham Street and ***one*** just downstream of Bates Circle***,*** consistent with the following minimum requirements:

1. Gates:

i. The gates control vehicular access only and do not obstruct or interfere with pedestrian use of the levee.
ii. The gates shall be the minimum size and scale necessary to control vehicular access on the levee.
iii. The gates will be located and constructed such that a minimum three (3) foot (or wider as necessary to meet Americans with Disabilities Act as determined by the local government) unobstructed, open width on either side of the gates remains available on the maintenance road for pedestrian access around the gate.
iv. The gates shall be no more than four (4) feet high.
v. The gates shall minimize visual impacts.

B. Signage

1. Signage shall be provided on the revised gates ***and on the "Oil Road" and "Tidegates Bridges*** indicating that public pedestrian access along the levee ***and bridges*** is allowed.

2. The public access signage plan shall include, at a minimum, plans indicating the size, wording and placement of public access signs.
3. Signage plans shall depict the size of the sign face ***(minimum 2.5 feet by 2.5 feet)***, size of the letters on the sign ***(minimum 3-inch high lettering),*** overall height of the sign, and the method of posting (i.e. attached to free standing post, attached to gate, attached to trail fence, etc.).
4. ***Signage shall convey the message that public pedestrian use is permitted.***

C~~B~~***.*** ***Oil Road & Tidegates Bridges - Public pedestrian access to and across the Oil Road & Tidegates Bridges shall remain open and unobstructed for the life of the finished project. To ensure the public has uninterrupted use of the Oil Road & Tidegates Bridges to cross the flood control channel, the County shall continue its existing maintenance and operation of the Oil Road and Tidegates Bridges and take any further measures necessary to ensure that the public can continue to use these bridges.***

D. No permanent chain link fencing shall be allowed as part of the proposed project.

E~~B~~. Other than the revised gates described in Subsection A above, only temporary gates and access restrictions as necessary for construction purposes to complete the proposed project are allowed.

F~~C~~. The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. The permittee shall not use this permit as evidence of a waiver of any public rights that may exist on the property.

G~~D~~. The permittee shall undertake development in accordance with the approved final plan. 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 legally required.

B. Findings – Public Access and Recreation

In addition, the following language are recommended by staff to be added to Subsection H. Public Access and Recreation, which begins on the bottom of page 31 of the staff report, in support of the above revisions to Special Condition No. 1. The changes/additions to the findings begin on page 32 of the staff report and are shown below in ***bold, italic, underlined*** text. Following are the changes to the staff report findings:

> An existing pedestrian bridge between the north and south levees between the Graham Street Bridge to the east and the Oil Road Bridge to the west, located near the Slater pump station, is proposed to be removed. This is necessitated by the proposed construction of the dual sheetpiles/soil mix columns in this location. The sheetpiles are proposed to be placed within the existing levee, and the existing trapezoidal channel bottom will be excavated back to the new, vertical sheetpile wall. This will result in loss of support for the existing pedestrian bridge at the south levee. However, the channel can still be crossed inland of the bridge to be removed, - along Graham Street, and downstream/seaward of the bridge to be removed, at ***both*** the Oil Road ***and Tidegates*** pedestrian bridge***s***. There are no gates on the Oil Road ***or the Tidegates*** bridge***s*** and none are proposed. The Oil Road pedestrian bridge is located near the East Channel Overlook. ***The Tidegates bridge is located further downstream.*** It should be noted again that, although ***both*** the***se*** ~~Oil Road~~ pedestrian bridge***s*** connect~~s~~ the south levee to the north levee, no formal public access currently exists on the north levee (though informal public use is common). ***However, both bridges are shown as part of the existing public trail network on an exhibit prepared by the applicant depicting existing access in the area. No changes are proposed to either of these bridges. To ensure that the project is consistent with Section 30210's mandate to maximize public access to the coast and tidelands, the Commission is requiring the County to continue its existing maintenance and operation of both the Oil Road and Tidegates bridges so that the general public may continue its existing informal use of the bridges to cross the channel to access coastal recreations areas, like Bolsa Chica Ecological Reserve and nearby beaches.***
>
> No formal public access currently exists between Graham Street and Bates Circle on the south levee. However, informal public use does exist. Currently, both the north and south levees are gated at Graham Street. The proposed project would replace the existing gate on the south levee at Graham Street and would construct a new, additional gate on the south levee at Bates Circle. The gates are proposed to be five (5) feet high, eight feet wide, double swing, guard cable drive, chain link gates within ***a*** proposed ~~a~~ length of chain link fence ***to be placed perpendicular to and*** across the top of the levee. The proposed gate and ***length of chain link fence*** on the south levee at Bates Circle will prevent continued use of the south levee by the public between Bates Circle and Graham Street. The applicant, the Orange County Flood Control District, has stated that the intent of the proposed

gate is "to prevent unauthorized access along the backyards of the adjacent homes. Residents have vehemently requested that no public trail be provided upstream of Station 53+28 [location of the proposed gate just downstream of Bates Circle]. The height of the proposed maintenance road between the dual sheetpiles will be as much as 8-ft above the backyard of the homes, allowing pedestrians and cyclists to look into the adjacent homes."

Furthermore, although the County is not proposing this area of the south levee for formal public access and has not designed this segment of the levee for public use, post and cable safety fencing is proposed along the top of the levee maintenance road on the side adjacent to the residences. In addition, the County's proposal also includes a Filterra drainage system in this area, within the flood control right of way, that includes screening vegetation, as depicted on Sheet 41 of the proposed project plans (see Exhibit 7, attached).

Public Access and Recreation findings continue on to page 34 of the staff report, where the following additional changes are recommended by staff to be made as follows:

In addition to the gate ***and related fencing*** at Bates Circle, the applicant proposes to replace the existing gate ***and related fencing*** at Graham Street. Preventing vehicular access along the levee is an appropriate safety constraint. However, both of the gates on the south levee would interfere with continued pedestrian use of the trail, and would be inconsistent with Section 30210 of the Coastal Act which requires that public access be maximized. Furthermore, the removal of the pedestrian bridge is an additional public access deterrent that must be offset by opening access to the south levee at Graham Street. However, if the two gates proposed on the south levee, the one at Bates Circle the other at Graham Street, were revised such that the gate design ***eliminated the related fencing and*** prevented only vehicular access but allowed continued pedestrian access they could be found to be consistent with Section 30210 of the Coastal Act. Thus, a special condition is imposed which requires that the gates be revised so that they control vehicular access only and do not obstruct or interfere with continued pedestrian use of the levee. ***In addition, the special condition requires public access signage in order to assure that public access is maximized as required. The special condition also confirms that no changes to the existing access on the downstream pedestrian bridges, known as the Oil Road and Tidegates Bridges, are allowed.*** Therefore, the Commission finds that only as conditioned is the proposed project consistent with Section 30210 of the Coastal Act regarding the provision of public access.

C. Federal Consistency

Beginning at the bottom of page 14 of the staff report and carrying over to the top of page 15, there is discussion of the portion of the project located outside the coastal zone. The following sentence at the top of page 15 should be deleted from the staff report:

~~This portion of the project may be subject to Federal Consistency review.~~

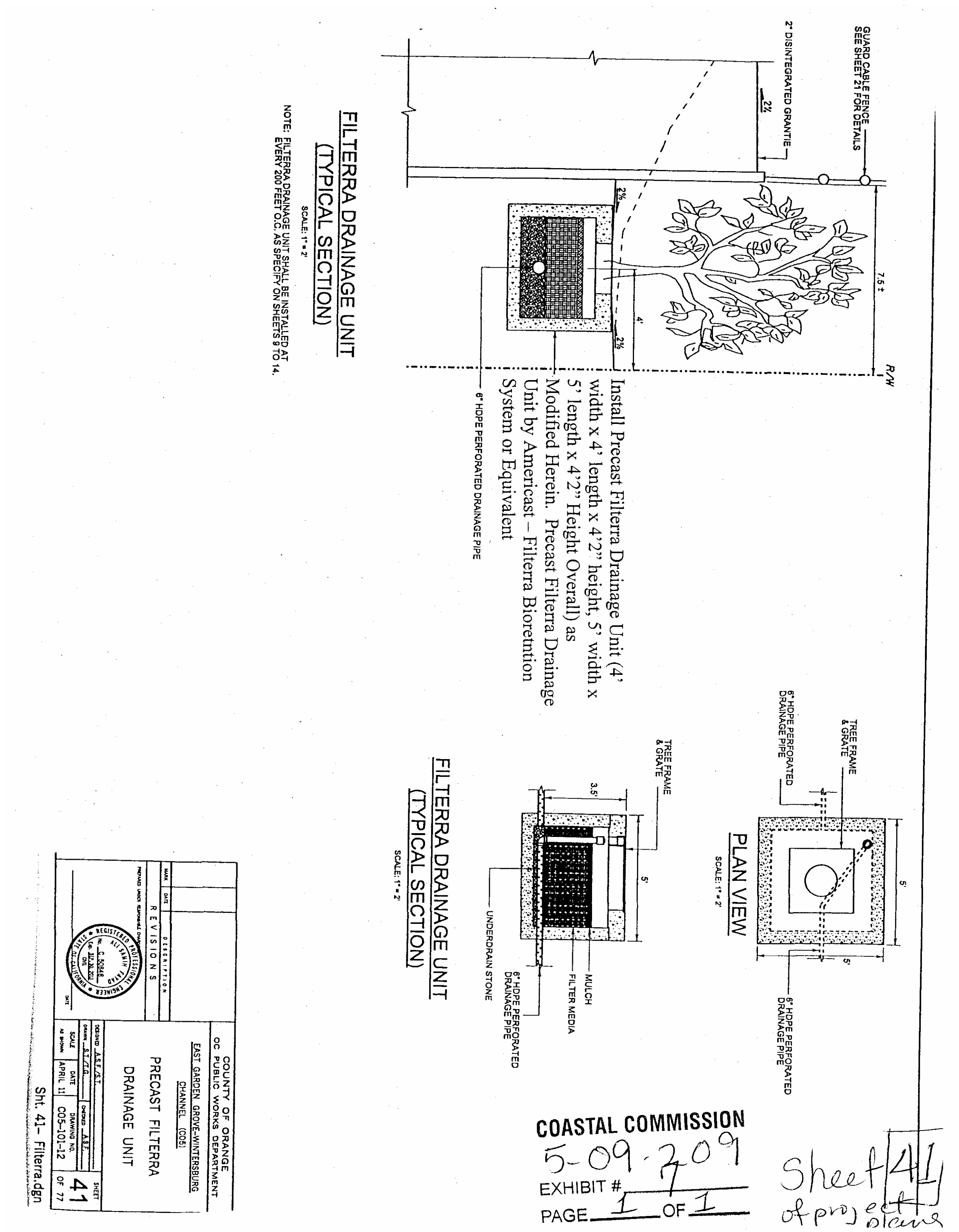
GUARD CABLE FENCE SEE SHEET 21 FOR DETAILS
2" DISINTEGRATED GRANTIE
2%
7.5'±
R/W
4'
Install Precast Filterra Drainage Unit (4' width x 4' length x 4'2" height, 5' width x 5' length x 4'2" Height Overall) as Modified Herein. Precast Filterra Drainage Unit by Americast – Filterra Bioretntion System or Equivalent
6" HDPE PERFORATED DRAINAGE PIPE
FILTERRA DRAINAGE UNIT
(TYPICAL SECTION)
SCALE: 1" = 2'
NOTE: FILTERRA DRAINAGE UNIT SHALL BE INSTALLED AT EVERY 200 FEET O.C. AS SPECIFY ON SHEETS 9 TO 14.
TREE FRAME & GRATE
6" HDPE PERFORATED DRAINAGE PIPE
PLAN VIEW
SCALE: 1" = 2'
5'
3.5'
MULCH
FILTER MEDIA
UNDERDRAIN STONE
FILTERRA DRAINAGE UNIT
(TYPICAL SECTION)
COUNTY OF ORANGE
OC PUBLIC WORKS DEPARTMENT
EAST GARDEN GROVE-WINTERSBURG CHANNEL (C05)
PRECAST FILTERRA DRAINAGE UNIT
REVISIONS
DRAWING NO. C05-101-12
SHEET 41 OF 77
APRIL 11
Sht. 41- Filterra.dgn
COASTAL COMMISSION
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EXHIBIT # 7
PAGE 1 OF 1
Sheet 41 of project plans

CALIFORNIA COASTAL COMMISSION

South Coast Area Office
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Filed:	9/27/10
180th Day:	3/26/11
Staff:	Meg Vaughn-LB
Staff Report:	2/16/11
Hearing Date:	3/9-11/2011
Commission Action:	

W 10a

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-09-209

APPLICANT: Orange County Public Works

AGENT: Nardy Kahn, Orange County Public Works
Sonica Kohli, Orange County Public Works

PROJECT LOCATION: East Garden Grove Wintersburg Flood Control Channel (Co5), downstream of Graham Street to the floodgates, Huntington Beach, Orange County

PROJECT DESCRIPTION: The applicant proposes improvements to the East Garden Grove Wintersburg flood control channel (CO5) from Graham Street downstream to the tidegates. The proposed project includes:

1. Along the south levee, converting the existing trapezoidal channel bed with earthen banks to a rectangular channel bed with sheetpile sides, keeping (and expanding) the soft bottom (to occur from Graham Street downstream to the bridge near the Slater pump station).
2. Soil mix columns sandwiched between two rows of sheetpiles on the south levee downstream of Graham Street to just downstream of Bates Circle (adjacent to existing residential development).
3. Buttress fill and backside sheetpile toe protection on the south levee from just below Bates Circle to just past the oil road (also with a public trail on top of levee).
4. Side slope riprap revetment repair from just downstream of Bates Circle to the tidegates on the south levee and from Oil Road Bridge to the tide gates on the north levee.
5. Notched retaining walls to accommodate existing utility lines on both sides of the channel where Graham Street crosses the channel.
6. Public trail along the top of the south levee beginning just downstream of Bates Circle. The proposed new trail is to be accessed via a new ramp to be located along an existing informal recreational trail southwest of the existing residences along Bates Circle.

The proposed project also includes a future maintenance and monitoring plan.

SUMMARY OF STAFF RECOMMENDATION:

Staff is recommending the Commission **approve** the proposed project subject to ten special conditions which are necessary to assure that the project conforms with Section 30233 of the Coastal Act regarding protection of marine habitat; with Section 30236 regarding streambed channelization projects; with Sections 30230 and 30231 regarding protection of marine resources and water quality; Section 30240 regarding protection of sensitive habitats; and, Section 30210 and 30211 regarding maximizing public access.

The unresolved issue raised by the staff report is the limitation of continued public access on the south levee between Graham Street and Bates Circle that would result from the project as proposed. Commission staff is recommending changes to the proposed project so that development will not interfere with continued informal public pedestrian access in this area. More specifically, staff is recommending Special Condition No. 1 which requires the proposed five foot high chain link double swing guard gates proposed at Graham Street (replacement of an existing gate) and at Bates Circle (a new gate where none currently exists) be replaced with gates that, while still controlling vehicular access, allow for continued public pedestrian access.

Special Condition No. 1 requires the applicant to submit revised plans eliminating proposed gates on the levee top that would interfere with continued public pedestrian access (gates controlling vehicular access are appropriate and allowed); Special Condition No. 2 restricts construction activities when active nests are identified in the project vicinity; Special Condition No. 3 requires conformance with the proposed staging and access plan; Special Condition No. 4 requires conformance with the proposed plant salvage plan; Special Condition No. 5 limits the proposed Operation and Maintenance Plan to the proposed five (5) year term; Special Condition No. 6 addresses disposal of debris and excessive materials; Special Condition Nos. 7 & 8 require pre- and post-construction eelgrass and caluerpa surveys; Special Condition No. 9 notifies the applicant of construction practices and debris removal responsibilities; and, 10) assumption of risk.

SUBSTANTIVE FILE DOCUMENTS: Draft Initial Study/Mitigated Negative Declaration IP09-311 (East Garden Grove-Wintersburg Maintenance and Repair Project (Tide Gates to Warner Avenue)), prepared by BonTerra Consulting, dated September 2009; Streambed Alteration Agreement No. 1600-2009-0331-R5; Results of a Biological Constraints Analysis for Construction Staging Areas for the East Garden Grove-Wintersburg Channel (CO5), prepared by BonTerra Consulting, dated 9/9/10; Jurisdictional Delineation Report prepared for the proposed project by BonTerra Consulting, dated May 2010; Salvage Plan for Native Plants within the East Garden Grove-Wintersburg Channel (CO5), prepared by BonTerra Consulting, 5/5/10; Orange County Parks Memo dated August 26, 2008, Agreed to accept and maintain the public trail access component of the proposed project.

I. APPROVAL WITH CONDITIONS

STAFF RECOMMENDATION:

Staff recommends that the Commission **APPROVE** the permit application with special conditions.

MOTION:

I move that the Commission approve Coastal Development Permit No. 5-09-209 pursuant to the staff recommendation.

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:

I. APPROVAL WITH CONDITIONS

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

II. STANDARD CONDITIONS:

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 voted on by 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 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:

1. Public Access Trail Management Plan

Prior to issuance of the Coastal Development Permit, the applicant shall submit, for the review and approval of the Executive Director, a trail management plan that includes, but is not limited to, revised plans for the proposed gates and a public access signage plan.

A. The revised gate plans shall reflect changes to proposed gates on the south levee at Graham Street and just downstream of Bates Circle consistent with the following minimum requirements:

    1. The gates control vehicular access only and do not obstruct or interfere with pedestrian use of the levee.
    2. The gates shall be the minimum size and scale necessary to control vehicular access on the levee.
    3. The gates will be located and constructed such that a minimum three (3) foot (or wider as necessary to meet Americans with Disabilities Act as determined by the local government) unobstructed, open width on either side of the gates remains available on the maintenance road for pedestrian access around the gate.
    4. The gates shall be no more than four (4) feet high.
    5. The gates shall minimize visual impacts.
    6. Signage shall be provided on the revised gates indicating that public pedestrian access along the levee is allowed.
    7. No permanent chain link fencing shall be allowed as part of the proposed project.

B. The public access signage plan shall include, at a minimum, plans indicating the size, wording and placement of public access signs. Signage plans shall depict the size of the sign face, size of the letters on the sign, overall height of the sign, and the method of posting (i.e. attached to free standing post, attached to gate, attached to trail fence, etc.).

C. Other than the revised gates described in Subsection A above, only temporary gates and access restrictions as necessary for construction purposes to complete the proposed project are allowed.

D. The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. The permittee shall not use this permit as evidence of a waiver of any public rights that may exist on the property.

E. The permittee shall undertake development in accordance with the approved final plan. 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 legally required.

2. Nesting Bird Protection Measures

A qualified biologist, with experience in conducting bird surveys, shall conduct bird surveys thirty (30) days prior to commencement of construction activities to detect any active bird nests within 500 feet of the construction area. The last survey shall be conducted 3 days prior to the initiation of clearance/construction. If an active songbird nest is located, clearing/construction within 300 feet shall be postponed until the nest(s) is vacated and juveniles have fledged and there is no evidence of a second attempt at nesting. If an active raptor, rare, threatened, endangered, or species of concern nest is found, clearing/construction within 500 feet shall be postponed until the nest(s) is vacated and juveniles have fledged and there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest shall be established in the field by the biologist and shall be identified and protected with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The biologist shall record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to protection of nesting birds.

3. Staging & Access

A. Staging and access for the proposed project shall be limited only to the disturbed areas identified in the document titled "*Results of a Biological Constraints Analysis for Construction Staging Areas for the East Garden Grove-Wintersburg Channel (CO5) from the Tide Gates to Just Upstream of Warner Avenue in the City of Huntington Beach and Unincorporated Orange County, California"*, prepared by BonTerra Consulting, dated 9/9/10.

B. The permittee shall undertake development in accordance with the approved final plan. 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 legally required.

4. Plant Salvage Plan

A. The applicant shall carry out the proposed plant salvage plan as required by California Department of Fish and Game Streambed Alteration Agreement No. 1600-2009-0331-R5 and as described in the document titled "*Salvage Plan for Native Plants within the East Garden Grove-Wintersburg Channel (CO5), Orange County, California, Streambed Alteration Agreement No. 1600-2009-0331-R5,"* prepared by BonTerra Consulting, dated 5/5/10.

B. The permittee shall undertake development in accordance with the approved final plan. 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.

5. Operation & Maintenance Plan of the East Garden Grove Wintersburg Flood Control Channel

The Operation & Maintenance Plan (included as Appendix G to the Negative Declaration IP09-311) is approved for the limited five (5) year term proposed by the applicant. The date of the five (5) year term shall commence from the date of Commission action on this permit. Development occurring beyond that time requires approval of a new coastal development permit or an amendment to this permit unless the Executive Director determines that none is legally required.

6. Disposal of Debris and Excess Material

Debris and excess material shall be disposed or recycled at a legal disposal/recycling site. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required. No debris or excess material shall be placed on or within habitat areas.

7. Eelgrass Survey

A. Pre Construction Eelgrass Survey. A valid pre-construction eelgrass (Zoestera 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 applicant 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 applicant 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 applicant 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 applicant 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. Implementation of 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. **Pre-construction *Caulerpa Taxilfolia* 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 taxilfolia*. 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 applicants shall submit the survey:

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

ii. to the Surveillance Subcommittee of 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), or their successors.

D. If *Caulerpa taxilfolia* is found within the project or buffer areas, the applicants shall not proceed with the project until 1) the applicants provide evidence to the Executive Director that all *C. taxilfolia* discovered within the project area and all C. taxilfolia discovered within the buffer area have 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 applicants have revised the project to avoid any contact with *C. taxilfolia*. 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.

9. <u>Construction Responsibilities and Debris Removal</u>

The permittee shall comply with the following construction related requirements:

A. No demolition or construction materials, equipment, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain or tidal erosion and dispersion.

B. Any and all debris resulting from demolition or construction activities, and any remaining construction material, shall be removed from the project site within 24 hours of completion of the project.

C. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters.

D. Machinery or construction materials not essential for project improvements will not be allowed at any time in the intertidal zone.

E. If turbid conditions are generated during construction a silt curtain will be utilized to control turbidity.

F. Floating booms will be used to contain debris discharged into coastal waters and any debris discharged will be removed as soon as possible but no later than the end of each day.

G. Non buoyant debris discharged into coastal waters will be recovered by divers as soon as possible after loss.

H. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.

I. The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction.

J. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.

K. All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil.

L. Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. The applicant shall dispose of thinners and solvents in a manner that is consistent with applicable local, state, and/or federal law and, under no circumstances shall they be discharged into sanitary or storm sewer systems.

M. The discharge of any hazardous materials into any receiving waters shall be prohibited.

N. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible.

O. Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity.

P. All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

10. Assumption of Risk, Waiver of Liability and Indemnity

By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from flooding and wave uprush; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description

Within the coastal zone, the applicant proposes improvements to the East Garden Grove Wintersburg flood control channel (CO5) from Graham Street downstream to the tidegates. The existing trapezoidal, riprap lined channel bed was built in the early 1960's, pursuant to a 1956 Bond Act. The County considers the channel to be deficient under current standards in that it was designed to carry less than 65% of the 25-year peak discharge based on Orange County hydrology standards in effect prior to 1973. The proposed project is part of a larger flood control improvement project within the East Garden Grove-Wintersburg Channel (CO5/CO6). Completion of the proposed project and ultimately the remaining project phases is intended to provide 100-year flood protection of surrounding land uses that are currently subject to potential flood inundation within the channel system watershed. The proposed project represents the first phase (the downstream end) of the larger improvement program. Only the subject portion is located within the coastal zone (there is additional work proposed outside the coastal zone). Approximately 93,000 cubic yards of excavation is proposed to convert the existing trapezoidal channel bed into a rectangular channel bed. The excavated material will be used either for the construction of the earthen buttress or transferred to an approved landfill.

More specifically, the proposed project includes (see exhibit 2):

1. In the coastal zone, along the south levee, converting the existing trapezoidal channel bed to a rectangular channel bed with sheetpile sides, keeping (and expanding) the soft bottom (to occur from Graham Street downstream to just downstream of Bates Circle).
2. Soil mix columns sandwiched between two rows of sheetpiles on the south levee downstream of Graham Street to just downstream of Bates Circle (this component is adjacent to existing residential development).
3. Buttress fill and backside sheetpile toe protection (see exhibit 3) on the south levee from just below Bates Circle to just past the oil road (also with a public trail on top of levee).
4. Side slope riprap revetment repair from just downstream of Bates Circle to the tidegates on the south levee and from the end of the emergency sheetpiles to the tide gates on the north levee.
5. Notched retaining walls to accommodate existing utility lines on both sides of the channel where Graham Street crosses the channel.
6. Public trail along the top of the south levee beginning just downstream of Bates Circle. The proposed new trail is to be accessed via a new ramp to be located along an existing informal recreational trail southwest of the existing residences along Bates Circle.

Biological resources impacted by the proposed project are limited to the area within the flood control channel, and consist of impacts to a total of 0.33 acre of wetland area. The wetland area is within the channel, which is tidally influenced and thus falls within the habitat category of Open Coastal Waters. Impacts to the wetland area are proposed to be mitigated by the creation of 6.67 acres of soft bottom habitat within the channel. Project access and staging is proposed to occur within existing, non-vegetated, compressed soils roads adjacent to the right-of-way, located along the existing levees and within the Bolsa Chica Ecological Reserve (three access and staging areas) and at the existing ramp area adjacent to Graham Street within the Parkside Estates area immediately north of the flood control channel.

Of the proposed project, the following aspects were added to the project in response to concerns expressed by a number of resource agencies responsible for implementing/maintaining the Bolsa Chica wetlands restoration area (including California Department of Fish & Game, U.S. Fish & Wildlife Service, National Marine Fisheries Service and U.S. Army Corps of Engineers): the earthen buttress and backside sheetpile toe protection, side-slope riprap revetment repair, and the notched retaining walls at Graham Street. The public trail component was also added at the suggestion of the various resource agencies, including Coastal Commission staff.

Soil Mix Columns and Sheetpiles

Soil mix columns (also referred to as soil cement columns as they are composed of a mix of soil and cement) are proposed to be placed between two parallel steel sheetpile walls. The sheetpiles and columns are intended to provide a three-tiered line of defense against inundation. This component will be placed within the existing, earthen south levee from Graham Street to just downstream of Bates Circle. Upon completion of this installation, the applicant proposes to excavate the existing earthen side slopes back to the sheetpile to provide for 100-year storm water conveyance capacity within this channel reach. Cathodic protection for the sheetpiles is proposed to be installed along with the steel sheetpiles. The proposed Operation and Maintenance Program includes maintenance of both the sheetpile cathodic protection and sheetpile painting.

The steel sheetpiles are proposed to be installed with the "press in" method (rather than "pile driving") similar to the method used to install the steel sheetpile construction under emergency coastal development permit No. 5-07-025-G on the north levee. After the steel sheetpiles have been installed, the soil cement columns will be installed. The soil cement columns are proposed to be 40 feet deep and 3-feet in diameter and will be placed in a pattern of a series of rings between the two sheetpiles. As they are constructed, the soil columns and sheetpiles will provide access for further placement of the soil columns and sheetpiles as the project moves downstream.

Access and Staging

Access and staging for the project is proposed to be taken from Pacific Coast Highway and the southern terminus of Graham Street along existing access roads on the existing levees and within Bolsa Chica Ecological Reserve (see exhibit 3). A Biological Constraints Survey for these construction staging and access areas was conducted by BonTerra Consulting (9/9/10) for the access and staging areas south of the flood control channel. No native vegetation types were found to occur within these staging areas or access roads. Non-native vegetation types found within the southern staging areas are ruderal, disturbed, and developed. The fourth staging area is to be located on the Shea Homes property immediately north of the flood control channel and adjacent to Graham Street. A Biological Assessment was prepared by LSA (September 2009) for the Shea site for a pending coastal development permit application (5-09-182, Shea Homes). The LSA Biological Assessment indicates that the area proposed for staging and access for the proposed flood control channel project (southeast corner of the Shea Homes site) is comprised of Disturbed (Dirt Access Roads) and Agricultural plant communities.

Although no native vegetation types were found within the staging and access areas, a limited presence of some native plants was found along the slopes of the flood control channel adjacent to staging areas 1, 2, and 3. These include five-hook bassia (bassia hyssopifolia), and a few scattered alkali heath (Frankenia salina). No impacts to these plants are anticipated. The access roads were found to consist of paved access roads devoid of vegetation or dirt access roads with sparse cover of ruderal vegetation.

Earthen Buttress & Backside Sheetpile Toe Protection

The project site, at its downstream-most portion, is within and adjacent to the Bolsa Chica Ecological Reserve (BCER). During the project planning process, BCER stakeholder agencies expressed concern arising from potential impacts to the completed and on-going restoration work in the Reserve. To address these concerns, the project was modified to include the proposed earthen buttress and backside sheetpile toe protection on the south levee in the area where it abuts the reserve (approximately 2,100 feet downstream of Graham (Bates Circle) to approximately 4,000 feet downstream of Graham (just downstream of the oil road bridge). The intent of the proposed buttressing and backside sheetpile toe protection is to provide additional levee protection from the tidal action within the wetlands of the Bolsa Chica Ecological Reserve, as well as additional levee protection from channel flow for the Reserve. The buttress also provides a stable and safe surface for the proposed public park trail along the south levee. (See exhibit 5).

Public Access Trail

A public trail is proposed atop the earthen buttress portion of the south levee (described above) that will connect with the existing State Parks trail system within the Reserve. The trail is proposed to be accessed from a new access ramp proposed to be constructed just west (downstream) of the homes along Bates Circle within an existing recreational trail. The proposed ramp will be compliant with the Americans with Disabilities Act (ADA). The proposed trail surface will consist of decomposed granite and will include a four-foot high wooden post and rail fence along the channel side of the trail. An existing pedestrian bridge that crosses the flood control channel just downstream of the Slater pump station is proposed to be removed. A new gate is proposed on the south levee at Bates Circle and a replacement gate is proposed on the south levee just west of the seaward side of the Graham Street Bridge (see exhibit 4).

Notched Retaining Walls

The proposed notched retaining walls beneath the Graham Street bridge will accommodate the existing sewer, storm drain and other utility lines without necessitating their relocation. For example, at the location of the notches, there will be a 3-foot clearance between the proposed wall and the existing subterranean 66-inch diameter storm drain. This reduces the potential for spillage from the utilities as compared to utility relocation. Installation of the notched retaining wall structures is proposed to occur within the footprint of the existing bridge piles, which are located in the slope areas outside of the open water areas of the channel. The wall will not interfere with the existing bridge abutment, bridge piers or the bridge deck. The proposed wall system would consist of an L-wall and a composite cladded wall (steel sheetpile and reinforced concrete). Two feet of soil cover is proposed to be placed atop the footing and will provide soft bottom channel within the footprint of the previously existing slope. Once installed, the applicant will excavate back to the notched retaining wall structure to expand the existing soft bottom channel habitat.

Operation and Maintenance Program

The proposed project also includes a future Operation and Maintenance Program (OMP). The OMP is intended to allow activities necessary to maintain the channel and includes inspection, vegetation management, rodent control, trash removal at debris boom and miscellaneous repairs to the access road and fencing. Cathodic protection of the steel sheetpiles is proposed to be installed along with the sheetpiles. On-going maintenance of the cathodic protection is included as part of the OMP.

Placement of riprap is also proposed in the future Operation and Maintenance Program on an as needed basis. The placement of the riprap would occur on the waterside of the levees and would be contained within the footprint and slope configuration of the original channel design's trapezoidal channel profile (see exhibit 6). The location of the proposed riprap placement would be on the south levee from just downstream of Bates Circle to the tidegates and on the north levee from downstream of the end of the emergency sheetpiles on the north levee to the tidegates. The proposed project includes the entire riprap placement, but not all placement is expected to occur immediately. The riprap proposed to be placed immediately will be located just up- and downstream of the oil road bridge and just upstream of the tidegates on the south levee and just upstream of the tidegates on the north levee. Long term riprap placement on the north and south levee between these locations is proposed on an as needed basis. The total estimated quantities of 24-inch rock riprap is expected to range from 600 cubic yards for immediate treatment, to 21,000 cubic yards (34,000 tons) for potential long-term maintenance. It is estimated that each riprap repair event will involve placement of approximately 600 cubic yards of riprap along 100 to 200 linear feet of channel.

Portion of North Levee Not Included

It should be noted that the sheetpile project allowed under emergency coastal development permit 5-07-025-G (Orange County Flood Control District), on the north levee just downstream of Graham Street and adjacent to the Parkside (Shea Homes) site, is not included in the currently proposed project. That emergency permit required hydrological and vegetation monitoring to evaluate the effects of that sheetpile installation on wetlands and ESHA on the adjacent property. That required monitoring is on-going and the follow-up permit for the emergency coastal development permit, 5-08-142 (Orange County Flood Control District) remains incomplete pending information resulting from the monitoring.

Portion of the Project Located Outside the Coastal Zone

The overall project (Phase One of entire project) extends upstream of Graham Street, but that portion of the project falls outside the coastal zone boundary (the inland extent of the Graham Street right-of-way is the boundary line in this area). Work proposed upstream and out of the coastal zone extends to just north of Warner Avenue and includes soil-mix columns sandwiched between two parallel sheetpile walls, replacing the existing levees on

both the north and south sides of the channel. This portion of the project may be subject to Federal Consistency review.

B. Project Location

Site

The East Garden Grove Wintersburg flood control Channel is part of a channel system (CO5/CO6) that drains a large inland watershed which eventually flows into the channel system which discharges into Outer Bolsa Bay and then into Huntington Harbour (via a culvert under Warner Ave.) and ultimately to the Pacific Ocean. The channel is tidally influenced for its entire length within the coastal zone. The channel flow is controlled by tide gates located at the downstream end of the proposed project, at the point where the channel flows into Outer Bolsa Bay. The channel is north of and adjacent to the Bolsa Chica Ecological Reserve and south of the areas known as Brightwater (on the Bolsa Chica Mesa) and Parkside (adjacent to Graham Street). Residential development is located immediately south of the south levee from Graham Street to just downstream of Bates Circle.

Jurisdiction

The proposed development will occur within the flood control channel and along its banks/levees within the City of Huntington Beach and within areas of unincorporated Orange County. The coastal zone boundary in the project vicinity runs along the inland right-of-way of Graham Street.

The City of Huntington Beach has a certified Local Coastal Program for most of the geographic area of the City. The residential area south of the channel between Graham Street and Bates Circle falls within the City's certified LCP area. Downstream of Bates Circle, south of the south levee is the Bolsa Chica Ecological Reserve (BCER), which is in unincorporated Orange County. There is no certified LCP for this area, (Bolsa Chica LCP area). On the north side of the channel, at Graham Street, is an area known as the Parkside Estates/Shea Homes site. This area was an area of deferred certification at the time the City's LCP was certified. Recently, an LCP amendment for this area was certified by the Commission (HNB LCPA 1-06 Land Use Plan; HNB LCPA 1-10 Implementation Plan), but final certification has not yet occurred pending the Commission's concurrence with the City's adoption of the suggested modifications for the Implementation Plan portion of the LCP amendment for this area. West of (downstream) of the Parkside Estates site, the area immediately north of the channel is known as the Brightwater site. The Brightwater site was recently annexed into the City of Huntington Beach. There is not yet a certified LCP for the Brightwater area.

The entire channel within the coastal zone is tidally influenced and therefore coastal development permit jurisdiction will remain with the Coastal Commission even after the

surrounding areas of the City of Huntington Beach and of unincorporated Orange County become certified.

The area surrounding the channel includes environmentally sensitive habitat areas and wetlands. The BCER is owned by the State of California and managed by the Department of Fish and Game. The BCER includes land on both sides of the channel in the area of the proposed project.

All channel and levee work is proposed to occur within the Orange County flood control channel right of way. However, project access and staging will occur on the existing levees and within the Ecological Reserve along existing, unvegetated, hard pack access roads and on the adjacent Parkside Estates/Shea Homes site immediately adjacent to Graham Street.

The channel is tidally influenced for its entire length within the coastal zone. Pursuant to Coastal Act Section 30519(b), development review authority for "development proposed or undertaken on any tidelands, submerged lands, or on public trust lands, whether filled or unfilled, lying within the coastal zone" remains with the Coastal Commission. Therefore, the standard of review for the subject coastal development permit application is the Chapter 3 policies of the Coastal Act.

C. Related Permit Applications

5-07-025-G (Orange County Public Works): This emergency coastal development permit was approved in November 2007 for the installation of 3800 linear feet of 30 to 40 foot deep steel sheetpile along the north levee of the East Garden Grove Wintersburg flood control channel from Graham Street to 3800 feet downstream. That work has been carried out.

5-08-142 (Orange County Public Works): This is the follow-up application for the work approved under emergency coastal development permit 5-07-025-G. This follow-up application remains incomplete pending results of on-going groundwater and vegetation monitoring assessing whether impacts will occur to adjacent wetlands on the Parkside Estates site.

5-07-353 (Orange County Public Works): This coastal development permit application requested approval of construction of sheetpiles within the south levee from Graham Street downstream to just south of Bates Circle and excavation within the channel. Resource agencies responsible for implementing and/or maintaining the Bolsa Chica restoration project (including California Department of Fish & Game, U.S. Fish & Wildlife Service, National Marine Fisheries Service and U.S. Army Corps of Engineers), expressed concerns regarding whether this project, which did not include any work adjacent to the Bolsa Chica Ecological Reserve, would create adverse impacts on the Ecological Reserve. Impacts of concern included breach of the south levee and resultant inundation of the restored habitat areas within the reserve. Coastal development permit application 5-07-

353 was withdrawn and replaced with the proposed project application. In response to the concerns raised by the resource agencies, the proposed project (5-09-209) includes:

1) installation of earthen buttress and backside sheetpile toe protection from just downstream of Bates Circle to just downstream of the oil road bridge (these components will be located within the existing levee and within the County's right-of-way), and;
2) side slope riprap revetment repair from just downstream of Bates Circle to the tide gates on the south levee (adjacent to the Bolsa Chica Restoration area) and on the north levee from downstream of the end of the emergency sheetpiles on the north levee to the tidegates. The riprap is proposed on the interior of the channel.

D. Wetlands & Stream Alteration

Section 30233 of the Coastal Act states, in pertinent 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) Incidental public service purposes …

…

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. …

The proposed development involves dredging in the form of excavating the existing trapezoidal channel bottom back to the proposed new south levee sheetpiles from Graham Street to just downstream of Bates Circle within the East Garden Grove Wintersburg flood control channel (CO5). The tidally influenced flood control channel constitutes open coastal waters. 0.33 acre of wetland habitat within the open coastal waters of the channel will be adversely impacted by the proposed project. The wetland habitat consists of native salt marsh plants located at the bottom and along the northern side slopes of the channel, in scattered locations. Thus, the project must be reviewed for conformance with Section 30233 of the Coastal Act. In order to be consistent with Section 30233, a project that involves filling or dredging in open coastal waters and/or wetlands must meet the three-prong test: 1) the use must be one of the uses specifically allowed; 2) it must be the least

environmentally damaging alternative; and, 3) it must provide adequate mitigation to offset any impacts created by the project.

Section 30236 of the Coastal Act states:

> *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.*

The existing flood control channel was originally constructed in the early 1960s. The channelization was previously established. In any case, the project must be reviewed for conformance with Section 30236 of the Coastal Act. In order to be consistent with Section 30236 of the Coastal Act, a channelized stream project must be one of the three allowable uses and must provide the best mitigation measures feasible.

The Jurisdictional Delineation Report prepared for the proposed project by BonTerra Consulting, dated May 2010 determined, based on field observations and data collection, that the project area includes 0.33 acre of wetland habitat that will be permanently impacted by the proposed project. The Jurisdictional Delineation Report also determined that there are 18 acres of open coastal waters in the project area within the channel, which include the 0.33 acre of wetlands. Temporary construction impacts will occur within the non-wetland open coastal waters, but no permanent impacts are expected.

1) Allowable Use

The proposed project involves upgrading the existing channel to the standards necessary to provide 100-year flood conveyance protection for the surrounding watershed area. The channel was constructed in the early 1960s. Without the proposed upgrades, existing surrounding development would be subject to inundation during significant storm events, such as a 100-year storm. The proposed channel upgrade represents a use that is incidental to the existing flood control system. The flood control system provides a public service in that it protects the general public as well as public and private property from flooding. Thus, the proposed development is both incidental and serves a public service purpose. Thus, as an incidental public service use the project constitutes an allowable use under Coastal Act Section 30233. Therefore, the proposed development is consistent with Section 30233 of the Coastal Act with regard to uses allowed within coastal waters.

In addition, given that the existing channel is limited to controlling less than 65% of the 25 year peak discharge (well below current flood control standards), the proposed project is a flood control project that is necessary for public safety and to protect existing development

– one that will ultimately provide protection from 100-year flood events. Thus, the proposed development is an allowable use under Coastal Act Section 30236.

2) Alternatives

A number of alternatives to the proposed project were considered. Following is a discussion of the alternatives considered.

No Project Alternative – Maintenance of the flood control channel in its current state would continue, but protection from severe floods (such as 100-year events and levee breach due to seismic events) would not be provided. In such cases, existing, surrounding development would be subject to inundation. Also, proposed improvements downstream of the proposed sheetpile/soil column area that were requested by various resource agencies to protect the Bolsa Chica wetlands restoration area would not occur. In addition, the public trail improvements would likewise not occur.

All Concrete Channel Alternative – This alternative would convert the existing earthen/riprap, soft-bottomed channel to a concrete trapezoidal channel. Under this alternative, the channel invert would be lowered by approximately four feet. This alternative would result in loss of all soft bottom habitat that currently exists within the channel in addition to the loss of the 0.33 acre of wetlands. In addition, the additional soft bottom habitat that would result from the proposed alternative would not be created. Moreover, seismic protection provided by the proposed soil column/sheetpile portion of the project, designed to resist a major seismic event without catastrophic collapse of the levee system, would not be provided. The concrete lined channel alternative is not expected to resist seismic events to the same extent. Construction methods associated with constructing an all concrete channel would have greater impacts as well. The proposed steel sheet pile will be installed via “press-in method” with construction equipment that remains on the existing levee. Construction of concrete levees would require a larger construction footprint and more equipment in the channel for longer duration.

Diversion Basin Alternative – This alternative includes construction of a large retarding basin (storage capacity of approximately 500 acre feet) within Mile Square Regional Park (located outside the coastal zone in Fountain Valley). Under this alternative, no changes would occur within the area of the proposed project. Thus, no new soft bottom habitat would be created. In addition, although not located within the coastal zone, adverse impacts would occur at Mile Square Park including significant loss of existing recreational facilities within the park and potential impacts to the aquifer and surrounding area. Also, the channel would remain subject to catastrophic collapse during a major seismic event.

Concrete Wall/Concrete Cell Block Alternative – This alternative would involve construction of a concrete vertical wall/concrete cell block (articulated concrete block) invert along the entire length of the channel. This poses difficulties for the applicant in acquiring additional right of way in areas inland, outside the coastal zone. However, the more significant difference, in terms of the proposed project, is the fact that this alternative would result in

loss of soft bottom habitat rather than expansion of soft bottom habitat as would result from the proposed alternative. Also, the channel would remain subject to catastrophic collapse during a major seismic event.

Concrete Vertical Wall/Riprap Invert on Half of the Channel and Vertical Concrete and Concrete Invert on the Other Half of the Channel – This alternative would involve construction of a concrete vertical wall with riprap invert on one side of the channel and a vertical concrete wall with and concrete invert on the other half of the channel. Again, this alternative would replace the existing soft bottom habit with riprap and concrete channel bottom, whereas the proposed alternative retains existing and expands soft bottom habitat within the channel. Also, the channel would remain subject to catastrophic collapse during a major seismic event.

Trapezoidal Riprap and Riprap Invert on Half the Channel and Vertical Concrete Wall and Concrete Invert on the Other Half of the Channel – This alternative is similar to the one above, except that one side of the channel would have a trapezoidal shape. This alternative would also eliminate existing soft bottom habitat. Also, the channel would remain subject to catastrophic collapse during a major seismic event.

Of the alternatives considered, many raise issue for the applicant due to the need to acquire additional right-of-way inland, outside the coastal zone. However, in addition, all alternatives considered would not adequately address seismic concerns and would reduce, rather than expand, the amount of existing soft bottom habitat. The preferred and proposed alternative, construction of soil mix columns sandwiched between two steel sheetpiles with excavation of the channel bed back to the toe of the newly placed sheetpiles, meets seismic safety concerns and would increase the area of soft bottom habitat. The proposed alternative would more than double the area of existing soft bottom habitat, enhancing the biological functions and values for wading birds, waterfowl, fish and aquatic invertebrates. The applicant has indicated that the proposed dual sheetpiles with soil mix columns design “is a new concept that attempts to avoid the catastrophic consequences of a single line of defense (single sheetpile).” Although soil liquefaction during an earthquake is expected, the proposed design is expected to: 1) partially mitigate for the potential for liquefaction, 2) confine most of the soils between the two sheetpile walls, and, 3) avoid the escape of tidal waters so water will not inundate the adjacent homes. In addition, the proposed design of the sheetpile soil column levee makes it amenable to additional future seismic retrofit within the footprint of the dual sheetpiles. The combination of sheetpiles, the soil mix columns, and the existing levee soil would be designed to act in collaborative resistance to prevent a breach of the levee during a major seismic event.

In addition, the steel sheetpiles are proposed to be installed with the “press in” method (rather than “pile driving”) similar to the method used to install the steel sheetpile constructed under emergency coastal development permit No. 5-07-025-G on the north levee. The press-in method of sheetpile installation requires less construction footprint (essentially coincident to the area of the sheetpile footprint) and is significantly quieter than

the pile driving method. Thus, the press-in method represents the least environmentally damaging construction alternative for construction of the proposed sheetpile walls.

The project will result in permanent impacts to 0.33 acre of wetland habitat within the channel as well as temporary impacts to soft bottom habitat during construction. However, the proposed alternative represents the least environmentally damaging, feasible alternative and thus the preferred alternative. The proposed project represents the least environmentally damaging feasible alternative because 1) it will accomplish the goals of the project of providing the necessary channel improvements such that, together with the completion of the entire phased project inland, the project would ultimately provide 100-year flood conveyance protection within the 28 square mile watershed area served by the C05 and C06 flood control channel system, 2) it will create additional soft bottom habitat within the channel, more than doubling the existing area of soft bottom habitat which in turn will enhance the biological function and value of the channel, 3) it includes additional channel design components, added at the request of the various Resource Agencies, for the protection of the Bolsa Chica Ecological Reserve and wetland restoration there, and, 4) will improve the seismic safety of the channel.

As described above, this alternative represents the least environmentally damaging feasible alternative capable of achieving the necessary flood protection goals. Therefore, the Commission finds the proposed alternative meets the requirements of Section 30233 that the least environmentally damaging feasible alternative be employed. In addition, the Commission finds that the proposed alternative meets the requirements of Section 30236 which requires that necessary flood control projects are allowable only if there is no other method of flood protection available.

3) Mitigation

Section 30233 of the Coastal Act requires that projects resulting in impacts to open coastal waters and wetlands include feasible mitigation measures to minimize adverse environmental effects. Section 30236 of the Coastal Act requires that stream channelizations incorporate the best mitigation measures feasible. The proposed project will result in the loss of 0.33 acre wetland area within the channel. The project will also have construction impacts, requiring the use of construction equipment within the channel (i.e. to excavate back to the sheetpile toe). However, the construction impacts will be temporary only and the system is expected to restore itself to its previous condition once construction halts.

Typically, the Commission has found that mitigation for wetland impacts should occur at ratios of either 4:1 or 3:1 (mitigation to impact). In addition, the Commission typically requires that mitigation be as near as possible to the area of impact and that the mitigation habitat be the same type of habitat. However, in this case, the applicant is proposing to mitigate the loss of 0.33 acre of wetland area with the creation of 6.67 acres of soft bottom habitat. It should also be noted that, due to the nature and function of the flood control channel, establishment of wetland plants within the channel is dynamic, the amount and

distribution of wetland plants can change quickly (i.e. storm events can wash them away). In addition, the ratio of habitat created to habitat lost will be high (6.67 acres of soft bottom created to 0.33 acre of wetland lost, or roughly a 20:1 mitigation ratio). The site of the proposed mitigation (soft bottom habitat creation) and the site of the impact will both occur within the channel, consistent with typical requirement that mitigation be as near as possible to the area of impact. The Commission's staff ecologist has reviewed and accepted the proposed project and mitigation.

In addition to the creation of new soft bottom habitat within the channel, the applicant has also proposed a plant salvage plan. The proposed plant salvage plan, titled "Salvage Plan for Native Plants within the East Garden Grove-Wintersburg Channel (CO5), prepared by BonTerra Consulting, 5/5/10, was developed in compliance with Streambed Alteration Agreement (SAA) No. 1600-2009-0331-R5 which addresses the proposed project. The proposed plant salvage plan states:

> Native salt marsh plants have become opportunistically established in scattered patches along an approximate one-quarter mile segment of the East Garden Grove-Wintersburg Channel. Salvage and transplantation of these plants is a required resource protection measure described in Conditions 6 and 7 of the above-referenced SAA. Plant species that are found in this area include pickleweed (Salicornia virginica), saltwort (Batis maritime), salt grass (Distichlis spicata), and alkali heath (Frankenia salina). The purpose of the plant salvage program is to collect native plant material for eventual transplantation within the Bolsa Chica Ecological Reserve to assist ongoing habitat restoration activities.

Plant collection is proposed to be done by the applicant. Plant installation within the Ecological Reserve is proposed to be done by the California Department of Fish & Game. The location of plant installation is identified as within the northeast area of the Bolsa Chica Ecological Reserve, or, on the earthen buttress proposed downstream of Bates Circle. Although this plant salvage program is not proposed as mitigation for impacts to the channel, it is worth noting that it is part of the overall project proposal. Compliance with the SAA will be administered by CDFG on state land in the Bolsa Chica Ecological Reserve. Because the plant salvage is not proposed as mitigation and because re-planting will be administered by CDFG, no monitoring requirements have been imposed.

All work for the proposed earthen buttress and backside sheetpile toe protection will occur within the flood control channel right-of-way. BonTerra Consulting prepared a report entitled "Results of a Biological Constraints Analysis for Construction Staging Areas" prepared for the proposed project, dated 9/9/10, which found that no native vegetation types occur within the area of the proposed earthen buttress and backside sheetpile toe protection and so no impacts are expected. Furthermore, BonTerra Consulting found, in its Jurisdictional Delineation Report (dated May 2010), that the only wetland areas identified at the project site were located within the channel, not within the area of the proposed earthen buttress and backside sheetpile toe protection and so no impacts are expected.

Therefore, the Commission finds the proposed mitigation, 6.67 acres of soft bottom habitat creation to offset the loss of 0.33 acre of wetland habitat, meets the requirements of Section 30233 that the adequate mitigation be provided. In addition, the Commission finds that the proposed alternative meets the requirements of Section 30236 which requires that necessary flood control projects incorporate the best mitigation measures feasible.

4) Conclusion

The proposed project serves the public purpose of protecting the general public and public and private property from flooding. The proposed project serves an incidental public service purpose because it will repair the existing flood control channel and bring it into compliance with current standards applicable to flood control systems. Therefore, the proposed development meets the requirement of Section 30233(a) of the Coastal Act that it be one of the specifically enumerated allowable uses. As described previously, a number of project alternatives were considered and the proposed project represents the least environmentally damaging feasible alternative.

The proposed project will result in adverse impacts to 0.33 acre of wetland habitat. However, the proposed project will create 6.67 acres of soft bottom habitat. The ratio of habitat lost to habitat recreated is approximately 20:1. The habitat created will be in the same location as the habitat that will be lost, consistent with the Commission's typical mitigation requirement that mitigation be as near as possible to the area of impact. In addition, due to the nature and function of the flood control channel, establishment of wetland plants within the channel is dynamic in that the amount and distribution of wetland plants can change quickly (i.e. storm events can wash them away). Thus, due to the high mitigation ratio, the dynamic nature of the wetlands impacted, and the location of the mitigation habitat, the Commission finds that adequate mitigation is proposed to offset the impacts to wetlands.

Section 30236 also requires the project to be one of the allowable uses described in that Section of the Coastal Act. As a flood control project, the proposed project meets this requirement of Section 30236. In addition, Section 30236 requires that any flood control project must be necessary for public safety or to protect existing development and that the project is the only feasible method for accomplishing the required protection. As described previously, a number of alternative methods were considered, and the proposed project was determined to be the least environmentally damaging alternative or methods for accomplishing the necessary goal of protecting the public and existing development from flood events. As conditioned, the Commission finds that the proposed project will provide adequate mitigation as required by Sections 30233 and 30236 of the Coastal Act.

E. Sensitive Habitats

Section 30240 of the Coastal Act states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be compatible with the continuance of those habitat and recreation areas.

The subject site is not located within an environmentally sensitive habitat area (ESHA), however, it is adjacent to ESHA. ESHAs have been recognized at the adjacent Parkside and Brightwater sites, and the Bolsa Chica Ecological Reserve contains ESHA as well. No work will occur within the area of the Parkside and Brightwater ESHAs. The proposed staging and access will occur within the Bolsa Chica Ecological Reserve, but not within any ESHA areas.

The proposed project is immediately adjacent to the Bolsa Chica Ecological Reserve (BCER) wetlands restoration area. During the project planning process, BCER stakeholder agencies (including California Department of Fish & Game, U.S. Fish & Wildlife Service, National Marine Fisheries Service and U.S. Army Corps of Engineers) expressed concern regarding potential impacts to the completed and on-going restoration work in the BCER that could result from a levee breach. The concern is that a levee breach could adversely impact the wetland area by introducing excessive water altering the careful mix of habitat types created for the restoration. Another concern is that that the force of the flow could wash out contours within the Reserve created to support specific habitat types.

To address these concerns, the project was modified to include the proposed earthen buttress and backside sheetpile toe protection on the south levee in the area where it abuts the reserve (approximately 2,100 feet downstream of Graham Street [i.e. just downstream of Bates Circle]) to approximately 4,000 feet downstream of Graham (just downstream of the oil road bridge). Also added to the proposed project in response to these concerns is the side-slope riprap revetment repair. The riprap proposed to be placed immediately would be placed just up and downstream of the oil road bridge and just upstream of the tidegates on the south levee and just upstream of the tidegates on the north levee. The remainder of the riprap would be placed on an as-needed basis. All of the riprap would be placed within the original design footprint and side slope contours of the original levee design. Thus, the proposed riprap placement would maintain original design dimensions of the levee and would not create additional footprint within the channel.

The intent of the proposed buttressing and backside sheetpile toe protection, as well as the placement of riprap, is to provide additional levee protection from the tidal action within the wetlands of the Bolsa Chica Ecological Reserve, as well as additional levee protection from channel flow for the Reserve. The intent of these project components is to protect the BCER wetland restoration area from levee breach. As described previously, a number of project alternatives were considered, and the proposed alternative, with the added work to

protect the BCER, was found to be the least environmentally damaging feasible alternative.

The proposed toe protection sheetpiles will be 40 feet in depth and will be placed inside the flood control channel right-of-way. The existing maintenance road will be widened to a width varying from 17 to 23 feet. The widened maintenance road will also serve as the proposed public access trail. The widening will occur on the landward (not channelward) side of the levee. The earthen buttress will augment the girth of the levee and will support the widened maintenance road/public access trail. The proposed buttress will descend at a 2:1 slope from the road to the sheetpile toe. All work will occur from within the right-of-way.

With construction of the sheetpile on the north levee under emergency coastal development permit 5-07-025-G, the applicant was required to monitor the groundwater at the site immediately adjacent to it to the north (known as the Parkside site). Such monitoring is not proposed or required in the subject case. Wetlands are known to exist in the area adjacent to the north levee emergency sheetpile work. The source of water feeding those wetlands may be from groundwater and/or may be from surface flow and rainwater. It was not clear in that case whether installation of the sheetpiles, to a depth of approximately 40 feet, would have an adverse impact on the adjacent wetlands. Thus, the monitoring was required. Depending on the results of the monitoring, mitigation for impacts may be required. However, in the case of the proposed placement of the sheetpile toe protection on the south levee, the source of the water to feed the adjacent Bolsa Chica wetlands restoration is not from the flood control channel. In fact, as stated previously, stakeholder agencies for the restoration specifically do not want water from the channel to breach the levee and enter the restoration area. To the contrary, the sheetpile toe protection was requested and is proposed to protect those wetlands. Thus, no similar groundwater monitoring is proposed or required for the sheetpile proposed adjacent to the Bolsa Chica Ecological Reserve.

In addition, all work for the proposed earthen buttress and backside sheetpile toe protection will occur within the flood control channel right-of-way. The “Results of a Biological Constraints Analysis for Construction Staging Areas” prepared for the proposed project by BonTerra Consulting, dated 9/9/10, finds that no native vegetation types occur within the area of the proposed earthen buttress and backside sheetpile toe protection and so no impacts are expected. Furthermore, the only wetland areas identified in the Jurisdictional Delineation Report prepared for the proposed project by BonTerra Consulting, dated May 2010 were located within the channel, not within the area of the proposed earthen buttress and backside sheetpile toe protection and so no impacts are expected.

Access and staging for the project is proposed to be taken from Pacific Coast Highway and from the southern terminus of Graham Street along existing access roads within Bolsa Chica Ecological Reserve. A Biological Constraints Survey for these construction staging and access areas was conducted by BonTerra Consulting (9/9/10) for the access and

staging areas south of the flood control channel. No native vegetation types were found to occur within these staging areas or access roads. Non-native vegetation types found within the southern staging areas are ruderal, disturbed, and developed. The fourth staging area is to be located on the Shea Homes property immediately north of the flood control channel and adjacent to Graham Street. A Biological Assessment was prepared by LSA (September 2009) for the Shea site for a pending coastal development permit application (5-09-182, Shea Homes). The LSA Biological Assessment indicates that the area proposed for staging and access for the proposed flood control channel project (southeast corner of the Shea Homes site) is comprised of Disturbed (Dirt Access Roads) and Agricultural plant communities. Thus, no impacts to native habitats are expected.

Although no native vegetation types were found within the staging and access areas, a limited presence of some native plants was found along the slopes of the flood control channel adjacent to staging areas 1, 2, and 3. These include five-hook bassia (bassia hyssopifolia), and a few scattered alkali heath (Frankenia salina). No impacts to these plants are anticipated. The access roads were found to consist of paved access roads devoid of vegetation or dirt access roads with sparse cover of ruderal vegetation.

In addition, the proposed use of the press-in method to install the sheetpiles on the south levee between Graham Street and just downstream of Bates Circle is a quieter and less intrusive installation method than traditional pile driving. Thus, use of the press-in method would decrease potential impacts on surrounding habitat.

Sensitive bird species may nest in the general vicinity of the proposed project. In order to assure that sensitive birds are not disturbed during their nesting season, a special condition is imposed which requires the applicant to conduct a bird survey for the area within 500 feet of the project within three days prior to commencement of construction. If the required bird survey reveals active nests, the project has been conditioned to avoid work within 300 feet of active songbird nests and within 500 feet of any raptor nests. In addition, the project proposes to maintain a qualified Biological Monitor on site prior to the initiation of construction activities to ensure that the biological resources adjacent to the impact boundary are appropriately flagged and fenced prior to commencement of construction to protect the resources from any impacts outside the project footprint. The applicant proposes to maintain the flagging and fencing in place throughout the entire period of construction.

In addition, the project has been conditioned to employ construction responsibilities and debris removal measures that ensure protection of the site and surrounding habitat areas. Furthermore, the project has been conditioned to limit construction staging and access activities to those identified in the proposed Staging and Access Plan, which are not expected to result in any adverse impacts. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Section 30240 of the Coastal Act which requires that development adjacent to ESHA be sited and designed to prevent impacts that would significantly degrade the ESHA and to be compatible with the continuance of the ESHA.

Eelgrass

Eelgrass is a marine flowering plant that grows in soft sediments within coastal bays and estuaries. Eelgrass canopies consist of shoots and leaves approximately 1 to 3 feet long that typically attract marine invertebrates and fishes. Under normal circumstances, a diverse community of benthic organisms (e.g. clams, crabs, and worms) lives within the soft sediments that cover eelgrass root and rhizome mass systems. Eelgrass beds also function as a nursery for many juvenile fishes – including species of commercial and/or sporting value such as California halibut and corbina. Eelgrass beds are also important foraging areas for piscivouous seabirds that seek baitfish attracted to eelgrass cover. Eelgrass is also an important ecological contributor to the detrital (decaying organic material) food web of bays and estuaries as the decaying plant material is consumed by many benthic invertebrates to primary nutrients by bacteria.

The site was surveyed for eelgrass by Coastal Resources Management, Inc. on March 17, 2009. No eelgrass was found in the channel. However, eelgrass surveys are valid for a limited period of time (until the next growing season). Project construction will not occur within the time period during which the survey is valid. Therefore, the project has been conditioned to require the applicant to conduct subsequent surveys prior to commencement of construction. Therefore, a special condition is imposed which identifies the procedures necessary to be completed prior to beginning construction. In addition, the special condition identifies post-construction eelgrass procedures. These conditions will ensure that should impacts to eelgrass occur (though none are expected), the impacts will be identified and appropriate mitigation required. Therefore, as conditioned, the Commission finds that the proposed development will not result in significant impacts to eelgrass.

Caulerpa Taxilfolia

In 1999, a non-native and invasive aquatic plant species, Caulerpa taxilfolia, was discovered in parts of Huntington Harbour (Emergency Coastal Development Permits 5-00-403-G and 5-00-463-G). Caulerpa taxilfolia is a type of seaweed which has been identified as a threat to California's coastal marine environment because it has the ability to displace native aquatic plant species and habitats. Information available from the National Marine Fisheries Service indicates that Caulerpa taxilfolia can grow in large monotypic stands within which no native aquatic plant species can co-exist. Therefore, native seaweeds, seagrasses, and kelp forests can be displaced by the invasive Caulerpa taxilfolia. This displacement of native aquatic plant species can adversely impact marine biodiversity with associated impacts upon fishing, recreational diving, and tourism. Caulerpa taxilfolia is known to grow on rock, sand, or mud substrates in both shallow and deep water areas. Since eelgrass may establish within the project vicinity, Caulerpa taxilfolia, if present, could displace eelgrass in the channels.

The subject site was surveyed for Caulerpa taxilfolia by Costal Resources Management, Inc. on March 17, 2009, and none was found. The survey is valid for a limited period of time (90 days for *Caulerpa taxilfolia*). If discovered in the project area, Caulerpa taxilfolia could possibly be dispersed through construction of the proposed project. Because of the time elapsed since the survey, construction will not occur within the period that the survey is valid. Thus, a subsequent survey is required. In order to assure that the proposed project does not cause the dispersal of Caulerpa taxilfolia, the Commission imposes a special condition which requires the applicant, prior to commencement of development, to survey the project area for the presence of Caulerpa taxilfolia. If Caulerpa taxilfolia is present in the project area, no work may commence and the applicant shall seek an amendment or a new permit to address impacts related to the presence of the Caulerpa taxilfolia, unless the Executive Director determines that no amendment or new permit is required.

F. Water Quality

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 30230 of the Coastal Act requires that marine resources be protected. Section 30231 of the Coastal Act requires that the biological productivity of coastal waters be maintained, and where feasible, restored. Sections 30230 and 30231 require that the quality of coastal waters be maintained and protected from adverse impacts. The proposed project includes work within the flood control channel. The channel flows into the Outer Bolsa Bay section of the Bolsa Chica Ecological Reserve. From there flow continues through culverts under Warner Avenue into Huntington Harbour, through Anaheim Bay, and out to the open ocean. Thus, the proposed project must be evaluated

to assure that healthy populations of marine organisms and the biological productivity of coastal waters and wetlands will be maintained.

The proposed project includes measures to help assure protection of coastal waters and marine resources. Proposed measures to ensure protection of water quality include:

- Use of clear water diversions structures and measures to intercept clear surface water runoff upstream of the project, transportation around the work area, and discharge downstream. This is intended to reduce sediment pollution from construction work occurring in or adjacent to water. The structures to be used include diversion ditches, berms, dikes, slope drains, rock, gravel bags, wood, aqua barriers, cofferdams, filter fabric or turbidity curtains, drainage and interceptor swales, pipes, or flumes.

- Vehicle and equipment cleaning procedures and practices to eliminate or reduce the discharge of pollutants into storm water from vehicle and equipment cleaning operations. Procedures and practices to achieve this include: use of off-site facilities; washing in designated, contained areas only; eliminating discharges to the storm drain by infiltrating wash water; and training employees and subcontractors in proper cleaning procedures.

- Vehicle equipment fueling procedures and practices designed to prevent fuel spills and leaks, and to reduce or eliminate contamination of storm water. This is proposed to be accomplished by: using off-site fueling facilities; fueling in designated areas only; enclosing or covering stored fuel; implementing spill controls, and training employees and subcontractors in proper fueling procedures. On-site vehicle and equipment fueling is proposed only when it is impractical to send vehicles and equipment off-site for fueling.

- Running a “dry and clean” site by performing maintenance activities off-site where practical and if not practical, all on-site maintenance will be performed in a designated area only while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately, and proper training of employees and subcontractors.

- Installation of silt fencing within appropriate locations to reduce sediment transport to the channel area. A silt fence is a temporary sediment barrier consisting of filter fabric stretched across and attached to supporting posts, and, depending upon the strength of fabric used, supported with plastic or wired mesh fence. Silt fences trap sediment by intercepting and detaining small amounts of sediment-laden runoff from disturbed areas in order to promote sedimentation behind the fence.

- Creation of a stabilized construction access at a defined point of entrance/exit to a construction site to reduce the tracking of mud and dirt by construction vehicles onto public roads where it could enter the stormdrain system.

In order to assure that all impacts to water quality are minimized, a special condition is imposed to specify the construction phase requirements to avoid adverse impacts on marine resources. Therefore, as conditioned, the proposed project is consistent with Sections 30230 and 30231 of the Coastal Act with regard to maintaining and enhancing biological productivity and quality of coastal waters and wetlands.

G. Hazard

Section 30253 of the Coastal Act states, in pertinent part, that new development shall:

1. *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*

2. *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Flood

Section 30253 requires that development minimize risk due to flood hazard. The proposed project is intended to reduce the risk of flooding to existing surrounding development. The existing flood control channel was built in the early 1960's to carry less than 65% of the 25-year peak discharge. The County considers the channel to be deficient under current standards. The proposed project is intended to provide 100-year flood protection of surrounding land uses that are currently subject to potential flood inundation within this watershed. The purpose of the proposed project is to reduce existing flood risk to existing development. As described previously, a number of alternatives to the proposed project were considered and the proposed project represents the best alternative to achieve the project goal of reducing flood hazard while increasing flood protection for existing surrounding development. Thus, as proposed the project is consistent with Section 30253 with regard to minimizing flood hazard.

Seismic

The existing levees raise concerns regarding seismic safety. A number of alternatives were considered, but none were deemed adequate to address seismic safety concerns. However, the applicant has indicated that the proposed double sheetpile with soil mix columns design "is a new concept that attempts to avoid the catastrophic consequences of a single line of defense (single sheetpile)." Although soil liquefaction during an earthquake is expected, the proposed design is expected to: 1) partially mitigate for the

potential for liquefaction, 2) confine most of the soils between the two sheetpile walls, and, 3) avoid the escape of tidal waters so water will not inundate the adjacent homes. In addition, the proposed design of the sheetpile soil column levee makes it amenable to additional future seismic retrofit within the footprint of the dual sheetpiles. The combination of sheetpiles, the soil mix columns, and the existing levee soil would be designed to act in collaborative resistance to prevent a breach of the levee during a major seismic event. Thus, as proposed the project is consistent with Section 30253 with regard to minimizing geologic hazard.

Future Sea Level Rise

In order to address the potential for future sea level rise, the project has been designed with 3½ feet of additional freeboard to accommodate higher water levels. In addition, in areas proposed for the sheetpile/soil columns, sea level rise can be accommodated by retrofitting the sheetpiles with additional soil mix columns and/or "L-shaped" retaining walls.

Assumption of Risk

Additionally, the proposed development is located in an area of the coastal zone which is subject to potential risks due to waves, storm waves, flooding and sea level rise. The Commission therefore imposes a special condition requiring the applicant to waive any claim of liability against the Commission for damage to life or property which may occur as a result of the permitted development. The applicant would acknowledge and agree that the site may be subject to hazards from waves, storm waves, flooding and sea level rise; 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 and to unconditionally waive any claim of damage or liability against the Commission for injury or damage from such hazards. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30253.

Thus, as conditioned, the project is consistent with Section 30253 with regard to minimizing geologic and flood hazard.

H. 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 30210 of the Coastal Act requires that maximum public access and recreational

opportunities be provided. Currently, no formal public access exists on the flood control levees (i.e. the County doesn't formally recognize the levees as public trails and hasn't enhanced them for formal public use). Nevertheless, the public does make use of the levees for recreation and coastal access. The proposed project includes a significant public access and recreation component. A formal public trail is proposed atop the south levee from just downstream of Bates Circle to just downstream of the Oil Road bridge. The proposed formal access will connect to the existing State Parks trail system at the East Channel Overlook where it will link to the Bolsa Chica Inner and Outer Bay Trail System. Thus, the proposed formal trail will connect to the existing trail network within the Bolsa Chica Ecological Reserve. Trails through the Ecological Reserve also connect to Bolsa Chica State Beach at the Pacific Coast Highway/Warner Avenue intersection and across Pacific Coast Highway from the public parking lot located approximately at the midway point of the Ecological Reserve's Coast Highway frontage. In addition, a new trail access ramp is proposed within the Reserve area west of the residential development along Bates Circle. Graham Street terminates where it abuts the BCER. The trail access ramp will be accessed via an existing trail from the terminus of Graham Street.

As proposed, the public trail atop the levee downstream of Bates Circle would range in width from 17 feet to 23 feet. The trail will consist of disintegrated granite to a depth of 6 inches. A 4 foot high, wooden post and rail railing is proposed along the channel side of the trail. The public trail would also serve as the Orange County Flood Control District's levee maintenance road. The public trail access ramp is proposed to be constructed of soil, supported by side sheetpiles in the area nearest the levee, and topped with 6 inch deep disintegrated granite. The proposed ramp slope of 4% is ADA (Americans with Disabilities) compliant. Orange County Parks, in a memo dated August 26, 2008, has agreed to accept and maintain the public trail access component of the proposed project.

An existing pedestrian bridge between the north and south levees between the Graham Street Bridge to the east and the Oil Road Bridge to the west, located near the Slater pump station, is proposed to be removed. This is necessitated by the proposed construction of the dual sheetpiles/soil mix columns in this location. The sheetpiles are proposed to be placed within the existing levee, and the existing trapezoidal channel bottom will be excavated back to the new, vertical sheetpile wall. This will result in loss of support for the existing pedestrian bridge at the south levee. However, the channel can still be crossed inland of the bridge to be removed, - along Graham Street, and downstream/seaward of the bridge to be removed, at the Oil Road pedestrian bridge. There are no gates on the Oil Road bridge and none are proposed. The Oil Road pedestrian bridge is located near the East Channel Overlook. It should be noted again that, although the Oil Road pedestrian bridge connects the south levee to the north levee, no formal public access currently exists on the north levee (though informal public use is common).

No formal public access currently exists between Graham Street and Bates Circle on the south levee. However, informal public use does exist. Currently, both the north and south levees are gated at Graham Street. The proposed project would replace the existing gate

on the south levee at Graham Street and would construct a new, additional gate on the south levee at Bates Circle. The gates are proposed to be five (5) feet high, eight feet wide, double swing, guard cable drive, chain link gates within proposed a length of chain link fence across the top of the levee. The proposed gate on the south levee at Bates Circle will prevent continued use of the south levee by the public between Bates Circle and Graham Street. The applicant, the Orange County Flood Control District, has stated that the intent of the proposed gate is "to prevent unauthorized access along the backyards of the adjacent homes. Residents have vehemently requested that no public trail be provided upstream of Station 53+28 [location of the proposed gate just downstream of Bates Circle]. The height of the proposed maintenance road between the dual sheetpiles will be as much as 8-ft above the backyard of the homes, allowing pedestrians and cyclists to look into the adjacent homes."

Section 30210 of the Coastal Act requires that maximum public access and recreational opportunities be provided. In addition, the City of Huntington Beach certified LCP Land Use Plan (not the standard of review for this project, but used as a guidance document) contains the following policy:

> *Encourage the utilization of easements and/or rights-of-way along **flood control channels**, public utilities, railroads and streets, wherever practical, for the use of bicycles and/or pedestrian (emphasis added).*

The project includes formalizing public access along the south levee downstream of Bates Circle. However, the proposed project would add a new gate at Bates Circle that would interfere with existing public use of the south levee between Bates Circle and Graham Street. Moreover, the addition of a gate in this location taken together with the proposed removal of the existing pedestrian bridge near the Slater pump station, further interferes with existing public use of the south levee in the area. Although removal of the bridge is necessitated by the proposed project design, the addition of a new gate at Bates is not required for the levee to function correctly. The applicant has indicated that the gate is needed to protect the privacy of existing residences between Graham Street and Bates Circle that back up to the levee. However, privacy concerns, similar to those between residential neighbors when one neighbor can peer into another neighbor's window, can be addressed by residents by constructing fences and/or landscape screening on their private property along or near their rear property line. Property owners adjacent to the levees do not have a property right associated with owning property adjacent to the County's right-of-way that allows them to require a restriction on the County's use of its property for public access purposes or otherwise; if that was the case, then cities and counties wouldn't be able to build public sidewalks to be used by the general public that passed in front of private property owners.

The proposed project includes a maintenance road along the levee top in the area between Graham Street and Bates Circle. The proposed project plans indicate that the maintenance road in this area would be 15 feet wide and composed of 2 inch depth of disintegrated granite atop the levee. As is indicated by the public access trail proposed

along the levee top downstream of Bates Circle, the proposed maintenance road along the levee between Bates Circle and Graham Street could also accommodate public trail use.

In addition to the gate at Bates Circle, the applicant proposes to replace the existing gate at Graham Street. Preventing vehicular access along the levee is an appropriate safety constraint. However, both of the gates on the south levee would interfere with continued pedestrian use of the trail, and would be inconsistent with Section 30210 of the Coastal Act which requires that public access be maximized. Furthermore, the removal of the pedestrian bridge is an additional public access deterrent that must be offset by opening access to the south levee at Graham Street. However, if the two gates proposed on the south levee, the one at Bates Circle the other at Graham Street, were revised such that the gate design prevented only vehicular access but allowed continued pedestrian access they could be found to be consistent with Section 30210 of the Coastal Act. Thus, a special condition is imposed which requires that the gates be revised so that they control vehicular access only and do not obstruct or interfere with continued pedestrian use of the levee. Therefore, the Commission finds that only as conditioned is the proposed project consistent with Section 30210 of the Coastal Act regarding the provision of public access.

I. Local Coastal Program

The subject site is located between two Local Coastal Program areas, the City of Huntington Beach and the unincorporated area of Orange County known as the Bolsa Chica LCP area. The City of Huntington Beach has a certified Local Coastal Program, but areas to the north of the levee within the City are not yet certified. The area known as Parkside was an area of deferred certification, which is near completion of an LCP, though not yet final. The remainder of the City's area north of the levee was annexed into the City recently and so was not part of the original certification. That area remains uncertified at this point. The area south of the levee, nearest Graham Street is located within the City of Huntington Beach's certified LCP area. Downstream and to the south of the levee is the unincorporated County area known as Bolsa Chica. Efforts at certifying this area in the past were not successful and the area remains an uncertified area.

The channel is tidally influenced for its entire length within the coastal zone. Pursuant to Coastal Act Section 30519(b), development review authority for "development proposed or undertaken on any tidelands, submerged lands, or on public trust lands, whether filled or unfilled, lying within the coastal zone" remains with the Coastal Commission. Therefore, permit authority will remain with the Coastal Commission and the standard of review for development in this area will remain the Chapter 3 policies of the Coastal Act. In any case, approval of the project, as conditioned, will not prejudice the ability of each of the adjacent local governments to prepare LCPs that are in conformity with the provisions of Chapter 3 of the Coastal Act.

J. 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.

For the proposed project, the County of Orange is the lead agency for CEQA purposes. The County issued a Mitigated Negative Declaration for the project (Draft Initial Study/Mitigated Negative Declaration IP09-311 (East Garden Grove-Wintersburg Maintenance and Repair Project (Tide Gates to Warner Avenue)), prepared by BonTerra Consulting, dated September 2009).

The proposed project, as conditioned, has been found consistent with the marine resources and habitat protection, water quality, and public access policies of the Coastal Act. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.

VICINITY MAP

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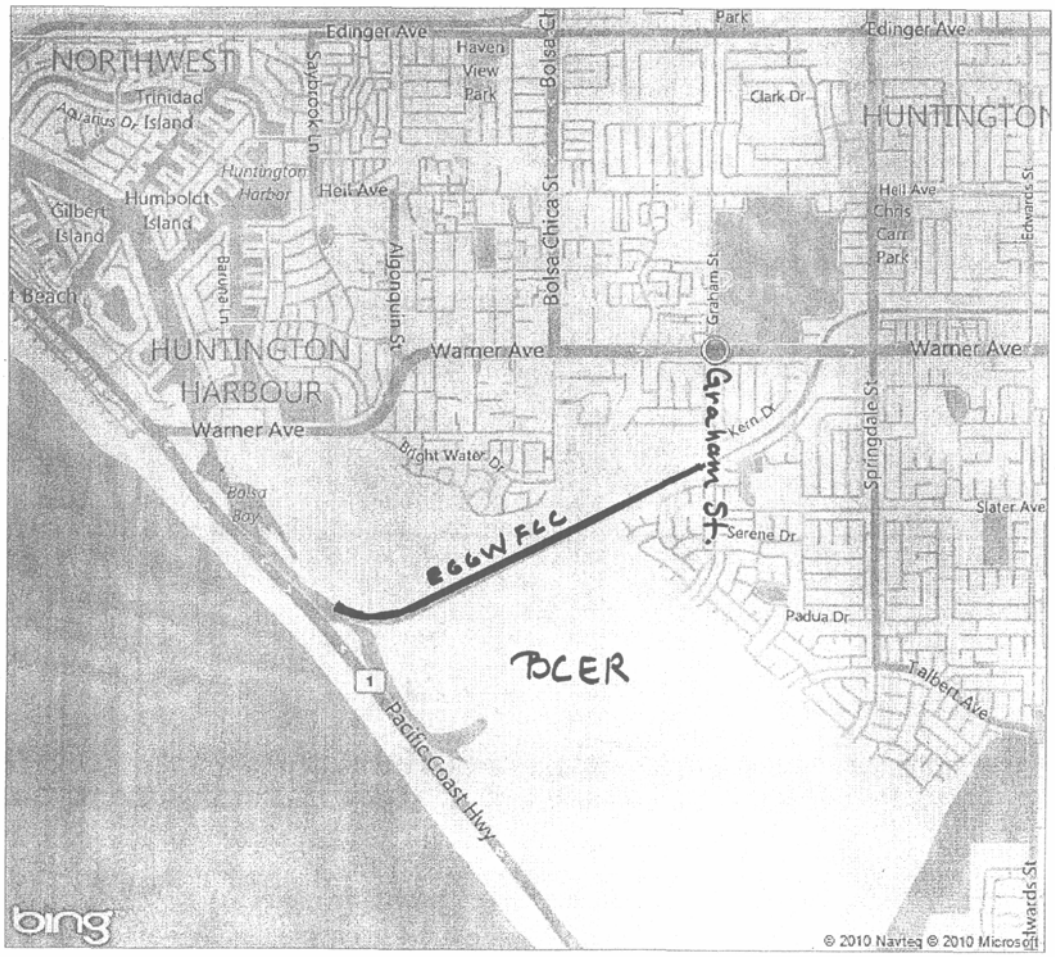
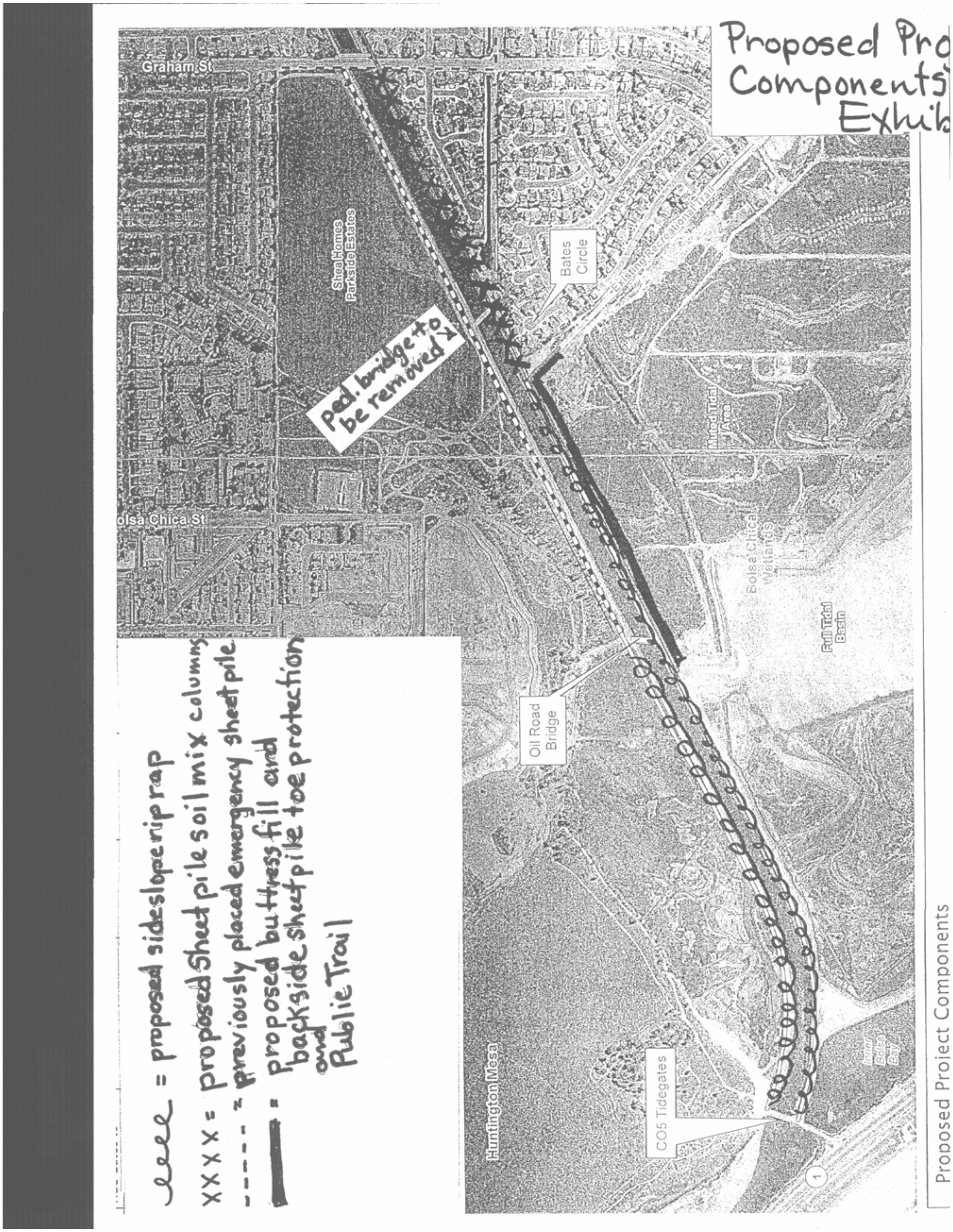
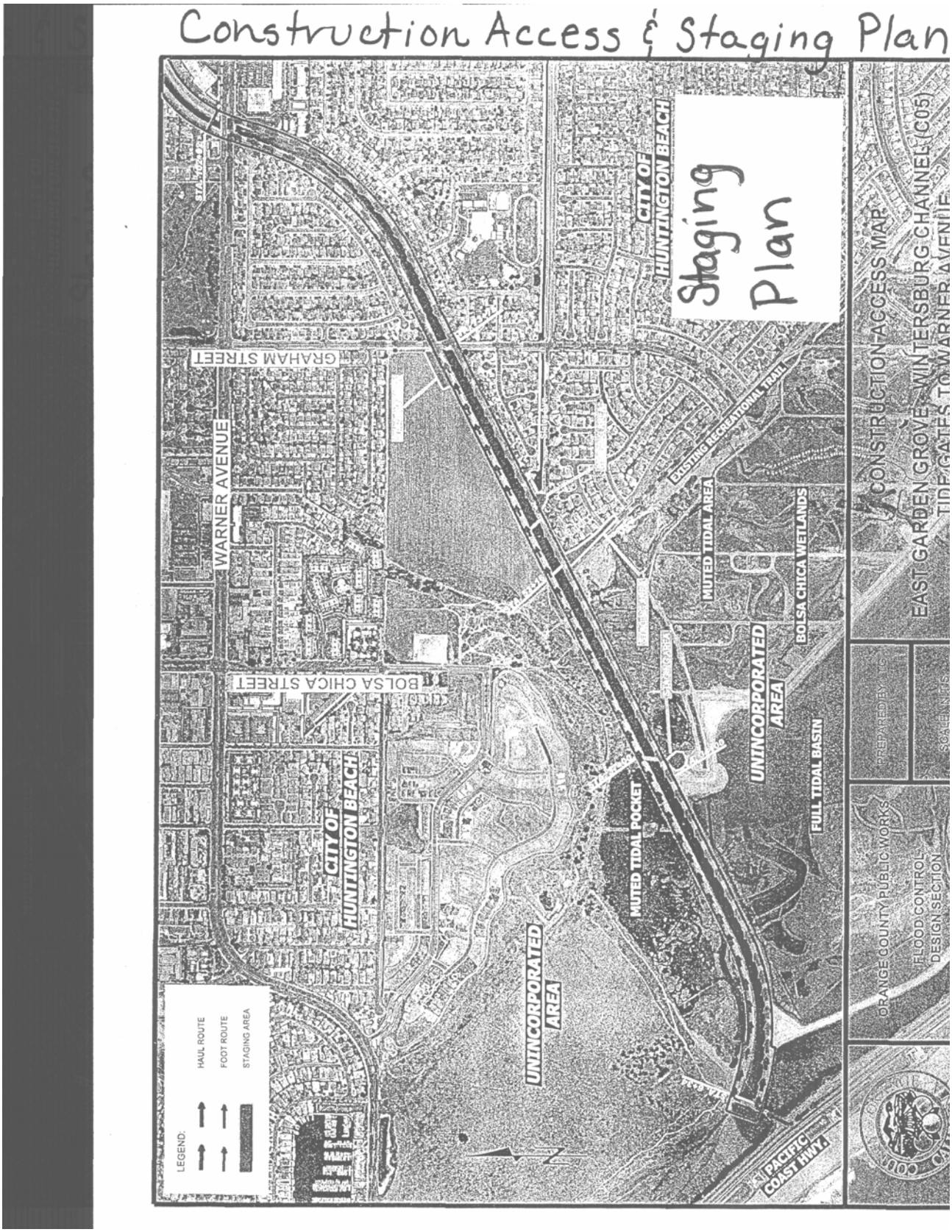
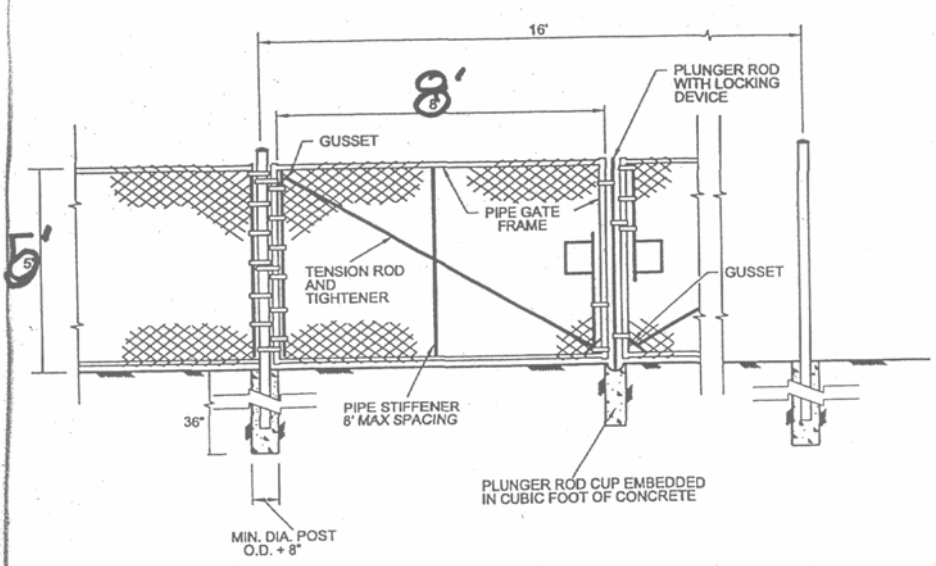



Proposed Pro
Components
Exhib
Graham St
Shea Homes Parkside Estates
Bates Circle
ped. bridge to be removed
olsa Chica St
Bolsa Chica Wetlands
Full Tidal Basin
Oil Road Bridge
Huntington Mesa
CO5 Tidegates
Inner Bolsa Bay
Proposed Project Components
eee = proposed sideslope rip rap
XXXX = proposed Sheet pile soil mix column
- - - - = previously placed emergency sheet pile
▬ = proposed buttress fill and backside sheet pile toe protection and Public Trail


Construction Access & Staging Plan
Staging Plan
CONSTRUCTION ACCESS MAP
EAST GARDEN GROVE - WINTERSBURG CHANNEL (C05)
TIDE GATES TO WARNER AVENUE
ORANGE COUNTY PUBLIC WORKS
FLOOD CONTROL DESIGN SECTION
PREPARED BY
SCALE: N.T.S.
LEGEND:
HAUL ROUTE
FOOT ROUTE
STAGING AREA
CITY OF HUNTINGTON BEACH
UNINCORPORATED AREA
MUTED TIDAL POCKET
FULL TIDAL BASIN
MUTED TIDAL AREA
BOLSA CHICA WETLANDS
EXISTING RECREATIONAL TRAIL
WARNER AVENUE
GRAHAM STREET
BOLSA CHICA STREET
PACIFIC COAST HWY.



MAINTENANCE RD. GATE DETAILS

Proposed Gate at Graham Street + at Bates Circle

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NCE / MAITENANCE ROAD TYPICAL WIDTH DIMENSION		
	MAINTENANCE ROAD WIDTH	A
	13' MIN.	3' MIN.
	14' MIN.	4' MIN.

CONSTRUCTION NOTES

6 CONSTRUCT 6" THICK DISINTEGRATED GRANITE MAINTENANCE ROAD.

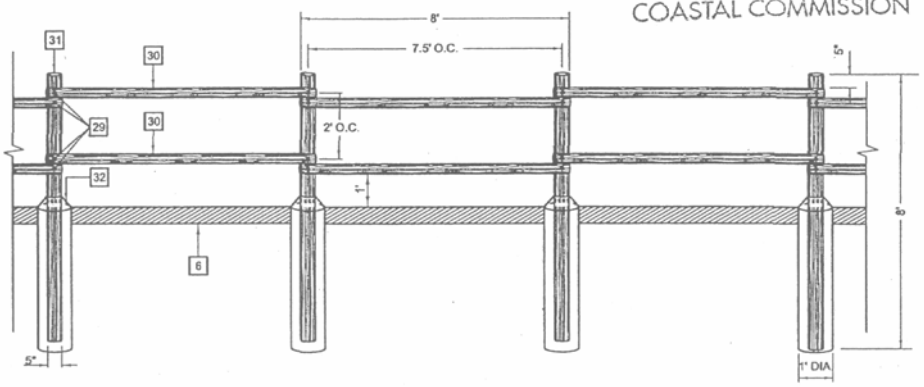
28 PROTRUDE 1/2" DIA. x 10" CARRIAGE BOLT (ANSI TYPE 316 STAINLESS STEEL) THROUGH THE RAILS. BOLTS SHALL BE FLUSHED IN RAILS. SEE CARRIAGE BOLT DETAILS ON THIS SHEET.

30 CONSTRUCT 3.5" DIA. x 8' LONG WOODEN RAIL AT 7.5' O.C.

31 CONSTRUCT 5" DIA. x 6' LONG WOODEN POST AT 7.5' O.C.

32 PLACE 4" HIGH CEMENT SEALANT

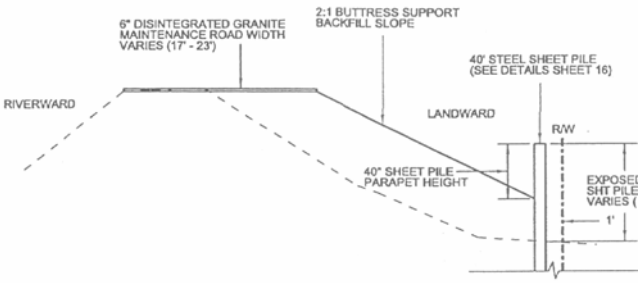
UTTRESS SUPPORT
: BUTTRESS SUPPORT SHEET PILE
SECTION ON THIS SHEET.)



WOODEN POST AND RAIL PROFILE

SCALE: 1" = 2'

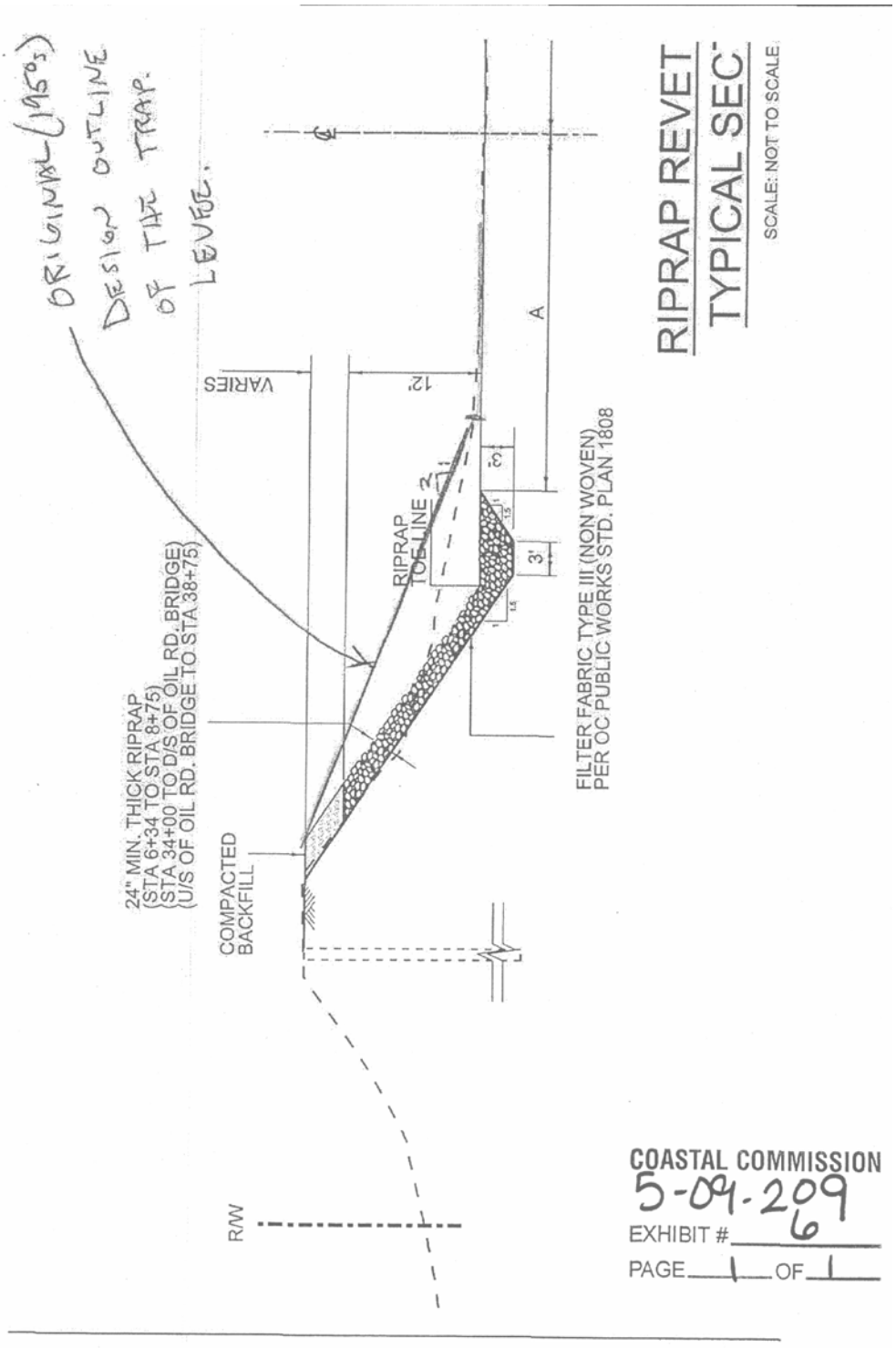
Proposed Along Public Access Trail



TEEL)

BUTTRESS SUPPORT SHEET PILE
TYPICAL SECTION

SCALE: NOT TO SCALE
FRP PILE CAP NOT SHOWN
TIMBER POST NOT SHOWN



COASTAL COMMISSION
5-09-209
EXHIBIT # 6
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